

# Administration Guide

The ExtraView Administrator's Guide is designed to give users of the ExtraView web-based business issue tracking system the knowledge and proficiency needed to accomplish two general goals:

1. Customize ExtraView to conform to their company's workflow processes, business rules, and inter-organizational vocabulary, with all the appropriate data fields and security privileges that are required.
2. Give Administrators the ability to successfully administer ExtraView on an ongoing basis in order to efficiently respond to user inquiries, concerns, and requests.

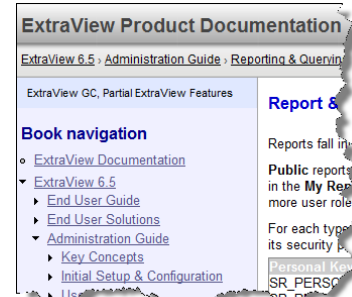
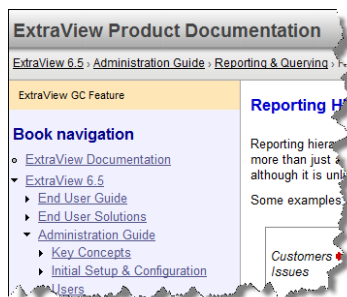
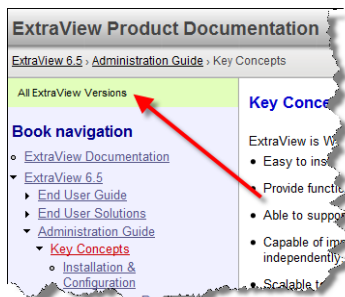
In writing this guide, we anticipate that the reader is at least somewhat familiar with many of the standard issue tracking and business management functions found in ExtraView. Accordingly, this guide will assume this familiarity, and will focus on describing the administrative functions of ExtraView.

## Downloadable PDF

[This Administration Guide is downloadable as a single PDF by clicking here.](#) You will need the [Adobe Acrobat Reader](#) to view this.

## ExtraView Versions

At the top left-hand corner of each documentation page within this guide, you will see a colored block that indicates whether the feature works with all ExtraView versions, with ExtraView GC only, or that the page reflects a feature that partially works with ExtraView and fully with ExtraView GC.



## Key Concepts

ExtraView is Web-based issue-tracking and workflow software that is designed to meet the following objectives:

- Easy to install, configure and administer, minimizing your organization's setup and ongoing cost of ownership
- Provide functionality that is easily extensible over time
- Able to support your business processes and your workflow, with straightforward configuration
- Capable of implementing multiple tracking systems, all within a single database, with each tracking system operating independently, or inter-related with the other tracking applications (multiple tenants)
- Scalable to support large numbers of users and issues
- Easily configured to reflect your company's terminology, and data hierarchies, and able to provide extensive validation for data that describes your organization, products, and services
- Provide varied and extensive reporting and charting
- Easily integrate with other enterprise software systems
- Be extensible by adding additional code into the environment, **without changing the base product**

To understand the key concepts in ExtraView, it is recommended that you read through the pages referenced below.

## Installation & Configuration

This process is best executed with advanced planning. The purpose of this guide is to give you complete details on the administrative portion of the initial setup as well as ongoing support for your installation. Please consult the ExtraView Installation Guide for your specific platform for full details on the installation of the servers and ExtraView application. The basic workflow that is suggested for setting up your installation is as follows:

Plan your server hardware and network connectivity to support ExtraView. ExtraView Corporation's technical support personnel can help with recommendations for suitable platforms. You can view the server requirements by clicking [here](#).

## New Installations Downloaded Directly from the ExtraView Website

If you are using the standard ExtraView product, downloaded directly from our website installation is very simple and includes all the components required for a fully functioning system, including a database. Just follow the download instructions.

## ExtraView Installed with your own Server and Database

If you are installing and configuring ExtraView with your own database and servers, you can view the [Installation Guide](#) here.

## Configuration

This Administrator's Guide covers the design of your system and how to provide the features you need for your company. Briefly, the tasks that need to be accomplished are as follows. Note that many of the tasks do not need to be performed in sequence, but can be executed in an arbitrary order.

- Install the license key provided by ExtraView
- Create a user account with administrative privileges for your own use
- Set up a small number of global behavior settings. These will be the foundation to the successful running of ExtraView in your environment
- Configure any special connectivity needs to remote databases, such as LDAP or Active Directory for remote directory services and / or SSO for single sign on authorization
- Define and create the user defined fields in your system, that will complement the inbuilt fields
- Define the relationships between record types and fields, such as how different record types are related and where parent child-relationships exist between list values
- Define and implement the various user roles, or categories of users who will access the system
- Design and lay out screens to support the fields you create
- Create a structure of permissions that support access to each screen for each user role that was defined
- Set up the workflow that will control the processes in your company. For complex workflows this may involve the design and programming of customized "user exit" routines, written in the Java or JavaScript languages
- Design standard reports that will be "public" for your users
- Add user accounts to the system
- Test the completed system

## Defining Your Process

ExtraView allows the System Administrator to define a process that conforms to the way the company works. It does not impose a fixed methodology on the company. The administrator can, without programming, set up rules appropriate to the company's needs.

Each issue you submit can be moved between any number of status values that you define, with each status being visible only to the user role that is permitted to work on the individual status. For example, an *Open* issue may only be changed by the Engineering group, who may only mark it *Fixed* or *Issue* not found after working on it. This same Engineering group may not *Close* the issue since that is a state that only a different role such as Quality Control may access.

A user role is created for all people who should follow the same rules. Typically, these would fall along the lines of customers, support staff, engineering, quality assurance, managers, administrators, etc., but complete flexibility exists to define what user roles you create and how many you create.

In addition, you can program a significant amount of logic into each **Add** or **Edit** screen form within ExtraView. For example, you can set some fields to only display dependent on the contents of a specific field, or you can specify sub-layouts within the form that are conditional upon the value of a specific field.

Should you have a workflow process that cannot be accommodated within ExtraView's standard functionality, the product can be extended with additional code written in the Java language and inserted into a "user exit" routine using ExtraView's UserCustom Class. ExtraView was designed to make it easy to alter or add functionality within the source code, but without needing to modify the source code of the base product. In this way, your investment is protected when you update or upgrade ExtraView.

## Customizable User Interface

ExtraView can be modified in a number of ways in order to tailor its look and feel to any company's needs.

The following changes can be made simply, either by you or by ExtraView Corporation's Professional Services team:

- Alter screen colors and fonts
- Add your company logo
- Edit all text labels to reflect your own terminology

- Rename menu items
- Create new navigation buttons in any style / color
- Create alternative screen layouts for different groups of users
- Create alternative report and email layouts for different user roles

To simplify the creation of a good-looking interface, there is an administrative utility that allows you to select a theme from a library of preconfigured options.

## Users

Users are specific people who have an authorized sign on capability to ExtraView. Each user has an individual account and the user or a system administrator can modify personal behavior settings within the account.

The administrator has additional privileges to manage user accounts. For example, they can create new accounts, disable existing accounts and can add and remove users from user roles and privacy groups.

User accounts may be created by a self-registration process. However, if a user self registers, they are only given basic access until a system administrator grants them additional rights.

There are two special accounts within the system, named *admin* and *system*. The *admin* account has the following characteristics:

- It should not be used to create or manage any issues
- Issues cannot be assigned to the *admin* user
- The *admin* user is not counted within the number of available licenses
- The *admin* user does not view the sign on message area, allowing them to bypass any potentially bad HTML that was inserted into this area by an administrator
- The *admin* user has additional privileges in the data dictionary, where they may enter and update the SQL statements that are used by ExtraView to extract and update information in the database
- The *admin* user bypasses all status change rules.

The *system* account is reserved for use by ExtraView personnel, in the eventuality that any customer of the product has locked themselves out of their system, and ExtraView personnel need to restore access. If you accept the risk, and understand that ExtraView support may not be able to access your system quickly, you can ask ExtraView support to give you ownership of this account.

Users may be defined and maintained in an external directory, such as an LDAP directory or a Microsoft Active Directory. Various policies for synchronizing the external directory and ExtraView's internal directory may be adopted.

Users may sign on more than once and they will still occupy a single license within ExtraView. However, there is a limit for each unique user in that they may only sign in and have up to five active sessions. For each five active sessions, one license is consumed.

## User Roles and Security

Individual users belong to one or more user roles and share the same characteristics and permissions. For example, one user role may have read and write access to a particular field, while another role may only be able to view the same field. Another user role may not even be able to see the field.

You may create an unlimited number of user roles.

All fields, menus and screens have security keys to protect the object. For example, a security key exists for accessing the security module itself. Another security key exists for the *product* menu item on the Administration screen. Another example is that a security key exists to control access to the *description* field. All of the fields that are visible can be turned on or off based on user role privileges. There are literally hundreds of security keys within ExtraView, and each time you create a new user-defined field, two new security keys are automatically created to allow you to protect the newly created object. These two keys allow you to control access to the field when adding a new item to the database and to control access to the field when either updating or reporting.

The Grant Security Privileges section controls all these accessibility features in your version of ExtraView. In a matrix view, the intersection of the security key and the user role is a read and write switch. Therefore, for every item that has a defined security key, you can allow or prohibit any user role to access that feature.

## Business Areas

This key concept is used to define a structure where you may define multiple tracking systems within a single instance of ExtraView. Each of these tracking systems is termed a Business Area, and each of these Business Areas may have its own set of screens, fields,

processes, rules and workflow. Business Areas may also share these objects. An administrator may have control over the entire installation or sub-administrator roles may be created, each having control over a part of the installation. With this capability, ExtraView is termed a multi-tenanted database.

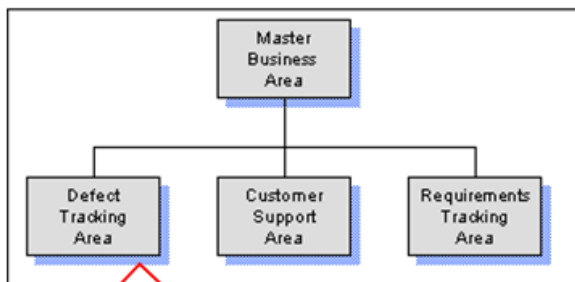
For example, the Business Areas can correspond to issue tracking processes such as defect tracking, requirements planning, customer issues, adverse event tracking, change management and/or safety issues. Subject to any restrictions of the ExtraView licensing scheme purchased, the administrator may create as many Business Areas as required. Within each Business Area, multiple Projects can also be defined, again subject to any restrictions of the ExtraView license purchased. These Projects have the same characteristics as Business Areas. Projects will typically be used to provide alternative processes or screens or workflow within a defined Business Area.

The administrator can limit a user's access to the issue-tracking database to individual Business Areas, and to individual Projects.

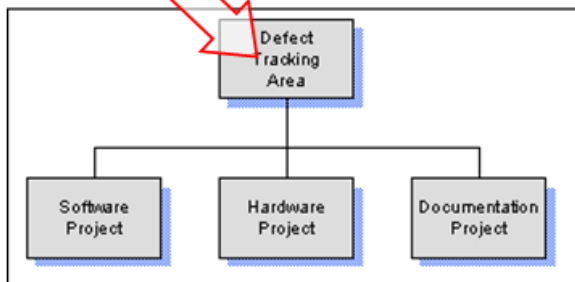
Different screen layouts and default reports with different fields can be designed for each Business Area and each Project, as well as different workflow and business rules, thus ensuring the optimization of ExtraView for each part of the organization.

Using common fields, management information can still be consolidated across Business Areas or the entire organization.

The fundamental principle that governs the use of Business Areas and Projects is [inheritance](#). The top-level Business Area within ExtraView is termed the Global Area. The Global Area has a single Project, named the Master Project. Layouts and security permissions always exist for the Global Area and its Master Project. Beneath the Global Area, further Business Areas and Projects can be defined, where inherited values apply. Each of these child Business Areas has a Default Project, and may have any number of individual Projects. At any level, alternative layouts, fields and security permissions for fields can be defined, over-riding the inherited values.



Example Business Area Structure



Example Project Structure within a Business Area

All ExtraView's inbuilt fields are global in scope. Fields you define yourself as an administrator may be global in their scope or may be defined for a single Business Area, or defined for a single Project within a single Business Area.

Many of the options in this guide are dependent upon Business Area and Project. However, for clarity, reference is only made within this guide, when it is important to explain a significant fact. Simply, the Business Area and Project will appear on administration screens such as security permissions and layouts, when they are required, and will not be present if the Business Area and Project capability is turned off.

Another key attribute of Business Areas is that you may create relationships between items (or issues) stored in different Business Areas. This is an extremely powerful feature that allows you to define multiple record structures that can interoperate with each other. These relationships can extend many levels in a hierarchical structure. A simple example may be that you store "customers" in one Business Area, and that you store "customer issues" in a separate Business Area. You may then relate these two areas together, based upon a common attribute such as the customer name. I.e, when a customer issue is entered, the customer name is selected and all the other attributes of the customer are then visible within the customer issue record. When reporting, you can use the relationship to show fields from the "customer" record along with fields from the "customer issues".

Note: You should not store data for your installation within the Global Business Area and Master Project. These should be reserved for the setting of default security permissions and layouts to provide the inheritance to all other Business Areas and Projects. This gives you the most flexibility in maintaining and extending your system.

Note: If you are configuring ExtraView for a single purpose, such as defect tracking, we do not recommend that you simply configure the Global Business Area, and use that to store your data. Although this will work, it will make future changes difficult,

should you decide to introduce additional tracking systems.

Business Areas and Projects can be turned on and off with the behavior settings named ENABLE\_AREAS and ENABLE\_PROJECTS. These are found on the Environment Settings menu within Administration. **It is recommended that you never alter the default settings for these behavior settings.**

## Queries

Queries may be formed and executed on any issue data stored within ExtraView.

Queries are composed using either standard or advanced filters. The results are presented using either a Quicklist or a Detailed Report. The results may be output to the user's browser, to Microsoft Word, Microsoft Excel, Adobe PDF or to text.

The standard filters require the composition of a layout of the type SEARCH\_QUICK. This should contain the most frequently used fields for queries. Users can select any number of filters on this layout to compose a query. When multiple filters are selected, the query engine places an "AND" conjunction between the filters. The user can select expanded query filters, in which case, multiple values can be selected within each field. This is an "OR" operation with the values of the filter field.

Advanced filters require the selection of the filters to be used in the query, one-by-one. However, the user can select from the entire range of fields to which they have read permission. The user may also set a conjunction between each filter, using "AND", "OR", "UNION", "INTERSECT" or "MINUS". Advanced filters take more time to set up, but offer significantly more capability.

Once prepared, filters sets may be stored and recalled.

Within the administration section of ExtraView the most important aspect that affects querying is to correctly set the following Data Dictionary fields, as explained in the Data Dictionary section of this guide:

- Allow selection on reports
- Total field on reports
- Filter criteria
- Is sortable

## Reports

Reports are composed of two basic elements, a set of query filters, and a definition of the data to be output. There is a wide range of report types, as explained in the End User Guide. The results may be output to the user's browser, to Microsoft Word, Microsoft Excel, Adobe PDF or to text.

Each report has filters, which are composed using either standard or advanced filters. The standard filters require the composition of a layout of the type SEARCH\_QUICK. This should contain the most frequently used fields for queries. Users can select any number of filters on this layout to compose a query. When multiple filters are selected, the query engine places an "AND" conjunction between the filters. The user can select expanded query filters, in which case, multiple values can be selected within each field. This is an "OR" operation with the values of the filter field.

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For most report types there is the capability to define hierarchies for the filters, allowing the selection of parent and child records for output to the report.

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- Allow selection on reports
- Total field on reports
- Filter criteria
- Is sortable

If you are using relationships within your installation, reporting hierarchies may be created, allowing parent / child / grandchild type reporting.

## Fixed Names & Screen Titles

These terms are used widely throughout the administration guide.

Fixed names are defined as terms that are used within the ExtraView database to refer to a field or object. Once created, names for an object do not change and they are a fixed reference. Each name will have a corresponding screen title. If you have turned on the localization feature of ExtraView, there may be more than one title for any named object, i.e. there may be one title for each locale or language. Screen titles for any fixed name may be changed by the administrator.

The screen title is defined as the reference to an object by which it is referred to throughout the user interface to the end user of ExtraView. Thus, every title within ExtraView may be altered, but the underlying name that it refers to will not alter.

In this way, the title (or label) that refers to each field and object can be changed at will by the administrator, but the underlying data remains without change. For example, the field with the name of **ID** may have its title changed from *Defect #*, to *Tracking Number*. From the moment of this change, all screens, reports and other screens that refer to **ID** will use the new title.

Changes made in this way to metadata by administrators are logged by ExtraView, giving an audit trail of who made what change, and when they made it.

Fixed names used for any object type are unique within ExtraView. Names can only consist of the characters A to Z, 0 to 9, and '\_'. The first character of a fixed name must be alphabetic and the name can be up to 30 characters in length. Names cannot contain characters from non-English alphabets. A further restriction is that you may not have two underscore characters together in a name.

Screen titles are not required to be unique for an object type across an ExtraView installation. However, consideration should be given to using non-unique titles. In some installations, this makes perfect sense, in others it may not. Titles can consist of most characters, but "special" characters such as '!', '"', '#', '\$', '%', '&', "'", '(', ')', '@', '~', ':', ';' and '^' may not work in all places. For reliability, you should use alphabetic characters only in titles. However, titles can be localized and may contain characters from any alphabet, including double-byte character set alphabets.

With a small number of exceptions, you may not insert HTML into a screen title. This is to preserve security where a user may have the ability to alter a title and uses this ability to inject HTML that consists of a script into a screen. Such scripts may not be innocuous and therefore the ability to introduce HTML of any type into a title is restricted.

Note that if you take advantage of this feature, then any output through the API or CLI will contain and display the embedded HTML within the screen title.

## Data Dictionary

The [Data Dictionary](#) is the central place where all field definitions are stored and maintained. All User Defined Fields (UDF's) are defined in the Data Dictionary. In addition, this core component of ExtraView controls many of the attributes of each field, such as where it is used, its display type, display title, whether the field is selectable on reports, its default value, default attributes and help text. Global attributes may be defined for a field. These optional attributes determine properties of the field which can be inherited wherever the field is used. For example, you might provide a SIZE global attribute to a text field. Wherever this field is used as input, it will then adopt this SIZE, although the size might be overridden on an individual form.

Correct settings in the Data Dictionary are essential to a smooth running system. Although it is possible to alter every field within the ExtraView, it is recommended that you only make changes when you thoroughly understand what the consequences will be.

## Design Center

This feature is the principal area where you will configure your system.

This feature allows you to configure the layout of the *Add Issue*, *Edit Issue*, *Query* and other screen layouts. In addition, key reports such as the *Quicklist* and the *Detailed Report* also use layouts defined within the Design Center. Layouts can be defined for different user roles within your system, offering a tremendous amount of flexibility. You may create and define fields within the Design Center, or you may use the Data Dictionary for this purpose.

Layouts work in conjunction with security permissions for each field. Therefore, simply placing a field on a screen does not automatically give all users the ability to read or write to the field. You can alter the permissions to each field within the Design Center, or you may use the Grant Security Privileges option to define which fields are visible and updateable to each group of users. The security privilege for the field overrides the fact that a field may be placed on a screen or report.

One layout may be embedded within another layout. In addition to this, you may specify alternate layouts that appear, dependent upon the value of a specific field. For example, you may have a category list field that has the values of *Software*, *Hardware* and *Documentation*. Depending on which value is chosen, a sub-layout can be displayed that contains the fields pertinent to gathering the information needed about each of these categories. These sub-layouts or embedded layouts may only be embedded within an *Add* or *Edit Issue* layout. There is no need for them on other layouts.

Fields within each layout may have one or more attributes defined. These layout cell attributes affect the display of the field, or the way in which it is processed. For example, an attribute may provide the field with an alternate title, just for the one layout, or the attribute may define that the field is only visible if another field is of a specific value.

There are two special type of layouts which may only be embedded within other layouts. These allow the definition of Related Issue Layouts and Repeating Row Layouts.

## Workspaces

Workspaces provide a single browser window within which you can run all of ExtraView's end-user functions. Within the browser window, a separate panel will be opened for each function. For example, you might open an *add* screen, an *edit* screen, and several reports, all at the same time. Each panel has a title bar that contains buttons to control the functions within the window, as well as buttons to minimize, maximize, and close the panel.

The screenshot displays the ExtraView workspace interface. At the top, there is a navigation bar with the 'LOGO EV' and several icons. Below this, the main workspace is divided into several panels:

- Bug Details:** A form with fields for Category, Status (New), Priority, Severity, Title, Product (Tracker Enter), Module, Platform, Customer, Release Found, Originator (bsmith), Assigned To, and Owner.
- Description:** A large text area for the bug description, with a 'Screenshot' button and a 'Spell Check' button.
- Attachments:** A table with columns for 'Add', 'File Description', 'File Name', and 'File Size'.
- Notification:** A section with checkboxes for 'Generate Email', 'Include self on interest list', and 'Include Customer users in notification', along with 'CC Email' and 'Add users to interest list' input fields.

On the left side, there is a sidebar with a tree view of reports:

- Bug Reports
- Customer Issue Reports
- Dashboard Reports
  - Edit Home Page Dashboard - General reports
  - Edit Key Statuses - For Home Page Dashboard
  - Edit Open Issues by Business Area - For Home Page Dashboard
  - Edit Open Issues by Priority - For Home Page Dashboard
  - Edit Summary of Statuses - For Home Page Dashboard
- Helpdesk Reports
  - Edit New / Open Issues - Assigned to Me
  - Edit Open Issues Not Addressed - Issues from the last week showing the Originator and Requestor and Assigned To

On the right side, there is a pie chart showing the distribution of issue statuses:

- Fixed: 137
- Duplicate: 17
- Closed: 63

Below the pie chart, there is a table with a 'Total' column and several rows of data.

A typical workspace

A user may have any number of workspaces, and each may contain different panels. The user may save the state of the workspaces, and these will be restored when they reopen each workspace.

The workspace is provided as an alternative user interface to the traditional user interface. With permission, the user may start their ExtraView session in the traditional interface, or within the workspace interface. The user may also switch between the interfaces.

At this time, the ExtraView Administration functions will not appear within a workspace window and will always use a separate browser window.

# Email Notification

Whenever issues are inserted or updated, email notification may be triggered to send information to users connected with the issue. These notifications are typically used to inform users such as the originator, the assigned to and the person who last updated the issue.

Interest lists allow users to subscribe to issues where they have a particular connection. These are a powerful feature of ExtraView, ensuring automatic notification of events to appropriate individuals within an organization. Interest lists can be defined within the Data Dictionary on any field that may have a list of values. For example, you may define an interest list that notifies individuals on all issues that have a severity level of *critical*, or you may define an interest list that notifies individuals whenever an issue affects a particular *module*.

Rules may also be defined to override the standard notification rules.

Notification may also take place which escalates issues which have remained in a particular status for longer than a given period, or are approaching or have exceeded a date such as the due date of a repair.

# Programming Interfaces

## RESTful Application Programming Interface

This web-orientated API to ExtraView allows the user to extend ExtraView's functionality. The key features of the RESTful (Representational State Transfer) interface are:

- A set of URL functions utilizing the HTTP protocol that access ExtraView to perform user functions such as adding and updating issues. This eliminates the need for expensive software such as Oracle SQLNet on each client computer
- A set of URL functions that allow limited administration of ExtraView. For example, you can add users and alter user passwords
- A full Command Line Interface (CLI) implemented on top of the API, that allows users to access functions such as adding, updating, deleting and searching from a command line. This is typically used from a UNIX, Linux or Windows 2000 command shell

## Web Services Application Programming Interface

This Simple Object Access Protocol (SOAP) interface provides a complete set of API functions, similar to the WOA interface, but utilizing the more standardized methods of a SOAP interface.

The interface may be accessed through both Java and .Net. A full set of examples is provided with an interface implemented on top of Visual Studio.

## Command Line Interface (CLI)

The CLI is implemented using the ExtraView API. It comprises a set of Perl scripts that perform many functions such as:

- Adding or updating issues in a batch or interactive mode from a telnet session
- Performing limited administrative functions
- The CLI functions can be further scripted by an ExtraView user, to create their own functions, running in interactive or batch mode.

Please see the following guides for further information:

- [Application Programming Interface Guide](#)
- [Web Services Interface Guide](#)
- [Command Line Interface Guide](#)

# Client Browser Support

## Supported Browsers

ExtraView 7 is certified to support the following browsers.

- Internet Explorer is supported using versions 7, 8 and 9. There are some known issues with version 6.x, especially if your installation uses a horizontal menu on the user interface
- Mozilla Firefox is supported using version 4 and greater
- Apple Safari (on Macintosh only) is supported, using version 5.1



- Google Chrome is supported, using version 13.

These browsers are supported on the following platforms (where available) – Windows XP, Windows Vista, Windows Server platforms 2005 and greater, Apple Macintosh, Linux, Solaris and UNIX.

If you use Microsoft Excel to view ExtraView reports, you may need to ensure that the character set being sent from ExtraView to Excel is correct. If your data in ExtraView contains double-byte characters (this normally means Asian languages) then you should set your Microsoft Office character set to **windows-1250** within your personal options.

## Screen Resolution

The resolution of the monitor or screen on which users should use ExtraView should be a minimum of 1024 x 768 pixels. While ExtraView will work at lower resolutions than this, users may have to scroll up, down and sideways more than they would like. The administrator can make decisions in the design phase that will affect this. For example, the settings in the style sheets that control the small, medium and large font sizes can be tailored, as can the number of columns and rows that appear on screen layouts.

The recommendation is that administrators should design their layouts to fit within a resolution of 1280 x 1024 pixels. This covers the widest majority of monitors that users own.

## Cookies in the Browser

Most browsers have cookies turned on as a default setting and this is what ExtraView expects. If they are not turned on, ExtraView will warn the user that cookies are not turned on, and will not function until they are turned on. ExtraView only uses session cookies, and no cookie or other information is ever stored within the client browser after the ExtraView session is complete.

## JavaScript in the Browser

JavaScript must be turned on within the client browser.

## The Browser Back Button

Users should never use the browser's back button within ExtraView. They should only navigate by the buttons that are displayed on ExtraView's menus.

The reason is that ExtraView must maintain integrity of its information at all times. For example, if you press the button on ExtraView's *Add Issue* screen to add a new record, then pressed the back button and pressed the add button again, you will have two records inserted. Similar problems occur if the user attempts to go back to a record he has edited, or to go back to a screen that was refreshed from the server during adding or editing an issue.

## The Browser Refresh Button

Similar to the Back button, the Refresh button within your browser should not be used. At the times that a Refresh is allowable, ExtraView will offer a Refresh button in its menu bar.

## Character Sets within the Browser

ExtraView must work consistently with a single character set, in order that information entered within different browsers across an organization will be compatible, and can be stored on and retrieved from the ExtraView server in a consistent manner. This is less of a problem with languages based on the Roman alphabetic, but is an essential ingredient of correctly configuring a system where users use double-byte languages such as Japanese and Chinese.

There is a behavior setting (see the following section) named HTTP\_CHARSET that defines the character encoding for input from all browsers, for all users of the ExtraView instance. By default this is set to UTF-8, a character set that is universal and supports all languages. The recommendation is to have all users set their local browser character set to UTF-8. If this is to be changed, then it must be changed on the server and in every client browser.

Note: It is strongly recommended that HTTP\_CHARSET is set to a value of UTF-8, and that all users only set their browser character set to UTF-8, so that characters will be displayed correctly and consistently.

# Administrative Functions

Administrative functions are split into the following groups:

- **Operational Tasks** - These are the day-to-day tasks such as administering users and setting up escalation tasks
- **Site Configuration** - This is where the majority of operations that configure your site are managed
- **Initial Setup** - These are typically the features that need to be set up in a new installation
- **Import/Export** - This is where you export and import data to and from ExtraView

- **Advanced** - These are advanced features that only need to be accessed on an occasional basis.

There is some crossover in the groups of functions. For example, the administrator will need to occasionally access a Site Configuration feature for a day-to-day operation.

## Behavior Settings

Behavior settings control basic functionality within ExtraView and allow your installation to be tailored quickly for your hardware, and your company's requirements with the platform.

The behavior settings are grouped into different categories that can be selected within the **Behavior Settings** administration function.

### Behavior Setting Categories

- API
- Company Information
- Display
- Email
- Environment
- LDAP and SSO
- Reporting / Querying
- Security and Session
- User
- Workflow

### Commonly used behavior settings

With more than 200 behavior settings, it can be somewhat complex to understand the purpose and behavior of each setting. The settings that are most frequently used are gathered in this section.

Category	Setting	Purpose
User	USER_SELF_REGISTRATION	You can allow your users to self-register, or you can be the registrar. When this is set to Yes, a prompt appears on the Sign On screen, allowing a user to navigate to a page where they can register themselves as a user in ExtraView. When a user registers in this way, they will only be given the privileges of the user role defined in the behavior setting named LIMITED_USER_ROLE, but no user role is set in their account. When a user self-registers, an email is sent to an administrator, as defined by the following settings with Email Settings on the Email Notification administration menu. The user created will be in the business area and project defined by those of the ADMIN user account.
User	USERNAME_DISPLAY	You have the ability to display usernames by First, Last or by ID based on your company's methodology.  First – will produce names like David Smith  Last – will produce names like Smith, David  ID – will produce names like dsmith
Display	ABBREVIATED_HISTORY	A value of YES will show changed fields only in history records and will not use the History layout to display the audit trail. A value of NO will use the History layout to display the audit trail. The displayed results with YES are more concise than NO, but there is not a fixed layout to easily spot the changes
Display	SUPPORT_LINK	If you have an HTML page that you would like your users to go when they need support, you can put the link plus a message here
Workflow	ENFORCE_STATE_CHANGE_RULES	Gives you the opportunity to turn Status Change Rules on or off
Email	EMAIL_ADMINISTRATOR_NAME	This is the email address or alias for the ExtraView administrator. Emails that are automatically generated by ExtraView are originated with this name. Examples are emails sent upon the self registration of a user, or an unauthorized access attempt

Email	EMAIL_ADMINISTRATOR_USER_ID	This is the email address to which emails originating within ExtraView are sent. This is usually the administrator's email address or an alias for the administrator
Email	EMAIL_FROM_USER_ID	Emails sent from ExtraView will show this as the sender's address. For example, use support@myco.com
Email	EMAIL_SUBJECT_TEMPLATE	This allows you to use fields within the record and place them within the subject line of the email that is generated. The field that you want to include is enclosed between \$\$ and \$\$\$. For example, the issue title is \$\$SHORT_DESCR\$\$\$. The value of:  ExtraView Notification [\$\$ID\$\$]: \$\$\$STATUS\$\$\$ - \$\$\$SHORT_DESCR\$\$\$  will produce an email subject line like:  ExtraView Notification [12345]: Open – Report of a failure
Company Information	COMPANY_NAME	The name of your company

## Security Permissions

Depending on which version of ExtraView layouts are installed with your new installation, different permission settings may exist. These different layouts may be a minimal set of layouts, where you will do most of the customization yourself, or they may be one or more of a series of layouts for “best practices” implementations such as bug tracking or customer support.

The visibility of individual fields or items within your installation may not be quite what you need. Firstly, if you are not certain, note the ADMIN user supplied with all ExtraView installations overrides the security permission settings, therefore if an item is visible using the ADMIN user, it is certain that a permission is not set the way you require. Secondly if you cannot see a field you require or you create a field and do not see it where you expect, check the field has been placed on the appropriate layouts as well as checking that the field has the correct permissions. Other sections of this guide explain all these items, but this is a short list of the permissions that frequently need to be checked and altered on a new installation:

Security permission key	Purpose
AREA.nn	nn is the internal ID of the business areas, and if you do not see a business area you expect, check these keys
CF_AREA	Visibility of business areas. This includes the ability to add or edit the list of business areas in administration
CF_PROJECT	Visibility of projects This includes the ability to add or edit the list of projects in administration
CF_PERSONAL_OPTIONS	Gives the ability to edit your personal options
STATUS.xxxxxx	xxxxxx is name of each status value in your installation. If you do not see a status value in a list on the add or edit screens, it is likely you did not give the correct permission to its security permission key

## Internationalization

ExtraView has been designed to work in a global setting. The following attributes should be understood when looking at ExtraView working over multiple countries and languages:

- **Time zones** - There is support for every time zone around the world. Each user can select the time zone within which he is working. ExtraView will account for time zones in all its calculations. For example, if you have two users in different time zones, and one updates an issue in the Pacific Time zone, and the other views the issue in the European Central time zone, the user in the European Central time zone will see the issue expressed in their time zone. There is support for two types of date fields; fields with a display type of *date* will always be corrected as just mentioned. There are also *day* fields where no correction is made for time. This can be used for events such as a birth date where you never want to correct for time zone
- **Locales** - You can set up as many locales as you require. Each user will belong to a single locale. For example, you may have users in Japan, Great Britain and Germany. Each user will see date formats in their own locale, with no resulting confusion because of the differing and conflicting date formats in use over the world. If Extraview has been localized for a specific locale, then a user who sets that locale will see all the localized messages. In this way different users in different countries can all see and use ExtraView within their own language
- **Automatic translation of data** - It is possible to configure different text area fields where a field in one language within one field may automatically be translated to a different language in a different field. This uses Google's web service API to perform the translation

# ExtraView Licensing Schemes

ExtraView is a licensed product. Several types of licensing schemes are available, according to your purchase of the license from ExtraView Corporation. The license details of the ExtraView installation can be viewed in the section named **Company Information Settings** in the **System Controls** section of **Administration**.

There are two versions of ExtraView - named **ExtraView** and **ExtraView GC**. These are the key difference in features of each version. Please see the [website](#) for complete details.

## ExtraView

Zero license cost for unlimited number of licenses

Support is available free on a user forum.

For direct support, see [here for pricing](#)

Supports 5 user roles

Supports 5 Business Areas

Supports 200 fields

WOA RESTful API

## ExtraView GC

See [here for pricing](#)

See [here for support pricing](#)

Supports an unlimited number of user roles

Supports an unlimited number of Business Areas

Supports an unlimited number of fields

WOA RESTful API and SOAP Web Services API

User Custom programming interface

Extended reporting

Keyword searching of documents stored in the database

Compliance with 21CFR Part 11 regulations

Automatic translation of text between different languages

Privacy of issues based upon the user's company name

Extended privacy with sophisticated logic

## Named User Licensing Scheme

Named users are identified as single-person entities that each has a unique User ID within ExtraView. You may create more end users than the number of licenses you have purchased, but the maximum number of active users cannot exceed the number of licensed users. You may disable any account or accounts to remain in compliance with the license. Note that users who only occupy the role identified in the behavior setting named LIMITED\_USER\_ROLE are not counted in the licensing scheme, and they will always have access to ExtraView.

## Concurrent User Licensing Scheme

You may create any number of user ID's with the concurrent licensing scheme, but not all users may be able to sign on and work within ExtraView at one time. This is because the software will restrict the number of users who can sign on at any time to the number of concurrent licenses purchased. If users in excess of this number attempt to sign on, they will receive a message asking them to contact the ExtraView administrator. You can control the length of time a license remains active, if a user becomes idle, through a behavior setting. After the expiry time, if a user remains idle, their session is expired allowing another user to occupy the

license.

## Mixed Licensing Scheme

When a mixed license is purchased, there will be a maximum number for named users and a maximum number for concurrent users. When any new user is created, they are automatically given the ability to use a concurrent license. The administrator may use the end user account maintenance screen to move any user (up to the number of named licenses purchased) from a concurrent license to become a named user license. Note that users who only occupy the role identified in the behavior setting named LIMITED\_USER\_ROLE are not counted in the licensing scheme, and they will always have access to ExtraView. These users should not be given a named user license, but should occupy a concurrent license. This is the default behavior.

## End-User Licenses without Cost

A single user role within ExtraView, identified by the behavior setting named LIMITED\_USER\_ROLE, may be used to identify users who are licensed at no cost. There are several limitations with users who belong to this user role:

- They may not update any issues
- They may not become the owner of an issue
- No issue can be assigned to a person with this role
- The user may only belong to single role and may not switch roles

The ADMIN user account is also supplied without any cost. This user account should not be used to insert or update issues as it has special properties.

# Operational Task Menu

The Operational Task menu contains the majority of administrative functions that are used day-to-day, to maintain key data such as user information, and to manage logs and sessions. More frequently changing administrative data, such as that used to define business calendars, report schedules and escalation rules are also found here.

# User Account Maintenance

This section of the Administration Guide discusses users, how they are defined and how they are maintained. It also explains how user roles are formed and used. Security is a strong point within ExtraView and there is an explanation of how this may be configured in many ways to enhance your ExtraView installation.

Another key concept surrounding users is privacy and how issues may use a feature known as Privacy Groups.

# Concepts

This section deals with all aspects of user administration. Within this section, you will learn how users are created and maintained.

## The ADMIN User Account

This account exists in all ExtraView installations and is provided at no cost. This user has special properties and should not, under any circumstances, be used to create and update issues. This is because it bypasses virtually all of the security permissions within the system. Because of this, you should take extra care with the password for this user. It is provided primarily for three reasons:

- This is the user account you use when ExtraView is first installed, allowing you to enter and create your own user ID's.
- If you ever get into a situation where you accidentally lock yourself out of ExtraView, for example by turning off all permissions, then this account will still be active.
- On occasions ExtraView Corporation support personnel may direct you to use this account to help identify a problem.
- If you are utilizing the behavior setting named USER\_SELF\_REGISTRATION, then users who self register will be given the default business area and project of the ADMIN user.

The ADMIN user has one other property. It allows the administrator to sign in as a different user, without knowing that user's password. This can be very useful for problem solving, or to help a user set up a feature such as their Home Page or a report. To achieve this, the ADMIN user signs on with the following convention:

ADMIN|OTHER\_USER\_ID

where they substitute the other user's ID for OTHER\_USER\_ID. They must, of course, enter the ADMIN user password.

# Adding Users

Once the required user roles have been created, an administrator may add new users to any of the roles that are active within the system and to which they themselves have permission. Note that users may be assigned privileges for more than one role at a time.

From the Administration menu, under the **Users** tab, click the **User Account Maintenance** link. A screen similar to the following screens appears:

The screenshot shows the 'User Account Maintenance' interface. At the top, it states 'There are currently 10 activated named licensed users. This installation is licensed for 20 users.' Below this is an 'Add' button for adding a new user. The main area features two dropdown menus: 'Select users by activation status or role' (set to '\* Active users \*') and 'Select users by privacy group' (set to '\* In any or no privacy groups \*'). A list of privacy groups is visible: Bank of America, Bear Inc., Chrysler, and Cisco. Below the dropdowns is a search section with instructions: 'The letters in the list indicate the first character of the filter column selected. First, select the column to use as the filter. Secondly, click on a letter to produce a list of just these items, or enter a search pattern, including a wildcard (\*). You may also use the Export button to produce a CSV file of the results currently displayed on the screen.' The search section includes a 'Select filter column for report' dropdown (set to 'User ID'), a list of filter columns (A, B, C, D, E, G, I, J, L, M, Q, S, T, <all>), a search input field, and 'Go' and 'Export' buttons. The main part of the screen is a table with columns: User ID, User name, Email Address, Company, Enabled, License type, Last access, Created, and Last updated. The table contains 13 rows of user data. At the bottom, it shows '13 record(s) selected from a total of 13 record(s)' and navigation buttons: Return, Email users, and Print Page.

	User ID	User name	Email Address	Company	Enabled	License type	Last access	Created	Last updated
<a href="#">Edit</a>	ADMIN	System Administrator	admin@xxx.com	Superior Software Corp	Yes	Named	1/23/07 13:57	ExtraView 10/1/03 0:00	System Administrator 10/19/06 16:39
<a href="#">Edit</a>	BSMITH	Bill Smith	bsmith@x.com	Superior Software Corp	Yes	Named	1/31/07 15:02	ExtraView 10/1/03 0:00	Bill Smith 1/30/07 14:25
<a href="#">Edit</a>	CSR	Chris Robinson	csr@xxx.com	Superior Software Corp	Yes	Named	8/2/06 3:59	ExtraView 10/1/03 0:00	Bill Smith 7/14/06 11:18
<a href="#">Edit</a>	DEV	Jimmy Duncan	jimmy@xxx.com	Superior Software Corp	Yes	Named	1/7/07 0:02	ExtraView 10/1/03 0:00	Bill Smith 1/14/07 12:06
<a href="#">Edit</a>	EVP4D	SCM Daemon		Superior Software Corp	Yes	Named	8/10/05 11:36	ExtraView 10/1/03 0:00	Bill Smith 11/22/05 23:19
<a href="#">Edit</a>	GREG	Greg Goldberg	greg@extraview.com	Superior Software Corp	Yes	Named	8/10/05 11:36	ExtraView 10/1/03 0:00	System Administrator 8/9/05 10:54
<a href="#">Edit</a>	GUEST	Guest User	guest@acme.com	Guest Company	Yes	Named	8/10/05 11:36	ExtraView 10/1/03 0:00	Bill Smith 7/19/06 16:57
<a href="#">Edit</a>	IT	George Miller	gmillar@xxx.com	Superior Software Corp	Yes	Named	8/10/05 11:35	ExtraView 10/1/03 0:00	George Miller 8/10/05 11:35
<a href="#">Edit</a>	JOHN	John Customer	john@xxx.com	ABC Software	Yes	Named	8/10/05 11:34	ExtraView 10/1/03 0:00	System Administrator 8/9/05 15:30
<a href="#">Edit</a>	MARY	Mary Dickens	mary@ssc.com	Superior Software Corp	Yes	Named	8/10/05 11:31	ExtraView 10/1/03 0:00	Mary Dickens 8/10/05 11:33
<a href="#">Edit</a>	QA	Mary Brown	qa@xxx.com	Superior Software Corp	Yes	Named	6/30/06 14:44	ExtraView 10/1/03 0:00	Mary Brown 6/30/06 14:44
<a href="#">Edit</a>	SHUNT	Sally Hunt	shunt@extraview.com	Superior Software Corp	Yes	Named	6/4/06 18:00	ExtraView 10/1/03 0:00	System Administrator 6/4/06 18:02
<a href="#">Edit</a>	TEST	Susan Green	sgreen@xxx.com	Superior Software Corp	Yes	Named	6/20/06 3:09	ExtraView 10/1/03 0:00	Susan Green 6/20/06 3:09

## User Accounts screen

Note the search capabilities of the screen. Not only can you choose to search by active and inactive users, but you can choose to search by any of the columns of information in the list, such as by **User name**, or **Company**.

Use the filter column for the report specified in the select list, then either click on a letter that represents the first character of each entry in the list, or enter an expression in the text input box with the entry "Enter search expression". You can then press the **Go** button to execute the search and retrieve the records that match the filter and search expression.

If you press the **Export** button after executing the search, then all records that are displayed on the screen will be exported to a CSV (Comma Separated Value) file. You can use this file outside of ExtraView for any purpose.

Click the **Add** button to add a new user. The following screen appears:

Add New User screen

The tabs across the top of the screen are for the following purposes:

Tab	Purpose
Basic Information	The key demographic details of the user. All the essential fields to set up and maintain a user are on this tab
Personal Options	The user's personal options that they will also be able to control by themselves
Report Options	The reporting options for the user, including their Home Page reports
Notification Options	The user's email notification options
Privacy Groups	This tab only appears if the behavior setting named ENABLE_PRIVACY_GROUPS is set to YES. The tab is where you control each user's access to privacy groups

## Basic Information

This is where you assign the user a unique User ID (which they will use when logging in to the system), their password and other information about the account. You must enter data into all of the required fields, plus any optional fields that you wish to complete.

Submit Cancel Print Page
Add new user

---

Basic Information
Personal Options
Report Options
Notification Options

### User Information

User ID ?

Alternative User ID ?

First name

Last name

Password ?

Verify password

Primary email address

Job title

---

Company name

\* None \*

---

Address

City

State / Province

Zip / Postal code

Country

Work phone

Home phone

Cell phone

Fax

Pager

User field 1

### Security Information

Enabled User ?

Named User ?

---

Expire password now ?

Days to password expiry ?

Expiry Interval ?

---

Select user roles ?  Administrator

Customer

Customer Support

Customer Support Manager

Development Engineer

Engineering Manager

IT Support

IT Support Manager

Quality Assurance

[Click to check or uncheck all the groups](#)

---

### Default Area & Project

Set default Area ?

Set default Project ?

Submit Cancel Print Page

Basic Information screen

## User Information

User Information Fields Purpose

**User ID** The name that the new user will use to login to the system (required). User names the following letters, numbers and characters:  
A – Z 0 – 9 - \_ . @

The user ID must be unique.

**Alternative User ID** When you enter the User ID for a new user, the alternative User ID is populated with the same value. This may be changed. Alternative User ID's are available to allow the changing of a user's sign on ID. User ID's are attached to many items of data within ExtraView and are used as foreign key constraints in the database. It would be complex to change all of these if you required to change the User ID for a purpose such as a name change for a user. The Alternative User ID allows the administrator to change the sign on credentials for a user, yet maintain underlying data integrity within the database

**First Name** First name. On the **Change a user's details** screen, you can control access to this field with the security permission key named USER.USER\_FIRST\_NAME

**Last Name** User's last name (always required). Note that if you attempt to add a user where the combination of first name and last name already exists, then you will receive a warning, but you will be able to go ahead with the update if you decided this is correct. . On the **Change a user's details** screen, you can control access to this field with the security permission key named USER.USER\_LAST\_NAME. If the administrator does not have write permission



to this key, they are prohibited from creating new users. The field is always visible as ExtraView is unusable if a user's last name is not visible. Thus you cannot turn off read permission for the field.

Password	The user's password. You can control access to this field with the security permission key named USER.USER_SECURITY_PASSWORD. The only occasion that you are likely to make this field not visible is when you are using a LDAP server for user authentication. There is also a security permission key named USER.USER_PASSWORD_MANAGEMENT. This controls the ability to expire user's passwords, and the time interval information associated with passwords, such as the password expiration interval and the number of days until the password expiry. Write access is needed to alter these fields. . If the administrator does not have write permission to USER.USER_SECURITY_PASSWORD, they are prohibited from creating new users.
Verify Password	Retype the User's password. The same security permission key as for the Password field is applicable.
Primary Email Address	The email address to which automatic email notification will be sent. This is required if the behavior setting named EMAIL_NOTIFICATION is set to YES. Note that if you attempt to add a user where the email address already exists, then you will receive a warning, but you will be able to go ahead with the update if you decided this is correct. The security permission key named USER.USER_EMAIL_ADDRESS controls access to this field, but only when editing a user. The user's email address is always writable when you are creating a new user. When you are updating a user, this field may be given read or read/write permission, or no permissions, in which case it will be invisible.
Job Title	The user's job title. Permission to access this field is controlled with the security permission key named USER.USER_JOB_TITLE.
Company Name	For internal users, this should reflect the same value as COMPANY_NAME in installation setup, especially if you are using the Privacy Group feature of the product as this match is used to determine whether a user may or may not see specific issues. As this field is instrumental in setting up privacy groups accuracy in setting the entry here is important. If you have several or many users in different companies that all access your ExtraView installation, you should consider using the COMPANY_NAME_LIST_UDF setting to provide a list of company names, to complement the manual entry of each company name and potentially spelling these differently for different users.  The control for this is a behavior setting named COMPANY_NAME_LIST_UDF. If this is empty, then the Company Name for each user is entered and updated manually. When a new user is created, the field is given a default value of the value of the COMPANY_NAME behavior setting.  If you place the name of a User Defined Field (UDF) with a display type of List into the COMPANY_NAME_LIST_UDF behavior setting, then the Company Name becomes a choice of entering a new value or selecting from the list of these values, eliminating the possibility of misspellings and simplifying the population of the field. The UDF field is a normal UDF in all respects, and you may share its use on add and edit screens as well as use it on reports. Note that the internal company name configured in the COMPANY_NAME behavior setting, does not appear in this list and is never added to the list.  When a user self registers to access ExtraView, this field is set to a value of their email address, ensuring uniqueness and that the user cannot become a member of a Privacy group, thereby seeing issues which he is not authorized to view. When updating the user's account, this field can be controlled with the USER.COMPANY_NAME field.
Address	This is two-line field that is always present on the user account screen
City	The city of the user. This is always present
State / Province	The state or province of the user's address. This is always present
Zip / Postal Code	The zip or postal code of the user's address. This is always present
Country	The country of the user's address. This is always present
Work phone	The user's work phone. This is always present.
Home phone	The user's home phone. This is always present.
Cell phone	The user's cell phone number. This is always present.
Fax	The user's fax number. This is always present.
Pager	The user's pager number. This is always present.
User field 1 - User field 10	This series of ten fields are turned off by default, using the security permission keys named USER.USER_DEFINED_1 through USER.USER_DEFINED_10. You may enable the security permission keys and alter the titles of these fields with their entries in the inbuilt field section of the data dictionary, thereby using these fields for any purpose.

## Security Information

Security Information Fields	Purpose
Enabled User	This checkbox controls whether the user is enabled or disabled. User's accounts are never deleted from ExtraView; instead they are disabled and the user may no longer access their account. In addition, the user's name will not appear selectable in lists in the normal fashion. If enabled with the behavior setting named <code>ALLOW_SEARCH_DEACTIVATED_USERS</code> , users may still use deactivated users as a filter to search for records.  The reason that user's accounts are not deleted but rather deactivated is because you may still wish to view users' names who originated issues or otherwise have their name set as a value in a field within an issue.
Named User	This field appears if you have a mixed mode license to ExtraView with both named and concurrent users. If this box is checked, then the user will occupy a named license, else they will occupy a concurrent license
Expire Password Now	If the administrator checks this option, then the user's password is expired immediately. On the next occasion that the user attempts to sign on, they are forced to alter their password. Note that this option does not appear if an LDAP server is controlling user authentication.
Days to password expiry	The label to this field also shows the number of days left, before the password expires. You can set this field to any number of days to choose a new expiry date. If you set this number to -1, the current password may be used once, and the user must provide a new password on the next occasion they sign on. If the behavior setting named <code>PASSWORD_EXPIRE_TIME_DAYS</code> is set to zero, then user's passwords are not expired automatically.
Expiry Interval	This defines the number of days after the password expires until it expires again. If the value is zero, the behavior setting named <code>PASSWORD_EXPIRE_TIME_DAYS</code> is used to determine the interval.
Select User Roles	Functional teams where members have the same set of privileges. Simply click on one or more roles that you want the user to be able to adopt. If the user is not granted any role, then they will assume the role nominated by the behavior setting named <code>DEFAULT_USER_ROLE</code> . If they are granted more than one role, then the user will see a select list in the navigation bar, and they can assume any of their valid roles by making a selection from this list

## Default Area & Project

Default Area / Project Fields	Purpose
Set Default Area	This is where you set the default Business Area for the user. This is the Business Area they will point to when they sign on
Set Default Project	This is where you set the default Project for the user. This is the Project they will point to when they sign on

## Personal Options

The personal options screen allows the administrator or user to set their basic parameters for their use of ExtraView.

### Personal Options screen

Personal Option Fields	Purpose
Text size	Choose Small, Medium or Large from the list, according to the size of the font to be used for the user's display.
Language	Choose from the list of available languages for the installation. The user's user interface to ExtraView will then use all localized messages available for the installation.
Time Zone	Time zone selection applies for the user system-wide
Date Format	Date format selection applies for the new user. All places where the date is visible to the user will use this format. Alternatively a custom date mask can be set, and a date format designed to the specification required
Custom Date Format	The date mask allows the setting of a date format, should the inbuilt formats not be sufficient for your needs. See Appendix A for a detailed explanation of custom date formats.
Time in 24 Hour Format	Should be Yes or No
Start page	The user may select a start page. This is the page to which a user is directed, when they first sign on to ExtraView. By default, this is the Home Page, but it may be selected from the list of available start pages in this list. This option may be turned off completely, with the behavior setting named <code>USER_DEFINED_START_PAGE</code> . The administrator may add additional start pages with the advanced administration feature named <b>Manage the list of start pages available to users</b> . The user must also have permission to use a start page, before they are allowed to view the page. The initial values available, when this feature is turned on are the Home Page, the Search / Report page, the Add Issue screen and the Administration screen
Browser Character Set	This only appears to the user account named ADMIN. Choose the character set for the user's display. Typically this is set to <b>UTF-8 Unicode 8-bit Transfer</b> .
MS Office Char. Set	This only appears to the user account named ADMIN. Choose the character set for exporting information from ExtraView to Microsoft Office products. The default is <b>UTF-16LE Unicode 16-bit LittleEndian</b> . This setting works with most language versions (and certainly all English language versions) of Microsoft Office products. If the user has difficult reading some characters on reports exported to Microsoft Excel or other Office products, they should find out which character set their Microsoft product is set to use, and make the setting in this list the same.
File Attachment Char. Set	This only appears to the user account named ADMIN. This is the default character set for attachments that the user will upload when they are managing issues. The initial value of this default is provided in the behavior setting named <code>DEFAULT_ATTACHMENT_CHARSET</code> .
Email character set	This only appears to the user account named ADMIN. This is the default character set that is used for sending email to the user. The default for this is UTF-8. The default can be changed with the behavior setting named <code>EMAIL_CHARSET</code>
Chart / PDF output font	The font saved in the user's profile must be a valid chart font for the locale in which the user is configured. If it is not valid, then the behavior setting for <code>DEFAULT_CHART_FONT</code> is inspected; if the default chart font is not valid, then the first valid font from the list of available fonts on the application server is used. If ExtraView cannot find the font or a font without the correct character set is defined, it is likely that both charts and reports sent to PDF output will not display correctly. This is most typically an issue with Asian users who require double-byte character sets.

# Report Options

Report Option Fields	Purpose
Drilldown Report Format	Quicklist or Detailed Report
Home Page report #1	Choose the report that you want to appear first on the Home Page for the user. This option only appears when editing the user account.
Home Page report #2	Choose the report that you want to appear second on the Home Page for the user. This option only appears when editing the user account.
Home Page report #3	Choose the report that you want to appear third on the Home Page for the user. This option only appears when editing the user account.

Note that the ability to select and set the reports on a user's Home Page is controlled by a security permission key named `SR_SET_HOME_PAGE_REPORTS`. If the user does not have read access to this permission key, then they may not change their Home Page reports. However, this ability is usually retained by the administrator so it is possible for the administrator to select and freeze the reports a user sees on their Home Page.

Report Options screen

# Notification Options

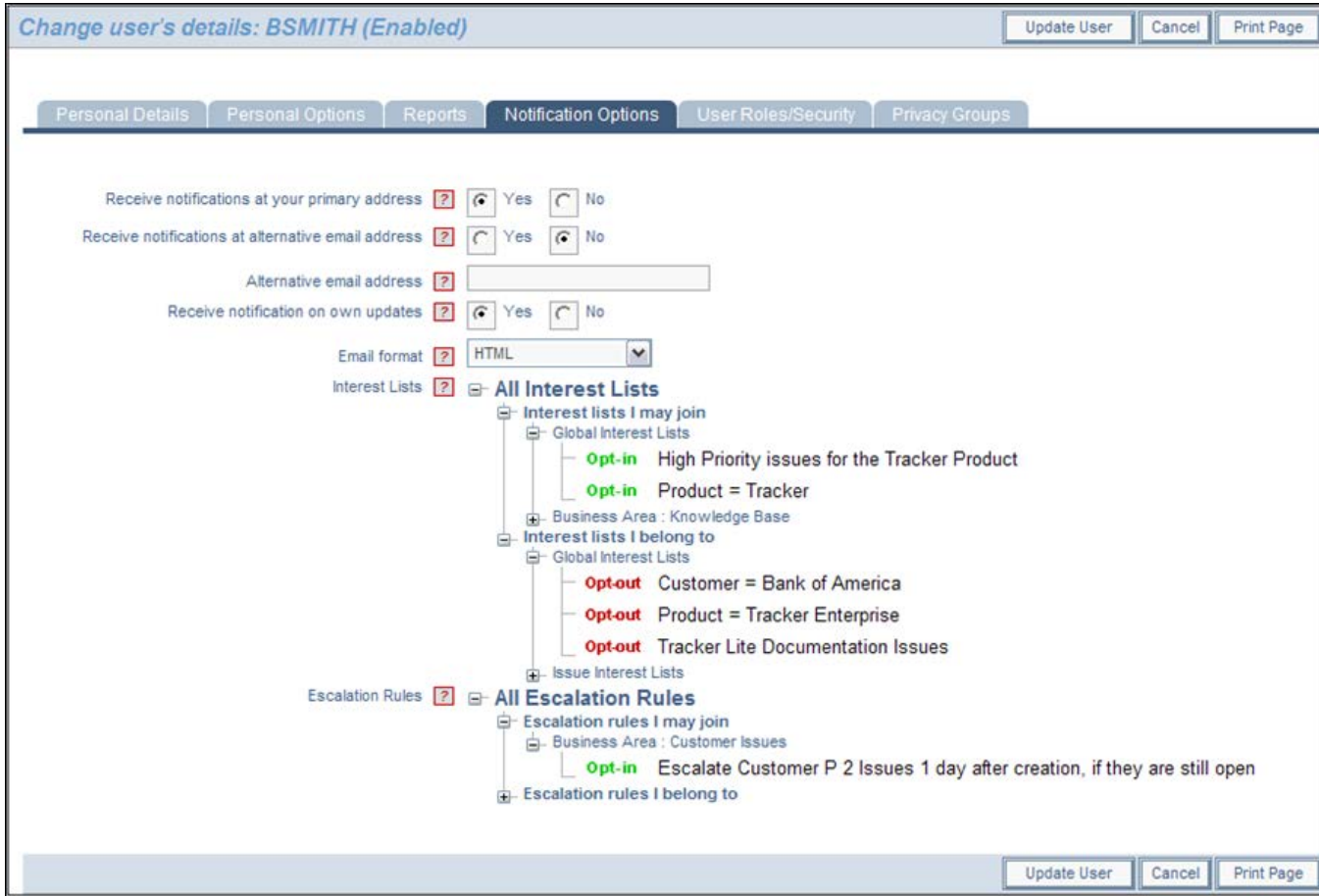
These options control how various notifications are made to the user.

Notification Option Fields	Purpose
Receive notifications at your primary email address	If this is set to Yes, the user will receive email at his primary email address. The primary email address is set on the <b>Personal Details</b> tab
Receive notifications at alternative email address	If this is set to Yes, the user will receive email at his alternative email address. The alternative email address is set on the next option. The user role must have read/write permissions to the security permission key named <code>USER.USER_EMAIL_ADDRESS</code> in order to control this address
Alternative email address	This is the alternative email address, controlled by the previous prompt. The user role must have read/write permissions to the security permission key named <code>USER.USER_EMAIL_ADDRESS</code> in order to control this address
Receive notification on own updates	Enabled will receive automatic email Disabled will not receive automatic email
Email format	HTML, Plain Text (brief), or Plain Text (full). The brief option provides just a few fields, enough to recognize the issue
Interest lists	Allows the opt-in or opt-out to interest lists. See the section in this guide on interest lists for full information. The key reason for interest list management on this screen is to allow users to opt-in and opt-out of interest

lists to which they have permission

Escalation rules Allows the opt-in or opt-out to escalation rules. See the section in this guide on escalation rules for full information. The key reason for escalation rule management on this screen is to allow users to opt-in and opt-out of escalation rules to which they have permission

Security permission keys separately control access to the interest list on the notification option tab for end-users. The CF\_INTEREST\_LIST permission key is used for this purpose. Without read/write access to this key, the end user cannot see or alter the interest list.



Notification Options screen

## Privacy Groups

Personal Option Fields Purpose

Privacy Groups Privacy Groups enable certain groups within ExtraView to view different specific sets of issues without making the issue PUBLIC (all users can see the issue) or PRIVATE (only internal users can see the issue)

### Privacy Group screen

When you have completed the entries for the user on each of the above screens, click the **Add User** button.

**Note:** If users are assigned to more than one user role, they should be informed they should click the **User Role** link to toggle amongst available group designations.

**Note:** If a new user is created and not added to any User Role, ExtraView will automatically assign them to the role defined in the behavior setting named LIMITED\_USER\_ROLE. This is typically the customer or guest user role.

**Note:** When you create a new user, the only Home Page Reports that are offered within the list boxes are Public Reports.

**Note:** If you attempt to create a new user and either the combination of the first and last name already exists, or the email address is already in use with another user, you will receive a warning and you are asked to confirm that you want to create the new user account.

## Updating User Accounts

On the User Account Maintenance screen use the filters to select the user account you wish to modify.

- Click the **Edit** button associated with the user account, and a screen similar to the following appears:

Update User Cancel Print Page
Change user's details: BSMITH (Enabled)

---

Basic Information
Personal Options
Report Options
Notification Options
Privacy Groups

#### User Information

User ID ? BSMITH

Alternative User ID ? BSMITH

First name ? Bill

Last name ? Smith

Password ? .....

Verify password ? .....

Primary email address ? bsmith@x.com

Job title ? Development Engineer

---

Company name ? Superior Software Corp

\* None \* v

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Address ? 269 Mount Hermon Road

City ? Scotts Valley

State / Province ? CA

Zip / Postal code ? 95066

Country ? USA

Work phone ? (831) 461-7100

Home phone ? (831) 461-7100

Cell phone ? (831) 461-7100

Fax ? (831) 461-7100

Pager ? (831) 461-7100

User field 1 ?

#### Security Information

Enabled User ?

Named User ?

---

Expire password now ?

Days to password expiry ?

Expiry Interval ? 0

---

Select user roles ?

- Administrator
- Customer
- Customer Support
- Customer Support Manager
- Development Engineer
- Engineering Manager
- IT Support
- IT Support Manager
- Quality Assurance

Click to check or uncheck all the groups

---

#### Default Area & Project

Set default Area ? Bugs v

Set default Project ? Bugs Data v

Update User Cancel Print Page

### Change a User's Details screen

A full explanation of all the fields is available under the **Adding Users** section of this guide.

- Edit user information on any of the tabs as needed, and then click the **Update User** button.
  - Note that when editing a user's account information, you can select which reports to add to their Home Page, by choosing up to three reports from the lists towards the bottom of the screen. You can select from public reports, or the user's personal reports.
- Note:** To deactivate a user account, click the **Basic Information** tab and use the checkbox named **Enabled User** to deactivate or reactivate an account. Once an account is deactivated, the user will no longer be able to login to the system, and their User ID will no longer appear in Assigned To or Owner pick list options, etc. To reactivate a user account, select **\*All inactive users\*** from the **Select Users by activation status** or role pick list on the Edit User Accounts screen. Once you have drilled down on the desired inactive account, use the **Enabled User** checkbox that appears on the **User Roles/Security** tab of the Change a User's Details screen. When you deactivate a user, they are removed from all interest lists, escalation rules as well as being removed from being the module owner of any module field value. If you reactivate a user, you will need to review all their settings for accuracy as ExtraView may reset some values such as the license type, when the account is restored.

**Note:** The entry **Alternative User ID** allows a user's ID to be altered. This does not change the initial ID used to create the account, but provides an alternative that can be used by the user to sign on. This is most useful for the occasions when a user's name changes, such as when a female changes their name upon marriage. When the alternative User ID differs from the User ID, either may be used to sign on.

**Note:** If the behavior setting named ENFORCE\_DETAILED\_USER\_INFO is set to "Yes", then additional fields will become required. This is used when you want users that self-register on the system to provide a significant level of personal details.

**Note:** If you alter a user's access to specific user roles, and remove their access to a user role, this will only take effect the next time they sign on. If they are signed on at the time you change their access, they will continue to have the access you are inhibiting.

**Note:** Users are not physically deleted from ExtraView. The reason for this is that once most users have used ExtraView, they will be recorded as the Owner, Assigned To, or other such person against issues. To preserve data integrity, ExtraView requires the user

details for everyone, even though they may not continue to use and access the system.

**Note:** If you alter an interest list, an escalation rule entry or change the user's language setting, there is an immediate update to the account. Pressing **Cancel** does not reverse this change.

## Unauthorized User Access Attempts

If a user attempts to sign on repeatedly, without success, ExtraView will disable their account as a security precaution. The controls for this feature are within the administrative System Controls menu, on the **Security and Session Settings** menu.

Behavior Setting	Default Value	Description
MAX_SIGNON_ATTEMPTS	3	The maximum number of consecutive failed sign on attempts allowed by an individual user before their account is disabled. The number of failures is measured in the period defined in SIGNON_PERIOD_MINUTES
SIGNON_PERIOD_MINUTES	5	Once a user fails to sign on because of an invalid password, they will be allowed to make a total of MAX_SIGNON_ATTEMPTS in this period

If a user's account is disabled, the system administrator is notified by email. The system administrator is also notified if a person from a specific IP address attempts to sign on repeatedly and unsuccessfully from the same address according to the above settings. If the user is using the User ID of ADMIN and attempting to sign on, then the MAX\_SIGNON\_ATTEMPTS is internally set to two times the value in the behavior setting. This is because it can be a significant maintenance problem if the ADMIN account is disabled and cannot be re-enabled. Thus ExtraView allows some extra sign on attempts before disabling the ADMIN account, but security considerations still ensure that there is not the ability to try to sign on indefinitely.

If the behavior setting named CUSTOM\_AUTHENTICATION is set to YES, then the user's account is not disabled if there are repeated failed sign on attempts. The assumption is that the custom authentication method, such as the LDAP server, will perform the action of disabling the user's account and it is superfluous to disable the account in two places.

The settings for notification are in the Email Settings menu within **Email Notification** and are:

Behavior Setting	Description
EMAIL_ADMINISTRATOR_NAME	This is the email address or alias for the ExtraView administrator. Emails that are automatically generated by ExtraView are originated with this name. Examples are emails sent upon the self registration of a user, or an unauthorized access attempt
EMAIL_ADMINISTRATOR_USER_ID	This is the email address to which emails originating within ExtraView are sent. This is usually the administrator's email address or an alias for the administrator

## Hierarchies of Admin User Roles

In larger organizations implementing multi-tenanted ExtraView installations, it may be useful to have multiple administrators, each of whom only have access to specific administrative functions, or only have access to modify the characteristics of specific business areas. For example, you may want to create a sub-administrative role that can only add new users and modify these user's settings and options.

To create a hierarchy of user roles take the following steps:

- With a user who has the *admin* user role, enter administration, and within the Users tab create the new user role or roles. You can copy the initial permissions from the existing *Administrator* role.
- Within the Fields tab of Administration, use the Grant Security Privileges function to modify the administrative permissions for the new role or role you created. Use the general category named \* **All administration options keys** \* to see all the keys that control access to the administrative functions
- Remember that you can restrict or grant access to the user roles for any administrator role

## Company Name Security

There is a behavior setting named COMPANY\_NAME. ExtraView recognizes this as the main company name. Given that this is the case, a new user added with a company name that is different from the value in the field associated with COMPANY\_NAME will not be able to see PRIVATE issues submitted by users in your company. This is especially beneficial if you have customers using the system, and you only want them to have limited privileges to view their own issues.

If you have enabled users or customers to self-register their selves within ExtraView, they will be able to sign on to ExtraView, and



they will automatically be assigned to the user role entered as the LIMITED\_USER\_ROLE. The LIMITED\_USER\_ROLE is set in the Workflow Settings administration menu. This group normally has minimal user privileges. By being added to this role, the user will only be able to view PUBLIC records until a System Administrator re-assigns them to one or more User Roles.

**Note:** When you use the company name as security, and a user moves from one company to another, and you update their record with the new company name, then all the users at that new company will have visibility of the issues that were entered by that person at their original company. You can avoid this by giving the new user a new User ID at the new company, or being diligent to make sure that all their original issues are updated to no longer refer to that person.

**Note:** If you are signed on with the user ID of admin, the company name security is bypassed. The admin user will see all records.

**Note:** There is a behavior setting named ENABLE\_PRIVACY\_GRP\_OVERRIDE. If the value is set to YES, then internal users can see all issues regardless of the value of the PRIVACY field. Internal users are defined by the user's personal Company Name being identical to the company name defined by the behavior setting named COMPANY\_NAME. If the value is set to NO, users may only see issues when they are a member of the privacy group to which the issue is assigned.

## The Company Name and the Privacy of Issues

There is a behavior setting on the administration menu, System Controls tab under Company Information Settings that controls the interaction between the privacy of issues and the different users within different companies that enter these issues. This is entitled ENABLE\_COMPANY\_NAME\_ACCESS. When this setting is YES, different users who have the same company name will be able to view all issues entered by any member of that company. This overrides the Privacy setting of PRIVATE. When the value of ENABLE\_COMPANY\_NAME\_ACCESS is NO, the Privacy setting overrides the behavior, and all issues will be held as being strictly PRIVATE as described in the section on Privacy.

The most typical use of this setting is to allow you to give your customers access to ExtraView, and to allow any member of an individual customer to see all the issues entered by his / her colleagues.

**Note:** A user will always be able to view an issue that they originated, irrespective of their company name.

There is a behavior setting named COMPANY\_OVERRIDE\_FIELDS that contains a comma separated list of field names with a display type of User. These fields must exist in the data dictionary. These fields contain the users that the company name security feature works with. By default, company name security works with only the ORIGINATOR field. This setting extends the feature to these other fields.

The use case for this is as follows:

The COMPANY\_NAME is set to *Host Company*. They are the host of the ExtraView site. An issue is submitted by a user in Company A. The *Company A* user can see the issue as they are the Originator of the issue.

The issue is visible to all *Host Company* users, because the default company name security allows them to see all issues. A *Host Company* user is set as the Owner of the issue. They want to assign the issue to a user who is neither a *Host Company* user, nor are they a *Company A* user.

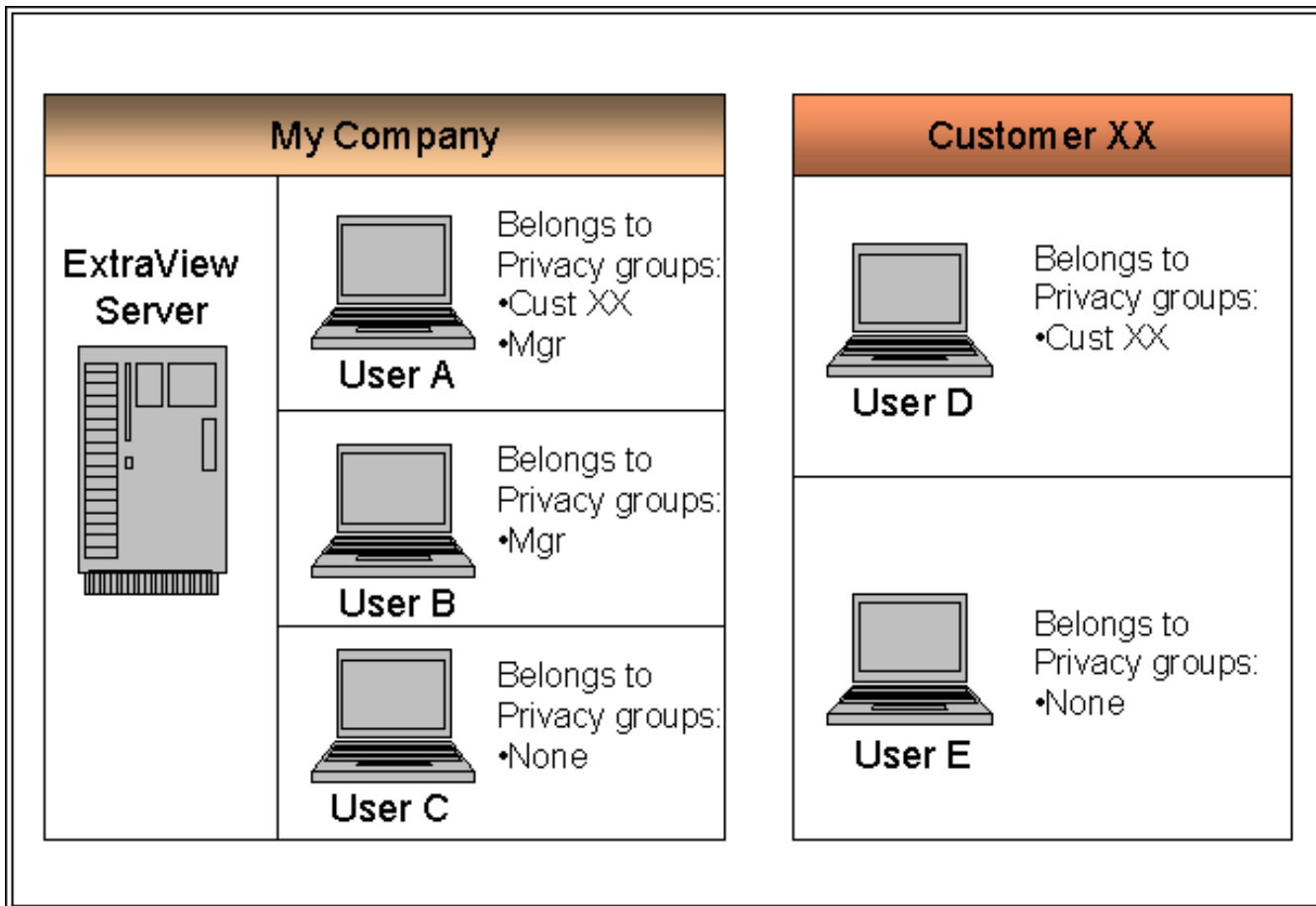
They want, for example, to assign the issue to a user who is a member of a company named *Company B*.

The goal is to extend company name security in such a way that the *Company B* user is able to view the issue, originally created by the *Company A* user, because they are assigned to the issue. The *Company B* user will not see any other *Company A* originated issues, nor will they be able to see any other *Host Company* issues, because they are not the ASSIGNED\_TO person on other issues.

## The Company Name and Privacy Groups

Company name security with ENABLE\_COMPANY\_NAME\_ACCESS and privacy group security are independent features of ExtraView, yet they combine together. The following example summarizes the behavior and interaction of company name security and privacy groups.

### Privacy Group Example



#### Privacy of issues

- The COMPANY\_NAME behavior setting is *My Company*
- ENABLE\_COMPANY\_NAME\_ACCESS is set to YES
- ENABLE\_PRIVACY\_GROUPS is enabled
- Privacy groups have been created, named *Cust XX* and *Mgr*

#### User A

- Employee of *My Company* (Company Name on their user screen is set to *My Company*)
- Member of privacy group *Cust XX*
- Member of privacy group *Mgr*

#### User B

- User B is an employee of *My Company*
- Member of privacy group *Mgr*

#### User C

- User C is an employee of *My Company*
- Not a member of privacy group *Mgr*

#### User D

- User D is an employee of *Customer XX*, and has been granted access to *My Company's* ExtraView installation
- Member of the *Cust XX* privacy group

#### User E

- User E is an employee of *Customer XX*, and has been granted access to *My Company's* ExtraView installation
- They are not a member of any privacy group

Who sees which issues? This table shows issues created in different privacy groups and indicates which users will be able to see the

issues. The 'Y' indicates that the user will be able to see the issue. Remember that security permission settings and a default setting can be used to control who can see and who can update the privacy field.

Privacy Group User	My Company			Customer XX	
	User A	User B	User C	User D	User E
PUBLIC	Y	Y	Y	Y	Y
PRIVATE	Y	Y	Y	-	-
Cust XX	Y	-	-	Y	-
Mgr	Y	Y	-	-	-

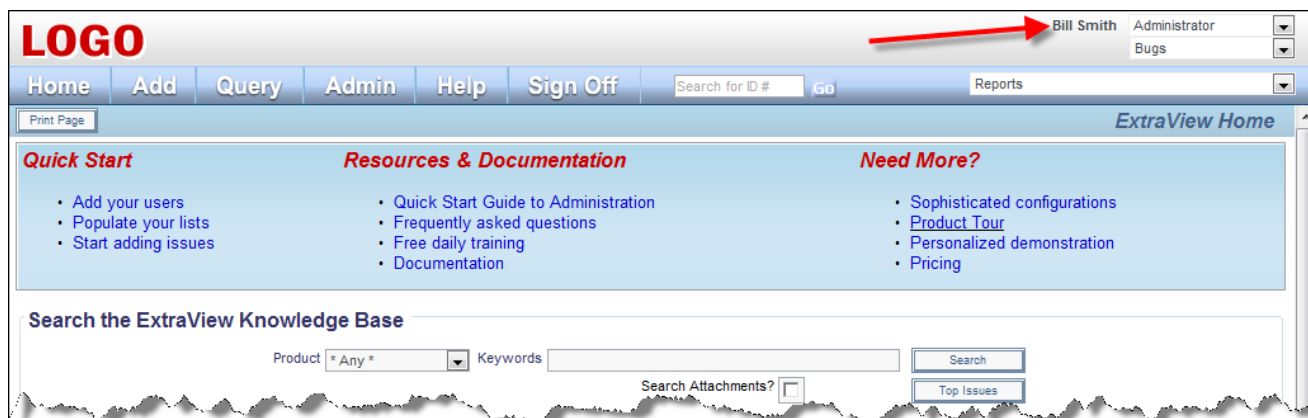
To complete the explanation, note that if it is User D or User E that originates the issue, and the issue remains PRIVATE, then all users in the above scenario will be able to access the issue (but not the users from any other companies). This is because ENABLE\_COMPANY\_NAME\_ACCESS is set to YES.

## Updating your Personal Account Details

This utility allows any user to update their account details to control various display options, such as how you want to enter dates into the system, what your password will be, user information that others will see, and notification via e-mail,

### To update your account details

1. Click the link with your user name:



Accounts menu on Home Page

The following screen appears:

The screenshot shows a window titled 'Enter Your Password'. It has a 'Print Page' button in the top right corner. Below the title bar is a password input field with the label 'Password'. At the bottom of the window are two buttons: 'Submit' and 'Cancel'.

Personal Options Password screen

2. Once you have verified your password, enter any new information on the Change a User's Details screen. You can move to other tabs in the utility and update fields there
3. When done, click the **Update User** button.

Notes:

1. Fields in bold are mandatory
2. The user will only see the areas of the screen to alter the role, to alter the access to privacy groups and to select the default business area and project, if they are an administrator with the appropriate privileges
3. The option to alter the start page only appears if the behavior setting named USER\_DEFINED\_START\_PAGE is set to YES. This

allows the user to select the Home Page, the Add Issue screen, the Reports screen or the Administration screen as their starting point when they first sign in to ExtraView. Note that the user must also have permission to access this point before they see the screen

- Up to three reports can be selected for viewing on the Home Page. This is done on the **Reports** tab of the screen

The screenshot shows the 'Change user's details: BSMITH (Enabled)' interface. At the top, there are buttons for 'Update User', 'Cancel', and 'Print Page'. Below this is a navigation bar with tabs for 'Basic Information', 'Personal Options', 'Report Options', 'Notification Options', and 'Privacy Groups'. The main content area is divided into three sections:

- User Information:** Fields for User ID (BSMITH), Alternative User ID (BSMITH), First name (Bill), Last name (Smith), Password, Verify password, Primary email address (bsmith@x.com), Job title (Development Engineer), Company name (Superior Software Corp), Address (269 Mount Hermon Road), City (Scotts Valley), State / Province (CA), Zip / Postal code (95066), Country (USA), Work phone, Home phone, Cell phone, Fax, Pager, and User field 1.
- Security Information:** Checkboxes for Enabled User (checked), Named User, Expire password now, Days to password expiry, Expiry Interval (0), and a list of user roles with checkboxes: Administrator (checked), Customer, Customer Support, Customer Support Manager, Development Engineer (checked), Engineering Manager (checked), IT Support, IT Support Manager, and Quality Assurance. A link 'Click to check or uncheck all the groups' is also present.
- Default Area & Project:** Dropdown menus for Set default Area (Bugs) and Set default Project (Bugs Data).

At the bottom, there are buttons for 'Update User', 'Cancel', and 'Print Page'.

Change Personal Details screen

## User Sign On Log

The user sign on log allows the administrator to determine all sign on, sign off and unsuccessful accesses by users. When you access the sign on log, you are offered a choice of filters.

If you choose the defaults, you will display a listing that shows all entries for all users for the last month. You can filter by the log entry type (sign on, sign off, unsuccessful attempts to sign on) or by a single user, or by any date range.

User Sign On Log
Return    Print Page

Select the entry types you wish to view from the list, along with a single user ID or all users. You can specify any date range. The default date range is the last 30 days

Select log entry type  ▼

User ID  ▼

Enter start date

Enter end date

Return    Print Page

### Choosing the filters for the sign on log screen

A sample of the sign on log is shown below. You can sort the list by any of the columns, Log entry #, Date, User ID, Entry type, Log entry, IP address, Active Users or Unlicensed Active Users. Sort the columns, by clicking on the header. An arrow shows the column currently used for the sort. Note that if you click on the column that is currently selected, the report is resorted, but in descending rather than ascending order.

This Active Users column shows how many users were connected at the moment that the sign on took place, allowing you to monitor the number of users connected to ExtraView over time. This is an aid to capacity planning.

Note that the User ID field may appear differently, according to the behavior setting of USERNAME\_DISPLAY. If this is set to **POPUP**, then you may either enter the name in the User ID field, according to the format in the behavior setting named USERNAME\_DISPLAY, or you may press the button beside the field, giving you a search capability to look for the user's name or user's ID that you want to select.

User Sign On Log								
Log Entry #	Date	User Name	Type	Log Entry	IP Address	Active Users	Unlicensed Active Users	Reason Code
622969	3/3/08	HOJO	System Signon	Success	202.232.197.33	5	0	
622974	3/3/08	RAJESHY	System Signon	Success	196.12.38.195	6	0	
622979	3/3/08	CHINNAMK	System Signoff	Success	196.12.38.195	6	0	
622984	3/3/08	STEVE.GADOURY	System Signon	Success	209.202.70.226	6	1	
622989	3/3/08	JONATHAN.CLUGSTON	System Signon	Success	157.234.254.24	7	2	
622994	3/3/08	JONATHAN.CLUGSTON	System Signoff	Success	157.234.254.24	7	2	
622999	3/3/08	ALAN.ATKINS	System Signon	Success	207.59.153.82	7	2	
623004	3/3/08	DCRANE	System Signon	Success	65.209.222.142	8	2	
623009	3/3/08	ANNE.HOPKINS	System Signon	Success	65.209.222.142	9	2	
623014	3/3/08	JKIENITZ	System Signon	Success	65.209.222.142	10	2	
623019	3/3/08	GARY.RATHER	System Signon	Success	65.209.222.140	10	2	
623024	3/3/08	JKIENITZ	System Signon	Success	65.209.222.142	11	2	
623029	3/3/08	WANGSH	System Signon	Success	65.209.222.142	12	2	
623034	3/3/08	WHEATLEY	System Signon	Success	155.53.42.121	13	3	
623039	3/3/08	CARL.KOPPEL	System Signon	Success	65.209.222.142	14	3	
623044	3/3/08	JONATHAN.CLUGSTON	System Signon	Success	157.234.254.24	15	4	
623049	3/3/08	BRANDI.JONES	System Signon	Success	67.98.28.122	16	5	
623054	3/3/08	BRANDI.JONES	System Signoff	Success	67.98.28.122	16	5	
623059	3/3/08	TOM.HOGYE	System Signon	Success	65.209.222.142	16	4	
623064	3/3/08	ENEARY	System Signon	Success	72.139.90.138	17	4	
623069	3/3/08	ALLAN.ROFER	System Signon	Success	65.209.222.142	18	4	
623074	3/3/08	null	System Signoff	Success	null	18	4	
623079	3/3/08	MOHAMMED	System Signon	Failed to sign on user	158.96.4.1	18	4	Incorrect Password
623084	3/3/08	LEEANN	System Signon	Success	65.209.222.142	19	4	
623089	3/3/08	ALAN.ATKINS	System Signoff	Success	207.59.153.82	19	4	
623094	3/3/08	RAJ.KANDADA	System Signon	Success	64.164.109.2	19	4	
623099	3/3/08	KEITH.KRIEWALL	System Signon	Success	150.215.91.219	20	5	
623104	3/3/08	KEITH.KRIEWALL	System Signoff	Success	150.215.91.219	20	5	
623109	3/3/08	ALEX.PINELL	System Signon	Success	146.184.0.114	20	5	
623114	3/3/08	DBORLEAN	System Signon	Success	65.209.222.142	21	5	
623119	3/3/08	SSUBJECT	System Signon	Failed to sign on user	63.175.134.130	21	5	Invalid User ID
623124	3/3/08	SSUBJECT	System Signon	Failed to sign on user	63.175.134.130	21	5	Invalid User ID
623129	3/3/08	SSUBJECT	System Signon	Failed to sign on user	63.175.134.130	21	5	Invalid User ID
623134	3/3/08	ADMIN	System Signon	Failed to sign on user	63.175.134.130	21	5	Incorrect Password
623139	3/3/08	KEITH.KRIEWALL	System Signon	Success	150.215.91.219	22	6	
623144	3/3/08	KEITH.KRIEWALL	System Signoff	Success	150.215.91.219	22	6	
623149	3/3/08	DCRANE	System Signon	Success	65.209.222.142	21	5	
623154	3/3/08	LEEANN	System Signon	Success	65.209.222.142	21	5	

## ExtraView Sign On Log

The definitions of the columns in this report are:

Column Name	Definition	License Model
Log Entry #	Serially generated ID number	All
Date	Date and time of sign on/sign off	All
User Name	User ID entered	All
Type	Sign on or sign off	All
Log Entry	Success or Failure	All
IP Address	Address of sign on client	All
Active Users	Number of currently used concurrent licenses, not including the ADMIN or SYSTEM users if they are signed on. This is calculated as follows: <ul style="list-style-type: none"> <li>• For each distinct, concurrent non-GUEST user, count 1 license used</li> <li>• For each user that is logged in 6 times or more, count 1 additional license used for each five sign on connections beyond the first sign on</li> </ul>	All
License Count	The number of configured licensed users from the NUM_LICENSE_USERS behavior setting	Concurrent/Mixed
Active Concurrent	Number of signed on users who are consuming license, i.e. non-GUEST users, and not the	Mixed

Users	ADMIN or SYSTEM user	
Concurrent License Count	Number of configured concurrent licenses from the NUM_CONCURRENT_USERS behavior setting	Mixed
Unlicensed Active Users	Number of signed on users who are not using a license, i.e. GUEST users	All
Reason Code	One of the following: <ul style="list-style-type: none"> <li>• License restriction</li> <li>• Incorrect Password</li> <li>• Expired Password</li> <li>• Invalid User ID</li> <li>• Custom authentication rejection</li> <li>• User is not enabled</li> <li>• License restriction</li> </ul>	All

If allowed to grow with no constraints, the sign on log can grow over a period of time to an enormous size, retaining information that may no longer have value. A behavior setting named `SYSTEM_LOG_EXPIRE_TIME_DAYS` controls how long information is retained in the log. The default for this time is 30 days, but can be changed by the administrator. An internal system task within ExtraView deletes sign on log messages older than this time each hour, to avoid a buildup of the task that would take a considerable amount of time.

## System Log

The system log allows the administrator to determine all significant metadata transactions, except for user sign on and sign off. Sign on and sign off activity can be observed in the ExtraView Sign On log. This feature also gives access to the application server log file. When you access the system log, you are offered a choice of filters.

If you choose the defaults, you will display a listing that shows all entries for all users for the last month. You can filter by the log entry type (sign on, sign off, unsuccessful attempts to sign on) or by a single user, or by any date range.

The screenshot shows the 'System Log' interface. At the top, there are three buttons: 'View Application Server Log', 'Return', and 'Print Page'. Below these is a blue header bar with the text 'System Log'. Underneath the header, there is a blue box containing the text: 'Select the entry type you wish to view from the list, along with a single user name or all users. You can specify any date range. The default date range is the last 30 days'. Below this text are four input fields: 'Select log entry type' with a dropdown menu showing '\* All Entries \*', 'User Name' with a dropdown menu showing '\* All Users \*', 'Enter start date' with a text box containing 'February 9, 2007' and a calendar icon, and 'Enter end date' with a text box containing 'March 11, 2007' and a calendar icon. Below these fields is a 'Search' button. At the bottom of the interface, there are three buttons: 'View Application Server Log', 'Return', and 'Print Page'.

### Choosing the filters for accessing the system log

A sample of the system log is shown below. You can sort the list by any of the columns, Log entry #, Date, User ID, Type, Log entry. Sort the columns, by clicking on the header. An arrow shows the column currently used for the sort. Note that if you click on the column that is currently selected, the report is resorted, but in descending rather than ascending order.

Log entry #	Date	User ID	Type	Log entry
174010	February 16, 2006	ADMIN	Update Existing SECURITY_USER	update security_user set ADDRESS_LINE1 = ?, ADDRESS_LINE2 = ?, ALPHA_TIMEZONE = ?, AREA_ID = ?, CELL_PHONE = ?, CHART_FONT = ?, CITY = ?, COUNTRY = ?, COMPANY = ?, CONTACT = ?, CREDIT_LIMIT = ?, CREDIT_TERM = ?, CREDIT_TYPE = ?, CUSTOMER_CODE = ?, CUSTOMER_CODE_SUFFIX = ?, CUSTOMER_CODE_SUFFIX2 = ?, CUSTOMER_CODE_SUFFIX3 = ?, CUSTOMER_CODE_SUFFIX4 = ?, CUSTOMER_CODE_SUFFIX5 = ?, CUSTOMER_CODE_SUFFIX6 = ?, CUSTOMER_CODE_SUFFIX7 = ?, CUSTOMER_CODE_SUFFIX8 = ?, CUSTOMER_CODE_SUFFIX9 = ?, CUSTOMER_CODE_SUFFIX10 = ?, CUSTOMER_CODE_SUFFIX11 = ?, CUSTOMER_CODE_SUFFIX12 = ?, CUSTOMER_CODE_SUFFIX13 = ?, CUSTOMER_CODE_SUFFIX14 = ?, CUSTOMER_CODE_SUFFIX15 = ?, CUSTOMER_CODE_SUFFIX16 = ?, CUSTOMER_CODE_SUFFIX17 = ?, CUSTOMER_CODE_SUFFIX18 = ?, CUSTOMER_CODE_SUFFIX19 = ?, CUSTOMER_CODE_SUFFIX20 = ?, CUSTOMER_CODE_SUFFIX21 = ?, CUSTOMER_CODE_SUFFIX22 = ?, CUSTOMER_CODE_SUFFIX23 = ?, CUSTOMER_CODE_SUFFIX24 = ?, CUSTOMER_CODE_SUFFIX25 = ?, CUSTOMER_CODE_SUFFIX26 = ?, CUSTOMER_CODE_SUFFIX27 = ?, CUSTOMER_CODE_SUFFIX28 = ?, CUSTOMER_CODE_SUFFIX29 = ?, CUSTOMER_CODE_SUFFIX30 = ?, CUSTOMER_CODE_SUFFIX31 = ?, CUSTOMER_CODE_SUFFIX32 = ?, CUSTOMER_CODE_SUFFIX33 = ?, CUSTOMER_CODE_SUFFIX34 = ?, CUSTOMER_CODE_SUFFIX35 = ?, CUSTOMER_CODE_SUFFIX36 = ?, CUSTOMER_CODE_SUFFIX37 = ?, CUSTOMER_CODE_SUFFIX38 = ?, CUSTOMER_CODE_SUFFIX39 = ?, CUSTOMER_CODE_SUFFIX40 = ?, CUSTOMER_CODE_SUFFIX41 = ?, CUSTOMER_CODE_SUFFIX42 = ?, CUSTOMER_CODE_SUFFIX43 = ?, CUSTOMER_CODE_SUFFIX44 = ?, CUSTOMER_CODE_SUFFIX45 = ?, CUSTOMER_CODE_SUFFIX46 = ?, CUSTOMER_CODE_SUFFIX47 = ?, CUSTOMER_CODE_SUFFIX48 = ?, CUSTOMER_CODE_SUFFIX49 = ?, CUSTOMER_CODE_SUFFIX50 = ?, CUSTOMER_CODE_SUFFIX51 = ?, CUSTOMER_CODE_SUFFIX52 = ?, CUSTOMER_CODE_SUFFIX53 = ?, CUSTOMER_CODE_SUFFIX54 = ?, CUSTOMER_CODE_SUFFIX55 = ?, CUSTOMER_CODE_SUFFIX56 = ?, CUSTOMER_CODE_SUFFIX57 = ?, CUSTOMER_CODE_SUFFIX58 = ?, CUSTOMER_CODE_SUFFIX59 = ?, CUSTOMER_CODE_SUFFIX60 = ?, CUSTOMER_CODE_SUFFIX61 = ?, CUSTOMER_CODE_SUFFIX62 = ?, CUSTOMER_CODE_SUFFIX63 = ?, CUSTOMER_CODE_SUFFIX64 = ?, CUSTOMER_CODE_SUFFIX65 = ?, CUSTOMER_CODE_SUFFIX66 = ?, CUSTOMER_CODE_SUFFIX67 = ?, CUSTOMER_CODE_SUFFIX68 = ?, CUSTOMER_CODE_SUFFIX69 = ?, CUSTOMER_CODE_SUFFIX70 = ?, CUSTOMER_CODE_SUFFIX71 = ?, CUSTOMER_CODE_SUFFIX72 = ?, CUSTOMER_CODE_SUFFIX73 = ?, CUSTOMER_CODE_SUFFIX74 = ?, CUSTOMER_CODE_SUFFIX75 = ?, CUSTOMER_CODE_SUFFIX76 = ?, CUSTOMER_CODE_SUFFIX77 = ?, CUSTOMER_CODE_SUFFIX78 = ?, CUSTOMER_CODE_SUFFIX79 = ?, CUSTOMER_CODE_SUFFIX80 = ?, CUSTOMER_CODE_SUFFIX81 = ?, CUSTOMER_CODE_SUFFIX82 = ?, CUSTOMER_CODE_SUFFIX83 = ?, CUSTOMER_CODE_SUFFIX84 = ?, CUSTOMER_CODE_SUFFIX85 = ?, CUSTOMER_CODE_SUFFIX86 = ?, CUSTOMER_CODE_SUFFIX87 = ?, CUSTOMER_CODE_SUFFIX88 = ?, CUSTOMER_CODE_SUFFIX89 = ?, CUSTOMER_CODE_SUFFIX90 = ?, CUSTOMER_CODE_SUFFIX91 = ?, CUSTOMER_CODE_SUFFIX92 = ?, CUSTOMER_CODE_SUFFIX93 = ?, CUSTOMER_CODE_SUFFIX94 = ?, CUSTOMER_CODE_SUFFIX95 = ?, CUSTOMER_CODE_SUFFIX96 = ?, CUSTOMER_CODE_SUFFIX97 = ?, CUSTOMER_CODE_SUFFIX98 = ?, CUSTOMER_CODE_SUFFIX99 = ?, CUSTOMER_CODE_SUFFIX100 = ?
174015	February 16, 2006	ADMIN	Delete SECURITY_GROUP_USER	delete from security_group_user where security_user_id = ?
174020	February 16, 2006	ADMIN	Add SECURITY_GROUP_USER	Add to security_group_user, insert into security_group_user( security_user_id, security_group_id ) values(?, ?)
174025	February 16, 2006	ADMIN	Add SECURITY_GROUP_USER	Add to security_group_user, insert into security_group_user( security_user_id, security_group_id ) values(?, ?)
174030	February 16, 2006	ADMIN	Update Existing SECURITY_USER	update security_user set ADDRESS_LINE1 = ?, ADDRESS_LINE2 = ?, ALPHA_TIMEZONE = ?, AREA_ID = ?, CELL_PHONE = ?, CHART_FONT = ?, CITY = ?, COUNTRY = ?, COMPANY = ?, CONTACT = ?, CREDIT_LIMIT = ?, CREDIT_TERM = ?, CREDIT_TYPE = ?, CUSTOMER_CODE = ?, CUSTOMER_CODE_SUFFIX = ?, CUSTOMER_CODE_SUFFIX2 = ?, CUSTOMER_CODE_SUFFIX3 = ?, CUSTOMER_CODE_SUFFIX4 = ?, CUSTOMER_CODE_SUFFIX5 = ?, CUSTOMER_CODE_SUFFIX6 = ?, CUSTOMER_CODE_SUFFIX7 = ?, CUSTOMER_CODE_SUFFIX8 = ?, CUSTOMER_CODE_SUFFIX9 = ?, CUSTOMER_CODE_SUFFIX10 = ?, CUSTOMER_CODE_SUFFIX11 = ?, CUSTOMER_CODE_SUFFIX12 = ?, CUSTOMER_CODE_SUFFIX13 = ?, CUSTOMER_CODE_SUFFIX14 = ?, CUSTOMER_CODE_SUFFIX15 = ?, CUSTOMER_CODE_SUFFIX16 = ?, CUSTOMER_CODE_SUFFIX17 = ?, CUSTOMER_CODE_SUFFIX18 = ?, CUSTOMER_CODE_SUFFIX19 = ?, CUSTOMER_CODE_SUFFIX20 = ?, CUSTOMER_CODE_SUFFIX21 = ?, CUSTOMER_CODE_SUFFIX22 = ?, CUSTOMER_CODE_SUFFIX23 = ?, CUSTOMER_CODE_SUFFIX24 = ?, CUSTOMER_CODE_SUFFIX25 = ?, CUSTOMER_CODE_SUFFIX26 = ?, CUSTOMER_CODE_SUFFIX27 = ?, CUSTOMER_CODE_SUFFIX28 = ?, CUSTOMER_CODE_SUFFIX29 = ?, CUSTOMER_CODE_SUFFIX30 = ?, CUSTOMER_CODE_SUFFIX31 = ?, CUSTOMER_CODE_SUFFIX32 = ?, CUSTOMER_CODE_SUFFIX33 = ?, CUSTOMER_CODE_SUFFIX34 = ?, CUSTOMER_CODE_SUFFIX35 = ?, CUSTOMER_CODE_SUFFIX36 = ?, CUSTOMER_CODE_SUFFIX37 = ?, CUSTOMER_CODE_SUFFIX38 = ?, CUSTOMER_CODE_SUFFIX39 = ?, CUSTOMER_CODE_SUFFIX40 = ?, CUSTOMER_CODE_SUFFIX41 = ?, CUSTOMER_CODE_SUFFIX42 = ?, CUSTOMER_CODE_SUFFIX43 = ?, CUSTOMER_CODE_SUFFIX44 = ?, CUSTOMER_CODE_SUFFIX45 = ?, CUSTOMER_CODE_SUFFIX46 = ?, CUSTOMER_CODE_SUFFIX47 = ?, CUSTOMER_CODE_SUFFIX48 = ?, CUSTOMER_CODE_SUFFIX49 = ?, CUSTOMER_CODE_SUFFIX50 = ?, CUSTOMER_CODE_SUFFIX51 = ?, CUSTOMER_CODE_SUFFIX52 = ?, CUSTOMER_CODE_SUFFIX53 = ?, CUSTOMER_CODE_SUFFIX54 = ?, CUSTOMER_CODE_SUFFIX55 = ?, CUSTOMER_CODE_SUFFIX56 = ?, CUSTOMER_CODE_SUFFIX57 = ?, CUSTOMER_CODE_SUFFIX58 = ?, CUSTOMER_CODE_SUFFIX59 = ?, CUSTOMER_CODE_SUFFIX60 = ?, CUSTOMER_CODE_SUFFIX61 = ?, CUSTOMER_CODE_SUFFIX62 = ?, CUSTOMER_CODE_SUFFIX63 = ?, CUSTOMER_CODE_SUFFIX64 = ?, CUSTOMER_CODE_SUFFIX65 = ?, CUSTOMER_CODE_SUFFIX66 = ?, CUSTOMER_CODE_SUFFIX67 = ?, CUSTOMER_CODE_SUFFIX68 = ?, CUSTOMER_CODE_SUFFIX69 = ?, CUSTOMER_CODE_SUFFIX70 = ?, CUSTOMER_CODE_SUFFIX71 = ?, CUSTOMER_CODE_SUFFIX72 = ?, CUSTOMER_CODE_SUFFIX73 = ?, CUSTOMER_CODE_SUFFIX74 = ?, CUSTOMER_CODE_SUFFIX75 = ?, CUSTOMER_CODE_SUFFIX76 = ?, CUSTOMER_CODE_SUFFIX77 = ?, CUSTOMER_CODE_SUFFIX78 = ?, CUSTOMER_CODE_SUFFIX79 = ?, CUSTOMER_CODE_SUFFIX80 = ?, CUSTOMER_CODE_SUFFIX81 = ?, CUSTOMER_CODE_SUFFIX82 = ?, CUSTOMER_CODE_SUFFIX83 = ?, CUSTOMER_CODE_SUFFIX84 = ?, CUSTOMER_CODE_SUFFIX85 = ?, CUSTOMER_CODE_SUFFIX86 = ?, CUSTOMER_CODE_SUFFIX87 = ?, CUSTOMER_CODE_SUFFIX88 = ?, CUSTOMER_CODE_SUFFIX89 = ?, CUSTOMER_CODE_SUFFIX90 = ?, CUSTOMER_CODE_SUFFIX91 = ?, CUSTOMER_CODE_SUFFIX92 = ?, CUSTOMER_CODE_SUFFIX93 = ?, CUSTOMER_CODE_SUFFIX94 = ?, CUSTOMER_CODE_SUFFIX95 = ?, CUSTOMER_CODE_SUFFIX96 = ?, CUSTOMER_CODE_SUFFIX97 = ?, CUSTOMER_CODE_SUFFIX98 = ?, CUSTOMER_CODE_SUFFIX99 = ?, CUSTOMER_CODE_SUFFIX100 = ?
174035	February 16, 2006	ADMIN	Delete PRIVACY_GROUP_USER	delete from privacy_group_user where security_user_id = ?
174040	February 16, 2006	TARON	Update Existing DATA_DICTIONARY	update data_dictionary set allow_add_to_list = ?, child_key = ?, column_name = ?, default_format = ?, default_size = ?, default_value = ?, dependent_sql = ?
174045	February 16, 2006	TARON	Update Existing DATA_DICTIONARY	update data_dictionary set allow_add_to_list = ?, child_key = ?, column_name = ?, default_format = ?, default_size = ?, default_value = ?, dependent_sql = ?
174050	February 16, 2006	TARON	Update Existing DATA_DICTIONARY	update data_dictionary set allow_add_to_list = ?, child_key = ?, column_name = ?, default_format = ?, default_size = ?, default_value = ?, dependent_sql = ?
174055	February 16, 2006	TARON	Update Existing DATA_DICTIONARY	update data_dictionary set allow_add_to_list = ?, child_key = ?, column_name = ?, default_format = ?, default_size = ?, default_value = ?, dependent_sql = ?
174060	February 16, 2006	TARON	Update Existing DATA_DICTIONARY	update data_dictionary set allow_add_to_list = ?, child_key = ?, column_name = ?, default_format = ?, default_size = ?, default_value = ?, dependent_sql = ?
174065	February 16, 2006	TARON	Update Existing DATA_DICTIONARY	update data_dictionary set allow_add_to_list = ?, child_key = ?, column_name = ?, default_format = ?, default_size = ?, default_value = ?, dependent_sql = ?
174070	February 16, 2006	TARON	Update Existing SECURITY_MENU	update SECURITY_MENU set SECURITY_MENU_ID = ?, SECURITY_MENU_TITLE = ?, SECURITY_MENU_GROUP = ?, ADMIN_TOP_LEVEL_MENU_ORDER = ?, t
174075	February 16, 2006	TARON	Update Existing SECURITY_MENU	update SECURITY_MENU set SECURITY_MENU_ID = ?, SECURITY_MENU_TITLE = ?, SECURITY_MENU_GROUP = ?, ADMIN_TOP_LEVEL_MENU_ORDER = ?, t
174080	February 16, 2006	TARON	Update Existing SECURITY_MENU	update SECURITY_MENU set SECURITY_MENU_ID = ?, SECURITY_MENU_TITLE = ?, SECURITY_MENU_GROUP = ?, ADMIN_TOP_LEVEL_MENU_ORDER = ?, t

## ExtraView Sign On Log

The log entries show the actual SQL used to update the ExtraView database. Note that the SQL statement contains a series of question marks. Each question mark in turn is replaced at execution time with a value from the parameter list.

If allowed to grow with no constraints, the system log can grow over a period of time to an enormous size, retaining information that may no longer have value. A behavior setting named `SYSTEM_LOG_EXPIRE_TIME_DAYS` controls how long information is retained in the log. The default for this time is 30 days, but can be changed by the administrator. An internal system task within ExtraView deletes system log messages older than this time each hour, to avoid a build up of the task that would take a considerable amount of time.

If you would like to view a copy of the application server log file, press the **View Application Server Log** button on the System Log screen. When you do this, a new window with the contents of the log file appears. This file may be very large, and it may take some time to download into this window. It may be more convenient for you to view this file with an editor directly on the file system of the server. This button only appears on the System Log administration screen if you are granted the read permission to the security permission key named `CF_VIEW_APP_SERVER_LOG`

# Session Management

Sessions are managed for each user with a variety of behavior settings. The key settings are found in the **Security and Session Settings** category of the behavior settings.

Sessions do not have a one to one correspondence with the number of users who are signed on. ExtraView creates many sessions for each user, roughly in proportion to the number of tasks or reports a user executes at one time. Drilldowns from reports require additional sessions and when users do not close windows or sign off when they have completed their tasks, the amount of session information held in memory grows as ExtraView will not discard session information that a user may require again at some time in the future.

A table is used to store user sessions in the database when there is no more room in the application server memory (RAM) to store them. If a user session is not active, i.e. the user has closed their browser window without logging off, or if their computer is sitting with nobody using it but the browser is logged in, then the session is saved in the database table to make room for new sessions which are active.

Sessions can only be used by ExtraView when they are in memory, therefore if a session in the database needs to wake up and be used, the session must be recalled into memory. If there is not enough room, another session must be taken out of memory and put in the database, to make room for the first session.

If there are more active sessions needed than there is available memory, sessions will be continuously swapped between the database and memory – this is very time consuming and affects the overall performance. The parameters `SPILL_SESSION_COUNT` and `NOSPILL_SESSION_COUNT` control how many sessions are kept in memory. `NOSPILL_SESSION_COUNT` defines how many sessions will stay in memory. Once the number of sessions in memory grows beyond `NOSPILL_SESSION_COUNT`, no more sessions will be added to memory until ExtraView can move some sessions out of memory and to the database.



SPILL\_SESSION\_COUNT must be a larger number than NOSPILL\_SESSION\_COUNT. SPILL\_SESSION\_COUNT indicates the maximum number of sessions that will ever be placed into memory. If the number of sessions in memory reaches SPILL\_SESSION\_COUNT ExtraView stops creating new sessions until the number of sessions in memory is reduced by saving sessions to the database.

For example set NOSPILL\_SESSION\_COUNT to 1000 and SPILL\_SESSION\_COUNT to 1100. With these settings, sessions are created in memory until there is a total of 1,000 sessions. When the 1,001st session is requested, one session in memory must be placed to database before the session can go into memory. This process can take some time and more requests for sessions may come in while this is occurring.

If there are 1,100 requests for sessions in memory received, no more sessions will be created, i.e. the system will not respond, until the writer process catches up and removes sessions from memory to get SPILL\_SESSION\_COUNT below the 1,100 threshold. At least 101 sessions need to be removed from memory in order to get the number of sessions below 1,000 in order for the system to catch up completely.

How many sessions are in memory at a point in time? This number is written to the application server log with the completion of each service. The number is the cc parameter. If this number is higher than NOSPILL\_SESSION\_COUNT then sessions are spilling over into the database and it's worth considering whether you should set the NOSPILL\_SESSION\_COUNT and SPILL\_SESSION\_COUNT to higher amounts.

Other factors can also influence how many sessions are in memory. Sessions are removed from memory and from the database once a user's session has expired, so keeping the SESSION\_EXPIRE\_TIME\_HOURS to a lower amount will reduce how long older sessions are kept in memory, reducing the number of sessions taking up space.

One way to improve performance through session management is to increase the number of application server instances used. In a clustered application server environment, each instance will hold NOSPILL\_SESSION\_COUNT number of sessions in memory – so 2 application servers will hold 2,000 sessions, and 3 application servers will hold 3,000 sessions before any sessions are saved to the database. Load-balancing multiple application servers provides more memory to hold more sessions.

## Conditions that sign off users automatically

The most common reason that ExtraView signs off users automatically is because they reach the timeout period you set for the license to expire. For users with named licenses, this is the time period specified in the setting SESSION\_NAME\_EXPIRE\_TIME\_HOURS. For users with concurrent licenses, the time period is set with SESSION\_EXPIRE\_TIME\_HOURS. If the user is idle (i.e. they do not submit a request or a form to the server from their browser) for more than this period, then ExtraView only allows the user to continue after signing on again.

When ExtraView signs a user off automatically, they are asked to re-enter their user ID and password to continue working. When they were signed off the system by ExtraView, the alert shows a **Session expired or removed** message, by Administrator followed by the code.

Alert Code	Meaning
RC1	The referenced session no longer exists. The most likely reason is that the user was idle longer than the time allotted by the system administrator and the user was automatically signed out of the system. This condition may also be caused by the administrator restarting the server while you were in the middle of a task
RC2	The cookies returned by the browser don't match session cookies held on the server
RC3	The session expired in the foreground
RC4	The session was removed by administrator
RC5	Your IP address changed during the session and this is disallowed by the system administrator. Normally ExtraView performs a check for security purposes, to ensure that your IP address remains consistent. However, this check can be disabled if you part of a network where your IP address is automatically translated for any reason. This is most often seen when accessing a corporate network via a VPN or proxy server.

Note that although ExtraView attempts to keep the user signed on when their session has not expired, there are some circumstances beyond its control. If you find that user's session expire at times you cannot account for, then it is likely to be for one of the following reasons:

- If the user is behind a Proxy server or accessing ExtraView via a VPN, sessions can be disconnected early due to timeouts on other parts of the connection that ExtraView has no control over
- If a user signs on to ExtraView using multiple windows or tabs in their browser, the session expiration time generally applies from the session that the user first signed on to
- If a user signs on to ExtraView and during their work they generate new tabs and / or new pop up windows and then close the "parent" window or tab, the child windows and tabs will lose track of the parent session, and therefore lose track of the correct expiry time.

# Named End-User Session Management

The setting named `SESSION_NAME_EXPIRE_HOURS` controls the period of time for the expiry of a named user license. By definition, there is not a strict need from a licensing perspective for end users who occupy a named license to ever have their session terminated automatically. However, every session requires resources on the server and these resources are finite. Apart from the user who forgets to sign off after an extended period, there is also the occasional computer or browser crash that will leave sessions hanging. After a period of time these events take a toll and performance can be reduced to other users. ExtraView's recommendation is that there is a 24 hour setting on named licenses. Provided the application server is configured correctly, this should clean up unused sessions without an undue burden on the server.

# Concurrent End-User Session Management

**Note:** This feature is only activated when you have purchased concurrent or hybrid licenses of ExtraView, as opposed to purchasing named user licenses. It is not necessary to have this capability with named user licenses.

This feature gives the Administrator complete knowledge of who is signed on to the system at the current time. The Administrator with permission to this feature is also permitted to sign off any user. This may be needed if you have reached the limit of the count of licensed users, and you want to sign off some individual users, in order to let other users access the system.

The time that an individual user's session remains open, when there is no further activity is controlled with the behavior setting named `SESSION_EXPIRE_TIME_HOURS`. This is found within the Security and Session Settings administration menu, on the Systems Controls tab. The administrator can adjust this time to give a reasonable balance between a user's session expiring, the need to maintain available licenses to other users, and security. For efficiency, the session termination time shown on the screen for each user is only updated internally within ExtraView every few minutes, so the time shown is only approximate.

In addition, you can observe the IP address of any connected user. This can be useful for troubleshooting on networks where IP addresses are translated for any purpose. ExtraView has a behavior setting within the Security and Session Settings section that dictates whether a client connection must maintain a constant IP address during a session. This is named `CLIENT_IP_ADDRESS_CHECK`. Usually this is set to YES, but it may need to be set to NO if your server is accessed via a proxy server, and the IP address of an individual user may change through time.

A further behavior setting controls how ExtraView reacts when the user either closes their last remaining open window or closes their browser, with ExtraView being the last window open. If the behavior setting named `AUTO_SIGNOFF_ON_USER_EXIT` is set to NO (this is the default), then ExtraView will (by using a session cookie) remember that it is signed on, and an open license is retained. If the setting is YES, then when the user presses the browser back button, or other means, to go back to the ExtraView session, the user will need to sign on again, taking a fresh license.

Note that two timestamps are displayed in the report. One timestamp is shown in the personal date/time format of the current user. The other is shown in an extended, unambiguous format.

**End-user Session Management** [Disconnect Users] [Return] [Print Page]

This installation is licensed for 20 users. Currently, there are 3 license(s) in use.

The following users are currently signed on to ExtraView. Check the box against any user you want to disconnect, to release the license back to the common pool. Once you disconnect users, they will need to sign on again before using ExtraView.

Check to disconnect	User ID	User name	User email	Company name	Session Termination Time User Format	IP Address	Session Termination Time Global Format	Keep Alive
<input type="checkbox"/>	BSMITH	Bill Smith	bsmith@x.com	Superior Software Corp	7/21/07 2:46 PM	127.0.0.1	2007-07-21 14:46:18.000 -0700	Yes
<input type="checkbox"/>	QA	Mary Brown	qa@xxx.com	Superior Software Corp	7/21/07 4:27 PM	127.0.0.1	2007-07-21 16:27:41.000 -0700	Yes
<input type="checkbox"/>	GUEST	Guest User	guest@acme.com	Guest Company	7/21/07 4:28 PM	127.0.0.1	2007-07-21 16:28:34.000 -0700	Yes
<input type="checkbox"/>	DEV	Jimmy Duncan	jimmy@xxx.com		7/21/07 4:28 PM	127.0.0.1	2007-07-21 16:28:46.000 -0700	Yes
<input type="checkbox"/>	BSMITH	Bill Smith	bsmith@x.com	Superior Software Corp	7/21/07 4:28 PM	127.0.0.1	2007-07-21 16:28:54.000 -0700	Yes

[Disconnect Users] [Return] [Print Page]

## Manage Connected Users screen

On the screen is also the column **Keep Alive**. This signifies whether a user's session is still current and whether it may be killed due to exceeding the idle time expiry period. If the value is No, then the session has exceeded the value of `USER_EXPIRE_TIME_HOURS`, but has yet to be terminated by ExtraView. If the user is idle, but is accessing an add or edit screen, then the value may still be **YES**, as the server will preserve the session information for the user for as long a period as possible, up until the value of time expressed by `SESSION_EXPIRE_TIME_HOURS` is reached.

# Session Expiry

Session expiry is a two-stage process. When the user has been idle, (i.e. they have not accessed the server from their browser for the time defined in `USER_EXPIRE_TIME_HOURS`), they will receive a session expiry message from ExtraView when they next access the server. If the user was in the middle of a session creating a new issue or editing an existing issue, then ExtraView will attempt to restore all the data held in the user's browser from the time they last entered data. This happens after they re-authenticate their sign on credentials.

This capability comes at a price, in that the server must hold all the data necessary to restore the session within the application server's memory. With a significant number of users, this can mount up, and so there is a second time out defined in `SESSION_EXPIRE_TIME_HOURS`. If the user attempts to restore their session after this time, no data can be restored, and the user will be taken to their usual destination page upon signing on, usually the Home Page.

When a user receives an alert informing him that their **Session expired or was removed**, it may be for one of several reasons –

Alert Code	Meaning
RC1	The most likely reason is that the user was idle longer than the time allotted by the administrator in the behavior setting named <code>SESSION_EXPIRE_TIME_HOURS</code> . ExtraView then signs the user out of the system. This condition may also be caused by the administrator restarting the server while you were in the middle of a task
RC2	The cookies returned by the browser don't match session cookies held on the server
RC3	The session expired in the foreground
RC4	The session was removed by administrator. This happens when the administrator uses the Manage Connected Users administrative function to cancel a user's session.
RC5	Your IP address changed during the session and <code>CLIENT_IP_ADDRESS_CHECK</code> is "YES". Normally ExtraView performs a check for security purposes, to ensure that your IP address remains consistent. However, this check can be disabled if you are part of a network where your IP address is automatically translated for any reason. This is most often seen when accessing a corporate network via a VPN with a proxy server.

You may turn on a warning to the user, that their session is about to expire, using the two behavior settings named `SESSION_WARNING_TIME_SECS` and `SESSION_WARNING_INTERVAL_SECS`. This will give them additional warnings that their session is about to expire.

For users occupying concurrent licenses, the session expiry is controlled by a number of settings, some optional, some mandatory. The two mandatory settings are

Behavior Setting	Purpose
<code>SESSION_EXPIRE_TIME_HOURS</code>	This is the session expiry period measured in hours for a user who occupies a concurrent user license and who remains idle. Note that this is different from the period for users who occupy a named license. Their expiry period is defined in the behavior setting named <code>SESSION_NAME_EXPIRE_TIME_HOURS</code> . After the period set in <code>USER_EXPIRE_TIME_HOURS</code> and before the value of <code>SESSION_EXPIRE_TIME_HOURS</code> , ExtraView will attempt to restore a user's data when their session has expired. Beyond the time specified in <code>SESSION_EXPIRE_TIME_HOURS</code> the data will be lost. If the value of this setting is less than one minute or 0, then the session data will be kept permanently until the server is restarted. This is not recommended.
<code>USER_EXPIRE_TIME_HOURS</code>	This is the time in hours for which a user will remain signed in to ExtraView, when his computer is idle. ExtraView recognizes a user as still active when an action causes the user to access the server. When a user's session expires, ExtraView will ask the user to sign in again, and will attempt to restore any data being inserted or updated, and take the user to the point where they were working. Note that the ability to restore data is only enabled for the period specified in the setting named <code>SESSION_EXPIRE_TIME_HOURS</code> . For this reason, <code>SESSION_EXPIRE_TIME_HOURS</code> should always be equal to or greater than <code>USER_EXPIRE_TIME_HOURS</code> . If the value of this setting is less than one minute or 0, then the session will not time out

There are further settings that may be used to determine if a user is really inactive, or whether they have closed their browser, navigated to another page or performed some other action that means that the session information held on the server is no longer required. This is principally used to allow the administrator to fine tune the allocation of concurrent user licenses after the `USER_EXPIRE_TIME_HOURS` and before the `SESSION_EXPIRE_TIME_HOURS` is reached, and to ensure that users do not retain a license if there is no need. The basic principal is that if the user requires resource to be retained on the server, they will retain their license during this period, but if they do not require resources on the server, their license will be released. Resources are required on the server if the user is in one of these functions:

- *Add* screen
- *Edit* screen
- Item History screen
- Related Issue Update screen

This functionality comes at a modest performance cost, in that there needs to be communication at regular intervals between the client browser and the server to determine a user's status. These packets of information may have an affect on performance, therefore this feature may be turned on or off, and the administrator may determine how frequently checks are made.

If you are using named user licenses the recommendation is to turn the feature off using the USER\_TIMEOUT\_SESSION\_REMOVAL setting.

Behavior Setting	Purpose
USER_TIMEOUT_SESSION_REMOVAL	This is used to turn this feature on or off. The value of YES implies that sessions are killed after USER_EXPIRE_TIME_HOURS of inactivity, unless the user has sessions that remain active in the <i>add</i> or <i>edit</i> screen mode. NO implies that these sessions are not killed after this period of inactivity. The user's browser is checked by the server every SESSION_MONITOR_POLL_SECS to see if the ExtraView session is still active and the client updates the server with this information every KEEPALIVE_INTERVAL_SECS seconds.
KEEPALIVE_INTERVAL_SECS	This is the number of seconds between polling operations from the <i>add</i> or <i>edit</i> screen. This timer is used to send a message from the user's browser to the server, to allow the server to keep track of users with open <i>add</i> or <i>edit</i> sessions. If the user closes their browser or navigates away from an <i>add</i> or <i>edit</i> page, then the server will be able to recognize this event
SESSION_MONITOR_POLL_SECS	This is the number of seconds between periodic tests from the server, for session removal due to user expire time activity. The server will test to see if the user still has an open session at this interval. This is only used if USER_TIMEOUT_SESSION_REMOVAL is YES. and if the user's browser has not reported to the server that a session is still active with the KEEPALIVE_INTERVAL_SECS timer.

## Disabling User Access

Occasionally, the administrator may wish to lock users out of ExtraView, for maintenance purposes such as creating new screen layouts or business rules or when performing a mass update of many issues. To facilitate this requirement, the feature **Disable and Enable User Access** is available from the **Users** administrative menu.

You must be the ADMIN user, or in the role specified by the ADMIN\_OVERRIDE\_ROLE behavior setting in order to disable end user access to ExtraView.

**End-user Session Management** Disconnect Users Return Print Page

This installation is licensed for an unlimited number of users. Currently, there are 3 license(s) in use.

The following users are currently signed on to ExtraView. Check the box against any user you want to disconnect, to release the license back to the common pool. Once you disconnect users, they will need to sign on again before using ExtraView.

Check to disconnect	User ID	User name	User email	Company name	Session Termination Time	IP Address
<input type="checkbox"/>	BSMITH	Bill Smith	bsmith@superior.com	Superior Software Corp	2006-03-20 19:02:05.0	127.0.0.1
<input type="checkbox"/>	BSMITH	Bill Smith	bsmith@superior.com	Superior Software Corp	2006-03-20 18:59:39.0	127.0.0.1
<input type="checkbox"/>	BSMITH	Bill Smith	bsmith@superior.com	Superior Software Corp	2006-03-20 22:19:36.0	127.0.0.1
<input type="checkbox"/>	BSMITH	Bill Smith	bsmith@superior.com	Superior Software Corp	2006-03-20 21:42:10.0	127.0.0.1
<input type="checkbox"/>	GREG	Greg Goldberg	greg@extraview.com	null	2006-03-20 22:19:08.0	127.0.0.1
<input type="checkbox"/>	JOHN	John Customer	john@xxx.com	ABC Software	2006-03-20 22:19:25.0	127.0.0.1
<input type="checkbox"/>	QA	Mary Brown	qa@xxx.com	Superior Software Corp	2006-03-20 22:18:55.0	127.0.0.1

Disconnect Users Return Print Page

### Disabling and enabling user access

When entering this feature, the administrator will see a list of all users who are currently signed on, giving them an indication of the level of activity.

A message can be defined, that is displayed to the user when they sign on. It is suggested the message include an indication of

when service is expected to be restored.

When the system is disabled, there is a confirmation message to this effect. Until the time that the administrator re-enables access, end users are prevented from activity, and will see the message defined above when they attempt to sign on.

Access will continue to be granted to administrators who are members of the group defined in the behavior setting named ADMIN\_OVERRIDE\_ROLE.

A security key controls access to this feature. It is named CF\_ENABLE\_DISABLE\_USER\_ACCESS.

**Note:** It is not recommended that anyone other than administrators who are part of the ADMIN\_OVERRIDE\_ROLE be given access to this feature.

## Disconnecting Users

1. Click **End-User Session Management** link on the Administration menu, under the Users tab.
2. Click on the checkbox associated with the user(s) whom you want to remove from active sessions within ExtraView.
3. Click the Disconnect Users button. This action will expire the selected user sessions and open up concurrent license seats for access by other users.

## Report Scheduler

The report scheduler allows end users to set up and maintain a schedule for their reports. There is an internal ExtraView task that monitors these reports and at the appointed time, will prepare the report and attach it to an outgoing email. The report schedule maintains a list of recipients for each report. See [here](#) for details on setting up and managing the task.

### Configuration

- There is a security permission key named SR\_REPORT\_SCHEDULE. This allows access to the report scheduler by user role

### Administrative Control

As scheduled reports may have a large impact on system performance, there is an administrative control interface over scheduled reports.

Scheduled reports are not necessarily run immediately according to their schedule. They are queued and run sequentially. This is why the scheduler interface says "Start no sooner than". As an administrator, you may still want to adjust, or even disable scheduled reports. Imagine the consequences if the scheduler tried to send out 100 separate reports, to 100 separate users all at 9:00 a.m. on a Monday morning, at the same time these users are all trying to sign on to ExtraView.

Return Print Page Scheduled Reports

Send notification to scheduled report owner when their report schedule is deleted or inactivated

**Filter List**

Select the column to use as a filter for the list. You may click on a letter to produce a list of the items which begin with this character, or you may enter a search pattern, including wildcards (\*). The Export button creates a CSV file of the results currently displayed on the screen.

Select filter column for report Enabled ▾

or click on a letter Y | <all> | <none>

or enter a search expression and click the Go button Enter search expression

	Enabled	Title	Owner	Running as	Frequency	Last Scheduled Run	Next Scheduled Run
<input type="button" value="Edit"/> <input type="button" value="Del"/>	Yes	New Issues By Priority	Bill Smith	Administrator	Weekly		Unscheduled
<input type="button" value="Edit"/> <input type="button" value="Del"/>	Yes	My Hot List	Bill Smith	Customer Support Manager	Weekly		Unscheduled
<input type="button" value="Edit"/> <input type="button" value="Del"/>	Yes	Morning Report	Greg Goldberg	Engineering Manager	Daily		Unscheduled

Return Print Page 3 record(s) selected from a total of 3 record(s)

### Setting the schedule for a report

The administrator can manage the schedule for any user's scheduled report, they may deactivate the schedule, or they may delete the schedule. There is an option to send email to the report owner, when their report schedule is removed. There is also an option that allows the scheduled report to be suppressed, if there are zero results on the output.

# Field List Values

List administration is the administrative feature where you can manipulate all the lists that comprise the metadata values within ExtraView. For example, this is where you maintain lists of business areas, products, modules, and many other items. This includes all the lists that you create as User Defined Fields. Field list values may also be maintained from the data dictionary.

For convenience, the list of items on this screen includes Privacy Groups and User Roles. These lists can be viewed and modified both from this administrative section as well as within the Users section.

The metadata field lists that appear on this screen include all fields with a data dictionary display type of List, Popup, Checkbox, Radio Button and Tab.

Lists values may be dependent upon values in other lists. This is termed Allowed Values, and is covered in more depth in the Allowed Value page within the Site Configuration section of this guide.

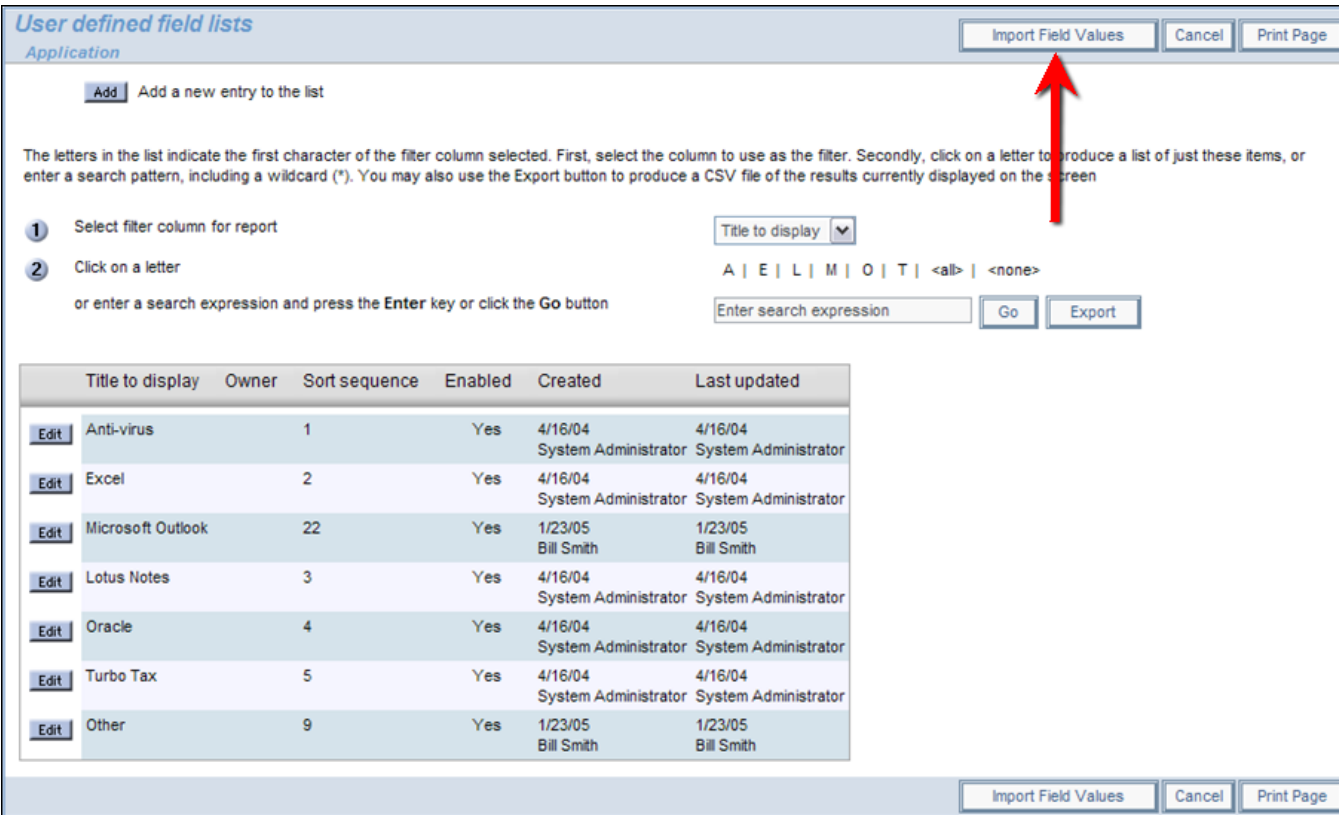
Within all user defined field lists, there is the opportunity to disable a value. Once the value has been disabled, it will not appear in any screen in a selectable manner. If an existing record already has the value set, then the user may leave the value in place or they may select a new, enabled value.

Note that checkbox fields are stored internally as lists that are constrained to just two values, typically Yes and No, On and Off or something similar. You may not disable a value within a checkbox field.

Interest Lists are also maintained for field values within List maintenance. For example, if you want to maintain an interest list for a specific product, or an interest list for Priority 1 issues, then this may be completed through the add and edit functions of each list.

## Loading List Values from Files

This feature only works to load values into user defined field lists. It does not work with inbuilt fields such as **STATUS**, **CATEGORY**, **RESOLUTION** and user field lists. This is not a real limitation as these inbuilt field lists tend to be small lists. Each user defined field list has a button **Import Field Values**. When this is pressed, the administrator is able to load a file of values into the field.



**User defined field lists**  
Application

Add a new entry to the list

The letters in the list indicate the first character of the filter column selected. First, select the column to use as the filter. Secondly, click on a letter to produce a list of just these items, or enter a search pattern, including a wildcard (\*). You may also use the Export button to produce a CSV file of the results currently displayed on the screen

1 Select filter column for report

2 Click on a letter  
A | E | L | M | O | T | <all> | <none>

or enter a search expression and press the Enter key or click the Go button

	Title to display	Owner	Sort sequence	Enabled	Created	Last updated
<input type="button" value="Edit"/>	Anti-virus		1	Yes	4/16/04 System Administrator	4/16/04 System Administrator
<input type="button" value="Edit"/>	Excel		2	Yes	4/16/04 System Administrator	4/16/04 System Administrator
<input type="button" value="Edit"/>	Microsoft Outlook		22	Yes	1/23/05 Bill Smith	1/23/05 Bill Smith
<input type="button" value="Edit"/>	Lotus Notes		3	Yes	4/16/04 System Administrator	4/16/04 System Administrator
<input type="button" value="Edit"/>	Oracle		4	Yes	4/16/04 System Administrator	4/16/04 System Administrator
<input type="button" value="Edit"/>	Turbo Tax		5	Yes	4/16/04 System Administrator	4/16/04 System Administrator
<input type="button" value="Edit"/>	Other		9	Yes	1/23/05 Bill Smith	1/23/05 Bill Smith

### Importing a file of list values

The format of the file to be uploaded is very simple. It is simply a file with a single value per row. The list of values may be ordered and the order retained when it is imported, or it may be unordered, in which case ExtraView will sort the file alphanumerically.

When the administrator presses this button, the following dialog appears:

Specifying the file to upload

When the file is uploaded, you will see a sample of the file:

Sample of uploaded file

Note the prompt that allows you to retain the order of the field values in your import file, or allows the list to be sorted alphanumerically.

## List Entries with Allowed Values

Editing lists that are the child in an allowed value relationship is a little different. As seen in the screenshot below, the list of all the potential parents is displayed, each with a checkbox. Also, if Business Areas and Projects are enabled, you must select the Business Area and Project for which you want to set the allowed values (see the next section).

Click on each of the parent values that this child is allowed to be related to. The example shows an allowed value relationship between two fields, where the field named *Building* is the parent and the field named *Floor Number* is the child.

Allowed Value relationships are maintained within their child list

Note that this screen allows you to modify the allowed value children for a single parent, on a single screen. This is ideal for making alterations to existing relationships. If you want to add a series of allowed value relationships for different parents, you may find it more convenient to use the administration screen under Allowed Value Types. Both methods will result in the same changes, but sometimes it is more convenient to take a “top-down” rather than “bottom-up” approach.

## Business Areas and Allowed Value Relationships

It is important to note that when Business Areas and Projects are enabled, the allowed values that you set are only for the selected Business Area and Project. This is controlled by additional prompts on the maintenance screen as shown above.

You must set up the allowed value relationship for each Business Area and Project.

**Note:** If the Business Area field is the parent field in the allowed value relationship then you should be aware of how the interaction with the fact that allowed values are dependent upon Business Area works. The implication is that you can only define the child in the relationship to either belong, or not belong to the currently selected Business Area. There is no meaning to allowing the child to be selected with other Business Areas. Therefore, you will only see the currently selected Business Area with a checkbox in the list of possible allowed values.

**Note:** You can set up a set of default values for a relationship. These will be used, unless overridden by a specific set up within any Business Area and Project.

## End-User List Management

End users may add new values to lists under certain circumstances, where the administrator has enabled the feature with security permissions, and has turned on the feature on specific layouts.

To an end user, the ability to add a new value to a list appears like this:

Adding a new value to a list

When the end user selects the \* **New** \* entry in the list, a window pops up, asking for the details of the list. The appearance of this



popup varies a little, according to whether the list is an inbuilt list field (such as **product\_name**), a child list such as **module\_id** or **release\_found** or **release\_fixed**, or is a user-defined field list. The inbuilt fields require the addition of the field's fixed name, plus its title. Dependent child fields require the parent field to be selected, and the relevant fixed name and/or title. User defined fields only require the title to be input. This is an example of a popup:

**Add a new value to the list named Product** [Add] [Cancel] [Print Page]

NOTE: The fixed database name is used for internal purposes only; it must start with an alphabetic character and contain only characters: A-Z, a-z, 0-9, '.', and '\_'. The title is used for display purposes.

Fixed database name

Title to display

[Add] [Cancel] [Print Page]

Adding a new value from a list field

To configure a field to use this feature, take the following steps. Note that only a small number of inbuilt fields may be used in this way, but any user defined field list may be configured.

Field	Security Permission Key
PRODUCT_NAME	CF_PRODUCT
MODULE_ID	CF_MODULE
RELEASE_FOUND, RELEASE_FIXED	CF_PRODUCT_RELEASE
All UDF's with a display type of List, with the exception of multi-valued lists	CF_UDF_LIST

- For the user role or user roles that you want to be able to add new values to a list, give the security permission key in the above table write access
- The \* **New** \* entry is added to the list by adding a layout cell attribute to the field on the appropriate *add* and/or *edit* layout. The layout cell attribute is named **Add the \* New \* entry to list fields - applies to add and edit layouts**.
- The feature works with UDF list and popup fields on repeating rows as well as on standard list fields
- The feature works with multi-valued list and popup fields on standard list fields only. It does not work with multi-valued list fields on repeating row fields
- The feature does not work with fields being used on reports with the Quickedit mode
- The feature does not work with other types of list fields such as tab and radio button.

## User Groups

User Groups are composed of any number of ExtraView users. These users may be added to a named user group in an arbitrary way. They do not need to be connected in any way such as belonging to the same user role. Once a user group has been formed there are specific actions that can be taken with the user group. At this time, these actions are:

- Reports can be saved so that they are shared among the members of a user group
- Future release of ExtraView will extend this list.

Return Print Page Manage User Groups

**Directions**  
This utility allows you to create and maintain groups of users. Groups of users are arbitrary collections of people that are primarily used for purposes such as sharing reports.

New Create a new user group

	Group Name	Group Title	Owner	Created	Last updated
<span>Edit</span> <span>Del</span>	CTI	CTI	Bill Smith 10/5/11 8:05 AM	Bill Smith 10/5/11 8:05 AM	Bill Smith 10/5/11 8:06 AM
<span>Edit</span> <span>Del</span>	DELTA_PROJECT	Delta Project Group	Bill Smith 10/4/11 3:18 PM	Bill Smith 10/4/11 3:18 PM	Bill Smith 10/4/11 3:18 PM
<span>Edit</span> <span>Del</span>	MGMT	Management Group	Bill Smith 10/4/11 3:18 PM	Bill Smith 10/4/11 3:18 PM	Bill Smith 10/4/11 3:18 PM

Return Print Page 3 record(s) selected from a total of 3 record(s)

## Managing User Groups

With the use of the CF\_USER\_GROUPS security permission key, there is control over access to user groups. This key is found in the *permission to individual administration menus* section of the permission keys. Without *write* access to this permission key, end users are not able to save reports to be shared by a user group, and are not able to see the **Manage User Groups** button on the **Report** screen. This same permission key controls administrative access to the **Manage User Groups** function in the **Operational Tasks** tab of administration.

The **Manage User Groups** function looks similar to both end users and to administrators. However, end users may create and manage user groups and then have control over these user groups, but not user groups created by other end users. The **Manage User Groups** function for administrators allows the complete management of all user groups.

## Interest Lists

An interest list is placed upon a value or combination of field values in order to notify one or more users when an issue contains the field or fields with the value or values. For example, a product manager may want an interest list on all issues that touch his **product**. The engineering director may want to see automatically, all the issues that are marked with a **severity level** of *critical*.

Both administrators, and to a more limited extent, users may manipulate interest lists. There is one special interest, which affects entire issues, that is not dependent upon the value of any field within an issue. In this case members of the interest list will receive notification upon all changes to the issue.

Interest lists may be global, or they may refer to a single combination of Business Area and Project. Interest lists are not inherited. Like layouts and security permissions.

Interest lists are enabled on each field from within the field's data dictionary definition.

**Interest Lists** Return Print Page

Interest lists defined in the Master Area and Master Project are global in nature and affect all issues. If you define an interest list in a specific Business Area and Project, it only affects issues in that Business Area and Project. There is no inheritance with interest lists. To remove a user from an issue-based interest list, go to the user account maintenance screen for the user.

**Add** Add a new interest list

	Title	Area	Project	Opt Out Allowed	Enabled List	Created	Last updated
<a href="#">Edit</a> <a href="#">List</a>	Customer = Bank of America	Global interest list		Yes	Yes	ExtraView May 26, 2006	Taro Nippon August 16, 2006
<a href="#">Edit</a> <a href="#">List</a>	High Priority issues for the Tracker Product	Global interest list		Yes	Yes	Bill Smith July 2, 2006	Taro Nippon August 16, 2006
<a href="#">Edit</a> <a href="#">List</a>	Product = Tracker	Global interest list		Yes	Yes	ExtraView May 26, 2006	Taro Nippon August 16, 2006
<a href="#">Edit</a> <a href="#">List</a>	Product = Tracker Enterprise	Global interest list		Yes	Yes	ExtraView May 26, 2006	Taro Nippon August 16, 2006
<a href="#">Edit</a> <a href="#">List</a>	Tracker Lite Documentation Issues	Global interest list		Yes	Yes	Bill Smith July 2, 2006	Taro Nippon August 16, 2006
<a href="#">Edit</a> <a href="#">List</a>	New high priority customer issues	Customers	Customer Data	No	Yes	Bill Smith July 2, 2006	Taro Nippon August 16, 2006
<a href="#">Edit</a> <a href="#">List</a>	Newly published knowledge base issues	Knowledge Base	Knowledge Base Data	Yes	Yes	Bill Smith July 2, 2006	Taro Nippon August 16, 2006

7 record(s) selected from a total of 7 record(s) Return Print Page

### Interest List Definition

Any interest list for any field can be maintained from this screen. Use the **Edit** button by any entry to modify an existing interest list's details, use the **List** button to modify the users who belong to the interest list, and to create a new interest list, click on the **Add** button by the prompt **Add a new interest list**. The following screen appears when you add a new interest list:

**Interest List** Add Cancel Print Page

Interest lists that you create in the Master Area and Master Project are global in their effect. Interest lists that you create in a specific area and project only apply to issues within that area and project. You can create each interest list with up to five criteria.

Interest list title

Business Area

Project

Users may opt-out from interest list

Enabled

**Interest list criteria**

Field name

AND

AND

AND

AND

Add Cancel Print Page

### Adding a new interest list

If the interest list you create is to be global, create it within the **\* Global Interest List \***, in the fields titled Business Area and Project. If you want the interest list to be mandatory for all users, then do not check the box **Users may opt-out from interest**

**list.** If you check this box, users will be able to opt-out of the interest list from their account option screen. You can also disable an interest list, without deleting it from the system with the **Enabled** checkbox.

Note: Only regular users of ExtraView can be added to interest lists. According to the terms of the license agreement, guest and other users who only belong to the behavior setting named LIMITED\_USER\_ROLE, cannot be added to interest lists.

If you are creating a list value for a field in the list management area and interest lists are enabled for the field, the administrator is allowed to create an interest list for the field at that point, without going to the interest list administration screen. This is purely for convenience.

Also note that if the user has write permission to CF\_INTEREST\_LIST, then the user will see all the global interest lists and may opt in and opt out of these lists. The user needs write permission to individual business areas and projects to be able to opt in and opt out of any interest lists defined within these.

## Personal Administration of Interest Lists

Please see the section on [User Account Maintenance](#) for details on how a user or the administrator can maintain the interest lists for the individual user.

# Field-Based Interest Lists

## Enabling Interest Lists on Fields

You may enable interest list on fields that have a display type of List, Tab, or Popup. In addition, end users may create an interest list on any issue, provided their role has permission to the security keys PR\_ADD\_PROBLEM.INTEREST\_LIST or PR\_RESOLUTION.INTEREST\_LIST. Interest list on fields are enabled within the data dictionary.

1. From the Administration menu, enter the **Data Dictionary**
2. Scroll down the field list until you see the field upon which you want to add the interest list, and click the **Edit** button next to this value.

The screenshot shows the 'Change a Data Dictionary Entry' interface for the 'ASSIGNED\_TO' field. The form includes several configuration options:

- Fixed name:** ASSIGNED\_TO
- Title to display:** Assigned To (with a Localize button)
- Type of field:** Inbuilt field
- Field belongs to:** Issue records
- Display type:** User (dropdown menu)

Below these are tabs for 'Field Properties', 'Optional Attributes', 'Permissions', and 'Where Used'. Under 'Field Properties', the following options are visible:

- Allow selection on reports:** Yes (selected) / No
- Remember last value:** Yes / No (selected)
- Enable interest list:** Yes / No (selected) *(highlighted with a red arrow)*
- Auto-Complete:** Off / After (radio buttons for 1, 2, 3, 4, 5 characters)
- Filter criteria:** Yes (selected) / No
- Is sortable:** Yes (selected) / No
- Display as URL:** Yes / No (selected)
- Default value:** (text input field with a 'Select default' button)
- Help text:** The name of the user that this problem is currently assigned to (with a Localize button)
- Help URL:** helpGlossary.html#assignedto

At the bottom of the form are 'Update', 'Cancel', and 'Print Page' buttons.

Option to Enable Interest Lists

3. Check the **Yes** radio button on the Email Interest List option to enable the interest list for this data dictionary entry.
4. Click the **Update** button at the top or bottom of the screen.

## Utilizing Field-based Interest Lists

Interest lists are enabled on each field from within the field's data dictionary definition. Within the **Email Notification** section of administration, there is a menu entry named **Interest Lists**. This administration function is controlled by the security permission key named CF\_INTEREST\_LIST.

The screenshot shows the 'ExtraView Administration' interface. At the top right, the user is identified as 'Bill Smith Administrator' with a dropdown menu set to 'Bugs'. The navigation bar includes 'Home', 'Add', 'Query', 'Admin', 'Help', and 'Sign Off', along with a search box for 'Reports'. Below the navigation bar are tabs for 'Users', 'Lists', 'Fields & Layouts', 'Display & Reports', 'Workflow', 'Email Notification', 'System Controls', and 'Import/Export'. The 'Email Notification' tab is active, and the 'Interest Lists' sub-tab is selected, indicated by a red arrow. The 'Interest Lists' menu item is expanded, showing options: 'Interest Lists' (with a red arrow pointing to it), 'Escalation Rules', 'Email Settings', and 'Email Templates'. Each option has a brief description of its function.

### Interest List Access

Note that you may grant non-administrative users permission to this permission key. When you do this, they will see a prompt on the Notification section of their Personal Options screen that allows them to administer the interest lists. Note that this gives them a level of administrative privilege, including being able to create and delete interest lists, and to add and remove any user to and from an interest list.

When you select this menu entry, a screen similar to the following will appear:

The screenshot shows the 'Interest Lists' administration screen. It includes a 'Return' and 'Print Page' button at the top right. Below the header, there is explanatory text: 'Interest lists defined in the Master Area and Master Project are global in nature and affect all issues. If you define an interest list in a specific Business Area and Project, it only affects issues in that Business Area and Project. There is no inheritance with interest lists. To remove a user from an issue-based interest list, go to the user account maintenance screen for the user.' An 'Add' button is present with the text 'Add a new interest list'. The main content is a table with the following columns: Title, Area, Project, Opt Out Allowed, Enabled List, Created, and Last updated. The table contains 8 rows of data. At the bottom, it shows '8 record(s) selected from a total of 8 record(s)' and 'Return' and 'Print Page' buttons.

	Title	Area	Project	Opt Out Allowed	Enabled List	Created	Last updated
<a href="#">Edit</a> <a href="#">List</a>	Interest list for the Tracker product	Master Area	Master Project	Yes	Yes	Bill Smith Apr 4, 2006	Bill Smith Apr 4, 2006
<a href="#">Edit</a> <a href="#">List</a>	Interest list for the Tracker Enterprise product	Master Area	Master Project	Yes	Yes	Bill Smith Apr 4, 2006	Bill Smith Jun 7, 2006
<a href="#">Edit</a> <a href="#">List</a>	Interest list for the Tracker Lite product	Master Area	Master Project	Yes	Yes	Bill Smith Apr 4, 2006	Bill Smith Apr 4, 2006
<a href="#">Edit</a> <a href="#">List</a>	Interest list for P 1 issues	Master Area	Master Project	No	Yes	Bill Smith Apr 4, 2006	Bill Smith Apr 4, 2006
<a href="#">Edit</a> <a href="#">List</a>	Interest list for P 2 issues	Master Area	Master Project	Yes	Yes	Bill Smith Apr 4, 2006	Bill Smith Apr 4, 2006
<a href="#">Edit</a> <a href="#">List</a>	Car's interest list	Master Area	Master Project	Yes	Yes	Bill Smith May 18, 2006	Bill Smith May 18, 2006
<a href="#">Edit</a> <a href="#">List</a>	High Severity Interest List	Bugs	Bugs Defaults	No	Yes	Bill Smith Apr 27, 2006	Bill Smith Apr 27, 2006
<a href="#">Edit</a> <a href="#">List</a>	Newly published Knowledge Base items	Knowledge Base	Knowledge Base Defaults	Yes	Yes	Bill Smith Jun 21, 2006	Bill Smith Jun 22, 2006

### Interest List Definition

From this screen you may create new interest lists, modify existing interest lists, or manage the list of users who are subscribed to any interest list.

To create a new interest list, click on the **Add** button. The following screen appears:

**Interest List** Add Cancel Print Page

Interest lists that you create in the Master Area and Master Project are global in their effect. Interest lists that you create in a specific area and project only apply to issues within that area and project. You can create each interest list with up to five criteria.

**Interest list title**

**Business Area** \* Global interest list \* ▼

**Project** \* Global interest list \* ▼

Users may opt-out from interest list

Enabled

**Interest list criteria**

Field name \* Select \* ▼

AND \* Select \* ▼

AND \* Select \* ▼

AND \* Select \* ▼

AND \* Select \* ▼

Add Cancel Print Page

### Adding a new interest list

If the interest list you create is to be global, create it with the Business Area and Project having a value of \* **Global interest list** \*. If you want the interest list to be mandatory for all users, then do not check the box **Users may opt-out from interest list**. If you check this box, users will be able to opt-out of the interest list from their personal account option screen. You can also disable an interest list, without deleting it from the system with the **Enabled** checkbox.

If the field you select for the interest list criteria is a multi-valued list field, then you may only select a single value for the interest list. If you need to select multiple values, you will need to set up multiple interest lists.

Interest lists may be built upon field conditions beyond looking for equality with a value. For example, for fields with a display type of LIST, POPUP, and TAB, you may create an interest list condition looking for when a field is **changed to** or **changed from** a specific value. The following screenshot displays how this is achieved.

**Interest List** Add Cancel Print Page

Interest lists that you create in the Master Area and Master Project are global in their effect. Interest lists that you create in a specific area and project only apply to issues within that area and project. You can create each interest list with up to five criteria.

**Interest list title**

**Business Area**

**Project**

Users may opt-out from interest list

Enabled

**Interest list criteria**

Field name	Category	equals	* None *
AND	* Select *	equals	
AND	* Select *	changed to	
AND	* Select *	changed from	
AND	* Select *		
AND	* Select *		

Add Cancel Print Page

Setting the operator for an interest list field

For fields with a display type of TEXTAREA, LOGAREA, TEXTAREA, TEXTFIELD, and PRINTEXT fields the operator, **changed** is supported allowing you to set up an interest list based upon the text in the field changing.

After adding an interest list, you manage the users associated with the list using the **List** button by the interest list details. The following screenshot shows the presentation of the interest list members and where they are maintained.

**Interest Lists** Update Return Print Page

Choose a user from the select list to add to the interest list, then press the Update button. Repeat to add additional users to the interest list, then press Return to finish. You can remove a user from the interest list by using the Delete button by their name.

Choose from the list of users

	User Id	First Name	Last Name	Company
<a href="#">Delete</a>	Jimmy Duncan	Jimmy	Duncan	Superior Software Corp
<a href="#">Delete</a>	Mary Brown	Mary	Brown	Superior Software Corp
<a href="#">Delete</a>	Sally Hunt	Sally	Hunt	Superior Software Corp
<a href="#">Delete</a>	Susan Green	Susan	Green	Superior Software Corp

4 record(s) selected from a total of 4 record(s)

Update Return Print Page

Maintaining the list of users on an interest list

Add new users to the interest list by choosing their name from the select list, then pressing the **Update** button. Delete users from the list by pressing the **Delete** button by their name.

**Note:** Only regular users of ExtraView can be added to interest lists. According to the terms of the license agreement, guest and other users who only belong to the behavior setting named LIMITED\_USER\_ROLE, cannot be added to interest lists.

# Issue-Based Interest Lists

## Creating Interest Lists on Issues

On the *add* screen and from the *edit* screen, there is a checkbox named **Include self on interest list**. When a user checks the box, they add themselves to an interest list for this individual issue. If the user is already subscribed to the interest list then they may uncheck the box to remove themselves from the interest list.

Within a user's personal notification options, they may remove themselves from any issue-based interest list to which they have subscribed, but the only way to add themselves to an issue-based interest list is to update the issue and check the **Include self on interest list** checkbox. The reason for this is that in a large installation, there could be tens of thousands separate issue-based interest lists, and this would be unmanageable on a maintenance screen.

Subscribing and unsubscribing from an issue interest list

## Security Permissions & Interest Lists

Due to the potential for change in the valid user roles for any user, and the potential for change in the security permissions of any field, there is no direct connection between the setup of an interest list and the users who may belong to that interest list. For example, it may be that a user belongs to interest list on a field named *any\_field*. A specific user may not have permission with their current role to see this field, but they may be on an interest list that contains a reference to *any\_field*.

The key point is that although a notification to the user may be generated when the value of *any\_field* changes, the user will never see the field or its contents without permission to the security permission key.

Also, remember that there is a behavior setting named EMAIL\_NOTIFY\_USERS\_ALWAYS that can be set to suppress notification to any user, if no field that is visible to them changes upon the update of an issue.

## Escalation Rules

Escalation is the process whereby ExtraView will automatically examine a set of issues, based upon time-based criteria and filters that you provide, and send notification warnings based upon any issue exceeding the time-based criteria. For example, you may want to escalate all issues that have remained with a Status value of Open, if the value is not changed within 24 hours.



Escalations in ExtraView are enabled using a **background task**. Escalations will not run unless this task is set up and is running. The parameters of the task include a poll interval which is the number of seconds between each time that ExtraView will run the escalation task to check for issues that should be updated to signify that they have met the rules defined for the escalation to take place. Please see the section on [Managing Tasks](#) for more information on setting up the escalation task.

Escalation rules are used to update issues based on the time spent in a given Status. This update will generate notification email, thereby notifying the issue owners.

Escalation rules may be global, i.e. they are defined in the Global Area and Global Project, or they are defined in a specific business area and project. There is no inheritance of escalation rules through the hierarchy of business areas and projects.

Each escalation can use a different **Business Calendar**. Each calendar can define working and non-working days, working and non-working hours. In this way the escalations you define can calculate times accurately according to your business practices. For example, your team may have an SLA that guarantees the resolution of a problem in 3 business days. A correctly defined calendar will skip weekends and holidays that your company respects.

## Initial Setup

Two User Defined Fields are defined to support the use of escalation. These are:

- EV\_ESCALATED\_LAST, a date field
- EV\_ESCALATED\_COUNT, a number field.

In the data dictionary, you must set both **Allow selection on reports** and **Filter criteria** to have a value of Yes on these fields. In addition, you must have granted permission to read and update these fields for the user role of the ADMIN user. These fields do not need to appear on a layout. In a new ExtraView system, these fields are supplied with read and write permissions for the *admin* user role.

Also, the date mask for the ADMIN user account that is running the escalation task must include a time component; it cannot be a simple day format.

## Creating and Maintaining Escalation Rules

The initial maintenance screen shows a summary of all the escalation rules in your installation

	Title	Area	Project	Opt Out Allowed	Sort Seq	Created	Last updated
<a href="#">Edit</a> <a href="#">List</a>	Open issues on the Tracker product that have not changed in a week	Global Escalation Rule		No		Bill Smith July 14, 2006	Bill Smith March 8, 2007
<a href="#">Edit</a> <a href="#">List</a>	Escalate Customer P 2 Issues 1 day after creation, if they are still open	Customer Issues	Customer Support Issues Defaults	No		Bill Smith March 23, 2007	Bill Smith March 23, 2007

Maintaining escalation rules

From this screen, you can create new escalation rules, or maintain the list of users attached to each escalation rule. You can also view whether the escalation rules are global or whether they are executed for an individual business area and project.

Also note that if the user has write permission to CF\_ESCALATION\_RULES, then the user will see all the global escalation rules and may opt in and opt out of these lists. The user needs write permission to individual business areas and projects to be able to opt in and opt out of any escalation rules defined within these.

## Maintaining Escalation Rules

When you **Add** or **Edit** an escalation rule, the following screen appears:

Update		Cancel		Delete		Print Page		Escalation Rule	
<b>Directions</b>									
Escalation Rules that you create in the Global Area and its Global Project are applied everywhere. Escalation Rules that you create in a specific area and project only apply to issues within that area and project. You can create each escalation rule with up to five criteria.									
Escalation rule title	Open Issues on the Tracker product that have not changed in a week							Localize	
Area	* Global escalation rule *								
Project	* Global escalation rule *								
Business Calendar	24 x 7 x 365 Calendar(2)								
Enabled	<input checked="" type="checkbox"/>								
Escalation method	<input checked="" type="radio"/> Escalate using time in status				<input type="radio"/> Escalate using formula based on a date field				
Elapsed time	156		hours						
Frequency	24								
Sort Sequence									
Action	COMMENTS="This open issue has not been updated in a week"; BSMITH								
<b>Escalation rule criteria</b>									
Field name	Status	equals	Open						
AND	Product	equals	Tracker						
AND	* Select *	equals							
AND	* Select *	equals							
AND	* Select *	equals							
Update Cancel Delete Print Page									

### Adding and updating escalation rules

Field Purpose

Escalation rule title	The title of the escalation rule that is presented to the administrator and to users when opting in or out of a rule
Business Area & Project	If the rule being defined is to be global in its scope, then these should be set to * <b>Global escalation rule</b> * and * <b>Global escalation rule</b> *. A rule will only apply to an individual area and project if you select a specific area and project
Business Calendar	Select the Business Calendar to use in the calculation of the time to escalate the issue. The default calendar provided with ExtraView is 24 hours by 7 days a week by 365 days per year. Create your own calendars to set the workdays and workhours for different escalation rules. Non-workhours and non-workdays will be skipped in the calculation of escalations
Enabled	This allows the rule to be turned off and turned on
Escalation method	Issues may be escalated based upon the amount of time spent in a single status without change of that status, or they may be escalated according to the value of a date or day type field on that is on the edit layout of the issue within it's business area and project

#### Time in status escalations

The number of hours an issue has been in a given status before it is escalated. Partial hours are supported using decimal points in the number. Note that there is an interaction with the timer that is used to escalate issues, so an issue is not escalated immediately that the elapsed time is reached, but is escalated on the first occasion following the reaching of the elapsed time that the timer fires. Click on the **Escalate using time in status** to use this method of escalation.

Enabled

Escalation method  Escalate using time in status  Escalate using formula based on a date field

Elapsed time  hours

Frequency

Setting the elapsed time for an escalation based on status

### Formula-based escalations

You may escalate an issue based upon the value of a date field contained on the edit layout of the issue, plus or minus an offset. For example, you may set a reminder 1 day before an item is due, or you may set a reminder when an item reaches an expiry date. The escalation will occur at the time the escalation script fires following the rule you create. Click on the **Escalate using formula based on a date field** radio button for this type of escalation.

Enabled

Escalation method  Escalate using time in status  Escalate using formula based on a date field

Choose the date field  Offset  hours

Frequency

Basing an escalation on a date field in an issue

The offset may be left blank, in which case the escalation happens at the next time the script fires following the value of the date field you select. You can also set the offset to a positive or negative number of hours as required. Only whole hours can be used, not fractional parts of an hour.

- Frequency** After the issue is escalated, this is the amount of time that elapses, before the issue is again escalated. Only whole hours can be used, not fractional parts of an hour.
- Sort Sequence** Providing a sort sequence for escalation rules has two purposes. First, this will affect the order they are displayed in. Rules with no sort sequence are displayed in alphabetic order. Secondly, and importantly, rules are executed in the order of the sort sequence. Therefore, if you have a number of rules which could conflict with each other, the order becomes significant, and you should provide a high-order sort sequence for your most important rules, ensuring they are executed before less important rules.
- Action** This is where you place assignments to fields, to update these fields to the new value(s) you provide within the action. Actions are delimited with semi-colons and follow the same syntax rules as described in the section in this guide named Business Rules. Leave this field blank if you simply want to have the escalation rule notify users without changing the values of fields in the issue.

You can notify additional users in the **Action** field, either by placing their explicit user ID in the field (followed by a semi-colon) or by using the data dictionary name of a field such as ORIGINATOR, ASSIGNED\_TO or OWNER. In the second case, the person whose value is in that field is notified upon the triggering of the escalation.

- Escalation rule criteria** These are filters that are used to provide the specific set of values, in addition to any date value you select. For example, you may set a filter to only fire the trigger base on the value of the product, or based on the current priority of the issue.

**Note:** There is only one field named EV\_ESCALATED\_LAST. This is shared by all escalation rules. The rule that fires first will update this field, perhaps preventing other rules from being triggered. If you want other rules to fire in addition to the first one triggered, set their interval to 0; these rules then fire every time the escalation engine runs. This may not be desirable, mainly for performance reasons, but is a way to solve the problem.

**Note:** If an issue is escalated according to one rule, it may no longer meet the same criteria to be escalated again, but it may be triggered by another rule using the same status. However, the pre-existing value of EV\_ESCALATED\_LAST may cause premature firing of the new rule. In this case, write a business rule to clear EV\_ESCALATED\_LAST when the issue is updated to move outside the scope of the first rule.

## Example Escalation Rules

### Example 1

Escalate all issues with **PRIORITY**=P 1 and **STATUS**=Open if status has not changed for at least 4 hours. Keep escalating issues every two hours thereafter, as long as the **STATUS** and the **PRIORITY** remain unchanged. At every escalation, add a new **COMMENT** field with the specified text to the qualified issues and send the notification to all members of the escalation rule.

Field	Value
Escalation rule title	Escalate all P1 and Open Issues
Business Area	Global Area
Project	Global Project
Elapsed time	4
Frequency	2
Enabled	Checked
Action	COMMENTS = "This issue is escalated because its priority is P1 and its Status is Open"; COMMENTS &= SYSDATE;
Escalation rule criteria	STATUS = Open PRIORITY=P 1

## Example 2

Escalate all Bugs issues where the **SEVERITY** is High, if the **STATUS** has not changed in at least 2 hours. Keep escalating issues every hour as long as the **SEVERITY** and the **STATUS** remain unchanged. At every escalation send notification email to the users who opt-in to the escalation rule.

Field	Value
Escalation rule title	Escalate all issues which have a High severity level for more than 4 hours
Business Area	Bugs
Project	Bugs Data
Elapsed time	2
Frequency	1
Enabled	Checked
Action	COMMENTS = COMMENTS = "This issue is being escalated because its Priority is P 1 and its Status is Open";COMMENTS &= SYSDATE;
Escalation rule criteria	SEVERITY_LEVEL=1;

## Example 3

Escalate all Customer **P 2** issues 24 hours after they were due, based upon the value of a date field named **due\_date**, if the status of the issue is **Open**. Set the **Priority** to a new value of **P 1**.

Field	Value
Escalation rule title	Escalate Customer P 2 Issues 1 day after creation, if they are still open
Business Area	Customer Issues
Project	Customer Issues Defaults
Date Field	Due Date
Offset	24
Frequency	24
Enabled	Checked
Action	COMMENT = "This customer issue has been escalated to P 1 as the SLA for a P 2 issue mandates the issue must be handled within 24 hours"; PRIORITY = "P 1";

Escalation rule  
criteria

Status = Open

## Business Calendar

Business calendars allow the definition of work days, holidays and non-work days. The calendar is used in computations of elapsed time between two moments, to only count the business time involved.

For example, you might want to escalate issues that have remained in a specific status for more than 3 business days, but omit Saturdays and Sundays. Similarly, you might want to omit hours outside of 9:00 am through 5:00 pm when you calculate the elapsed time.

The Business Calendar feature allows the setup of any number of calendars for different purposes, so if different groups or different parts of your organization work different hours or days, then this can be taken into account. Each calendar is independent and may, for example, have different company holidays.

ExtraView comes with two default calendars, one named 24\_BY\_7 and one named WEEKDAY. The 24\_BY\_7 calendar has no holidays, or non-workdays and therefore counts the absolute time between two dates. The WEEKDAY calendar has Saturday and Sunday set as non-work days, and the work hours are set to 9:00 am to 5:00 pm. These default calendars can be updated, or you can create any number of new calendars.

There is a behavior setting named RULES\_DEFAULT\_CALENDAR. If a business rule does not specify a calendar in a directive, then this calendar will be used for computations involving dates. If this does not have a valid entry, then the 24\_BY\_7 calendar is used within the rules.

You can use a business calendar by specifying which one to use within escalation rules or within business rules.

When you update a calendar, the screen will look similar to this:

**Business Calendar**

**Directions**

- 1 - Provide a name and title for the calendar
- 2 - Set the workdays, and workhours if required
- 3 - Click with the mouse left button to alter a day on the calendar to a holiday
- 4 - Click with the mouse right button to override the work hours for a day

**Calendar Name** WEEKDAY

**Calendar Title** Monday to Friday, 9 a.m. to 5 p.m.

**Time Zone** ? (GMT -8:00) America/Los\_Angeles

**Work Days** ? **Work Hours** ?

Sun

Mon 9:00 AM to 5:00 PM

Tue 9:00 AM to 5:00 PM

Wed 9:00 AM to 5:00 PM

Thu 9:00 AM to 5:00 PM

Fri 9:00 AM to 5:00 PM

Sat

◀ 2011 ▶

**January**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

**February**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					

**March**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

**April**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

**May**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

**June**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

**July**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

**August**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

**September**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

**October**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

**November**

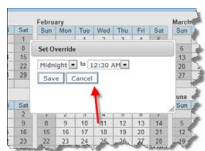
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

**December**

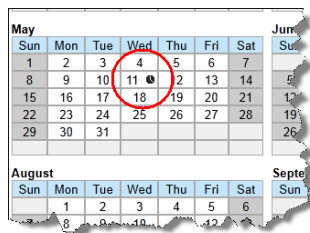
Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

## Setting up a calendar

- Calendar names conform to the standard naming convention
- Calendar titles conform to the standard convention of other titles, and may be changed and may be localized
- The Time Zone is typically the time zone of the owner of the calendar
- You use the Work Days checkboxes to nominate the standard work and non-work days through the calendar
- You use the Work Hours select lists to nominate the standard work and non-work work hours for each work day, through the calendar
- Use the arrows on either side of the year to move forward and backwards, in one-year intervals
- The numbers on the calendar with the grey background are the non-work days; numbers with a white background are work days
- To set a work day to a holiday, click once on the date with your mouse. To change the day to a non-work day, click once again. To restore the date back to a work date, click again. At this point in time, there is no difference between holidays and non-work days. In the future, there may be differentiation between holidays and non-work days
- You can override the work hours for any work day on the calendar by right-clicking with the mouse on the day. When you do this, a popup window allows you to set new work hours for that day only. Once you have overridden work hours for any day, a small clock will appear by the date, to show that the day has different work hours than the base work hours for the day. The following screenshots show how to override the time on a work day:



Overriding work hours



Seeing overridden work hours

## Custom Email Templates

This feature allows the administrator to create standard email templates for email notification in situations where a standard response is warranted. For example, if your product team had a number of issues entered by the members of a beta test group, and they wanted to be able to send a standard confirmation to a group member whenever there was a resolution, this feature could be employed for this purpose. Another example is that a customer support representative could choose from one of several standard replies to a customer reporting a problem. These replies could be geared to acknowledging receipt of a problem, informing the customer of progress towards resolution of a problem or notifying the customer that a problem has been resolved.

Custom email notifications may be sent from the *edit* screen of an issue, using the **Email** button on the menubar, or they may be sent using an automated process via a business rule.

From the administration **Operational Tasks** menu, click the **Email Templates** button.

The following screen appears:

	Name	Title	Email subject	Created	Last updated
<a href="#">Edit</a>	Thankyou	New feature request thank you	Thank you for your submission	Bill Smith December 27, 2004	Bill Smith February 24, 2005
<a href="#">Edit</a>	Progress Report	Progress Report	Please find enclosed an update on issue #\$\$ID\$\$ reported on \$\$DATE_CREATED\$\$	Bill Smith February 27, 2006	Bill Smith February 27, 2006

2 record(s) selected from a total of 2 record(s)

Email Templates screen

To add a new email template, click the **Add** button. The following screen appears:

The screenshot shows the 'Email Templates' configuration screen. At the top, there are buttons for 'Update', 'Delete', 'Cancel', and 'Print Page'. The main form contains the following fields and options:

- Template Name:** Thankyou
- Template Title:** New feature request thank you (with a 'Localize' button)
- Email Subject Line:** Thank you for your submission
- From User:** \* Select \* (dropdown)
- Reply-To User:** \* Select \* (dropdown)
- Send Email as HTML:**
- Save Outgoing Emails:**
- Save As:** \* Attachment \* (dropdown)

The 'Enter Email Body' section features a rich text editor with a toolbar (Font, Size, Bold, Italic, Underline, Text Color, Background Color, Bulleted List, Numbered List, Indent, Outdent, Undo, Redo) and a 'HTML' button. The text area contains the following content:

```
Dear $$ORIGINATOR$$:

Thank you for your submission, suggesting a new feature to our product. This issue has been assigned to a manager, who will respond by
$$DUE_DATE$$ . If you have any questions in the meantime, please call 1-800-878-8888 and quote request number $$ID$$ .

Thank you,

Customer Support
```

At the bottom of the screen, there are buttons for 'Update', 'Delete', 'Cancel', and 'Print Page'.

### Add Email Template screen

- Provide a name for the template
- Provide a title for the template
- Provide the email subject line for the outgoing email. This may include tokens that will be replaced by field values when the email is sent, as described below
- If you want to specify the email as originating from a specific user, select the user's name from the *From User* list. This allows you to select a single user whose primary email address will be used as the *From Address*. Note that you can select the current user, in order to allow the sender to be the person who initiates the email. If this option is not selected, the email address in the EMAIL\_FROM\_USER\_ID behavior setting is used
- If you want to specify the *Reply-To User* of the generated email to be set to the primary email address of a specific user, select their name from the **Reply-To User** list. This allows you to select a single user whose primary email address will be used as the reply-to address. Note that you can select the current user, in order to allow the recipient of a reply to be the person who initiates the outgoing email. If this option is not selected, the email address in the EMAIL\_FROM\_USER\_ID behavior setting is used
- Indicate whether the mail is to be sent as plain text or as HTML using the checkbox **Send Email as HTML**
- The outgoing email can be saved back with the issue from which you originated the template. You enable this behavior by checking the **Save Outgoing Emails** option.
- If you are saving the outgoing email, then the default is to save it as an attachment to the issue. However, if the outgoing email is text, then you have the option to save the outgoing email into a field with a display type of *log area*. You can choose from the list, to either save as an attachment, or from the list of available *log area* fields. Make sure the users who use the template have write permission to this field
- Use the text area to compose the email that is to be sent. The text for the email can be plain text, or can be HTML. The appropriate type of text box will be displayed, dependent upon the selection for whether the mail is to be sent as HTML or as plain text.

Within the subject and the body of the mail, you may insert tokens that are replaced when the email is sent. These tokens represent the value associated with the field from the record that is currently displayed when the mail is being sent. For example, if you want to substitute the issue ID in the mail, you would use \$\$ID\$\$ . To insert the issue status, you would use \$\$STATUS\$\$ . Valid tokens are data dictionary field names, data dictionary UDF's and \$\$SYSDATE\$\$ .

Example body:

Dear \$\$CUSTOMER\_NAME\$\$,

We are in receipt of your issue, reported on \$\$DATE\_CREATED\$\$, is receiving our prompt attention. Our records show that you reported the issue with the following description:

\$\$DESCRIPTION\$\$

We will contact you as soon as we can provide a solution to your report.



Thanks,

\$\$OWNER\$\$

would produce email output similar to:

Dear Brian Jones,

We are in receipt of your issue, reported on 12/11/2002, is receiving our prompt attention. Our records show that you reported the issue with the following description:

I cannot access the top-level widget within the cabinet of the power supply, unless the power is turned off and the unit is disconnected from the power. I understood that changes like this could be achieved without powering down the equipment. Can you please provide a solution?

We will contact you as soon as we can provide a solution to your report.

Thanks,

Tony Smith

You may include image fields and document fields as part of a custom email. When you place the field name of either of these field types into a custom email (e.g. **\$\$MY\_DOC\_FIELD\$\$**, then the name of the document or image file is placed into the email body in place of the token, and the image or document is added as an attachment to the outgoing email notification.

As well as fields that you can refer to with the tokens surrounded with the \$\$ characters, there is a selection of inbuilt variables that you can refer to as tokens. This list is:

- APP\_HOME - the relative path to the WEB-INF folder on your application server
- BG\_COLOR - one of the two background colors used to draw tables in ExtraView
- BG\_ALT\_COLOR - one of the two background colors used to draw tables in ExtraView
- BROWSER\_NAME - the name of the user's browser that generates the email
- COMPANY\_LOGO\_IMG\_HOME - the relative path to the location where the CompanyLogo.gif is stored
- DEFAULT\_FONT - the name of the default font used in the installation
- EXT\_URL - the absolute path to the ExtraView installation
- FIXED\_WIDTH\_FONT - the name of the fixed width font used in the installation
- IMG\_HOME - the relative path to the location where the ExtraView images are stored
- JAVASCRIPT\_HOME - the relative path to the location of the ExtraView JavaScript files
- LABEL\_COLOR - the color of labels on ExtraView screens
- STYLESHEETS\_HOME - the relative path to the location where the ExtraView stylesheets are stored
- WINDOW\_BGCOLOR - the background color of the ExtraView screens

A minor limitation is that you may not reference fields with an Image display type and include them within email templates.

- Click the **Add** button.
- The template will now appear in the template dropdown box for users when they click the **Email** button from a given issue's Edit screen.

**Note:** A field named EMAIL\_ADDRESS is available as a UDF field with a display type of Text. This field may be placed upon layouts. It serves a special purpose. When a user accesses the custom email function from the edit screen, to send an ad-hoc email, or an email created from a pre-defined template, this field will be used to automatically populate the email address to which the mail is to be sent. This simplifies communication to users who, for example, enter an email address when reporting an issue. The value stored in this field automatically gives a return address.

## Managing Tasks

If ExtraView Corporation is hosting your installation, you do not have direct access to the file system of the server to configure, alter or use this feature without contacting ExtraView support.

This administration section allows the control of tasks that are separate from, but connected to ExtraView. When you enter the default ExtraView setup, you will see a screen similar to this:

**Manage Tasks and Threads** Return Refresh Print Page

**Add** Add a new task

**Filter List**  
 Select the column to use as a filter for the list. You may click on a letter to produce a list of the items which begin with this character, or you may enter a search pattern, including wildcards (\*). The Export button creates a CSV file of the results currently displayed on the screen.

Select filter column for report  
 Task name   
 or click on a letter  
 E | S | T | <all> | <none>  
 or enter a search expression and click the Go button

Task name	Node ID	Title	Current Task Status	Start Option	Poll Interval	Class Name	Thread and Log Information	Created	Last updated
<a href="#">Edit</a> EVMail	WS_A (Current Node)	Email Poller Task	STARTED	START_NOW	60	com.extraview.util.EVMailTask	Priority: 5, Thread State: running, Interval: 60, secs since execution: 11 <input type="button" value="Configure Task"/>	Bill Smith 12/4/08 3:28 PM	System Administrator 12/8/08 11:22 PM
<a href="#">Edit</a> SESSION_MONITOR	WS_A (Current Node)	Session Monitor Task	STARTED	START_NOW	300	com.extraview.util.SessionMonitorTask	Priority: 5, Thread State: running, Interval: 300, secs since execution: 131 <input type="button" value="Download Log"/>	ExtraView 10/28/08 12:52 PM	System Administrator 12/8/08 11:22 PM
<a href="#">Edit</a> SESSION_MONITOR	* Any *	Session Monitor Task		START_NOW	300	com.extraview.util.SessionMonitorTask		ExtraView 7/10/08 12:29 PM	System Administrator 9/2/08 3:18 PM
<a href="#">Edit</a> TASK_CONTROL_TASK	WS_A (Current Node)	Task Control Task	STARTED	START_NOW	30	com.extraview.util.TaskControlTask	Priority: 5, Thread State: running, Interval: 30, secs since execution: 13 <input type="button" value="Download Log"/>	ExtraView 10/28/08 12:52 PM	System Administrator 12/8/08 11:22 PM
<a href="#">Edit</a> TASK_CONTROL_TASK	* Any *	Task Control Task		START_NOW	30	com.extraview.util.TaskControlTask		ExtraView 7/10/08 12:29 PM	System Administrator 9/2/08 3:18 PM

5 record(s) selected from a total of 5 record(s) Return Refresh Print Page

## Managing tasks

The task management utility runs as an interactive administrative utility controlled by the CF\_MANAGE\_TASKS security permission key.

This utility displays a list of tasks currently defined. New tasks (adding an existing task object to a node, for example) can be added, and existing tasks may be edited. The task management utility allows the administrator to create/modify and delete background tasks that may run in any node clustered on the ExtraView database. The standard tasks are automatically cloned and started as necessary when a new node joins the application server cluster.

This document makes no attempt to describe how to create your own tasks that can be managed by ExtraView. At some future time this interface will be documented and opened for customer use.

The tasks managed by ExtraView are detailed in the following sections:

### Session Monitor Task

This is an internal task which should not be altered by the administrator. This task manages the internal ExtraView sessions that are created by users as they perform their work inside ExtraView. For example, sessions are created when users add or update issues or when they run reports. This task is responsible for cleaning up sessions which are left behind when users do not "clean up" after performing a task. This improved memory utilization on the server. For example a user may simply close their browser without updating an issue on the screen, and after some time the session monitor task will recognize that this has happened and will remove the session objects associated with the browser window.

### Task Control Task

This is an internal task which should not be altered by the administrator. It is the overall control for the task manager. It is part of the integral working of ExtraView and should not be altered by the administrator. The task control task on any node ID is special, as this task is used to control all other tasks that run under task management. Therefore, if the task control task is not running on a node, there can be no changes to other task states on that node.

There must be a task control task configured on each node where background tasks run and can be modified. There is no reason for the administrator to alter the default properties of this task. Doing so may result in other tasks not executing correctly, or not executing at all.

### Metadata Export Task

This is an internal task which should not be altered by the administrator. This task is responsible for ensuring the correct handling of metadata exports performed by an administrator. There is no reason to alter the default properties of this task.

### Metadata Import Task

This is an internal task which should not be altered by the administrator. This task is responsible for ensuring the correct handling of metadata exports performed by an administrator. There is no reason to alter the default properties of this task.

### Batchmail Task (Outgoing email)

This task is responsible for handing off outgoing email notifications created within ExtraView, to your company's email server. It keeps a log of all activity and removes the email text from the server once it has been successfully sent. If there was a problem sending email to the email server, then the email text is left on the server. In many instances the email will be sent once the problem is resolved.

## Quickfind Synchronization Task

This is the task that routinely scans newly entered issue text to be indexed for use by the Quickfind search engine. This task is not required if Quickfind is not turned on within ExtraView.

## Email Escalation Task

This task initiates the escalation mechanism which automatically updates issues and notifies users according to criteria that is defined by the administrator. When installing ExtraView you should add this task to be started automatically by ExtraView. The default poll interval is 2 minutes (120 seconds). This task does not require further configuration.

Note that the task runs using the ADMIN user account. When configuring the escalation task, you should also ensure that the date format selected for the ADMIN user account includes a time component. If this is not done, the escalation task will not run correctly.

## EVMail Task (Incoming Email)

This task controls the functioning of the EVMail utility that interfaces and imports incoming email to Extraview. This enables the creating of new issues or the updating of existing issues within your ExtraView system, from incoming email to an email address that you use for this purpose. First you create the task, and then you configure the task.

To create a new EVMail task on the current node, add the task and select a poll interval of 30 seconds or so, with **START\_NOW** as the start option. This sets the frequency with which EVMail checks for new incoming emails.

## Report Scheduler Task

The Report Scheduler Task must be running in order to deliver scheduled reports that users create for email delivery. You should create this task so that it starts at boot time. The default is that this task will execute every two minutes, but this time can be adjusted to accommodate your specific requirements.

## Template Loader Task

This task only needs to be configured and started if you are pre-caching layouts at the time of starting the system server. This is useful on systems with complex or very large layouts. See the page [here](#) for more details. Note that you should configure the poll time to zero so the task only runs once at system startup, and does not run continually.

## Managing Tasks in a Load-balanced Environment

If you have a cluster of application servers supporting your ExtraView environment, there are some important points to be aware. Principally, some tasks should be run on all nodes of the cluster, and some should not be run on all nodes of the cluster. We suggest you configure a clustered environment in the following way:

- Configure the multiple nodes of the application server, whether you are using WebLogic or multiple load-balanced Tomcat servers
- Select a single node and configure the tasks on that node only. We suggest you use the first node in the cluster for this purpose
- The Task Control and the Session Monitor tasks must be configured on all nodes in a load balanced environment
- Only one EVMail task should be configured on one node, per installation - that is one per mailbox checked
- Only one Escalation task should be configured per installation - for multiple node installations, create a single Escalation task on a single node only
- Only one Report Scheduler task should be configured per installation
- Configure only one Quickfind task per installation on a single node. However, the Quickfind index location must reside on a file system location accessible to all nodes in the cluster
- With the Batchmail outgoing email task, there are options:
  - If all nodes are able to write to a common email directory, only configure Batchmail on a single node
  - If the nodes are on separate application servers, each node must be able to write to a filesystem location defined by the path in the behavior setting named EMAIL\_DIRECTORY. You configure all nodes to have the same path configured and a Batchmail task must be configured per separate email directory folder

Overall, only a single Batchmail task should be polling the email directory folder. If you have multiple separate physical locations for this folder, you need multiple Batchmail tasks, one for each location

- Once the tasks are configured, restart ExtraView on all nodes of the cluster

In the case where the load-balancing algorithm does not send any users to the node where your managed tasks are running, the EVMail and escalation tasks will not operate.

Simply starting the application server does not initialize the ExtraView application, and thus if nobody signs onto your installation, no tasks will start up. This is not simply a load-balancing issue - if your system is rebooted and restarted, and nobody signs on, the application is not initialized and the tasks are not started up. For correct operation, all nodes of the cluster should be started.

One way to make sure that your site is initialized when the application server is restarted is to configuring a monitoring tool such as Nagios, and to use the ExtraView **get\_heartbeat** API call against each individual node on a scheduled basis - this will ensure that if an application server is restarted for any reason, then the API call will "touch" each node, and start all the copies of ExtraView in the load-balanced installation.

## Error Conditions

Tasks are often reliant on programs running external to ExtraView. When an external program fails, the ExtraView task can fail. The task may be able to recover when the external program is restarted. When a task is seen to be in an error state, email is sent to the ExtraView administrator. If ExtraView is able to recover from the error, then another email is sent to inform the administrator of the recovery.

## User Custom Tasks

These are used to create tasks for specific purposes within an installation. Knowledge of user custom coding is required to set up and use these tasks. Please contact ExtraView Support if you believe you have a requirement for a customized task.

# Task Options

## Creating a Task

Each task has the following properties:

- **Task Name** – this specifies the functional operation that the task performs
- **Title** – this is a localizable title that is visible in the utility to identify the task
- **Node ID** –: this is a pull-down list that is populated by the names of the nodes that are started on the cluster. The node ID is specified in the Configuration.properties file as the WEB\_SERVER\_NAME. The name of each node ID must be unique in the cluster
- **Start Option** – This may be one of the following:
  - **None**: no action to be taken for/by the task
  - **START\_ON\_BOOT**: start up the task when the application server node is started
  - **START\_NOW**: start up the task immediately and also when the node is started
  - **STOP\_NOW**: stop the task immediately and discard its thread
  - **AUTO\_START**: the task will be started by ExtraView when it is required. For example, the Metadata Export and Metadata Import tasks are only started when they are required
  - **STOPPED**: the task is currently stopped, but if required again, it will be started automatically. For example, the Metadata Export and Metadata Import tasks are stopped when they have completed their functionality, but can be started again if required
- **Poll Interval** – This is the number of seconds between each triggering of the task. Once the task has finished, it stops executing until the poll interval is reached
- **Class Name** – This is the name of the Java class that contains the code for the task to be executed.

## Modifying a Task

After viewing the list of tasks, the administrator may modify some aspects of any one of the tasks:

1. Title
2. Node Id
3. Start Option
4. Start Option
5. Poll Interval
6. Class name

Generally, this function is used to modify the start option, either to start or to stop a task from executing or to alter the frequency with which the task executes.

No matter what the prior value is for start option, when the user updates the task, the specified start option is carried out by the task control task. START\_NOW and STOP\_NOW have immediate consequences on the target node, as long as the task control task (TASK\_CONTROL\_TASK) is running.

## Deleting a Task

One of the options in the task management utility EDIT screen is to delete a task. Note that this only removes the task from the task management utility and has no effect on the background processing of the task. If it is already running, it continues to run. If the task is stopped or in error it remains in that state.

## Configuring EVMail

Use the button labeled **Configure Task** to modify the attributes that control the task. This takes you to a screen as follows:

**EVMail Instructions**

Edit the configuration parameters in the window below, and then press Update to save your changes.

```

+
-
RUNTIME_USER_ID = 8SMITH
RUNTIME_AREA_NAME = 5
RUNTIME_PROJECT_NAME = 11
RUNTIME_USER_ROLE = ADMIN

MAILBOX_TYPE = POP3
MAILBOX_PORT = 110
MAILBOX_SECURE = NO
MAILBOX_SERVER = mail.extraview.com
MAILBOX_USER = evmailtask
MAILBOX_PASSWORD = sesame

SMTP_FROM = support@extraview.com
SMTP_NAME = "The Support Team"
SMTP_CC = leean@extraview.com
SMTP_REPLY_TEMPLATE = SUCCESS_EMAIL

EVMail_ID_REGEX = \[ExtraView-(\d+)\]
EVMail_BODY_UDF = DESCRIPTION
EVMail_BODY_UPDATE_UDF = cust_desc
EVMail_SUBJECT = SHORT_DESCR

EVMail_CATEGORY = BUG
EVMail_STATUS = NEW
EVMail_ORIGINATOR = DEV

```

Update Return Print Page

### EVMail configuration screen

To configure EVMail, you will need a properly configured POP3 mailbox and you will need its username and password. You will also need to know the port to use for communication with the mailbox.

Next, you will need to identify an ExtraView user account, and a user role that EVMail will utilize. These, along with a nominated Business Area and Project, determine the *add* and *edit* screen layouts that will be used by EVMail to create new issues and to update existing issues. When selecting these values, take into account the standard licensing condition of ExtraView, i.e. non-licensed guest role users cannot update issues. Therefore, if you select a guest user for the runtime account, only new tickets will be created and you will not be able to update issues.

**Note:** The MAILBOX\_USER value should never be the email address of a user within the ExtraView system. If you do this, there is a chance for an infinite loop to be set up where incoming emails generate notification to this user which then reply to the same address, thereby generating a new event which repeats itself.

**Note:** The MAILBOX\_USER value should always be set to the same value as the behavior setting named EMAIL\_FROM\_ADDRESS. This ensures that updates to issues made by users and resubmitted are sent back to the same email address that ExtraView monitors.

You will then need to set up the fields that the EVMail task will populate - there will be some special fields that map to portions of the incoming email message.

EVMail_SUBJECT	This ExtraView field will be where the subject of the email message is placed. Typically this will be the SHORT_DESCR field
EVMail_BODY_UDF	For a new issue, this field will be where the body of the email message is stored. Typically this will be the DESCRIPTION field
EVMail_BODY_UPDATE_UDF	For issue updates, this field will be where the body of the email message is stored. Typically this is the COMMENTS field, so that successive updates will create a new entry in this log area field

You can select other fields and set values, allowing you to set list values and user fields when creating new issues. The syntax for these fields is EVMail\_FIELDNAME.

For example, these are valid:

- EVMail\_STATUS
- EVMail\_CATEGORY
- EVMail\_ORIGINATOR

**Note:** Updating existing issues will only result in the update of the EVMail\_BODY\_UPDATE\_UDF field.

The values for these fields are database values or the internal ID value of the field (i.e. the UDF\_LIST\_ID value), not the title of the field. You can find the internal ID value by placing your mouse cursor over the list value in its maintenance screen, and looking at the status bar of your browser.

	Title to display	Owner	Sort sequence	Enabled	Created	Last updated
Edit	Dr.			Yes	7/17/10 7:19 PM Carl Koppel	7/17/10 7:19 PM Carl Koppel
Edit	Mr.			Yes	7/17/10 7:18 PM Carl Koppel	7/17/10 7:18 PM Carl Koppel
Ed	Press to edit this record			Yes	7/17/10 7:19 PM Carl Koppel	7/17/10 7:19 PM Carl Koppel
Edit	Ms.			Yes	7/17/10 7:18 PM Carl Koppel	7/17/10 7:18 PM Carl Koppel

4 record(s) selected from a total of 4 record(s)

UDF\_LIST\_ID value

Finding the UDF\_LIST\_ID internal ID value

The fields selected must be on the *add* layout, for the ExtraView user ID, their role, their default Business Area and their Project.

The default behavior of the EVMail task is to take the email address in the **From:** section of the email message, and to search for a matching user in ExtraView who has that same email address in either their primary or secondary email address field in their account. If a user is found, their User ID is used to populate the ORIGINATOR field. If no user is found, the user specified by EVMail\_ORIGINATOR will be set into the ORIGINATOR field.

## Other EVMail Settings

EVMail\_ATTACH\_EML

This parameter allows you to attach a copy of the received email in EML format to the created or edited issue when it is set to YES. A setting of NO or the absence of this entry means the attachment will not sent with the mail

EVMail\_ID\_REGEX

This is a regular expression used to parse the subject line and search for an ExtraView ID value. If an ID is found, EVMail attempts to update a matching issue ID in ExtraView. If no matching ID is found, a new issue is created. If you enter an invalid regular expression, ExtraView will report this information to the application server log.

SMTP\_FROM

The email address used when sending auto-reply or failure messages back to the sender of the email

SMTP\_NAME

The friendly name used when sending auto-reply or failure messages back to the sender of the email

SMTP\_CC

Other email addresses to copy when sending auto-reply or failure messages back to the sender of the email

SMTP\_REPLY\_TEMPLATE

The database name of an Ad Hoc email template to use when sending out auto-reply messages. The template supports the use of two special variables, \$\$ID\$\$ and \$\$BODY\$\$\$. If you include \$\$ID\$\$ in the template, then the ID of the newly created issue is retrieved and included in the template email. If you include \$\$BODY\$\$ in the template, the body of the original incoming email will be included.

SMTP\_FAIL\_MSG\_TEMPLATE

The database name of an Ad Hoc email template to use when sending out failure messages. The template supports the use of two special variables, \$\$ID\$\$ and \$\$BODY\$\$\$. If you include \$\$ID\$\$ in the template, then the ID of the newly

created issue is retrieved and included in the template email. If you include `$$BODY$$` in the template, the body of the original incoming email will be included.

#### EVMail\_DELIM\_REGEX

This is a regular expression used to parse the body of the incoming email and to discard all contents of the email following the finding of the expression. When an issue is being updated with the incoming email, this pattern is used to search for the delimiter(s) that mark the beginning of mail included after the reply. This prevents an issue being repeatedly updated with the contents of the email that were previously inserted. If you enter an invalid regular expression, ExtraView will report this information to the application server log.

#### PAUSE\_AFTER\_NUM\_OF\_EMAIL

This setting pauses the EVMail task after sending the number of mails in the value of the setting. This pauses the EVMail task to stop it commanding all the resources on the server for long periods of time, such as might happen with a mass update of many issues sending out thousands of notifications in a very short period of time. An alternative method is to use the PAUSE\_BETWEEN\_SEND setting. It is recommended that you use only one of the two settings.

#### PAUSE\_BETWEEN\_SEND

This is the number of milliseconds to wait between the sending of each mail notifications, to allow the server to process other tasks. Similar to the PAUSE\_AFTER\_NUM\_OF\_EMAIL setting, it reduces the load on the server. It is recommended that you use only one of the two settings.

#### EVMail\_ALLOW\_HTML\_MSG

Valid values are YES, NO and PARSE. If this is not specified, the default value is PARSE

#### EVMail\_ALLOW\_HTML\_MSG\_FAIL\_TEMPLATE

This is used only if the EVMail\_ALLOW\_HTML\_MSG parameter is set to is NO. If it does not exist, then SMTP\_MSG\_FAIL\_TEMPLATE is used, if it exists

#### EVMail\_CC\_UDF

This is an optional setting and is used to help determine who the incoming email is from, either by finding their existing User ID or by capturing the **FROM** address of the mail. The setting only applies to emails that create new issues, and does not apply to emails that update existing issues. You set the value of this setting to the name of a valid user-defined text field to which the EVMail user has write permission.

When an incoming email is processed and ExtraView cannot find an existing, enabled user ID that has an email address or alternate email address that matches the **FROM** address within the incoming message, ExtraView places this **FROM** address in the designated field. If a matching user ID is found, the field is not populated and the Originator field is populated by looking up the user ID of the **FROM** email address.

This setting only works with ExtraView GC versions.

The behavior of the last two parameters controls how HTML-based incoming emails are handled.

1. Accept HTML mail as is, and place it into an HTML area field, trying to preserve the formatting - the assumption is that you are mainly receiving short emails, and you want to attempt to preserve HTML constructions such as tables and links
2. Strip the incoming HTML-formatted mail of HTML tags, and place the contents into a text area or comments field. ExtraView will parse the text, removing as much HTML as possible. This is not a perfect solution, as some tags may not be recognized and any poor HTML may not be rejected.
3. Reject the incoming HTML-only mail and send back to the submitter a rejection notice.

## Configuring RUNTIME\_ Parameters

- For updates to occur, choose a RUNTIME\_USER\_ID that occupies a real license as opposed to a GUEST user license. If you pick a GUEST user as the RUNTIME\_USER\_ID, then issues will only ever be created, never updated
- The RUNTIME\_USER\_ROLE needs to be a role that has access to the fields and layouts for the Business Area and Project of issues that you want to create and/or update. Again, if you select the GUEST role, issues will only ever be created, and never updated
- RUNTIME\_AREA\_NAME and RUNTIME\_PROJECT\_NAME - these parameters determine the Business Area and Project of issues created by EVMail.

## Sample EVMail configuration

```
RUNTIME_USER_ID = BSMITH
RUNTIME_AREA_NAME = CUST_ISSUES
RUNTIME_PROJECT_NAME = CUST_ISSUES_DATA
```

```
RUNTIME_USER_ROLE = SUPPORT
```

```
MAILBOX_TYPE = POP3
MAILBOX_PORT = 110
MAILBOX_SECURE = NO
MAILBOX_SERVER = mail.mycompany.com
MAILBOX_USER = support
MAILBOX_PASSWORD = myPassword
```

```
SMTP_FROM = support@mycompany.com
SMTP_NAME = "The Support Team"
SMTP_CC = leeann@mycompany.com
SMTP_REPLY_TEMPLATE = SUCCESS_EMAIL
```

```
EVMAIL_ID_REGEX = [ExtraView-(d+)]
EVMAIL_BODY_UDF = DESCRIPTION
EVMAIL_BODY_UPDATE_UDF = CUST_DESC
EVMAIL_SUBJECT = SHORT_DESCR
```

```
EVMAIL_CATEGORY = EMAIL
EVMAIL_STATUS = NEW
EVMAIL_ORIGINATOR = DEV
```

## Handling Issue Updates from EVMail

When a user sends an email to ExtraView, EVMail examines the incoming email to determine whether this is a reply to an existing issue which should update the existing issue, or whether to generate a new issue within ExtraView. This determination is made by parsing the subject line of the incoming email. If the EVMail utility is able to parse a valid, existing issue ID out of the subject line, then it is assumed that the mail is being used to update an issue; else it is assumed that the mail is meant to generate a new issue.

One consequence of this is that when a user replies to an email notification which was generated by ExtraView automatically, the original notification will be included in the reply, simply adding to the update with information that already exists. To eliminate this, the value within a behavior setting named EVMAIL\_DELIMITER\_TEXT is used. This value is embedded with invisible tags within HTML emails from ExtraView to surround the entire contents of the outgoing email. When EVMail is updating the issue it looks for the value of the behavior setting and removes all text between the tags. Thus, only the new comment made by the user is added to the issue.

When issues are updated via EVMail, the **Last Change User** field is set to the value of the RUNTIME\_USER\_ID, and not to the person who sent the email.

Note that if EVMail is running under with a user whose only has a GUEST role, updates to issues are not permitted.

## Testing EVMail

EVMail follows all the status change rules and the ALLOW\_EDIT\_CLOSED behavior setting. These may be based on the user, their role, their current business area and project as configured in your installation.

If you want to bypass all of those constraints for testing purposes, and make sure that tickets are updated regardless of any rules in place, use the ADMIN user account. This account (which should not be used for ordinary purposes) bypasses all status change rules.

It is worth ensuring that your workflow does not put any issue into a status value where EVMail will not be able to update it -- you may get failures, and/or the update will be captured as a new issue within the system as opposed to an update to an existing issue.

## Using a Secure Mail Server

This section is optional, and covers instructions on how to connect ExtraView to a POP3 mail server configured with SSL. If you are not using SSL with your mail server, disregard this section. The instructions here are for a Microsoft Windows environment, but are similar for other operating systems.

The basic steps to configure SSL, are to install the SSL certificate on your mail server into the Java keystore, as a trusted root certificate.

- Use a browser to go to the web management interface for your mail server, or to some other URL provided by your email client, to access your rootca certificate
- You should now see a dialog box warning you about the certificate. Click on the **View Certificate** and install the certificate. You can ignore any warning messages
- Now that the server certificate is installed on your computer, your browser will no longer warn you when you visit the same site again. However your Java runtime JRE does not yet know about this certificate's existence until you add the certificate to



its keystore. Usually you will use the Java keytool utility to manage certificates. keytool is a command-line utility with numerous arguments that allows you to create and manage keystores that house digital certificates. For the complete documentation of keytool, visit <http://java.sun.com/j2se/1.3/docs/tooldocs/win32/keytool.html>

- You can list the current certificates contained within the keystore using the keytool -list command. The initial password for the cacerts keystore is *changeit*. For example, you may see the following in a Windows environment:

```
C:\ExtraView\javajrebin>keytool -list -keystore ..libsecuritycacerts
```

```
Enter default keystore password: changeit
```

You will then see the something like this:

```
Keystore type: jks
Keystore provider: SUN
```

Your keystore contains 11 entries:

```
engweb, Wed Apr 11 16:22:49 EDT 2001, trustedCertEntry?,
Certificate fingerprint (MD5): 8C:24:DA:52:7A:4A:16:4B:8E:FB:67:44:C9:D2:E4:16
thawtpersonalfreemailca, Fri Feb 12 15:12:16 EST 1999, trustedCertEntry?,
Certificate fingerprint (MD5): 1E:74:C3:86:3C:0C:35:C5:3E:C2:7F:EF:3C:AA:3C:D9
thawtpersonalbasicca, Fri Feb 12 15:11:01 EST 1999, trustedCertEntry?,
Certificate fingerprint (MD5): E6:0B:D2:C9:CA:2D:88:DB:1A:71:0E:4B:78:EB:02:41
verisignclass3ca, Mon Jun 29 13:05:51 EDT 1998, trustedCertEntry?,
Certificate fingerprint (MD5): 78:2A:02:DF:DB:2E:14:D5:A7:5F:0A:DF:B6:8E:9C:5D
thawteserverca, Fri Feb 12 15:14:33 EST 1999, trustedCertEntry?,
Certificate fingerprint (MD5): C5:70:C4:A2:ED:53:78:0C:C8:10:53:81:64:CB:D0:1D
thawtpersonalpremiumca, Fri Feb 12 15:13:21 EST 1999, trustedCertEntry?,
Certificate fingerprint (MD5): 3A:B2:DE:22:9A:20:93:49:F9:ED:C8:D2:8A:E7:68:0D
verisignclass4ca, Mon Jun 29 13:06:57 EDT 1998, trustedCertEntry?,
Certificate fingerprint (MD5): 1B:D1:AD:17:8B:7F:22:13:24:F5:26:E2:5D:4E:B9:10
verisignclass1ca, Mon Jun 29 13:06:17 EDT 1998, trustedCertEntry?,
Certificate fingerprint (MD5): 51:86:E8:1F:BC:B1:C3:71:B5:18:10:DB:5F:DC:F6:20
verisignserverca, Mon Jun 29 13:07:34 EDT 1998, trustedCertEntry?,
Certificate fingerprint (MD5): 74:7B:82:03:43:F0:00:9E:6B:B3:EC:47:BF:85:A5:93
thawtpremiumserverca, Fri Feb 12 15:15:26 EST 1999, trustedCertEntry?,
Certificate fingerprint (MD5): 06:9F:69:79:16:66:90:02:1B:8C:8C:A2:C3:07:6F:3A
verisignclass2ca, Mon Jun 29 13:06:39 EDT 1998, trustedCertEntry?,
Certificate fingerprint (MD5): EC:40:7D:2B:76:52:67:05:2C:EA:F2:3A:4F:65:F0:D8
```

- Now you have to add the certificate you previously installed to this keystore. Begin by exporting your CA Root certificate from your browser as a **DER-encoded binary file** and save it as C:\root.cer. Within Internet Explorer, you can view the installed certificates under **Tools --> Internet Options --> Content --> Certificates**. Once you open the certificates, locate the one you just installed under **Trusted Root Certification Authorities**. Select and click on **Export**. You can now save it as a **DER encoded binary** under your C: drive
- Use the keytool -import command to import this file into your cacerts keystore. For example:  
C:\ExtraView\javabinkeytool -alias myprivateroot -keystore ..libsecuritycacerts -file c:\root.cer

```
Enter default keystore password: changeit
```

```
Owner: CN=Division name, OU=Department, O=Your Company, L=Anytown,
ST=NC, C=US, EmailAddress?=you@company.com
Issuer: CN=Division name, OU=Department, O=Your Company, L=Anytown,
ST=NC, C=US, EmailAddress?=you@company.com
Serial number: 79805d77eefadb147e84f8cc2a22106
Valid from: Wed Sep 19 14:15:10 EDT 2001 until: Mon Sep 19 14:23:20 EDT 2101
Certificate fingerprints:
MD5: B6:30:03:DC:6D:73:57:9B:F4:EE:13:16:C7:68:85:09
SHA1: B5:C3:BB:CA:34:DF:54:85:2A:E9:B2:05:E0:F7:84:1E:6E:E3:E7:68
```

```
Trust this certificate? [no]: yes
```

```
Certificate was added to keystore
```

- Run keytool -list again to verify that your private root certificate was added:

```
C:\ExtraView\javabinkeytool -list -keystore ..libsecuritycacerts
```

You will now see a list of all the certificates including the one you just added. This confirms that your private root certificate has been added to the ExtraView Java cacerts keystore as a trusted certificate authority

- Stop and restart your application server to pick up the new certificate.

## Using EVMail with Microsoft Exchange Server

EMail can connect to the Microsoft Exchange 2003 Server, via OWA (Outlook Web Access). To select Exchange 2003 mailbox in EMail use the following configuration settings.

```
MAILBOX_TYPE = OWA
MAILBOX_PORT = 110
MAILBOX_SECURE = YES
MAILBOX_SERVER = owa.exchange.ms
MAILBOX_USER = evmailuser
MAILBOX_PASSWORD = password

# These parameters are used when MAILBOX_TYPE = OWA
# for connecting to Exchange 2003 using OWA
OWA_PATH = Exchange
OWA_DESTINATION = https://owa.exchange.ms/Exchange/evmailuser@yourdomain.com
OWA_ISA = true
OWA_DOMAIN = companydomain
OWA_FBA_PATH = /exchweb/bin/auth/owaauth.dll
```

### Notes:

1. Do not configure these parameters for Microsoft Exchange Server if you are using a POP3 server
2. For OWA the mailbox\_port is not used, but it is a required parameter; leave its value as 110
3. MAILBOX\_SECURE - set to YES if your OWA url is https, set to NO if your OWA url is http
4. MAILBOX\_SERVER - your Exchange Server
5. MAILBOX\_USER and MAILBOX\_PASSWORD - the username and password of your Exchange 2003 mailbox

Specific settings for OWA Exchange 2003 connections only - we provide sample settings to help you identify the equivalent settings in your Exchange Server.

```
MAILBOX_SERVER = Name of your MS Exchange Server
OWA_PATH - Exchange path for MS Exchange Outlook Web Access
```

The URL used to access your Outlook Web Access page is made up of the values for MAILBOX\_SERVER and the OWA\_PATH, e.g.

http(s)://MAILBOX\_SERVER/OWA\_PATH/ - should take you to your Outlook Web Access page

OWA\_DOMAIN - the Exchange/Windows domain for the MAILBOX\_USER account

OWA\_FTA\_PATH - path to Form based authentication - this can be found if you look at the HTML source of the OWA authentication/login page - search for "destination".

OWA\_DESTINATION - on the OWA login page, search for the hidden field "destination" OWA\_ISA - needed for use with OWA\_DESTINATION

## How EVMail Handles Errors

When EVMail encounters a problem, it may be either a "transient" error, i.e. one that might fix itself if the operation is tried again at a later time, or it might be a "permanent" error, i.e. one that needs a change in the EVMail configuration in order to be resolved.

Examples of permanent errors include:

1. Bad username/password for the MAIL\_USER or MAIL\_PASSWORD parameters
2. Invalid values for RUNTIME\_USER\_ID, RUNTIME\_AREA\_NAME, RUNTIME\_PROJECT\_NAME, RUNTIME\_USER\_ROLE

An example of a transient errors would be the inability to connect to the mail server because of a network error. In a test situation, you can create a transient error by setting MAILBOX\_PORT or MAILBOX\_SERVER to an invalid value temporarily.

When EVMail encounters a permanent error, it does the following:

1. Changes the task status to ERROR
2. Sends an email to all users in the ADMIN role indicating that EVMail is in an ERROR state **Fatal Task Configuration Error**
3. Stops the task so that it no longer runs

Once the task is in an ERROR state, the following must be done to repair the error

1. Edit the task and fix the configuration problem that caused the error, e.g. fix the MAILBOX\_PORT if this is in error
2. Change the status of the task from START\_NOW to STOP\_NOW

3. Save the task
4. Wait until the **Task Management Task** has run, and the EVMail task status has changed to STOPPED
5. Edit the EVMail task and change the status from STOP\_NOW to START\_NOW
6. Save the task
7. Wait until the **Task Management Task** has run, and the EVMail task status has changed to STARTED

When EVMail is running and encounters a transient error, it will do the following:

1. Generate a system\_log warning message indicating that it has encountered a transient error
2. Check the values for the new EVMail configuration parameters `RUNTIME_WARN_NOTIFICATION_INTERVAL` and `RUNTIME_WARN_NOTIFICATION_COUNT`
3. Check the system log table and see how many warning messages have been created within the past `RUNTIME_WARN_NOTIFICATION_INTERVAL` minutes. If there are more than `RUNTIME_WARN_NOTIFICATION_COUNT` of them, it will create a new notification entry in the system log
4. Check the `RUNTIME_ERROR_NOTIFICATION_INTERVAL`. If this is the first notification entry in the system log for this warning, in the last `RUNTIME_ERROR_NOTIFICATION_INTERVAL` minutes, send the email out to the ADMIN role users
5. Note that EVMail will continue to run

Example:

```
RUNTIME_ERROR_NOTIFICATION_INTERVAL = 15 minutes
RUNTIME_WARN_NOTIFICATION_INTERVAL = 3 minutes
RUNTIME_WARN_NOTIFICATION_COUNT = 3
EMail is set to run every minute
```

At 10:00 a.m. EVMail runs, and encounters a transient error as it cannot connect to the POP3 mailbox. A message is placed in the system\_log table similar to the following:

```
<LOG_MESSAGE>EMail Task had a WARN condition</LOG_MESSAGE><TASK_ID>700983</TASK_ID><TASK_TITLE>EMail Task
(Incoming email)</TASK_TITLE></LOG_MESSAGE>
```

ExtraView checks to see how many messages of this type, for this task\_id exist in the system log table in the past 3 minutes - there is 1. 1 is less than 3 so ExtraView does not send any notification to the administrators.

At 10:01 a.m. EVMail runs again, and encounters the same error - a message is placed in the system\_log table.

```
<LOG_MESSAGE>EMail Task had a WARN condition</LOG_MESSAGE><TASK_ID>700983</TASK_ID><TASK_TITLE>EMail Task
(Incoming email)</TASK_TITLE></LOG_MESSAGE>
```

ExtraView checks to see how many messages of this type, for this task\_id exist in the system log table in the past 3 minutes - there are 2. 2 is less than 3 so ExtraView does not send any notification to the administrators.

At 10:02 a.m. EVMail runs again, and encounters the same error - a message is placed in the system\_log table

```
<LOG_MESSAGE>EMail Task had a WARN condition</LOG_MESSAGE><TASK_ID>700983</TASK_ID><TASK_TITLE>EMail Task
(Incoming email)
```

ExtraView checks to see how many messages of this type, for this task\_id exist in the system log table in the past 3 minutes - there are now 3. 3 is not greater than 3 so ExtraView does not send any notification to the administrators.

At 10:03 a.m. EVMail runs again, and encounters the same error - a message is placed in the system\_log table

```
<LOG_MESSAGE>EMail Task had a WARN condition</LOG_MESSAGE><TASK_ID>700983</TASK_ID><TASK_TITLE>EMail Task
(Incoming email)</TASK_TITLE></LOG_MESSAGE>
```

ExtraView checks to see how many messages of this type, for this task\_id exist in the system log table in the past 3 minutes - there are now 4. 4 is greater than 3, so we add a new message to the system log table:

```
<LOG_MESSAGE>EMail Task had a transient error that persisted more than 3 times in 10
minutes.<TASK_ID>700983</TASK_ID><TASK_TITLE>EMail Task (Incoming email)</TASK_TITLE></LOG_MESSAGE>
```

ExtraView checks to see how many messages of this type for this task\_id, exist in the system log table in the past 10 minutes - we have 1, so we need to send an email to all ADMIN users.

At 10:04 a.m. EVMail runs, and encounters the same error - a message is placed in the system\_log table

```
<LOG_MESSAGE>EMail Task had a WARN condition</LOG_MESSAGE><TASK_ID>700983</TASK_ID><TASK_TITLE>EMail Task
(Incoming email)</TASK_TITLE></LOG_MESSAGE>
```

ExtraView checks to see how many messages of this type, for this task\_id exist in the system log table in the past 3 minutes - there are now 4. 4 is greater than 3, so a new message is added to the system log

table:

```
<LOG_MESSAGE>EVMail Task had a transient error that persisted more than 3 times in 10
minutes.<TASK_ID>700983</TASK_ID><TASK_TITLE>EVMail Task (Incoming email)</TASK_TITLE></LOG_MESSAGE>
```

ExtraView checks to see how many messages of this type for this task\_id, exist in the system log table in the past 10 minutes - there is 1, so ExtraView will send an email to all ADMIN users.

Even if the transient error persists ExtraView only sends out warning emails every 10 minutes.

## Multiple EVMail Tasks

It is possible to configure multiple EVMail tasks, each with their own configuration. If you configure this on a single application server, then all the mail connections must either be secure (using POP3S) or not secure (using POP3). If there is a requirement to have mixed secure and non-secure servers, then you should set up a cluster of application servers, and then different servers may be configured to be secure or non-secure.

# Configuring BatchMail

This task controls the sending of email notifications by ExtraView. In previous versions this was a separate process to ExtraView. From version 6.1, the BatchMail task can be started and stopped within ExtraView, and the log can be examined. It is recommended that this task be set to `START_ON_BOOT`, so that it initializes automatically when ExtraView starts. The parameters to set up and utilize BatchMail are as follows:

Parameter	Explanation
MAIL_DIR	This is the path to the mail directory where outgoing emails are stored temporarily, defined in the Configuration.properties file. This must be set
MAIL_SERVER	The domain name to your mail server. This must be set
BatchMail.properties	This configuration file is used for standalone BatchMail operation. If you are running BatchMail from within this menu, this file is not needed. It is provided for backwards compatibility with previous versions of ExtraView, which did not run BatchMail as a task within ExtraView. See the Installation Guide for details of the settings within this file.
MAIL_USER	When the outbound SMTP server requires a username and password to authenticate before sending the email, this parameter provides the username
MAIL_PASSWORD	When the outbound SMTP server requires a username and password to authenticate before sending the email, this parameter provides the password
MAIL_PORT	The MAIL_PORT is typically 25 or 465, depending on whether you are using a secure connection
TRANSPORT	Use either <i>smtp</i> or <i>smtps</i> for a secure connection if this is configured on your mail server
LOG_FILE_PATH_NAME	This is the path to the BatchMail log file, held within the properties file.
LOG_FILE_PATH_NAME_ABSOLUTE	This is used for standalone installations on Microsoft Windows, or when running in a war file
XML_LOG_FLAG	The default for this is FALSE. If you set it to true, the log will be created in an XML format
LOG_FILE_MAX_SIZE	This is the maximum size to which the log file is allowed to grow, before it is "rolled over" and a new log file created. The old file is retained on the file system. The default is 20,000 kiloBytes
LOG_FILE_MAX_RETAINED	This is the maximum number of "rolled over" log files that are retained on the server before they are deleted. The default is 5
LOG_LEVEL	The level of logging written to the log file. The standard operational value is 6, and a number up to 12 can be used to produce increasing amounts of debug information in the log, for debugging purposes
CHECK_CONNECTION_PAUSE	This defines the number of seconds to wait when contacting your mail server, before assuming there is no connection. The default is 30 seconds
SERVER_FAILED_PAUSE	This is the number of seconds to wait after a failed connection before retrying. The default is 60 seconds
PAUSE_BETWEEN_SEND	This is the number of milliseconds between the sending of each email, so as not to overload the mail server. The default is 200 milliseconds

POLL_RATE	The number of seconds to pause between checking for emails to be sent. The default is 5 seconds
ALLOW_ENCRYPTION	This flags whether email encryption is to be set or not. The default is NO
SECURE_PORT	This is a dedicated port number for this application. The default is 879. The number must always be less than 1024
NOTIFICATION	<p>This setting can be either NOTIFY_NEVER (by itself), or any combination of the following with each setting separated by semicolon(;) :</p> <ul style="list-style-type: none"> <li>• NOTIFY_DELAY</li> <li>• NOTIFY_FAILURE</li> <li>• NOTIFY_SUCCESS</li> </ul> <p>For example, the setting might be <b>NOTIFICATION=NOTIFY_SUCCESS;NOTIFY_FAILURE</b></p>
RETURN_OPTION	This defines the action to take with returned mail. You can elect to either return the full email or just the headers. The value can be either RETURN_FULL or RETURN_HDRS
SIGNING_SCRIPT	<p>The script to be used to generate the signed result (either file or written to standard out). To test this, execute the following from the scripts folder:</p> <pre>./sign.sh</pre> <p>The return value will be retrieved by the BatchMail program and will be based on the filename generated by ExtraView. For example, use this:</p> <pre>SIGNING_SCRIPT=scripts/sign.sh</pre>
ENCRYPTION_SCRIPT	<p>The script to be used to generate the encrypted result (either file or written to standard out). To test this execute the following from the scripts folder:</p> <pre>./encrypt.sh</pre> <p>where is the placeholder for the recipient. It will be retrieved by the BatchMail program and should match the name on the keyring. is the placeholder for the filename. Its value will be retrieved by the BatchMail program and will be based on the filename generated by ExtraView. For example, this might be:</p> <pre>ENCRYPTION_SCRIPT=scripts/encrypt.sh</pre>
ENCRYPTED_TO_STANDARD_OUT	If this has a value of "yes" then BatchMail reads the encrypted standard out, otherwise if there is a value of "no" it reads the encrypted file
ENCRYPTION_DIR	The directory where the encryption program is stored

## Session Monitor

This is a cleanup task which periodically monitors user sessions and removes expired sessions from the database, thus ensuring that old, expired sessions do not accumulate and cause an unnecessary load on the system. Again, the recommendation is that this is set to START\_ON\_BOOT and that the default properties of the task are not altered by the administrator.

## Quickfind Synchronization

This is the task which executes to automatically index newly added text, for the ExtraView Quickfind feature. After adding this task and starting this for the first time, this task should not need to be altered again by the administrator, although the administrator can alter the frequency with which the task executes, using the [Manage Quickfind Settings](#) administration utility.

## Report Schedule Task

When ExtraView is first installed this task is not set to start and no reports may be scheduled for delivery at specific times by users. In order to allow reports to be scheduled for email delivery by users, the **Report Schedule** task must be configured. The **BatchMail** task must also be configured as this is used to deliver the mail once the report is generated by the schedule task.

Note that the default polling interval for the task is 120 seconds. If you are unlikely to have users schedule many reports, and it is not critical for recipients to receive these reports on time, consider making this interval longer.

Task manager for scheduled reports

The Report Schedule task should be present in a new installation, but will be in a STOPPED status. Set the START\_NOW start option to start the task. It will be started automatically in the future when you restart the application server.

## LDAP Synchronization Task

The LDAP Synchronization task provides a way to improve on the performance of accessing your LDAP server, when it has significant latency.

As opposed to retrieving information from your LDAP server with every request to authenticate a user, or search for user information, ExtraView uses its own lookup tables. The LDAP synchronization task refreshes the information within the ExtraView database on a timed basis, using the value of the poll interval.

The upside of this technique is improved performance. This comes at the expense of ExtraView not having up-to-date information such as new users or password changes, until the task refreshes the information.

This task should only be run on a single node within a clustered environment.

## ExtraView System Logs

If ExtraView Corporation is hosting your installation, you do not have direct access to the file system of the server to configure, alter or use this feature without contacting ExtraView support.

There are four primary logs used within ExtraView to record information, activities and errors.

- **Sign On Log.** This records all sign on and sign off activities, and any unauthorized access attempts. Please consult the User Administration section of this guide for information on this log and how to use it.
- **System Log.** This records all metadata transactions. Please consult the System Controls section of this guide for information on this log and how to use it.
- **Application Server Log.** This records each entry and departure of each access to the ExtraView servlet. This log maintains a record of who performed what accesses, and how long each access took to perform.
- **BatchMail Log.** This records the flow of email notifications from ExtraView.

## Application Server Log

The application server log is not resident within ExtraView. The administrator normally accesses this log from the file system of the server. As an alternative, the administrator may view the log from the System Log feature. Directly accessing the log from the file system allows the log to be viewed with an editor. Viewing the application server log from the System log screen only allows the entire log to be viewed.

The path to the log file is specified within the Configuration.properties file for ExtraView. This file is typically, and by default, stored within the ExtraView WEB-INF directory. The path is defined within the entry named LOG\_FILE\_PATH\_NAME. For example, in an Apache Tomcat installation of ExtraView with a home directory of /evj, the path to the log file may be similar to /evj/tomcat/webapps/golden411/WEB-INF/logs.

### Format of the Application Server Log File

A typical section of the log file in plain text may look like this:

```

2003-07-17 17:45:46 [ info ] ExtraView., 6544, Thread-31, >>>Entering
service, security.LoginDisplay.getMenu, sc, 0, tmem, 126, fmem, 75, , , , , uid, SHOYDID, nid, http://avalon.extr
aview.net/med ON WS_A:
2003-07-17 17:45:46 [ info ] ExtraView., 6544, Thread-31, >>>Leaving
service, security.LoginDisplay.getMenu
, sc, 0, tmem, 126, fmem, 75, cc, 22, time, 20, uid, SHOYDID, nid, http://avalon.extraview.net/med ON WS_A:
2003-07-17 17:45:46 [ info ] ExtraView., 6544, Thread-21, >>>Entering
service, security.LoginDisplay.getMain, sc, 0, tmem, 126, fmem, 75, , , , , uid, SHOYDID, nid, http://avalon.extr
aview.net/med ON WS_A:
2003-07-17 17:45:46 [ info ] ExtraView., 6544, Thread-21, >>>Leaving
service, security.LoginDisplay.getMain
, sc, 0, tmem, 126, fmem, 75, cc, 22, time, 10, uid, SHOYDID, nid, http://avalon.extraview.net/med ON WS_A:
2003-07-17 17:45:46 [ info ] ExtraView., 6544, Thread-31, >>>Entering
service, Display.doEditDisplay, sc, 0, tmem, 126, fmem, 75, , , , , uid, SHOYDID, nid, http://avalon.extraview.ne
t/med ON WS_A:
2003-07-17 17:45:46 [ info ] ExtraView., 6547, Thread-29, >>>Leaving service, Display.evSimon
action , sc, 1, tmem, 126, fmem, 72, cc, 24, time, 54, uid, SHOYDID, nid, http://avalon.extraview.net/med ON
WS_A:
2003-07-17 17:45:47 [ info ] ExtraView., 6547, Thread-15, >>>Entering
service, security.LoginDisplay.getMenu, sc, 1, tmem, 126, fmem, 82, , , , , uid, SHOYDID, nid, http://avalon.extr
aview.net/med ON WS_A:
2003-07-17 17:45:47 [ info ] ExtraView., 6547, Thread-29, >>>Entering
service, security.LoginDisplay.getMain, sc, 2, tmem, 126, fmem, 82, , , , , uid, SHOYDID, nid, http://avalon.extr
aview.net/med ON WS_A:
2003-07-17 17:45:47 [ info ] ExtraView., 6547, Thread-29, >>>Leaving
service, security.LoginDisplay.getMain
, sc, 2, tmem, 126, fmem, 82, cc, 24, time, 10, uid, SHOYDID, nid, http://avalon.extraview.net/med ON WS_A:
2003-07-17 17:45:47 [ info ] ExtraView., 6547, Thread-15, >>>Leaving
service, security.LoginDisplay.getMenu
, sc, 1, tmem, 126, fmem, 82, cc, 24, time, 27, uid, SHOYDID, nid, http://avalon.extraview.net/med ON WS_A:
2003-07-17 17:45:47 [ info ] ExtraView., 6547, Thread-15, >>>Entering
service, Display.doEditDisplay, sc, 1, tmem, 126, fmem, 76, , , , , uid, SHOYDID, nid, http://avalon.extraview.ne
t/med ON WS_A:
2003-07-17 17:45:48 [ info ] ExtraView., 6545, Thread-31, >>>Leaving service, Display.doEditDisplay
, sc, 0, tmem, 126, fmem, 74, cc, 25, time, 1842, uid, SHOYDID, nid, http://avalon.extraview.net/med ON WS_A:
2003-07-17 17:45:48 [ info ] ExtraView., 6548, Thread-15, >>>Leaving service, Display.doEditDisplay
, sc, 1, tmem, 126, fmem, 82, cc, 25, time, 1322, uid, SHOYDID, nid, http://avalon.extraview.net/med ON WS_A:
2003-07-17 17:45:48 [ info ] ExtraView., 6544, Thread-21, >>>Entering
service, security.LoginDisplay.doMenuLoadDone, sc, 0, tmem, 126, fmem, 81, , , , , uid, SHOYDID, nid, http://aval
on.extraview.net/med ON WS_A:
2003-07-17 17:45:48 [ info ] ExtraView., 6544, Thread-21, >>>Leaving
service, security.LoginDisplay.doMenuLoadDone
, sc, 0, tmem, 126, fmem, 81, cc, 25, time, 10, uid, SHOYDID, nid, http://avalon.extraview.net/med ON WS_A:
2003-07-17 17:45:49 [ info ] ExtraView., 6547, Thread-29, >>>Entering
service, security.LoginDisplay.doMenuLoadDone, sc, 0, tmem, 126, fmem, 81, , , , , uid, SHOYDID, nid, http://aval
on.extraview.net/med ON WS_A:
2003-07-17 17:45:49 [ info ] ExtraView., 6547, Thread-29, >>>Leaving
service, security.LoginDisplay.doMenuLoadDone
, sc, 0, tmem, 126, fmem, 81, cc, 25, time, 10, uid, SHOYDID, nid, http://avalon.extraview.net/med ON WS_A:
2003-07-17 17:46:08 [ info ] ExtraView., 6537, Thread-24, >>>Entering
service, search.SearchDisplay.doDisplay, sc, 0, tmem, 126, fmem, 81, , , , , uid, SHOYDID, nid, http://avalon.ext
raview.net/med ON WS_A:
2003-07-17 17:46:08 [ info ] ExtraView., 6537, Thread-24, >>>Leaving
service, search.SearchDisplay.doDisplay
, sc, 0, tmem, 126, fmem, 77, cc, 25, time, 400, uid, SHOYDID, nid, http://avalon.extraview.net/med ON WS_A:

```

- Each entry begins with a timestamp
- Each ">>> Entering Service" message has a corresponding ">>>Leaving Service" log entry. This allows a trace of each request to ExtraView, from the moment the request is made, to the moment the request has been serviced, and ExtraView has completed its task.
- The ">>> Leaving service" entries show the time taken on the server to execute the request.
- The file is comma delimited. If you wish to analyze the log file, sorting and extracting the information, it is simple to import the log file into a tool such as Microsoft Excel.

The format of the file is:

timestamp, log entry type, servlet name, session ID, thread #, Entering / Leaving, class and method entered, service count, service

count value, total memory available, total memory available value, [free memory available, free memory available value, cache count, cache count value, time, time value], user ID, user ID value, network ID, network ID value

Parameter	Explanation
timestamp	The date and time of the entry
log entry type	Normal entries will be shown as INFO. You may also see entries such as ERROR and WARNING
Servlet name	Should always be ExtraView
session ID	A unique identifier for the session
thread #	The thread number that this task is using for execution
Entering / Leaving	Shows whether the task is beginning or ending
class and method entered	This is the class path and the method within the class that is being executed
Service count sc	The number of processes waiting for service at the instant this request is received. The lower this number, the higher the performance of the system. For short periods of time, this number may exceed 5, but this indicates that users are waiting upon machine resources to execute their tasks. Setting up multiple application servers that each take some of the load is a good solution if this number is consistently high
total memory available tmem	The total memory allocated to this application server. Usually set by the administrator within the start up script for the application server
free memory available fmem	The amount of unused memory. If this drops to a very low number, out of memory errors may occur. If this happens, allocate more total memory to this application server
cache count cc	The total number of user sessions in cache at the time this request is executed.
time	The time, in milliseconds, that the request took to execute
"morgue" count mc	The number of sessions currently in the "morgue". ExtraView allocates sessions to each user to perform virtually every task such as add or update issues, or to run reports. The server stores information about these sessions and retains the information for as long as is needed. Given browser windows may be closed unexpectedly by users, or may be left open for an indeterminate amount of time, the session information is held on the server until the user signs off or their session expires. So that the sign off does not take excessive time, the sessions are not killed at that time, but are flagged as being in the "morgue". The ExtraView background task named <i>session monitor</i> comes along at a later time and permanently removes the sessions in the morgue, thus killing them permanently.
user ID uid	The user ID of the person who made the request
network ID nid	The network ID and node name within an application server cluster that made the request

## Errors in the Application Server Log

Errors in the log are generated by ExtraView when it encounters an unexpected event or a programming error. Not all errors are fatal; indeed, it is possible to see an error in the log that has absolutely no consequences to the user of ExtraView who caused the error. However, ExtraView endeavors to minimize all programming errors and exceptions in the log. An exception in the log may look like the following error. This error occurred due to a programming error in a pre-release copy of ExtraView.



```

2003-07-07 12:22:07 [ info ] ExtraView., 5388, Thread-15, >>>Entering
service, admin.LayoutDisplay.doEdit, sc, 0, tmem, 126, fmem, 106, , , , uid, ADMIN, nid, http://avalon.extravie
w.net/med ON WS_A:
2003-07-07 12:22:09 [ ERROR] PSP: Invocation Target is: java.sql.SQLException: ORA-00001: unique
constraint (MED.PK_TITLE_MAP) violated
2003-07-07 12:22:09 [ ERROR] PSP: SQL was: insert into title_map (title_map_key, language,
region, variant, text, date_created, last_date_updated, last_updated_by_user, created_by_user)
values (?, ?, ?, ?, ?, SYSDATE, SYSDATE, ?, ?)
2003-07-07 12:22:09 [ ERROR] PSP: Bind Values are: '6436', 'ja', 'JP', ' ', 'null', 'ADMIN', 'ADMIN'
2003-07-07 12:22:09 [ ERROR] PSP: SQL State is: 23000
2003-07-07 12:22:09 [ ERROR] Exception = java.sql.SQLException: ORA-00001: unique constraint
(MED.PK_TITLE_MAP) violated
java.sql.SQLException: ORA-00001: unique constraint (MED.PK_TITLE_MAP) violated

    at oracle.jdbc.dbaccess.DBError.throwSQLException(DBError.java:180)
    at oracle.jdbc.ttc7.TTIoer.processError(TTIoer.java:208)
    at oracle.jdbc.ttc7.Call7.receive(Call7.java:543)
    at oracle.jdbc.ttc7.TTC7Protocol.doCall7(TTC7Protocol.java:1451)
    at oracle.jdbc.ttc7.TTC7Protocol.parseExecuteFetch(TTC7Protocol.java:862)
    at oracle.jdbc.driver.OracleStatement.executeNonQuery(OracleStatement.java:1839)
    at oracle.jdbc.driver.OracleStatement.doExecuteOther(OracleStatement.java:1764)
    at oracle.jdbc.driver.OracleStatement.doExecuteWithTimeout(OracleStatement.java:2354)
    at oracle.jdbc.driver.OraclePreparedStatement.executeUpdate
        (OraclePreparedStatement.java:421)
    at sun.reflect.GeneratedMethodAccessor13.invoke(Unknown Source)
    at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:25)
    at java.lang.reflect.Method.invoke(Method.java:324)
    at ccm.extraview.util.PreparedStatementProxy.invoke(PreparedStatementProxy.java:91)
    at oracle.jdbc.driver.$Proxy1.executeUpdate(Unknown Source)
    at ccm.extraview.util.Message.insertOneTitle(Message.java:611)
    at ccm.extraview.util.Message.insertTitle(Message.java:580)
    at ccm.extraview.appllogic.layout.LayoutElementAttribute.executeTransaction
        (LayoutElementAttribute.java:244)
    at ccm.extraview.appllogic.layout.LayoutElement.insertAttributes(LayoutElement.java:495)
    at ccm.extraview.appllogic.layout.LayoutElement.executeTransaction(LayoutElement.java:344)
    at ccm.extraview.appllogic.layout.Layout.insertElements(Layout.java:1388)
    at ccm.extraview.appllogic.layout.Layout.executeTransaction(Layout.java:1131)
    at ccm.extraview.appllogic.fltool.LayoutDbMaster.executeSave(LayoutDbMaster.java:390)
    at ccm.extraview.appllogic.fltool.LayoutDbMaster.saveLayout(LayoutDbMaster.java:303)
    at ccm.extraview.presentation.fltool.FlexibleLayout.service(FlexibleLayout.java:494)
    at ccm.extraview.presentation.admin.LayoutDisplay.doEdit(LayoutDisplay.java:362)
    at sun.reflect.GeneratedMethodAccessor24.invoke(Unknown Source)
    at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:25)
    at java.lang.reflect.Method.invoke(Method.java:324)
    at ExtraView.service(ExtraView.java:250)
    at javax.servlet.http.HttpServlet.service(HttpServlet.java)
    at org.apache.tomcat.facade.ServletHandler.doService(Unknown Source)
    at org.apache.tomcat.core.Handler.invoke(Unknown Source)
    at org.apache.tomcat.core.Handler.service(Unknown Source)
    at org.apache.tomcat.facade.ServletHandler.service(Unknown Source)
    at org.apache.tomcat.core.ContextManager.internalService(Unknown Source)
    at org.apache.tomcat.core.ContextManager.service(Unknown Source)
    at org.apache.tomcat.modules.server.Ajp13Interceptor.processConnection(Unknown Source)
    at org.apache.tomcat.util.net.TcpWorkerThread.runIt(Unknown Source)
    at org.apache.tomcat.util.threads.ThreadPool$ControlRunnable.run(Unknown Source)
    at java.lang.Thread.run(Thread.java:536)

2003-07-07 12:22:10 [ info ] ExtraView., 5388, Thread-15, >>>Leaving
service, admin.LayoutDisplay.doEdit
, sc, 0, tmem, 126, fmem, 109, cc, 1, time, 2630, uid, ADMIN, nid, http://avalon.extraview.net/med ON WS_A:

```

When you encounter an error condition in ExtraView, the ExtraView support team may ask you to examine the application server log, and to send this to them. We can determine from an error entry where it occurred, and typically use this information to debug and correct programming errors.

## Debugging ExtraView Problems with the Application Server Log

Operational problems may occur for a variety of reasons, from a programming bug in ExtraView, to a database problem, to a network problem, to a hardware problem. The list of potential problem areas with Internet technology is vast. Your best friend in debugging problems is the application server log, although other logs and monitoring tools may be useful, even essential, in pinning down the source of a problem.

Significant problems can be understood by correctly interpreting the log.

As part of debugging problems you may want to change Configuration.properties values such as DEBUG\_LEVEL and PSP\_LOG. There is a URL that allows you to make an API call to ExtraView to change the values of the parameters in the CONFIGURATION.PROPERTIES file, without needing to restart the application server. This is of the form:

```
user_id=username  
&password=password  
&statevar= SET_CONFIG_VALUE  
&name=parameter_name  
&value=YES
```

An example may be:

```
http://www.myserver.com/evj/ExtraView/ev_api.action?user_id=  
bsmith&password=bill&statevar=SET_CONFIG_VALUE&name=PSP_LOG&  
value=YES
```

## BatchMail Log

BatchMail is a separate Java program that is started by ExtraView when it starts, or when your server is booted. This contains the code that processes email notifications when they are output from ExtraView. ExtraView does not send email notifications directly to your SMTP mail server. This is because if the server goes down for any reason, ExtraView may end up waiting (and waiting) for a response.

Instead, ExtraView writes each email notification sent to a temporary directory. The path to the mail directory where the BatchMail program resides is specified within the Configuration.properties file for ExtraView. This file is stored within the ExtraView WEB-INF directory. The path is defined within the within the entry named MAILBOX. For example, in an Apache Tomcat installation of ExtraView with a home directory of /evj, the path to the log file may be similar to /evj/tomcat/webapps/golden411/WEB-INF/BatchMail/logs.

An excerpt from a BatchMail log file follows.

```

2003-07-18 15:47:52 [ _ALERT] mail_send() executed ExtraView Notification [10000]: Unassigned-
Newly reported issue concerning XY module
to--->ed@baumanns.org in 0 seconds
2003-07-18 15:51:18 [ _ALERT] mail_send() executed ExtraView Notification [10001]: Unassigned-
bug created by swengl, assigned to qaengl
to--->ed@baumanns.org in 0 seconds
2003-07-18 15:56:15 [ _ALERT] mail_send() executed ExtraView Notification [10001]: Unassigned-
bug created by swengl, assigned to qaengl
to--->ed@baumanns.org in 0 seconds
2003-07-18 18:06:07 [ _ALERT] mail_send() executed Open[19397]-[P 3]-[Admin Admin] overriding
value for title
to--->leeann@extraview.com in 0 seconds
2003-07-18 18:06:09 [ _ERROR] Error Occured ... javax.mail.SendFailedException: Sending failed;
nested exception is:
javax.mail.SendFailedException: Invalid Addresses;
nested exception is:
javax.mail.SendFailedException: 550 unknown user
2003-07-18 18:06:09 [ _ERROR] Error Occured processing file 19397HtmlQA1058576763923.html for
dpuiia@extraview.com
2003-07-18 18:06:09 [ _ERROR] Renaming
/usr/local/extraview/BatchMail/mailbox/19397HtmlQA1058576763923.html to
:/usr/local/extraview/BatchMail/mailbox/_19397HtmlQA1058576763923.html
2003-07-18 18:07:15 [ _ALERT] mail_send() executed Open[19398]-[P 3]-[Admin Admin] overriding
value for title
to--->lpultz@extraview.com in 0 seconds
2003-07-18 18:07:15 [ _ALERT] mail_send() executed Open[19398]-[P 3]-[Admin Admin] overriding
value for title
to--->robbie@extraview.com in 0 seconds
2003-07-18 18:07:15 [ _ALERT] mail_send() executed Open[19398]-[P 3]-[Admin Admin] overriding
value for title
to--->support@extraview.com in 0 seconds

```

## Errors in the BatchMail Log

In the case of an error, the log will show the specific error. In the above case, the error shown is an unknown user. When an error is encountered, the email notification file is renamed and remains on the server. The file is renamed with the characters “\_” placed in front of the original mail.

## Site Configuration Menu

The Site Configuration menu contains the majority of functions used to configure and set up your installation.

## Design Center

The Design Center is the principal area where all screen forms and built in user reports, along with the logic behind them, is configured.

This feature allows you to configure the layout of the *Add Issue*, *Edit Issue*, *Query Filters* and other screen layouts. In addition, built in reports such as the *Quicklist* and the *Detailed Report* also use layouts defined within the Design Center. Layouts can be defined for different user roles within your system, offering a tremendous amount of flexibility. See the section on [Inheritance](#) for additional details. Each layout is built on top of a **Layout Type**. You may create and define fields within the Design Center, or you may use the [Data Dictionary](#) for this purpose.

Layouts work in conjunction with security permissions for each field. Therefore, simply placing a field on a screen does not automatically give all users the ability to read or write to the field. You can alter the permissions to each field within the Design Center, or you may use the [Security Permissions](#) option to define which fields are visible and updateable to each group of users. The security privilege for the field overrides the fact that a field may be placed on a screen or report.

A layout may be embedded within another layout. Indeed, you may specify alternate layouts that appear, dependent upon the value of a specific field. For example, you may have a category field that has the values of Software, Hardware and Documentation. Depending on which value is chosen, an embedded layout can be displayed that contains the fields pertinent to gathering the information needed about each of these categories. These embedded layouts may only be embedded within an *Add* or *Edit Issue* layout.

Fields within each layout may have one or more attributes defined. These [layout cell attributes](#) affect the display of the field or the way in which it is processed. For example, a layout cell attribute may provide the field with an alternate title, just for the one layout, or the attribute may define that the field is only visible if another field is of a specific value.

There are two special type of layouts which may only be embedded within other layouts. These allow the definition of **Related Issue Layouts** and **Repeating Row Layouts**.

## Inheritance

First, please read the Key Concepts section on [Business Areas](#) to understand the terminology used on this page.

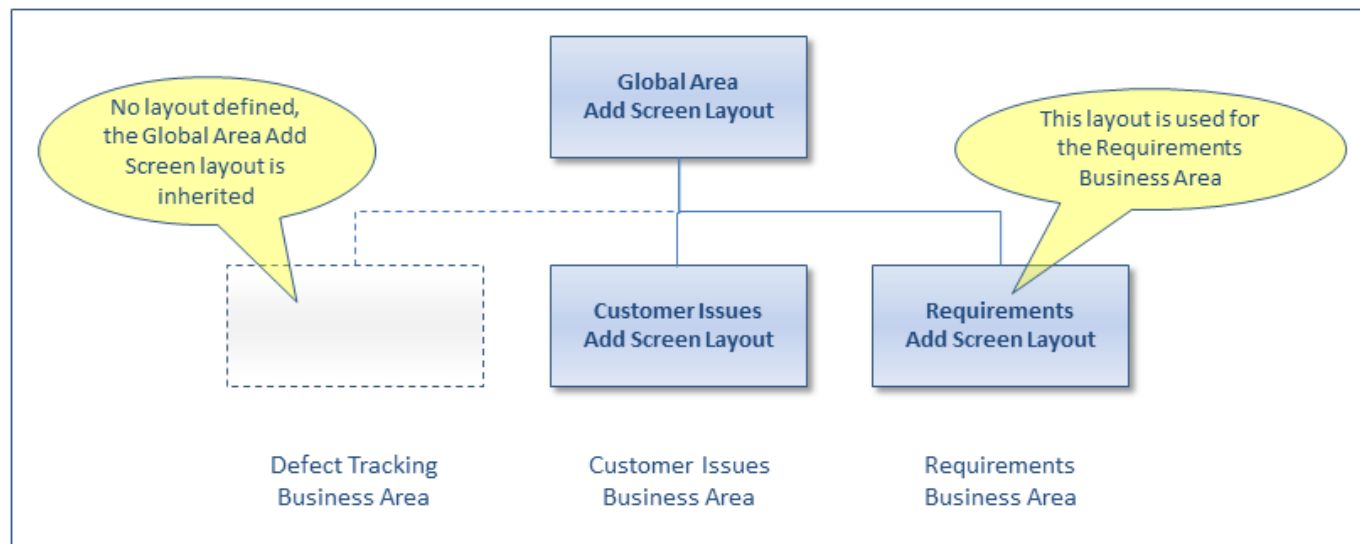
The principle is that a specific business area or project will use a layout that is defined specifically for it. If none exists, it will *inherit* a layout in a defined manner as follows:

- If a layout exists for the given business area and project, this is used
- If this does not exist, the layout that exists for this business area's master project will be inherited and used
- If this does not exist, the layout that for the global level will be inherited and used. Every inbuilt layout always exists at the global level, and therefore is always available to be inherited if a junior layout does not exist to override its use

Inheritance is an important principle to understand, as it governs how layouts are selected for each purpose throughout ExtraView. Further, if you decide to create a layout for a specific purpose such as the **Add** screen within a newly created business area, this does not imply that you must create layouts for all the other layout types, such as search filters and email layouts. Each layout is inherited independently, giving tremendous flexibility and reducing the amount of setup required.

### Inheritance and User Role layouts

Layouts can be defined for each user role you have created within your system. This is described more fully below. However, note that you may combine the definition of layouts for user roles, business areas within these user roles, and projects within these business areas. For example, if you have a business area named *Customer Calls*, which may or may not be broken down into individual projects, you may define different layouts for different user roles such as *Technical Support* and *Managers*.



Inheritance of layouts

**Note:** You should set a default value in the data dictionary, for both the Business Area and the Project fields if you have their display type set to **Tab**. However, the overriding setting is Remember Last Value. When this is set against Business Area and / or Project in the data dictionary, then the tab displayed upon entering the Add Issue screen, will be the one last used, not the default value.

Using rules, security permissions and layout cell attributes, you can make decisions on whether field-level data entered on one tab is either displayed on a second tab or is both displayed on the second tab and the values are stored with the record when it is inserted or updated.

Consider an application where you insert and update customer information on a tab named "Customers". You may have a second tab named "Customer Issues" where you record issues the customers report. The approximate configuration may be something like this:

1. On both the Customer and the Customer Issues add and edit layouts, you may have placed fields such as CUST\_CONTACT\_NAME and CUST\_ADDRESS.
2. You create a link using rules (see the section titled **Business and Email Rules** on how to do this) similar to the following:

```
<== onchange ==>
# rules to set the customer fields in the Customer Issues area
if (CUST_LIST={CHANGED}) {
  CUST_CONTACT_NAME = (customerLink).CUST_CONTACT_NAME;
  CUST_PHONE_NUMBER = (customerLink).CUST_PHONE_NUMBER;
  CUST_ADDRESS      = (customerLink).CUST_ADDRESS;
  CUST_EMAIL        = (customerLink).CUST_EMAIL;
  CUST_PHONE_CELL   = (customerLink).CUST_PHONE_CELL;
  CUST_CONTRACT_NUM = (customerLink).CUST_CONTRACT_NUM;
}
##
## Link types - link records from different business areas
##
<== link customerLink ==> AREA='Customers',CUST_LIST=CUST_LIST
```

With the addition of each customer issue, the Customer details are saved in the Customer Issues Business Area as the Customer is selected. To not allow the user to edit the customer details, you should set the permission of each field to read/write and then use a layout cell attribute on each field in the Customer Issue layout to have a READ ONLY IF value. For example, set the CUST\_ADDRESS field to be read only if the ID is not null. This will always be true, and therefore the field will display as read-only to the user, but the details will be saved in each record. If you only give read access to the user, the Customer details will not be saved in the record.

## How Layouts are Selected

With inheritance, and the ability to define or override an individual layout for any combination of User role, Business Area and Project, there is the potential for a large number of layouts in your system. Inheritance strictly controls the method by which an individual layout is either selected or inherited for display by the user. The following chart shows how ExtraView resolves the layout to choose:

Order	Role		Area		Project		Data Dictionary Name		Data Dictionary Value	
	A Role	All Roles	An Area	Area-0	A Proj.	Proj-0	A name	None	A value	None
1	✓		✓		✓		✓		✓	
2	✓		✓			✓	✓		✓	
3	✓		✓			✓	✓			✓
4	✓		✓			✓		✓		✓
5	✓			✓		✓	✓		✓	
6	✓			✓		✓	✓			✓
7	✓			✓		✓		✓		✓
8		✓	✓		✓		✓		✓	
9		✓	✓			✓	✓		✓	
10		✓	✓			✓	✓			✓
11		✓	✓			✓		✓		✓
12		✓		✓		✓	✓		✓	
13		✓		✓		✓	✓			✓
14		✓		✓		✓		✓		✓

### Layout Choice

The table is read from top to bottom, with ExtraView looking for the first row that satisfies the criteria defined by the administrator for the user and their current role. The last two columns in the table are only used when selecting an embedded layout. Note the following in the selection process:

When there is a choice of layouts, the layout is chosen based on:

- o User role
- o then Business Area
- o then Project
- o then the data dictionary name
- o and then on data dictionary name's value

Also note that:

- o *Add* and *edit* layouts are chosen based on all the above criteria
- o The email notification layouts use the user role, business area, and the project. There is no selection based on a field in the data dictionary
- o A layout may match multiple rows in the table above. The first row in the table that matches the user's current settings is used
- o The last two columns in the table above are only used when selecting embedded layouts.

### Optional Layouts

For efficiency, and to minimize the configuration effort, a few layouts are optional and are ignored if they are not present.

When this happens, ExtraView may then default to another layout, and use this other layout instead.

Layout	Defaults To	Comments
ADD_CONFIRMATION	ADD_PROBLEM	When an issue is inserted, the behavior is to use the ADD_PROBLEM layout from the inheritance path to display a verification of the issue just entered. For most purposes this works in an obvious way and displays all the fields that the user just entered. Occasionally, you as the administrator may want to display a different set of fields. To accomplish this, create a layout of type ADD_CONFIRMATION in the business area and project of your site, or in the inheritance path. The fields that you place onto this layout will be those that are presented to the user when an issue is saved, as opposed to those on the ADD_PROBLEM layout. If the ADD_CONFIRMATION layout is not present, the ADD_PROBLEM layout is used as the verification screen
POST_EDIT_UPDATE	No Default	If this layout exists in the inheritance path, and the issue being updated is a member of a relationship group, then this layout is rendered to give the user the opportunity to apply the same updates to the related issue. If the layout does not exist, nothing is rendered, and only the current issue is updated

## Creating & Updating Layouts

Once a layout type has been defined, you can create new layouts from the Design Center.

Return
Print Page
Design Center

- 1 Select the specific user role to which the layout belongs. If no layout is specified for a user role, the default layout for all user roles is used.
 

Select user role
- 2 Select the Area and Project to which the layout belongs
 

Select Area

Select Project
- 3 Below is a list of all the layouts currently defined for the user role you have selected. You may choose a new layout to add to the user role selected above, or you can press the edit button by one of the existing layouts to update that layout.
 

Add a new layout for the entire system

	Layout ID	Layout type	Layout type name	Title	Description	Select by field	Select by value
<a href="#">Edit</a>	4	Add Issue Screen	ADD_PROBLEM	Add Screen	Master Add Issue Screen		
<a href="#">Edit</a>	1498	Attachment History	ATTACHMENT_HISTORY	Attachment - Hist	Default layout for Attachment History		
<a href="#">Edit</a>	7	Edit Issue Screen	EDIT_PROBLEM	Edit Issue Screen	Master Edit Issue Screen		
<a href="#">Edit</a>	1757	Filter layout for knowledgebase on Home Page	SEARCH_KB_HOME	Used in the built-in knowledge base	Used in the built-in knowledge base		
<a href="#">Edit</a>	1504	Related issue layout for inclusion as embedded layout	RELATED_ISSUE_DISPLAY	Related Issue Layout	Default layout for related issues		
<a href="#">Edit</a>	493	Relationship Group Filter	SEARCH_RGFILTER	Manage Relationship Group Filter Screen	Display Filter Screen for Manage Relationship Group		
<a href="#">Edit</a>	10	Repeating Row Record	RELEASE	Repeating Record	Default layout for Release Record		
<a href="#">Edit</a>	9	Report Layout - Detailed Report	SEARCH_DETAILED	Report - Detailed	Default layout for Detailed Report		
<a href="#">Edit</a>	427	Report Layout - Email Brief layout	EMAIL_BRIEF	Email Notification	For the Master Area		

Design Center

Note:

1. If you want view or update the layouts specific to an individual user role, you can choose from the select list entitled **Select User Role**. If you select the default layout for all roles, you will see the layouts that are used unless a role is specifically designed for a specific user role
2. Use the select lists to choose the Business Area and Project for the layout you want to add or to edit

- The select list named **Add a new layout for the entire system** allows you to add a new layout, from the list of available layouts, for this combination of Area, Project, and user role. If a layout for this combination already exists, it will not appear in the select list, but it appears in the lower half of the screen, with an edit button alongside
- Clicking on the Edit button allows you to alter and update the layout.

**Note:** The edit function allows you to delete layouts, whether they were created by yourself as an administrator, or created by ExtraView. **You should not delete an ExtraView created layout.** ExtraView will not function correctly if you do so.

## Role-Based Layouts

- If you are not selecting a layout that will be used as the default across all user roles, select the user role to which the layout will apply from the select list at the top of the screen. Note that you can clone a layout for a different user role by editing an existing layout, altering the user role to which it belongs and saving the layout
- To add a layout where an existing layout of the same type already exists, click the **Edit** button beside the existing layout type example you would like to use. If no layout of an available type currently exists, select the desired layout type from the **Add new layout drop down** select list. You can then perform a ["save as"](#) operation

## Editing Operations Within a Layout

When you click the **Edit** button, a screen similar to the following appears:

The screenshot shows the 'ExtraView Design Center' interface for editing a layout. At the top, there is a toolbar with buttons: Save (1), Delete (2), Clear (3), Preview (4), Return (5), and Print Page (6). Below the toolbar are input fields for Title (9) and Description (10), and a Localize button (11, 12). The main area is divided into three panels:

- Fields & Layouts (left):** Contains a search bar and a list of fields (16-25) with 'New' (17) and 'Add' (18, 19) buttons. Below it is a 'Layouts' section with a search bar and a list of layout types (21-25) with 'New' (23, 24) and 'Add' (25) buttons.
- Layout Attributes (center):** Shows a grid of cells with columns (Col 1-4) and rows (Row 1-10). The grid contains various attributes like 'SHADE\_PRE\_1', 'ID', 'DATE\_CREATED', 'CATEGORY', 'STATUS', 'PRIORITY', 'SEVERITY\_LEVEL', 'PRODUCT\_NAME', 'MODULE\_ID', 'DEV\_PLATFORM', 'CUST\_LIST', 'DEV\_RELEASE\_FOUND', 'ORIGINATOR', 'ASSIGNED\_TO', 'OWNER', 'SCREEN', 'SHADE\_POST\_1', 'DEV\_SELECT\_TABS', and 'LAYOUT.DEV\_SELECT\_TABS'. Navigation arrows (26-31) are visible around the grid.
- Cell Details (right):** Shows the selected cell's attributes (32) and options for editing (33, 34). It includes fields for Name, Title, Row, Col, Rowspan, and Colspan. Below it are 'Cell Attributes' (35) and 'Field & Layout Attributes' (38) sections with 'New' (36, 37) and 'Add' (39, 40) buttons.

At the bottom, there is another toolbar with buttons: Save, Delete, Clear, Preview, Return, and Print Page.

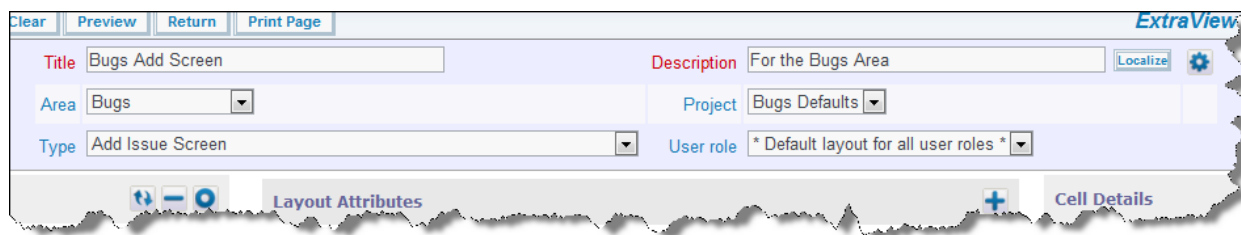
### Design Center Screen

- Save Button - Saves the current layout, leaving the administrator within the layout
- Delete Button - Deletes the current layout. You must confirm the operation before the layout is deleted
- Clear Button - Clears the current layout of all fields
- Preview Button - Opens a preview of the layout in a new window. Note that the preview is only an approximation of the layout as it will be rendered, and does not utilize layout cell attributes such as Visible If
- Return Button - Return to the initial Design Center screen with the list of layouts
- Print Button - Print the contents of the current window
- Expand Layout Attributes toggle button - this opens a section similar to this:



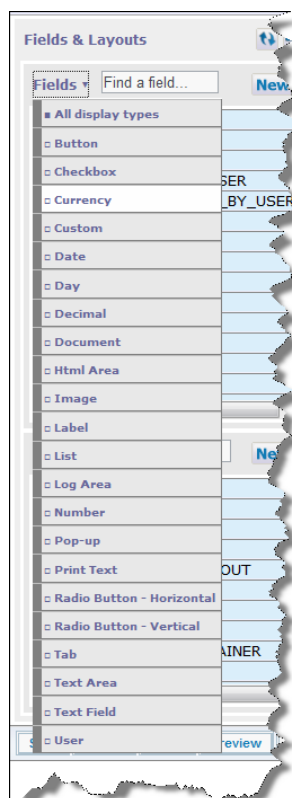


- The Advance By option allows you to set a direction to advance the placement of a field as you place these on the layout, to column or row
  - The Tab Order By option allows you to set the order for tab control by end users entering data into the form. This can be by column or by row
8. The main grid where selected fields are shown in the position where they will be rendered on the layout
  9. The title for the layout
  10. The description of the layout
  11. Localize button - this only appears if localization is turned on for the installation
  12. Layout Options toggle - when this is clicked, a section similar to this opens:

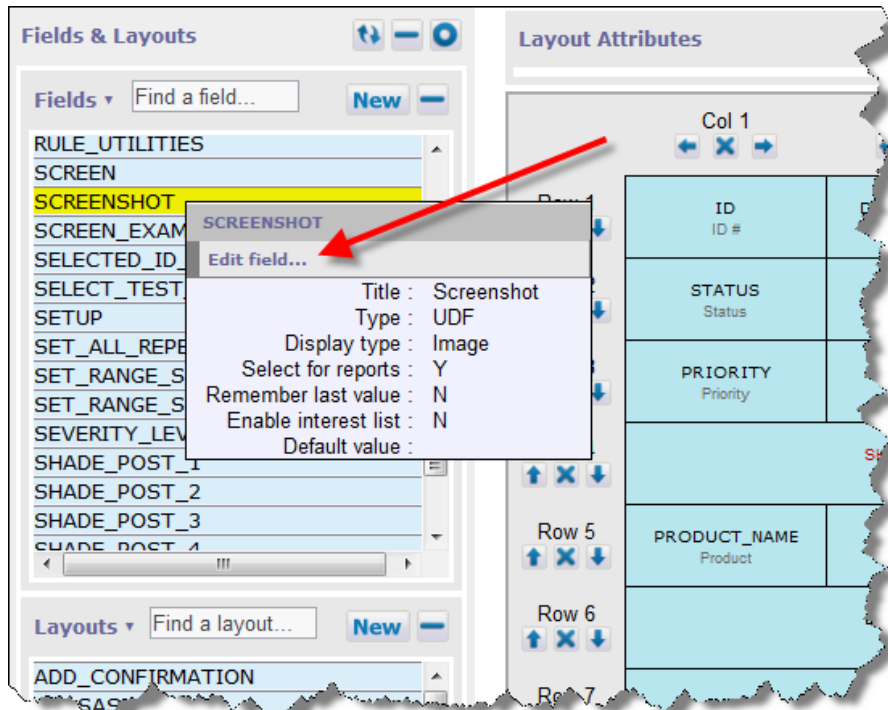


Use the select lists to alter the role, layout type, business area or project where you want to store the layout, as a "save as" operation

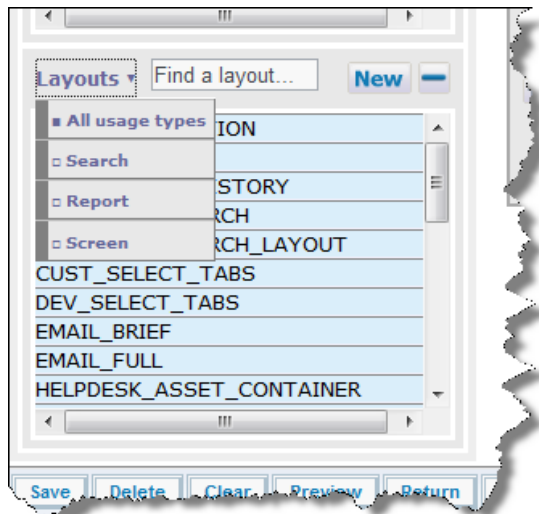
13. Invert field list button - this button toggles the field list so that field titles are displayed in order, as opposed to displaying their names
14. Minimize field/layout lists - this button toggles the field and layout lists, to reduce their appearance to a single row on the screen
15. Unpin field/layout list - this button unpins the field and layout lists so they may be moved around the screen with the mouse
16. Field filter list - selecting this will display allow the filtering of the field list to a single field display type



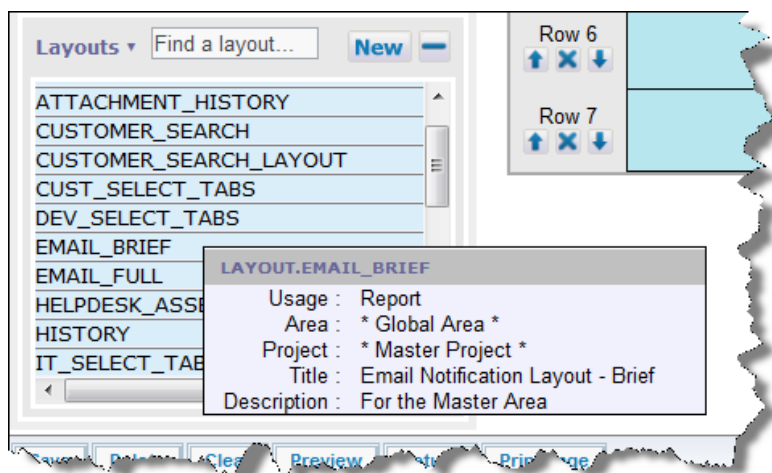
17. Find a field - start typing into this field and all fields in the list that match the pattern will be displayed, and all other fields will be dropped from the list
18. New field button - this brings up the data dictionary screen to add a new field. When you first click the button, you are asked if you are creating a new Field, Expression, Label or Screen field
19. Minimize field list - this button toggles the field list, to reduce its appearance to a single row on the screen
20. Field list - this scrollable list shows all the available fields that you can drag and then drop on the main grid. Fields may be dropped on any empty location in the main grid. If you right-click on a field name, you will see details of the field. Note the **Edit** button. When you click this, a window will open showing the field in the data dictionary. You can make any modification you require to the field and its attributes at this point.



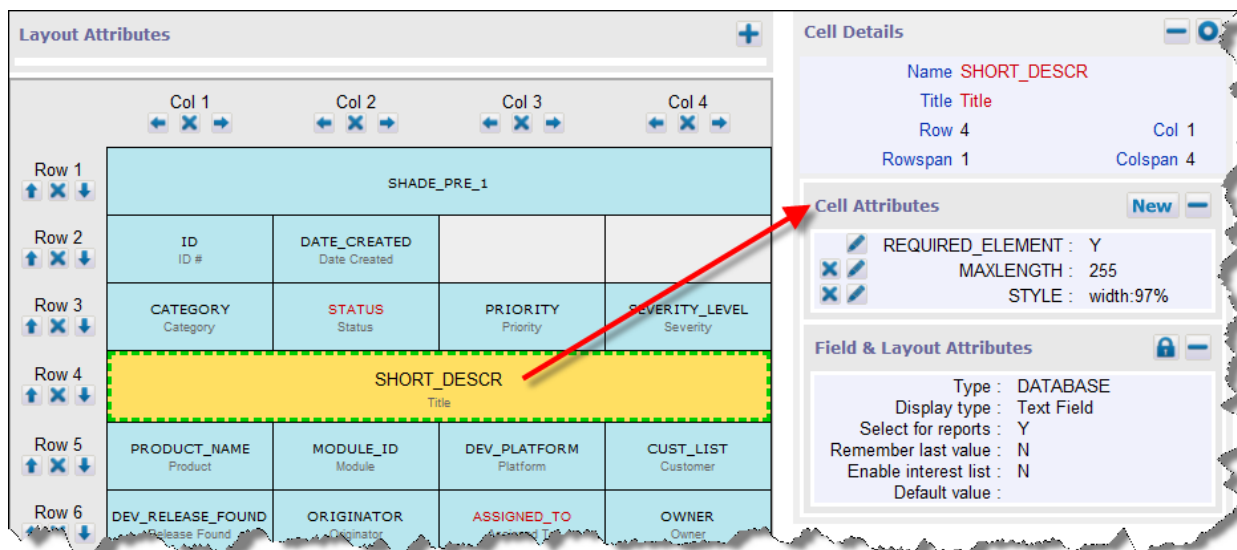
21. Layout List - clicking on this list will allow you to filter the list of layouts, to only display one of the categories (screen, report or search)



22. Find a layout - start typing into this field and all layouts in the list that match the pattern will be displayed, and all other layouts will be dropped from the list
23. New layout type button - this brings up the layout type screen to add a new layout type
24. Minimize layout list - this button toggles the layout list, to reduce its appearance to a single row on the screen
25. Layout list - this scrollable list shows all the available layouts that you can drag and then drop on the main grid. Layouts may be dropped on any empty location in the main grid. If you right-click on a field name, you will see details of the field. Note that layouts you have created will have a **Permission** button. When you click this, a window will open allowing you to modify the permissions to the layout. You can make any modification you require to the field and its attributes at this point.



26. Insert column to left button - Insert a new column to the left of the button
27. Delete column button - Delete the column
28. Insert column to right button - Insert a new column to the right of the button
29. Insert row above button - Insert a new row above the button
30. Delete row button - Delete the row
31. Insert row below button - Insert a new row below the button
32. Cell details area - within this area, you will see details of any cell selected in the main grid, and you can alter layout cell attributes and change the permissions to a field
33. Minimize cell details - this button toggles the cell information, to reduce its appearance to a single row on the screen
34. Unpin cell details - this button unpins the cell details so they may be moved around the screen with the mouse
35. Cell attributes area - This is the area where all the layout cell attributes are managed. Click on a cell in the main grid to select it as shown in the screenshot below, and the cell details panel will display all the information about the cell



36. New layout cell attribute button - Click this button to add a new layout cell attribute. See the section on [layout cell attributes](#) for information on managing these
37. Minimize layout cell attributes button - this button toggles the layout cell attributes information, to reduce its appearance to a single row on the screen
38. Field & Layout Attributes area - as shown above, this area will display data dictionary information on the selected cell in the main grid
39. Security permission button - click this button to popup a window on the currently selected cell's security permissions. This is described in full in the [security permission](#) section of this guide
40. Minimize Field and Layout Attributes button - this button toggles the Field and Layout Attributes information, to reduce its appearance to a single row on the screen

## Field Manipulation on the Main Grid

- o Selecting a field - click on the background to the cell
- o Moving a cell - click on a cell and drag it to a new, empty location on the main grid. Note that any layout cell attributes to the field within the cell will be moved along with the field itself
- o Removing a cell from the main grid - click on the background to a cell and drag it back to the field list.

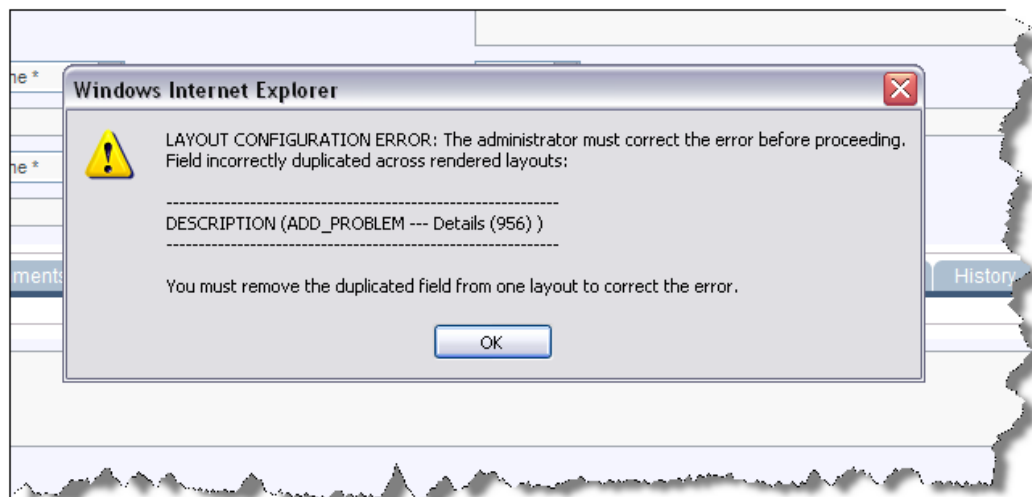
Layouts - perform similar actions as those above to manipulate layouts

- o Extending a cell over multiple columns - click on the right-hand edge of the cell and drag the edge to the right over empty cells. Release the mouse over the rightmost cell to which you want to extend the cell
- o Extending a cell over multiple rows - click on the bottom edge of the cell and drag the edge downwards to the bottom row to contain the cell. Release the mouse

## Duplicate Fields on Layouts

It is not permitted to have the same field be included on the same or different layouts that are grouped together. ExtraView catches a field duplicated within a single layout, but cannot catch the situation when a field is duplicated by virtue of being contained in an embedded layout. The reason for this is that when you create an embedded layout, it may be included in any one of a number of other layouts, and each of these may or may not have the field duplicated.

The error of duplicated fields can therefore only be caught at runtime. When testing your installation, you may see an alert message similar to the following screenshot:



The above example shows that the field named **DESCRIPTION** is duplicated. First it is included on the **ADD\_PROBLEM** layout, and then on the embedded **Details** layout. Further, the ID of the **Details** layout is displayed.

You must resolve the duplication by removing one of the fields from one of the layouts before your installation will function correctly.

## Using the Layout Description as the Title to *Add* and *Edit* Screens

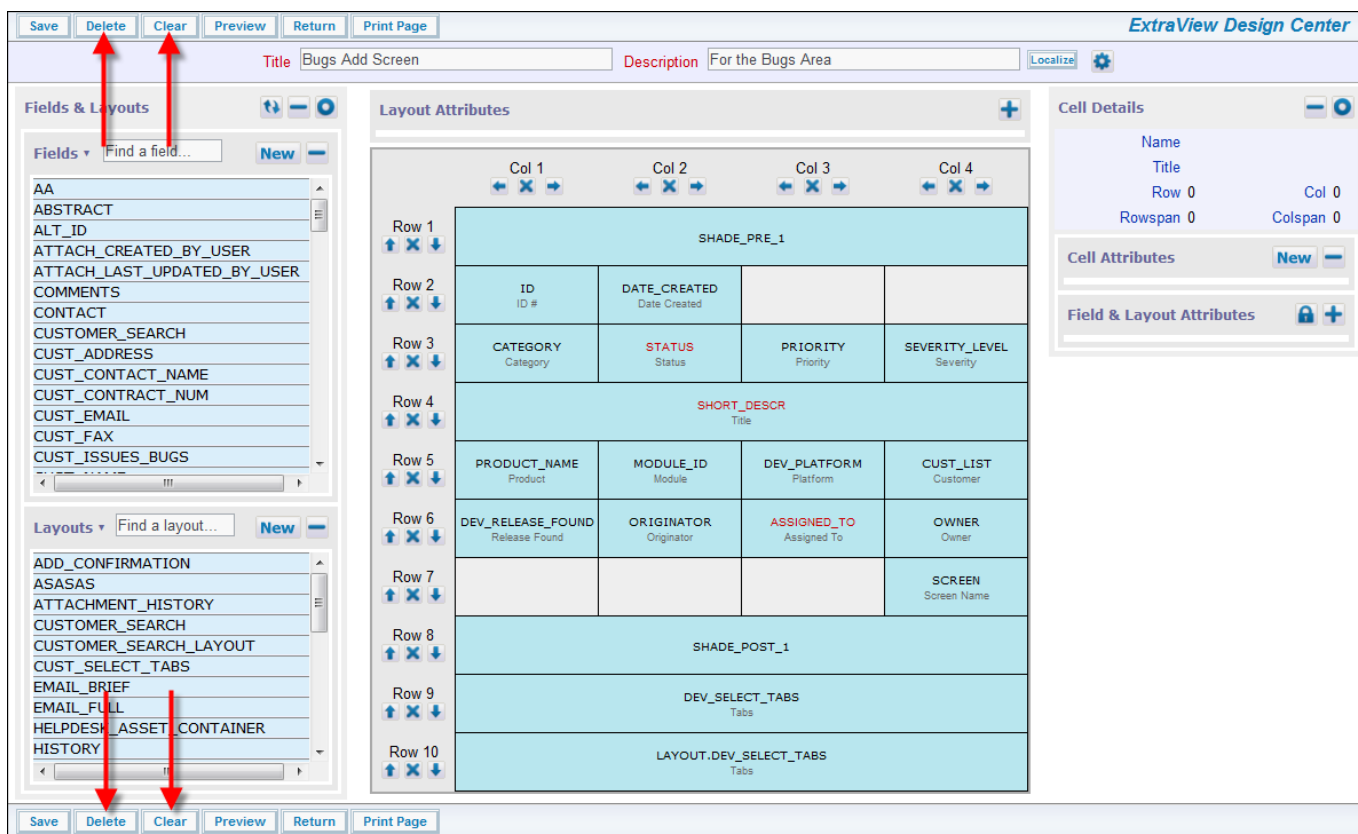
The **Description** field on *Add* and *Edit* layouts has a special property. It may be used as the title to these screens, allowing the administrator to provide different titles for each *Add* and *Edit* screen. For example, you might give the *Add* and *Edit* screens different titles in different Business Areas. The standard behavior is that the title of the data dictionary field for the screen is used as the screen title. If you give a title of **\$\$LAYOUT.TITLE\$\$** to any of the following fields, then the layout description will be used as the title to the screen as it is rendered.

- o ADD\_PROBLEM - The *Add* Issue screen
- o ADD\_PROBLEM\_SUMMARY - The *Add* Issue Verification screen
- o EDIT\_ISSUE\_SUMMARY - The *Edit* Issue screen

## Layout Rendering

The layouts will be rendered by the user's browser when they navigate to the appropriate function for the layout. Note that if ExtraView sees that an entire row of cells are empty, i.e. there are no values with write permission, and there are no values to render with read-only permissions, then the entire row is suppressed and is not rendered.

# Clearing and Deleting Layouts



Design Center Screen

## Clearing Layouts

1. To clear a layout, press the **Clear Layout** button.
2. Follow the directions found on the alert message than will then appear.
3. Press **Save Layout**.

You will be left in the current layout, but all fields are deleted from the layout.

## Deleting Layouts

1. Press the **Delete Layout** button.
2. Follow the directions found on the alert message that appears.
3. Press **Save Layout**.

Note that you cannot delete the following layouts from the Global Area:

- ADD\_PROBLEM
- ATTACHMENT\_HISTORY
- EDIT\_PROBLEM
- EMAIL\_BRIEF
- EMAIL\_FULL
- HISTORY
- SEARCH\_CHART\_REPORT
- SEARCH\_DETAILED
- SEARCH\_EMAIL
- SEARCH\_EXPANDED
- SEARCH\_QUICK
- SEARCH\_QUICKLIST

After confirming that it is OK to delete the layout, it is permanently deleted from the database and is unrecoverable.

## Performing a "Save As" Operation

It is often useful to be able to duplicate a layout in a different area, project or role, or to simply save one layout type as a different type. For example, after composing an *add* layout, you may want to save it as an *edit* layout. This operation is easily accomplished by just opening up the layout you want to copy, clicking on the button to the right of the layout description then changing the

Business Area, Project, Type or User Role. You may also change the Title and Description.

Once you have done this, simply save the layout.

Note that if you are changing an *add* or *edit* layout to a report style of layout, any field whose data dictionary entry for the attribute of *Select for Reports* is equal to *No* will be removed, as these are not supported on report layouts. Similarly, any embedded layout whose usage is not set to equal *Report*, will be removed.

## Layout Cell Attributes

Layout cell attributes allow you to modify the appearance or function of a field within a layout. This includes creating dependencies between fields.

1. Select the field in the main grid of the Design Center by clicking on its background
2. Click on the New button to add a new layout cell attribute
3. Click on the pencil button to edit the layout cell attribute
4. Click on the X to delete the layout cell attribute

The screenshot displays the 'Layout Attributes' window with a grid of 6 rows and 4 columns. The grid contains the following fields:

Row	Col 1	Col 2	Col 3	Col 4
Row 1	SHADE_PRE_1			
Row 2	ID ID #	DATE_CREATED Date Created		
Row 3	CATEGORY Category	STATUS Status	PRIORITY Priority	SEVERITY_LEVEL Severity
Row 4	SHORT_DESCR Title			
Row 5	PRODUCT_NAME Product	MODULE_ID Module	DEV_PLATFORM Platform	CUST_LIST Customer
Row 6	DEV_RELEASE_FOUND	ORIGINATOR	ASSIGNED_TO	OWNER

The 'Cell Details' panel on the right shows the following information for the selected cell:

- Name: SHORT\_DESCR
- Title: Title
- Row: 4
- Col: 1
- Rowspan: 1
- Colspan: 4

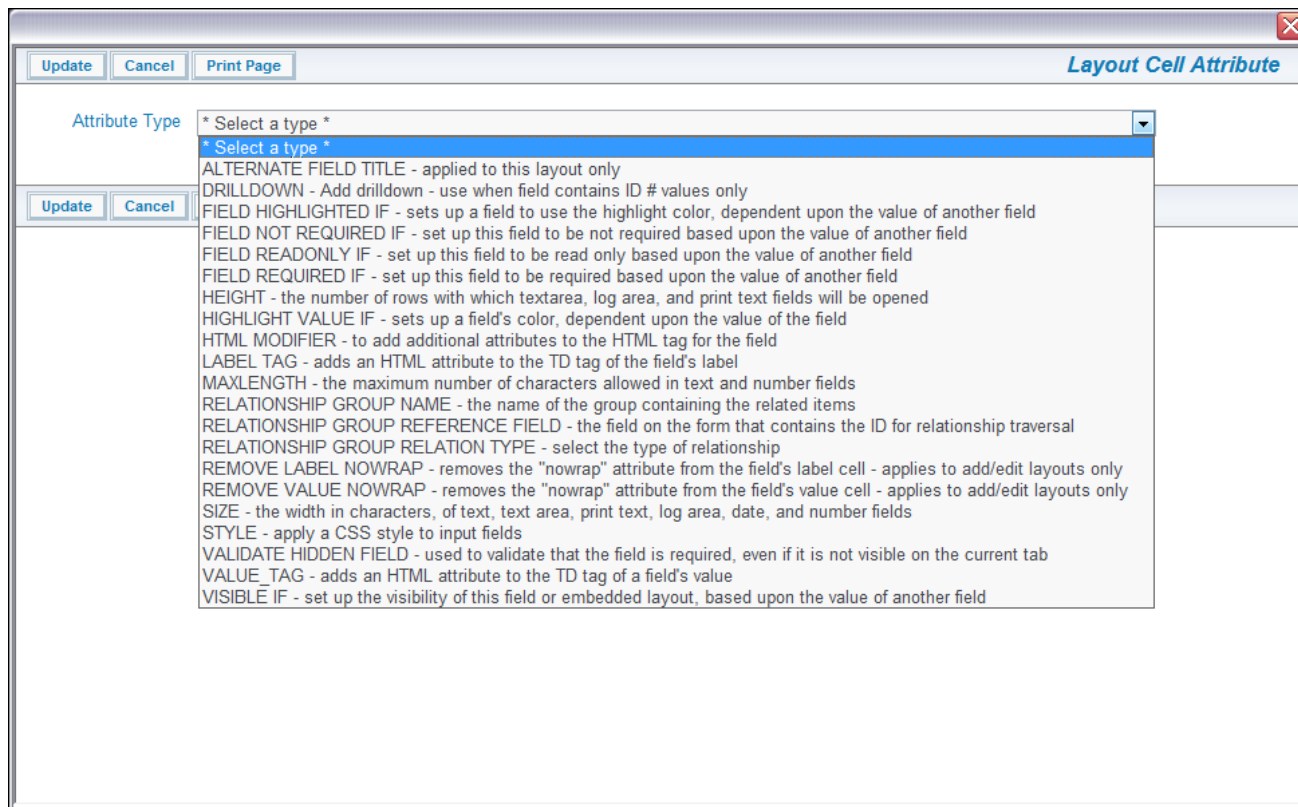
The 'Cell Attributes' section shows:

- REQUIRED\_ELEMENT: Y
- MAXLENGTH: 255
- STYLE: width:97%

A red arrow points from the 'New' button in the 'Cell Attributes' section to the highlighted cell in the grid.

Layout cell attributes

If you add a new attribute, a screen similar to the following is displayed:



### Adding a layout cell attribute

Note that you will only see a subset of the layout cell attributes, these being the ones that are valid for the field display type that you have selected in the main grid.

The Attribute types are the different class of modifiers that can be applied to each cell. These are:

- a. **ADD\_NEW**. Adds a **\* New \*** value entry to list fields - applies to add and edit layouts. This only applies to add and edit layouts. It modifies any user defined list field, the **product\_name** field, the **module\_id** field, the **RELEASE\_FOUND** or the **RELEASE\_FIXED** fields so that a value of **\* New \*** within the list. When this value is selected a popup window allows the addition of a new entry into the list. This is the same as an administrator using the list manager function to add a new entry to the list, but puts the ability in the hands of an end user. This feature can also be controlled by user roles. See the section titled End-User List Management for more information on setting up this feature.
- b. **ALTERNATE FIELD TITLE**. This will rename the screen title in the Data Dictionary to the value in the Field value, for the field in the Field entry. Note that if this is used in a screen layout, you can include HTML in the alternate title. If HTML is included within the alternate title, then the behavior setting of LABEL\_WRAP\_POSITION is ignored. This allows total control of the formatting of the label within the layout. However, if you access the field through the API or CLI then the HTML will be passed through to the output.

As the text for the alternate field title is placed within double quote marks (") in the HTML generated when the form is rendered, you should not use these within the alternate field title. You may use single quote marks (') however, and these are generally interchangeable.

**Example:** Within an organization, you may label issues as *Defects*, but you may want to label them as *Issues* for your customers. On the new attribute form, you would set *Alternate field name equals Issue*

**Example:** A field on the form has the particularly long title of "Target Software Release" that wraps in an ugly way on the screen using the system-wide default you have set with the behavior setting, LABEL\_WRAP\_POSITION. You can control where the line breaks occur by using something similar to "Target<BR>Software<BR>Release"

**Example:** You want to remove the title to a field on a layout. It is not valid to use a blank title. The solution is to use an alternate field title of *&nbsp;*. This inserts the character set value of a space into the layout.

- c. **BUTTON\_ACTION**. This attribute is applied as a cell attribute to the **ADD BUTTON** within a related issue display header. The **ADD BUTTON** is configurable to allow a child issue to be added to the current parent issue that is being displayed on an *add* or *edit* layout. The action defines what happens when the user presses the add button.

- **Target Business Area** - This defines the Business Area that will be used for the *add* screen displayed when the button is pressed
  - **Target Project** - This defines the Project that will be used for the *add* screen displayed when the button is pressed
  - **Check Required Fields** - If you check this option, then all required fields on the parent issue will be checked for their presence before the child window is displayed. This can be extremely useful if you are going to push down field values from the parent to the child issue, and you want to ensure that the child window is always initiated with a value within a field
  - **Display the Add Confirmation Screen** - This checkbox option defines whether the user is returned directly to the parent issue after submitting the child issue, or whether the *add confirmation* screen will first be displayed
  - **Action after Submitting the Child Issue** - This option allows you to select the action after the child issue is created. You can either have only the related issue display that contains the newly added issue updated, or you can have the parent issue updated and the entire screen updated. The latter is only required when there are some business rules that triggered changes to the parent issue when the child issue was submitted
  - **Push Down Field List** - Double click on the fields whose values you want to push down from the parent issue to the child issue. The selected fields are displayed in the right-hand list
  - **Show Generate Script** - This button is provided for advanced usage. It is possible to configure button actions that are more complex than can be done with the **BUTTON ACTION** utility. This option allows you to generate the JavaScript that is close to what you require. You can then copy this JavaScript into the **ONCLICK\_JS** attribute, and modify it for your requirement. You should not save the **BUTTON ACTION** if you are using **ONCLICK\_JS** and vice versa.
- d. **DISPLAY FORMAT**. This will modify the display of the value of the item according to a user-defined format. The format can include text as well as the values of other fields. There are specific rules for using this attribute successfully:
- The target field for this attribute must be a field with a display type of *text*
  - All the fields names referenced in the format must exist on the layout
  - The field should be read-only to users
  - There is no checking of field dependencies. For this reason, the value on the rendered screen could become stale during the edit process, for example if one of the referenced fields changes values. Of course, this is not a problem on a report layout.

**Example:** You can set up a new field on a layout, modifying the *ID* field for display to be of a specific format such as `PROJECT + ' ' + ID`. The *ID* will be the standard sequence, but will show a value such as *MyProj.12345*.

- e. **DO NOT USE ALLOWED VALUES**. This only applies to fields placed upon a search filter layout, such as the Quick



Search, Full Search or Chart filter layouts. When this layout cell attribute is set, and the field is a child in an allowed value relationship, then the child list will not be filtered by its parent, and all possible values will be displayed. For this cell attribute to work, the parent field of the relationship must also be on the layout.

- f. **EXPRESSION\_TEXT**. This is used to add a calculated expression to a user defined report field.
- g. **FIELD AGGREGATE EXPRESSION**. This layout cell attribute implements a method to compute an aggregate expression on a per-row basis on a Related Issue Display. The actual calculation is performed in a user custom exit, so this attribute must be accompanied with Java code. This layout cell attribute only works when used with expression display type fields placed on a Related Issue Display and has no effect in other locations. See the page [Field Aggregate Expressions](#) for more information.
- h. **FIELD AGGREGATE EXPRESSION TITLE**. This layout cell attribute provides a title to the aggregate expression. Please see the page [Field Aggregate Expressions](#) for more information.
- i. **FIELD HIGHLIGHTED IF**. This is to indicate if a field value is to be highlighted with an alternative color depending on the value of another field. The color may be selected by setting the value for the behavior setting HIGHLIGHT\_COLOR. You may have more than one FIELD HIGHLIGHTED IF attribute on a field. A limitation at this time is that you may only use the attribute with a condition of **is not null**

**Example:** We want to highlight the ID of an issue, if the issue is a Customer issue. To achieve this, set the element attribute of Highlighted on the ID field, if the field named Customer is not null.

- j. **FIELD NOT REQUIRED IF**. This is the opposite condition to **FIELD\_REQUIRED\_IF** and is typically used when there are a significant number of values in a field, but the field only becomes not required on a few values. In this circumstance, it is faster to set up **FIELD\_NOT\_REQUIRED\_IF** on a small number of values and set the overall required state of the field to Yes. Note that if you use the *greater than* or *less than* operators, they only work with numeric comparisons.
- k. **FIELD READONLY IF**. This attribute indicates that the field value is to be displayed on the layout in a read only mode, based upon the value of another field. You may have more than one FIELD READONLY IF attribute on a field. For obvious reasons, this attribute only works when used within a layout that is rendered as an *add* or *edit* screen. Note that if you use the *greater than* or *less than* operators, they only work with numeric comparisons.

**Example:** We want to display the Customer name within the field named Customer on an *edit* layout, if the Customer has already been added, but make the field read / write if there is no value so the user can enter the Customer name. To achieve this, add an attribute of FIELD READONLY IF Customer is not null.

If you place a FIELD READONLY IF attribute on a layout cell that contains an embedded layout as opposed to a field, then all the fields on the embedded layout will be made read only, according to the conditions set with the logic of the attribute.

- l. **FIELD REQUIRED IF**. This is for indicating if a field value is required depending on the value of another field.

Note that Field Required If dependencies only work on fields with a display type of *List*. Further, they do not work if the field has been set in the data dictionary to be a multi-valued list, or if the field is a pop-up list. You may have more than one FIELD REQUIRED IF attribute on a field. For obvious reasons, this attribute only works when used within a layout that is rendered as an *add* or *edit* form. Note that if you use the *greater than* or *less than* operators, they only work with numeric comparisons.

**Example:** The field on a form named CUSTOMER\_NAME may become required if another field named CUSTOMER\_ISSUE has a value of Yes. To achieve this, add a layout element attribute to the field named CUSTOMER\_NAME. The value will be Yes, the field will be CUSTOMER\_ISSUE and the equivalence will be *equals*.

- m. **HEIGHT**. This applies to text area, log area, and print text fields.

The height is the approximate number of characters high that the field is displayed with when the user first brings up an *add* or *edit* layout.

**Example:** To create a text area field where the initial display height is 20 characters, add a HEIGHT attribute with a value of 20.

Note that RELATED\_ISSUE\_DISPLAY layouts are automatically sized in height, according to the number of issues they contain.

- n. **HIGHLIGHT VALUE IF**. This provides the ability to alter the color of a field value, based upon a logical expression defined within the layout cell attribute. This attribute only works with display types of *text* and *text area*. The color used to highlight the value is the color defined within the behavior setting HIGHLIGHT\_COLOR.

**Example:** To highlight the ID of an issue, if the issue is a customer issue, you might apply a layout cell attribute to the ID field – **HIGHLIGHT VALUE IF CUSTOMER IS NOT NULL**.

- o. **HTML MODIFIER**. This will allow the user to provide values for additional attributes within an HTML tag on an *add* or *edit* layout. You may have any number of HTML modifier attributes on a cell. It is likely that you will need a reasonable understanding of HTML tags and attributes to use this layout cell attribute.

**Example:** A *DISABLED* HTML modifier to the attribute will disable the field. Most browsers would then show this field as

“grayed-out”.

**Example:** Use the HTML modifier to call a user-defined JavaScript function or to call a pre-defined JavaScript function within ExtraView. The function resides on the server and is automatically included in the HTML that is generated for the layout. The syntax specified within the HTML modifier to call a user-defined JavaScript function will be similar to:

```
onclick='myFunction(param1, param2)';
```

For a more detailed explanation of custom building JavaScript functions, please see the ExtraView User Custom Programming Guide.

If you want to add a style attribute to a layout element, you should use the **style** (rather than the html modifier attribute) otherwise your cell element may have multiple style attributes, which is invalid HTML syntax. A reference providing a list of all valid CSS styles may be found at [http://www.w3schools.com/css/css\\_reference.asp](http://www.w3schools.com/css/css_reference.asp). Note that this layout cell attribute only works when used within a layout that is rendered as an *add* or *edit* screen.

- p. **LABEL TAG.** This allows the administrator to add a new attribute to the HTML <TD ... tag that surrounds the label of the cell. This can be used to provide a different style for the label, or to inject any other valid HTML into the cell label tag.

It is likely that you will need a reasonable understanding of HTML tags and attributes to use this layout cell attribute.

- q. **MAXLENGTH.** This will add a *MAXLENGTH=nnn* attribute to the HTML display tag for the field, controlling the maximum number of characters that can be typed into the field. The default if no attribute is set is 255 characters. Used in this way, the attribute works when used within a layout that is rendered as an *add* or *edit* form. 255 characters is the maximum length of any user defined text field that you create

**Example:** Setting an attribute of MAXLENGTH equal to 25 on a field will restrict the amount of characters that can be entered into a field to 25 characters.

- r. **MODAL WINDOW.** This layout cell attribute only has an effect if used on an EDIT\_BUTTON within a Related Issue Display. When this attribute is set, and the user presses the Edit button on the Related Issue Display, a popup, modal window is used to provide the edit capability for the related issue. If this is not set, then the related issue is placed in a separate, new window. This provides control on whether you want to allow users to update a parent issue while editing a child or related issue.
- s. **RELATED ISSUE DISPLAY FILTERS:** This attribute may only be used on a cell containing a related issue display. It allows the administrator to set one or more filters on the related issue display. For example, you might want to filter the related issues to only display the *Open* issues, or you may want a much more complex filter. When you select this attribute, you will a dialog similar to the following. Use the query filters to compose the expression required, then update the attribute. Note that you cannot filter on the KEYWORDS field:

The screenshot shows a dialog box titled "Layout Cell Attribute" with a close button in the top right corner. At the top, there are three buttons: "Update", "Cancel", and "Print Page". Below these is a dropdown menu for "Attribute type" with the selected value "RELATED ISSUE DISPLAY FILTERS - specify the filters for related issue layout".

The main area of the dialog contains a table-like structure for building filters:

Select Field	Operator	Value
<input type="checkbox"/> <input type="checkbox"/> Status(STATUS)	<input type="checkbox"/> equals	<input type="checkbox"/> Tested - Failed <input checked="" type="checkbox"/> Open <input type="checkbox"/> Fixed <input type="checkbox"/> Closed <input type="checkbox"/> Duplicate
<input type="checkbox"/> <input type="checkbox"/> and	<input type="checkbox"/> equals	<input type="checkbox"/> * Any * <input checked="" type="checkbox"/> Bugs <input type="checkbox"/> Test Cases <input type="checkbox"/> Helpdesk <input type="checkbox"/> Assets

At the bottom of the dialog, there are three buttons: "Update", "Cancel", and "Print Page".

Filtering Related Issues

- t. **RELATIONSHIP GROUP NAME:** This attribute may only be used on a cell containing one of the following:
- the layout named LAYOUT.RELATED\_ISSUE\_DISPLAY or any other layout where the name begins with RELATED. For example, LAYOUT.RELATED\_CUSTOMERS is a valid name for a relationship group name
  - the field named RELATIONSHIP\_GROUP\_PARENT, or
  - the field named RELATIONSHIP\_GROUP\_CHILD.

It will be ignored on other cells. It refers to the name of the relationship group that is to be used for the field. In case a), it defines the relationship group(s) to search for the related issues; in cases b) and c), it defines the relationship group in which the new relation is inserted. In case a), the relationship group name may be the wild-card "\*", which signifies ALL relationship groups. If you do not provide the attribute on a), ExtraView will search ALL relationship groups (as if the value were "\*"); for b) and c), ExtraView will substitute the relationship group name stored in the behavior setting named RELATION\_GROUP\_DEFAULT, on the Workflow Settings screen. In any case, non-wild-card relationship group names must denote an existing relationship group.

- u. **RELATIONSHIP GROUP REFERENCE FIELD.** If you do not use this cell attribute on the cell in a layout containing the LAYOUT.RELATED\_ISSUE\_DISPLAY (or other related issue layout), then ExtraView assumes that you are linking issues based upon the value in the ID field. If you have altered the behavior setting named ITEM\_ID\_DISPLAY to point to ALT\_ID rather than ID, then issues will be related on the ALT\_ID field rather than the ID field. However, you can use this entry to provide a link based upon the value of any other field on the layout. This is a very flexible feature, allowing arbitrary groups of issues to be linked, dependent upon any field.
- v. **RELATIONSHIP GROUP RELATION TYPE.** This cell attribute defines how the related records will be displayed within the RELATED\_ISSUE\_DISPLAY (or other layout where the name begins with RELATED). This has four possible values:
- a. MEMBERS – This is the default value for this attribute if you do not override it with one of the other three possible values. In this case the RELATED\_ISSUE\_DISPLAY will show all the members of the group(s), containing the reference issue, i.e. the reference issue's parent's, children, and other issues not specifically related to the reference issues in the group(s)
  - b. CHILDREN – The related issue display will only contain issues that are the children of the reference issue
  - c. PARENTS – The related issue display will only contain issues that are the parents of the reference issue. Note that in the ExtraView data model it is possible to define more than one parent issue for a specific issue. See the section on Relationship Groups for more information
  - d. RELATED – In this instance ExtraView will display the parents and the children of the reference issue within the specified group(s), within the RELATED\_ISSUE\_DISPLAY. The parents and children of these related issues will not be displayed. You may create and use related issue display layouts as long as the name begins with RELATED.
  - e. SIBLINGS - ExtraView will display all the issues at the same level in the hierarchy. For example, if a parent record has five children, and you create a related issue display with all the children, using a relationship group relation type of SBLING, then you will see the four siblings to the current one.
  - f. LINKED - This type does not use a relationship type per se, but relies on the Related Issue Display filters to retrieve the associated issues. For example, you might have a filter that selects all the open issues for a particular product, and display these on a related issue display of each issue that you call up.
- w. **RELATIONSHIP GROUP SORT ORDER.** In this attribute, you specify the sort order of the records presented on the RELATED\_ISSUE\_DISPLAY. Specifically, you can set up:
- a. The field name to order by
  - b. The rank of this field in sort order (relative to other sort orders in this attribute)
  - c. The direction (ascending or descending) of the sort order

To specify ordering by more than one field, insert multiple Relationship Group Sort Order attributes. To specify where a sort order field appears in the sort priority, use the rank number.

For example, two attributes may be:

Field Name	Rank / Direction
STATUS	1/ASC
PRIORITY	2/DESC

As usual, the sorting is done on SORT\_SEQ within the field's definition, and then the title of the field value.

- x. **REMOVE ANY.** Removes the \* Any \* entry from list and user fields. This attribute will cause the \* Any \* entry in a select list not to be rendered when the layout is used as query filter screen. This can be used to ensure that the user always picks a value from a list before performing a search. Note that this is similar behavior to making a field required on a layout.
- y. **REMOVE LABEL NOWRAP** . By default, ExtraView does not allow the label of a field to wrap within the user's browser. Instead, there is a behavior setting named LABEL\_WRAP\_POSITION that allows the administrator to define a specific position where it will wrap. This gives a more consistent result as the user resizes their window on their browser. If you set this attribute, then ExtraView will allow the browser to control the wrapping for the field.
- z. **REMOVE NONE.** remove the \* None \* entry from list and user fields. This attribute causes the \* None \* entry in a select list on an *add* or *edit* layout to be removed, ensuring that the end user always selects at least one entry. This means that the field will become required, as a value is always selected.
- aa. **REMOVE VALUE NOWRAP.** By default, ExtraView does not allow the value of a field to wrap within the user's browser. If you set this attribute, then ExtraView will allow the browser to control the wrapping for the field. This is typically only

an issue for read-only text type fields.

- ab. **REPORT MAX FRACTION DIGITS.** This attribute may be set to define how many digits will appear in the rendering of a field with a display type of *Number*, *Decimal* or *Currency*, when the field is displayed as part of a report. It also controls how the value of the field is rounded on reports and when displayed on the *add* or *edit* screen. Note that *Currency* data display types generally have the number of decimal digits defined by the currency type. For example, the US Dollar has two decimal digits.
- ac. **SELECTED.** This is for indicating which embedded layout to use on a screen depending on a tab or list value. This is one of two mechanisms that allow ExtraView to render alternative layouts, dependent on the value of a tab or list field.

**Example:** You want to embed a different layout, with a different set of fields on an *edit* screen, dependent on whether the user selects a **Category** of *Software* or *Hardware*.

**Note:** If you are creating layouts which are selected according to a list or tab value, it is highly advisable to set a default value for the list or tab field. If you do not do so, and the field does not have a value, no embedded layout will be selected.

The precise steps necessary to implement embedded layouts are documented in a following section, entitled **Adding Embedded Layouts**.

- ad. **SIZE.** This has two purposes, depending on the field with which this is used:
- Most commonly, this will add a *SIZE=nnn* attribute to the HTML display tag for the field. The default is 11 characters if no attribute is set.

**Example:** You may want to alter the width of a text box on the screen to be narrow. You would achieve this with an element attribute of *SIZE=30* or similar.

- If this attribute is added to the layout named LAYOUT.RELATED\_ISSUE\_DISPLAY or other layout where the name begins with RELATED, and this is embedded on an *add* or *edit* form, then the value represents the width of the embedded related issue display. Again, this is measured in characters. The default width of a RELATED\_ISSUE\_DISPLAY is 125 characters.

**Example:** The screenshot shows where the SIZE attribute is used on the related issue display.



- ae. **STYLE.** This is for indicating the font style of the element, possibly depending on other fields. This is supported within *add* and *edit* layouts only. It is supported when the field is in both read and write mode.

If you want to add a style attribute to a layout element, you should use the style (rather than the html modifier attribute) otherwise it will be possible for the element to have two style attributes, which is invalid HTML syntax. It is likely that you will need a reasonable understanding of HTML tags and attributes to use this layout cell attribute.

**Example:** You may want to display a field on a report in the color red, if the *Priority* is equal to a value of *P1*.

**Example:** On the Add Issue screen, we want to make the ID field visible only once the issue has been added to the database, i.e. when the user arrives at the add verification screen. To achieve this, set the Attribute type to Field Visible If, the field to ID, and the Equivalence to Is Not Null. This will have the effect of making only the ID field visible on the Add Issue verification screen.

- af. **TRANSPOSE LAYOUT.** This attribute only works in conjunction with a related issue display. When this is applied to a related issue display, it causes a transposition of the rows and columns on the related issue display.
- ag. **UPDATE MAIN ISSUE.** This attribute only affects the behavior of an EDIT\_BUTTON field when it is placed on a related issue display. It has no function or purpose outside of this and will be ignored as an attribute on all other fields and layouts.

The purpose of this attribute is to allow control of updates of the current issue on an *edit* screen when you edit a related issue by clicking on an EDIT\_BUTTON in the related issue display. In such circumstances there may be business rules or other logic that triggers when you update the related issue; this logic may update the current issue. Under normal circumstances this would lead to a concurrency error when the user tries to update the current issue after completing the update to the related issue. In such an event, the desired behavior is often to allow the related issue to update the current issue, and allow the user to then update the current issue, but without a warning or error.

To support this, there are three possible values for the layout cell attribute. These are applied in the following order:

- When the user clicks on the EDIT\_BUTTON on the related issue, the edit session for the related issue is set up in the current window, replacing the *edit* screen of the current issue. To achieve this, set the layout cell attribute to a value of **UPDATE\_MAIN\_ISSUE**
- When the user clicks on the EDIT\_BUTTON on the related issue, the edit session for the related issue is set up in a modal window on top of the *edit* screen of the current issue. To achieve this, the layout cell attribute named

EDIT\_ISSUES\_IN\_MODAL\_WINDOW must be set to a value of YES. The layout cell attribute should be set to a value of **UPDATE MAIN ISSUE**

- There is no layout cell attribute of **UPDATE MAIN ISSUE** set. This is the default behavior, and no check for concurrency errors is made. The *edit* screen for the related issue appears in a new window. Use this default setting if there is no interaction of rules on the related issue with the current issue.

- ah. **VALIDATE HIDDEN FIELD**. Validation between tabs allows required fields on a layout in ExtraView to be validated for existence, even if they are not visibly rendered on the currently visible screen. This most often happens when you have designed screen layouts with part of the total record being displayed with different tabs being selected. The need is to validate the existence of values within fields across the entire record, not just the fields visible under the currently displayed tab. This implies that the user will most probably be making entries under several tabs on a screen, before they submit the record.

To set the attribute for the entire layout, go to the layout that embeds the subsidiary (embedded) layouts. Select the field named LAYOUT.embedded\_layout\_name. Add the Validate Hidden layout cell attribute to this field, and all fields within the layout will be checked.

To set the attribute for any individual field(s) within the embedded layout, simply add the attribute to the field within the layout.

If you place a VALIDATE\_HIDDEN attribute on a layout cell that contains an embedded layout as opposed to a field, then all the fields on the embedded layout will be subject to the VALIDATE\_HIDDEN logic.

**Note:** There is an important interaction between Validate Hidden and fields that have a Visible If attribute. If a layout element has a VISIBLE\_IF condition, and if the element has the VALIDATE\_HIDDEN attribute, a validation between tabs must be performed. ExtraView will automatically perform this check.

**Note:** If the Required If attribute is used within the same field as the Validate Hidden attribute, then it must be specified after the Validate Hidden attribute, so that ExtraView processes the attributes in the correct sequence.

- ai. **VALUE TAG**. This allows the administrator to add a new attribute to the HTML <TD ... tag that surrounds the value of the cell. This can be used to provide a different style for the value, or to inject any other valid HTML into the cell value tag. It is likely that you will need a reasonable understanding of HTML tags and attributes to use this layout cell attribute.
- aj. **VISIBLE IF**. This is for indicating whether or not a field or embedded layout is seen depending on the value of another element, including itself. You may have more than one VISIBLE IF attribute on a field.

If a field controls a hierarchy of VISIBLE IF dependencies, and it becomes invisible, all the fields below it in the dependency tree will also become invisible according to their conditions.

Note that VISIBLE IF dependencies only work on fields with a display type of List. Further, they do not work if the field has been set in the data dictionary to be a multi-valued list, or if the field is a pop-up list. The VISIBLE IF attribute is only supported on layouts that are rendered within *add* or *edit* forms. Note that if you use the *greater than* or *less than* operators, they only work with numeric comparisons.

If you place a VISIBLE IF attribute on a layout cell that contains an embedded layout as opposed to a field, then all the fields on the embedded layout will be made visible or not visible, according to the conditions set with the logic of the attribute. This is the simplest method to create several embedded layouts which are to be made visible or invisible according to the selected value in a driver field.

Conditional attributes such as FIELD REQUIRED and VISIBLE IF can be applied multiple times to a single field. When you use this functionality, the validation uses 'OR' logic. For example, you may set two VISIBLE IF rules, such as –

- a. The field named action is visible if Status equals pending
- b. The field named action is visible if Status equals fixed

With this rule, the action field will be visible if (a) or (b) is true.

## Embedded Layouts

You can create new layouts that can be embedded within other layouts with many, but not all, layout types. For example, if you have many layouts to create that are slightly different, but a significant number of the fields share the same characteristics, you can define a layout and embed it within many other layouts.

As well as embedding a layout within another layout, you can define alternate layouts that are rendered at run-time, according to a value of a field on the main layout. For example, you may want to embed different layouts with fields relevant to the collection of data about hardware and software, according to the user's choice of *Hardware*, *Software* or *Documentation*, in a field on the main layout. When the user selects this field, the screen is refreshed, and the appropriate embedded layout will be generated. There are two methods for doing this. First there is the "Selected By Layout" method. Second there is the method to embed layouts using the "Visible If" technique.

**Note:** You must not place the same field on a layout, and on an embedded layout. Doing so would lead to unpredictable results and errors. As embedded layouts can be created independently of layouts, and they are interchangeable, this condition cannot be checked by ExtraView prior to execution of the rendering of the screens. When rendering the screens, if ExtraView detects that a field is used more than once over all the screen (including the embedded layouts), then a warning is generated.

**Note:** You should not place the same field on different embedded layouts of the same type. Fields on embedded layouts are unique across the layout type being used.

**Note:** It is recommended that any embedded layout that you place on a layout should span all columns of the layout. An embedded layout should never start in any but the first column of a layout. Other placement may work, but there is no guarantee that the layout will render correctly. This is due to limitations of HTML and how different browsers will render complex HTML. You should always test your embedded layouts in all the target browsers that your organization uses.

**Note:** All the layouts of a single type must be contained within the same Business Area and Project for which the template for the embedded layout is created. For example, if you create a series of embedded layouts all dependent upon the same field for selection, these embedded layouts must all reside in the same Business Area and Project.

**Note:** An embedded layout should not contain the parent field of an allowed value relationship, if the child field is contained in the outer layout. Both parent and child fields can be in the same layout or the parent can be in the outermost layout with the child in the embedded layout.

**Note:** You cannot embed a layout within a *Quicklist* layout.

**Note:** You cannot embed a layout within a *Related Issue Display* layout.

**Note:** As a general rule, you should never embed a layout within itself, causing recursion or a condition which will be an infinite loop. ExtraView cannot detect this condition until runtime, and this can cause significant system and behavior problems requiring the restart of the application server.

## Embedded Layout Types

- **Simple embedded layouts** - In this instance a layout type that you create is embedded inline within another layout
- **"Selected By" layouts** - These embedded layouts are driven by a tab or list field. A template layout is created and this is used to create a different layout that will appear under each tab or list value. For most purposes, "Visible If" layouts are simpler to configure
- **"Visible If" layouts** - Layout types that you create are all embedded within a layout. Each layout is initially hidden with a Visible If layout cell attribute. This attribute references a driving field, usually a tab or list field such that each of the embedded layouts is made visible one by one, according to the value of the tab or list field
- **Repeating row layouts** - These layout types must be embedded within another layout. You cannot embed another layout within a repeating row layout
- **Related issue layouts** - These layout types must be embedded within another layout. You cannot embed another layout within a related issue display layout.

### "Selected By" Layouts

This feature allows the administrator to design a series of layouts, which are generated within a global layout such as the *Add* or *Edit Issue* screen. Each of these layouts is based upon the value of a "trigger" field. For example, you may want to generate a series of fields within a layout, dependent on the category of issue you are adding. Thus, if you want to render a different embedded layout for each of *Software*, *Hardware* and *Documentation*, which are different values of UDF named **ISSUE\_TYPE**, with a title of **Issue Type**, then you will choose the **Issue Type** field.

When the user selects the value of Issue Type, the embedded layout is refreshed, displaying the layout that is tied to the value of the trigger field. One usability feature is that if you have a form within a browser window that is longer than the height of the window, and you choose a different value for the trigger field, ExtraView will place the new embedded layout to display at the top of the screen, thereby preventing the situation where the new layout may be hidden beneath the bottom of the window.

The sequence of administrative operations required to create selectable embedded layouts is as follows:

1. First, decide on the field that is to be used to trigger the rendering of the different embedded layouts. For example, if you want to render a different embedded layout for each of *Software*, *Hardware* and *Documentation*, which are different values of the **Issue Type** field, then you will choose the **Issue Type** field.
2. From the Administration Site Configuration tab, select **Create and Maintain Layout Types** feature. The following screen appears:

Return
Print Page
Create and Maintain Layout Types

Add Add a new layout type to the database

**Filter List**

Select the column to use as a filter for the list. You may click on a letter to produce a list of the items which begin with this character, or you may enter a search pattern, including wildcards (\*). The Export button creates a CSV file of the results currently displayed on the screen.

Select filter column for report

or click on a letter A | C | D | E | H | I | P | R | S | <all> | <none>

or enter a search expression and click the Go button

	Name	Title	Usage	Created	Last updated
<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span>	ADD_PROBLEM	Add Issue Screen	Screen	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span>	EDIT_PROBLEM	Edit Issue Screen	Screen	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span>	SEARCH_QUICKLIST	Report Layout - Quicklist Report	Report	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span>	SEARCH_DETAILED	Report Layout - Detailed Report	Report	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span>	HISTORY	Report Layout - History Report from Edit Screen	Report	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span>	SEARCH_EXPANDED	Search Filter Layout - Full Search	Search	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span>	SEARCH_QUICK	Search Filter Layout - Quick Search	Search	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span>	SUMMARY_REPORT	Report Layout - Summary Report	Report	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span>	RELEASE	Repeating Row Record	Screen	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span>	SIMPLE_COL_SELECT	Report Layout Template for Column Reports	Report	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span>	EMAIL_FULL	Report Layout - Full Email Notification Layout	Report	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span>	EMAIL_BRIEF	Report Layout - Email Brief Notification Layout	Report	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span>	SEARCH_EMAIL	Search Filter Layout - Email Filter for Ad Hoc Email from Edit screen	Search	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span>	SEARCH_RGFILTER	Relationship Group Filter	Screen	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span>	SEARCH_CHART_REPORT	Search Filter Layout - Charts	Search	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070c0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span>	DEV_SELECT_TABS	Select tabs for bugs area	Screen	1/1/05 12:00 AM	1/1/05 12:00 AM

## Layout Types

3. Press the button to add a new layout type to ExtraView. You must name this layout with the fixed name of the trigger field. In our example, this is **ISSUE\_TYPE**. The title should be **Issue Type** and the type must be **Screen**
4. Now navigate to the **Design Center**
5. Navigate to the Business Area and if appropriate, the Project within which you want to use the embedded layouts
6. Next, select the layout type you just created from the **Add a new layout for the entire system** select list. Once again, in our example, this is named **Issue Type**
7. Give this new layout a title and a description. This layout is only used as a reference to create the different embedded layouts. You do not need to add any fields to this layout. Simply **Save** this layout. This now serves as a template for each embedded layout you create. Any fields that are contained in this layout will be propagated to the selectable embedded layouts created in the remaining steps of this procedure
8. **Return** to the initial **Design Center** screen
9. If you are adding the embedded layouts to the Add screen, edit the appropriate *add* screen. Place the **Issue Type** field on the main grid of the layout, if it is not already there
10. Now place the embedded layout on the main grid, by dragging it from the list of Layouts. In our example, the layout is named **LAYOUT.ISSUE\_TYPE**. You should be sure to give the embedded layout a suitable *colspan* within the layout. ExtraView will suggest that it can do this for you at this step, creating an embedded layout that will span the width of the entire layout
11. Step 12 will be repeated for each value of the **Issue Type** field (in our example, *Software*, *Hardware* and *Documentation*). We will be creating and saving an embedded layout for each of these values, from the template created in step 7
12. Make sure the embedded layout is selected on the main grid and click on the **Newlayout cell attribute button**. **Add a layout cell attribute of Selected, for the field named Issue Type and then select the appropriate value for each required embedded layout (often there is an embedded layout for every value of Issue Type, but that is not necessary)**. For example, if you want an embedded layout for the *Software* value of Issue Type, choose *Software* and **Return** to the layout
13. **Save** the layout and **Return**. You should see the new layout in the list of layouts, with the **Select by field** containing the title of **Issue Type**, and the **Select by Value** containing the values that were specified in the *SELECTED* attributes
14. You may repeat steps 12 and 13 for other values as your needs change (or you add values to the selector UDF) in the future. From the Design Center you can directly proceed to editing the layout cell attribute of the **LAYOUT.ISSUE\_TYPE** field, add the selected value, and then **Save** the layout. The new embedded layout will be automatically created for each new value added to the *SELECTED* attributes

15. You can delete selectable embedded layouts as you would delete any other layout. However, you should not delete the "template" layout created in step 7, or you will not be able to add new selectable embedded layouts of that type.

## "Visible If" Layouts

You can achieve similar effects with an embedded layout, or with several fields on a form that conditionally appear with the layout cell attribute named "visible if". Layout cell attributes are described more fully below.

For example, you may want three cells on a layout to be displayed according to the value selected in a list box. You may set this up with embedded layouts, or with the layout cell attribute named "visible if" on each of the three cells.

A guide to implementing the most effective method is to consider the following:

- If you have several or many fields to make visible, embedded layouts are processed a little faster, resulting in higher performance for the end user
- It takes more effort to set up embedded layouts, and conditional attributes have the advantage of being simpler to set up and maintain
- Once set up, embedded layouts can be re-used on both add and edit screens, whereas conditional attributes must be set up for each layout.

## Positioning Embedded Layouts

Within ExtraView, a design decision was made to always align the columns of an embedded layout with the columns of the layout that embeds it. This provides the most pleasing presentation of fields to a user. However, the limitations of HTML are such that this works precisely when an embedded layout is defined to start in the first column of the layout within which it is created. If the embedded layout has multiple rows (and most do), then the second and subsequent rows will always be rendered from the first column of the second and subsequent row, which may cause a misalignment. To prevent this, set a *rowspan* on the field at the left of the embedded layout, such that it spans one row greater than the number of rows in the embedded layout.

To see this effect, see the following two layouts and the differing rendering of the results:

### Layout 1

Insert Delete Row 7	COMMENTS Comments		
Insert Delete Row 8	CONTACT Contact	TEST_EMBEDDED_LAYOUT Embedded Layout	
Insert Delete Row 9	OWNER Owner	LAYOUT.TEST_EMBEDDED_LAYOUT	

Layout definition with embedded layout

Note that this layout leads to the wrong rendering of the embedded layout, where the embedded layout titles appear correctly, but the data rows are offset to the leftmost column.

Rendering of layout

### Layout 2



Insert Delete	Row 7	COMMENTS Comments			
Insert Delete	Row 8	CONTACT Contact	TEST_EMBEDDED_LAYOUT Embedded Layout		
Insert Delete	Row 9	OWNER Owner	LAYOUT.TEST_EMBEDDED_LAYOUT		
Insert Delete	Row 10				

Layout definition with padded field in first column

In this layout, not that the OWNER field was set to have a *rowspan* of 2. This corrects the position of the embedded layout rows so they align correctly.

Rendering of layout

## Repeating Row Layouts

The basic principal of the repeating row layout is that it provides a repeating block of fields, where each block can be added by the user at runtime, or added by business rules, creating additional fields on the screen. For example, you may want to have a row of fields that refer to a sub-issue, assigning part of the issue to an individual. You can create as many rows as needed, to assign different parts of the issue to different people. Each of these may have a field named `RELEASE_STATUS`, which can be used to follow the workflow you create.

All layouts to be used as repeating row layouts must be created as a repeating row layout type. All fields placed on repeating row layouts must have been created in the data dictionary with the **Field Belongs To** having a value of *Repeating Row records*.

You may embed repeating row layouts within an `ADD_PROBLEM`, `EDIT_PROBLEM`, `EMAIL_FULL`, or `HISTORY` layout. You may also embed a repeating row layout within another layout which is itself to be embedded within one of these layouts.

You can also create UDF's that are attached to the repeating records, as opposed to being added to the main issue record. Care should be taken when doing this. For example, it is problematic for users and for reporting to add field display types such as Log Area to each line of a repeating record. Log Area fields are therefore not supported on repeating record layouts. The section on the Data Dictionary describes how to set up UDF's, including UDF's attached to repeating records.

There is also an important limitation in that you may not place the same field on multiple repeating row layouts. ExtraView cannot differentiate between these fields and incorrect data would be stored if you configured a system that had the same field appear within different repeating row layouts. The design center cannot distinguish this when you are building each repeating row layout, so take care to only use repeating row fields within a single repeating row layout.

## Permission Keys

The following keys exist for both `PR_ADD_PROBLEM` and `PR_RESOLUTION`, having their effect on the *Add* screen and the *Edit* screen respectively.

Key	Purpose
RELEASE	This permission key controls access to all the repeating row layouts that appear within the <i>Add</i> screen and the <i>Edit</i> screens. Giving this key read and write permission for a role enables all the repeating row layouts that appear

**ALLOW\_ADD\_REPEAT\_RECORDS** This controls the visibility of the *Add Another xxx* button on the screen. The xxx text is determined by the title to the data dictionary field named **RELEASE**

## Creating a Repeating Row Layout

1. Create the layout type for the repeating row
2. Click on **Screen and Reports Layouts** from the Administration menu, under the **Fields & Layouts** tab
3. Use the **Add a new layout for the entire system** entry to add the new layout type to your current business area, project and role. Note the section at the bottom of the screen that provides the information on creating repeating row layouts. You may either create a new repeating row layout type, or utilize an existing one.

### Creating a Repeating Row Layout

4. Add fields to the layout, using the layout editor features. An example might be:

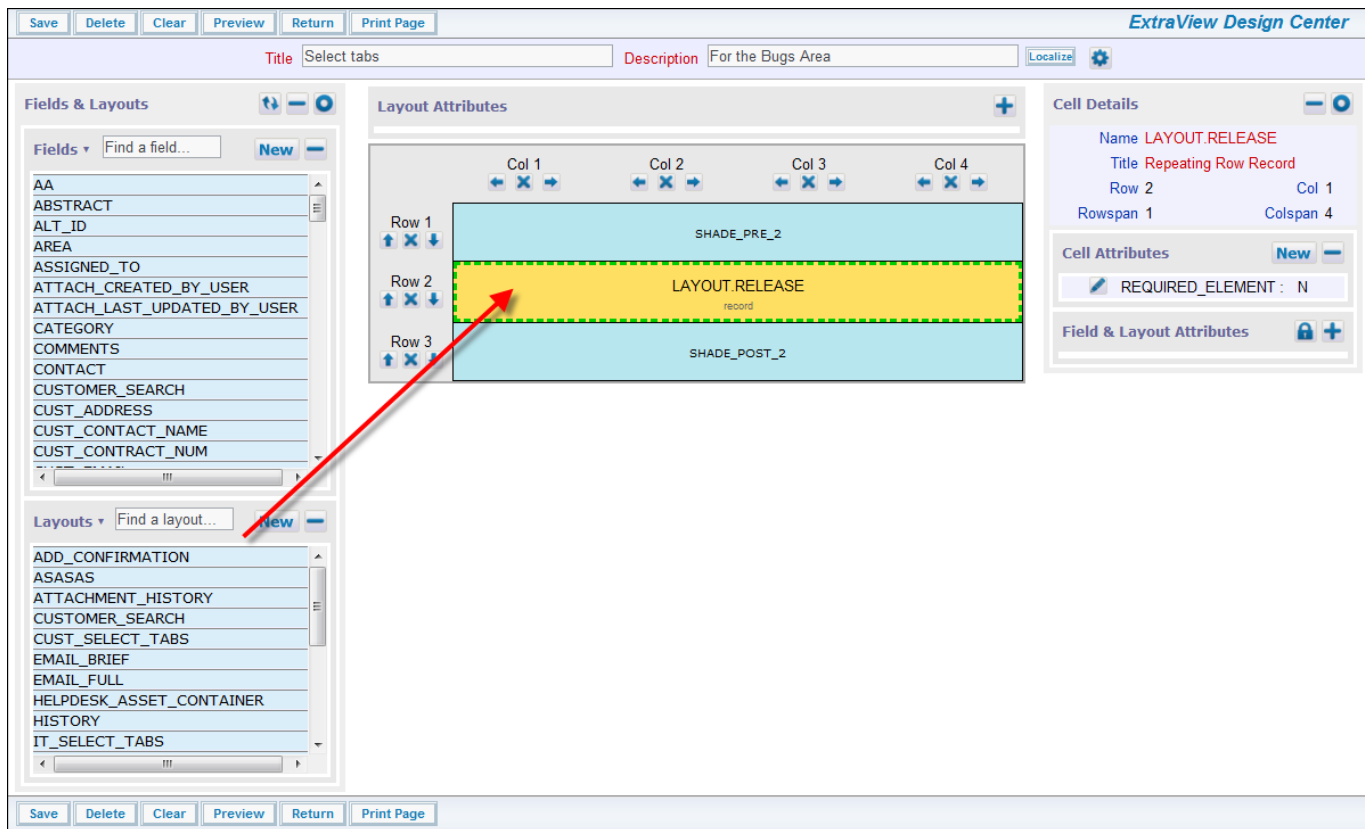
### Add Release Layout

The inbuilt fields that can be added are taken from the following list. Note that these fields may only be placed on a single repeating row layout.

- a. RELEASE\_FOUND
  - b. RELEASE\_FIXED
  - c. RELEASE\_ASSIGNED\_TO
  - d. RELEASE\_OWNER
  - e. RELEASE\_PRIORITY
  - f. RELEASE\_SEVERITY\_LEVEL
  - g. RELEASE\_STATUS – note that this field obeys the workflow rules that you set up with the workflow status rules
  - h. RELEASE\_OWNER
  - i. Any UDF that you have created, which is of the repeating record type. Note that a UDF can only be placed on a single repeating row layout, while the above fields can be placed on any number of repeating row layouts.
5. Save your current Layout by clicking the **Save Layout** button.

## Adding the Repeating Record Layout to Appropriate Screens

1. Navigate to the Design Center
2. For both the Add and Edit screen, you may select LAYOUT.RELEASE from the dropdown list
3. Choose the particular row to which you want to add the repeating record information by selecting the row from the row dropdown list or by clicking the **Insert** button to insert a new row
4. Save your changes and view your results (layout embedded within a layout).



Design Center screen

## The Inbuilt RELEASE Repeating Record

Repeating records such as the inbuilt *Release* layout are not designed to be rendered as individual screens, but designed to be embedded within other layouts. This allows you to create a system that either allows you to have issues that can, for example, have multiple release records within each issue. Different layouts can be designed that can be embedded within both the Add and Edit screens if desired.

You should be aware that you should not create recursion by embedding a layout within itself. Note that if you require a system where you require a single repeating row record (e.g. there is only one release found and one release fixed for each issue) then you should not use a repeating row record.

The inbuilt repeating record named **RELEASE** contains fields with the following names and default screen titles:

RELEASE_FOUND	Version Found
RELEASE_FIXED	Version Fixed
RELEASE_SEVERITY_LEVEL	Severity Level
RELEASE_PRIORITY	Priority
RELEASE_STATUS	Status
RELEASE_OWNER	Owner
RELEASE_ASSIGNED_TO	Assigned To
RELEASE_RESOLUTION	Resolution

Each of these fields is protected with a security permission key, one for the *add* screen and one for the *edit* and *query* screens.

These are manipulated in the standard way, as explained in the section named **Grant Security Permissions**.

There is a security permission key that allows you to control the presence or absence of a delete checkbox on the repeating row. This is named PR\_RESOLUTION.PROBLEM\_RELEASE\_DELETE. This key controls the presence of a check box on a repeating row record, that allows the user to delete a complete repeating row. Write access is needed to control the checkbox.

**Note:** There are two security permission keys, named PR\_ADD\_PROBLEM.RELEASE and PR\_RESOLUTION.RELEASE. These keys control the presence of the entire repeating record, and switch the entire structure on or off for an individual user role. To turn on or off access to the whole repeating record, use the *write* privilege.

**Note:** There are two security permission keys named PR\_ADD\_PROBLEM.ALLOW\_ADD\_REPEAT\_RECORDS and PR\_RESOLUTION.ALLOW\_ADD\_REPEAT\_RECORDS that control the visibility of the **Add another xxxxxx** button beneath the repeating rows on *add* and *edit* screen layouts. You can remove the button to stop users in some roles being able to add additional repeating rows, but have users in different roles being allowed to add the repeating rows. The **xxxxxx** is the title of the data dictionary field named RELEASE. For example, if you provide a title of **issue** to the field, then the button is named **Add another issue**.

## Unique and non-Unique Repeating Rows

Differing purposes may require you to implement repeating row records which either have or do not have a unique key field. There are two parts to configuring this capability. First, in the Workflow behavior setting screen, use the ENFORCE\_UNIQUE\_RELEASES setting to switch on the capability of enforcing a unique key field. Second, you must place the field named RELEASE\_FOUND on the repeating row record. This normally has a display type of LIST, although TAB and POPUP are also supported. You can re-title the field in the data dictionary to any suitable title you require for your installation. Also, note that the RELEASE\_FOUND and the RELEASE\_FIXED fields are the child fields where the PRODUCT\_NAME field is the parent. This means that if you have the RELEASE\_FOUND or RELEASE\_FIXED fields on a repeating row record, then you must have the parent PRODUCT\_NAME field on the add and edit screens that contain the repeating row record.

## Repeating Rows & Custom Code

There are occasions when working with repeating rows that it is useful to know which row you are targeting with an event. For example, you may have a popup field that returns a value to a specific field on a repeating row. You will need to know which row to target with the return value. To make this task simpler, there is a JavaScript function available on *add* and *edit* layouts that you can call from an HTML modifier to any cell. This function is named `getRowNumber` and is used in this way:

```
var rowNum = getRowNumber(this, this.form);
```

This function returns the following in `rowNum`:

- 1 if the field is a singleton repeating row
- 0 – nn if the field is in a repeating row with 2 or more rows, where nn indicates which row the field is in.

## Field Limitations on Repeating Row Layouts

Repeating row layouts do not support –

- Log Area display type fields
- Multi-value display type fields
- Any data dictionary field that does not have the **Field belongs to** value set to **Repeating Records**
- Any one field cannot be placed on multiple repeating row layouts, whether it is an inbuilt or user defined field. Take care when configuring your layouts as no error can be detected at design time.

## A Note on how Repeating Rows are Managed

As far as possible, repeating rows are added and updated on an *add* or *edit* screen using Ajax. This provides the best performance possible. There are some cases where ExtraView cannot use Ajax, and in this case all the repeating rows have to be re-rendered upon a change. This usually occurs if there are field differences between what is rendered on the page and what will be on the newly added record.

For example, suppose you have a **Visible If** layout cell attribute on a field and the parent field is also on the same repeating row. It is possible that you can make the field invisible on all the rows. When this happens, ExtraView does not display the title for that field and suppress the entire column. If adding a new row makes the invisible column visible, then ExtraView needs to re-draw the entire set of repeating rows.

The following cases show where ExtraView forces a complete rendering of the repeating row layout, as opposed to an Ajax refresh of just a single row:

- The repeating row layout is placed under an embedded layout as the first row in the embedded layout. In this case, there is not a row with the ID of the repeating row in the browser DOM when ExtraView renders the upper-level sublayout. Hence the

complete repeating row layout must be rendered.

- The Ajax refresh causes a column to be added or removed from the display. For example, suppose you have a **Visible If** condition on FIELD\_A and you have 2 rows on the repeating row layout and FIELD\_A is visible on both rows. FIELD\_A is on a column by itself within the repeating row layout. Change the Parent value on row 1 to make FIELD\_A invisible. The Ajax call takes place and makes the field invisible. Change the Parent value on row 2 to make FIELD\_A invisible on row 2. This Ajax call will force the rendering of the entire repeating row. ExtraView does this because the column for FIELD\_A will be suppressed if FIELD\_A is invisible on all rows.

## Relationship Layouts

Relationship groups allow the users of ExtraView to associate individual issues with each other. You may want to create relationships between issues for several reasons, for example, because you want to consider them together when making updates, preparing reports, or because you want to implement a workflow which mandates that you update issues as a group, or because you want a workflow where the parent issue cannot be closed until all the child issues are handled.

Relationship groups are configured with a layout type that is then embedded within an *add*, *edit*, *report* layout or another embedded layout. This layout is configured with layout cell attributes to identify the basic characteristics of the related issue display. You might need to provide some business rules to control the interaction of the related issues. For reporting with related issues you will need to define the reporting hierarchy.

Examples of relationship groups:

- A project may be composed of many tasks. The project can be stored in an issue, and each of the tasks may be stored in related issues
- A product release may be supported by many individual features. The product release may be stored in an issue while the features may be stored in related issues
- A reported incident may have a number of corrective actions that must be applied. The incident may be stored in a parent issue and the corrective actions may be stored in related issues.

Relationship groups can be built with many different types of behavior. Examples of how to build installations with related issues at their core is described later in this section of this guide. There are several types of inbuilt relationship groups that can be defined:

Relationship Group Type	Purpose
-------------------------	---------

Bi-Level	This is a simple relationship group where a single issue acts as a parent issue to any number of child issues. This has largely been superseded by the One-to-Many type, but its use will be continued for backwards compatibility. If you are designing a new ExtraView application, or adding relationship groups to an existing installation, it is recommended that you do not use the bi-level groups. To continue using this type of relationship group and to ensure that bi-level groups are updated, the behavior setting named RG_UPDATE_BILEVEL_ONLY should be set to a value of YES. To remove the ability to create new relationship groups with the type of bi-level, set the behavior setting named ALLOW_BILEVEL_GROUPS to a value of NO. Bi-level relationship groups will not operate correctly unless this setting has a value of YES.
One-to-Many	This type also has a single parent issue with multiple child issues, but with some differences and enhancements from the bi-level type of group. This type of relationship group should be used in preference to the bi-level group type for all new applications. If you want the capability to update all related issues when performing the update of an issue, you must set the behavior setting named RG_UPDATE_BILEVEL_ONLY to NO.
One-to-Many Cascade	This type is similar to the One-to-Many relationship group type. The difference is that when a user deletes an issue which is the parent of one or more child issues, then the child issues are also deleted, as opposed to leaving orphaned child issues in the database, once the parent is deleted.
Many-to-Many	In the many-to-many relationship group type, an issue can belong to more than one relationship group, and many issues can be connected in many ways. . If you want the capability to update all related issues when performing the update of an issue, you must set the behavior setting named RG_UPDATE_BILEVEL_ONLY to NO.

Relationship groups go beyond the grouping of issues using report filters. For example, it is always straightforward to produce a report that groups issues where there is a common searchable field, such as all the issues that affect a specific product or have the same priority.

Relationship groups share a number of common characteristics:

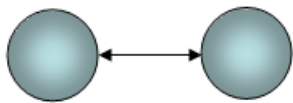
- You can relate different items or issues together. Users achieve this through the *add* or *edit* screens. The administrator may also perform this from the **Relationship Group Maintenance** screen
- When you update a member of a related issue group, you can configure behavior that will optionally allow the user to update all the related members of the group. You can create a layout that contains the fields that may be updated in all issues when one member of the group is updated
- Users may remove items from groups via the *add* or *edit* screens. Again, the administrator may also perform this from the **Relationship Group Maintenance** screen

- You may view all the items in the relationship group, from the *add*, the *edit* screen or from reports such as a Quicklist or a Detailed report. From any of these places and with permission, you may drill down and view or edit the issues
- With permission, when you update an issue that is a member of a relationship group you may apply updates to the other members of the group
- When issues are cloned, rules can be used to place these issues in a relationship group.

## Relationship Types

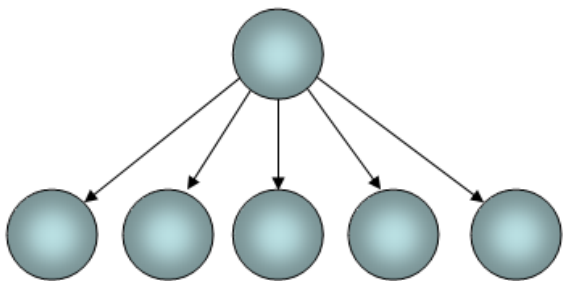
### Simple Relationship

The simplest relationship may be that you want to connect two issues together, for example because they exhibit similar symptoms, or because they were reported by the same customer. This can be represented by the following diagram:



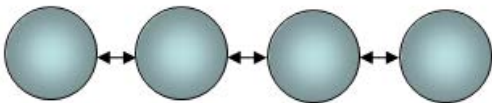
### Parent-Child Relationship

Typically, a parent – child relationship group will be implemented with the One-to-Many group type. The most common use cases are where you want a single issue to control the behavior of the child issues, for example, several customer-reported issues may not be closed until the engineering issue that controls the fix to the problem has been solved and closed. In this case the engineering issue would be the controlling parent issue.



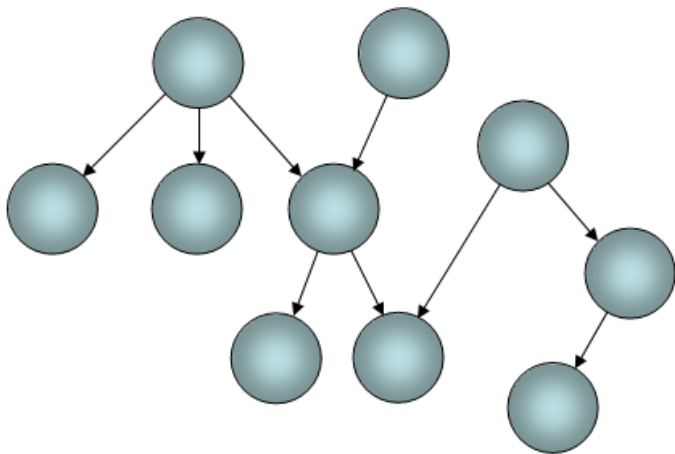
### Sibling Relationships

Sibling relationships link issues at the same level in a hierarchy. Typically sibling issues will have a single parent to which they are linked. Each of the siblings may in turn have child issues. A common use case is where you want to perform an action on the parent issue, when all siblings have a common value in a field and you want to reflect this within the parent issue. For example, you might want to automatically set the status of the STATUS field within a parent issue to **Approved** when each of the child issues has a radio button that indicates approval of that child issue. A SIBLINGS relationship allows you to compose a rule that would take action on the parent when all the siblings have the same value indicating that approval is given for that individual sibling.



### Complex or Arbitrary Relationships

The Many-to-Many relationship group type allows a very flexible structure of relating issues, where you can connect issues in almost any form, and a single issue can be a member of more than one group. The use case here is to allow a very freeform structure where different groups of issues can be connected together. Features exist to allow you to look up and down the structure, to the parent or parents of an issue, to an issue's children, or even to look beyond the direct relationship and include the related issues to the parents or children of the issue. This is represented by the following diagram:



## Security Keys for Relationship Groups

Key	Purpose
CF_RELATIONSHIP_GROUP_VIEW_PROBLEM_BUTTON	Controls the appearance of the View button on the Related Issues Screen. Only used for BI-LEVEL relationship groups.
PR_ADD_PROBLEM.RELATIONSHIP_GROUP	Controls access to the RELATIONSHIP_GROUP button on the <i>add</i> screen.
PR_RESOLUTION.RELATIONSHIP_GROUP	Controls access to the Related Issues (the button beside ID on the Edit screen) for BI-LEVEL groups, and to see the RELATIONSHIP_GROUP field on the <i>edit</i> screen
PR_RESOLUTION.RELATIONSHIP_GRP_ADMIN	Controls the visibility of the Manage Relationship Group button on the <i>edit</i> screen for BI-LEVEL relationship groups.
CF_RELATIONSHIP_GROUP	Controls the visibility of the Group Issues button on reports (this is next to the Refresh button at the top and bottom of column, summary, Quicklist and Detailed reports

## Behavior Settings for Relationship Groups

Key	Purpose
CLONE_RELATION_GROUP	Relationship group name for clone relationships. When an issue is cloned it will automatically be placed into the relationship group named in this setting.
MORE_HISTORY_NUMBER_ROWS	This setting defines the number of rows of related issues to display, before a <i>more ...</i> prompt appears within the history record. This is to prevent the situation where you may have hundreds of related issues, and many updates. In this case, the user would mainly see history of the related issues, as opposed to seeing the history of the issue itself.
RELATION_GROUP_DEFAULT	The name of the relationship group that will be used for any issue being placed into a relationship group. This default can be overridden by using a layout cell attribute on the RELATED_ISSUE_DISPLAY, or by using the field RELATIONSHIP_GROUP on the <i>add</i> or <i>edit</i> layout to offer the user a choice of relationship groups
RELATIONSHIP_GROUP_EMAIL_LIMIT	When you update the status of an issue within a relationship group, each issue will be subject to the standard notification process. When there are more than RELATIONSHIP_GROUP_EMAIL_LIMIT entries in the group, notification is only made to the users in the parent issue, and a comment is inserted on the issue with this information
RELATIONSHIP_GROUP_LIST_UDF	This setting is the name of a user defined field with a display type of list. This UDF is used to maintain a list of the names of relationship group for related issue display. The UDF is maintained by ExtraView as relationship groups are created or deleted. The UDF can also be aliased by other UDF's to provide an unlimited number of fields that can be used to identify the relationship group names to support multiple related issue displays on a single edit screen.
RELATIONSHIP_GROUP_MAX_DISPLAY	Maximum number of issues to display on the relationship group screen. 0 means there is no limit. Note that the administration user defined in ADMIN_OVERRIDE_ROLE will always see all the issues, no matter the value of the setting
RELATIONSHIP_LINK_DISPLAY	If the data dictionary entry RELATIONSHIP_GROUP_

LINK is placed on the edit screen layout then either a link or list will appear beside the title. The display of the field is controlled by the behavior setting named RELATIONSHIP\_LINK\_DISPLAY. This can have a value of either SELECT or LINK. The RELATIONSHIP\_GROUP\_LINK entry should not be placed on the add screen.

If the value is LINK then the field will appear on the edit screen as a link specifying the number of issues in the group. If this link is clicked on, the user is redirected to the Related Issues screen.

If the value is SELECT, then the field will appear as a select list. The user can then select the issue they want to modify in the list and then press the link button to go to an edit screen for that issue. If there are more entries in the list than the POPUP\_LIST\_SIZE behavior setting, then an additional entry of \* More \* will appear in the list. If the user selects this value and clicks on the link button, then they will be redirected to the Related Issues screen for a full list of the grouped issues.

RG\_UPDATE\_BILEVEL\_ONLY

This behavior setting is for backwards compatibility with ExtraView version 4.x. If you set the value to YES, then related issue updates are only triggered when a change to the STATUS field takes place. If this is set to NO then updates to related issues may be triggered on different events and many updates to different fields are possible.

SHOW\_CLOSED\_REL\_GROUPS\_PERIOD

The list of items on a relationship group will be displayed until all issues have been closed for a minimum number of days specified by this value. Valid values are numbers equal to or greater than 0. 0 means that as soon as all items within a relationship group are of the status specified by STATUS\_CLOSED\_NAME they will not be displayed on the list of relationship groups.

## Data Dictionary Fields for Relationship Groups

Field	Purpose
RELATED_ISSUE_DISPLAY	This label field provides a means of being able to alter the title to the inbuilt relationship issue display. Note that when you create a new relationship issue display type, then a new field is automatically created as a label field in the data dictionary, also allowing you to provide a title to the related issue display you create
RELATIONSHIP_GROUP_CHILD	When this field is placed on a layout, and the user enters an ID into this field, then the issue whose ID is entered becomes a child to the current issue when the current issue is updated. If there is an error, such as a non-existent child ID, an error will be generated and displayed to the user. If the current issue is already a parent of the child issue ID entered, no error is indicated and no change to the relationship occurs.  When the user next views the issue, the related issue display will show the new child issue, assuming the relationship group relation type is either MEMBER, CHILD or RELATED
RELATIONSHIP_GROUP_LINK	A general purpose label to provide the title for relationship group links
RELATIONSHIP_GROUP_PARENT	When this field is placed on a layout, and the user enters an ID into this field, then the issue whose ID is entered becomes a parent of the current issue when the current issue is updated. If there is an error, such as a non-existent parent ID, an error will be generated and displayed to the user. If the current issue is already a child of the parent issue ID entered, no error is indicated and no change to the relationship occurs.  When the user next views the current issue, the related issue display will show the new parent issue, assuming the relationship group relation type is either MEMBER, PARENT or RELATED
RELATIONSHIP_GROUP_REMOVE_BTN	A field to provide a checkbox that allows issues to be removed from relationship groups. The field is an inbuilt field with special treatment. It is defined in the data dictionary with a type of LABEL and a display type of BUTTON. Although it is placed on related issue display layouts, it will only appear when the layout is rendered within an <i>edit</i> screen. It is ignored on add screens, report layouts and on the POST_EDIT_UPDATE layout. There is a security permission key named PR_RESOLUTION.RELATIONSHIP_GROUP_REMOVE_BTN to control the appearance of the Remove? checkboxes on the edit screens. The user may check any number of related issues and the checked issues will be removed from the relationship when the current issue is updated
RELATIONSHIP_GROUP_TITLE	A general purpose label to provide titles for relationship group



RELATIONSHIP_GROUP_TYPE	A general purpose label to provide the titles for relationship group types
RELATIONSHIP_GRP_PARENT_ID	A field that stores the parent ID of a relationship group
RELATIONSHIP_GROUP_ID	A field that contains the internal ID of a relationship group
RELATIONSHIP_GROUP_PARENT	A field that contains the parent of a relationship group
RELATIONSHIP_GROUP_CHILD	A field that contains the child of a relationship group
RELATIONSHIP_GROUP_TXNS	A field that contains the historic transactions of a relationship group. This field is only valid on a layout of type HISTORY.

## Related Issue Layouts

Related issues are displayed with layouts that use the naming convention **RELATED\_XXXXX**. To create a new related issue layout, you first create a layout type where the name begins with **RELATED\_**. Note that the usage of related issue displays must be *Report*. In the normal way for layouts, these may be inherited by any Business Area or Project which will use them. These are used to display the related records within *add*, *edit* and report layouts. The layout contains the fields you want to display when viewing the related issues.

There is a single default related issue display layout within a new ExtraView installation, named **RELATED\_ISSUE\_DISPLAY**. The default fields on this layout are VIEW\_BUTTON, QUICKEDIT\_BUTTON, EDIT\_BUTTON, RELATIONSHIP\_GROUP\_REMOVE\_BTN, ID, STATUS, ASSIGNED\_TO and SHORT\_DESCR. You may change any of these fields to meet your requirements.

When you configure a related issue display layout to allow the creation of new related issues, you are able to place a button on a header to the display. This button may have any text, and when pressed will open a modal window where you can add the issue you are creating into the relationship with the current issue on the screen.

On reports, related issues will not be placed in a scroll box, allowing you to print the results clearly. On the *add* and *edit* screens, the related issues are placed within a scroll box whose dimensions are controlled by the layout cell attributes named SIZE and HEIGHT. If you do not provide a layout cell attribute for SIZE, then the default is 125 characters. Within the layout, you can also use a SIZE layout cell attribute on the individual fields to control their width. If you do not use a SIZE attribute on individual fields, then the width of each field floats and the user's browser will decide on the optimal width. The height of the related issue display is calculated automatically, to display all the records in the group unless a HEIGHT layout cell attribute is added to the related issue display, to provide a maximum height.

### Sample Rendering of Related Issue Display Layouts

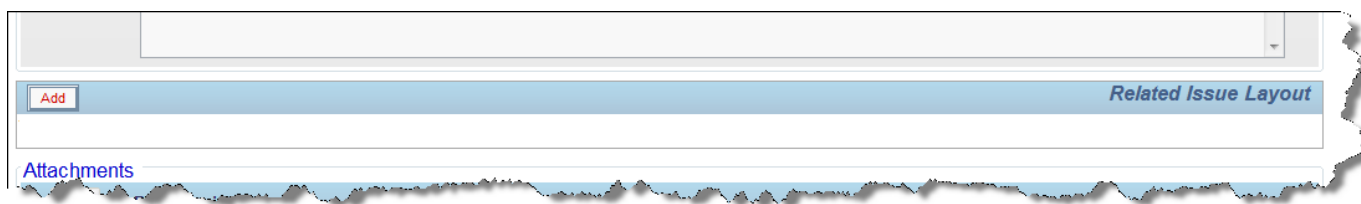
Some sample layouts rendered on *Add* and *Edit* screens are:

Related Issue Display					
		ID #	Status	Assigned To	Title
<a href="#">View</a>	<a href="#">Edit</a>	10561	Open	<a href="#">Bill Smith</a>	Authorization to provide a new computer for new employee - Arne Markoff
<a href="#">View</a>	<a href="#">Edit</a>	10562	Open	<a href="#">Mary Brown</a>	Authorization to provide a new telephone extension for new employee - Arne Markoff
<a href="#">View</a>	<a href="#">Edit</a>	10563	Open	<a href="#">Jimmy Duncan</a>	Authorization to provide new furniture for new employee - Arne Markoff

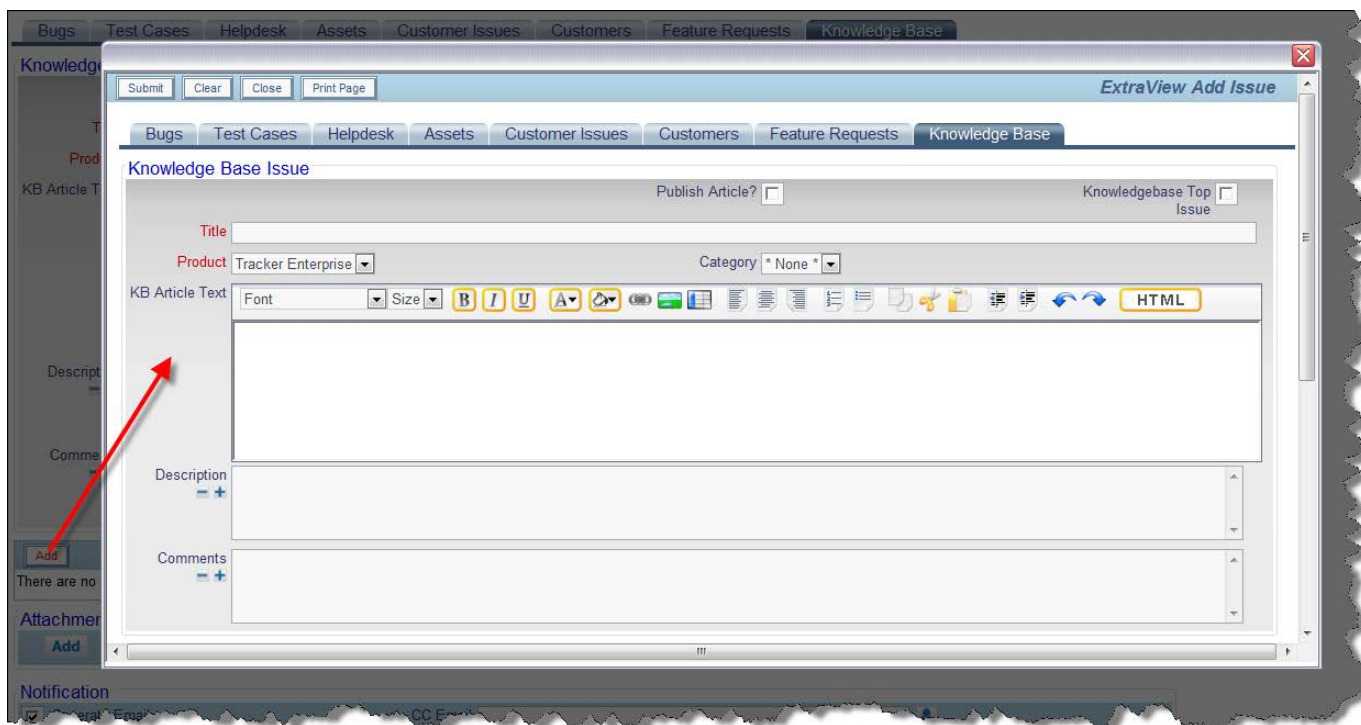
Related issues on a report

		Remove?	ID #	Status	Assigned To	Title
<a href="#">View</a>	<a href="#">Edit</a>	<input type="checkbox"/>	10561	Open	<a href="#">Bill Smith</a>	Authorization to provide a new computer for new employee - Arne Markoff
<a href="#">View</a>	<a href="#">Edit</a>	<input type="checkbox"/>	10562	Open	<a href="#">Mary Brown</a>	Authorization to provide a new telephone extension for new employee - Arne Markoff
<a href="#">View</a>	<a href="#">Edit</a>	<input type="checkbox"/>	10563	Open	<a href="#">Jimmy Duncan</a>	Authorization to provide new furniture for new employee - Arne Markoff

Editing related issues on an add or edit screen



Adding new related issues on an add or edit screen



The modal popup to add a related issue

## Related Issue Display Layouts

You may create any number of additional related issue display layouts, but you must begin the name of the layouts you create with **RELATED\_**. For example, as well as **RELATED\_ISSUE\_DISPLAY**, and as an example, you may create another related issue layout named **RELATED\_SUPPLIERS**. All the layouts to be used as related issue displays must be created with a display type of **Report**, even if they are to be embedded within an *Add* or *Edit* layout. Once you have created the layout type, you then include the layout on the *Add*, *Edit* or Detailed Report layouts. For the above example, you would include **LAYOUT.RELATED\_SUPPLIERS** on the layout.

When you create a related issue layout, a new field is created automatically in the data dictionary, with the same name as your layout. In our example, the field **RELATED\_SUPPLIERS** is created. The field has the usual **PR\_ADD\_PROBLEM** and **PR\_RESOLUTION** permission keys, and these control visibility to the the related issue display layout on the *add* and *edit* layouts for the different roles in your installation.

The field **RELATIONSHIP\_GROUP\_REMOVE\_BTN** is an inbuilt field with special treatment. It is defined in the data dictionary with a type of **LABEL** and a display type of **BUTTON**. Although it is placed on **RELATED\_ISSUE\_DISPLAY** layouts, it will only appear when the layout is rendered within an *Add* or *Edit* screen. It is ignored on report layouts and on the **POST\_EDIT\_UPDATE** layout. There is a security permission key named **PR\_RESOLUTION.RELATIONSHIP\_GROUP\_REMOVE\_BTN** to control the appearance of the **Remove?** checkboxes on the *Add* and *Edit* screens. Its function is to allow the end user to remove a related issue from the relationship group. The user may check any number of related issues and the checked issues will be removed from the relationship when the current issue is updated. Removing an issue from a relationship does not delete the issue.

## Embedding Related Issue Display Layouts Within a Layout

As stated above, related issue display layouts are designed to be embedded within *add*, *edit*, report and other layouts which are then embedded within *add*, *edit* and report layouts. This screenshot shows a related issue display layout embedded within an *edit* layout:

The screenshot shows the ExtraView Design Center interface for editing a screen layout. The title is 'Edit Screen for Sales Leads' and the description is 'Replication of Salesforce'. The layout is a grid with 4 columns (Col 1 to Col 4) and 10 rows (Row 1 to Row 10). Row 7 is highlighted with a red circle and contains a cell with the attribute 'LAYOUT.RELATED\_ISSUE\_DISPLAY'. The interface includes a 'Fields & Layouts' sidebar, a 'Layout Attributes' table, and a 'Cell Details' panel.

Row	Col 1	Col 2	Col 3	Col 4
Row 1	SHADE_PRE_1			
Row 2	SHADE_PRE_2			
Row 3	COMPANY Company	ID Issue #	DATE_CREATED Created	ORIGINATOR Originator
Row 4	CUSTOMER Customer	STATUS Status	TIMESTAMP Last Modified	ASSIGNED_TO Assigned To
Row 5	SALES_CATEGORY Sales Category	SALES_TEMPERATURE Temperature	TIMEZONE Timezone	OPPORTUNITY Opportunity (\$)
Row 6	SHADE_POST_2			
Row 7	LAYOUT.RELATED_ISSUE_DISPLAY Related Issue Display			
Row 8	FOLD_PRE_3			
Row 9	EV_SITE ExtraView Site	EV_SITE_STATUS ExtraView Site Status	LICENSE_NUMBER License Number	LICENSE_TYPES License Type
Row 10	EV_CLIENT_ID	HOLIDAY_CA	MAIL_BOUNCE_	EV_DB_NUMBER

## Layout Cell Attributes for Related Issue Display Layouts

Over and above the standard layout cell attributes that can be applied to all cells on layouts, the following attributes allow configuration of embedded related issue display layouts.

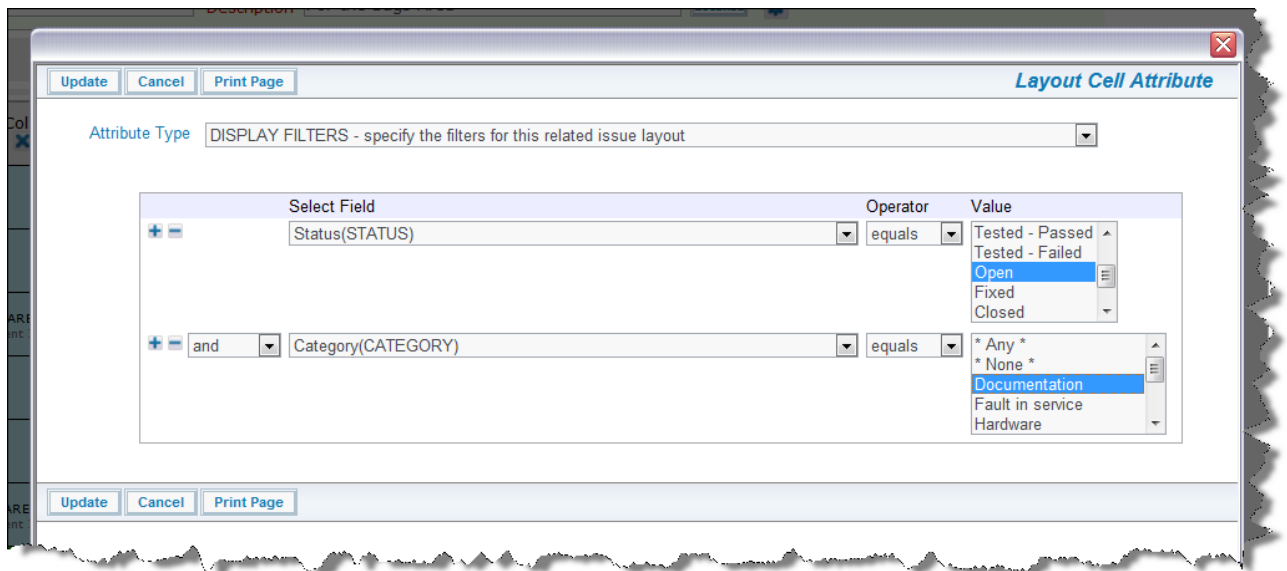
Cell Attribute      Purpose

**BUTTON\_ACTION** The **BUTTON\_ACTION** attribute is applied as a cell attribute to the **ADD BUTTON**. The action defines what happens when the user presses the add button.

- **Target Business Area** - This defines the Business Area that will be used for the *add* screen displayed when the button is pressed
- **Target Project** - This defines the Project that will be used for the *add* screen displayed when the button is pressed
- **Check Required Fields** - If you check this option, then all required fields on the parent issue will be checked for their presence before the child window is displayed. This can be extremely useful if you are going to push down field values from the parent to the child issue, and you want to ensure that the child window is always initiated with a value within a field
- **Action after Submitting the Child Issue** - This option allows you to select the action after the child issue is created. You can either have only the related issue display that contains the newly added issue updated, or you can have the parent issue updated and the entire screen updated. The latter is only required when there are some business rules that triggered changes to the parent issue when the child issue was submitted
- **Push Down Field List** - Double click on the fields whose values you want to push down from the parent issue to the child issue. The selected fields are displayed in the right-hand list
- **Show Generate Script** - This button is provided for advanced usage. It is possible to configure button actions that are more complex than can be done with the **BUTTON ACTION** utility. This option allows you to generate the JavaScript that is close to what you require. You can then copy this JavaScript into the **ONCLICK\_JS** attribute, and modify it for your requirement. You should not save the **BUTTON ACTION** if you are using **ONCLICK\_JS** and vice versa.

## DISPLAY FILTERS

This cell attribute allows the administrator to specify a set of filters to apply to the selection of the related issues to display. This filter is applied to only the related issue records so the user will see a subset of the related issues. For example, this screenshot will only allow the records with a **STATUS** of *Open* and a **CATEGORY** of *Documentation* to be displayed:

**DRILLDOWN**

This attribute should only be applied to a field that contains the ID of the related issue. You can choose to set the drilldown to either a value of **View** or **Edit** according to the type of drilldown window you wish to open

**HEIGHT**

This defines the maximum height of the related issue display when it is rendered within an *add* or *edit* layout. The height is input in rows, where each row is estimated to be 20 pixels. If the height required to render the issues is less than this value, then the related issue display is resized to only take the height required. If the height required is more than this value, a vertical scroll bar is placed on the related issue display. The setting has no effect on reports where the entire contents of the related issue display will be rendered.

**INCLUDE ADD BUTTON**

This attribute adds a button to the pre-header. This button is used to add new issues to a relationship. The button is a field that must already be created in the data dictionary. The button must be created on the *Label* tab within the data dictionary and must have a display type of *Button*. The title to the field will be used as the title to the button when it appears on the pre-header of the related issue display. You may add any number of Add buttons to a single Related Issue Display

**INCLUDE REFRESH BUTTON**

This attribute is used when you are using a search layout on an *add* or *edit* layout to return one or more issues to relate them to the current issue. This places a button onto the related issue display pre-header bar that allows the user to refresh the list of results from the current set of search filters. The button has a default title of **Get Filtered Results**, but you can optionally provide a value to the attribute which will then appear as the label on the button

**INCLUDE SUBMIT BUTTON**

This attribute is used when you are using a search layout on an *add* or *edit* layout to return one or more issues to relate them to the current issue. This places a button onto the related issue display pre-header bar that allows the user to submit the list of results from the current set of search filters. The button has a default title of **Fetch Selected Record(s)**, but you can optionally provide a value to the attribute which will then appear as the label on the button

**LINK FIELD NAME**

This attribute is used when you are using a search layout on an *add* or *edit* layout to return one or more issues to relate them to the current issue. LINK FIELD NAME must be a field with a display type of *text field* or *text area* and the field is typically hidden within the *add* or *edit* layout and is used to transition the list of issued from the search results into the list of issues to be related. The list is a series of issue ID values, delimited by semi-colons. If the SINGLE SELECT attribute in this table is set, then there can only ever be a single issue ID in the list.

*Text fields* are capable of storing 255 characters. The link field stores the ID's of all issues selected within the results, plus an extra character as a separator between each ID. They therefore store approximately 40 - 60 ID's. If you are likely to link more than this number of issues, make sure the LINK FIELD NAME has a display type of *text area*. These are highly scalable for this purpose.

### Linking a Single Result to Populate Fields within the Current Issue

If you are using the LINK FIELD NAME to link the search results to a single issue and you then want to take fields within that issue and place their values within the current issue, you are likely to also configure a *link* and a *refresh* business rule to retrieve the field values you require from the search result. See [Example 3](#).

### Linking Multiple Search Results to Populate a Related Issue Display

If you are using the LINK FIELD NAME to link the search results to multiple issues that you want to relate to the current issue, and place these issues within a related issue display on the current layout, you are likely to

also configure LINK FIELD NAME with these attributes:

- **RG ACT ON CHANGE** - This attribute indicates that an action will be taken when this field is updated as a result of being linked to search results
- **RELATIONSHIP GROUP NAME** - This is the name of the relationship group into which the records from the search results are to be placed
- **RELATIONSHIP GROUP TYPE** - This is the type of the relationship. Usually this will be CHILDREN, but PARENTS may also be appropriate

See [Example 4](#) for details on how to configure this.

## ONCLICK\_JS

**ONCLICK\_JS** is the JavaScript that is executed when the **INCLUDE ADD BUTTON** button is clicked. For most purposes, the script that is executed is created by the **BUTTON ACTION** cell attribute and you do not require to use the **ONCLICK\_JS** attribute. The **ONCLICK\_JS** attribute is provided for advanced configurations where the administrator wants to create JavaScript that goes beyond the capability of the **BUTTON ACTION** attribute. You must not configure both the **BUTTON ACTION** and the **ONCLICK\_JS** attributes on the same button, as they will conflict with each other.

The JavaScript for **ONCLICK\_JS** should be carefully constructed, and there may be differences when wanting to use the JavaScript to initiate a popup to add a new issue when on the *add* and on the *edit* screens. If you want to add related issues on both the *add* and *edit* screens, you may need to configure a different **INCLUDE ADD BUTTON** in the data dictionary for each screen, each with the appropriate **ONCLICK\_JS** value. It is possible to configure and place multiple buttons to add different types of issues on a single related issue display.

## Basic Syntax

Substitutable values are possible in this string value. To create a modal popup window the basic JavaScript you use will be:

```
doEditAEActions(window.parent.extraview_app_home_url , '__SESSION_ID__', new
Array('POPOP_MODAL_ADD', 'add_confirm_page=NO' + rgParameters(), 'RELATIONSHIP_GROUP_REFRESH',
'__LAYOUT_TYPE_ID__', 'CLOSE' ));
```

Note the two substitutable variables `SESSION_ID` and `LAYOUT_TYPE_ID`. They must be surrounded by double underlines. This provides the mechanism for ExtraView to substitute the variable at runtime.

You set a value of YES or NO to the `add_confirm_page` parameter, depending on whether you want to display or suppress the verification layout or the **ADD\_CONFIRMATION** layout that is typically shown to users after submitting a new issue. If you set NO, then the verification screen is never shown.

There is a built-in method that generates the necessary relationship group parameters for the ADD operation. These are needed to force the insertion of the child issue into the correct Relationship Issue Display relationship group using the relation type of the Related Issue Display. This is `rgParameters()` and it is in scope from the button when the button is inserted into the header of the Related Issue Display.

## Updating and Refreshing the Underlying Issue

There are use cases where you might want to update and refresh the parent *Add* or *Edit* screen, after you add a child issue. For example, while adding a child issue, Business Rules might execute that update the parent issue. If you want this behavior, there is an **UPDATE\_MAIN** parameter. The workflow might be to go from an *Add* or *Edit* screen, add a child record in a modal popup window, submit the child issue within the modal popup (this executes Business Rules that update the parent issue), then close the modal popup and finally redisplay the updated parent issue, you will include the **UPDATE\_MAIN** parameter as follows:

```
doEditAEActions(window.parent.extraview_app_home_url , '__SESSION_ID__', new
Array('UPDATE_MAIN','POPOP_MODAL_ADD', 'add_confirm_page=NO&p_rg_relate_this_to=' +
getValueFromParent('p_id') + rgParameters(), 'REFRESH_ID', getValueFromParent('p_id')));
```

Note that you do not require the **RELATIONSHIP\_GROUP\_REFRESH** and accompanying **LAYOUT\_TYPE\_ID** parameters, as the **REFRESH\_ID** takes care of refreshing the entire parent issue.

If this is executed from an *Add* screen, the parent issue is displayed within an *Edit* screen, as the underlying Business Rules submitted the parent issue to the database, thus meaning it is no longer in the add state, but it is now in a state where it can be updated.

The `p_rg_relate_this_to` parameter and its value are used on the *Add* screen to identify the parent issue to which you want to relate the child issue you are adding, when you are including the **UPDATE\_MAIN**

parameter. It has no effect otherwise on *Add* screens, or *Edit* screens and may be omitted in these cases.

## Setting Additional Parameters to Push Values from the Parent to the New Issue

Other parameters may be added to the array value immediately following the `POPUP_MODAL_ADD` entry. An example is to set the Business Area and Project of the issue to be added. To accomplish this, you will need to know the `AREA_ID` and `PROJECT_ID` where the issue is to be added. These can be found on the administration screens for these items. With `rgParameters()`, an example becomes:

```
doEditAEActions(window.parent.extraview_app_home_url , '__SESSION_ID__', new
Array('POPUP_MODAL_ADD', 'p_area=1&p_project=5&add_confirm_page=NO&p_rg_relate_this_to=' +
getValueFromParent('p_id') + rgParameters(), 'RELATIONSHIP_GROUP_REFRESH', '__LAYOUT_TYPE_ID__',
'CLOSE' ));
```

Note that the values for the `p_area` and the `p_project` parameters must correspond to the `AREA_ID` and `PROJECT_ID` into which you will add the related issue. These values can be seen on the list maintenance screens for the Business Area and the Project.

Another possibility is that you might want to pass the values of one or more fields from the parent issue to the child issue you are creating. To achieve this, you may use either the `pushDownFields('p_fld1;p_fld2;p_fld3;...')` function to pass several fields at once or use the `getValueFromParent()` function to pass individual fields. For example, let's say that you want to pass the `FIRST_NAME` and `LAST_NAME` fields from the parent to the child. The string then becomes either:

```
doEditAEActions(window.parent.extraview_app_home_url , '__SESSION_ID__', new
Array('POPUP_MODAL_ADD', 'p_area=1&p_project=5&p_rg_relate_this_to=' + getValueFromParent('p_id') +
pushDownFields('p_first_name;p_last_name') + '&add_confirm_page=NO' + rgParameters(),
'RELATIONSHIP_GROUP_REFRESH', '__LAYOUT_TYPE_ID__', 'CLOSE' ));
```

or using individual parameters:

```
doEditAEActions(window.parent.extraview_app_home_url , '__SESSION_ID__', new
Array('POPUP_MODAL_ADD', 'p_area=1&p_project=5&p_rg_relate_this_to=' + getValueFromParent('p_id') +
'&p_first_name=' + getValueFromParent('p_first_name') + '&p_last_name=' +
getValueFromParent('p_last_name') + '&add_confirm_page=NO' + rgParameters(),
'RELATIONSHIP_GROUP_REFRESH', '__LAYOUT_TYPE_ID__', 'CLOSE' ));
```

Note that if a field name that you pass within the `pushDownFields()` or the `getValueFromParent()` function does not exist, it will be ignored when the user presses the button to add the issue, and no error will be generated. This can be used to advantage in configurations where you want to use a single button for multiple purposes on different forms.

## Repeating Rows Fields

The function `getValueFromParent` may be modified to access repeating row field values. Repeating rows are indexed, beginning with zero, therefore to access the first repeating row, the call will look like:

```
getValueFromParent('p_fieldname', 0)
```

To access the third repeating row, the call will look like:

```
getValueFromParent('p_fieldname', 2)
```

Although you may target any repeating row to obtain a value from a field, the value will always be placed in the field on the first row of the child record. The following technique will allow you to get values from successive repeating row fields, and populate these into successive repeating rows within child records:

```
getValueFromParent('p_fieldname', 2); getValueFromParent('p_fieldname', 3)
```

This example gets the field value from the third repeating row and places the result in the first repeating row child record, and then gets the value in the fourth repeating row field and places its value in the second repeating row child record

### PREHEADER

This attribute adds a title to a related issue display header to contain an **Add** or other buttons. No title is added to the related issue display if this attribute is not defined. There is one special property of this field. If you use the value of **TITLE** in the value then the description of the related issue display layout will be used as the title in the pre-header. The reason why you might want to do this is solely if you need to provide a

localized equivalent for the title in languages other than the base language of your system. The related issue display title may be localized, while layout cell attributes (with the exception of the ALTERNATIVE TITLE) may not be localized.

Add a New Task		Preheader					Tasks
		Task	Status	Due date	Assigned To	Title	
<a href="#">View</a>	<a href="#">Edit</a>	<a href="#">QEdit</a>	Schedule a Call	Closed	7/21/11	<a href="#">Carl Koppel</a>	Demo arranged
<a href="#">View</a>	<a href="#">Edit</a>	<a href="#">QEdit</a>	Schedule a Call	Submitted	7/26/11	<a href="#">Carl Koppel</a>	Follow up

**RELATIONSHIP GROUP NAME** This is the name of the relationship group to which the related issues will be added. The relationship group must be created before you add the name to the cell attribute. If you do not set a value for this attribute, then the value in the behavior setting named RELATION\_GROUP\_DEFAULT will be used

**RELATIONSHIP GROUP REFERENCE FIELD** The default for this attribute is the ID field. This attribute may be set to provide a different field for the relationship to be formed between the issues. The field must exist on both the layouts that are being related

**RELATION TYPE** This should be set to one of the following values:

- **MEMBERS** - This is the default value for this attribute if you do not override it with one of the other values. In this case the related issue display will show all the members of the group(s), containing the reference issue, i.e. the reference issues parents, children, and other issues not directly related to the reference issues in the group(s).
- **CHILDREN** - The related issue display will only contain issues that are the children of the reference issue
- **PARENTS** - The related issue display will only contain issues that are the parents of the reference issue. Note that in the ExtraView data model it is possible to define more than one parent issue for a specific issue. See the section on Relationship Groups for more information.
- **RELATED** - In this instance ExtraView will display the parents and the children of the reference issue within the specified group(s), within the related issue display. The parents and children of these related issues will not be displayed.
- **SIBLINGS** - ExtraView will display all the issues at the same level in the hierarchy. For example, if a parent record has five children, and you create a related issue display with all the children, using a relationship group relation type of SIBLINGS, then you will see the four siblings to the current one.
- **GRANDPARENTS** - This allows the display of the grand-parents to the current level in the hierarchy
- **GRANDCHILDREN** - This allows the display of the grand-children to the current level in the hierarchy
- **LINKED** - This type does not use a relationship type per se, but relies on the Related Issue Display filters to retrieve the associated issues. For example, you might have a filter that selects all the open issues for a particular product, and display these on a related issue display of each issue that you call up.

If you are using the related issue display to add new issues, the value should be CHILDREN or PARENTS. If you choose another relationship type then the issue will be added, but will not be displayed as the relationship is indeterminate

**RELATIONSHIP GROUP SORT ORDER** This attribute determines a sort order, based on a field that is displayed on the related issue display. You can set the value to ASCENDING or DESCENDING

**RG ACT ON CHANGE** This attribute is not applied to a relationship layout, but is applied to the field (the LINK FIELD NAME above) that is used to link the result set from a search to a relationship issue display. When this attribute is present on the LINK FIELD NAME, along with an HTML modifier to trigger the action, a related issue display is refreshed, creating links from each issue ID within the LINK FIELD NAME, and displaying these issues in the related issue display. A full example of the use of this feature is provided in [Example 4](#)

**SEARCH FILTER LAYOUT** This attribute is used when you are using a search layout on an *add* or *edit* layout to return one or more issues to relate them to the current issue. This field holds the name of the search layout that is being embedded on the same layout as the related issue display. Typically you will embed this search layout just above the related issue display layout

**SINGLE SELECT** This attribute is used when you are using a search layout on an *add* or *edit* layout to return one or more issues to relate them to the current issue. The default is that the search will allow you to return all the issues the user selects from the results. If you set this attribute, then the user will only allow a single issue to be selected to return the results into the related issue display

**SIZE** This controls the width of the related issue display on *add* and *edit* screens. The size is an estimate of the number of characters to be displayed. If you do not provide a layout cell attribute for SIZE, then the default is 125 characters. Within the layout, you can also use a SIZE layout cell attribute on the individual fields within the related issue display to control their width. If you do not use the SIZE attribute within cells within a related

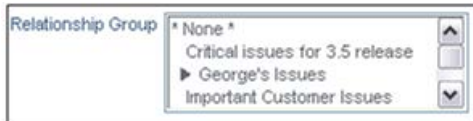


issue display, then the width of the cell floats and the user's browser will decide on each cell's width

TRANSPOSE LAYOUT	The default is that the related issues will be presented on the display by row. If you select this attribute, then the issues will be presented by column
VISIBLE IF	This allows you to make the entire related issue display visible or not visible depending on the value of another field on the layout within which the related issue display is embedded

## One Relationship Group or Multiple Relationship Groups?

Decide whether you want the ability to place your issues in one relationship group over the whole installation, or whether you want to allow multiple relationship groups. If you want to use a single relationship group, either create the relationship group and put its name into the behavior setting named `RELATION_GROUP_DEFAULT` within the Workflow Settings screen or place its name within the `RELATIONSHIP_GROUP_NAME` layout cell attribute of the `RELATED_ISSUE_DISPLAY`. If you will allow multiple relationship groups, once the field named `RELATIONSHIP_GROUP` is placed upon an *add* or *edit* layout, and given permissions, you will see the field similar to this:



Note that this is a multi-valued field, and it is possible to place an issue within multiple relationship groups for different purposes. When updating an issue, the user can use the Relationship Group field to add the issue to other relationship groups, or the user can click on a selected value to remove the issue from the relationship group.

## Order of Precedence on Related Issue Display Operations

Given that the end user may carry out a combination of operations on several, and sometimes independent, related issue displays with an *add* or *edit* screen, there might be some conflict in these operations, with records that might appear in more than a single related issue display. For example, what happens if you update an issue in one relationship, but remove the same issue in another relationship?

The `RELATIONSHIP_GROUP_REMOVE_BTN` is given precedence over other transactions. Transactions are processed in the following order: removes, inserts, deletes (where the deletes are relationship group remove button transactions).

## Related Issue Configurations

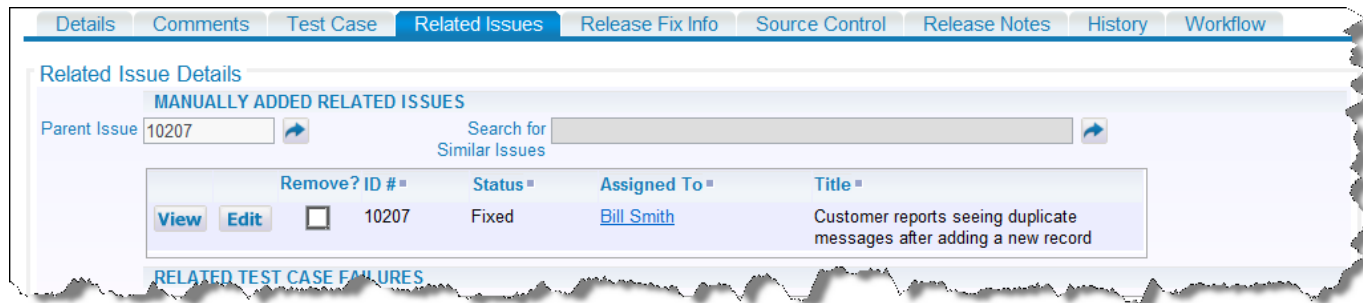
Relationship groups are extremely adaptable and can be configured in many different ways, to meet the needs of many different business problems. Here are some of the most common ways in which you can configure relationship groups:

- **Arbitrary addition of records to form a relationship** - Add an existing issue ID to the current issue, to relate the issues together, where the issue you are updating becomes a child of the issue ID that you enter. A typical use case is where you might have an issue which has some elements in common with another issue and you want to treat them together. For example, two customers may report the same fundamental issue, and you want to group these together. You require a mechanism to add issues to the common group, and to display the related issue when you are looking at any one of the issues. This forms [Example 1](#).
- **Structured addition of child records to a parent record** - Add any number of new issues as children to the current issue. A typical use case might be that you want to add a number of contacts to a customer's definition as you might find in a CRM system. The customer record is the parent issue, and each of the contacts is a child record to the customer record. This forms [Example 2](#).
- **Search for a single record and populate the current record with fields from the result** - Create an *add* or *edit* layout which allows the end-user to search for results that are returned, and then insert values from the result into fields within the current issue. A use case may be to have a layout that creates customer complaints, but before entering the specifics of the complaint, the user is able to search for the appropriate customer and return all the details required into the current complaint. This forms [Example 3](#).
- **Search for multiple records matching specific criteria and relate the results to the current record** - [Example 4](#) shows how you might search a large set of test cases for a subset, and relate this subset to a current record, forming a test plan, where the records added as children form the test cases for the test plan.

## Example 1

This example describes how to set up a relationship group that enables an issue to be related to a parent issue in an ad-hoc way – simply by entering an issue ID into a text field on an *add* or *edit* screen of the child issue. Each issue will then display the related issue in an embedded layout, where you have the option to remove each related issue, or to drill down and edit the related issue.

Here is a screenshot of the *edit* screen of the parent issue after setting up this example:

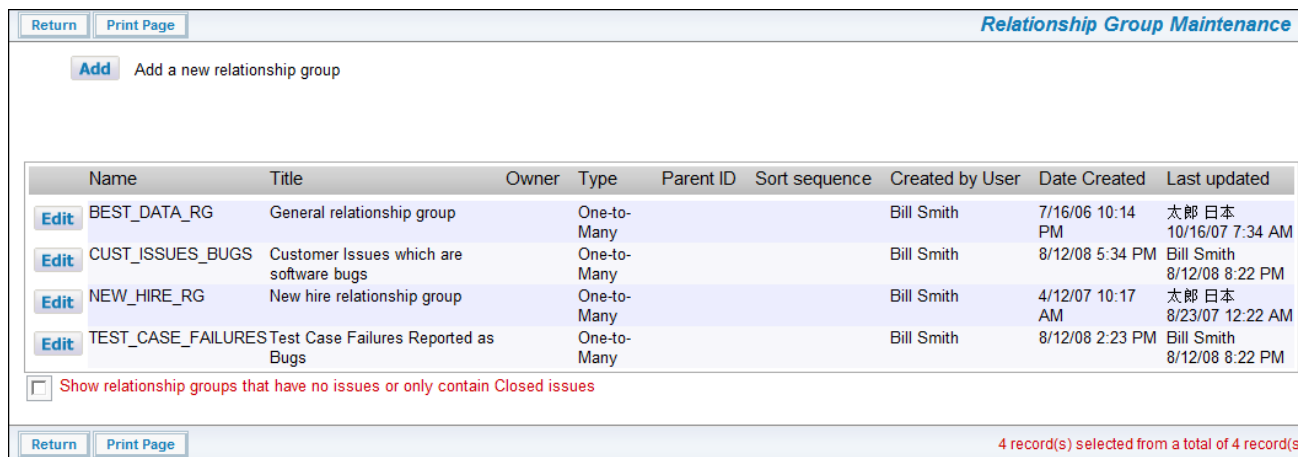


Example related issue display with its connecting parent issue ID

## Step 1 – Setting up The Relationship Group

In this example, we will set up a relationship group that named BEST\_DATA\_RG. This will be a One-to-Many type of relationship group and uses a Parent / Child structure for the related issues.

1. Go to **Administration** ♦ **Site Configuration** ♦ **Relationship Group Maintenance** and ensure the BEST\_DATA\_RG group exists – you may need to check the box next to **“Show relationship groups that have no issues or only contain Closed issues”**.



Relationship Group Maintenance Screen

2. If the BEST\_DATA\_RG relationship group is not present, create it by clicking on the **Add** button
3. Set the Fixed name to BEST\_DATA\_RG and give it a Title of *General Relationship Group*. Select “One-to-Many” from the “Type” drop-down list. Click Add to complete the operation. You may use a different name for the relationship group, but remember this as you will need it later.

## Step 2 – Create a Field in the Data Dictionary

Now that the relationship group is defined, we will create a field in the Data Dictionary that will handle any related issue number entered by the user.

1. Go to **Administration** ♦ **Site Configuration** ♦ **Data Dictionary**
2. Create a new field, with a display type of *Text Field*. Note that the field must be able to be used as a filter, i.e. **Filter criteria** in the data dictionary must be set to Yes:

Name	Title
MY_PARENT_ID	Parent Field

Update Delete Cancel Print Page
Change a Data Dictionary Entry

Fixed name MY\_PARENT\_ID

Title to display ? Parent Issue Localize

Type of field User defined field

Field belongs to Issue records

Display type ? Text Field

Field Properties
Optional Attributes
Permissions
Where Used

Select Area ? \* Global Area \*

Select ? \* Master Project \*

Allow selection on reports ?  Yes  No

Remember last value ?  Yes  No

Filter criteria ?  Yes  No

Is sortable ?  Yes  No

Display as URL ?  Yes  No

Image for Display as URL ?

URL ? ?p\_action=doEditDisplay&p\_id=\$VALUE&p\_option=Display&p\_f

Default value ?

Help text ? Entering an existing issue ID in this field will relate the current issue to this issue. Localize

Help URL ?

Update Delete Cancel Print Page

The new field

We also turned on **Display as URL** for the field, and set the **URL** to:

```
?p_action=doEditDisplay&p_id=$VALUE&p_option=Display&p_from_action=search&p_from_option=search
```

This provides a drilldown button by the field so we can see the parent issue by clicking on the button.

### Step 3 – Grant Security Privileges

Next, make sure to set read/write permissions for any role that will be accessing this field.

1. Go to **Administration** ♦ **Site Configuration** ♦ **Grant Security Privileges**
2. Select the permission keys PR\_RESOLUTION.MY\_PARENT\_ID
3. Give Read and Write permissions for the user roles that will be using the related issues capability.

### Step 4 – Place Field and Related Issue Display layout

Now we need to place these fields on a layout so they are accessible.

1. Go to **Administration** ♦ **Site Configuration** ♦ **Design Center**
2. Select the Business area that uses related issues and make sure there is a "Related Issue Display" layout defined for this Business Area, or that it will inherit one from the Global Area.

Design Center

**1** Select the specific user role to which the layout belongs. If no layout is specified for a user role, the default layout for all user roles is used.

Select user role: \* Default layout for all user roles \*

**2** Select the Area and Project to which the layout belongs

Select Area: Bugs

Select Project: Bugs Defaults

**3** Below is a list of all the layouts currently defined for the user role you have selected. You may choose a new layout to add to the user role selected above, or you can press the edit button by one of the existing layouts to update that layout.

Add a new layout for the entire system: \* Select Layout Type to Add \*

Layout ID	Layout type	Layout type name	Title	Description	Select by field	Select by value
<a href="#">Edit</a> 565	Add Issue Screen	ADD_PROBLEM	Bugs Add Screen	For the Bugs Area		
<a href="#">Edit</a> 545	Edit Issue Screen	EDIT_PROBLEM	Bugs Edit Screen	For the Bugs Area		
<a href="#">Edit</a> 1692	Post-Edit layout to update related issues	POST_EDIT_UPDATE	Post edit layout for related bugs	For the bugs area		
<a href="#">Edit</a> 1793	Related Customer Issues	RELATED_CUSTOMER_ISSUES	Related Issue Layout	Customer Issue layout		
<a href="#">Edit</a> 1788	Related Test Cases	RELATED_TEST_CASES	Related Issue Layout	Test Case Failure layout		
<a href="#">Edit</a> 525	Repeating Row Record	RELEASE	Repeating Record	Bug Area Repeating Record		
<a href="#">Edit</a> 555	Report Layout - Detailed Report	SEARCH_DETAILED	Detailed Report	For the Bugs Area		
<a href="#">Edit</a> 530	Report Layout - Email Brief Notification Layout	EMAIL_BRIEF	Defects Brief Email	Default layout for Brief Email		
<a href="#">Edit</a> 570	Report Layout - Full Email Notification Layout	EMAIL_FULL	Full Email Defects	Full Email layout for Bugs		
<a href="#">Edit</a> 575	Report Layout - History Report from Edit Screen	HISTORY	History Report	For the Defects Area		
<a href="#">Edit</a> 535	Report Layout - Quicklist Report	SEARCH_QUICKLIST	Report - Quicklist	For the Bugs Area		

Ensure the Related Issue Display is available

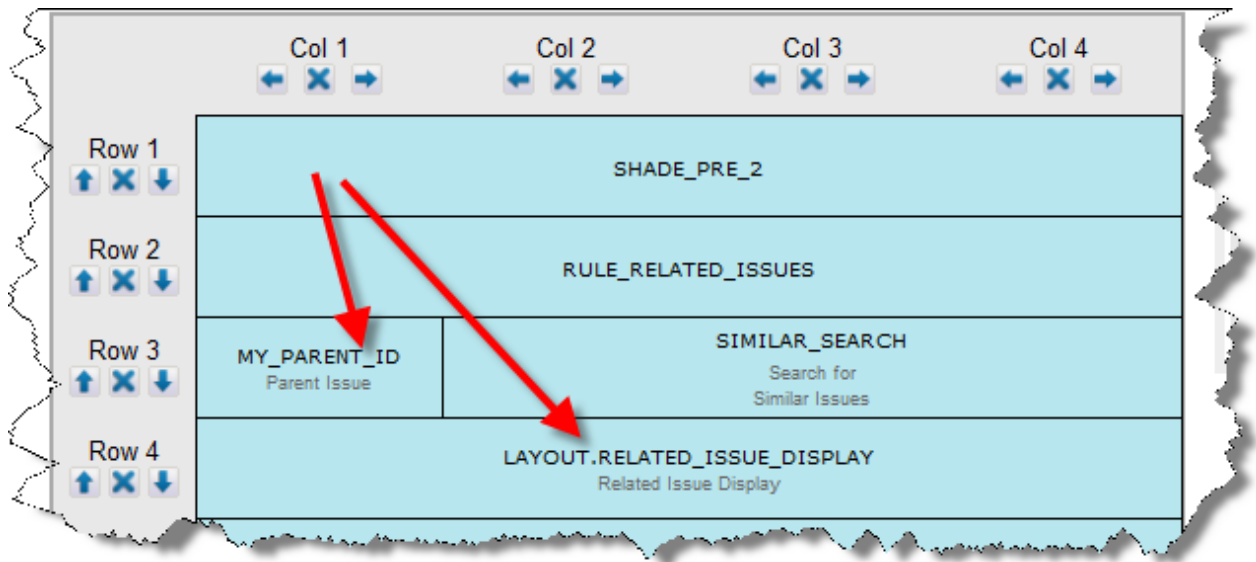
3. If the layout does not exist, or you want to override the one that is present in the Global Area, create this layout:
  - a. Select **Related Issue Display** from the \* **Select Layout Type to Add** \* list
  - b. Add the desired fields you want displayed in this layout. This is an example of a related issue display layout:

Layout Attributes

	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7
Row 1	VIEW_BUTTON View Button	EDIT_BUTTON Edit Button	RELATIONSHIP_GROUP_REMOVE_BTN Remove?	ID ID #	STATUS Status	ASSIGNED_TO Assigned To	SHORT_DESCR Title

Related Issue Display layout example

4. After saving the Related Issue Display layout, edit the *Edit Issue* screen for this business area
5. Place the field that you created earlier onto this layout. Also, place the Related Issue Display layout onto the *edit* layout



The fields and related\_issue\_display on the Edit Issue Layout

6. Add the following layout cell attributes to the MY\_PARENT\_ID field by clicking on the link button next to the field name:

Attribute	Value
RELATIONSHIP GROUP NAME	BEST_DATA_RG
RELATIONSHIP GROUP RELATION TYPE	Related

7. Add the following layout cell attributes to the RELATED\_ISSUE\_DISPLAY by clicking on the link button next to the field name:

Attribute	Value
RELATIONSHIP GROUP NAME	BEST_DATA_RG
RELATIONSHIP GROUP RELATION TYPE	Related
VISIBLE IF	ID is not null
HEIGHT	30

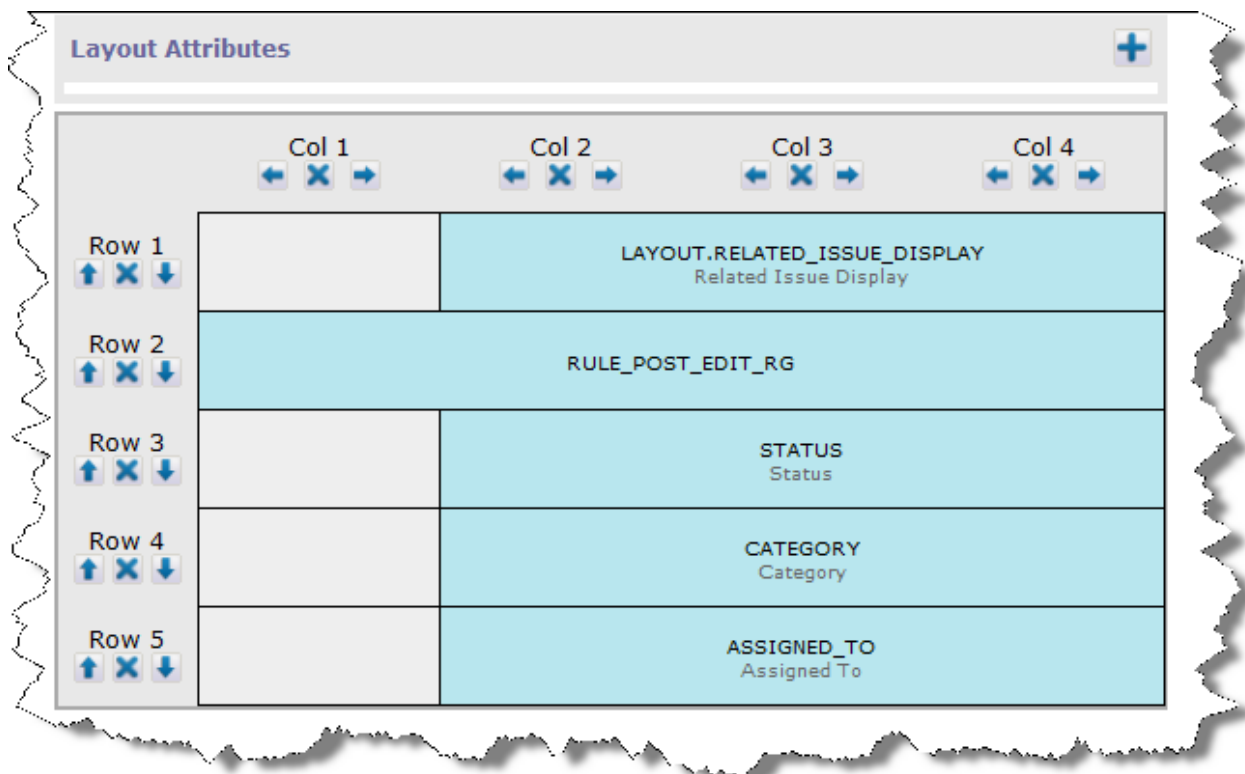
8. Save the layout.

## Step 5 – Updating Related Issues when Updating the Parent Issue

If you want the capability to update all related issues when performing the update of an issue, continue with the following steps. Otherwise, ad hoc related issues are now configured on your site.

1. Go to **Administration** ♦ **Site Configuration** ♦ **Behavior Settings** and make sure the behavior setting named RG\_UPDATE\_BILEVEL\_ONLY is set to a value of NO
2. Go to **Administration** ♦ **Site Configuration** ♦ **Design Center**. Ensure that you have a layout with a type of POST\_EDIT\_UPDATE defined. If your installation does not have a layout of this type defined, use the Create and Maintain Layout Types entry on the Fields & Layouts administration menu to define this
3. Add the layout with the POST\_EDIT\_UPDATE type to your current business area and project, or in a location from which it will be inherited
4. Place the fields on the layout that you want to be available during the update process for related issues. It should look something like the following screenshot. Note that the fields named STATUS, RESOLUTION and ASSIGNED\_TO are the fields that will be updated in the related issues.

It is essential that you place the embedded layout, LAYOUT.RELATED\_ISSUE\_DISPLAY on this layout. Also note that the field named RULE\_POST\_UPDATE\_RG is defined as a custom field and has its help text defined as **4 - Check the fields in the list below that you want to update to the same values in the issue being updated. The new value is shown**. Remember that you may need to set the RELATIONSHIP GROUP NAME, RELATIONSHIP\_GROUP\_REFERENCE\_FIELD and the RELATIONSHIP\_GROUP\_RELATIONSHIP\_TYPE layout cell attributes for the LAYOUT.RELATED\_ISSUE\_DISPLAY

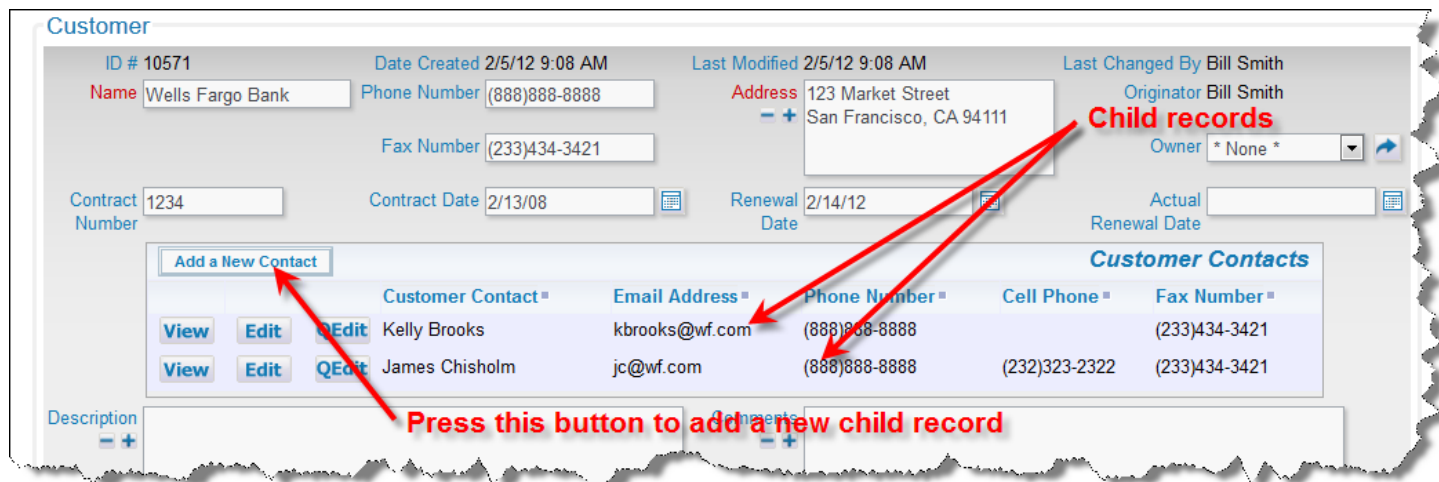


The POST\_EDIT layout

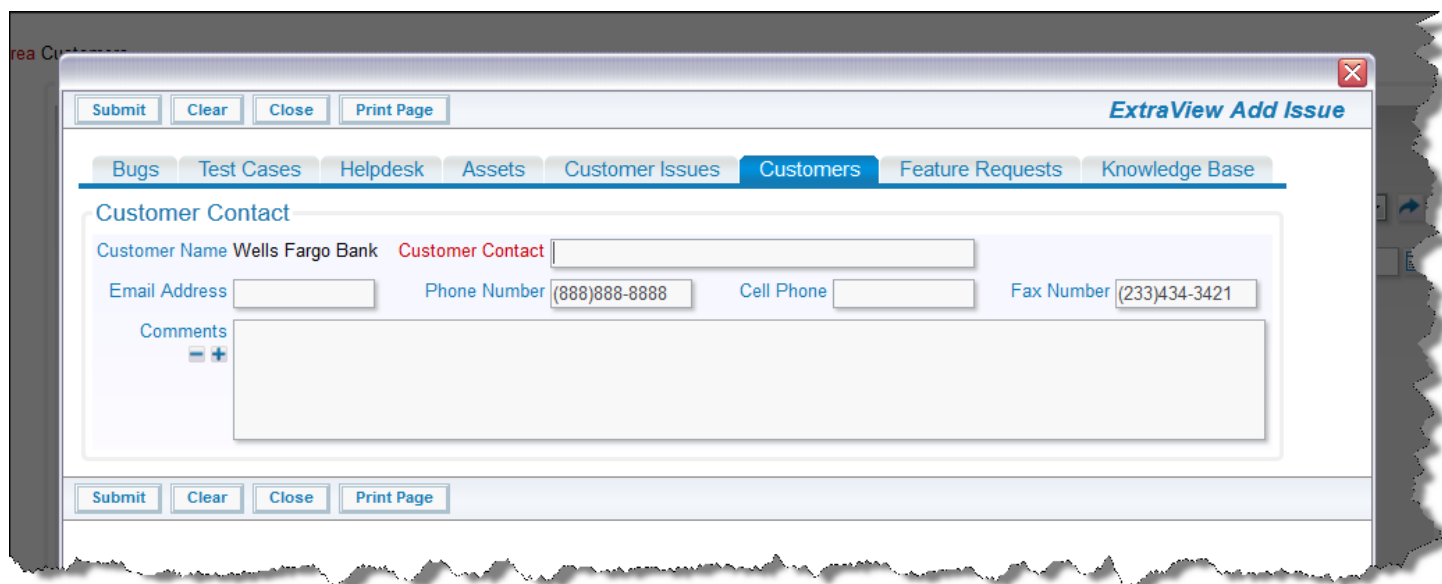
When you edit the parent issue, the user will have the option to update the related issues at the same time.

## Example 2

A common requirement is to have one issue (the parent issue) create related issues as children. For example, you might have a process that spins off an arbitrary number of actions to employees around your organization, and for each of these employees to complete a task before the parent issue can be closed. You want to have an **Add** button on the parent issue to add the child issues one-by-one. This example shows how a parent customer screen can add any number of contact records to different people as child records. At the same time, some fields from the parent issue are "pushed down" into the child record, to pre-populate the child record with values that are required.



Adding related issues from an Add or Edit screen



The popup Add window where you add the child record

To setup this feature, use the following sequence as a guide:

- This feature presently only works when your installation uses the ID field, as opposed to the ALT\_ID field, as the unique identifier for all issues
- Definitions and screens for parent issues to which you want to add the children. For this example let's say this parent issue is in a Business Area titled **Customers** and the data is stored in the Project titled **Customer Information**. The name for the Business Area is **CUSTOMERS** and the Project is named **CUSTOMERS\_DATA**
- Definitions and screens for child issues to be added to the parent. For this example let's say the child issues are in the same Business Area titled **Customers** but the data is stored in a separate Project titled **Customer Contact**. The Project is named **CUSTOMERS\_CONTACT**
- Have a one-to-many relationship group defined for the link. For our example, we will name this **CUSTOMER\_CONTACTS**
- You need a button defined as a field in the data dictionary, which is used to add the child records. This must be created as a field on the **Label** tab and can have any name. Its display type must be **Button**. The title of the field is used as the text for the button on the screen. In our example, the field is named **CONTACT\_ADD\_BUTTON**. There is an attribute that you can define for this button field, which controls a number of elements:
  - Which Business Area and Project into which you want to add the child record
  - The behavior when you submit the child issue, for example, whether to just refresh the parent window with the information from the new child record, or whether update the parent record with information from the new child record
  - To define a set of fields from the parent record that you want to "push down" to the child record, so the values of these fields can automatically be assigned to fields in the child record

This attribute is the BUTTON ACTION attribute and should be configured under the Global Attributes tab within the Data Dictionary. The configured attribute will look like this:

**Manage BUTTON ACTION for field: CONTACT\_ADD\_BTN**

Update Return Print Page

Target Area ? Customers

Target ? Customer Contact

Check Required Fields ?

Display the Add Confirmation Screen ?

Action After Submitting the Child Issue ?  Refresh Related Issue Display  Update Parent & Refresh Entire Screen

Select field(s) from the parent issue to push down into the child issue, by double-clicking within the left-hand list. Remove fields by dragging them from the right-hand list.

Abstract(ABSTRACT)	Customer Contact(CUST_CONTACT_NAME)
Actual Renewal Date(CUST_CONT_ACT_REN_DATE)	Customer Name(CUST_NAME)
Actual Time (hrs)(TIME_ACTUAL)	Email Address(EMAIL_ADDRESS)
Address(CUST_ADDRESS)	Fax Number(CUST_FAX)
Application(IT_APPLICATION)	Phone Number(CUST_PHONE_NUMBER)
Approved by(IT_APPROVED_BY)	
Asset Type(IT_ASSET_TYPE)	
Assigned To(ASSIGNED_TO)	
Automated(AUTOMATED)	
Building(IT_BUILDING)	
Bus. Priority(FRQ_BUSINESS_PRIORITY)	
Business Requirement(FRQ_BUSINESS_REQUIREMENT)	

Use the button to generate the JavaScript that ExtraView uses within the ONCLICK\_JS attribute. This is only needed if you want to use this BUTTON ACTION utility to prepare a draft of the JavaScript that will be used in the ONCLICK\_JS attribute. You cannot have both a BUTTON ACTION and an ONCLICK\_JS attribute on the same field. Simply copy the text below and paste into the ONCLICK\_JS attribute, where you may modify the script. Do not save this BUTTON ACTION if you are going to use the ONCLICK\_JS script.

Show Generated Script

Update Return Print Page

### Configuring the Button Action

- Create a layout type to hold the related issues or use the inbuilt related issue display layout named RELATED\_ISSUE\_DISPLAY. If you create your own layout type, the name must start with **RELATED\_**, followed by other characters. For example, name the layout type **RELATED\_CONTACTS** and make sure that its usage is **Report**. In our example we will just use the inbuilt RELATED\_ISSUE\_DISPLAY
- Add the layout you are using into the **Customers** Business Area and the **Customer Information** project. In our example, this is the **RELATED\_ISSUE\_DISPLAY**. Onto this layout, add the fields from the child issue that you want to display on the related issue display on the parent issue. This might look like this:

Layout Attributes

	Col 1	Col 2	Col 3	Col 4
Row 1	SHADE_PRE_1			
Row 2	ID ID #	DATE_CREATED Date Created	TIMESTAMP Last Modified	LAST_CHANGE_USER Last Changed By
Row 3	CUST_NAME Customer Name	CUST_PHONE_NUMBER Phone Number	CUST_ADDRESS Address	ORIGINATOR Originator
Row 4		CUST_FAX Fax Number		OWNER Owner
Row 5	CUST_CONTRACT_NUM Contract Number	CUST_CONTRACT_SIGN_DATE Contract Date	CUST_CONTRACT_RENEWAL_DATE Renewal Date	CUST_CONT_ACT_REN_DATE Actual Renewal Date
Row 6	LAYOUT.RELATED_ISSUE_DISPLAY Related Issue Display			
Row 7	DESCRIPTION Description		COMMENTS Comments	
Row 8	SHADE_POST_1			

Cell Details

Name LAYOUT.RELATED\_ISSUE\_DISPLAY

Title Related issue layout for inclusion as embedded layout

Row 6 Col 1

Rowspan 1 Colspan 4

Cell Attributes

REQUIRED\_ELEMENT : N

HEIGHT : 20

RG\_NAME : CUSTOMER\_CONTACTS

RG\_RELATION : CHILDREN

RID\_INC\_ADD\_BTN : Add a New Contact =

RID\_INC\_PREHEADER : Customer Contacts

SIZE : 142

Field & Layout Attributes



## The Related Issue Display

The layout cell attributes that you see are used as follows:

- **HEIGHT** - This provides a maximum height before the child issues will be displayed with a scroll bar. This is approximately the number of rows of data
- **RELATIONSHIP GROUP NAME** - This should be **CUSTOMER\_CONTACTS** for our example
- **RELATIONSHIP GROUP RELATION TYPE** - This should be **CHILDREN** for our example
- **INCLUDE\_ADD\_BUTTON** - The name of the button you created in the data dictionary
- **PREHEADER** - The title you want to place at the top of the related issue display, to the right of the *add* button
- **SIZE** - The width of the related issue display, approximately in characters
- Test the configuration by adding the essential fields to the parent record, then clicking the *add* button and adding a child record.

## Example 3

It is often useful to search for related issues in order to identify information that you want to copy into the current issue. For example, you might have a business area that contains all your customers, and another business area where you want to create issues that any customer might report. This feature allows you to enter some key identifying information about a customer, such as their name, email address or telephone number, bring back all matching records, and then select the specific customer that you want to associate the customer issue with.

**Customer Issue**

**Search for Customer**

Customer \* Any \* Customer Contact Customer Email Phone Number

Get Filtered Results Fetch Selected Record(s) **Customer Search**

**Issue Details**

Customer Name Customer Contact Phone Number Customer Email

Source Email Category \* None \* Product \* None \* Module \* None \*

Initial customer search

**Customer Issue**

**Search for Customer**

Customer \* Any \* Customer Contact Valerie Smith Customer Email Phone Number

Get Filtered Results Fetch Selected Record(s) **Customer Search**

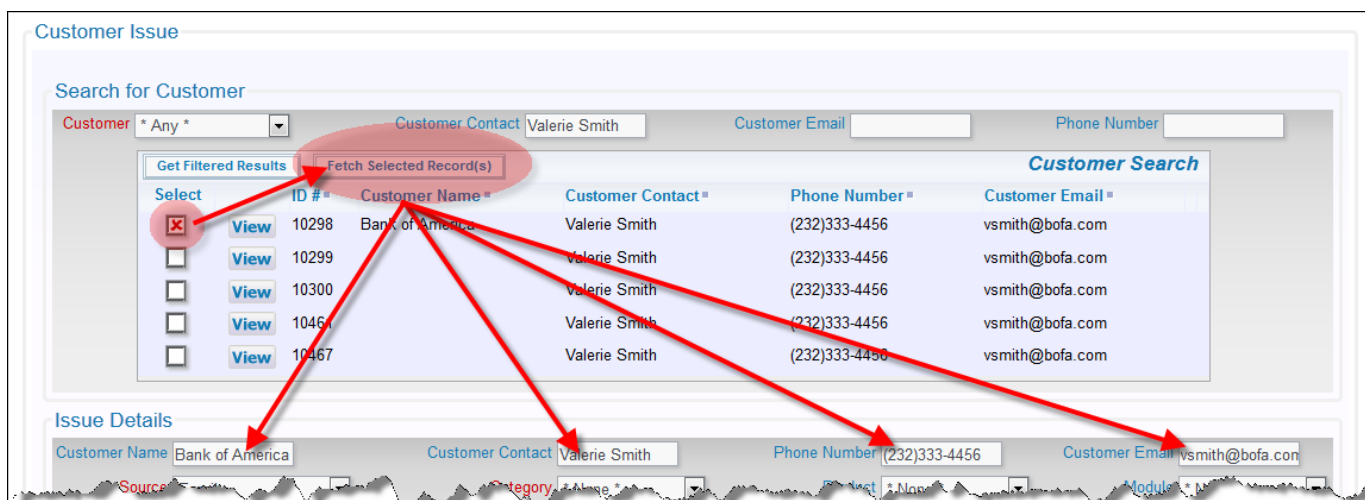
Select	ID #	Customer Name	Customer Contact	Phone Number	Customer Email
<input type="checkbox"/>	View 10298	Bank of America	Valerie Smith	(232)333-4456	vsmith@bofa.com
<input type="checkbox"/>	View 10299		Valerie Smith	(232)333-4456	vsmith@bofa.com
<input type="checkbox"/>	View 10300		Valerie Smith	(232)333-4456	vsmith@bofa.com
<input type="checkbox"/>	View 10461		Valerie Smith	(232)333-4456	vsmith@bofa.com
<input type="checkbox"/>	View 10467		Valerie Smith	(232)333-4456	vsmith@bofa.com

**Issue Details**

Customer Name Customer Contact Phone Number Customer Email

Source Email Category \* None \* Product \* None \* Module \* None \*

Entering the search criteria and seeing the results



Selecting the result and populating the issue

When you look at the above screenshot, you will see that you have a search capability, a search results area, and the underlying *add* screen into which you want the selected record to appear.

The basic configuration is this:

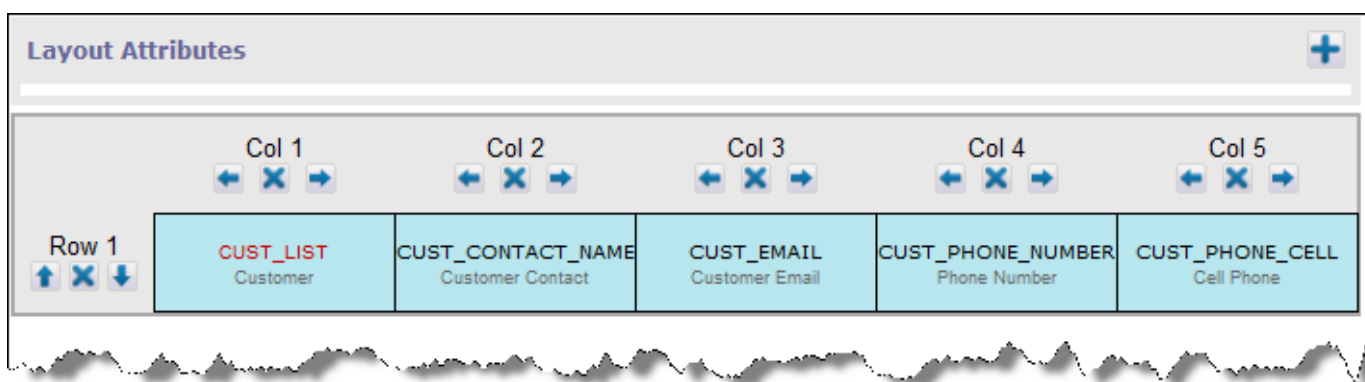
- Start by creating the *add* or *edit* screen in the normal way
- Create a search layout to be used as the available filters for the search
- Create a related issue display to hold the results of the search
- Assembling the search layout and related issue display layout on the *add* or *edit* screen
- Associate the fields on the underlying *add* or *edit* screen with the fields to be populated from the search results

## The Search Layout

First, create a new layout type. This may have any name and any title, but it must have a usage type of **Search**. This is used to contain the search filters that will be displayed to the user. For our example, we will use the name CUSTOMER\_SEARCH.

Next, add the new layout to the area and project where it is needed, creating a new layout. Onto this layout, you will place the fields to be used as filters. No special layout cell attributes are required, but you may use whatever attributes help you provide an aesthetically pleasing display.

Save this layout.



The search layout

## The Related Issue Display Layout

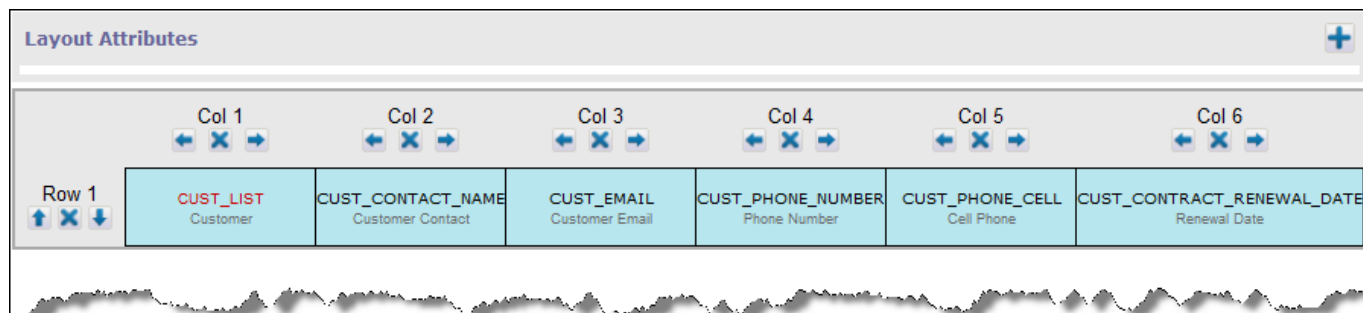
This is used to contain the results of the search. Note that the fields displayed do not need to match the fields within the search layout, although it is common to see several fields in common.

Create a new layout type to contain the related issue display. By convention, begin the name of the new layout type with **RELATED\_** and followed by remaining characters that provide a unique name for the layout. The usage type of this layout must be **Report**. For our example, we name this layout type RELATED\_CUSTOMER\_ISSUES.

Now, add the new layout to the area and project where it is needed, creating a new layout. In the first column of the layout, place the inbuilt field with the name **RELATIONSHIP\_GROUP\_CHOOSE\_BTN**. This is used as the selector for the record(s) whose results you want to place into the *add* or *edit* screen. It is recommended that you only place the **VIEW\_BUTTON** as any other

button on this layout. You should not place other buttons such as **EDIT\_BUTTON** or **QUICKEDIT\_BUTTON** on this layout.

Place the remaining fields that you want to display on the related issue display on the layout, and save the layout.



The related issue display layout

## Configuring the *Add* or *Edit* Screen to Use the Search and Related Issue Display Layouts

A link field is required to pass the results from the selection made on the Related Issue Display layout, so begin by creating this field, with a display type of text. Give this field read / write permissions for the roles that will be adding customers. This field must be placed on the *add* or *edit* screen, but it need not be visible. For example, you might provide this field with two layout cell attributes to hide it. Set a **STYLE** of **display:none** and a **LABEL\_TAG** of **display:none** as layout cell attributes, thus ensuring the field can never be seen on the screen by any user. Note that you cannot use the **VISIBLE IF** layout cell attribute. This is because this attribute only places the field into the HTML form when it becomes visible. We need the field on the form even when it is invisible to be used as the link field. In our example, we use the name **CUST\_LINK\_FIELD**.

Place your search layout on the *add* or *edit* screen. This layout does not require any layout cell attributes, but you might decide to hide it using **VISIBLE IF**, once you have made your selection from the results of the search.

Place your related issue display layout on the *add* or *edit* screen. This is the place where you configure several layout cell attributes that link that bind all the elements together:

- **RELATIONSHIP GROUP RELATION TYPE** - You must set this to a value of **Linked**
- **SEARCH FILTER LAYOUT** - This identifies the Search Layout you created above. Simply select its name from the list of values
- **PREHEADER** - This attribute provides an area above the related issue display that contains the function buttons, as well as providing a title to the related issue display. The value you provide with this attribute becomes the title
- **INCLUDE REFRESH BUTTON** - This places a button onto the related issue display pre-header bar that allows the user to get the results from the current set of filters, and to refresh the results if the user changes the filters. The button has a default title of **Get Filtered Results**, but you can optionally provide a value to the attribute which will then appear as the label on the button
- **INCLUDE SUBMIT BUTTON** - This places a button onto the related issue display pre-header bar that allows the user to update ID's for the selected values within the display into the **FIELD NAME**. The button has a default title of **Fetch Selected Record(s)**, but you can optionally provide a value to the attribute which will then appear as the label on the button
- **FIELD NAME** - This is the name of the link field that receives the ID's of the selected issues from the related issue display. Simply select the field name from the list presented to you when you add the attribute
- **SINGLE SELECT** - Select this attribute if you want to restrict the user to only make a single selection from the list of search results. You will typically select this if you want the destination of the search result selection to be fields within the current *add* or *edit* screen. If it is your intent to allow the user to add an arbitrary number of related issues, then do not add this attribute, thereby allowing multiple search results to be selected.

The screenshot displays a table with the following structure:

Col 1	Col 2	Col 3	Col 4
SHADE_PRE_1			
ID ID #	DATE_CREATED Date Created	TIMESTAMP Last Modified	LAST_CHANGE_USER Last Changed By
SHADE_PRE_2			
LAYOUT.CUSTOMER_SEARCH			
LAYOUT.RELATED_CUSTOMER_ISSUES Related Customer Issues			
CUST_LINK_FIELD Customer Link Field			
POST			

The Cell Details panel on the right shows the following information:

- Name: LAYOUT.RELATED\_CUSTOMER\_ISSUES
- Title: Related Customer Issues
- Row: 5
- Colspan: 4
- Rowspan: 1
- Cell Attributes:
  - REQUIRED\_ELEMENT: N
  - RG\_RELATION: LINKED
  - SF\_LAYOUT\_TYPE: CUSTOMER\_SEARCH
  - RID\_INC\_PREHEADER: Search Results
  - RID\_INC\_REFRESH\_BTN:
  - RID\_INC\_SUBMIT\_BTN:
  - RID\_SEL\_FIELD\_NAME: Customer Link Field =
  - RID\_SINGLE\_SELECT:
- Field & Layout Attributes: (locked)

The search layout

## Developing Business Rules to Associate the Issue with the Results

The business rules work by getting the values of the ID's within the CUST\_LINK\_FIELD and linking the current issue to the selected values. There are three basic premises; you are retrieving a single result into fields in the current issue, you are retrieving multiple results into repeating row records or you are retrieving multiple results into related issues.

### Placing Results Within Fields in the Current Issue

In this case the CUST\_LINK\_FIELD will contain a single value which is the ID of the record we will associate with the current issue. This is done with business rules similar to the following:

```
<== link customerSearchLink ==> AREA='Customers', ID=CUST_LINK_FIELD

<== refresh ==>
if (CUST_LINK_FIELD.{changed}) {
  CUST_NAME           = (customerSearchLink).CUST_NAME;
  CUST_CONTACT_NAME  = (customerSearchLink).CUST_CONTACT_NAME;
  CUST_PHONE_NUMBER  = (customerSearchLink).CUST_PHONE_NUMBER;
  CUST_EMAIL         = (customerSearchLink).CUST_EMAIL;
}
```

The link directive establishes a link based on the ID of the issue we want to retrieve being equal to the value contained in the CUST\_LINK\_FIELD field we created.

The commands within the refresh directive establish the assignments to be made when the CUST\_LINK\_FIELD is populated from the search results.

## Example 4

It is often useful to search for issues in order to make a selection from the result set, and relate this selection to the current record. The selection may be a subset of the result set. For example, you might have a business area that contains a library of test cases, and you want to create any number of test plans from this library. Each test plan might have a different subset of records chosen from the library.

**Test Plan Details**

ID # 10591      Date Created 2/5/12 8:43 PM      Last Modified 2/5/12 8:43 PM      Last Changed By Bill Smith

Test Plan Name: Tracker Test Plan      Title: This is the test plan for version 2.0 of the Tracker product

Product: Tracker      Description: [Empty]

Product Version: 2.0      Product Build #: \*None\*

**Search for Test Cases to Add to this Test Plan**

Product: \*Any\*      Module: \*Any\*      Owner: [User]      Originator: [User]

ID #: [Empty]      Created for Version: \*Any\*      Regression: \*Any\*      Automated: \*Any\*

Buttons: Get Filtered Results, Fetch Selected Record(s), Select All      **Select & Add Test Cases to this Test Plan**

**Test Cases**

*Test Cases Belonging to this Test Plan*

**Attachments**

Initial presentation of screen

In the above screen, you will observe a search layout; this is used to provide a filtered set of search results within a related issue display. Note the buttons in the header of the related issue display.

**Test Plan Details**

ID # 10591      Date Created 2/5/12 8:43 PM      Last Modified 2/5/12 8:43 PM      Last Changed By Bill Smith

Test Plan Name: Tracker Test Plan      Title: This is the test plan for version 2.0 of the Tracker product

Product: Tracker      Description: [Empty]

Product Version: 2.0      Product Build #: \*None\*

**Search for Test Cases to Add to this Test Plan**

Product: Tracker      Module: \*Any\*      Owner: [User]      Originator: [User]

ID #: [Empty]      Created for Version: \*Any\*      Regression: \*Any\*      Automated: \*Any\*

Buttons: Get Filtered Results, Fetch Selected Record(s), Select All      **Select & Add Test Cases to this Test Plan**

Select	ID #	Product	Module	Owner	Originator	Title
<input type="checkbox"/>	10376	Tracker		Bill Smith	Bill Smith	Check user can log into CLI via telnet
<input checked="" type="checkbox"/>	10377	Tracker		Chris Robinson	Bill Smith	Check how many commands are in the stack
<input type="checkbox"/>	10445	Tracker		Mary Dickens	Bill Smith	Check the database connection works correctly
<input checked="" type="checkbox"/>	10534	Tracker	CLI	Chris Robinson	Bill Smith	Test #1 for the CLI
<input checked="" type="checkbox"/>	10540	Tracker	GUI	Bill Smith	Bill Smith	This is a test case for the length of the screen
<input type="checkbox"/>	10567	Tracker	Database	Bill Smith	Bill Smith	Check tracker GUI
<input type="checkbox"/>	10585	Tracker	Database	Jimmy	Bill Smith	Test case within a test plan

**Test Cases**

*Test Cases Belonging to this Test Plan*

Entering the search criteria and seeing the results

Once you have selected filters, use the **Get Filtered Results** button to display the results in the related issue display. With your mouse, you can click on any of the results to select that record. There is also a button to **Select All** the results at one time.

**Test Plan Details**

ID # 10591      Date Created 2/5/12 8:43 PM      Last Modified 2/5/12 8:43 PM      Last Changed By Bill Smith

Test Plan Name Tracker Test Plan      Title This is the test plan for version 2.0 of the Tracker product

Product Tracker      Description

Product Version 2.0

Product Build # \*None\*

---

**Search for Test Cases to Add to this Test Plan**

Product Tracker      Module \*Any\*      Owner      Originator

ID #      Created for Version \*Any\*      Regression \*Any\*      Automated \*Any\*

Get Filtered Results      Fetch Selected Record(s)      Select All      **Select & Add Test Cases to this Test Plan**

---

**Test Cases**

*Test Cases Belonging to this Test Plan*

	Remove?	ID #	Product	Module	Est. Time (hrs)	Title
<a href="#">View</a> <a href="#">Edit</a>	<input type="checkbox"/>	10377	Tracker		3	Check how many commands are in the stack
<a href="#">View</a> <a href="#">Edit</a>	<input type="checkbox"/>	10534	Tracker	CLI	3	Test #1 for the CLI
<a href="#">View</a> <a href="#">Edit</a>	<input type="checkbox"/>	10540	Tracker	GUI	3	This is a test case for the length of the screen
<b>Total</b>					<b>9</b>	

The selected results now related to the parent issue

Use the **Fetch Selected Record(s)** to move all the selected records into the final result set where they will be stored with the parent issue. Note that the search layout and results are reset. You may repeat the search and selection process to add additional child records to the parent record.

The basic configuration is this:

- Start by creating an *add* or *edit* screen(s) in the normal way
- Create a relationship group to define and hold the relationship
- Create a search layout to be used as the available filters for the search
- Create a related issue display to hold the results of the search
- Create a related issue display to hold the final selected records as children to the parent issue
- Assemble the search layout and related issue display layout on the *add* or *edit* screen
- Create and place a link field on the *add* or *edit* screen to act as a transition of the record ID's from the search results to the final related issue display

## The Relationship Group

This is created within the Administration utility, **Relationship Group Maintenance**. This should be of the type **One-to-Many**. In our example, we named this **TEST\_CASES\_TEST\_PLANS** and gave it a title of **Test Cases / Test Plans**.

## The Search Layout

First, create a new layout type. This may have any name and any title, but it must have a usage type of **Search**. This is used to contain the search filters that will be displayed to the user. For our example, we will use the name **TEST\_CASE\_SEARCH**.

Next, add the new layout to the area and project where it is needed, creating a new layout. Onto this layout, you will place the fields to be used as filters. No special layout cell attributes are required, but you may use whatever attributes help you provide an aesthetically pleasing display. Save this layout.

	Col 1	Col 2	Col 3	Col 4
Row 1	PRODUCT_NAME Product	MODULE Module	OWNER Owner	ORIGINATOR Originator
Row 2	ID ID #	TEST_CASE_VERSION_CREATE Created for Version	REGRESSION Regression	AUTOMATED Automated

The search layout

## The Related Issue Display Layout Containing the Search Results

This is used to contain the results of the search. Note that the fields displayed do not need to match the fields within the search layout, although it is common to see several fields in common.

Create a new layout type to contain the related issue display. By convention, begin the name of the new layout type with **RELATED\_** and followed by remaining characters that provide a unique name for the layout. The usage type of this layout must be **Report**. For our example, we name this layout type **RELATED\_TEST\_CASE\_RESULTS**.

Now, add the new layout to the area and project where it is needed, creating a new layout. In the first column of the layout, place the inbuilt field with the name **RELATIONSHIP\_GROUP\_CHOOSE\_BTN**. This is used as the selector for the record(s) whose results you want to place into the *add* or *edit* screen. It is recommended that you only place the **VIEW\_BUTTON** as any other button on this layout. You should not place other buttons such as **EDIT\_BUTTON** or **QUICKEDIT\_BUTTON** on this layout as this layout only displays search results.

Place the remaining fields that you want to display on the related issue display on the layout, and save the layout.

	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8
Row 1	RELATIONSHIP_GROUP_CHOOSE_BTN Select	VIEW_BUTTON View Button	ID ID #	PRODUCT_NAME Product	MODULE Module	OWNER Owner	ORIGINATOR Originator	SHORT_DESCR Title

The related issue display layout with the results

## The Related Issue Display Holding the Selected Records

This layout is typically similar to the previous one you created, in terms of the fields you display, but you will likely want to see different buttons. Most typical is to include a **VIEW\_BUTTON**, and an **EDIT\_BUTTON**. A **QUICKEDIT\_BUTTON** is often useful.

	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8
Row 1	VIEW_BUTTON View Button	EDIT_BUTTON Edit Button	RELATIONSHIP_GROUP_REMOVE_BTN Remove?	ID ID #	PRODUCT_NAME Product	MODULE Module	TIME_ESTIMATED Est. Time (hrs)	SHORT_DESCR Title

The related issue display layout that displays the selected records

## Configuring the Add or Edit Screen to Use the Search and Related Issue Display Layouts

A link field is required to pass the results from the selection made on the Related Issue Display layout with these characteristics:

- Create the link field, with a display type of *text area*. In our example, we use the name **TEST\_CASE\_RESULTS\_LINK\_FIELD**. Give this field read / write permissions for the roles that will be adding the test cases
- This field must be placed on the *add* or *edit* layout you are configuring, but it need not be visible. For example, you might provide this field with two layout cell attributes to hide it. Set a **STYLE** of **display:none** and a **LABEL\_TAG** of **display:none** as layout cell attributes, thus ensuring the field can never be seen on the screen by any user. Note that you cannot use the **VISIBLE IF** layout cell attribute. This is because this attribute only places the field into the HTML form when it becomes visible. ExtraView needs the field on the form even when it is invisible to be used as the link field.
- To ensure that the link field updates the final layout with the selected issues, you set an attribute of **RELATIONSHIP GROUP ACT ON FIELD CHANGE**. This triggers a refresh of the related issue display with the selected results
- Set the **RELATIONSHIP GROUP NAME** to be updated. This was created in an earlier step. In our example, this is **TEST\_CASES\_TEST\_PLANS** with the title of **Test Cases / Test Plans**

Set the RELATIONSHIP GROUP RELATIONSHIP TYPE attribute, as **Children**.

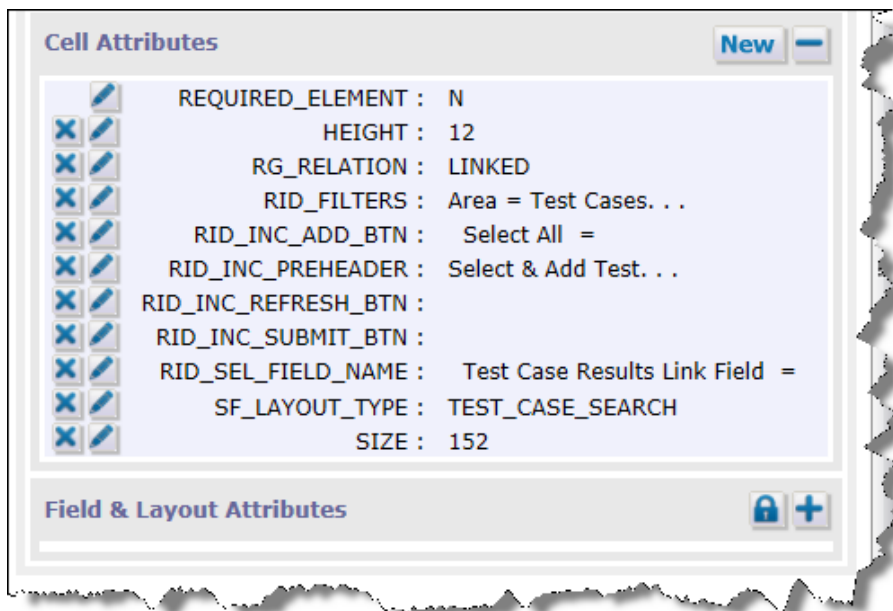
	Col 1 ← X →	Col 2 ← X →	Col 3 ← X →	Col 4 ← X →
Row 1 ↑ X ↓	SHADE_PRE_1			
Row 2 ↑ X ↓	ID ID #	DATE_CREATED Date Created	TIMESTAMP Last Modified	LAST_CHANGE_USER Last Changed By
Row 3 ↑ X ↓	TEST_PLAN_NAME Test Plan Name	SHORT_DESCR Title		
Row 4 ↑ X ↓	PRODUCT_NAME Product	DESCRIPTION Description		
Row 5 ↑ X ↓	PRODUCT_VERSION Product Version			
Row 6 ↑ X ↓	PRODUCT_BUILD_NUM Product Build #			
Row 7 ↑ X ↓	SHADE_POST_1			
Row 8 ↑ X ↓	FOLD_PRE_1			
Row 9 ↑ X ↓	LAYOUT.TEST_CASE_SEARCH Test Case Search Layout			←
Row 10 ↑ X ↓	LAYOUT.RELATED_TEST_CASE_RESULTS Results from searching for Test Cases			←
Row 11 ↑ X ↓	FOLD_POST_1			
Row 12 ↑ X ↓	SHADE_PRE_2			
Row 13 ↑ X ↓	LAYOUT.RELATED_TEST_CASES Test Cases			←
Row 14 ↑ X ↓	SHADE_POST_2			
Row 15 ↑ X ↓	TEST_CASE_RESULTS_LINK_FIELD Test Case Results Link Field			←

The configured add or edit screen layout

Place your TEST\_CASE\_SEARCH layout on the *add* or *edit* screen layout. This layout does not require any layout cell attributes, but you might decide to hide it using VISIBLE IF, once you have made your selection from the results of the search.

Place your RELATED\_TEST\_CASE\_RESULTS related issue display layout for the search results on the *add* or *edit* screen layout. This is the place where you configure several layout cell attributes that link that bind all the elements together:





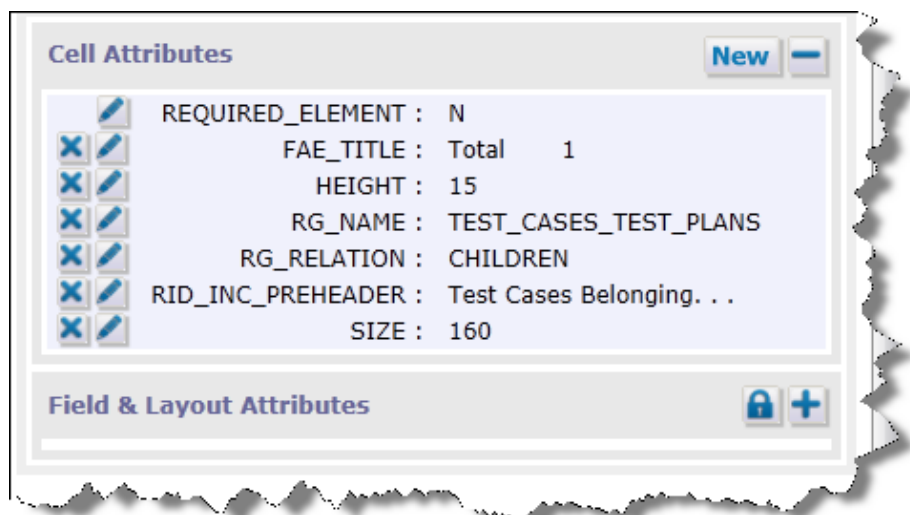
Cell attributes on the results layout

- HEIGHT - The approximate number of rows to display on the results layout, before displaying a vertical scroll bar. This is optional. If you do not provide this, all the results will be displayed
- RELATIONSHIP GROUP RELATION TYPE - You must set this to a value of **Linked**
- DISPLAY FILTERS - This is optional. You may provide filters here which will be used in addition to filters the end user enters on the *add* or *edit* screen. In our example, we always want the results to be obtained from the **Test Cases** project within the **Test Cases** business area, so we create these filters within the layout
- INCLUDE ADD BUTTON - This button is usually used to provide a "Submit" capability on a related issue display. This functionality is not required on search results, so we use this button to provide an alternative function, to *Select All* and *Deselect All* records in the search result. This field is created in the Data Dictionary on the **Labels** tab. It may have any name, the title must be **Select All** in the English locale, and its display type must be **Button**. Set a **Global Attribute** of ONCLICK\_JS with a value of toggleRIDSelectButtons();. This provides the JavaScript that allows all the records to be selected or deselected
- PREHEADER - This attribute provides an area above the related issue display that contains the function buttons, as well as providing a title to the related issue display. The value you provide with this attribute becomes the title
- INCLUDE REFRESH BUTTON - This places a button onto the related issue display pre-header bar that allows the user to get the results from the current set of filters, and to refresh the results if the user changes the filters. The button has a default title of **Get Filtered Results**, but you can optionally provide a value to the attribute which will then appear as the label on the button
- INCLUDE SUBMIT BUTTON - This places a button onto the related issue display pre-header bar that allows the user to update ID's for the selected values within the display into the FIELD NAME. The button has a default title of **Fetch Selected Record(s)**, but you can optionally provide a value to the attribute which will then appear as the label on the button
- LINK FIELD NAME - This is the name of the link field that receives the ID's of the selected issues from the related issue display. Simply select the field name from the list presented to you when you add the attribute
- SEARCH FILTER LAYOUT - This identifies the Search Layout you created above. Simply select its name from the list of values
- SIZE - This is an optional attribute with the width, in characters, of the display of the related issue display layout

## The Related Issue Display with the Related Records from the Results

This displays the records you selected within the search results. The attributes this layout needs are:

- FIELD AGGREGATE EXPRESSION - This is an optional attribute that, in our example, is used to provide a total of the hours on the related issue display
- HEIGHT - This is an optional attribute. It provides an approximate row count that is displayed, before a vertical scroll bar is introduced onto the related issue display
- RELATIONSHIP GROUP NAME - This is the relationship that is being updated. This was created in an earlier step. In our example, this is **TEST\_CASES\_TEST\_PLANS** with the title of **Test Cases / Test Plans**
- RELATIONSHIP GROUP RELATIONSHIP TYPE - This attribute defines the type of relationship. This should be **Children**
- SIZE - This optional attribute provides a width, in characters, of the related issue display.



Cell attributes on the child record layout

## Updating Related Issues as a Group

This feature allows you to apply updates to all issues related to the current issue, after you complete the updates to the current issue. The updates can be applied to a set of fields you place on a layout. You may optionally add a comment to each of the related issues as part of the updates.

The setup for this involves a number of steps.

1. If you are using BI-LEVEL relationship groups, set the RG\_UPDATE\_BILEVEL\_ONLY behavior setting to YES. For all other types of relationship groups, set the value of this behavior setting to NO
2. Ensure that you have a layout with a type of POST\_EDIT\_UPDATE defined. If your installation does not have a layout of this type defined, use the **Create and Maintain Layout Types** entry on the **Fields & Layouts** administration menu to define this
3. Add a layout with the POST\_EDIT\_UPDATE type to your system, either in the business area and project you require, or in a location from which it will be inherited
4. Place the fields on the layout that you want to be available during the update process for related issues. It should look something like the following screenshot. Note that the fields named STATUS, RESOLUTION and ASSIGNED\_TO are the fields that will be updated in the related issues. It is mandatory that you place the embedded layout, LAYOUT.RELATED\_ISSUE\_DISPLAY on this layout. Also note that the field named RULE\_POST\_UPDATE\_RG is defined as a custom field and has its help text defined as 4 - **Check the fields in the list below that you want to update to the same values in the issue being updated. The new value is shown.** Remember that you may need to set the RELATIONSHIP GROUP NAME, RELATIONSHIP\_GROUP\_REFERENCE\_FIELD and the RELATIONSHIP\_GROUP\_RELATIONSHIP\_TYPE layout cell attributes for the LAYOUT.RELATED\_ISSUE\_DISPLAY.

**Screen and report layouts** Update cell Delete cell Save layout Clear layout Delete layout Return Print Page

**Title** Related issue update layout **Description** for related issues Localize

**Business Area** Master Area **Project** Master Project

**Type** Layout for updating related issues after update **User role** \* Default layout for all user roles \*

	<span>Insert</span> <span>Delete</span> Col 1	<span>Insert</span> <span>Delete</span> Col 2	<span>Insert</span> <span>Delete</span> Col 3	<span>Insert</span> <span>Delete</span> Col 4
<span>Insert</span> <span>Delete</span> Row 1		LAYOUT_RELATED_ISSUE_DISPLAY		
<span>Insert</span> <span>Delete</span> Row 2	RULE_POST_UPDATE_RG			
<span>Insert</span> <span>Delete</span> Row 3		STATUS Status		
<span>Insert</span> <span>Delete</span> Row 4		RESOLUTION Resolution		
<span>Insert</span> <span>Delete</span> Row 5		ASSIGNED_TO Assigned To		

**Row** 2 **Column** 1 **Field name** \* Select a field or layout from this list \*

**Rowspan** 1 **Colspan** 1

**Required** Yes  No  **Advance by** None **Tab order by** Column ' Layout changed '

Update cell Delete cell Save layout Clear layout Delete layout Return Print Page

Layout to update related issues

- When the user updates an issue that is a member of a relationship group, based on the above layout, the following screen appears:

**Update Related Issues** Update Issues Cancel Print Page

The item you are updating has related issues. You may update all the related items or just the item you are updating. You can add a single comment to all the items, and optionally select any fields below that you want to update in the related items. Before you update, you can set the scope of the notification.

**1 - Update Options**

Update this item only (Press the 'Update Issues' button after selecting this option)

Update all related items

**Overall Options**

**2 - Check the box to add the following Comments to all related items when you update**

**Adding Comments**

**3 - View the related items and check the additional fields you want to update in these items**

Related Issues	ID #	Status	Assigned To	Title
<a href="#">View</a> <a href="#">Edit</a>	10466	New	Bill Smith	When the user presses the Go button he waits 2 seconds before
<a href="#">View</a> <a href="#">Edit</a>	10467	Open	Bill Smith	A hold time of 30 seconds was noticed when the status was set

**4 - Check the fields in the list below that you want to update to the same values in the issue being updated. The new value is shown.**

Status Fixed

Resolution Implemented

Assigned To Jimmy Duncan

**POST\_EDIT\_UPDATE layout**

**5 - Notification options**

Notify users on the current issue only

Notify users on all the issues in the relationship group

Notify users on the parent issue only

**Notification Options**

Update Issues Cancel Print Page

Rendered layout when updating related issues

The user will first choose whether to update just the single issue or all the related issues. A comment may optionally be added at this time that will be applied to all the related issue updates. The user will see all the related issues and can check or uncheck the fields to update in the related issues. Lastly, notification options may be set, to notify only the users on the current issue or the users on all the related issues or notify only the users on the parent issue.

## Mass Updates and Audit Trails

### Related Issues and Mass Updates

When a user performs a mass update and some of the records are part of relationship groups, no attempt is made to update the related issues to any single item. The reason for this is that there could well be thousands of issues in the mass update, and each one of them may in some way be related to other issues, causing ExtraView to ask the questions for each issue as to whether the related issues should be updated.

### Related Issues and Audit Trails

You may add an embedded layout prepared to display related issues to a History Layout. As explained in the previous section about preparing layouts for Related Issues, these layout types always begin with the character string RELATED\_. This produces a related issue display at the point in time on the history record when the issue was updated, not at the current time. When you configure this layout on the History Layout, remember that you may also need to set the relationship group name and the relationship group type.

There is a special field named RELATIONSHIP\_GROUP\_TXNS. This may be added to the History layout to see all the relationship group operations that occurred prior to and including the listed transaction time. Note that the audit trail for related issues cannot be displayed if ABBREVIATED\_HISTORY is set to NO as the abbreviated history does not use any layout for its display.

## Related Issues and Report Output Types

When a report contains a related issue display, it is treated as follows for the various report output types. The reason for this is that some output types are deliberately formatted to make it easy to use the data as input to other processes or programs. Having a variable number of items of data from the related issues within these reports will make these operations impossible.

Report Output Type	Constraint
Browser	No constraints, all fields are displayed
Microsoft Excel	Fields from the related issue display are suppressed
Microsoft Word	Similar to other data presented on Microsoft Word reports, buttons such as the View and Edit buttons are suppressed, but all alphanumeric information is displayed.
Text	Fields from the related issue display are suppressed

## Calculations on Related Issue Layouts

Field Aggregate Expressions (FAE's) permit calculations to be performed on a per-row basis on Related Issue Displays. The FAE's are added to fields within a Related Issue Display as layout cell attributes with a type of FIELD AGGREGATE EXPRESSION. There are also custom user exits for retrieval of data, accumulation of results, and the display of results. The display of the accumulated results is generated at the end of each group or collection of rows in a Related Issue Display, as an additional row with a user-defined title. The title is added as a layout cell attribute of type FIELD AGGREGATE EXPRESSION TITLE.

### Creating and Using a FIELD AGGREGATE EXPRESSION

The following are the steps for creating and using a FAE:

1. Create your Related Issue Display layout and save this in the usual way
2. Edit the Related Issue Display layout and select a column to which you want to apply an aggregate function. Click on the link button to add a new layout cell attribute
3. Choose the **FIELD AGGREGATE EXPRESSION - generate an aggregate value for this row** entry. Select the appropriate Value for your function from the list - *Count*, *Sum*, *Minimum*, *Maximum* or *Average*. The *Use User Custom Code* value is only valid if you have user custom code in place that will populate the results of the Field Aggregate Expression. See later on this page for details
4. The **Field value** should be set to a number - this will be tied to the FIELD AGGREGATE EXPRESSION TITLE on the Related Issue Display, as well as to the order in which multiple FIELD AGGREGATE EXPRESSION rows should be displayed. It is recommended you start with 1 for the first entry, and increment from there. The number you set must match the number you set in step 7
5. Save your changes to the Related Issue Display layout
6. Navigate to a parent issue that contains the Related Issue Display and verify the correctness of the results of the aggregate expression you created. It will not have any title or grouping at this moment, but you should see the results of the aggregation
7. To create a title on the Related Issue Display, navigate to the *add* or *edit* layout that embeds the Related Issue Display. On the cell that contains the Related Issue Display, you create an attribute of type FIELD AGGREGATE EXPRESSION TITLE where the **Value** is the Title of the row to be displayed, and the **Field value** should be a number (start with 1). If you have more than one FIELD AGGREGATE EXPRESSION defined on the Related Issue Display, this number is the order in which they will appear. The **Field value** should map to the **Field value** you selected in step 4
8. You can also optionally aggregate values while grouping together values within a field, and providing sub-totals or other attributes for each group. On the *add* or *edit* layout that contains the Related Issue Display, add a layout cell attribute to the Related Issue Display within the layout, of the type RELATIONSHIP GROUP SORT ORDER. Select the field in the related issue display that you wish to group by, and select **Group by** equal to *Yes*. Now you will generate subtotals as well as a grand total. Clicking on a field title at the top of the related issue display will cause a refresh of the display, change the sort order and the sub-totals
9. Again navigate to your parent issue that contains the Related Issue Display and verify that you now see the title and the optional grouping.

### Example

In this example, we want to add totals to a Related Issue Display as shown in this screen shot:

Remove?	Source Id	Category	Customer	Customer Project	Date	Hours	Details
<input type="checkbox"/>	10227	Billable	BroadSoft	Initial Implementation	May 18, 2011	2	implemented Business Rules
<b>Total hours</b>						<b>2</b>	
<input type="checkbox"/>		General/Admin			May 20, 2011	5	general IT tasks
<b>Total hours</b>						<b>5</b>	
<input type="checkbox"/>	10228	Billable	Hubspan	Initial Implementation	May 26, 2011	0.5	conference call regarding workflow diagram
<input type="checkbox"/>	10228	Nonbillable	Hubspan	Initial Implementation	May 26, 2011	1	answered question about where to download software
<input type="checkbox"/>	10159	Billable	Mach	Lotus Notes integration	May 26, 2011	0.75	conference call to gather requirements
<b>Total hours</b>						<b>2.25</b>	
<b>Total hours</b>						<b>9.25</b>	

Attachments

Totalling a field on a Related Issue Display

The key steps are as follows:

1. On the Related Issue Display, add the following Layout Cell Attributes to the field that you want to total (*HOURS\_INCURRED* in the example). Add a **FIELD AGGREGATE EXPRESSION with a Value of Sum and a Field value of 1. Save the changes**
2. On the *edit* layout that contains the Related Issue Display, add two additional Layout Cell Attributes. These are in addition to other attributes that most probably exist to provide the RELATIONSHIP GROUP NAME and other factors for the layout.
  - RELATIONSHIP GROUP SORT ORDER - This provides the initial sort order for the display
  - FIELD AGGREGATE EXPRESSION TITLE - This provides the title for the expression. Note that this should be the same value as set in the FIELD AGGREGATE EXPRESSION. The screen for the Layout Cell Attributes will be something similar to the following. Note that only the RG\_SORT\_ORDER (RELATIONSHIP GROUP SORT ORDER) and the FAE\_TITLE pertain to the calculations. The other entries have their own purpose and function.

Type	Value	Field name	Field value
<a href="#">Edit</a> RG_SORT_ORDER	ASCENDING	Date (timesheet data)	GROUP_BY
<a href="#">Edit</a> FAE_TITLE	Total hours		1
<a href="#">Edit</a> RG_NAME	TIMESHEET_TIME_DATA		
<a href="#">Edit</a> RG_RELATION	CHILDREN		
<a href="#">Edit</a> RID_INC_ADD_BTN		Add time record	
<a href="#">Edit</a> RID_INC_PREHEADER			
<a href="#">Edit</a> SIZE	175		

Layout Cell Attributes for the FAE

This gives the result shown in the screen shot above. Note the initial sort order. Also note that if you click on another field title within the Related Issue Display, there is a re-sort, and the totals for the field are automatically recalculated. This is shown below, where the display is now sorted on the *Category* field.

Remove?		Source Id	Category▲	Customer	Customer Project	Date	Hours	Details	
<input type="checkbox"/>	<a href="#">QEdit</a>	<a href="#">Edit</a>	10227	Billable	BroadSoft	Initial Implementation	May 18, 2011	2	implemented Business Rules
<input type="checkbox"/>	<a href="#">QEdit</a>	<a href="#">Edit</a>	10228	Billable	Hubspan	Initial Implementation	May 26, 2011	0.5	conference call regarding workflow diagram
<input type="checkbox"/>	<a href="#">QEdit</a>	<a href="#">Edit</a>	10159	Billable	Mach	Lotus Notes integration	May 26, 2011	0.75	conference call to gather requirements
Total hours								3.25	
<input type="checkbox"/>	<a href="#">QEdit</a>	<a href="#">Edit</a>		General/Admin			May 20, 2011	5	general IT tasks
Total hours								5	
<input type="checkbox"/>	<a href="#">QEdit</a>	<a href="#">Edit</a>	10228	Nonbillable	Hubspan	Initial Implementation	May 26, 2011	1	answered question about where to download software
Total hours								1	
Total hours								9.25	

Resorting the display

## Implementation Notes

- Expressions will only work with Related Issue Displays that contain 1,000 rows or less, if you implement grouping with aggregate functions
- The *Count* function works on all field types
- The *Sum*, *Average*, *Minimum* and *Maximum* functions work only on numeric display type fields - Number, Decimal and Currency
- The User Custom function requires custom code before it will achieve anything
- You can only group by one column in the related issue display RELATIONSHIP GROUP SORT ORDER layout cell attribute
- You will get incorrect results if you group on a multi-valued field, or on a repeating record field, for calculations such as Average

## Utilizing the User Custom Code Exits

This is an advanced topic and it is assumed the administrator is thoroughly familiar with programming within the User Custom Code environment of ExtraView. Please contact ExtraView Support for additional details on how to implement this feature.

Setting up field aggregate expressions is similar to the above, but there are a few additional steps.

The key step is that the aggregate expression performed in user custom code must be linked to a field on the Related Issue Display. This is achieved by creating a user defined field within the data dictionary, of type **Expression**. This may have any valid display type and will correspond with the returned value from the custom code. This provides your environment with a field name, a display title, security permissions and other attributes. You may have more than one custom aggregate function, with each being linked to a separate user defined **Expression** field.

To implement, you provide Java code for the 3 user custom exits for data selection, accumulated value computation and accumulated value display, and compile the code into the user custom class used in the installation.

The presence of FIELD AGGREGATE EXPRESSION layout cell attribute in the Related Issue Display layout directs the reporting logic to invoke three FAE-specific custom exits: data selection, value computation, and value display. In addition, the FAE-specific rows are added to the end of the report rows i.e. on the right for transposed Related Issue Displays and on the bottom for non-transposed Related Issue Displays.

Each FAE is associated with a specific field in the Related Issue Display, as part of the attributes on the Related Issue Display layout: this defines the row on a transposed Related Issue Display, or the column on a non-transposed Related Issue Display of the FAE result display at the end of the report. There may be more than one FAE associated with a field, resulting in additional columns on transposed Related Issue Displays or rows on non-transposed Related Issue Displays.

The three FAE user custom exits are as follows:

1. ucFAESelect: called during generation of SQL for the report to permit insertion of SQL into the detail report query for later consumption by the FAE value aggregation.

### Signature:

```
public String ucFAESelect (
    SesameSession session,
    Connection conn,
    String faeName,
    String ddName,
    DetailReportElement re,
    HashMap distinctTables,
```

```
String[] locParts,
EVHierarchyLevel eh1,
HashMap dataAlias,
String itemTableAlias,
String itemIdKey) throws Exception
```

- ucFAEAggregate: called for each row in the Related Issue Display to permit aggregation of the values in the report – this could include summation, averaging, or special operations as required.

**Signature:**

```
public void ucFAEAggregate (
    SesameSession session,
    Connection conn,
    String faeName,
    String ddName,
    HashMap row,
    ResultSet resultSet
) throws Exception
```

- ucFAEDisplay: called once at the end of the report for each FAE in the Related Issue Display, to allow custom generation of display values for the FAE.

**Signature:**

```
public String ucFAEDisplay (
    SesameSession session,
    Connection conn,
    String faeName,
    String ddName
) throws Exception
```

## Searching Within Add & Edit Layouts

There are two use cases in searching for records within an *add* or *edit* screen. Typically you are searching for records that exist within another Business Area:

- Search for a single record and copy all, or a subset of its field values into the current record
- Search for one or more records and copy field values from a number of records into new related issues.

The basic principal is that you embed a search layout into an *add* or *edit* screen layout. The results from the search are returned into a second embedded layout. The user can then select one or more results from this layout, and copy the required results into their destination.

There are two examples of this feature:

- [This page](#) gives assistance on how to configure this feature so that you can return a single search result into field values within the current issue
- [This page](#) gives assistance on how to configure this feature so that you can set up the results from one or more search results as related issues to the current issue.

## Field Limitations within Layouts

Not every field can be added successfully to every layout, and there are limitations regarding the placement of many fields on repeating record layouts. The following table gives an indication of all inbuilt fields and their restrictions in use. Note that User Defined Fields are capable of being placed on all layouts, as long as the data dictionary entry for the field is defined correctly.

Data dictionary field name- DATABASE field types	Notes
ALT_ID	Any layout except repeating record layouts
Area	This field should not be placed directly on an <i>add</i> or <i>edit</i> layout. ExtraView will place this field on the layout when Business Areas are enabled. Should not be used in repeating records
ASSIGNED_TO	Any layout except repeating record layouts
ATTACHMENT_ID	Internal use only
ATTACH_CONTENT_TYPE	Will be placed automatically on the layout as part of the attachment record. Controlled by security permissions
ATTACH_CREATED_BY_USER	Will be placed automatically on the layout as part of the attachment record. Controlled by security permissions



ATTACH_DATE_CREATED	Will be placed automatically on the layout as part of the attachment record. Controlled by security permissions
ATTACH_FILE_DESC	Will be placed automatically on the layout as part of the attachment record. Controlled by security permissions
ATTACH_FILE_NAME	Will be placed automatically on the layout as part of the attachment record. Controlled by security permissions
ATTACH_FILE_SIZE	Will be placed automatically on the layout as part of the attachment record. Controlled by security permissions
ATTACH_PATH	Will be placed automatically on the layout as part of the attachment record. Controlled by security permissions
ATTACH_THUMBNAIL	Will be placed automatically on the layout as part of the attachment record. Controlled by security permissions
AVAILABLE_FOR_DOWNLOAD	Not available for any layout
CATEGORY	Any layout except repeating record layouts
CONTACT	Any layout except repeating record layouts
DATE_CLOSED	Read-only on the <i>edit</i> screen only
DATE_CLOSED_SINCE	Reporting filters only
DATE_CODE_FREEZE	Not available for any layout
DATE_CREATED	Read-only on <i>add</i> and <i>edit</i> screens. Not to be used on repeating records
DATE_CREATED_DAY	Not used on <i>add</i> screens, <i>edit</i> screens or repeating records. Only used for reporting purposes
DATE_CREATED_MONTH	Not used on <i>add</i> screens, <i>edit</i> screens or repeating records. Only used for reporting purposes
DATE_CREATED_SINCE	Not used on <i>add</i> screens, <i>edit</i> screens or repeating records. Only used for reporting purposes
DATE_CREATED_TRUNC	Not used on <i>add</i> screens, <i>edit</i> screens or repeating records. Only used for reporting purposes
DATE_CREATED_WEEK	Not used on <i>add</i> screens, <i>edit</i> screens or repeating records. Only used for reporting purposes
DATE_CREATED_YEAR	Not used on <i>add</i> screens, <i>edit</i> screens or repeating records. Only used for reporting purposes
DATE_FIRST_CUSTOMER_SHIP	Not available for any layout
DATE_LAST_STATUS_CHANGE	Read-only on <i>edit</i> screen. Not used on <i>add</i> screen. Not to be used on repeating records
DATE_LAST_STATUS_CHANGE_SINCE	Reporting filters only
DATE_RELEASE_TO_OA	Not available for any layout
DAYS_IN_STATUS	Reports only
DAYS_OPEN	Reports only
HIST_RANGE_END	May only be used as a filter on a search layout
HIST_RANGE_START	May not be used on any layout. Only used in the CLI
ID	Read-only on <i>add</i> and <i>edit</i> screens. Not to be used on repeating records
ITEM_ID	Should not be used on any layout
LAST_CHANGE_USER	Read-only on <i>edit</i> screen. Not used on <i>add</i> screen. Not to be used on repeating records
LAYOUT	Not available for any layout
LAYOUT_TYPE	Not available for any layout
MODULE_ASSIGNED	This field is deprecated and should not be used
MODULE_DATE_CREATED	This field is deprecated and should not be used
MODULE_ID	Not to be used on repeating records

MODULE_NAME	Should not be used on layouts
MODULE_PRODUCT	This field is deprecated and should not be used
MODULE_STATUS	This field is deprecated and should not be used
MODULE_TIMESTAMP	This field is deprecated and should not be used
MODULE_TITLE	Should not be used on layouts
MODULE_TYPE	This field is deprecated and should not be used
MODULE_VERSION	This field is deprecated and should not be used
MONTHS_IN_STATUS	Reports only
MONTHS_OPEN	Reports only
ORIGINATOR	Any layout except repeating record layouts
OWNER	Any layout except repeating record layouts
PRIORITY	Any layout except repeating record layouts
PRIVACY	Any layout except repeating record layouts
PROBLEM_RELEASE_ID	Should not be used on any layout
PRODUCT_LINE	Any layout except repeating record layouts
PRODUCT_NAME	Any layout except repeating record layouts
PRODUCT_NAME_HIST	Should not be used on any layout
PROJECT	This field should not be placed directly on an <i>add</i> or <i>edit</i> layout. ExtraView will place this field on the layout when Business Areas are enabled. Should not be used in repeating records
RELATIONSHIP_GROUP_ID	Should not be used on any layout
RELATIONSHIP_GROUP_OWNER	Should not be used on any layout
RELATIONSHIP_GROUP_TITLE	Should not be used on any layout
RELATIONSHIP_GROUP_TXNS	This field is only valid on a layout of type HISTORY.
RELATIONSHIP_GROUP_TYPE	Should not be used on any layout
RELATIONSHIP_GRP_PARENT_ID	Should not be used on any layout
RELEASE	Should not be used on any layout. The LAYOUT.RELEASE field may be embedded on the <i>add</i> and <i>edit</i> screens to support repeating records
RELEASE_ASSIGNED_TO	Repeating records and reports only
RELEASE_DATE_CREATED	Repeating records and reports only
RELEASE_DIRECTORY	Should not be used on any layout
RELEASE_FIXED	Repeating records and reports only
RELEASE_FOUND	Repeating records and reports only
RELEASE_FOUND_HIST	Should not be used on any layout
RELEASE_OWNER	Repeating records and reports only
RELEASE_PRIORITY	Repeating records and reports only
RELEASE_PRODUCT	Repeating records and reports only
RELEASE_RESOLUTION	Repeating records and reports only
RELEASE_SEVERITY	Repeating records and reports only
RELEASE_STATUS	Repeating records and reports only
RELEASE_TIMESTAMP	Read only on repeating records and reports
RELEASE_TYPE	Deprecated – do not use
REL_GRP_DATE_CREATED	Should not be used on any layout

REL_GRP_TIMESTAMP	Should not be used on any layout
RESOLUTION	Any layout except repeating record layouts
SEVERITY_LEVEL	Any layout except repeating record layouts
SHORT_DESCR	Any layout except repeating record layouts
START_DATE	Reports only. Note that the data dictionary setting " <b>Filter criteria</b> " must be set to <b>Yes</b> for this field to work
START_UPDATE	Reports only. Note that the data dictionary setting , " <b>Filter criteria</b> " must be set to <b>Yes</b> for this field to work
STATUS	Any layout except repeating record layouts
STATUS_HIST	Should not be used on any layout
STOP_DATE	Reports only. Note that the data dictionary setting " <b>Filter criteria</b> " must be set to <b>Yes</b> for this field to work
STOP_UPDATE	Reports only. Note that the data dictionary setting " <b>Filter criteria</b> " must be set to <b>Yes</b> for this field to work
TIMESTAMP	Read-only on <i>add</i> and <i>edit</i> screens. Not to be used on repeating records
TIMESTAMP_DAY	Not used on <i>add</i> screens, <i>edit</i> screens or repeating records. Only used for reporting purposes
TIMESTAMP_MONTH	Not used on <i>add</i> screens, <i>edit</i> screens or repeating records. Only used for reporting purposes
TIMESTAMP_SINCE	Not used on <i>add</i> screens, <i>edit</i> screens or repeating records. Only used for reporting purposes
TIMESTAMP_TRUNC	Not used on <i>add</i> screens, <i>edit</i> screens or repeating records. Only used for reporting purposes
TIMESTAMP_WEEK	Not used on <i>add</i> screens, <i>edit</i> screens or repeating records. Only used for reporting purposes
TIMESTAMP_YEAR	Not used on <i>add</i> screens, <i>edit</i> screens or repeating records. Only used for reporting purposes
WEEKS_IN_STATUS	Reports only
WEEKS_OPEN	Reports only
Data dictionary field name- LABEL field types	Notes
CC_EMAIL	Should not be used on any layout. This field is automatically added to the <i>add</i> and <i>edit</i> layouts with the notification fields
DELETE_BUTTON	Reports only
EDIT_BUTTON	Reports only. Note that this field is automatically added to any custom report
EMAIL	Should not be used on any layout
FILTER_CHILD_VALUES	Should not be used on any layout
GENERATE_EMAIL	Should not be used on any layout. This field is automatically added to the <i>add</i> and <i>edit</i> layouts with the notification fields
HISTORY_BUTTON	Reports only
KEYWORD	Report filters only
PROBLEM	Should not be used on any layout
RELATIONSHIP_GROUP_LINK	Should not be used on any layout
REPORT	Should not be used on any layout
REPORT_BY	Should not be used on any layout
REPORT_NAME	Should not be used on any layout
REPORT_OUTPUT	Should not be used on any layout

REPORT_TYPE	Should not be used on any layout
SORT	Should not be used on any layout
VIEW_BUTTON	Reports only. Note that this field is automatically added to any custom report
Data dictionary field name- SCREEN field types	Notes
ADD_PROBLEM	Should not be used on any layout
ADD_PROBLEM_SUMMARY	Should not be used on any layout
ADMINISTRATION	Should not be used on any layout
ATTACHMENT	This is the field that places attachment records on <i>add</i> and <i>edit</i> screens. It can also be placed on detailed reports and Quicklists, but not on report filter layouts. Security permissions should be set for the individual fields such as ATTACH_FILE_NAME and ATTACH_FILE_SIZE to control their visibility
BATCH_COMMANDS	Should not be used on any layout
COMPANY_NAME	Should not be used on any layout
CUSTOM_EMAIL	Should not be used on any layout
HOME_PAGE	Should not be used on any layout
PAGE_SIZE	Should not be used on any layout
PROBLEM_RELEASE_DELETE	Should not be used on any layout
PROBLEM_SUMMARY_EDIT	Should not be used on any layout
PROMO	Should not be used on any layout. This field is automatically included in the sign on screen, and you can provide HTML within the title of the field that will be rendered within the page. This HTML may include images and JavaScript
QUICK_LIST	Should not be used on any layout
RELATIONSHIP_GROUP	Should not be used on any layout
SEARCH_REPORT	Should not be used on any layout
SECURITY_GROUP	Should not be used on any layout
SECURITY_KEYS	Should not be used on any layout
SECURITY_PERMISSION	Should not be used on any layout
SIGN_ON	Should not be used on any layout
STATUS_CHANGE	Should not be used on any layout
SYSTEM_LOG_TYPE	Should not be used on any layout
UDF	Should not be used on any layout
USER_ACCOUNTS	Should not be used on any layout
Data dictionary field name- SESSION and SPECIAL field types	Notes
USER	Should not be used on any layout
SYSDATE	Should not be used on any layout

## Adding Shaded Regions to Layouts

Layouts with a plain background can look bland. You can improve the look of *add* and *edit* layouts by using shaded regions. Shaded regions allow you to set a background color or a background image to a contiguous group of rows within a layout. The shaded region can also be given a legend.

To set up a shaded region on an *add* and *edit* layout, use the following procedure:

- Create two fields in the data dictionary.

The first field is used to mark the beginning of the shaded region on the layout. The field must use a naming convention, beginning with the characters SHADE\_PRE\_. For example, SHADE\_PRE\_1 is a valid name for the field. The title should be a single space character and the display type should be **Custom**. Give the field read-only permission for each role that will use the shaded region

- o The second field is used to mark the end of the shaded region on the layout. The field must use a naming convention, beginning with the characters SHADE\_POST\_. For example, SHADE\_POST\_1 is a valid name for the field. The title should be a single space character and the display type should be **Custom**. Give the field read-only permission for each role that will use the shaded region
- Place the SHADE\_PRE\_ and the SHADE\_POST\_ fields on the layout, giving each a colspan that extends the entire width of the layout. Obviously, the SHADE\_PRE\_ field is placed at the beginning of the region and the SHADE\_POST\_ field is placed at the end of the region
- To provide a legend for the shaded region, add an HTML Modifier layout cell attribute to the SHADE\_PRE\_ field. This attribute should be of the form **LEGEND:Title to the Region**
- If you require to add a legend in a language other than English, add an attribute in the form **LEGEND\_ALT:Title to the Region**. If the user's locale is not English, this legend will be used rather than the title defined in LEGEND. However, if a language other than English is used within the LEGEND attribute, and no LEGEND\_ALT attribute is defined, then this is used as the title to shaded regions. Unlike most of ExtraView's localization capability, this does not provide the flexibility to add any number of localized language legends to the legend, and is limited to a single language beyond the default language
- To provide a background color to the shaded region, add an HTML Modifier layout cell attribute to the SHADE\_PRE\_ field. This attribute should be of the form **BGCOLOR:#nnnnnn** where #nnnnnn is a valid hexadecimal color
- To provide a background image or other CSS style for the shaded region, add an HTML Modifier layout cell attribute to the SHADE\_PRE\_ field. This attribute should be of the form **STYLE:'background-image:url(../locales/en\_US/images/images\_light\_blue/TableBg.png)'**
- To add a CSS style to the legend, add an HTML Modifier layout cell attribute to the SHADE\_PRE\_ field. This attribute should be of the form **CSSCLASS:classname**. There are two inbuilt CSS styles named *legendSmall* and *legendLarge* that can be used for the **classname**.
- This will have the following effect on a layout. Note the legend **Customer Details** and the light yellow background around the fields:

The screenshot shows the 'ExtraView Add Issue' interface. At the top, there are navigation tabs: Bugs, Test Cases, Helpdesk, Assets, Customer Issues, Customers (selected), Feature Requests, and Knowledge Base. Below the tabs is the 'Customer Details' section, which is highlighted with a light yellow background. This section contains various input fields: Name, Contact, Phone Number, Cell Phone, Owner, Customer Email, Address, Fax Number, Contract Number, Contract Date, Renewal Date, and Act. Renewal Date. There are also text areas for Description and Comments. Below the 'Customer Details' section is the 'Attachments' section with an 'Add' button and a table with columns for File Description, File Name, and File Size. The 'Notification' section includes checkboxes for 'Generate Email', 'Include self on interest list', and 'Include Customer users in notification', along with a 'Mailing List' field showing 'Mary Brown ; Bill Smith ; Chris Robinson ;'. At the bottom of the form are 'Submit', 'Clear', and 'Print Page' buttons.

Shading a region on a layout

- You may nest SHADE\_PRE\_ and SHADE\_POST\_ fields to create multiple shaded regions within each other on a form. Here is an example:

Multiple shaded regions on a layout

## Adding Accordion Folds to Layouts

Accordion folds may be added to your *Add* and *Edit* layouts to provide a flexible user interface, where sections will open and close at the click of a button. The accordion folds may be decorated with titles and themed to your own choice. You may also choose whether they render on the initial layout in a closed or an open state. You can include any number of accordion folds within a layout.

Note that when accordion folds are placed on layouts, they have no effect on the requiredness of fields they contain. A required field is required, whether the accordion fold is expanded or collapsed.

To set up an accordion fold on an *Add* or *Edit* layout, use the following procedure:

- Create two fields in the data dictionary.
  - The first field is used to mark the beginning of the accordion fold on the layout. The field must use a naming convention, beginning with the characters FOLD\_PRE\_. For example, FOLD\_PRE\_1 is a valid name for the field. The title should be a single space character and the display type should be **Custom**. To provide a legend for the accordion fold, use the Help Text field. Give the field read-only permission for each role that will use the shaded region
  - The second field is used to mark the end of the shaded region on the layout. The field must use a naming convention, beginning with the characters FOLD\_POST\_. For example, FOLD\_POST\_1 is a valid name for the field. The title should be a single space character and the display type should be **Custom**. Give the field read-only permission for each role that will use the shaded region
- Place the FOLD\_PRE\_ and the FOLD\_POST\_ fields on the layout, giving each a colspan that extends the entire width of the layout. Obviously, the FOLD\_PRE\_ field is placed at the beginning of the region and the FOLD\_POST\_ field is placed at the end of the region
- To provide a background color to the accordion fold, add an HTML Modifier layout cell attribute to the FOLD\_PRE\_ field. This attribute should be of the form BGCOLOR:#nnnnnn where #nnnnnn is a valid hexadecimal color

To provide a border color to the accordion fold, add an HTML Modifier layout cell attribute to the FOLD\_PRE\_ field. This attribute should be of the form BORDER\_COLOR:#nnnnnn where #nnnnnn is a valid hexadecimal color

- To color the text provided as the title to the accordion fold, add an HTML Modifier layout cell attribute to the FOLD\_PRE\_ field. This attribute should be of the form HDR\_TXT\_COLOR:#nnnnnn where #nnnnnn is a valid hexadecimal color
- To color the background to the text on the accordion fold, add an HTML Modifier layout cell attribute to the FOLD\_PRE\_ field. This attribute should be of the form HDR\_BGCOLOR:#nnnnnn where #nnnnnn is a valid hexadecimal color
- By default the standard **dn-arrow.png** and **rt-arrow.png** images from the appropriate image folder set in the IMG\_HOME behavior setting are used on the accordion fold, depending upon whether the fold is collapsed or expanded. If you wish to use your own images, create a new folder called **user\_images** in the images directory and place your images within this, named in the same manner. Then, include an HTML\_MODIFIER with a value of FOLD\_USER\_IMG\_PATH, and the files in that folder will be used instead of the defaults
- By default, the accordion fold will be expanded when rendered on the layout, unless you include an HTML\_MODIFIER with a value of COLLAPSE, which will collapse the relevant accordion fold upon rendering and upon screen refreshes. Ajax and JavaScript refreshes will not affect the collapsed or expanded state of the accordion fold
- By default, the accordion fold will be indented to line up with the column of the first field on the layout, as opposed to the column of the first field's label. If you include an HTML\_MODIFIER with a value of NO\_INDENT, the accordion fold will not be indented
- By default, the width of the accordion fold is determined by the rendering of the relevant layout, but you may manually set its width with the SIZE layout cell attribute. The value will be converted to a pixel width for the Fold Section

Note that by overriding the default width handling, the Administrator is responsible to ensure that the fields within the accordion fold fit within the rendered section. This factor is also affected by a user's personal **Text size** setting, so be sure to check the look of your layouts with the **small**, **medium** and **large** text sizes

## Adding Ruler Areas to Layouts

Ruler areas or ruler fields are used to generate headings within the *add* and *edit* screens. Ruler fields provide spacing and provide an opportunity to place text as assistance to the user.

Ruler fields on the add screen

Data dictionary field Purpose

Name This defines the name of the field. For example, a field named RULE\_WORKFLOW is valid. You may define any number of ruler fields, as long as the name for each one begins with the characters RULE\_.

Display Type Must be **Custom**

Title Typically this is a space character

Help Text This is the text to place upon the ruler on the *add* or *edit* screen.

The standard distribution of ExtraView that ships with the user custom class named BestPractices.java contains this functionality.

## AJAX Techniques

With traditional web-based applications, it was often necessary to refresh entire screens to repopulate individual fields according to various triggering of business rules, such as populating a child list with values based upon a change in its parent value. ExtraView has maintained a rich set of features in addition to the management of parent-child relationships, such as **visible if** and **required if**. As powerful as many of these features were, they required ExtraView to execute the feature by returning the values from the browser to the server where the logic was used to send a complete page of information back to the browser. This is known as a “screen refresh” and whilst it is capable of executing complex logic, the process takes time, from a half-second to four or more seconds, depending on a variety of factors. These factors include the speed of the network and the speed of the hardware as well as the size and complexity of the ExtraView layouts that are being processed.

Using a technology known as Ajax, most screen refreshes are eliminated and the processing time is typically an order of magnitude less than the time for an entire screen refresh. The key places where ExtraView takes advantage of Ajax while processing issues on *add* and *edit* layouts are:

- To process layout cell attributes such as **visible if** and **required if**. This includes the use of visible if to control entire embedded layouts
- To process layouts controlled by a tab or list field using the **selected** mechanism
- To execute business rules that result in changes to values within fields on forms based upon field selections or data input

### AJAX Limitations

The screen layout renderer in ExtraView always removes rows of fields where there is no visible content. This avoids unsightly gaps in the screen for your users. If you have a row that is entirely suppressed, and there are one or more fields on that row which are invisible due to a visible if cell attribute, then the row is not generated at all when the field or fields do not meet the criteria to become visible. In this circumstance where the entire row is not rendered, there is insufficient information in the layout to use Ajax to populate the field when it becomes visible. As a result, ExtraView will revert to a full screen refresh. Thus the functionality is correct, but Ajax is not and cannot be used to make the field visible.

If keeping the speed of the Ajax refresh is important to your application, consider altering your layout to include a field which will be visible at all times on the row of your layout so that something is always visible. This could even be a label field with a blank value. Although there is no obvious effect from this it is actually visible.

## Detailed Report Layout Selection

Detailed reports are generated on a different basis, in that each individual issue on a detailed report will use the detailed report layout associated with the issue’s business area and project. The user’s current role is also used in the selection. Inheritance is still used, but the net effect is that different issues may use different layouts, and will use the layout most associated with the issue.

## Quicklist Report Layout Selection

A Quicklist may contain individual issues that belong to many different business areas and projects. Only one layout is selected for the entire report. This is selected from the user’s current business area, project and role, unless one of the following conditions exists:

- If a filter selecting a single business area (AREA) is chosen, ExtraView will select the layout associated with PROJECT 0 of this area. Inheritance is used if no layout has been defined at this level
- If a filter selecting a single business area and a single project is chosen, then ExtraView will select the layout associated with this specific area and project. Inheritance is used if no layout has been defined at this level
- If zero or more than one business area is chosen, and/or the project selected conflicts with the business area, the layout associated with the user’s current business area and project is selected

## Attachments on Add and Edit Layouts

The following security permissions control the ability to place attachments from within the add and edit screen layouts. Security permission entries exist for both the PR\_ADD\_PROBLEM set of keys and the PR\_RESOLUTION set of keys, except for ATTACHMENT\_DELETE, ATTACHMENT\_EDIT, ATTACHMENT\_HIST, and ATTACHMENT\_VIEW which only exist for the PR\_RESOLUTION set of keys.





Field/Security permission key	Purpose
ATTACHMENT	This key controls the overall ability to create attachments. Write permission to this key is needed by the user role, for attachments to be able to be created or maintained. If there is no read permission, the attachment record is not placed on the layout. This field is the only field that should be placed on reports where you want to display attachments, such as the detailed report. The remaining fields for the attachment will be placed onto the report by ExtraView, according to whether the field has read permission. When you have read permission to attachments on reports, a View attachment button is automatically placed on the report, allowing you to view the contents of all attachments to an issue directly.
ATTACHMENT_ADD	This controls the Add button for attachments. Write access is needed to control this
ATTACHMENT_DELETE	This is to enable and disable the delete attachment button
ATTACHMENT_EDIT	Controls whether a user role may edit the attachment description of a previously uploaded attachment. Write permission is needed for this
ATTACHMENT_HIST	Controls the presence of a History button on the edit screen within the attachment. This button presents a window with a layout defined in the layout editor and named ATTACHMENT_HISTORY, which presents the historic records showing the updates and accesses to attachments. Normally, this layout is defined in the global area, and inherited by all business areas and projects.
ATTACHMENT_VIEW	Controls whether a user role may view a previously uploaded attachment. Read or write permission is needed for this
ATTACHMENT_ID	This is an internal ID used by ExtraView. It is not likely that you will give permission to this key for any user role.
ATTACH_CONTENT_TYPE	This is the mime content type of the attachment. You can control the visibility of this key with read permission. You cannot write to this field.
ATTACH_CREATED_BY_USER	This is the name of the user who created the attachment. Once again, you cannot write to this field, and its presence or absence is controlled with the read flag.
ATTACH_DATE_CREATED	This is the date that the attachment was created. Once again, you cannot write to this field, and its presence or absence is controlled with the read flag.
ATTACH_FILE_DESC	This is the description of the attachment that the user enters. Both write and read operations are allowable on this field.
ATTACH_FILE_NAME	This is the name of the file that is attached to the issue. Once again, you cannot write to this field, and its presence or absence is controlled with the read flag.
ATTACH_FILE_SIZE	This is the size, in bytes, of the attachment. Once again, you cannot write to this field, and its presence or absence is controlled with the read flag.
ATTACH_PATH	This is the path in which the file was originally stored on the local file system of the creator's computer. Once again, you cannot write to this field, and its presence or absence is controlled with the read flag.
ATTACH_THUMBNAIL	This previews the attachments of image types (JPG, PNG and GIF) at a small size, in order that the user may see the image while they are inserting and updating issues, as well as seeing the field on reports when they are looking at attachment records.

Multiple attachments can be added to issues, on both the *add* screen and the *edit* screen, if the user role has permission. However, attachments cannot be deleted from the add issue screen. If the user incorrectly adds an attachment during the add issue process, they should continue, add the issue to the database, edit the issue and then delete the attachment.

Note that if an attachment is added to an issue when you are updating an issue, the issue itself is immediately updated.

Add	Hist	Preview	File Description	File Name	Created By	File Size	Date Created
<a href="#">View</a>	<a href="#">Desc</a>		Protoype board	prototype board with Z80.jpg	Bill Smith	268587	Jun 2, 2006
<a href="#">View</a>	<a href="#">Desc</a>		Finalized product board	Finished-product.jpg	Bill Smith	545793	Jun 2, 2006

Portion of edit screen showing attachments

Thumbnail	Description	File Name	Size	Updated By
	Finalized product board	Finished-product.jpg	545793	<a href="#">Bill Smith</a> Jun 2, 2006
	Protoype board	prototype board with Z80.jpg	268587	<a href="#">Bill Smith</a> Jun 2, 2006

**Related Issues**  
There are no related items

Portion of detailed report showing attachments

A behavior setting named THUMBNAIL\_MAX\_SIZE controls the size of the thumbnail. This is the maximum number of pixels in either the horizontal or vertical direction to which thumbnail images will be generated. The aspect ratio of the original image will be retained. Thumbnail images are generated for file attachments and for fields with a display type of image. If you change this value, existing thumbnail images will remain at their original size and new thumbnails will be generated at the changed value.

## History Layouts

Before discussing history layouts, it is important to understand the behavior setting named ABBREVIATED\_HISTORY. A value of YES for this setting will show changed fields only in history records and will not use the history layout to display the audit trail. A value of NO will use the history layout to display the audit trail. The displayed results with YES are more concise than NO, but there is not a fixed layout to easily spot the changes.

The history layout is designed to show all changes made to each field of an issue as it moves through the process. The Report – History layout will show the fields that you want to see as part of your audit trail process. The following points are important with history layouts:

- The audit trail is kept on all fields, not just those on the layout. Thus you can add fields to the layout at any time, and the new fields will show the audit back to the creation of the issue.
- If you have a checkbox field on the *edit* layout, but not on the *add* layout, and do not make a change to its value on the first occasion you update the issue, the field will still show a change to **N** or whatever the off title is in the data dictionary. The reason for this is that ExtraView interprets the field as having moved from a null condition on the add screen to **N** on the *edit* screen. You can prevent this by making the default value for the field **N** in the data dictionary
- Before a field can be displayed on a history layout, it must have the **Select for Reports** attribute set to **Yes** in the data dictionary
- The field named RELEASE must have the **Select for Reports** attribute set to **Yes** in the data dictionary before you can display any repeating rows on the history layout
- You may not place any buttons on the history layout
- Use the behavior settings named HIGHLIGHT\_COLOR, HIGHLIGHT\_COLOR\_ADD, HIGHLIGHT\_COLOR\_DELETE and

- HIGHLIGHT\_COLOR\_UPDATE to set the colors that indicate each of the conditions for a field within the history layout
- The NOTIFICATION\_HISTORY field may be placed on History layouts to provide a record of the users who were sent notification at each update of the issue. It only works on the layout and not when the abbreviated history setting is used.

## Placing the Audit Trail for Related Issues on the History Layout

You may add an embedded layout prepared to display related issues to a History Layout. As explained in the section about preparing layouts for Related Issues, these layout types always begin with the character string RELATED\_. This produces a related issue display at the point in time on the history record when the issue was updated, not at the current time.

## Attachment History Layouts

The history button available on *edit* screens controls access to a pop up screen that shows the history of additions, updates and deletions to attachments. In addition, the screen shows a record of all users who have downloaded the attachment to their own computer.

The same ATTACHMENT\_HISTORY LAYOUT is typically used throughout an installation, and can be defined in the global layout area only. Other Business Areas and Projects will automatically inherit it from there. Of course, different ATTACHMENT\_HISTORY layouts may be defined in each Business Area and Project.

Attachment History for ID # 10525							
File Name	Change Type	File Size	File Description	Created By	Date Created	Last Updated by User	Last Date Updated
arrow.psd	Insert	3875	attach	Bill Smith	2006-02-16 22:41:04.0	Bill Smith	2006-02-16 22:41:04.0
arrow.psd	Update	3875	attach	Bill Smith	2006-02-16 22:41:05.0	Bill Smith	2006-02-16 22:41:04.0
bear.jpg	Insert	180532	picture of bear	Bill Smith	2006-02-17 11:44:38.0	Bill Smith	2006-02-17 11:44:38.0
bear.jpg	Update	180532	picture of bear	Bill Smith	2006-02-17 11:44:39.0	Bill Smith	2006-02-17 11:44:38.0
arrow.psd	View	3875	attach	Bill Smith	2006-02-16 22:41:05.0	Bill Smith	2006-02-16 22:41:04.0
arrow.psd	Update	3875	This file shows an image of the issue to be implemented	Bill Smith	2006-02-16 22:41:05.0	Bill Smith	2006-02-18 22:33:42.0
bear.jpg	Update	180532	Prototype photograph of the replacement	Bill Smith	2006-02-17 11:44:39.0	Bill Smith	2006-02-18 22:34:05.0

### Attachment History Screen

The following fields may be placed on the layout, and they must have read permission to be viewable by the user role:

Field Name	Purpose
ATTACH_CHANGE_TYPE	The operation on the attachment. This is one of Delete, Insert, Update, View
ATTACH_CONTENT_TYPE	The content type of the attachment
ATTACH_CREATED_BY_USER	The name of the user who created the attachment
ATTACH_DATE_CREATED	The date the attachment was created
ATTACH_FILE_DESC	The description of the attachment
ATTACH_FILE_NAME	The filename of the attachment
ATTACH_FILE_SIZE	The size, in bytes, of the attachment
ATTACH_HIST_TIMESTAMP	The timestamp of the event, such as when a user views the attachment
ATTACH_LAST_DATE_UPDATED	The timestamp that the attachment metadata was altered, or the attachment deleted
ATTACH_LAST_UPDATED_BY_USER	The user who performed the operation
ATTACH_PATH	The original path on the client machine where the attachment was stored
ATTACH_THUMBNAIL	A thumbnail image if the field is an image

## Buttons on the Menubar

A menubar is placed at the top and the bottom of each *add* and *edit* screen. All the available options have a button displayed here. If a button is not available, then it means that either the option is not valid at that point in time, or the user's role does not have permission to access the button. Write access to the security permission key is required to see the button on the menubar.

Button Title	Screens	Control	Purpose
Update	Edit	PR_RESOLUTION.EDIT_BUTTON	Without this button, the user's role may not update the issue
Submit	Add	MENU.ADD_PROBLEM	Without permission, the user's role cannot access the <i>add</i> screen and cannot create new issues
Update & Continue	Edit	PR_RESOLUTION.SAVE_AND_CONT_BUTTON	Allows the user's role to update an issue and continue editing the same issue, after drilling down from a report
Update & Prev	Edit	PR_RESOLUTION.ALLOW_EDIT_NEXT_PREVIOUS	Allows the user's role to update an issue and move to the previous issue, after drilling down from a report
Update & Next	Edit	PR_RESOLUTION.ALLOW_EDIT_NEXT_PREVIOUS	Allows the user's role to update an issue and move to the next issue, after drilling down from a report
Delete	Edit	PR_RESOLUTION.DELETE_BUTTON	Allows the user's role to delete the currently displayed issue. Confirmation is required
Clone	Edit	PR_RESOLUTION.CLONE	Allows the user to clone the current issue. Note that business rules may have been defined that control at a field level precisely which fields are cloned
Email	Edit	PR_RESOLUTION.EMAIL_BUTTON	Accesses the ad hoc email feature, to email a list of users about the current issue. Templates may have been defined to make this communication simpler
History	Edit	PR_RESOLUTION.HISTORY_BUTTON	Provides access for a user role to view the historic audit trail for the currently displayed issue
Close	Edit	-	Allows the user to discard any current changes and exit the window
Print Page	Add / Edit	-	Prints a copy of the current issue

## Compatibility with Prior Versions

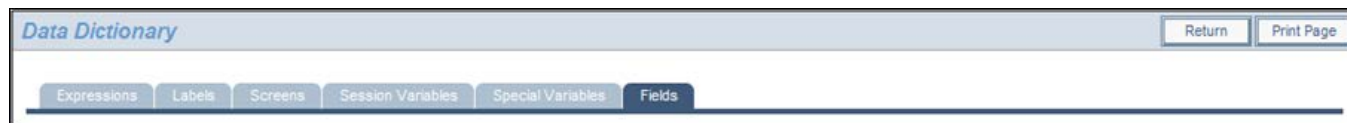
There are two items to be aware of when upgrading ExtraView from versions prior to 6.5.

Business rules that required an HTML modifier **onchange=submitChange()** The HTML modifier was used to trigger a screen refresh to execute a business rule on the server. These are no longer required and you should remove these HTML modifiers from your layouts. If you do not remove the modifier, there will still be a screen refresh, but the logic will still be executed correctly

Working around a known bug in Internet Explorer If you find that Internet Explorer renders your screens too wide, it is typically caused by an embedded layout where the fields are arranged in columns and the fields within one or more of the columns all use a colspan greater than one. The solution is to alter the offending layout (or layouts) to only use a colspan of one within the fields within these columns

## Data Dictionary

The Data Dictionary is the central place where all field definitions are stored and maintained. The data dictionary is found within the System Configuration administrative menu.



Data Dictionary screen tabs

## Fields

These are the fields within ExtraView that are used within all processes. There are two types of fields, built-in fields and users defined fields (UDF's). Built-in fields are provided as part of all ExtraView installations. Although you may modify various attributes of built-in fields, such as their title and their default value, you should never delete an built-in field. You may create as many UDF's as you require for your installation. There is no limit on the number of UDF's that may be created. All fields have four basic properties, their scope, a fixed name, a title and a display type. It is the display type that gives a field most of its functionality. See later in this section for a complete explanation of all the field types. Once any UDF is defined in the data dictionary it will behave the same as if it were an inbuilt field. You will be able to attach permissions to the field, place it on any layout, report on the field, etc. End users will not be able to detect the difference between an inbuilt field and a UDF. When viewing a list of fields in the data dictionary, you will only see the fields in the Business Areas and Projects to which you have permission. This typically includes all the fields which are global in their scope.

As a technical point, there is no real limit to the number of UDF's you create. In addition, creating a UDF does not result in any change to the underlying database schema. There is no system degradation in creating a large number of UDF's.

## Expressions

Expression fields are used in reporting to derive or calculate the value of a reporting column. Each expression may have a default expression which is then automatically used on any report which contains the expression field. Expression fields also have a range of display types, although this range is more limited than a field display type. You may define any number of additional expression fields, or reuse the same expression fields for different purposes on different reports.

## Labels

This section is where field screen elements that are not database fields can be defined or altered. Once again, it is unlikely that the administrator will remove fields from this section. Labels can also be added as User Defined Fields, so it is unlikely that the administrator will add new fields to this section of the data dictionary.

## Screens

These fields are for the inbuilt screens within ExtraView. A few additional supporting fields in this area affect screen displays. Administrators should not need to add or remove entries from this section, but can rename the individual screens within their installation.

## Session Variables

Fields found in this area pertain to options having to do with the user's current, active ExtraView session. Fields defined in this section are principally used in reporting

## Special Variables

These fields generally are those that manage functions involving calculations of some kind, such as the internal data/time stamping functionality.

## Key Uses of the Data Dictionary

This core component of ExtraView controls many of the attributes of each field, such as:

- Display type of each field
- Display title for each field. The title that is used for all screen labels can be altered at will for each field
- Whether the field is selectable for reports
- Setting up field dependencies
- Populating the values into lists
- Default values
- Help text

## Built-In & User Defined Fields

Built-In fields are part of the basic ExtraView product and exist in all databases. Most of these fields have special properties. For example there is a built-in field named **ID** that is used to provide a unique identifier for every issue stored. Built-in fields should not be deleted from the database else functionality may be lost, or in the worst case, ExtraView will not function.

User Defined Fields are fields that are created within your ExtraView installation and do not exist in the basic product. Since you

may want to customize your own site to include fields that are more specific and appropriate to your needs, UDF's satisfy this requirement. UDF's are a highly efficient and extensible mechanism. An unlimited number of UDF's may be created. All User Defined Fields are created and maintained in the Data Dictionary.

UDF's must be typed, i.e. they will take on one of many display types such as *text*, *number* or *date*. The display type is the most important property of each UDF. In addition, UDF's that have a *list* type can retain multiple values at one time, with the values being individual members of the whole list.

## Scope

Fields may be created and assigned to be global, or created and assigned to an individual Business Area, or created and assigned to an individual Project within a Business Area. This is termed the scope of the field. All inbuilt fields are global in their scope.

When a field is restricted in its scope to an individual Business Area, or to a Project within a Business Area, then you will not see that field unless you have permission to read fields in that Business Area and Project. Similarly, you cannot write to a field unless you have write permission to the field in the Business Area and Project within which it is held.

## Field Properties

Fields have properties, or attributes, that enhance their capabilities, and provide options as to how they should work. Not all properties are applicable to all field display types. The following is a complete list of properties. Only the properties for any field display type will be shown on the user interface. As you choose a field's display type, the appropriate properties will be displayed.

Field Property	Explanation
Business Area & Project	Sets the scope for the field. If Global Area is selected, then the field will be available over all Business Areas. If a specific Business Area is selected, along with its Project Defaults, then the field will be available throughout that Business Area. If a specific Business Area and a specific data project is selected, then the field will only be available within that Business Area and Project
Field Belongs To	Enter the record type that the UDF is to be associated with against the prompt <i>Field belongs to</i> . There are presently two choices: <i>sea</i> <i>Issue Records</i> – this indicates the UDF is to be associated with the main record for each issue in the database <i>Repeating Records</i> – this indicates the UDF is to be associated with each repeating row added to the main issue. Repeating rows maintain a many-to-one relationship with issues, therefore the UDF you create will be available for each repeating record that is added to the main issue. Note: You cannot change this property once the field has been created
Fixed Name	The <i>Name</i> is the fixed name of the field. This field is required. <i>Names</i> may be from one to thirty characters long, and must be composed of the characters – A – Z 0 – 9 _ The first character of a name must be alphabetic. You must not have consecutive underscore characters in a fixed name. Field names must be unique across an installation
Title to Display	The <i>Title</i> will appear on screens and reports. It may be from 1 to 255 characters in length and is required. It may contain any text. If you have turned on multiple locales, this field may be translated into any valid language and its length may be up to 3,800 characters. The title may contain HTML for formatting purposes. However, if you access the field through the API or CLI then the HTML will be passed through to the output. If you do not want to display a title, use a space character as the title
Display Type	The data type of the field, controlling its appearance and behavior. Example display types are text, number, checkbox and date. For a complete list of display types, click <a href="#">here</a>
Allow Selection on Reports	A switch to allow or disallow the field to be selectable for reports. If this option is not set to <b>Yes</b> , then the field will not be available in reporting and on the abbreviated history display. This is useful in order to prevent fields used as labels and for formatting appearing in field lists within reporting. It's important to note that not all fields should be allowed on reports. For example, you may not use all of ExtraView's inbuilt fields within your installation and therefore want to hide them from the view of users (note you can also do this by changing the field's permission so it cannot be read). There are also fields in the Data Dictionary, such as images, buttons and screens that should not be selectable for reporting. It is highly recommended that you set all fields to <b>No</b> if they are not used in your installation. This avoids the lists of fields that your users can select from to be populated with unneeded entries

**Remember Last Value** If you set this option, the last value that individual users enter or select on both the Add Issue and the Search screens will be remembered. This serves the purpose of remembering values that may not change frequently. For example, many users may work with the same *Product* for extended periods of time. Note that you can only set this feature for fields where the value of “field belong to” in the data dictionary is **Issue records**. The feature is not supported with **repeating row records**

**Display as URL** This option need not be completed for any UDF. You can use either the name or value associated with the field as part of the URL that you generate. This allows you to link any field value on a form with any remote application (or an inbuilt ExtraView function that can be accessed with a URL) and optionally to use values on the form to pass as a parameter to another application. If a field with this attribute is rendered as read-only on an *Add* or *Edit* screen or a browser-based report, then it becomes a link to the URL specified.

To activate a field with a link to a URL, click the **Display as URL** radio button to Yes.

- Type the appropriate URL in the field below the **Display as URL** radio button.
- You can pass values from the data dictionary field you are defining or from other fields on the form. The form of the values that you can pass as parameters are as follows –

Parameter	Purpose
\$\$VALUE\$\$	Pass the current value of the field as a parameter in the request
\$\$DDNAME.VALUE\$\$	Pass the current value of the field named DDNAME as the parameter in the request
\$\$DDNAME.NAME\$\$	Pass the name of the item for the field named DDNAME as it is stored in the database as the parameter. For example, if you have a field named <b>STATUS</b> , with a name of <b>FIXED</b> and a value of <b>Fixed</b> , then \$\$STATUS.NAME\$\$ will pass <b>FIXED</b> as the parameter.
\$\$DDNAME.TITLE\$\$	Pass the title of the item for the field named DDNAME as it is stored in the database as the parameter. For example, if you have a field named <b>STATUS</b> , with a name of <b>FIXED</b> and a value of <b>Fixed</b> , then \$\$STATUS.TITLE\$\$ will pass <b>Fixed</b> as the parameter. This is equivalent to the \$\$DDNAME.VALUE\$\$ parameter.
\$\$URL\$\$	Pass the un-escaped value of the current field as a parameter in the request. The URL form is used to link the field to a URL that is fully formed, without escaping special characters. For example, with a data dictionary URL value of \$\$URL\$\$, a field containing <a href="http://www.yahoo.com">http://www.yahoo.com</a> would link directly to the Yahoo! site when the button for the Display as URL button is clicked
\$\$DDNAME.URL\$\$	Pass the un-escaped value of the field named DDNAME as the parameter in the request

- Note that the trailing \$\$ on an entry is optional
  - Use the tag \$\$APP\_HOME\$\$ to include the current path to the ExtraView instance that you are running
  - If the DDNAME is the name of a data dictionary Special Variable (e.g. SYSDATE) then the value passed is the value of the Special Variable
  - If the DDNAME is the name of a data dictionary Session Variable (e.g. USER) then the value passed is the value of the Special Variable
  - You may call other functions within ExtraView and cause them to take the appropriate action. For example, you can set up a field with a link that utilizes the search function and display the results in a Quicklist report
- Example 1 – Pass a value to a remote application as a parameter –

```
http://search.yahoo.com/search?p=$$VALUE$$
```

This will pass the current value of the field to Yahoo, and perform a search of the value. The results will be displayed in a new window.

Example 2 – Display a window with a user’s details –

```
?p_action=showUserDetails&p_option=admin.UserAccountsDisplay&p_user_id=$$NAME$$
```

This will access ExtraView’s pop-up display for a user’s details. Use this URL in conjunction with a User display type field.

Example 3 – perform a search with a keyword, and display a Quicklist with the results –

```
?p_action=doRunQuicklist&p_option=search.SearchDisplay&searchword=$$VALUE$$  
&product_name=$$PRODUCT_NAME$$&assigned_to=$$ASSIGNED_TO$$
```

This example is placed in the URL value of the field (all on one line). This will access ExtraView’s search class and produce a Quicklist report, using the value in the display field named searchword, and the current values of the product\_name and assigned\_to fields

Example 4 – Edit an issue whose ID is in the field with the display as URL –

?p\_action=doEditDisplay&p\_option=Display&p\_id=\$\$VALUE\$\$&p\_from\_action=search  
&p\_from\_option=search&p\_close\_win=true&ev\_menu=off

This will open an edit screen window using the value of the field with the Display as URL as the ID to the issue. Note that the parameter p\_close\_win=true is used to close the edit screen window once the issue has been updated. Also note that the parameter ev\_menu=off is used to suppress the ExtraView navigation bar in the new edit screen window.

- h. The URL form is used to link the field to a URL that is fully formed, without escaping special characters. For example, with a data dictionary URL value of \$\$URL\$\$, a field containing http://www.yahoo.com would link directly to the Yahoo! site when the button for the Display as URL button is clicked.

**Image for Display as URL** This optional entry is used in conjunction with the **Display as URL** setting. If provided, the entry is the file name of an image in the directory specified in the IMG\_NAV\_BAR\_HOME behavior setting. When this image is provided and **Display as URL** is set to Yes, then your image is used rather than the inbuilt LinkButton.gif image. Care should be taken not to provide an image that is too large. The recommended size is 18 x 18 pixels.

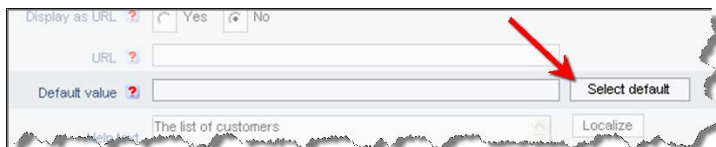
**URL** An optional URL which can be used to link the field to any other application

**Default Value** A field must be created before you may give it a default value. This is because default values are used most commonly in list fields, and you need to populate your field with these values before you can select one to be the default.

If you provide a default value for a field, the value specified will be auto-selected whenever you are adding a new issue. Note that if you also have remember last value set on the field, the last value will be used in preference to the default value.

The default value is used to populate a field in a record, whether or not the field is visible on the layout. This has a very important benefit, best explained by example. If you want to create an Add Issue layout for your *customer* user role, such that any issues submitted by your customers will automatically be given a status of *unassigned*, even if there is no status field visible on the layout, then you can achieve this with the default value. The Add Issue layout used by customers may either not have the status field at all, or the security key for the status field may be set so that customers cannot read or write to the field.

**Note:** Default values for fields of display types Checkbox, List, Pop-up, Radio Button – Horizontal, Radio Button – Vertical, Tab and User must be entered using the **Select Default** button. Entering text into the box for these fields does not work. The reason for this is that in addition to the value that is displayed, ExtraView also needs to know the internal ID value of these fields. You may enter text directly for other display types, such as Text. Default values may only be entered after the field has been created, by editing the field.



Entering Default values

**Help Text** This field provides a facility that when you mouse over the label adjacent to a field you can provide a tool tip message that will appear. You can have up to 2,000 bytes in a tool tip, without localization being turned on in your ExtraView instance. If localization is turned on, then the tooltips can store up to 3,800 bytes. However it is not recommended that you have large tooltips, because of the way in which Windows and other operating systems display these. Typically they are displayed for around 2 seconds, so you should not store more information that can be read in that time

**Help URL** With a Help URL, you can link this to a bookmark or page in your own online help system. If you are an ExtraView customer hosted by ExtraView Corporation, note that this URL need not be on our server. You can store and access these files anywhere over the Internet

**Currency unit** This block of information only appears if you have chosen a field display type of **Currency**. Choose the currency symbol to display for the field. The list of currency units is complete, and you may select one for each field. You cannot use a field with a currency display type if you want it to signify different currencies. You can choose how to display negative currency values from one of the negative display options shown below

**Negative Display** This block of information only appears if you have chosen a field display type of **Decimal**, **Currency** or **Number**. Simply choose the formatting you require for the field using the radio buttons

**Symbol** This block of information only appears if you have chosen a field display type of **Currency**. This determines whether the currency symbol will appear along with the number when the field is displayed

**Thousands Separator** This block of information only appears if you have chosen a field display type of **Decimal**, **Currency** or **Number**. Select whether you do or do not want a thousands separator to appear with the field



**Rounding mode** This block of information only appears if you have chosen a field display type of **Decimal**, **Currency** or **Number**. The default rounding mode is ROUND\_HALF\_UP for **Decimal** and **Number** display types. For **Currency** display types, the default rounding mode is the rounding mode of the currency instance for the chosen currency locale.

This table shows the result of rounding data input to one digit, with the given rounding mode:

Input Number	UP	DOWN	CEILING	FLOOR	HALF UP	HALF EVEN	HALF DOWN	UNNECESSARY
5.5	6	5	6	5	6	5	6	throw Exception
2.5	3	2	3	2	3	2	2	throw Exception
1.6	2	1	2	1	2	2	2	throw Exception
1.1	2	1	2	1	1	1	1	throw Exception
1.0	1	1	1	1	1	1	1	1
-1.0	-1	-1	-1	-1	-1	-1	-1	-1
-1.1	-2	-1	-1	-2	-1	-1	-1	throw Exception
-1.6	-2	-1	-1	-2	-2	-2	-2	throw Exception
-2.5	-3	-2	-2	-3	-3	-2	-2	throw Exception
-5.5	-6	-5	-5	-6	-6	-5	-6	throw Exception

**Internal Precision** This block of information only appears if you have chosen a field display type of **Decimal**, **Currency** or **Number**. This is a number from -24 to 10 indicating how many digits of precision should be maintained for internal computations with this field

**Report Precision** This block of information only appears if you have chosen a field display type of **Decimal**, **Currency** or **Number**. This is a number from -24 to 10 indicating how many digits of precision should be displayed on reports or read-only displays of this field

**Percentage** This block of information only appears if you have chosen a field display type of **Decimal**. If you set the *Percentage* option, then users must enter the number with a percentage sign. This will be converted internally by ExtraView and stored as a decimal value

**Alias Of** A field that is the alias of another field is restricted to fields that you create with a display type of List, Pop-up or Tab. When you create a field with this setting, you will not maintain the list of values for the field, but the field will be created using the list of values from the field you select in the **Alias of** selection list. This is a labor saving device that is used when you require more than one field with the same list of values, but you only want to maintain the list in a single place. For example, you may want to create a list of product releases, and use this list in two forms, one for Release Found and one for Release Fixed. You can place both these fields on a single edit screen, and update the fields independently, but only maintain the field in a single place.

A field that is an **Alias of** another field may still be controlled by its own allowed value list. This allows you to create different lists from one base list, where each of the aliased lists is a subset of a master list.

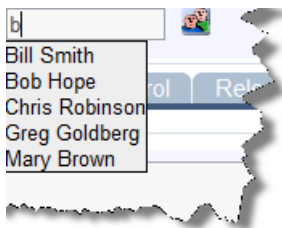
This entry only appears when you are creating a new field, or when you are editing a field with a display type of List, Pop-up or Tab. The option is only valid when creating a field of the same types. When creating a new field, you may point it to another list field and the new field will be an alias of the field to which it point. It will be kept in synchronization with the first field.

If you are editing an existing entry which is an alias of another field, you can remove the alias entry, from which time the fields will work independently

**Total Field on Reports** This only has an effect on numeric display types. When this is selected, the field will be totaled automatically on column reports. This setting is ignored if the field does not have a display type of *Number*.

**Enable Interest List** This flag in a data dictionary item enables a notification interest list for specific values of the field. For example, you may want to create an interest list based upon issues that have a critical severity level. If you enable the interest list for *severity level*, then the administrator can edit the *critical* list item in the severity level interest list and maintain the list of user names in the interest list

**Auto-complete** This option may be used with popup list fields and with user fields when the behavior setting named USER\_LIST\_DISPLAY is set to a value of POPUP. Auto-complete, or type-ahead as it is sometimes known, works by having one or more characters typed into the list and then automatically presenting you with the most likely matches for the value you are composing. At any time you can select a value from those presented to you by clicking on the value, or you may continue typing in characters until you complete the value. As you type, the values presented in the list are refined to further match your entry.



Example of an Auto-complete field

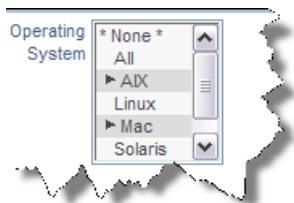
When you set auto-complete to **on** for a field, then you also select the number of characters that the user enters before the auto-complete is activated. There is also control over the maximum number of entries returned in the list and control over the height of the list. This allows fine-tuning when you are dealing with very large lists, ensuring that the user does not retrieve a very large number of records while they are typing characters into the list

#### Multiple Value

Multiple values can only be enabled for UDF's with a display type of LIST, POPUP or User. If you enable a UDF to have multiple values, you are allowing the user to select any number of items from its list as being valid entries. For example, say you have a list of operating systems against which an issue may be recorded. If you want to note that the issue is found in some of the operating systems, but not all, you can choose the relevant entries from the list. A behavior setting named SORT\_SELECTED\_VALUES controls how the selected values in multi-valued lists and multi-valued user lists are sorted. When this is set to NO, all multi-valued lists will be displayed in the order set by the field's standard sort sequence. When this value is set to YES, all selected values will be displayed at the beginning of the list, using their sort order, then the non-selected values will be displayed using their sort order.

Note that if you place a multiple value list UDF on an *add* or *edit* screen layout, and then add a layout cell attribute of **REMOVE\_NONE**, and you then deselect the very last value in a list, the first value in the list will be selected when you submit the form. If this behavior is not desirable, then the recommendation is to also make the field required, which will force the user to select a value before the record is inserted or updated.

You can set the character used to signify that a value in a multi-valued field is selected with the behavior setting named MULTI\_VALUE\_HIGHLIGHT\_CHAR. The default value is &# 9654;. This displays as a ? against the selected value. If you want to use a character that is in the basic character set of older computer browsers, it is suggested you use the + character.



Example of a multi-value list field

**Filter Criteria** This option allows the field to be selected on a query filter layout, as a criteria for a search. Only if this item is checked can the field allowed to be placed on a filter screen layout for querying and searching.

Note that not all display types can be used as filter criteria. Fields with a display type of Label, Image, Text Area, Log Area and Print Text cannot be used as filter criteria

**Is Sortable** If this option is set to Yes, then the field will appear on the Sort Order lists on report composition screens. Typically fields with a display types as follows should be flagged as sortable or not:

Sortable	Not Sortable
Checkbox	Button
Date	Custom
Day	HTML Area
List	Label
Number	Log Area
Pop-up	Print Text
Tab	Text Field
User	Text Area

## Reserved Words

Also, note that there are reserved words that cannot be used as UDF names. These are *ACTION, CALLED\_FROM, CHILD, CUSTOMER, CLASS, CUSTOM\_URL, FROM\_ACTION, FROM\_OPTION, GROUP, INTERFACE, LAYOUT\_SESSION\_TAG, NEW\_REPORT, NOTIFY, OPTION, PAGE\_LENGTH, PAGE\_SIZE, PARENT, RECORD\_COUNT, RECORD\_START, REPORT\_AS\_OF, REPORT\_DESC, REPORT\_ID, REPORT\_OWNER, REPORT\_START, REPORT\_STOP, REPORT\_TITLE, SEARCH\_ATTACH\_SIZE, SECURITY, SELECTED, SELECTEDSO, SHOW\_EXPANDED, SOURCE, SOURCESO, TEMPLATE\_EXPANDED, UDF* and *VALUE*.

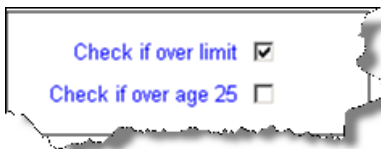
## Display Types

Each field in ExtraView, whether it is an inbuilt field, or a user-defined field, has a display type that controls the presentation and behavior of the field, both in input mode on Add and Edit screens, as well as on output for reports. The range of Display types that can be set is as follows:

### Button

At this time, you cannot create UDF's with a display type of Button. These are in the list as they are used for internally created buttons which are defined as labels. The inbuilt View, Edit, History and Delete fields are defined as type Button, and are used on reports to provide access to the appropriate functions.

### Checkbox



This generates a single checkbox on a screen. Apart from being able to set the title of the field, the administrator can also select the values that appear on reports according to whether the box is checked or unchecked. The default is for **Y** to appear if the box is checked, and **N** to appear if it is not checked. These values can be altered to any other titles such as **Yes** and **No**, **On** and **Off** or similar. Note that if a checkbox is never set to being checked or unchecked by a user, or is never specifically set by a default value or a rule, then the checkbox actually has a **null** value,

and is never stored in the database. This is an important distinction, as a **null** value is not the same as a **N** value. Querying for a **null** value with **\* None \***, will give different results to querying for **N** values.

### Currency

This field allows the user to enter numbers that will be displayed with the formatting seen on currency amounts, such as a currency symbol, thousands separators and decimal points. The user may choose from a list of valid currency symbols, as well as set the formatting for negative numbers and set the thousands separator. Note that the formatting information for currency fields is entered into a box that appears in the data dictionary when you select the display type of **Currency** from the selection list.

The implementation uses a precision of 38 and scale of 10 (28 digits to the left of the decimal point and 10 digits to the right) when the value is stored in the database. If a user attempts to insert a number larger than this into a currency field, it is not possible to accurately display the number. At this point, ExtraView converts the number to a null value, and enters a message into the application log file.

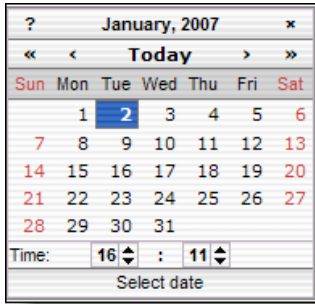
### Custom

This field assumes that ExtraView's user custom code will provide the contents and management of the field, allowing you to extend the functionality of ExtraView with new custom display objects. The field title will be rendered as normal, using the title of the object. The method call to user custom that provides the code is –

```
ucValue = Z.userCustom.ucRenderEmbeddedObject (
dbconn,
session,
layoutType,
dde,
ddName,
selectedVals,
selectedVal,
multipleVals,
attributes,
prefix,
le,
row,
styleVal,
doHiddenInput) ;
```

The returned value ucValue is a String. For fuller details on this display type, please see the User Custom Guide. However, it is worth noting here that almost any code can be generated into your layouts with this display type.

## Date



This field type allows dates to be entered and stored. The date field is automatically provided with a popup button on each add or edit screen. This button provides access to a calendar.

Dates are validated against the user's locale. For example, if your locale is US English, the date 1/5/05 is interpreted as January 5th, 2005, while if your locale is GB English, the date 1/5/05 is interpreted as May 1st, 2005.

All dates are stored with a time component. When a user's time zone is different from the time zone stored in the behavior setting named DB\_TIMEZONE, the date / time a user enters is converted to its equivalent in the DB\_TIMEZONE, and stored as such. For storage, all dates are further converted to UTC format. When the same user accesses and displays the date again, it is converted to his personal time zone and redisplayed. If a user is in a time zone different to the user who entered the date /

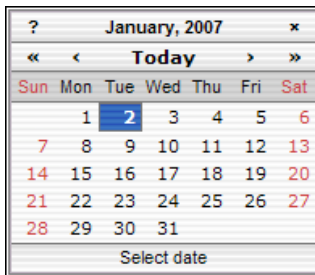
time, and is in a time zone different to the DB\_TIMEZONE, the date and time are converted to their personal time zone and displayed accordingly.

When any user displays a Date field, the date is displayed with the user's own personal date format.

If your application does not require time with any date you want to store, it is recommended you use the 'Day' display type to define the field.

**Note:** Microsoft SQL Server has a limitation in that any date before 1753 is invalid and cannot be stored, and calculations based on dates before this are invalid. If your installation is running on SQL Server, this is a limitation that ExtraView cannot work around.

## Day



Day field types operate differently than fields with a display type of Date. Firstly, they do not have a time component, and only the date is ever displayed on a screen or report.

Secondly, the date is not converted from the user's local time zone to the DB\_TIMEZONE. The date is stored as it is entered, and is displayed to every user, no matter their time zone, with exactly the same value as it is stored. If you require time as part of the field, use the 'Date' display type field.

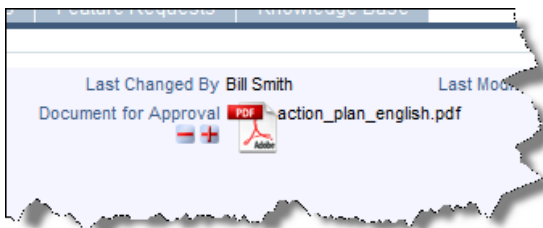
The date will be presented to each user with the date format they have selected.

**Note:** Microsoft SQL Server has a limitation in that any date before 1753 is invalid and cannot be stored, and calculations based on dates before this are invalid. If your installation is running on SQL Server, this is a limitation that ExtraView cannot work around.

## Decimal

This allows a number with a number of decimal points to be entered and stored. The implementation uses a precision of 38 and scale of 10 (28 digits to the left of the decimal point and 10 digits to the right) when the value is stored in the database. If a user attempts to insert a number larger than this into a decimal field, it is not possible to accurately display the number. At this point, ExtraView converts the number to a null value, and enters a message into the application log file.

## Document



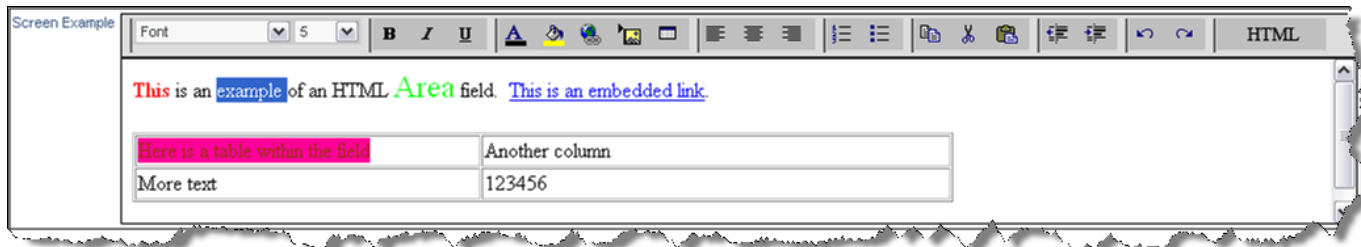
Document fields store a document of any type. For example, you might have a document that is required as part of the submission of an issue, or you may require an approver of a document to provide a signature indicating their approval of a document. Documents are represented on the screen with an icon that shows its type. For example, if the document is a spreadsheet, you will see a spreadsheet icon beside its filename. Unlike attachments, documents are subject to workflow, such as being required if a condition is true, or a signature might be required indicating approval of a document that was uploaded.

Document fields are only searchable with keyword searching, and only using Quickfind searching. Document fields are not searchable by default, and searching must be activated through the behavior setting named FULL\_TEXT\_SEARCH\_COLUMNS or by updating the searchable columns on the Quickfind settings screen.

## HTML Area

This display type offers the ability to enter and edit text with an HTML editor. This field will appear on the *add* and *edit* screens with a toolbar, much as you have with a word processor. On reports, the HTML within the fields is rendered, including embedded objects such as images. You can control which buttons appear on the toolbar, and the style of the toolbar with the behavior settings named EDITOR\_BUTTONS and EDITOR\_STYLE respectively.

The row height of HTML areas throughout ExtraView is controlled with a behavior setting named HTMLAREA\_ROW\_HEIGHT.



## Image



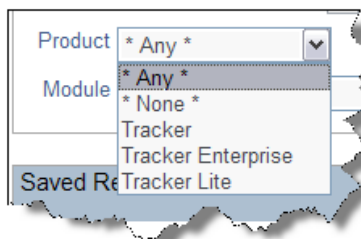
This display type allows images to be stored within issues in the database. These images appear as fields within layouts, and can be added, deleted and updated within issues like all alphanumeric field display types. Image fields may be placed on report layouts and column reports. When an image is uploaded into an issue, a thumbnail is generated and used on the *add*, the *edit* and report layouts. The size of this thumbnail is controlled by the behavior setting named THUMBNAIL\_MAX\_SIZE. The aspect ratio of the thumbnail will always be preserved, but the maximum number of pixels in the horizontal or vertical direction will not exceed the setting. When the user clicks on the thumbnail image, a window opens with the image being displayed in its full size.

A behavior setting named MAX\_IMAGE\_DIMENSION\_PIXELS controls the maximum dimension of any image that may be uploaded. Images that have a height or width greater than this value will not be stored in the field.

## Label

A label is used as a display item only. No data is stored in the database against any label field. Labels are given a value in the data dictionary default value field, and this is displayed on the screen in read only mode. Some inbuilt labels are also used internally within ExtraView, to provide a means of altering a term such as "problem" to be suitable for the use of ExtraView in any customer installation. Labels may be placed on layouts such as the *add* and *edit* layouts. They can be used to provide instructions to users or other information.

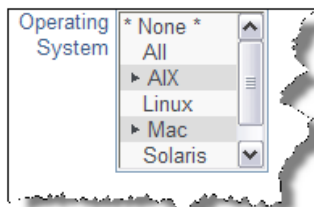
## List



A list of values; when you have a field with a list display type, it will have an entry on the Field List Maintenance section of the administration screen. From there, you can add or delete list items. Lists are often used with allowed values, controlling the absence or presence of any individual item when in data entry mode. If you require two or more fields that are populated with the same list of values, you can create the second and subsequent fields using the "Alias Of" feature. You will maintain the list of values in the first field created, and ExtraView will automatically keep the aliased lists up to date. This is a labor saving device, and ensures that you can keep identical lists in step with each other. At the same time, you may define separate allowed value entries for each of the fields. You may also use the layout cell attribute **Add the \* New \* entry to list fields** to allow the user to create new values for a list, without requiring

the user to have administrative privileges.

For scalability, fields with the **List** display type may be changed to the display type of **Pop-up**. Note that when you make this change, any business rules in force are not refreshed immediately, so any rules using the field you altered may not work until the rules refresh themselves (an automatic process done every few hours). If you want the rules to work immediately, just go to the rules screen, and press the **Update** button.



An attribute of list fields is that they may be set to accept a single entry, or multiple values within the list may be selected. Multi-valued list fields have an indicator to the left of the field value when that value is selected. In addition, the value is highlighted. Reports will display all the selected values when the field is shown.

## Log Area

This field functions as a log of successive text entries to a field. Without access to the security permission key named PR\_RESOLUTION.EDIT\_LOGAREA\_FIELDS, the user cannot edit or delete previous entries but can only add additional entries. The user's name and a time stamp are shown against each entry. Up to 128k of text can be entered into any Log Area field. When the field can be updated, two buttons, to shrink and enlarge the text area appear adjacent to the field. There is a behavior setting named LOG\_AREA\_DISPLAY\_CHARS in the Display Settings area of Administration. This can be used to truncate the size of the old entries displayed on the edit screen. When the field is truncated, "more..." is displayed at the end, allowing the user to refresh the screen with the entire entry. Log area fields should not be placed on repeating record layouts.

Each entry in a log area field is preceded by a header that shows a combination of the user's name, the user's company name and the timestamp of the comment. See the text for the behavior setting named LOG\_AREA\_TEMPLATE to adjust the presentation of this header

**Note:** If a user does not have read permission to the security permission key named PR\_RESOLUTION.ASSIGNED\_TO, then they will not see the name of the person who created the entry to the log area. This is useful if you want to allow customers or guests to see the comments made, but to not know who made the entry.

You can make the size of the log area field auto-size to the amount of text in the field, by adding a layout cell attribute of *onkeyup=autoSize(this)*; This attribute will only apply to the layout within which it is set. With this attribute, the number of rows that the field occupies will increase automatically as the user enters additional text.

## Number

This is a field that accepts and stores only numbers. Numbers may have decimal points, but they must not have other formatting. The internal data type used for the NUMBER data type is double, allowing precision of approximately 16 decimal digits (0 to 9007199254740992). You cannot enter numbers larger than this, without losing precision and accuracy.

## Pop-up



Similar to the display type of List, except a separate popup window opens with list of possible values. The user may either type an entry directly into the field, or select a value from the list in the popup window. This field is useful if the list is long (say more than 100 entries), as it is easier to search a pop-up box. If there are more entries in the list than the number defined by the behavior setting named POPUP\_LIST\_SIZE, the popup list is embellished with a search box, and a list of the first characters of the data entry values (usually A – Z), to make it easy to search the list. Similar to fields with a display type of List, you can create Pop-up list fields that are aliased to a master list, reducing the amount of maintenance needed.

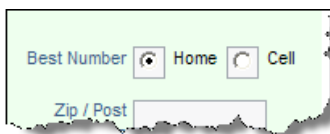
Pop-up fields have an attribute that allows type-ahead, or auto-complete. You can set from 1 to 5 characters that are entered before triggering the presentation of the closest matches to the characters you have typed into the field.

## Print Text

This is similar to the Text Area type field, but on display, a fixed-width font is used for the field. This can be used if the field may routinely be used to hold diagrams drawn with characters such as +-----+ on the keyboard and you want to preserve the spatial accuracy of the diagram. Print text fields can store up to 128k of text at one time and while they are in edit mode, two buttons appear adjacent to the field, allowing you to expand or shrink the area for text entry. Text output fields to reports with a type of Print Text will preserve exactly the spacing that the field was created with, including spaces and returns in the data. This preservation of the input may cause reports such as the detailed report to display wider than normal.

You can make the size of the log area field auto-size to the amount of text in the field, by adding a layout cell attribute of *onkeyup=autoSize(this)*; This attribute will only apply to the layout within which it is set. With this attribute, the number of rows that the field occupies will increase automatically as the user enters additional text.

## Radio Button – Horizontal



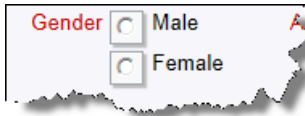
Radio buttons will use a list of values to create a set of buttons on the screen. The user can select only one value from the list when they are filling in an *add* or *edit* screen. You must create at least two values for the field to function properly. It is usual to select one value as a default value. This will be the selected value when the form is first displayed.

Horizontal radio buttons are rendered across the screen on both add and edit forms. On query screens, the radio button will act like a single-valued list field, and the results on reports will look just like results from a single-valued list field.

Like all other field types that render a list-like object, the default rendering of a radio button will include a value option of **\* None \*** in the list. If you do not require this value in the radio buttons, simply create a layout cell attribute of **Remove the \* None \*** Entry from the field.

Within a Quickedit session, radio buttons are rendered as list fields, as the amount of space occupied by a radio button with many values may cause navigation problems within the Quickedit session. Also, within a Quickedit session, a value of **\* None \*** is added to the list, even if there is a layout cell attribute on the appropriate *edit* layout with a value of **Remove None**. This ensures that the first value in the list is not selected automatically when it has no value.

## Radio Button – Vertical



These work in the same fashion as horizontal radio buttons, except the list of choices are rendered vertically down the *add* and *edit* screens and any embedded layouts.

## Tab

This is field that behaves like the display type List, except that the list of values that is displayed as a set of tabs across the screen. Typically, this is used to provide a high-level selection on a screen, where the subsequent fields depend on the tab selected. You should not use this display type if the supporting list has more entries than fit across the screen.



Example of a tab field

## Text Area



This is multi-line text field. Text area fields can store up to 128k of text. When the field is in edit mode, two buttons appear adjacent to the field, allowing you to expand or shrink the area for text entry. Note that text area fields may not contain tab characters.

You can make the size of the log area field auto-size to the amount of text in the field, by adding a layout cell attribute

of `onkeyup=autoSize(this);`. This attribute will only apply to the layout within which it is set. With this attribute, the number of rows that the field occupies will increase automatically as the user enters additional text.

A behavior setting named `TEXTAREA_ROW_HEIGHT` allows the administrator to set the default height of all text area fields.

## Text Field

This is a single-line text field. Up to 255 characters may be stored in a Text Field. Note that you can control the width of the text box into which data is typed within each layout on which the Text field is used, using the Layout Cell Attribute named `Size`.

### Telephone Number Formatting of a Text Field

There is a built-in function that can be applied to a text field to apply standard formatting for US-style telephone numbers. To enable this feature on a text field, you create a layout cell attribute with the following two HTML modifiers:

```
onkeyup=formatAsPhoneNum2(this)
onchange=formatAsPhoneNum2(this)
```

In addition, set a layout cell attribute of `SIZE = 15` to ensure the phone number is of the correct number of characters.

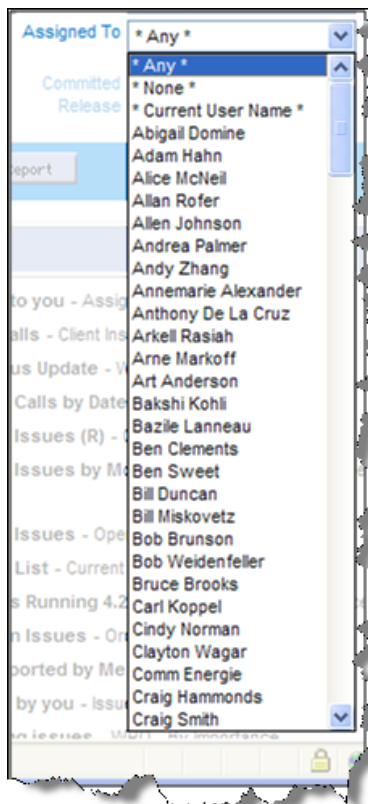
There is a deprecated telephone format using an HTML modifier function of `formatAsPhoneNum()`. This should no longer be used as it does not work within all browsers.

If you require the formatting of a telephone number in a different way, or if you require the formatting of any text field in an efficient way, it is recommended that you write a user JavaScript function and call this from an HTML modifier on the field.

## Time Interval

Time interval fields are inbuilt fields only and are used to display the formatted results of measuring time in a Service Level Agreement (SLA). These fields are automatically generated and placed in the data dictionary when an SLA is created. The administrator may choose the format in which to display the time measurement on an SLA report. All the normal attributes and permissions for fields apply to time interval fields.

## User

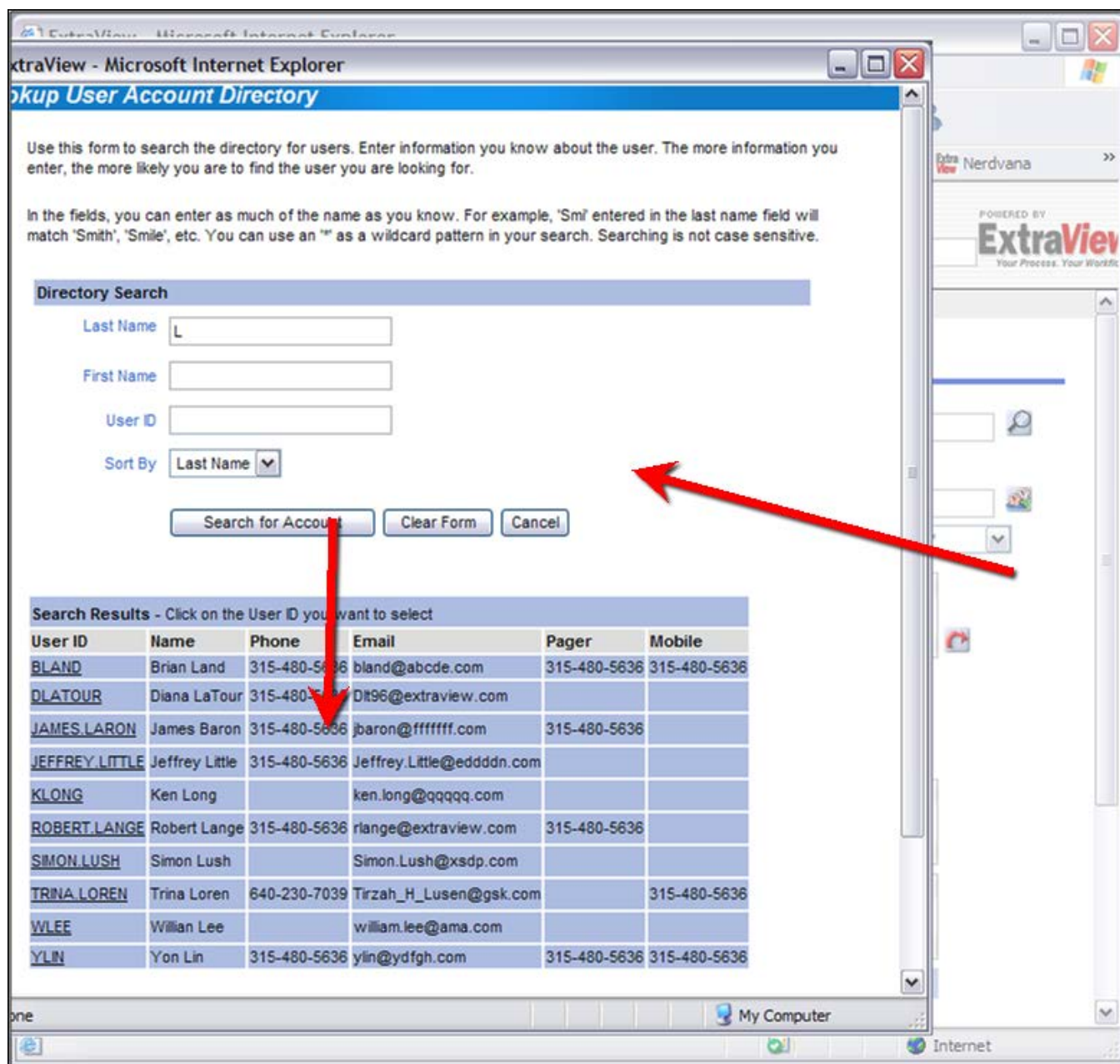


The inbuilt fields *assigned\_to*, *originator*, *owner* and *contact* are User fields. User Lists displaying these fields will display the *first\_name* and *last\_name* or the user ID, depending on what is set in the `USERNAME_DISPLAY` property as the behavior setting.

You can define a User Defined Field with the display type User. This will generate a list populated with a list of active users in the system.

If the behavior setting named `USER_LIST_DISPLAY` has a setting of `POPUP`, then user fields have an attribute that allows type-ahead, or auto-complete. You can set from 1 to 5 characters that are entered before triggering the presentation of the closest matches to the characters you have typed into the field.





## Altering the Display Type of a Field

The data dictionary allows the administrator to make changes to the display type of fields. While these are allowable, they may have consequences if the fields are used within any business rule. For example, you may alter the display type of a field from **List** to **Pop-up**. This is a legitimate change and the rules you have written about the field will still be valid. However, for efficiency, the display information about the field is cached within ExtraView, and changing its display type will render this information out-of-date. ExtraView refreshes the rules and re-caches this information several times a day, but there will be periods when the cache has out-of-date information. If this proves to be a problem, you can simply enter the rules file and press the **Update** button to refresh the information immediately.

## Creating & Updating Fields

Consult the pages on [Built-In & User Defined Fields](#) and [Display Types](#) in conjunction with this page for complete details on how to create and update fields. Access to the Data Dictionary is from the System Configuration tab. The initial data dictionary screen is similar to the following:

Return Print Page Data Dictionary

Expressions Labels Screens Session Variables Special Variables **Fields**

**Add** Add a new user defined field to the Data Dictionary

Show Filters

	Fixed name	Title to display	Display type	Area	Project	Help tip	Created	Last updated
<b>Edit</b>	AA	aa	Label	* Global Area *	* Master Project *		7/2/11 4:36 PM Bill Smith	7/2/11 4:36 PM Bill Smith
<b>Edit</b>	ABSTRACT	Abstract	Text Area	* Global Area *	* Master Project *		11/9/05 12:00 AM * None *	5/28/11 10:32 PM Bill Smith
<b>Edit</b>	ALT_ID	Test Case ID	Text Field	* Global Area *	* Master Project *	This is the alternative ID for an issue	1/1/05 12:00 AM ExtraView	11/17/05 12:00 AM * None *
<b>Edit</b> <b>List</b>	AREA	Area	Tab	* Global Area *	* Master Project *	The business area or division of the company	1/1/05 12:00 AM ExtraView	12/22/10 2:08 PM Bill Smith
<b>Edit</b>	ASSIGNED_TO	Assigned To	User	* Global Area *	* Master Project *	The name of the user that this problem is currently assigned to	1/1/05 12:00 AM ExtraView	9/4/11 10:58 AM Bill Smith
<b>Edit</b>	ATTACH_CREATED_BY_USER	Created By	User	* Global Area *	* Master Project *	The person who created the attachment	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<b>Edit</b>	ATTACH_LAST_UPDATED_BY_USER	User	User	* Global Area *	* Master Project *	The last person who updated the attachment	2/13/06 6:42 PM ExtraView	3/14/06 1:35 PM Bill Smith
<b>Edit</b> <b>List</b>	AUTOMATED	Automated	Checkbox	Test Cases	Test Case Defaults		11/9/05 12:00 AM * None *	8/10/08 9:56 AM Bill Smith
<b>Edit</b> <b>List</b>	CATEGORY	Category	List	* Global Area *	* Master Project *	The category of the issue	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<b>Edit</b>	COMMENTS	Comments	Log Area	* Global Area *	* Master Project *	Comments are appended to the issue. You may not alter previous comments entered	1/1/05 12:00 AM ExtraView	3/7/07 3:43 PM Bill Smith
<b>Edit</b>	CONTACT	Contact	User	* Global Area *	* Master Project *	The contact for the issue	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<b>Edit</b>	CREATE_TEST_BTN		Custom	Test Cases	Test Case Defaults	Create Test Plan	11/9/05 12:00 AM * None *	8/10/08 9:57 AM Bill Smith
<b>Edit</b>	CUSTOMER_SEARCH		Custom	* Global Area *	* Master Project *		4/24/08 12:23 PM System Administrator	4/24/08 12:23 PM System Administrator
<b>Edit</b>	CUST_ADDRESS	Address	Text Area	* Global Area *	* Master Project *	The customer's address	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView

Data Dictionary screen

## Creating Fields

From the data dictionary, under the **Fields** tab, click the **Add** button.

A screen similar to the following appears:

**Add a new field to the Data Dictionary** Add Cancel Print Page

Select Area ? \* Global Area \* ▾

Select ? \* Master Project \* ▾

Field belongs to ? Issue records ▾

Fixed name ?

Title to display ?

Display type ? \* Select display type from list \* ▾

Allow selection on reports ?  Yes  No

Remember last value ?  Yes  No

Display as URL ?  Yes  No

Help text ?

Help URL ?

Add Cancel Print Page

Add a Data Dictionary Entry screen

Follow the instructions on the screen to create your field. For a complete list of instructions and a definition of each of the fields on the screen, click [here](#).

## Updating Fields

Click the **Edit** button next to the field that you want to modify. Pressing **Update** within the edit screen will save the changes. Notice that fields with a display type of List have a button which allows you to access their values to add, edit and delete these. Also note that you can edit a field from the Design Center, by right clicking on the field and choosing the Edit option.

The tabs within the data dictionary offer access to the field attributes as follows:

- **Field Properties** - all the basic properties of the field can be altered within this tab. Note that only the properties appropriate for the display type of the field are displayed and available to alter.

Update Cancel Print Page
Change a Data Dictionary Entry

Fixed name ASSIGNED\_TO

Title to display ? Assigned To Localize

Type of field Inbuilt field

Field belongs to Issue records

Display type ? User

Field Properties
Global Attributes
Permissions
Where Used

Allow selection on reports ?  Yes  No

Remember last value ?  Yes  No

Enable interest list ?  Yes  No

Auto-Complete ?  Off After  1  2  3  4  5 characters

Filter criteria ?  Yes  No

Is sortable ?  Yes  No

Display as URL ?  Yes  No

Default value ?  Select default

Help text ? The name of the user that this problem is currently assigned to Localize

Help URL ? helpGlossary.html#assignedto

Update Cancel Print Page

#### Field properties

- **Global Attributes** - The most important use of global attributes is to create field properties that will be inherited and used when the field is placed within all layouts. For example, you might set a style or size for the field as a global attribute, which becomes the default wherever the field is used on an *add* or *edit* layout. This property is inherited by, but may be overridden on any one of these layouts by providing a local layout cell attribute. You often want a field to have the same properties and attributes wherever it is used, and this mechanism provides a means to achieve this, so you do not need to set up layout cell attributes on all the layouts where you use it.

Update Cancel Print Page Change a Data Dictionary Entry

Fixed name ASSIGNED\_TO  
 Title to display ? Assigned To Localize  
 Type of field Inbuilt field  
 Field belongs to Issue records  
 Display type ? User

Field Properties **Global Attributes** Permissions Where Used

**New** Create a new attribute

Attribute Name	Attribute Value	Field Name	Operator	Field Value	Created
<b>Edit</b> <b>Del</b>	USER_LIST_DISPLAY POPUP				Bill Smith 11/28/11 1:30 PM

Update Cancel Print Page

### Global Attributes

When you add a new optional attribute, you will see a screen similar to the following. Information on these attributes is found on the page [layout cell attributes](#).

Add new attribute Cancel Print Page Manage Dictionary Attributes

Fixed name ADD NEW - Add the \* New \* entry to list fields - applies to add and edit layouts  
 ADD NEW - Add the \* New \* entry to list fields - applies to add and edit layouts  
 EXPRESSION TEXT - expression for user-defined report field  
 HEIGHT - the number of rows with which textarea, log area, and print text fields will be opened  
 HTML MODIFIER - to add additional attributes to the HTML tag for the field  
 LABEL TAG - adds an HTML attribute to the TD tag of the field's label  
 MAXLENGTH - the maximum number of characters allowed in text and number fields  
 ONCLICK\_JS - the javascript to execute when the button is clicked  
 REMOVE ANY - remove the \* Any \* entry from list and user fields - applies to search layouts  
 REMOVE LABEL NOWRAP - removes the "nowrap" attribute from the field's label cell - applies to add/edit layouts only  
 REMOVE NONE - remove the \* None \* entry from list and user fields - applies to add and edit layouts  
 REMOVE VALUE NOWRAP - removes the "nowrap" attribute from the field's value cell - applies to add/edit layouts only  
 SIZE - the width in characters, of text, text area, print text, log area, date, and number fields

### Adding a New Optional Attribute

- **Database** - The Database tab only appears if you are the ADMIN user. It is highly unlikely that you will need to access this tab, and when you change anything on this tab, it should be under the direction of the ExtraView Support team.
- **Permissions** - This tab displays the security permissions for the field, for each role to which you have permission. You can update the permissions for the field here. For more information on security permissions, visit the page on [security permissions](#).

Update Cancel Print Page
Change a Data Dictionary Entry

Fixed name ASSIGNED\_TO  
 Title to display  Localize  
 Type of field Inbuilt field  
 Field belongs to Issue records  
 Display type

Field Properties
Global Attributes
Permissions
Where Used

Select a different Area

Key Y = Yes N = No

Area: * Global Area * : * Master Project *		Read		Write		Administrator		Customer Support		Customer		Development Engineer		Quality Assurance	
Assigned To	PR_ADD_PROBLEM.ASSIGNED_TO	Set All Row:		Read	Write	Read	Write	Read	Write	Read	Write	Read	Write	Read	Write
Assigned To		All to Y	<input type="checkbox"/>	All to Y	<input type="checkbox"/>	Y	<input checked="" type="checkbox"/>	Y	<input checked="" type="checkbox"/>	Y	<input checked="" type="checkbox"/>	Y	<input checked="" type="checkbox"/>	Y	<input checked="" type="checkbox"/>
Assigned To		All to N	<input type="checkbox"/>	All to N	<input type="checkbox"/>	N	<input type="checkbox"/>	N	<input type="checkbox"/>	N	<input type="checkbox"/>	N	<input type="checkbox"/>	N	<input type="checkbox"/>
Assigned To	PR_RESOLUTION.ASSIGNED_TO	Set All Row:		Read	Write	Read	Write	Read	Write	Read	Write	Read	Write	Read	Write
Assigned To		All to Y	<input type="checkbox"/>	All to Y	<input type="checkbox"/>	Y	<input checked="" type="checkbox"/>	Y	<input checked="" type="checkbox"/>	Y	<input checked="" type="checkbox"/>	Y	<input checked="" type="checkbox"/>	Y	<input checked="" type="checkbox"/>
Assigned To		All to N	<input type="checkbox"/>	All to N	<input type="checkbox"/>	N	<input type="checkbox"/>	N	<input type="checkbox"/>	N	<input type="checkbox"/>	N	<input type="checkbox"/>	N	<input type="checkbox"/>

Update
Cancel
Print Page

Field permissions

Note that you are viewing the permissions for the object, at the highest level to which you have permissions. If you do not have permissions to view / update the global area / master project level, you will not see these. If you have permission to view / update the object's permissions at the global area / master project level, this will be the top level display of permission radio buttons. You can view and alter the permissions for the level of the currently displayed Business Area and Project by using the Show Dependent Permission Keys, Hide Dependent Permission Keys buttons. You can also switch to a different Business Area and Project's keys by using the select lists at the top of the window

- **Where Used** - This tab allows you to find out all the places where a field is used within ExtraView. For example, you might want to delete a field, but want to know where it is being used before you do so. The first screen within this section shows a list of all the high level places where a field is used, such as **Layouts**. You can drill down on this to see the exact layouts where the field is used.

Update Cancel Print Page
Change a Data Dictionary Entry

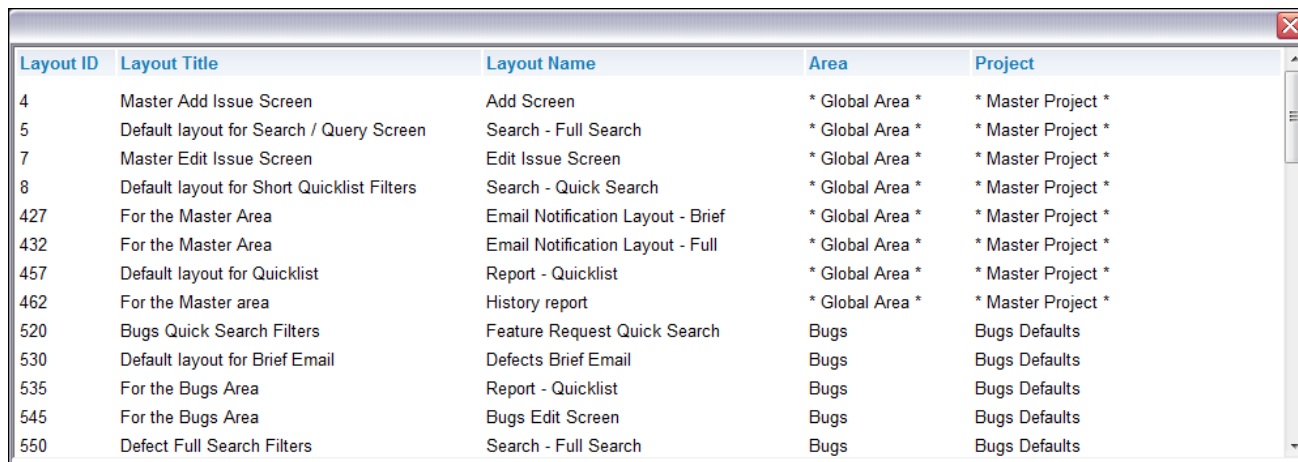
Fixed name ASSIGNED\_TO  
 Title to display  Localize  
 Type of field Inbuilt field  
 Field belongs to Issue records  
 Display type

Field Properties
Global Attributes
Permissions
Where Used

- Layouts
- Report Filters
- Table SORT\_ORDER\_FIELD

Update
Cancel
Print Page

Where Used



Layout ID	Layout Title	Layout Name	Area	Project
4	Master Add Issue Screen	Add Screen	* Global Area *	* Master Project *
5	Default layout for Search / Query Screen	Search - Full Search	* Global Area *	* Master Project *
7	Master Edit Issue Screen	Edit Issue Screen	* Global Area *	* Master Project *
8	Default layout for Short Quicklist Filters	Search - Quick Search	* Global Area *	* Master Project *
427	For the Master Area	Email Notification Layout - Brief	* Global Area *	* Master Project *
432	For the Master Area	Email Notification Layout - Full	* Global Area *	* Master Project *
457	Default layout for Quicklist	Report - Quicklist	* Global Area *	* Master Project *
462	For the Master area	History report	* Global Area *	* Master Project *
520	Bugs Quick Search Filters	Feature Request Quick Search	Bugs	Bugs Defaults
530	Default layout for Brief Email	Defects Brief Email	Bugs	Bugs Defaults
535	For the Bugs Area	Report - Quicklist	Bugs	Bugs Defaults
545	For the Bugs Area	Bugs Edit Screen	Bugs	Bugs Defaults
550	Defect Full Search Filters	Search - Full Search	Bugs	Bugs Defaults

Drilling Down in Where Used

## Lists

List administration is the administrative section where you can manipulate all the lists that comprise the metadata values within ExtraView. For example, this is where you maintain lists of business areas, products, modules, and many other items. This includes all the lists that you create as User Defined Fields.

For convenience, the list of items on this screen includes Privacy Groups and User Roles. These lists can be viewed and modified both from this administrative section as well as within the Users section.

The metadata field lists that appear on this screen include all fields with a data dictionary display type of List and Tab.

Lists values may be dependent upon values in other lists. This is termed Allowed Values, and is covered in more depth in the Field Administration section of this guide.

Interest Lists are also maintained for field values within List maintenance. For example, if you want to maintain an interest list for a specific product, or an interest list for Priority 1 issues, then this is completed through the add and edit functions of each list.

## Managing Lists


Lists are managed in the same way, from a variety of different places in ExtraView. For example, there are lists of field values, lists of behavior settings, lists of fields in the data dictionary, interest lists and many others.

When you first access a screen with a list it will look similar to this:

Return Print Page Data Dictionary

Expressions Labels Screens Session Variables Special Variables **Fields**

**Add** Add a new user defined field to the Data Dictionary

**Show Filters** 

	Fixed name	Title to display	Display type	Area	Project	Help tip	Created	Last updated
<b>Edit</b>	AA	aa	Label	* Global Area *	* Master Project *		7/2/11 4:36 PM Bill Smith	7/2/11 4:36 PM Bill Smith
<b>Edit</b>	ABSTRACT	Abstract	Text Area	* Global Area *	* Master Project *		11/9/05 12:00 AM * None *	5/28/11 10:32 PM Bill Smith
<b>Edit</b>	ALT_ID	Test Case ID	Text Field	* Global Area *	* Master Project *	This is the alternative ID for an issue	11/05 12:00 AM ExtraView	11/17/05 12:00 AM * None *
<b>Edit</b> <b>List</b>	AREA	Area	Tab	* Global Area *	* Master Project *	The business area or division of the company	11/05 12:00 AM ExtraView	12/22/10 2:08 PM Bill Smith
<b>Edit</b>	ASSIGNED_TO	Assigned To	User	* Global Area *	* Master Project *	The name of the user that this problem is currently assigned to	11/05 12:00 AM ExtraView	9/4/11 10:58 AM Bill Smith
<b>Edit</b>	ATTACH_CREATED_BY_USER	Created By	User	* Global Area *	* Master Project *	The person who created the attachment	11/05 12:00 AM ExtraView	11/05 12:00 AM ExtraView
<b>Edit</b>	ATTACH_LAST_UPDATED_BY_USER	User	User	* Global Area *	* Master Project *	The last person who updated the attachment	2/13/06 6:42 PM ExtraView	3/14/06 1:35 PM Bill Smith
<b>Edit</b> <b>List</b>	AUTOMATED	Automated	Checkbox	Test Cases	Test Case Defaults		11/9/05 12:00 AM * None *	8/10/08 9:56 AM Bill Smith
<b>Edit</b> <b>List</b>	CATEGORY	Category	List	* Global Area *	* Master Project *	The category of the issue	11/05 12:00 AM ExtraView	11/05 12:00 AM ExtraView
<b>Edit</b>	COMMENTS	Comments	Log Area	* Global Area *	* Master Project *	Comments are appended to the issue. You may not alter previous comments entered	11/05 12:00 AM ExtraView	3/7/07 3:43 PM Bill Smith
<b>Edit</b>	CONTACT	Contact	User	* Global Area *	* Master Project *	The contact for the issue	11/05 12:00 AM	11/05 12:00 AM

Data dictionary list

You can manage the list by using the Add button to add a new entry, or by clicking the Edit button at the left hand side of each entry in the list. Some lists such as behavior settings allow you to edit a value, by clicking on the value. If there is a delete capability, edit the list entry and delete the value from there.

Note the **Show Filters** button on the above screen. This is provided to offer a search capability on long lists. When you click on this button, you will see a screen like this:

Return Print Page Data Dictionary

Expressions Labels Screens Session Variables Special Variables **Fields**

**Add** Add a new user defined field to the Data Dictionary

**Hide Filters**

**Filter List**

Select the column to use as a filter for the list. You may click on a letter to produce a list of the items which begin with this character, or you may enter a search pattern, including wildcards (\*). The Export button creates a CSV file of the results currently displayed on the screen.

Select filter column for report: Fixed name

or click on a letter: A | C | D | E | F | G | H | I | K | L | M | N | O | P | R | S | T | V | W | <all> | <none>

or enter a search expression and click the Go button: Enter search expression

	Fixed name	Title to display	Display type	Area	Project	Help tip	Created	Last updated
<b>Edit</b>	AA	aa	Label	* Global Area *	* Master Project *		7/2/11 4:36 PM Bill Smith	7/2/11 4:36 PM Bill Smith
<b>Edit</b>	ABSTRACT	Abstract	Text Area	* Global Area *	* Master Project *		11/9/05 12:00 AM * None *	5/28/11 10:32 PM Bill Smith
<b>Edit</b>	ALT_ID	Test Case ID	Text Field	* Global Area *	* Master Project *	This is the alternative ID for an issue	11/05 12:00 AM ExtraView	11/17/05 12:00 AM * None *
<b>Edit</b> <b>List</b>	AREA	Area	Tab	* Global Area *	* Master Project *	The business area or division of the company	11/05 12:00 AM ExtraView	12/22/10 2:08 PM Bill Smith
<b>Edit</b>	ASSIGNED_TO	Assigned To	User	* Global Area *	* Master Project *	The name of the user that this problem is currently assigned to	11/05 12:00 AM ExtraView	9/4/11 10:58 AM Bill Smith
<b>Edit</b>	ATTACH_CREATED_BY_USER	Created By	User	* Global Area *	* Master Project *	The person who created the attachment	11/05 12:00 AM ExtraView	11/05 12:00 AM ExtraView
<b>Edit</b>	ATTACH_LAST_UPDATED_BY_USER	User	User	* Global Area *	* Master Project *	The last person who updated the attachment	2/13/06 6:42 PM ExtraView	3/14/06 1:35 PM Bill Smith
<b>Edit</b> <b>List</b>	AUTOMATED	Automated	Checkbox	Test Cases	Test Case Defaults		11/9/05 12:00 AM * None *	8/10/08 9:56 AM Bill Smith
<b>Edit</b> <b>List</b>	CATEGORY	Category	List	* Global Area *	* Master Project *	The category of the issue	11/05 12:00 AM ExtraView	11/05 12:00 AM ExtraView
<b>Edit</b>	COMMENTS	Comments	Log Area	* Global Area *	* Master Project *	Comments are appended to the issue. You may not alter previous comments entered	11/05 12:00 AM ExtraView	3/7/07 3:43 PM Bill Smith
<b>Edit</b>	CONTACT	Contact	User	* Global Area *	* Master Project *	The contact for the issue	11/05 12:00 AM	11/05 12:00 AM

## Data dictionary list with filters




Set the filter column to one of the columns displayed in the list, and then click on a letter to see all the list entries that have the displayed column's first character.

You can enter a search expression, including wildcards, to retrieve the subset of records you want to work with. For the longer lists, you can also use the Export button to create a CSV (Comma Separated Value) file with the list values.

Lists behave differently, according to how many entries are in the list, and the value of the behavior setting named `ADMIN_LIST_SIZE`, in order to provide a balance between ease of use and scalability, when the number of records retrieved for an administration list exceeds the value of `ADMIN_LIST_SIZE`.

When the number of entries in a list is less than the value of `ADMIN_LIST_SIZE`, the list is immediately displayed in its entirety. When the number exceeds the value, a search screen is displayed, with the first character of each entry of the list being available to click on as a shortcut to looking only at these records. Thirdly, if you set a negative number, as opposed to a positive number, the list acts similarly to the second option, but with an abbreviated interface.

## Sorting Lists

You can sort lists by clicking on any of the column headings that have a  symbol in the heading. When you click on a column heading that is sorted in an ascending order and shows a  then the sort symbol alters to show  and the list is sorted in descending order using this column.

## Sorting List Values

You can sort a field list within the add, edit and query screens for each list field by allocating a sort sequence to its entry within list administration. The sort sequence is a number or string of letters. Valid sort sequences would be:

23          2          a          2a          open

If no sort sequences are provided, the list is sorted alphabetically, using the title of the field. If you provide a sort sequence, then the entries to the list are sorted in their ASCII sort order sequence.

It is recommended that you establish a sort sequence for a list, allowing room to insert new values in the future. This will give the most flexibility. For example, if you have a list that starts with five values, but may grow, use a sequence such as:

010          020          030          040          050

This will allow you to insert new values between each of the entries, if needed in the future.

## Enabling and Disabling List Values

Within all user defined lists, there is the opportunity to disable a value. Once the value has been disabled, it will not appear in any screen in a selectable manner. If an existing record already has the value set, then the user may leave the value in place or they may select a new, enabled value.

Note that checkbox fields are stored internally as lists that are constrained to just two values, typically *Yes* and *No*, *On* and *Off* or something similar. You may not disable a value within a checkbox field.

## Field List Values

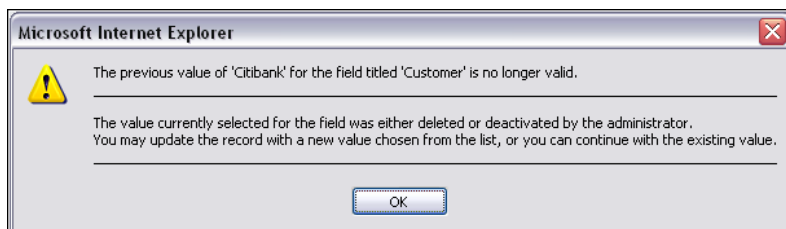
List values are maintained from the **Manage List Values** admin menu or by using the **List** button by each list type field in the data dictionary. This shows the **Manage List Values** screen:



Name	Display Title	Help Tip	Created By	Last Updated By
<a href="#">List</a> AREA	Area	The business area or division of the company	ExtraView 1/1/05 12:00 AM	Bill Smith 12/22/10 2:08 PM
<a href="#">List</a> ASSIGNED_TO	Assigned To	The name of the user that this problem is currently assigned to	ExtraView 1/1/05 12:00 AM	Bill Smith 9/24/11 6:17 PM
<a href="#">List</a> ATTACH_CREATED_BY_USER	Created By	The person who created the attachment	ExtraView 1/1/05 12:00 AM	ExtraView 1/1/05 12:00 AM
<a href="#">List</a> ATTACH_LAST_UPDATED_BY_USER	User	The last person who updated the attachment	ExtraView 2/13/06 6:42 PM	Bill Smith 3/14/06 1:35 PM
<a href="#">List</a> AUTOMATED	Automated		* None * 11/9/05 12:00 AM	Bill Smith 8/10/08 9:56 AM
<a href="#">List</a> CATEGORY	Category	The category of the issue	ExtraView 1/1/05 12:00 AM	ExtraView 1/1/05 12:00 AM
<a href="#">List</a> CONTACT	Contact	The contact for the issue	ExtraView 1/1/05 12:00 AM	ExtraView 1/1/05 12:00 AM
<a href="#">List</a> CUST_LIST	Customer	The list of customers	ExtraView 1/1/05 12:00 AM	Bill Smith 7/28/10 2:34 PM
<a href="#">List</a> CUST_SELECT_TABS	Customer Select Tabs		ExtraView 1/1/05 12:00 AM	ExtraView 1/1/05 12:00 AM
<a href="#">List</a> CUST_SOFTWARE_ISSUE	Software Bug?		Bill Smith 8/12/08 5:43 PM	Bill Smith 8/12/08 5:53 PM
<a href="#">List</a> CUST_SOURCE	Source	The source of the customer issue	ExtraView 1/1/05 12:00 AM	Bill Smith 4/11/07 4:02 PM
<a href="#">List</a> DEV_DOC_CHANGE	Needs Doc Change	Does this issue require a documentation change, or a release note?	ExtraView 1/1/05 12:00 AM	ExtraView 1/1/05 12:00 AM
<a href="#">List</a> DEV_ISSUE_REL_NOTES	Issue Release Notes	If this box is checked, we will publish a release note for this issue	ExtraView 1/1/05 12:00 AM	Bill Smith 3/7/07 3:42 PM
<a href="#">List</a> DEV_OCCURRENCE	Occurrence	The frequency with which the bug can be reproduced	ExtraView 1/1/05 12:00 AM	ExtraView 1/1/05 12:00 AM
<a href="#">List</a> DEV_PLATFORM	Platform	The platform on which the bug was found	ExtraView 1/1/05 12:00 AM	Bill Smith 3/1/07 1:30 PM

## Managing field lists

Note that once you have one or more values entered against any list type field by adding or updating issues, you are not able to delete the list value. If you want to remove a value from a list after data has been recorded against the value, most lists allow you to disable the value, so it will not appear in the add or edit screens. This allows reporting to show the historic data, even though the value is not currently being used. If a user edits an issue which has a disabled value in a list, they will see a message similar to this:



## Warning when viewing a disabled value

The user may either update the record with the out-of-date value, or choose a new valid entry from the list. If the out-of-date value is removed from the list and the record updated, no user will be able to choose that value again.

The behavior setting named IGNORE\_DEACTIVATED\_USER\_FIELDS may contain a delimited list of fields with a display type of USER. Users will not be warned if they edit an issue which has a field in this list with a deactivated user. If a USER field does not appear in this list, the user will always be warned if the field has a deactivated user, when they edit the issue.

There are a few lists which are managed differently:

- Business Area and Project lists. These are used to set up and maintain the business areas and projects within your system. Values within these lists may not be disabled. Security permission keys exist to turn Business Areas on and off for different user roles
- Values within the Category, Priority, Product Line, Status and User Role lists may not be disabled. Note that there are security permission fields that can be used to disable and enable the visibility of the Status field values
- The Product and the Module fields work together, and the Module field administration will ask you to select a valid Product before you maintain any modules. Module field values may not be disabled.

To add an entry to the list, press the Add button. To edit an entry, press the Edit button by the value you want to edit.

**Change an entry to Categories**
Update Cancel Delete Print Page

Fixed database name PACKAGING

**Title to display**

Sort sequence

---

List of allowed values

This field is a child in a parent-child allowed value relationship. Check all parent values where you want this item to appear in the allowed values list when inserting or updating records

Select Business Area

Select Project

Business Area List

Only appears if the field is part of an allowed value relationship.

Update Cancel Delete Print Page

### Editing a list entry

As a departure from the above screen, if the administrator is adding a new value to a field, and an interest list is enabled on the field, then the administrator may create an interest list for the field value and assign one user to the interest list. If more sophisticated processing of an interest list for the value is required, then the administrator should use the **Interest List** menu under the **Notification** tab of **Administration**.

From this screen, you can edit the title to display, the owner of this value (who will be notified when entries are updated within issues) and a sort sequence for the value.

Note that you may not enter duplicate values to a list. All values must be unique within the list.

When you have altered the values, click **Update** to save.

## Loading List Values from Files

This feature only works to load values into user defined field lists. It does not work with inbuilt fields such as **STATUS**, **CATEGORY**, **RESOLUTION** and user field lists. This is not a real limitation as these inbuilt field lists tend to be small lists. Each user defined field list has a button **Import Field Values**. When this is pressed, the administrator is able to load a file of values into the field.

**User defined field lists**

Application

Add a new entry to the list

The letters in the list indicate the first character of the filter column selected. First, select the column to use as the filter. Secondly, click on a letter to produce a list of just these items, or enter a search pattern, including a wildcard (\*). You may also use the Export button to produce a CSV file of the results currently displayed on the screen

1 Select filter column for report

2 Click on a letter  
or enter a search expression and press the Enter key or click the Go button

A | E | L | M | O | T | <all> | <none>

	Title to display	Owner	Sort sequence	Enabled	Created	Last updated
<input type="button" value="Edit"/>	Anti-virus		1	Yes	4/16/04 System Administrator	4/16/04 System Administrator
<input type="button" value="Edit"/>	Excel		2	Yes	4/16/04 System Administrator	4/16/04 System Administrator
<input type="button" value="Edit"/>	Microsoft Outlook		22	Yes	1/23/05 Bill Smith	1/23/05 Bill Smith
<input type="button" value="Edit"/>	Lotus Notes		3	Yes	4/16/04 System Administrator	4/16/04 System Administrator
<input type="button" value="Edit"/>	Oracle		4	Yes	4/16/04 System Administrator	4/16/04 System Administrator
<input type="button" value="Edit"/>	Turbo Tax		5	Yes	4/16/04 System Administrator	4/16/04 System Administrator
<input type="button" value="Edit"/>	Other		9	Yes	1/23/05 Bill Smith	1/23/05 Bill Smith

### Importing a file of list values

The format of the file to be uploaded is very simple. It is simply a file with a single value per row. The list of values may be ordered and the order retained when it is imported, or it may be unordered, in which case ExtraView will sort the file alphanumerically.

When the administrator presses this button, the following dialog appears:

**Upload Field Values File**

Choose file to upload

File character set

### Specifying the file to upload

When the file is uploaded, you will see a sample of the file:

Upload Field Values File

Import Cancel Print Page

Uploaded file name C:\Documents and Settings\Carl\Desktop\large\_list.txt  
 Character set UTF-8  
 Retain order of values

Sample of uploaded file

- list00001
- list00002
- list00003
- list00004
- list00005
- list00006
- list00007
- list00008
- list00009
- list00010

Total of values imported 100

Import Cancel Print Page

Sample of uploaded file

Note the prompt that allows you to retain the order of the field values in your import file, or allows the list to be sorted alphanumerically.

## List Entries with Allowed Values

Editing lists that are the child in an allowed value relationship is a little different. As seen in the screenshot below, the list of all the potential parents is displayed, each with a checkbox. Also, if Business Areas and Projects are enabled, you must select the Business Area and Project for which you want to set the allowed values (see the next section).

Click on each of the parent values that this child is allowed to be related to. The example shows an allowed value relationship between two fields, where the field named *Building* is the parent and the field named *Floor Number* is the child.

Update User defined field lists entry

Floor Number

Update Delete Cancel Print Page

Title to display Basement Localize

Sort sequence

Owner \* None \*

Enabled

List of allowed values

This field is a child in a parent-child allowed value relationship. Check all parent values where you want this item to appear in the allowed values list when inserting or updating records

Select Business Area \* Select Business Area \*

Select Project \* Select Project \*

Building List  Building One  
 Building Three  
 Building Two

Update Delete Cancel Print Page

Allowed Value relationships are maintained within their child list

Note that this screen allows you to modify the allowed value children for a single parent, on a single screen. This is ideal for making alterations to existing relationships. If you want to add a series of allowed value relationships for different parents, you may find it more convenient to use the administration screen under Allowed Value Types. Both methods will result in the same changes, but sometimes it is more convenient to take a “top-down” rather than “bottom-up” approach.

## Business Areas and Allowed Value Relationships

It is important to note that when Business Areas and Projects are enabled, the allowed values that you set are only for the selected Business Area and Project. This is controlled by additional prompts on the maintenance screen as shown above.

You must set up the allowed value relationship for each Business Area and Project.

**Note:** If the Business Area field is the parent field in the allowed value relationship then you should be aware of how the interaction with the fact that allowed values are dependent upon Business Area works. The implication is that you can only define the child in the relationship to either belong, or not belong to the currently selected Business Area. There is no meaning to allowing the child to be selected with other Business Areas. Therefore, you will only see the currently selected Business Area with a checkbox in the list of possible allowed values.

**Note:** You can set up a set of default values for a relationship. These will be used, unless overridden by a specific set up within any Business Area and Project.

## End-User List Management

End users may add new values to lists under certain circumstances, where the administrator has enabled the feature with security permissions, and has turned on the feature on specific layouts.

To an end user, the ability to add a new value to a list appears like this:



Adding a new value to a list

When the end user selects the **\* New \*** entry in the list, a window pops up, asking for the details of the list. The appearance of this popup varies a little, according to whether the list is an inbuilt list field (such as **product\_name**), a child list such as **module\_id** or **release\_found** or **release\_fixed**, or is a user-defined field list. The inbuilt fields require the addition of the field's fixed name, plus its title. Dependent child fields require the parent field to be selected, and the relevant fixed name and/or title. User defined fields only require the title to be input. This is an example of a popup:

**Add a new value to the list named Product**

NOTE: The fixed database name is used for internal purposes only; it must start with an alphabetic character and contain only characters: A-Z, a-z, 0-9, '.', and '\_'. The title is used for display purposes.

**Fixed database name**

**Title to display**

Adding a new value from a list field

To configure a field to use this feature, take the following steps. Note that only a small number of inbuilt fields may be used in this way, but any user defined field list may be configured.

Field	Security Permission Key
PRODUCT_NAME	CF_PRODUCT
MODULE_ID	CF_MODULE
RELEASE_FOUND, RELEASE_FIXED	CF_PRODUCT_RELEASE
All UDF's with a display type of List, with the exception of multi-valued lists	CF_UDF_LIST

- For the user role or user roles that you want to be able to add new values to a list, give the security permission key in the above table write access
- The \* **New** \* entry is added to the list by adding a layout cell attribute to the field on the appropriate *add* and/or *edit* layout. The layout cell attribute is named **ADD\_NEW - Add the \* New \* entry to list fields - applies to add and edit layouts**.
- The feature works with UDF list and popup fields on repeating rows as well as on standard list fields
- The feature works with multi-valued list and popup fields on standard list fields only. It does not work with multi-valued list fields on repeating row fields
- The feature does not work with fields being used on reports with the Quickedit mode
- The feature does not work with other types of list fields such as tab and radio button.

## Aliased Lists

Within the data dictionary you can create list type fields which are the alias of other list type fields. ExtraView will keep the values of the two (or more) lists synchronized. However, you can only edit values within the original list. If a field has other fields that are aliased to it, you will see a message when editing the list, similar to:

**This field is also the alias for 'Customers', 'OEM Customers'. Modifying the values in this list will modify all the values in all the lists.**

If the field is the alias of another field, you are not able to edit its values. There will be a message similar to:

**This field is an alias of the field named 'Customer'. You may not edit the list values for this field. Please go to the alias list to make changes to the entries for this list.**

You can create an alias list for fields with a display type of List, Popup and Tab.

If you delete a list which is the original of a list with an alias, then the aliased list becomes an independent, stand-alone list. Of course, you may only delete a list when there are no values with data stored against it.

## Lists with Enabled Interest Lists

When an interest list for a field is enabled, the administrator has the option to create an interest list entry for the value they create, when they are adding a new value to the list. Under these circumstances, the screen to add an item to the interest list also contains two additional fields, **Create a global interest list for this value** and **Add users to this interest list**. This is shown in the following screenshot.

The screenshot shows a web form titled "Privacy Groups". At the top right, there are buttons for "Add", "Cancel", and "Print Page". The form contains several input fields and checkboxes:

- A text input field labeled "Fixed database name".
- A text input field labeled "Title to display on screens".
- A checkbox labeled "Create a global interest list for this value".
- A dropdown menu labeled "Add users to this interest list" with the text "\* Select a User \*". A red arrow points to this dropdown menu.

At the bottom right of the form, there are buttons for "Add", "Cancel", and "Print Page".

Creating an interest list entry while adding a new value to a list

# Lists with Special Properties

## Business Areas

Business Areas are created as a list, like all other lists. From an administrator's perspective, a Business Area is created like any other list. Internally, many actions are taken to prepare ExtraView for the new business process you have just added. In summary, these are –

- If `DISALLOW_AREA_0_DATA` and `DISALLOW_PROJECT_0_DATA` are set to YES, then two projects are created automatically. The first is named by appending *Project Defaults* to the title of the new business area. The second is named by appending *Project Data* to the title of the new business area. The *Project Defaults* is the project with the `PROJECT_ID` of 0. This is the project from which other projects inherit their characteristics. The *Project Data* is the project in which the issue data will be stored, assuming you do not create other projects within the business area. You may alter the titles of these projects for your own purposes. **It is not normal practice to set these two settings to anything other than a value of YES. These settings are mainly used for backwards compatibility with sites created prior to ExtraView version 5.**
- Security permission keys are created for each user role for the new business area. This allows you to enable or disable the business area for each user role within ExtraView. These security permission keys are named with the following convention when you look at the Grant Security Privileges screen –

AREA.id (area\_title)

where id is the internal ID of the business area and area\_title is the title of the business area.

The effect of the security permission keys for user roles is to enable / disable the ability for a user within a specific role to be able to view and / or select the business area on all the *add*, *edit* and *query* functions. You can lock any user role out of any business area with this facility.

- The layout editor will make the new area available to create new layouts. Until you create a new layout within the new area, the layouts from the Global Area will be inherited.
- The new area will be available within the status rules administration screen, to allow you to set status rules for the new area. Until you create status rules for the new area, the rules will be inherited from the Global Area.
- You can define multiple roles with access to administration. However, each of these roles can be permitted to see only a specific combination of business areas.
- Note: Even if a user role does not have permission to see a business area, that role may still be able to retrieve records from that area. For example, a query that asks to retrieve all the "open" issues irrespective of business area will do just that, including records from areas where no permission exists to see the area. You can prevent this behavior by setting a layout cell attribute on query layouts with the "Remove \* None \*" value. This will force the user to select one or more areas to which they have access as part of their query.

**Business Area** Return Print Page

You create and modify Business Areas on this screen. This is where the high level separate issue tracking systems are defined for your ExtraView database. Each Business Area may contain any number of individual Projects.

The Global Business Area contains the defaults for the entire system. Each Business Area you create will inherit the characteristics of the Global Business Area. This includes the fields, the security permissions, and the screen and report layouts. Once you have defined a new Business Area, you can use the inherited characteristics from the Global Area, or you can define its own characteristics. When you create a new Business Area, two Projects are created automatically. The first Project within each Business Area contains the defaults for the Business Area. Item (or issue) data is not stored in the first Project. The second Project within the Business Area is where data will be stored, i.e. it inherits its characteristics from the first default Project of the Business Area. You can create any number of additional Projects within a Business Area. Each of these will inherit the characteristics of the default Project.

Note that item (or issue) data will be stored in the Projects within the Business Areas you define, not in the Global Business Area or the Business Areas themselves.

Metadata and configuration data, no issue data     Issue data stored

**Add** Add a new Business Area to the database

Name	Screen Title	Sort sequence	Created	Last updated
<a href="#">Edit</a> GLOBAL	Global Area		ExtraView 10/1/03 12:00 AM	Bill Smith 2/7/08 3:12 PM
<a href="#">Edit</a> BUGS	Bugs	10	ExtraView 10/1/03 12:00 AM	ExtraView 10/1/03 12:00 AM
<a href="#">Edit</a> HELPDESK	Helpdesk	20	ExtraView 10/1/03 12:00 AM	ExtraView 10/1/03 12:00 AM
<a href="#">Edit</a> ASSETS	Assets	30	ExtraView 10/1/03 12:00 AM	* None * 5/27/05 12:18 AM
<a href="#">Edit</a> CUSTOMER_ISSUES	Customer Issues	40	ExtraView 10/1/03 12:00 AM	Bill Smith 11/20/05 7:34 PM
<a href="#">Edit</a> CUSTOMERS	Customers	45	ExtraView 10/1/03 12:00 AM	* None * 5/27/05 12:18 AM
<a href="#">Edit</a> FEATURE_REQUESTS	Feature Requests	50	ExtraView 10/1/03 12:00 AM	ExtraView 10/1/03 12:00 AM
<a href="#">Edit</a> KNOWLEDGE_BASE	Knowledge Base	60	ExtraView 10/1/03 12:00 AM	* None * 8/7/05 9:50 PM

8 record(s) selected from a total of 8 record(s) Return Print Page

Business Area administration screen

## Business Areas and Projects Relationship

Business Areas are linked to Projects, and vice versa. The relationship is that many projects can belong to a single business area.

ExtraView Corporation does not recommend that the global business area (i.e. the business area with the internal ID of 0) is used to store data. It should be used primarily to store metadata about the installation, such as the security permissions to be used as defaults throughout the system, and the layouts that are common across the entire system. Taking this step will simplify the installation of ExtraView when it is to be used for multiple tracking purposes.

The same principle holds true for the global project within each business area, and we recommend that this not be used to store data.

However, this may be cumbersome if you only intend to use ExtraView for a single tracking function and you have the option to alter this behavior. To accommodate the differences, there are two behavior settings in the Workflow Settings menu of Administration.

Default



Setting Name	Value	Purpose
DISALLOW_AREA_0_DATA	YES	When this setting is NO, issue data may be entered into AREA 0. This is provided for backwards compatibility for installations created prior to version 4.2. Installations created with version 4.2 and greater should not allow issue data to be placed in AREA 0. With installations from 4.2 onwards, this should be set to YES
DISALLOW_PROJECT_0_DATA	YES	When this setting is NO, issue data may be entered into PROJECT 0. This is provided for backwards compatibility for installations created prior to version 4.2. Installations created with version 4.2 and greater should not allow issue data to be placed in PROJECT 0. With installations from 4.2 onwards, this should be set to YES

The default business area and project lists in the list modification screens do not include entries for the global area (0), if DISALLOW\_AREA\_0\_DATA is YES or project (0), if DISALLOW\_PROJECT\_0\_DATA is YES.

In addition, when adding or editing an area, a warning is issued if DISALLOW\_PROJECT\_0\_DATA is YES and the area added or modified has no projects beyond the global project.

## Status List

The status list drives workflow, and is explained fully in the section within this guide entitled Workflow Setup. The list has the following special properties in addition to driving the workflow:

- Security permission keys are created for each status list entry. These allow you to control the visibility of the status entry in an absolute fashion, for the list entry within each user role
- There is a behavior setting named STATUS\_CLOSED\_NAME. This should be set to the status name for the value that means “closed” in your installation. This is usually CLOSED, but you may alter this as you need. You should not alter this value on a production system, as you will lose the historic tracking related to the dates that issues were closed. Set this value at the time of implementation only.
- The status list will be populated on *add* and *edit* screens according to the rules set within the workflow setup section. Fundamentally, the workflow can be different or the same for any combination of business area, project, and user role or product.
- Although ExtraView allows duplicate titles in lists it is strongly advised that you do not create status values with duplicate values. If you do so, ExtraView will give a warning.

## Deleting a Status Name and Value

Like all field values, you must delete or remove all dependent data before you can remove the status name and value. The following is the suggested order of removing a status name and its value:

- First you must ensure that no issues exist with the status value. With an empty database, nothing needs to be done. If values exist, use the mass update feature within reporting to select all records with the value you want to remove, and then alter the value to a new value you have created, or to one of the status values you are keeping
- You must next remove all the status change rules that use the value you want to remove. With this version of software, you must remove these individually. In future versions this will be simplified
- Check that the value you are removing is not the behavior setting named STATUS\_CLOSED\_NAME
- Check that the value you are removing is not the default value for the STATUS field within the data dictionary
- Finally, remove the status value from the Status List maintenance screen

## Product Lists

### Product Line Lists

**Note:** This field is deprecated and should only be used within existing applications. Newly configured applications should substitute the product line list functionality by creating a new user defined list field, then creating an allowed value relationship where this field is the parent, and the **product\_name** field is the child field.

Product lines (the **product\_line** field) have a special relationship with products (the **product\_name** field). Any single product may belong to any number of product lines.

### Adding a product to one or more product lines

When adding or editing a product line, you will see a list of all products, each with a checkbox. To add a product to a product line, simply check the box.

When you place both the product line and product fields on an add screen or edit screen, they interact as follows:

Condition	Behavior
No allowed values on the <i>product_name</i> field	When a product line is selected, the screen refreshes and the list of products will reflect the values of products in the list for the product line
<i>product_name</i> is the child in an allowed value relationship	When a product line or the parent field in the relationship is chosen, the screen refreshes and the list of products displayed will be those that both belong to the product line, and are a child in the allowed value relationship

### Product Name Lists

Product name lists (**PRODUCT\_NAME**) have an additional attribute that gives the ability to deactivate a product. When you deactivate a product, the product will no longer appear within the select list on the Add and the Edit screens. If the user edits an issue with an inactive product, then they will receive a warning that it is no longer a valid option. The user may update the issue with the inactive product, or they can select a new active product.

### Deactivating a product

## Module Name Lists

Module names are managed a little differently to other lists. This is because there is a built-in relationship between **PRODUCT\_NAME** and **MODULE\_ID**. ExtraView does not use an Allowed Value relationship to manage this.

To add or modify a *Module*, click **Module Names** on the Lists tab. The following screen appears:

### Module Names screen

Click the **Add** icon to create a new Module Name. Since *Module* depends on *Product*, you will have to choose an applicable *Product* from the drop-down list to associate with your new *Module*. Fill in the appropriate fields and click the **Update** button.

### Adding a Module Name

To modify an already existing *Module Name*, return to the Administration menu, click the Manage Field List Data tab, and select *Module Name*, as in step 4. Select the *Product* that pertains to the *Module* that you want to edit.

If you have set the display type for the MODULE\_ID field to be popup, then searching for a value is slightly different than for other fields. The search mechanism utilizes the **name** value of this field, not the value of the **title**. In most instances, the name and title of the field values for modules are the same, but in the cases where they are not identical, the popup list will display **name\_value(title\_value)**, allowing you to distinguish between the name and the title.

The owner of the module will automatically receive email notification when the module is selected on an issue. Also, there are two behavior settings that affect the way notification happens with the *module* field.

Setting	Purpose
EMAIL_MODULE_OWNER_ALWAYS	Email the module owner irrespective of whether they are assigned to an issue. Valid values are YES and NO
LINK_MODULE_USER	Links the module owner field to the specified user field. This will automatically set the value of the user field specified to the value stored in the <i>Module Owner</i> field This can have a value of ASSIGNED_TO, CONTACT or OWNER

**Module names** Return Print Page

Add a new module

Product    
 \* Select a Product \*  
 Tracker  
 Tracker Enterprise  
 Tracker Lite

	Module Title	Sort sequence	Owner	Module type	Created	Last updated
<input type="button" value="Edit"/>	CLI	CLI	Jimmy Duncan		Mary Brown 1/23/04	Mary Brown 1/23/04
<input type="button" value="Edit"/>	DATABASE	Database	Bill Smith		Bill Smith 12/24/04	Bill Smith 12/24/04
<input type="button" value="Edit"/>	GUI	GUI	Mary Brown		Mary Brown 1/23/04	Mary Brown 1/23/04
<input type="button" value="Edit"/>	PROCESSOR	Processor	Mary Brown		Bill Smith 12/24/04	Bill Smith 12/24/04
<input type="button" value="Edit"/>	XX	xxxx			Bill Smith 12/20/05	Bill Smith 12/20/05

5 record(s) selected from a total of 5 record(s) Return Print Page

### Editing an Existing Module

Click the **Edit** button next to the *Module* that you wish to change. On the screen that appears, you can edit the values, and then **Update** the record.

## Release Found & Release Fixed Lists

**Release Found** Return Print Page

Add a new field to the database

Product    Show inactive releases

	Name	Title	Active	Release type	Sort sequence	Created
<input type="button" value="Edit"/>	v1	v1	Y			Mary Brown 1/23/04 12:00 AM
<input type="button" value="Edit"/>	v2	v2	Y			Mary Brown 1/23/04 12:00 AM
<input type="button" value="Edit"/>	v3	v3	Y			Mary Brown 1/23/04 12:00 AM
<input type="button" value="Edit"/>	v4	v4	Y			Bill Smith 1/12/05 12:00 AM
<input type="button" value="Edit"/>	v5	v5	Y			Bill Smith 8/23/05 7:18 PM
<input type="button" value="Edit"/>	v6	v6	Y			Bill Smith 3/24/07 3:47 PM
<input type="button" value="Edit"/>	v7	v7	Y			Bill Smith 4/3/07 11:53 AM

7 record(s) selected from a total of 7 record(s) Return Print Page

### Release Found and Release Fixed Maintenance Screen

These lists have several special properties:

- They point to the two inbuilt fields RELEASE\_FOUND and RELEASE\_FIXED
- These fields belong to repeating row records. They should not be used on layouts other than repeating row records. If you want to use a field or fields for the functionality of RELEASE\_FOUND or RELEASE\_FIXED on layouts such as an add or edit layout, then define UDF's and use these
- These fields use PRODUCT\_NAME as their parent value, and therefore separate lists can be defined for each product in the system
- Both lists adopt the same values and are maintained in a single place within the List maintenance screen
- Releases may be made inactive. Once inactive, they will not appear within lists as you add or update an issue. However, if you edit an issue where the release found or release fixed is inactive, you will see a warning, which you can choose to ignore
- The sort sequence of the Release Found and Release Fixed lists can be sorted in an ascending or descending order. This is controlled with the behavior setting named RELEASE\_SORT\_ORDER on the Workflow Settings administration menu
- If you have set the display type for the RELEASE\_FOUND and RELEASE\_FIXED fields to be popup, then searching for a value is slightly different than for other fields. The search mechanism utilizes the **name** value of these fields, not the value of the **title**. In most instances, the name and title of the field values for RELEASE\_FOUND and RELEASE\_FIXED are the same, but in the cases where they are not identical, the popup list will display **name\_value(title\_value)**, allowing you to distinguish between the name and the title.

Adding a new entry to the release list

## Company Name Lists

It is often useful to be able to maintain a reference list of Company Names. A User Defined Field list can be created and linked to the User Account Maintenance screens. This may prevent the duplication of multiple versions of a single company name. For example, you may otherwise enter a company name as Superior Corp, Superior Corporation, Superior Corp., etc.

To facilitate this:

- Create a user defined field which is to retain the list of company names
- Place the name of this user defined field in the behavior setting named COMPANY\_NAME\_LIST\_UDF
- When you add a new user to your site, you will then see a list of all current company names, and you may then select from a previously entered name or you may create a new one.

Primary email address: csr@xxx.com

Job title: [ ]

Company name: Superior Software Corp

Address: 269 Mount Hermon Road

City: Scotts Valley

State / Province: CA

Zip / Postal code: 95066

Country: USA

Work phone: (831) 461-7100

Home phone: (831) 461-7100

Cell phone: (831) 461-7100

Fax: (831) 461-7100

Pager: (831) 461-7100

Bank of America

Bank of America

Bear Inc.

Chrysler

Cisco

Citibank

Coca-Cola

Corona

CVS

Duane Cor

Evian

Ford Motor Co

Fortune Industries

Freedom

GE

Hewlett Packard

Info Technology

Liberty

NEC

NTT

SoftWorks

STH Computers

Super Corp

Super Corp

Use of the COMPANY\_NAME\_LIST user defined field

When you edit the list defined by COMPANY\_NAME\_LIST\_UDF, it has a special property as shown in the screenshot below:

Add Return Add User defined field lists entry Customer

Title to display ? [ ]

Sort sequence ? [ ]

Owner [ ] [ ]

Enabled ?

Populate this list with 293 new list values? ?

Create a global interest list for this value ?

Add users to this interest list [ ] [ ]

Add Return

Updating the COMPANY\_NAME\_LIST field

This indicates that when you add the new value to the list, that you can synchronize the list values with the list of users. Normally you should select this checkbox and perform the synchronization.

## Relationship Group List

It is often useful to be able to maintain a reference list of Relationship Groups. A User Defined Field list can be created and linked to the Relationship Group Maintenance screen.

To facilitate this:

- Create a user defined field which is to retain the list of Relationship Groups
- Place the name of this user defined field in the behavior setting named RELATIONSHIP\_GROUP\_LIST\_UDF
- When you add or update issues to a relationship group, you will then see a list of all current relationship groups, and you may then select from a previously entered name or you may create a new one.

## Special Purpose Fields

Most fields in the data dictionary refer to a field that may be placed on the *add* layout, the *edit* layout, a *search* layout or a report layout. Examples are inbuilt fields such as PRODUCT\_NAME and ID, or UDF's such as COMMENTS and DESCRIPTION. However there are a number of fields whose purpose requires some additional explanation.

## ID and ALT\_ID Fields

Each item added to the ExtraView database is automatically given an ID. The ID is a sequence which is incremented by one for each issue that is inserted into the database. The field is always read-only to users and developers. It may be used as a filter on reports. The ID is the primary key to all items. The sequence is applied without reference to which Business Area or Project to which the item belongs.

For some purposes it is useful to have a unique sequence per Business Area or per Project, with the items within each Business Area or Project being given sequential numbers. Further, it can be advantageous to provide formatting to this identifier to easily distinguish items in different Business Areas/Projects. This can be achieved through the use of the ALT\_ID field. The ID field is still maintained automatically within ExtraView, but the mechanism described here can be set up to provide a unique sequence within the ALT\_ID field.

You should only set up this mechanism on a new database as existing items are not back-populated with the ALT\_ID values.

To set up separate sequences for each Business Area:

- Within the data dictionary entry for the ALT\_ID field, place a pattern in the default value of ALT\_ID. This pattern may contain:
  - **\$\$AREA.SEQ\$\$**. This is the unique sequence for the area within which the item is being created. You should always include this
  - **\$\$AREA.SHORT\_TITLE\$\$**. This is an optional set of characters entered into the definition for the Business Area. For example, you may provide a short title in the Business Area maintenance screen of CR to define a change request and a short title of FR to indicate a feature request.
  - Any constant string. For example, you may include punctuation characters such as : and –
  - Replaceable variables of the form **\$\$FIELD\_NAME\$\$**. These allow the use of other fields on the input form to become part of the ALT\_ID
- You must set the behavior setting **ITEM\_ID\_DISPLAY** to a value of ALT\_ID
- Place the ALT\_ID field onto all appropriate layouts as opposed to using the ID field. Typically this will be the *add*, *edit*, *detailed report*, *Quicklist* and other similar layouts. You may still set a layout cell attribute of **VISIBLE IF ID is not null** to hide the ALT\_ID before the item is saved.
- If you clone an issue, then the new ALT\_ID is generated from the default pattern if it is writeable, and the default value for ALT\_ID is non-empty.

To use this feature for Projects, use **\$\$PROJECT.SEQ\$\$** as opposed to **\$\$AREA.SEQ\$\$**.

Examples:

ALT_ID Default Value	Example Output
<b>\$\$AREA.SHORT_TITLE\$\$:\$\$AREA.SEQ\$\$</b>	FR:12345
<b>\$\$AREA.SEQ\$\$(\$\$AREA.SHORT_TITLE\$\$)</b>	12345(CR)

## Fields

Field Name	Title	Definition
ALT_ID_START_SINCE	Start Issue ID	In conjunction with ALT_ID_STOP_SINCE, this field is used to establish a search range for issues on any query filter layout. Both this and ALT_ID_STOP_SINCE should be created on the layout. The user can enter the start of a range to search for in this field. If it's left blank, but the ALT_ID_STOP_SINCE field has a value, then all issues with values less than ALT_ID_STOP_SINCE will be returned
ALT_ID_STOP_SINCE	Stop Issue ID	In conjunction with ALT_ID_START_SINCE, this field is used to establish a search range for issues on any query filter layout. Both this and ALT_ID_START_SINCE should be created on the layout. The user can enter the end of a range to search for in this field. If it's left blank, but the ALT_ID_START_SINCE field has a value, then all issues with values greater than ALT_ID_START_SINCE will be returned

## Text Type Field Special Properties

### URL's and Links

A special end-user property of text fields is that if they enter a URL into the field, then when the field is rendered on a report, or the field is rendered in a read-only mode, the URL becomes a hyperlink to the URL. For example, if you enter **http://www.mycompany.com** into a text field, then it will appear as **<http://www.mycompany.com>** on a report, and if you

click the text, a new window will open at the address of the URL. This behavior is extended one step further. Assuming that the title for the ID field in your instance is **ID #**, then entering **ID # 12345** into a text field, will provide a link on reports and read-only versions of the field, to the detailed report view of the issue with the ID of 12345. If the title to the ID field is **Report Number**, then the end user would enter **Report Number 12345** for the same effect.

## Rendering HTML within a field

It is possible to render HTML within a field on a report which has a display type of either text area, print text or log area. This is separate from the capability offered with fields with a display type of HTML Area, which is the recommended way of handling fields that will routinely hold HTML. The normal behavior with text area, print text and log area fields is that ExtraView will “escape” the sent being sent to the report in the browser. For example, HTML being sent to a field of these types will be shown as HTML and not rendered within the browser. This is the normal mode of working, as ExtraView is often used to track defects or bugs that refer to HTML code. There are some circumstances when you may want to actually view the code rendered as HTML within the text field. In order to do this, place the following text within the text field as you create –

```
<!-- generated valid html - don't escape! -->
```

All code following this, until the end of the field will be rendered in the browser. It is the user’s responsibility to ensure the code placed following the above text is valid HTML and will render appropriately. One interesting side effect of this feature is that you can legitimately place a complete program, along with buttons, forms and JavaScript within a field!

The field can be populated with code within user custom routines. For example, a field on an *add* or *edit* screen can contain the complete results of a query in report format.

## Attachments

When you are adding attachments to an issue from both the *add* and *edit* screens, you use the PR\_ADD\_PROBLEM security permission key. This is not immediately obvious with regard to the *edit* screen.

Field Name	Title	Definition
ATTACHMENT	Attachments	This field is used on reports to display all the fields that comprise the attachment record. All fields that may be placed on the attachment record are displayed, assuming they have read permission.
ATTACHMENT_ID	Attachment ID	The internal ID for the attachment. Used within the ATTACHMENT field and the ATTACHMENT_HISTORY layout.
ATTACH_CHANGE_TYPE	Change Type	The type of attachment change. Used on the ATTACHMENT_HISTORY layout.
ATTACH_CONTENT_TYPE	Attachment Content Type	The mime type of the attachment. Used within the ATTACHMENT field and the ATTACHMENT_HISTORY layout.
ATTACH_CREATED_BY_USER	Attachment Created By	The person who created the attachment . Used within the ATTACHMENT field and the ATTACHMENT_HISTORY layout.
ATTACH_DATE_CREATED	Attachment Date Created	The date the attachment was created. Used within the ATTACHMENT field and the ATTACHMENT_HISTORY layout.
ATTACH_FILE_DESC	Attachment File Description	The description of the attachment. Used within the ATTACHMENT field and the ATTACHMENT_HISTORY layout. This field has some special properties. If the field permission is writable, then the field is also required. If the field permission is not writable, then there is no prompt for the field and, by definition, it is not required.
ATTACH_FILE_NAME	Attachment File Name	The file name of the attachment. Used within the ATTACHMENT field and the ATTACHMENT_HISTORY layout.
ATTACH_FILE_SIZE	Attachment File Size	The file size of the attachment . Used within the ATTACHMENT field and the ATTACHMENT_HISTORY layout.
ATTACH_PATH	Attachment Path	The original path in which the attachment was stored . Used within the ATTACHMENT field and the ATTACHMENT_HISTORY layout.
ATTACH_HIST_TIMESTAMP	Attachment History Timestamp	The timestamp of attachment history. Used on the ATTACHMENT_HISTORY layout.
ATTACH_LAST_DATE_UPDATED	Last Date Updated	The last date the attachment was updated. Used on the ATTACHMENT_HISTORY layout.



ATTACH_LAST_UPDT_COMPANY	Company	The last date the attachment was updated. Used on the ATTACHMENT_HISTORY layout.
ATTACH_SELECT	Select?	An optional field. When the security permissions for this field are turned on, this causes a column on the attachment layout to be made visible, with a checkbox by each attached file added to the issue. This works in conjunction with another field, EMAIL_SELECTED. This field appears in the notification layout. When a user checks the EMAIL_SELECTED field, then each of the file attachments checked in the list of attachments is sent out as an attachment to the notification. In this way, file attachments can optionally be sent to users connected with an issue, when the issue is either added or updated. This field is also subject to control with the ADD and COPY business rules, as well as being available within user custom code.
ATTACH_THUMBNAIL	Thumbnail	Preview a thumbnail image of the attachment. Used within the ATTACHMENT field and the ATTACHMENT_HISTORY layout.
NUMBER_OF_ATTACHMENTS	Number of Attachments	This field may be placed on reports, or used as a report filter and provides a count of the number of attachments on an issue. For example, you may use this as an advanced filter to show all the issues that have attachments, when used as <b>Number of Attachments &gt; 0</b> .

## Behavior Settings

Setting Name	Default Value	Description
UPLOAD_DISPLAY_SETTING	DND_DEFAULT	<p>This setting may have one of four values:</p> <ul style="list-style-type: none"> <li>• DND_DEFAULT - The attachment upload utility will default to offering the user the ability to use the drag-and-drop interface. The user may switch to the standard upload interface at any time.</li> <li>• STANDARD_DEFAULT - The attachment upload utility will default to offering the user the ability to use the standard file upload interface. The user may switch to the drag-and-drop upload interface at any time.</li> <li>• STANDARD_ONLY - The drag-and-drop upload utility is disabled and only the standard utility is available.</li> <li>• DND_ONLY - Only the drag-and-drop upload utility is available.</li> </ul> <p>Note that the drag-and-drop utility uses a Java applet. This implies that the user's browser has Java runtime capability. If you do not allow users to access Java applets in your environment, then you should set this behavior setting to STANDARD_ONLY. If your network utilizes a proxy server, your user's Java runtime must be setup correctly to allow attachments to use the Java applet to upload attachments, as well as document and image fields. Please see the Appendix entitled <a href="#">Applets and Proxy Servers</a> for instructions.</p>
ALLOWED_ATTACH_SEARCH_FILE_EXT	application/pdf,application/msword,application/vnd.ms-	This is a list of the allowed mime

excel,text/csv,text/html,text/plain,text/rtf

types for attachment files to be searched for keywords, when the user checks the **Search Attachments** box. If the file in the list to be searched does not have one of these mime types, it is skipped. This is used to skip searching of files such as image files, to speed the search process

ATTACHMENT\_CONTROL\_FIELDS NO

This setting is only used in conjunction with the Java user custom exit named `ucAllowAttachmentOperation`. This setting enables the functionality within this method. When the value is NO the user custom exit is not called. When the value is YES the code within the method is called and acted upon

ATTACHMENT\_REPOSITORY\_DMAX 999

The maximum number of files or directories that will be created under one node of the external directory structure. The default for this value is 999. It is not likely that this value needs to be altered

ATTACHMENT\_REPOSITORY\_OPT INTERNAL

This setting controls whether attachments are stored internally within the database, externally on the file system, or in some combination of the two methods. If the value of this setting is INTERNAL, then all attachments are stored internally within the database. If the value of this setting is EXTERNAL, then all the attachments are stored on the external file system. Alternatively, you may provide a comma separated list of file extensions and then all files with these extensions will be stored externally while all others will be stored in the database. For example, if you set the value of this setting to "avi,png,gif,jpg" then files of these types will be stored externally. This strategy leaves the files stored internally in the database as searchable by keywords, while the image and video files are stored externally. The default for this value is INTERNAL. Also, ensure that the setting `ATTACHMENT_REPOSITORY_ROOT` is set correctly before storing attachments outside the database

ATTACHMENT\_REPOSITORY\_ROOT

The name of the directory on the file system where file attachments will be stored. Before any attachments are stored externally, you must also provide a valid setting for the setting `ATTACHMENT_REPOSITORY_OPT`. You must also ensure that the path is valid from the application server(s) that are running ExtraView, and that you have all the permissions to read and write

ATTACH\_SELECT\_CHECKBOX                      UNCHECKED

to the storage. You must also ensure that you set up a separate backup method for this external storage as backing up your database will no longer backup the file attachments

This setting controls behavior of the Attachment Select box (ATTACH\_SELECT) on the Add and Edit layouts. Valid values are UNCHECKED, CHECKED and CHECKED ON ADD. A value of CHECKED or UNCHECKED will set the checkbox for an attachment on entry to the screen or when a new attachment is added. A value of CHECKED ON ADD will cause the checkbox to be checked only when the attachment is first added, otherwise it will be unchecked

COPY\_ATTACHMENT\_ON\_CLONE                      YES

When this setting is YES, attachments will be copied to the new issue when an issue is cloned

DEFAULT\_ATTACHMENT\_CHARSET                      UTF-8

The default character encoding for files being uploaded to ExtraView. This value is used to select the initial value presented to the administrator when creating a new user

SEARCH\_ATTACH\_THRESHOLD                      100000000

The size of attachments to be searched, before the user is alerted of performance cost. If the size of attachments to be searched exceeds this value, then the user is shown a dialog box and asked to confirm whether they want to proceed with the search

THUMBNAIL\_MAX\_SIZE                              150

This is the maximum number of pixels in either the horizontal or vertical direction to which thumbnail images will be generated. The aspect ratio of the original image will be retained. Thumbnail images are generated for file attachments and for fields with a display type of image. If you change this value, existing thumbnail images will remain at their original size and new thumbnails will be generated at the changed value

## **FILTER\_CHILD\_VALUES Field**

The FILTER\_CHILD\_VALUES field controls the ability to return or not return all child records from a query. When this field is placed on a search layout, a checkbox will appear. When checked, a query that generates repeating row records will return all the repeating rows within an issue. When it is unchecked, the query will only return repeating row records that match the remaining filters in the query.

## **STATUS Field**

### **The STATUS Field**

The STATUS field has several properties that separate its functionality from other fields, including other inbuilt fields. As its name implies, it is used to track the *status* of issues as they transition through the workflow you configure. The handling of the STATUS field has these properties –

- The STATUS field is used on issues to manage workflow. There is a complementary field available for repeating rows named RELEASE\_STATUS. Both fields share the same set of values and the same workflow. The values for both lists are defined within the STATUS field list
- You may set up workflow around the transitions of the states of an issue between the STATUS values. This workflow may be set up role-by-role or product-by-product. It may also be set up globally and inherited by different business areas and projects, or it can be set up individually within any business area and project combination
- The STATUS field is unique in that each value (such as *Open* or *Closed*) is given two security permission keys, one for adding and one for updating issues. If the user does not have write permission to a STATUS add value, then the value will not be displayed in the STATUS list. If the user does not have permission to the key when updating an issue, they will still see the value in the list, but they may not select that value from the list and update the issue. They may still edit and update the issue with other STATUS values to which they do have permission. They simply cannot update the issue to a value of the STATUS field to which they do not have permission. This functionality is desired as a user may have permission to update an issue, but they may not have permission to update to an individual STATUS value. When in query screens, the user will see all STATUS values, irrespective of whether they have read or write permission. If you require to hide STATUS values from users, consider using an allowed value relationship, where STATUS is the child, and use this capability to control the visibility of individual STATUS values.

## STATUS\_TRANSITION Field

This is defined within the data dictionary as a UDF with a display type of **Custom**. This field provides an alternative to the STATUS field, offering a visual way of highlighting the status of an issue and showing exactly which statuses are valid to transition the issue to, obeying the workflow and status change rules. It looks like this:



The STATUS\_TRANSITION field

The current status is highlighted. The user can click on any of the statuses shown, in order to transition the issue to that status. For this to operate, you should retain the STATUS field on the same layout, but you may hide this from the user, using a layout cell attribute of STYLE. For example, setting a style of **display:none** will hide the STATUS field list. Setting an alternate title of a space character will hide the label to the STATUS field on this form. Only the STATUS\_TRANSITION field will be displayed in an editable form - actually it's a clickable field.

If the STATUS field is displayed on the same screen as opposed to being hidden, then both the STATUS and STATUS\_TRANSITION fields will work in tandem.

You may alter the width and height of the field by setting a width and height (both measured in pixels) into the default value of the field in the data dictionary. Use a delimiter of a semi-colon between the values. For example, a default value of **1000;100** will set the size of the field to 1,000 pixels wide and 100 pixels high. Note that you must be precise with the syntax of the default value as no error checking is performed. If you do not provide a default value, a width of 900 pixels and a height of 80 pixels will be assumed.

## KEYWORD Field

This field is used on search layouts to provide a text input box for the purpose of enabling keyword searches through the ExtraView database. This field has the usual security permission key associated with the field, named PR\_RESOLUTION.KEYWORD. However, there is a second security permission key, named PR\_RESOLUTION.ATTACH\_TEXT. This also applies to the KEYWORD data dictionary field. If a user role has permission to read this key, then a checkbox appears directly beneath the KEYWORD field. This controls the ability to search attachments as part of the query.

## Expression Fields

Expression fields are used to calculate and display the results of the calculation on a column report, a Detailed report or a Quicklist report. The valid display types for expressions are:

Display Type	Purpose
Number	Shown as a floating point number
Decimal	Shown in the specified decimal format

Currency	Shown in the specified currency format
Date	Shown as a date in the user's specified date format
Day	Shown as a date, minus the time component, in the user's specified date format
Text	Directly displayed as a sequence of the characters in the string

The Default value of the expression field may store an expression that will be evaluated as the default when the field is placed on a report. See the section in this guide for [Reporting and Querying](#) for a discussion of valid expressions.

## PROMO Field

This field is included within the sign on screen of ExtraView. Use the Title of the field to store HTML, including JavaScript. The HTML is displayed on the Sign On page above the user name and password. You may include the JavaScript within the HTML, or call a user defined JavaScript function. The title field within the data dictionary is limited to 255 characters, so you may need to call a user defined JavaScript function for anything more than a simple entry.

## Date & Date Range Fields

### Date Fields

The following date fields in the data dictionary provide a means to display information about an issue, calculated from when the issue was initially created.

Field Name	Title	Definition
DAYS_OPEN	Days Open	The number of days that an issue has been in a status that is not closed. The closed status is defined by the setting of the behavior setting named STATUS_CLOSED_NAME. The result is rounded to the nearest day.
WEEKS_OPEN	Weeks Open	The number of weeks that an issue has been in a status that is not closed. The closed status is defined by the setting of the behavior setting named STATUS_CLOSED_NAME. The result is rounded to the nearest week.
MONTHS_OPEN	Months Open	The number of days that an issue has been in a status that is not closed. The closed status is defined by the setting of the behavior setting named STATUS_CLOSED_NAME. The result is rounded to the nearest month.
SYSDATE	Current Date	This is a Special Variable Field. When this is encountered within a date field within a query, in the form \$\$SYSDATE\$\$, ExtraView will substitute the current date, complete with the current time. This allows users to compose and save queries that have a range to or from the present date.
SYSDAY	Current Date	This is a Special Variable Field. When this is encountered within a date field within a query, in the form \$\$SYSDAY\$\$, ExtraView will substitute the current date, without time. The time is set to 00:00. This allows users to compose and save queries that have a range to or from the present date, as of midnight.

### Date Range Fields

The date fields within the ExtraView database have an extra field defined in the data dictionary that works in conjunction with the date. This additional field works as a filter on ExtraView report screens, allowing reports to be defined that will select results based on a number of days since the date.

The date fields and the additional field are:

Data dictionary main field	Data dictionary additional field	Comment
DATE_CREATED	DATE_CREATED_SINCE	Days since the issue was created
TIMESTAMP	TIMESTAMP_SINCE	Days since the issue was last updated
DATE_LAST_STATUS_CHANGE	DATE_LAST_STATUS_CHANGE_SINCE	Days since the issue's last change of status
DATE_CLOSED	DATE_CLOSED_SINCE	Days since the issue was closed

# User Fields

These fields are additional to the inbuilt user fields of OWNER, ORIGINATOR, CONTACT and ASSIGNED\_TO.

Field Name	Title	Definition
LAST_CHANGE_USER	Changed by	This is the user ID of the user who last updated the issue.
USER	*Current User Name*	This field adopts the value of \$\$USER\$\$ when used. ExtraView interprets this value as the user ID of the user who is signed on to the current session.

## User Fields with Different Display Format

The display format of user fields is globally set using the behavior setting named USER\_LIST\_DISPLAY. This is set to either a value of **LIST** or **POPUP** to determine how all user fields on the user input screens will appear.

You can set an Optional Attribute in the data dictionary for any field with a display type of user. This Optional Attribute is also named USER\_LIST\_DISPLAY. Setting this to either **LIST** or **POPUP** will override the behavior setting, giving you control over the way user's input values into each field with a display type of user.

# Email Fields

Field Name	Title	Definition
MAILING_LIST	Mailing List	This field is used in conjunction with its security permissions to define which user roles have visibility to the mailing list on the <i>add</i> and <i>edit</i> screens
CC_EMAIL	CC Email	This field is used in conjunction with its security permissions to determine which user roles have the ability to see and use the CC email list on the <i>add</i> and <i>edit</i> screens
GENERATE_EMAIL	Generate Email	In conjunction with security permissions, this field is used to control the visibility of the Generate Email checkbox on the <i>add</i> and <i>edit</i> screens. Without permission, this checkbox will not be visible
CUSTOM_EMAIL	Custom Email	In conjunction with security permissions, this field is used to control the visibility of the Email button on the action bar within the <i>edit</i> screen. With permission, the user role will be able to send custom emails
EMAIL_ADDRESS	Email Address	This field may be placed upon layouts. It serves a special purpose. When a user accesses the custom email function from the <i>edit</i> screen, to send an ad-hoc email, or an email created from a pre-defined template, this field will be used to automatically populate the email address to which the mail is to be sent. This simplifies communication to users who, for example, enter an email address when reporting an issue. The value stored in this field automatically gives a return address.
EMAIL_SELECTED	Include selected attachments	This field works in conjunction with the attachment field named ATTACH_SELECT. Both fields need to be turned on with permissions for this feature. When enabled, there is an additional checkbox within the notification area. When a user checks this box, and the user has checked one or more file attachments that has the <b>Select?</b> checkbox also checked, then the selected attachments will be sent along with the email notification sent when the issue is added or updated.

# History Fields

Field Name	Title	Definition
HIST_RANGE_END	Historic data filter	This field is used as a report filter to show the results as of a specific point in time. If this is selected, the results returned by a query are not the results as of the current time. This allows the user to go back in time and determine what issues looked like as of the date/time entered. This is also used within the <i>evhist</i> CLI command to determine the end date of transactions being generated
HIST_RANGE_START	Historic data filter (start)	This field is used within the <i>evhist</i> CLI command to determine the start date of transactions being generated.

NOTIFICATION_HISTORY	Notification History	This field is placed on History layouts to provide a record of the users who were sent notification at each update of the issue. It only works on the layout and not when the abbreviated history setting is used.
PRODUCT_NAME_HIST	Historical Product Reference	This field refers to the name of a product (PRODUCT_NAME) within an issue's historic audit trail
RELEASE_FOUND_HIST	Historical Release Reference	History is maintained on repeating records within ExtraView. This field refers to that history
STATUS_HIST	Historical Status	Full history is maintained on all status changes to issues. This field refers to the status history
MINI_HISTORY	History	This is a UDF with a Custom display type that can be placed on layouts (typically edit screen layouts and detailed reports). This field generates an area that is about the width of your screen, that displays, by default, the status change dates and the person responsible for the change. If you are creating this field in your own environment, then make certain that you set <b>Allow selection on reports</b> to Yes in the data dictionary, and that you provide read access to the field for the roles that are allowed to see the information.

There is a behavior setting named MINI\_HISTORY\_FIELDS that is used to define the names of the fields that are displayed within the mini-history area. By default, these fields are STATUS, TIMESTAMP and ASSIGNED\_TO. Not every field may be displayed within the mini-history area. The valid fields are: SEVERITY\_LEVEL, PRIORITY, STATUS, PRODUCT\_NAME, OWNER, TIMESTAMP, ASSIGNED\_TO, PRIVACY, LAST\_CHANGE\_USER, ALT\_ID, AREA, PROJECT, CATEGORY, RESOLUTION, PRODUCT\_LINE, DATE\_LAST\_STATUS\_CHANGE, CONTACT, ORIGINATOR, and HIST\_TIMESTAMP. Note that the STATUS field is always displayed.

You may alter the width and height of the field by setting a width and height (both measured in pixels) into the default value of the field in the data dictionary. Use a delimiter of a semi-colon between the values. For example, a default value of **1000;100** will set the size of the field to 1,000 pixels wide and 100 pixels high. Note that you must be precise with the syntax of the default value as no error checking is performed. If you do not provide a default value, a width of 900 pixels and a height of 80 pixels will be assumed. If the field is placed on a detailed report, then the standard width of the detailed report is used, and the height of the field will automatically expand as required, so that no scrolling takes place. This allows the user to print the detailed report and see all the data.

An example is:



The MINI\_HISTORY field

## Relationship Group Fields

Field Name	Title	Definition
RELATIONSHIP_GROUP_ID	Relationship Group	The internal ID of a relationship group. The only significant change an administrator should make to this field is to alter the title "Relationship Group"
RELATIONSHIP_GROUP_REMOVE_BTN	Remove ?	When this is placed on a related issue layout, it allows the user to remove the issue from the relationship group
RELATIONSHIP_GROUP_OWNER	Relationship Group Owner	This field is used to specify the user ID of the owner of a relationship group. The only significant change an administrator should make to this field is to alter the title "Relationship Group Owner"

RELATIONSHIP_GROUP_TITLE	Relationship Group Title	This field is used to specify the title of a relationship group. The only significant change an administrator should make to this field is to alter the title "Relationship Group Title"
RELATIONSHIP_GROUP_TYPE	Relationship Group Type	This field is used to specify the type of relationship group. This field is for ExtraView internal use only

## Built In Repeating Row Fields

Field Name	Title	Definition
RELEASE	Release	The key field used to provide repeating records with a title on screen. It's security permissions control the presence or absence of the repeating record on add and edit screens
RELEASE_ASSIGNED_TO	Release Assigned To	Used to provide a title for Release Assigned To. It's security permissions control access to the value.
RELEASE_FIXED	Release Fixed	Used to provide a title for Release Fixed. It's security permissions control access to the value.
RELEASE_FOUND	Release Found	Used to provide a title for Release Found. Its security permissions control access to the value.
RELEASE_FOUND_HIST	Historical Release Reference	History is maintained on repeating records within ExtraView. This field refers to that history
RELEASE_OWNER	Release Owner	Used to provide a title for Release Owner. It's security permissions control access to the value.
RELEASE_PRIORITY	Release priority	Used to provide a title for Release Priority. It's security permissions control access to the value.
RELEASE_PRODUCT	Release Product	Used to provide a title for Release Product. It's security permissions control access to the value.
RELEASE_RESOLUTION	Release resolution	Used to provide a title for Release Resolution. It's security permissions control access to the value.
RELEASE_SEVERITY	Release Severity	Used to provide a title for Release Severity. It's security permissions control access to the value.
RELEASE_STATUS	Release Status	Used to provide a title for Release Status. It's security permissions control access to the value.

## Button Fields

Field Name	Title	Definition
DELETE_BUTTON	Delete Button	The item delete button. Access to the security permissions for this button allow users to delete issues
EDIT_BUTTON	Edit Button	The drill down edit button used on reports and within email
HISTORY_BUTTON	History Button	The button that accesses history from the edit screen or reports
QUICKEDIT_BUTTON	Quickedit Button	The button that accesses the Quickedit mode from column reports and Quicklists
VIEW_BUTTON	View Button	The drill down button that allows you to see the detailed report for an issue

### Defining a Button Field

If you define a field with a display type of Custom in the data dictionary, and its name begins with the characters **BUTTON\_** or ends with the characters **\_BTN**, a button will be generated on the screen, when you place the field on a layout.

The following are used to define the button:

Data dictionary field	Purpose
-----------------------	---------



Name	This defines the name of the field. For example, a button named <code>BUTTON_GENERATE</code> is valid.
Display Type	Must be <b>Custom</b>
Title	Typically this is a space character
Help Text	This will become the text on the button

To provide the action for the button, place a layout cell attribute of type HTML Modifier within the layout upon which you place the button. For example, if you want to open a new window that displays an *add* issue screen, your HTML Modifier may look like this:

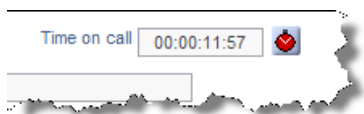
```
onclick=window.open("evSignon?
p_action=doAddDisplay&p_option=Display&p_close_win=true&ev_menu=off&p_area=7&p_project=9")
```

Note that the URL does not need to reside within ExtraView. See the API Guide for more information.

Alternatively, you can provide an action for the button by implementing custom code within the class named `ucRenderEmbeddedObject`. The standard distribution of ExtraView that ships with the user custom class named `CustomCodeBase.java` contains this functionality.

## Timer Field

The function of this field is to create an onscreen timer that is used to measure how much time is spent processing an issue. The timer may be initialized on an *add* or *edit* layout in either the **on** or **off** state using the default value of the `TIMERFIELD`. Assuming the timer is **on**, then time is accumulated in the field with each successive edit session. The user will see the timer updating each second that it is turned on.



Timer field on a layout

At this time, only one timer field is supported in an installation within a business area. To configure the timer, you must have the following fields defined in the data dictionary:

Field	Configuration
<code>TIMERFIELD</code>	Display type – Custom Allow selection on reports – No Default value – On or Off Help text – The time spent working on this issue This field may be placed on an <i>add</i> or an <i>edit</i> layout and presents the timer to the user, with a button that is used to turn the timer on and off. Being a custom field, it is not possible to report on this field, therefore a second field is defined which is used to provide reporting.
<code>TIME_ON_CALL</code>	Display type – Text Field Allow selection on reports – Yes Filter Criteria – Yes Is Sortable - Yes Help text – The time spent working on this issue This field is maintained by ExtraView custom code and takes its value from the <code>TIMERFIELD</code> when an issue is inserted or updated.

## Tag Cloud Fields

A **Tag Cloud** field is a graphical representation of the values in a list field. The values in the **Tag Cloud** field are clickable to allow the user to select or de-select them; selected values are highlighted with the color configured in the `HIGHLIGHT_COLOR` behavior setting. The **Tag Cloud** field is configured in the following manner:

- A UDF with a display type of List. This is termed the **source list field**. This contains the list of values in the tag cloud
- A UDF with a display type of Custom. The name must start with the same name as the **source list field** and end in **\_TAG\_CLOUD**
- Optionally, the Default value field in the Data Dictionary entry for the custom field can be configured with the following parameters for rendering the field:
  - `height=NNN` (default 100)

- width=NNN (default 900)
- columns=NNN (default 10)

Multiple parameters must be separated by commas. E.g, **height=90,width=800,columns=7** overrides all the default values. You need not specify all the all parameters. E.g, **columns=5** renders list values in five columns with the default height and width.

On the *Add* or *Edit Screen* layouts, both the **source list field** and the **Tag Cloud** fields must be included, where the **source list field** must precede the **Tag Cloud** field in order on the layout, i.e, the Tag Cloud field must be on a row and column higher than the **source list field**. The **Tag Cloud** field includes support only for the REMOVE\_NONE layout cell attribute, which removes the **\*None\*** value from the list of values rendered; all other layout cell attributes configured on the **Tag Cloud** field are ignored.

Layout Editor Tip: In order to hide the source List field and make only the Tag Cloud field visible to users, configure the source List field with the following layout cell attributes:

- ALT\_TITLE = " " (a blank space; this will replace the original title of the source List field)
- STYLE = display:none (this will cause the values drop-down box to be hidden)

This will cause the **source list field** to be rendered on the screen in a hidden mode, but still be accessible to internal routines that are used to communicate between the source list and Tag Cloud fields. Other layout cell attributes configured on the source List field, such as REQUIRED, will continue to be enforced. Note that using the VISIBLE\_IF layout cell attribute to hide the source List field will disable the Tag Cloud field functionality.

The Security Permissions configured for the Tag Field affect how the values are rendered: if readonly, then values are displayed as plain text without hyperlinks; if read/write, then values are displayed as hyperlinked text.

## Behavior Settings

Behavior settings control many aspects of ExtraView behavior. Behavior settings tend to be set up once with your installation and then retain that value for ExtraView behave the correct way for your purpose.

The behavior settings are grouped together in like categories, and each category forms one of the following pages. All settings can be modified by either clicking on the *Value* field, or by clicking the *Edit* button at the left of the field name.

The Behavior Setting utility offers the ability to filter the settings list by selecting which column on which you want to perform the filtering operation, then clicking on a letter. The letter is the first character of the selected filter column. You may alternatively enter a search expression and use the **Go** button to search for the results. Wildcards are allowed in the search.

Note the buttons that represent each category. You can use any button to filter the page so that you only see that category of setting.

## API Settings

This section of behavior settings deals with API settings. The available settings are:

System Controls menu-API Settings	Typical Value	Description
ALLOW_ANONYMOUS_API_ACCESS	NO	When this is set to YES, users can make calls to the API, without having a valid user name and password. Typically used when you are integrating ExtraView within your own website, and you do not want to give your external users (usually your customers) a user ID within ExtraView. Use this in conjunction with ANONYMOUS_API_USER_ID. Valid values are YES and NO
ANONYMOUS_API_USER_ID	guest	If you have ALLOW_ANONYMOUS_API_ACCESS set to YES, this is the user ID that is set within issues as the ORIGINATOR
ALLOW_CLI_UPDATE_ORIGINATOR	YES	YES will allow a user to update the ORIGINATOR field through the CLI
CLI_EDIT_MULTI_VALUE_FIELDS	NO	Indicates whether you can edit multiple value UDFs through the CLI
DEFAULT_TEXT_REPORT_DELIMITER		Single character to place between data fields on text reports. When you output results to a text file, or through the API / CLI, this character is used to delimit the individual fields
MAX_REPORT_TEMP_FILE_HOURS	2880	This is the number of hours for which temporary report files used by the API will be kept on the file system of the server. Following this number of hours, the temporary files are removed by ExtraView.
MULTI_RELEASE_XML	NO	To enable multiple release to be output to XML through the API. Valid values are

# Company Information Settings

This section of behavior settings deals with Company Information settings. The available settings are:

System Control menu- Company Information Settings	Typical Value	Description
COMPANY_NAME		The company's name
COMPANY_ADDRESS1		The company's address
COMPANY_ADDRESS2		Second line of your company's address
COMPANY_CITY		The company's city
COMPANY_STATE		The company's state
COMPANY_ZIP		The company's postal or zip code
COMPANY_PHONE		The company's phone number
COMPANY_EMAIL		The company's general email address
LICENSE_INSTALL_EXPIRATION_DAT		This setting defines the date after which the license key may no longer be installed
LICENSE_UPGRADE_VERSION		This setting contains the VVV.SSS version of code beyond which the site cannot be upgraded by the administrator, unless a new activation key is obtained from ExtraView
LIMITED_USER_UPDATABLE_FIELDS	CUSTOMER_COMMENTS, ATTACHMENT, PRIORITY	This setting contains the comma-separated field names of fields that may be modified by a limited user

# Display Settings

This section of behavior settings deals with Display settings. The available settings are:

Layouts & Display menu - Display Settings	Typical Value	Description
ADMIN_LIST_SIZE	1000	This number will determine how many records will be displayed on any administrative list. If the number of rows to be displayed exceeds this behavior setting value, then the records are not immediately displayed. Instead, there will be a drilldown capability, with the administrator being able to search the list, or to use the first character of the entry they are searching for to see a limited number of entries. Note that if a negative number is used, then the functionality remains the same, except the search capability is compressed on the screen, to a single line
ADMIN_LIST_MIN	50	Below this number, any administration list will not display the button which allows the set of filters to be displayed. This prevents the display of a button on moderate-sized lists where no filtering is typically needed
ALLOW_HELP	YES	When this is set to YES, tooltip help is displayed when placing the mouse over a field label on the add and edit screen and clicking on the field label will result in a pop-up window with help on the field. When the value is set to NO, no tooltip or pop-up window is generated
AUTO_SCROLL_TO_CLICKED_LAYOUT	NO	If this value is set to YES, then when a user clicks

		on a field within an embedded layout which causes a screen refresh, the screen is automatically scrolled to the top of the embedded layout. This can be useful if you have relatively long add and edit screens, as it takes the user to the same area of the screen on which they were working, as opposed to seeing the top of the form on each refresh. If this value is NO, the screen refresh leaves the user at the top of the form.										
BG_ALT_COLOR	#DEF0F8	Alternative background color for tables. Used as a complementary color to BG_COLOR										
BG_COLOR	#dddddd	Background color for tables. Used as a complementary color to BG_ALT_COLOR										
BORDER_COLOR	#C7C9C7	Border colors on the Search / Report page										
CACHE_AREA_PROJECT	YES	Specify YES to allow the caching of area/project dropdown lists in templates built internally from layouts. Specify NO to force a dynamic refresh of the area/project list for each screen refresh in <i>add</i> or <i>edit</i> mode. This should always be YES unless there is some dynamic list modification by USER_CUSTOM code.										
CALENDAR_STYLE	Fancyblue	Use this setting to set the color and style of the popup calendar used to select dates. Valid entries are aqua, bluexp, fancyblue, forest, green, greengrass, maroon, win2k, winter, winxp, wood and yellow										
CLICK_LOCKDOWN_TIMEOUT_SECS	0	The number of seconds to wait after an <i>add</i> or <i>edit</i> screen begins loading to unlock the page for mouse clicks and input. The minimum, and the default setting is that ExtraView will wait for up to 20 seconds for an Ajax server response. This option should be set higher if you have a number of users who have very low bandwidth access to ExtraView and as a result, the <i>add</i> and <i>edit</i> screens take a very long time to load. This setting prevents the user seeing errors if they attempt to set a value in a field which causes a screen refresh, but the initial screen has yet to complete loading.										
DATE_FORMAT	DD-MON-YYYY hh24:mi	Default format for displaying date fields (do not include seconds)										
DB_TIMEZONE	PST	The time zone of the database server and the reference from which all local times are calculated for each user. This value should be set on the initial installation of ExtraView, and it should not be altered from that time. Altering this behavior setting to a different time zone will cause all timestamps in the system to be displayed with a different value than with which they were created. Normally, this time zone should be the same time zone of the system clock of the server on which the installation resides. Note that you must restart the ExtraView server for this setting to take effect										
DEFAULT_DATE_FORMAT	MEDIUMDATE	The system default date format. This may be one of the following, with the result of the example shown: <table border="0"> <tr> <td>SHORTDATE</td> <td>11/28/03</td> </tr> <tr> <td>MEDIUMDATE</td> <td>Nov 28, 2003</td> </tr> <tr> <td>LONGDATE</td> <td>November 28, 2003</td> </tr> <tr> <td>FULLDATE</td> <td>Friday, November 28, 2003</td> </tr> <tr> <td>SHORTDATETIME</td> <td>11/28/03 7:20 AM</td> </tr> </table>	SHORTDATE	11/28/03	MEDIUMDATE	Nov 28, 2003	LONGDATE	November 28, 2003	FULLDATE	Friday, November 28, 2003	SHORTDATETIME	11/28/03 7:20 AM
SHORTDATE	11/28/03											
MEDIUMDATE	Nov 28, 2003											
LONGDATE	November 28, 2003											
FULLDATE	Friday, November 28, 2003											
SHORTDATETIME	11/28/03 7:20 AM											

		MEDIUMDATETIME	Nov 28, 2003 7:20:08 AM
		LONGDATETIME	November 28, 2003 7:20:08 AM WST
		FULLDATETIME	Friday, November 28, 2003 7:20:08 AM WST
DEFAULT_CHART_FONT	Arial, Helvetica, sans-serif		The font used for the body of almost all pages. It is suggested that you provide three font names, in the order of preference, as different browsers, on different platforms may only have access to some of the fonts in the list
DEFAULT_PDF_FONT	Arial		The default font for selection as the text font for PDF's. It is essential that this font exists on the server and contains all the characters you are likely to display in Adobe PDF documents. This is particularly important if you are working in a double-byte language such as Japanese.
DISPLAY_SIGNON_PROD_INFO	YES		If this is set to a value of YES, ExtraView will display marketing information sourced directly from ExtraView's servers
DISPLAY_SIGNON_URL_1	http://prodinfo.extraview.com/ site/content/product-information-1		This is the URL of the right-hand frame sent to the sign on page if DISPLAY_SIGNON_PROD_INFO is set to YES. Care should be taken to ensure you enter a valid absolute URL into this field
DISPLAY_SIGNON_URL_2	http://prodinfo.extraview.com/ site/content/product-information-2		This is the URL of the left-hand frame sent to the sign on page if DISPLAY_SIGNON_PROD_INFO is set to YES. Care should be taken to ensure you enter a valid absolute URL into this field
EDITOR_BUTTONS	'fontName', 'fontSize', 'newPanel', 'bold', 'italic', 'underline', 'newPanel', 'foreColor', 'backColor', 'insertLink', 'insertImage', 'insertTable', 'newPanel', 'justifyLeft', ' justifyCenter', 'justifyRight', 'newPanel', 'insertOrderedList', 'insertUnorderedList', 'newPanel', 'copy', 'cut', 'paste', 'newPanel', 'outdent', 'indent', 'newPanel', 'undo', 'redo', 'newPanel', 'switcher'		The buttons and the order in which they will appear on any HTMLAREA field, on the sign on message screen, and on the ad hoc email entry screens. For a full list of options, please see the Administration guide
EDITOR_STYLE	winxp		This setting provides different styles for the button bar in the HTML Editor, used in HTML Area fields, on the editor for Ad Hoc emails and for the editor for the Sign On Message. You may select either "default" or "winxp" as valid styles. The value must be in lower case.
FIXED_WIDTH_FONT	'Lucida Console', Courier, monospace		Font used for the display of Print Text user defined fields and used for read-only description fields and old log area fields, if REPORT_WITH_FIXED_WIDTH_FONT is YES
FOLD_TEXT_POSITION	100		This specifies the character position at which to fold text lines in read-only fields with a display type of text area, print text and log area. You should not specify a number lower than 65. If you specify a high number, such as 99999, the text input will never be folded. Note that FOLD_WORD_POSITION has precedence over this setting
FOLD_WORD_POSITION	100		This specifies the character position at which to break up a long word in fields of Text Area, Print Text, and Log Area fields. You should not specify a number lower than 65. If you specify a high number, such as 99999, long words will never be

		broken up. This can be used in conjunction with FOLD_TEXT_POSITION. Set FOLD_WORD_POSITION to a high number if you make routine use of long URL's in your text fields. This will ensure the URL's are not broken onto more than one line, and that the user can click on the URL with success
HIGHLIGHT_COLOR	#FF0000	Highlight color for a table cell when you use a layout element attribute of Highlight
HIGHLIGHT_COLOR_ADD	#FF0000	The color to indicate an added value between updates of a record, in history and email notifications
HIGHLIGHT_COLOR_DELETE	#CCCCC	The color to indicate a value deleted in an update of a record, in history and email notifications
HIGHLIGHT_COLOR_UPDATE	#ff0000	The color to indicate an updated value, in history and email notifications
HIGHLIGHT_TIMESTAMP	YES	If set to YES, the TIMESTAMP field will always be highlighted on email and history report. Valid values are YES and NO
HIGHLIGHT_VALUE_STYLE		A CSS style that is applied to the value of a field on an add or an edit layout when the layout cell attribute named VALUE_TAG is applied to the cell.
HTMLAREA_ROW_HEIGHT	10	The number of rows to display on the <i>add</i> or <i>edit</i> screen for fields with a display type of HTML Area.
IMG_HOME		This is a relative path within the locales directory for your language where all the buttons and images used within the main application frame reside. For English this is normally locales/en_US. If you want to create your own image set, copy an existing directory to a new folder in the path locales/en_US/images, e.g. locales/en_US/images/my_images. Then set this behavior setting to a value of ../images/my_images/
HIGHLIGHT_VALUE_STYLE		A CSS style that is applied to the value of a field on an <i>add</i> or an <i>edit</i> layout when the layout cell attribute named VALUE_TAG is applied to the cell
LABEL_COLOR	#0000FF	Color of field labels on the <i>add</i> , <i>edit</i> and <i>query</i> screens
LABEL_WRAP_POSITION	15	Character position after which to wrap label text in the <i>add</i> and <i>edit</i> issue screens and the search screen. Note that if a layout element attribute for a field of Alternative Title is set, then this is ignored and the administrator will set his own formatting in the field
LOG_AREA_BREAK_LINE	NO	If this value is YES and ExtraView is rendering the LOG_AREA field as HTML rather than text, then text up until a   or a </p> tag will be rendered, followed by a link with the word "more". Upon pressing the "more" link, the entire field will be rendered. Note that this can override the functionality offered by the setting named LOG_AREA_DISPLAY_CHARS. If you want this setting to override LOG_AREA_DISPLAY_CHARS, then set that value to 32000
LOG_AREA_DISPLAY_CHARS	250	Maximum character length of log area fields before they are truncated on the <i>edit</i> issue screens. Once truncated, the word "More" appears and the user can drill down on this word to see the remainder of the text. Do not set to less than 80 or more than 32000

LOG_AREA_TEMPLATE	\$\$LA_DATE\$\$ \$\$LA_USER\$\$	This setting controls the appearance of the header on fields with a display type of Log Area. You may use any text within the header, plus the variables \$\$LA_DATE\$\$, \$\$LA_USER\$\$ and \$\$LA_COMPANY\$\$ to signify the date the field was updated, the name of the user performing the update and the company name of the user making the update
MANDATORY_FIELD_POST	</b>	HTML tag or characters to place after mandatory field labels. The default is to use the HTML end bold tag, but you can substitute and valid HTML or characters
MANDATORY_FIELD_PRE	<b>	HTML tag or characters to place before mandatory fields labels. The default is to use the HTML bold tag, but you can substitute any valid HTML or characters
MAX_IMAGE_DIMENSION_PIXELS	4000	This setting defines the maximum number of pixels in either the horizontal or vertical direction that an image may be, to load it into a field with a display type of Image.
MENU_DIRECTION	VERTICAL	The main navigation bar on the screen can be HORIZONTAL or VERTICAL. Note that you must sign off from ExtraView and sign on again for this setting to take effect
MENU_BUTTON_POSITION	LEFT	This setting allows the swapping of the screen title and the menu buttons at the top and bottom of each screen. If the setting is LEFT then the buttons appear at the left of the screen.
MENU_SIZE	105	Width or height of the navigation bar, in pixels, according to whether MENU_DIRECTION is VERTICAL or HORIZONTAL. Note that you must sign off from ExtraView and sign on again for this setting to take effect
MORE_HISTORY_NUMBER_ROWS	25	Defines the number of rows to be shown before the MORE... message in a related issue display on a history report
MOUSEOVER_COLOR	#E0E8F3	The color of rows on reports when the user places their mouse over the row
MULTI_VALUE_HIGHLIGHT_CHAR	&#9654;	This value is the character that will be used to highlight the selected values in a multi-valued UDF list field. If the value is left blank it will display a + next to selected values. The value &#9654; will display as a character. Use a single character, or a string that your browser will interpret as a single Unicode character. If this character does not display in your user's browsers, select an ASCII character such as +
NAV_BAR_DRILLDOWN_BOX_STYLE	position:relative; left:-30px	The CSS style to be applied to the table containing the drilldown box on the navigation bar. This is only used when the MENU_DIRECTION is set to HORIZONTAL with horizontal style navigation bars and is used to alter the position of the drilldown box for different styles of navigation bar. Most frequently, you can position the drilldown box in an absolute position on the navigation bar, but you can also use effects such as altering the background-color to change the presentation of the control.
NAV_BAR_GO_BUTTON	NO	This places a Go button onto the navigation bar by the drilldown box. Valid values are YES and NO. After changing this setting, you must sign off from ExtraView and sign on again for this setting to take effect.

NAV_BAR_LOGO_STYLE	padding:20px 0px 0px 25px	This style is used to position the CompanyLogo.gif on the navigation bar, when the MENU_DIRECTION is set to HORIZONTAL
NAV_BAR_STYLE	text-align:right	This allows you to apply a CSS style to the navigation bar buttons. For example you can use the style to left or right align all the buttons on the navigation bar
POPUP_LIST_SIZE	100	The number of entries on a pop-up list, before the list is accessed through a list of the characters A .. Z as opposed to a list of the entries themselves
POPUP_WIN_STYLE	silverxp	This setting provides different styles for the decoration of popup windows. You may select "default", "minimal", "osx", "plain", "silverxp" or "winox" as valid styles. The value must be in lower case.
REFRESH_LIST_MAX_SIZE	200	A fast refresh using JavaScript will occur in lists that are less than this size and the refresh JavaScript option has been selected for an allowed value relationship. This setting allows the administrator to make a trade off for their users, as to the time to load metadata into a browser and perform a fast refresh when selections are made, compared to the time it takes to refresh the metadata lists from the server
SHOW_FOOTER	YES	If the value of this setting is YES, then the footer with action buttons is displayed on all screens. If the value is NO, the footer is suppressed.
REPORT_HEADER_FOOTER_COLOR	#ADBFD0	This is the background color of the headers and footers on reports
REPORT_SUMMARY_TOTAL_COLOR	#ADBFD0	The background color of the total rows on summary reports
SCREEN_HEADER_FOOTER_BG_COLOR	#E1EFEE	The background color of the screen titles and footers
SHOW_PRINT_BUTTON	YES	If this setting has a value of YES then a button allowing the user to print the current screen will be displayed on all menubars.
SIGN_ON_SCREEN_LOGO	../images/CompanyLogo.gif	This is the path to the logo placed on the sign on screen. This setting allows you to use a different logo on the sign on screen than is used on the navigation bar. You can point this image to any file your server can access
SIGN_ON_SCREEN_LOGO_STYLE	position: absolute; left:10px;top:10px	The style to be applied to the sign on screen logo. The default position is the top left-hand corner of the screen
SUPPORT_LINK	Report problems and request enhancements at the <a href="http://support.extraview.net/" target="_blank"><font class="small_text" face="arial, helvetica, sans-serif"><u>ExtraView support site</u></font></a>	This HTML statement is used for the link at the end of the copyright statement on each screen. Normally used to direct your users to a specific place for support
TABS_PER_ROW	10	Limits the number of tabs on a form such as the <i>add</i> or <i>edit</i> screen, in a single row when being displayed on the add or edit issue screens. If more values than this number need to be displayed, they are placed on a separate row
TAB_FONT_OFF_COLOR	#444444	Color of the font on non-selected tabs that are generated with the tab display type and within the



TAB_FONT_ON_COLOR	#FFFFFF	administration area Color of the font on the selected tab. This is used for fields that have a display type of tab and within the administration area
TAB_OFF_COLOR	CCCCCCF	Off color is the unselected tabs color that are generated with the tab display type and within the administration area
TAB_ON_COLOR	6666FF	On color is the selected tabs color. This is used for fields that have a display type of tab and within the administration area
TAB_SEPARATED_EXPORT	NO	When you are exporting information from the administration list utilities, the default is that the data will be exported in CSV (comma separated value) format. Most browsers will place this information in a Microsoft Excel spreadsheet by default. There are some occasions when you may want to export the list information in TSV (tab separated value) format, and setting this value to YES achieves this. If you work predominantly with double-byte character sets (e.g. you may be working in Japanese) TSV may be the preferable format. Note that you can often configure your browser to work with TSV files. Consult the documentation for your browser on how to achieve this if you require this functionality.
TEXTAREA_ROW_HEIGHT	4	The number of initial rows of data to display on the <i>add</i> and <i>edit</i> screens for fields of display type Text Area, Print Text, Log Area
THUMBNAIL_MAX_SIZE	150	A behavior setting named THUMBNAIL_MAX_SIZE controls the size of the thumbnail. This is the maximum number of pixels in either the horizontal or vertical direction to which thumbnail images will be generated. The aspect ratio of the original image will be retained. Thumbnail images are generated for file attachments and for fields with a display type of image. If you change this value, existing thumbnail images will remain at their original size and new thumbnails will be generated at the changed value.
USE_ALLOWED_VALUE_SORT_ORDER	NO	If set to YES, the child allowed values list will be sorted by the sort_seq in the allowed values table instead of the meta data sort_seq
VALUE_TAG_DEFAULT		This provides a point where a default style for all value fields on add and edit screens may be inserted. The insert is an HTML attribute that sits within the table cell that holds the value for fields on these screens. For example, you may insert a CSS style that is applied to all the values on the form. You may override the default in this setting on a field by field basis with the layout element attribute VALUE_TAG. The default value in a new instance of ExtraView is that this setting has no value.
WINDOW_BG_COLOR	#ffffff	Window background color

## Email Settings

This section of behavior settings deals with Email settings. The available settings are:

Email Notification Menu- Email Settings	Typical Value	Description
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AD_HOC_EMAIL_FROM_ADDRESS		Return address for all emails sent using templates or ad hoc text entry. These are emails sent by using the Email button on the <i>edit</i> screen
AD_HOC_EMAIL_FROM_SENDER		The User ID of the sender of all template and text emails sent from the Email button on the <i>edit</i> screen. The user's email address will be taken from his account information
CHECK_EMAIL_ADDRESS_FORMAT	YES	If you set this value to YES, then the email address entered on the user accounts screen will be checked to ensure it has a valid format with a fully qualified domain. If set to NO, the format of the email address is not checked
CONTACT_ADMINISTRATOR	NO	When this setting is YES, a prompt appears on the sign on page, with a default message of "Forgotten Password?". When this link is pressed, a mailto to the user defined in the setting named EMAIL_ADMINISTRATOR_USER_ID is started, allowing the user to send a message. When the setting is NO, the prompt does not appear.
EMAIL_ADMINISTRATOR_NAME	ExtraView Administrator	This is the title to the email address for the ExtraView administrator. Emails that are automatically generated by ExtraView are originated with this name. Examples are emails sent upon the self registration of a user, or an unauthorized access attempt. This setting is used alongside the EMAIL_ADMINISTRATOR_USER_ID
EMAIL_ADMINISTRATOR_USER_ID	admin@my_company.com	This is the email address from which emails originating within ExtraView are sent. This is usually the administrator's email address or an alias for the administrator. This setting is used alongside the EMAIL_ADMINISTRATOR_NAME
EMAIL_ALLOW_UNQUAL_ADDRESSES	NO	If your company's email server allows unqualified email addresses (i.e. email addresses without the @company.com part of the address), then set this to YES and users will not need to use the complete email address.
EMAIL_BCC_ARCHIVE		The email address where a copy of template and ad hoc emails are sent as Blind Carbon Copy (bcc)
EMAIL_CHARSET	UTF-8	The default character set that is used by each user when email notification is sent to them by the ExtraView server
EMAIL_CONTACT_ADMINISTRATOR	admin@my_company.com	The email address for the administrator who will be contacted via the sign on page when a user clicks the link "Forgotten Password?"
EMAIL_CUSTOMER_BOX	UNCHECKED	This setting can have a value of CHECKED or UNCHECKED. When this is CHECKED, the checkbox on the <i>add</i> and <i>edit</i> screens that controls whether the LIMITED_USER_ROLE users (usually customers) is checked by default.
EMAIL_DIRECTORY	/usr/local/extraview/BatchMail/mailbox	Email Directory for outgoing messages to be stored. This is the location on your server where the batchmail process looks for outgoing emails
EMAIL_FROM_USER_ID	support@yourcompany.dom	Return address for all email originating in ExtraView. This allows the recipients of emails to reply to the email, and know there is a valid destination
EMAIL_FROM_USER_NAME		Alias for the real user name that email originates from. This is inserted into the header information of the outgoing notification
EMAIL_MODULE_OWNER_ALWAYS	YES	Email module owner irrespective of whether they are assigned to an issue. Valid values are YES and

EMAIL_NOTIFICATION	YES	NO Turn email notification of changes on and off. Valid values are YES and NO. This is the master control for enabling and disabling email. When this is set to NO, email addresses are not required when creating or editing users
EMAIL_NOTIFY_USERS_ALWAYS	YES	This behavior setting controls whether ExtraView will always send a notification to a user when an issue is updated, or whether notification is only sent when one or more fields on the layout that is used to communicate with the user are changed. Set this value to YES if you always want users to receive notification. Note that a change does not mean any change to the issue being updated, but means a change to a field that is on their email layout must occur. Also, note that if more than one update to a record occurs within a minute, and the user's timestamp does not include seconds, then they will only receive the first update made within a minute. The user can set his personal date format to include seconds if he wants to be certain that he will receive multiple updates within a single minute.
EMAIL_STYLESHEET	* {font-family: Arial,Helvetica,sans-serif; font-size:10pt} .text {font-size : 10pt} .report_text {font-size : 10pt}	The style for HTML email. This is included within the body of the email notification sent, so that the user does not need access to a server when reading their email. An entry in EMAIL_STYLESHEET is pure CSS and it gets embedded into an HTML <style>...</style> tag, so the user does not need to be online when they receive the email. You can use any valid CSS in here, either as the global style or to embellish the text or report_text styles.
EMAIL_SUBJECT_TEMPLATE	ExtraView Notification [\$\$ID\$\$]: \$\$STATUS\$\$ - \$\$SHORT_DESCR\$\$	Format for subject line of emails. The tokens between the \$\$ signs will be replaced with the actual value from the current record
EMAIL_DELIMITER_TEXT		When generating outbound email in HTML format, ExtraView surrounds the body of the email with this text within invisible tags. If a user replies to this mail notification, thus generating an update to the issue, the evmail utility will suppress all the text between the two tags, thus eliminating the outgoing email from being added into the issue as part of the update
GENERATE_EMAIL_BOX	CHECKED	The default value for the Generate Email Box on the <i>add</i> and <i>edit</i> screens. Valid values are CHECKED and UNCHECKED
SET_EMAIL_ENCRYPTION	NO	Show encryption option in ad hoc email screen. Valid values are YES and NO
SUPPRESS_STANDARD_EMAIL_LIST	NO	If this is set to a value of YES, then no email notification is made by using ExtraView's inbuilt logic. Instead rules defined in the Email Rules script are used to generate notifications to users. An exception to this is that email generated using email templates will still send email to the users attached to the template.

## Environment Settings

This section of behavior settings deals with Environment settings. The available settings are:

Advanced menu-	Typical Value	Description
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## Environment Settings

ALLOW_DEBUG_URL	YES	Allows user to set up debug level of the application server log. Valid values are YES and NO. If turned off, then the user cannot alter the debug level of the log with a URL. The form of the URL is: <a href="http://server.extraview_domain.com/evj/ExtraView?DEBUG=6">http://server.extraview_domain.com/evj/ExtraView?DEBUG=6</a> The default level of debug messages is 6. Valid values are in the range 1 to 12
ATTACHMENT_REPOSITORY_DMAX	999	The maximum number of files or directories that will be created under one node of the external directory structure. The default for this value is 999. It is not likely that this value needs to be altered.
ATTACHMENT_REPOSITORY_OPT	INTERNAL	This setting controls whether attachments are stored internally within the database, externally on the file system, or in some combination of the two methods. If the value of this setting is INTERNAL, then all attachments are stored internally within the database. If the value of this setting is EXTERNAL, then all the attachments are stored on the external file system. Alternatively, you may provide a comma separated list of file extensions and then all files with these extensions will be stored externally while all other files will be stored in the database. For example, if you set the value of this setting to "avi, png, gif, jpg" then files of these types will be stored externally. This strategy leaves the files stored internally in the database as searchable by keywords, while the image and video files are stored externally. The default for this value is INTERNAL. Also, ensure that the setting ATTACHMENT_REPOSITORY_ROOT is set correctly before storing attachments outside the database.
ATTACHMENT_REPOSITORY_ROOT		The name of the directory on the file system where file attachments will be stored. Before any attachments are stored externally, you must also provide a valid setting for the setting ATTACHMENT_REPOSITORY_OPT. You must also ensure that the path is valid from the application server(s) that are running ExtraView, and that you have all the permissions to read and write to the storage. You must also ensure that you set up a separate backup method for this external storage as backing up your database will no longer backup the file attachments.
CACHE_ENABLE_FIX_FOR_IE	NO	There is a bug in Microsoft Internet Explorer which prevents documents being uploaded to a server where there is non-secure back-end server instance in a network with secure proxies. To counteract this, set the value of this behavior setting to YES when you have a network configured in this manner. This is highly unusual and most instances should not need to reset the default value of NO for this setting.
CSS_HOME		Only used if you want to override the inbuilt CSS stylesheets for the given image set you access, specified in the behavior setting named IMG_HOME. This is normally not used, as ExtraView will look for the CSS stylesheets as a directory named stylesheets/ within the IMG_HOME path and this is the best location for your stylesheets. If you provide a path for this setting, then you must provide three stylesheets in the directory, named small.css, medium.css and large.css
DEFAULT_ATTACHMENT_CHARSET	UTF-8	The default character encoding for files being uploaded to ExtraView. This value is used to select the initial value presented to the administrator when creating a new user.
DEFAULT_LANGUAGE	en	Default language for the installation. This is typically EN for English
DEFAULT_REGION	us	Default region for the installation. This is typically US for the United States
DEFAULT_VARIANT		Default variant for the installation. This is not typically used
DOMAIN		Cookie domain
ENABLE_AREAS	YES	This setting controls whether the installation works with multiple business areas or a single business area. Values can be YES or NO
ENABLE_PROJECTS	YES	This setting controls whether you can use multiple projects within

		each business area. Valid values are YES and NO. Note than if you use YES, then ENABLE_AREAS must also be set to YES
ENABLE_QUICKFIND	NO	This setting controls whether QuickFind text search is used for keyword searches. Valid values are YES and NO. Note that if you use YES the database must have text indexes created to perform the searches.
HELP_HOME		The default for this is a null entry, in which case ExtraView points to ../WEB-INF/locales/en_US/help for the default locale. Localized help can be placed underneath other locales/xx_XX directories, in which case ExtraView will find these automatically, assuming the locale has been created. HELP_HOME can also be set to an absolute URL. If the value begins with "http://", "https://" or "file://", then the value is assumed to be a url pointing to a resource below which is a "help" directory for the help files.
HTTP_CHARSET	UTF-8	The name of the default character set used within the user's browser. It is recommended that this be "UTF-8"
LOCALIZE_TITLES	NO	Used to turn off and on the localization buttons within administration. This is used when you are using ExtraView's multiple languages on the user interface. When this option is set to YES, a button with the title of "Localize" will appear beside all metadata titles and values that can be localized into different languages. Valid values are YES and NO
LUCENE_INDEX_LOCATION		The name of the directory on the file system where Lucene full text indexes will be stored. Before any indexes are built, you must also enable full text searching by setting ENABLE_QUICKFIND. You must also ensure that the path is valid from the application server(s) that are running ExtraView, and that you have all the permissions to read and write to the storage. You must also ensure that you set up a separate backup method for this external storage as backing up your database will not backup the full text indexes
MESSAGE_WORKER_COUNT	1	The behavior setting MESSAGE_WORKER_COUNT controls the number of Message Workers to be allocated for message and title access. This must be set to an integer from 1 to n. Each Message Worker requires a single Connection to be permanently allocated to that Worker. Therefore, setting this value to a high number (near the ConnectionPool's maximum number of connections, for example), will starve other threads of available connections. Normally 1 is the recommended value. The maximum number should be the maximum number of connections defined in your Configuration.properties file
MULTI_LOCALE	NO	ExtraView will behave as a single locale system, using the language specified in the behavior setting named DEFAULT_LANGUAGE when this value is NO. When it is set to YES, then the administrator may add additional language locales to the system, and provide localized messages and metadata for each locale
RESPONSE_COMPRESSION_THRESHOLD	0	This setting provides optional compression for the responses to Ajax calls from the user's screen. A setting of 0 does not provide any compression. The value is the number of kilobytes of data that are to be sent to the browser within the Ajax response. When the amount of data to be sent is above this threshold, the data will be compressed on the server, and then expanded by the client browser. There is a tradeoff that is highly dependent on the speed of the network between your users and the server. The higher the volume of data to be sent, the longer the transmission time, but the client browser then needs time to decompress the data. If you believe your installation will benefit from this compression, we suggest starting with a value of around 50. If your network is slow, a smaller number may provide better performance.
SERVICE_STATISTICS	NO	YES writes additional statistics to the application server log, providing detailed timings of the execution of each service and how much data was generated and sent to the client browser. NO turns this facility off
SITE_URL		The full URL of the site, e.g. http://extraview.company_name.com. This setting is optional. If it is not provided, ExtraView assigns two values internally, one to be used from within the company's network,

and one to be used externally.

When the ExtraView application server initializes, the server will look at the value in this behavior setting. If the incoming request to start the server originated from a SSL session, the two values set internally will similar to:

Internal URL: `http://extraview.company_name.com/evj`  
 External URL: `https://extraview.company_name.com/evj`

The values set can be seen in the application server log in the startup section. If the incoming request to start the server originated from a standard HTTP session, the two URL's will be identical.

There are some circumstances where the administrator will need to set a different URL, and this is done by placing the value directly into the `SITE_URL` value. The most common reason for requiring this is when you see a notification email from ExtraView, where the Edit button is missing and its URL is malformed. The setting is also sensitive to your web server configuration and any redirection provided there.

If you have set up redirection in your web server, these URL's may be different. If SSL is being used within your environment and the URL to access ExtraView therefore begins with `https://`, then the `SITE_URL` must be set to `https://extraview.companyname.com/evj` in order for drill downs from email and other remote applications to work correctly. With redirection, it is probable that you may not use a form such as `http://extraview.company_name.com/evj/ExtraView` to sign on. It is most probable that you will use `http://extraview.company_name.com/evj`.

If you provide an incorrect value for this setting, it is highly likely that users will not be able to sign on to ExtraView.

<code>USER_CUSTOM_CLASSNAME</code>	<code>com.extraview.usercustom.CustomCodeBase</code>	Log timing data for every user custom method call. Valid values are YES and NO
<code>USER_CUSTOM_ENABLE_METRICS</code>	NO	Log timing data for every user custom method call. Valid values are YES and NO

## LDAP and SSO Behavior Settings

This section of behavior settings deals with LDAP and SSO settings. The available settings are:

Behavior Setting	Value	Description
<code>ALLOW_SSO_AT_SIGN</code>	NO	If set to YES, SSO user id's will be generated from the SSO primary key in its entirety. If set to NO, the user id generated from the SSO primary key consists of the string preceding any AT SIGN (@)
<code>CUSTOM_AUTHENTICATION</code>	NO, YES, HYBRID, LDAP or LDAP-HYBRID	This setting can have one of five values, NO, YES, HYBRID, LDAP or LDAP-HYBRID. When the value is NO, ExtraView uses its standard inbuilt authentication. If it set to YES, custom authentication (with user custom code) will be used rather than using the inbuilt user authentication scheme. If the value of HYBRID is selected, then ExtraView attempts to perform the custom authentication first. If this is unsuccessful, then the standard inbuilt authentication method is called. If it set to LDAP, LDAP authentication will be used rather than the inbuilt user authentication scheme. If the value of LDAP-HYBRID is selected, then ExtraView attempts to perform the LDAP authentication first. If this is unsuccessful, then the standard inbuilt authentication method is called.

When the `CUSTOM_AUTHENTICATION` behavior setting is

set to YES and a user's account is updated with the **Expire password** checkbox being checked, then if the custom authentication routine returns true indicating that the authentication was successful, the Change Password form is presented to the user during the login process.

When the CUSTOM\_AUTHENTICATION behavior setting is set to HYBRID and the user's account is set to expired (same as above), then it does not matter what the custom authentication routine returns as long as the credentials are valid, and the Change Password form is also presented for the user to change their password.

LDAP_DEFAULT_AREA	<AREA_ID>	The default area_id to be set when adding a new user by retrieving their details from the LDAP server
LDAP_DEFAULT_PROJECT	<PROJECT_ID>	The default project_id to be set when adding a new user by retrieving their details from the LDAP server
LDAP_HOST	ldaps://<hostname>:<port>	The URL to the LDAP server, e.g. ldap://blah.com:389
LDAP_MANAGER	<DN_FOR_USER_LOOKUP>	The "Security Principal" or user accessing LDAP
LDAP_PSWRD	<LDAP_MGR_PASSWORD>	The password to the LDAP server
LDAP_ROOT	<SEARCH_BASE_DN>	The root directory of the LDAP server or search base, e.g. ou=blahWorker, o=blah.com
LDAP_SEARCH_FILTER		LDAP filters may be defined in the behavior setting or may be defined in the Configuration.properties file. The behavior setting takes precedence over the Configuration.properties entry.  LDAP filters are defined in RFC 2254. As an example, if you wanted to add a filter to only retrieve records with mycompany within the email address, you could set this as the filter:  (mail=*mycompany*)  The parentheses are essential.
LDAP_UPSERT	YES	This setting controls upserting LDAP information to ExtraView. The possible values are YES or NO. When this value is NO, LDAP will not be used to add or update ExtraView user information. A valid LDAP user that is not already an ExtraView user will not be able to log in to ExtraView
LDAP_UPSERT_DEFAULT_USER_ROLE	<EXTRAVIEW_ROLE>	If this setting contains a valid role, then this is the role a user is given when the LDAP upsert takes place. If this setting does not contain a value, then the role defined in the behavior setting named LIMITED_USER_ROLE is used instead.
LDAP_USER_LOOKUP	YES or NO	When this behavior setting is set to YES, whenever a user performs an operation to lookup the details of another user, ExtraView will ask the LDAP server for the information. At the same time this is done, the information for the user within ExtraView, will be synchronized with the information within the LDAP record
SSO_DEFAULT_AREA	0	This setting is used to identify the business area ID of a new user to ExtraView, when SSO headers authenticate the new user, and it is the first time the user has logged in. In this case, the user is created dynamically and associate this business area ID with the user.
SSO_DEFAULT_PROJECT	0	This setting is used to identify the project ID within the business area specified in SSO_DEFAULT_AREA, of a new user to ExtraView, when SSO headers authenticate the new user, and it is the first time the user has logged in. In this

SSO_HOST		URL to the SSO server
SSO_MANAGER		Defining search parameters/permissions
SSO_PSWRD		Password to the SSO server
SSO_STATE	NO	Enable Single Sign On in this instance (YES/NO)

## Report & Query Settings

This section of behavior settings deals with the Report and Query settings. The available settings are:

Layout & Display menu - Report and Query Settings	Typical Value	Description
ABBREVIATED_HISTORY	NO	A value of YES will show changed fields only in history records and will not use the History layout to display the audit trail. A value of NO will use the History layout to display the audit trail. The displayed results with YES are more concise than NO, but there is not a fixed layout to easily spot the changes
ABBREVIATED_HOME_PAGE	NO	A value of NO will display the sign on message and up to three user-defined reports on the Home Page. A value of YES will only display the sign on message
ALLOW_SEARCH_ DEACTIVATED_USERS	YES	The behavior setting controls whether you will allow users to include deactivated users when querying and the setting of USER_LIST_DISPLAY is set to POPUP. If the value is YES, then an additional option appears in the popup search screen. This option allows you to enable querying for deactivated users. Users can search for deactivated users when USER_LIST_DISPLAY is NO in the same manner as searching for other deactivated values
ALLOW_SEARCH_TEXT_UDFS	YES	When this setting is YES, then performing a keyword search will include the searching of UDF's with a display type of Text. This may have a performance impact on the speed of searches. Valid values are YES and NO
ALLOW_UNLIMITED_SEARCH	YES	Allow or disallow unlimited rows to be returned on queries when searching. Valid values are YES and NO. In large databases, the system administrator typically wants to stop users running reports that consume a large amount of resources. This is used in conjunction with LIMIT_QUERY_ROWS
ALLOWED_ATTACH_ SEARCH_FILE_EXT	txt,html,doc,htm,application/ base64. . .	The allowed attachment files of the types in this list to be searched for keywords, when the user checks the "Search Attachments?" box. If the file in the list to be searched does not have one of these extensions, it is skipped. This is used to skip searching of files such as image files, to speed the search process
DEFAULT_SORT_ORDER	ID:DESC	The default sort order for reports
DISPLAY_ALL_FIELDS	YES	When this value is set to YES, all fields to which the user has read permission will be generated into the all the query field lists from which a user can select for column reports, at all levels, for hierarchy reports. If the value is set to NO, then only the fields that exist in the edit screen of the Business Area and Project defined for the hierarchy level will be displayed. This keeps the number of fields displayed to a minimum, and most probably displays all the fields in which a user will have an interest in using as filters
DRILLDOWN_ATTRIBUTE	ID	Data dictionary entry name for search criterion. Typically, this is the ID of the issue, but it may become ALT_ID or another field according to how your system is configured



EXCEL_CELL_CHAR_LIMIT	31000	This specifies the number of characters exported to a single Excel cell. If the length of the text in a log area field exceeds this number, it will be truncated. Excel supports a maximum of 32,000 characters in a single cell, therefore this number must be less. Only log area fields can exceed this limit of Excel.
FILL_IN_REPEATING_RECORDS	YES	In text and Microsoft Excel reports, this determines whether to pad parent data in repeating rows with blanks. If NO is selected then the parent data will be repeated for each repeating row child values. Values are YES and NO
FULL_TEXT_SEARCH_COLUMNS	ITEM.SHORT_DESCR ITEM.TEXT.TEXT ATTACHMENT.FILE_DESC ATTACHMENT.FILE_NAME ITEM_UDF.VALUE ATTACHMENT_ CONTENT.CONTENT_BLOB	This is a comma-delimited list of the database columns that will be indexed and used to perform high speed keyword searches for users. If a column is in this list, and there is no suitable index for that column in the underlying database, search queries using standard SQL will be used when the user searches that column. There is typically no need for the administrator to modify the list in the value of this behavior setting as all the columns used to store text within issues are on the list.
HIGHLIGHT_LAST_CHANGE_USER	YES	If set to YES, the LAST_CHANGE_USER field will always be highlighted on email notifications and history report. Valid values are YES and NO
HOME_PAGE_REFRESH_SECONDS	900	The frequency, in seconds, of the Home Page automatically refreshing itself. A value of 0 means the Home Page will not refresh. This allows a user to see data that is continuously being updated, as new issues arrive and are updated, altering the information on his Home Page reports
INSERT_REPORT_HEADERS	YES	This setting controls whether header and footer information is inserted into reports with a destination of Microsoft Excel or Text. Values may be either YES or NO. Note that headers and footers are always generated for reports output to the browser and Microsoft Word.
ITEM_TABLE_CARDINALITY		The optimal order for indexed queries
KEYWORD_SEARCH_FIELD_SECURITY	NO	Determines whether field security is checked on keyword search for text fields. Use YES to check, NO to skip
LIMIT_HOMEPAGE_QUERY_ROWS	20	Maximum number of rows that will be returned by any column report from homepage. This is used in conjunction with ALLOW_UNLIMITED_SEARCH to provide the limit of rows returned by a query
LIMIT_QUERY_ROWS	10000	Maximum number of rows that will be returned by any search query. This is used in conjunction with ALLOW_UNLIMITED_SEARCH to provide the limit of rows returned by a query and with MAX_UNLIMITED_ROW_COUNT. Note that a user whose current role is ADMIN, bypasses this check
LIMIT_WORD_DETAILED_RECORDS	10000	The maximum number of detailed records on a MS Word report. Use this if you encounter the bug in Microsoft Word where it freezes when downloading or loading large HTML reports
LIMIT_WORD_RECORDS	25000	The maximum number of records returned from a search to a MS Word report. This is used to limit the amount of HTML data being sent to Word, if you encounter the bug where Word freezes when loading a large amount of HTML data
MENUBAR_SEARCH_TARGET_WIN	main	When you drill down to an issue from the navigation bar, a value of MAIN will place the results in the main window alongside the navigation bar. A value of __BLANK will open a new window for the display
MINIMUM_SEARCH_FIELDS	0, 0	This setting is used to force a user to select a number of filters before their queries will be executed. If you specify a single number, then this specifies the number of filters in addition to the KEYWORD filter that must be provided. If

		you provide two numbers, separated by a comma, then the first number specifies the number of filters in addition to the KEYWORD filter that must be provided and the second number specifies the number of filters that must be provided when no KEYWORD filter is provided. The default is 0,0. For large databases, a setting of 2 or 3 for each number typically provides sufficient control, to ensure that only a small section of the database is searched at one time, and that users do not attempt to download millions of records or perform complex queries across millions of records.
MS_OFFICE_CHARSET	UTF-16LE	The default character set for reports sent to Microsoft Office Products. The default value is UTF-16LE, which is the appropriate value for English language versions, and most foreign language versions of MS Office
MULTIPLE_VALUE_REPORTING	RELEASE	Must be RELEASE, MODULE or NONE - Note this is not on the GUI and is set to RELEASE as this is the only valid option at this time
QL_REPORT_LAYOUT_AREA_PROJECT		This setting defines the business area and project to be used when creating a Quicklist report. If defined, the value of QL_REPORT_LAYOUT_AREA_PROJECT has two comma-separated values - Area_Title, Project_Title, where Area_Title and Project_Title must exist. These values are used to select the layout for the Quicklist if the business area and project can not be resolved uniquely in the search filters for the Quicklist report. This happens if there are no business area/project filters selected and more than one exist, or there is more than one business area and project pair combinations selected. If QL_REPORT_LAYOUT_AREA_PROJECT is not defined, the current business area and project for the current user is used to select the layout.
QUERY_TIMEOUT_SECONDS	0	The maximum number of seconds that any SQL query is allowed to run in the database before it is aborted. This prevents any one query from taking all the database resources, and in the worst case, stops a query that may never end. A value of 0 allows a query to run to completion, regardless of how long it may take
RECORDS_PER_PAGE	20, 100, 500	The number of records per display page that a user can select on reports. These values will populate the list box on the Search / Report screens. If ALLOWED_UNLIMITED_SEARCH is YES, then Unlimited is also appended to the list of values
RECURRENCE_ISSUES	RECURRENCE_ISSUES	This value is used by ExtraView to relate issues together by the recurrence generator in the calendar report. It is highly suggested you do not edit this field. Editing this field after a recurrence has been generated will result in the loss of that recurrence
REPORT_DTL_ITEM_DATA_LAYOUT	NO	When this is set to YES Detailed Reports will be rendered with the layout for the each issue's area and project and the current user's role. If this is set to NO, the layout used will be that of the user's current area and project, and their current role
REPORT_FILTER_BY_CURRENT_ROLE	NO	When this is set to YES, the user will only see reports on the Query / Report page that are valid for their current role. Typically this means they will see their personal reports, public reports and reports that are visible to their current role. If this is set to NO, then they will also see reports that are valid for other roles that they are eligible to see.
REPORT_IN_NEW_WINDOW	NO	If set to NO the Quicklist and Detailed Report will be opened in the main ExtraView window. If set to YES, the Quicklist and Detailed Report will be opened in a new window.
REPORT_LABELS_POSITION	TOP	Position of the labels on reports, relative to the data. Valid values are LEFT and TOP. When the value of LEFT is set,

REPORT_REL_ISSUES_EXCEL_TEXT	NO	the detailed report uses the layout defined for the purpose. If you set the value to TOP, then the detailed report will be displayed in a single column, with the labels to the left and the values presented top to bottom. The order of fields is taken from the detailed report layout, from left to right, top to bottom.
REPORT_SUPPRESS_BLANK_LINES	YES	When this behavior setting is set to YES, reports that are output to Microsoft Excel or to text, will include the RELATED_ISSUE_DISPLAY layout for related issues to the records being output. When this is set to NO, related issues will be suppressed on Microsoft Excel and text output. Note that browser output and Microsoft Word output will always contain the RELATED_ISSUE_DISPLAY for related issues if it has been defined.
REPORT_TABLE_WIDTH	100%	If YES, the detailed report will suppress any row where the data values are all null. Valid values are YES and NO. This is used to shorten the length of reports that may contain a significant amount of blank cells
REPORT_WITH_FIXED_WIDTH_FONT	NO	This setting controls the width of displayed information and tables on all the query screens and the home page report widths. The most common setting is to use 100% as the value, but the setting can be an absolute number of pixels for the width of objects on most screens presented to end users
RESTRICT_ROLE_BASED_REPORTS		When this is set to YES, fields with a display type of "text area" and "log area" will display their contents with the FIXED_WIDTH_FONT. When this field is set to NO, these fields will display their contents using the DEFAULT_FONT. Note that this setting also applies to the display of log area fields on the <i>edit</i> screen.
		Any report created for <b>* All Roles *</b> is visible to everyone that means RESTRICT_ROLE_BASED_REPORTS behavior setting is ignored if a report is created for All Roles. If the setting of RESTRICT_ROLE_BASED_REPORTS is left blank, all users will see all reports that match the role(s) they may adopt, if the role has been given access to role-based reports.
		If the setting of RESTRICT_ROLE_BASED_REPORTS is set to COMPANY_NAME, users will see all reports that match the role(s) they have, and that have been created by a user with the same company name as their user account, if the role has been given access to role-based reports.
		If the setting of RESTRICT_ROLE_BASED_REPORTS is set to COMPANY_NAME_OR_ADMIN, users will see all reports that match the role(s) they have, and that have been created by a user with the same company name as their user account or that were created by the ADMIN user, if the role has been given access to role-based reports.
		This setting does not affect reports saved for public reports - all public reports are available to all users, if their role has permission to that type of public report via the security permission keys.

## Security and Session Settings

This section of behavior settings deals with the Security and Session settings. The available settings are:

Systems Control menu- Security and Session Settings	Typical Value	Description
ALLOW_PASSWORD_AUTOCOMPLETE	NO	This setting allows or disallows your browser to cache the user's

		password and to auto-complete this for the user. Note that setting this to YES may be a security risk if users access ExtraView from public computers. Also note that this setting allows the browser's <b>Back</b> button to be used to go back and retrieve the original sign on page with the valid User ID and password. It is not recommended that you turn this feature on if you are not completely certain of who can access your installation.
APP_HOME		Only used if value is not the default for the system. This is the path to the ExtraView Java servlet
AUTO_SIGNOFF_ON_USER_EXIT	NO	YES or NO to sign off user if the user closes the last ExtraView window, or navigates to another site. If NO, the session cookies remain and the user can press the browser Back button to go back to their ExtraView session. If YES, the user's session is terminated when they navigate to another site or close the ExtraView window
CACHE_COHERENCY_POLL_TIME		<p>The number of seconds between updating cached metadata information within the server. This setting provides a compromise between performance and up-to-date information being available across all nodes of a multi-server environment, and across different sessions within a single application server environment. The longer the cache interval, the higher the performance of the server, but the increased likelihood that a user will access stale information within the server cache.</p> <p>The default if you do not enter a value is 5 seconds. If you change metadata often on an installation with clustered application servers, the recommendation is to keep this value at 5 seconds so that any metadata change is propagated promptly to all the application servers and sessions. If you change metadata rarely, or the metadata is only changed on a staging server and then propagated to a production server, you can consider extending the time</p>
CLIENT_IP_ADDRESS_CHECK	YES	YES or NO to check or ignore that the client workstation maintains a constant IP address during a session. Usually YES, but may need to be set to NO if your server is accessed via a proxy server
DEFAULT_TIMEZONE	America/Los_Angeles	This time zone will be used as the default for all new users who are created. Please make sure the time zone is spelled correctly. You can consult the Appendix on Time Zones for a list of valid time zone
ENHANCED_SECURITY	NO	This setting provides password access to the User Accounts Maintenance screen for enhances security
KEEP_FAMILY_SESSIONS_TIMEOUT	NO	If this behavior setting is NO, then each window that opens a new session within ExtraView will set up its own measurement against SESSION_EXPIRE_TIME_HOURS. If this is set to YES, then all sessions in all windows will share a single SESSION_EXPIRE_TIME_HOURS. The NO value provides for more efficient memory utilization on the server, but may lead to unexpected session timeouts of ExtraView for individual users, when they operate with a significant number of open windows
KEEPALIVE_INTERVAL_SECS	300	This is the number of seconds between polling operations from the <i>add</i> or <i>edit</i> screen. This timer is used to send a message from the user's browser to the server, to allow the server to keep track of users with open <i>add</i> or <i>edit</i> sessions. If the user closes their browser or navigates away from an <i>add</i> or <i>edit</i> page, then the server will be able to recognize this event.
LICENSE_USAGE_WARNING	90	This should be a decimal number. It will be interpreted as a percentage. When the number of concurrent licenses consumed exceeds this amount, ExtraView will send an email to the administrator to warn them of this event. If the number of concurrent licenses is 10 or less, then the email is sent only when a user is denied access because of no availability of licenses. If the setting is zero, then this warning is not generated
MAX_SIGNON_ATTEMPTS	3	The maximum number of consecutive failed sign on attempts

allowed by an individual user before their account is disabled. The number of failures is measured in the period defined in `SIGNON_PERIOD_MINUTES`. Note that all users who have the administrator role defined by the setting `ADMIN_OVERRIDE_ROLE` are notified by email when a user's account is disabled.

Note that if you are using custom authentication, then `MAX_SIGNON_ATTEMPTS` is not operative.

`NOSPILL_SESSION_COUNT` 500

Two numbers control the number of sessions that can reside in memory at any one time:

- `SPILL_SESSION_COUNT`
- `NOSPILL_SESSION_COUNT`

A session is created in memory in response to a login by a user or as a "sub-session" of some previously created session. These sessions require memory resources to maintain the context of individual users "conversations" with ExtraView. When the number of sessions gets too large, they threaten the continued ability of the system to operate by consuming too much resource such as memory; therefore, there is a mechanism to "spill" old sessions to disk and retrieve them only when they are needed.

When the number of sessions in memory reaches or exceeds the `NOSPILL_SESSION_COUNT`, the "oldest" sessions are written to the database and removed from memory. In this context, the "oldest" session is the one that has not been touched by some user action for the longest period. The writing of the session data to disk occurs as a background task and does not directly affect the creation or utilization of sessions that are in memory.

Responsiveness is affected only when a disk-resident session is invoked by some user activity that requires a short delay to "deserialize" the session and reconstitute it in memory from the database.

When the number of sessions in memory reaches the `SPILL_SESSION_COUNT`, the in-memory session cache is "full" and new session requests must wait for older sessions to be written to the database. In this case, there is a direct effect on responsiveness while the user waits for old sessions to be written and in-memory session slots to be made available. Often, this delay is not noticeable.

Another way of looking at it is that the system is in one of three states at any one time: (`N_SESSIONS` is the number of sessions in memory)

1. Non-spill state:  
 $N\_SESSIONS < NOSPILL\_SESSION\_COUNT$   
 In this state, no sessions are written to the database and new sessions are created directly in memory.
2. Spill state:  
 $SPILL\_SESSION\_COUNT > N\_SESSIONS >= NOSPILL\_SESSION\_COUNT$   
 In this state, a background task is writing the oldest in-memory sessions to disk, and new sessions are created directly in memory without any delays.
3. Full state:  
 $SPILL\_SESSION\_COUNT <= N\_SESSIONS$   
 In this state, a new session creation request will be delayed until at least one old session is written to disk to free a "slot" for the new session.

Note that  $NOSPILL\_SESSION\_COUNT < SPILL\_SESSION\_COUNT$  in all cases. If the behavior settings do not adhere to this invariant, the default values (480 / 500) will be used. Note also that these behavior settings must be set when ExtraView is started, and they are not inspected after startup. If they are changed, a restart of the ExtraView application server is necessary for them to take effect.

`PASSWORD_EXPIRE_TIME_DAYS` 0

This is the number of days which a password will last, before it

		automatically is expired. Every time this number of days elapses, the user will be prompted to create a new password when he signs on. If you provide a value of zero, passwords will never expire
PASSWORD_REUSE_DAYS	0	This is the number of days that must go by before a password can be reused, after it is changed. The default value of zero disables checking for reused passwords.
PASSWORD_RULES	0,0,0,0	PASSWORD_RULES has four numbers separated by comma. The first number is the minimum number of characters within a user password. The default is 0, which indicates that passwords may be of any length. The second number is the minimum number of numeric characters. Numeric characters have values between 0 and 9. The default is 0 which indicates that passwords need not contain any numeric characters. The third number is defining the minimum number of characters in upper case. Upper case characters have values in the range A to Z. (All passwords are case sensitive.) The fourth number is the minimum number of non-alphabetic and non-numeric characters. These are characters that are not in the ranges of 0 - 9 and a - z and A - Z, but are valid characters to store in a password. Double-byte characters are not allowed, but characters such as -, =, +, !, @, #, \$, and % are allowed.
REAUTH_REDIRECT_PARAM		After the re-authentication with a status signature, this is the URL and parameter that ExtraView will go to
REAUTH_URL		When performing a re-authentication with status signature rules, this is the URL that will perform the re-authentication
SECURITY_CACHE_MINUTES	30	Number of minutes before refresh of session security cache. If you alter security permission settings and do not wish to wait for this cycle to complete to automatically refresh the settings, you can sign off and sign on again
SESSION_EXPIRE_TIME_HOURS	24	Maximum session idle time in hours, the session data for a user is kept. After the period set in USER_EXPIRE_TIME_HOURS and before the value of this setting, ExtraView will attempt to restore a user's data when their session has expired. Beyond the time specified in SESSION_EXPIRE_TIME_HOURS the data will be lost. If the value of this setting is less than one minute or 0, then the session data will be kept permanently until the server is restarted. This is not recommended.
SESSION_MONITOR_POLL_SECS	300	This is the number of seconds between periodic tests from the server, for session removal due to user expire time activity. The server will test to see if the user still has an open session at this interval. This is only used if USER_TIMEOUT_SESSION_REMOVAL is YES. and if the user's browser has not reported to the server that a session is still active with the KEEPALIVE_INTERVAL_SECS timer.
SESSION_NAME_EXPIRE_TIME_HOURS	24	This is the session expiry period measured in hours for a user who occupies a named user license and who remains idle. Note that this is different from the period for users who occupy a concurrent license. Their expiry period is defined in the behavior setting named SESSION_EXPIRE_TIME_HOURS. After the period set in USER_EXPIRE_TIME_HOURS and before the value of SESSION_NAME_EXPIRE_TIME_HOURS, ExtraView will attempt to restore a user's data when their session has expired. Beyond the time specified in SESSION_NAME_EXPIRE_TIME_HOURS the data will be lost. If the value of this setting is less than one minute or 0, then the session data will be kept permanently until the server is restarted. This is not recommended.
SESSION_WARNING_INTERVAL_SECS	0	This setting works in conjunction with SESSION_WARNING_TIME_SECS. When the idle time for a user reaches SESSION_WARNING_TIME_SECS before the expiry time, the user will see a message on their screen warning them of the impending session expiry. This warning will repeat every SESSION_WARNING_INTERVAL_SECS until the expiry time, when the session will finally expire. If the user takes some action to

SESSION_WARNING_TIME_SECS	0	submit the form on the screen to the server during this process, the timers are reset and the user session remains active. A value of zero means that no repeat warnings will be given.
SESSION_WARNING_INTERVAL_SECS		This setting works in conjunction with SESSION_WARNING_TIME_SECS. When the idle time for a user reaches SESSION_WARNING_TIME_SECS before the expiry time, the user will see a message on their screen warning them of the impending session expiry. This warning will repeat every SESSION_WARNING_INTERVAL_SECS until the expiry time, when the session will finally expire. If the user takes some action to submit the form on the screen to the server during this process, the timers are reset and the user session remains active. A value of zero means that no warning of an impending session expiry will occur.
SIGNON_PERIOD_MINUTES	5	Once a user fails to sign on because of an invalid password, they will be allowed to make a total of MAX_SIGNON_ATTEMPTS in this period. Note that all users who have the administrator role defined by the setting ADMIN_OVERRIDE_ROLE are notified by email when a user's account is disabled
SPILL_SESSION_COUNT	1000	Please see the entry for NOSPILL_SESSION_COUNT
SYSTEM_LOG_EXPIRE_TIME_DAYS	30	This is the number of days of history in the system log and the user signon log that information will be kept before it is purged from the system. The default is 30 days but you may increase this if you want to retain the information for longer periods. Stale information is purged from the log each time you access the logs, but if this setting is changed before you access the logs, then the information is retained.
USER_EXPIRE_TIME_HOURS	8	Description - This is the time in hours for which a user will remain signed in to ExtraView, when his computer is idle. ExtraView recognizes a user as still active when an action causes the user to access the server. When a user's session expires, ExtraView will ask the user to sign in again, and will attempt to restore any data being inserted or updated, and take the user to the point where they were working. Note that the ability to restore data is only enabled for the period specified in the setting named SESSION_EXPIRE_TIME_HOURS. For this reason, SESSION_EXPIRE_TIME_HOURS should always be equal to or greater than USER_EXPIRE_TIME_HOURS. If the value of this setting is less than one minute or 0, then the session will not time out.
USER_TIMEOUT_SESSION_REMOVAL	NO	The value of YES implies that sessions are killed after USER_EXPIRE_TIME_HOURS of inactivity, unless the user has sessions that remain active in the add or edit screen mode. NO implies that these sessions are not killed after this period of inactivity. The user's browser is checked by the server every SESSION_MONITOR_POLL_SECS to see if the ExtraView session is still active.

## User Settings

This section of behavior settings deals with the User settings. The available settings are:

Users menu - User Settings	Typical Value	Description
ALLOW_PASSWORD_CHG_AT_SIGNON	YES	This setting controls the visibility of the Change Password link on the user sign on screen. If the value is YES, the link is shown, if the value is NO, the link is not shown. Also note this link is inoperable if the setting named LDAP_USER_LOOKUP is equal to YES.
COMPANY_NAME_LIST_UDF		If this field is populated with the name of a User Defined Field with a display type of list, then the Company Name field on user account administration screens becomes a list, with the values being populated from the UDF. This accompanies the text field for entering company names. The UDF may also be used as a regular field on add and edit screens as well as being used on reports.

CONTACT_ADMINISTRATOR	NO	<p>When this setting is YES, a prompt appears on the sign on page, with a default message of "Forgotten Password?". When this link is pressed, a mailto the user defined in the setting named EMAIL_ADMINISTRATOR_USER_ID is started, allowing the user to send a message. When the setting is NO, the prompt does not appear.</p> <p>This feature may not work correctly with Asian character sets or European accented characters with all email clients. The mailto protocol allows pass-through of non-ASCII characters in the subject and body using the RFC-2047 standard, which is not implemented correctly in many email clients. At this time, the only mail client that appears to be fully compliant with the standard is Mozilla Thunderbird. The standard does not appear to be implemented correctly or fully in Microsoft Outlook, Netscape Communicator, or Eudora.</p> <p>The RFC-2047 allows the specification of the character set for the subject and body (and other header fields) for the mailto protocol URI. The character set that ExtraView uses is the character set specified in the EMAIL_CHARACTER_SET behavior setting, or UTF-8 if this is not specified.</p> <p>RFC-2047 only comes into play for these fields when non-7-bit-printable ASCII appear in the subject and/or body fields. Thus, the fields will be encoded when double-byte or European accented characters are present in those fields. ExtraView uses the "B" (base64) encoding in all cases to transmit non-ASCII characters.</p>
DEFAULT_START_PAGE	Home Page	<p>This setting allows the Start Page to default to one of the following places - the Home Page, the Query Screen, the Add Issue screen or the Administration screen. This is only used for creating a new user and setting their default start page. The value of <i>Home Page</i> is the system default. It is possible for the administrator to add additional start page values through the administration utility which may also be selected as the default start page at this time</p>
ENABLE_PRIVACY_GROUPS	YES	<p>Turn the Privacy Group feature on and off. Valid values are YES and NO. If you set NO, then user administration screens will not offer the ability to set privacy groups for users, and you will not be able to create and maintain privacy groups</p>
ENFORCE_DETAILED_USER_INFO	NO	<p>This turns extra fields on for mandatory field checking on user account screen. Valid values are YES and NO. Note that although the user's primary email address may be mandatory when this value is YES, it is not mandatory to enter the primary email address when the setting EMAIL_NOTIFICATION is set to NO</p>
IGNORE_DEACTIVATED_USER_FIELDS	ORIGINATOR	<p>This is a delimited list of fields with a display type of USER. Users will not be warned if they edit an issue which has a field in this list with a deactivated user. If a USER field does not appear in this list, the user will always be warned if the field has a deactivated user, when they edit the issue.</p>
OMITTED_IMPORT_USER_COLUMNS		<p>This is a comma-separated list of column names in the table named security_user. The list of columns named here will be ignored when an XML export file is imported into a target database. Thus fields that are frequently altered by a user, such as SECURITY_PASSWORD, will not be overwritten during the import of data. Note that this setting should be set in the target system that is importing the data. It is not referenced when exporting the data. The topic on <a href="#">import and export</a> has a complete list of the fields you can reference. You should not omit the SECURITY_USER_ID or the LOGIN_ID fields from the export, else you will not be able to successfully migrate users with the XML export / import</p>
USER_DEFINED_START_PAGE	YES	<p>If this is set to YES, the user is allowed to set their start page when entering ExtraView, to a commonly used page such as the Home Page, the Add Issue screen or the Search / Report screen. This is set on their personal preferences page</p>
USERNAME_DISPLAY	FIRST	<p>Display choice for user names (ID, LOGINID, FIRST, LAST). For example, if the users name is Mary Jones and their user ID is MSMITH, and their Alternative ID is MJONES then ID would display msmith, LOGINID would display mjones, FIRST would display Mary Jones and LAST would display</p>



Jones, Mary

## USER\_ADMIN\_DISPLAY\_COLUMNS

The default list of fields displayed on the user accounts maintenance screen is: User ID, User Name, Email Address, Company, Enabled, License type, Last access, Date Created, Date Last Updated. If you want to alter this list, you can place a list of the fields from the database table security\_user in this setting. The valid fields you can place on the screen are chosen from:

SECURITY\_USER\_ID (User ID)  
 LOGIN\_ID (Alternative User ID)  
 LAST\_NAME  
 FIRST\_NAME  
 JOB\_TITLE  
 WORK\_TELEPHONE  
 HOME\_TELEPHONE  
 CELL\_PHONE  
 FAX  
 PAGER  
 COMPANY\_NAME  
 ADDRESS\_LINE1  
 ADDRESS\_LINE2  
 CITY  
 STATE  
 COUNTRY  
 ENABLED\_USER  
 PASSWORD\_EXPIRY\_DATE  
 LAST\_ACCESS\_DATE  
 EMAIL  
 DATE\_FORMAT  
 NOTIFY\_ON\_OWN\_UPDATES  
 DATE\_CREATED  
 LAST\_DATE\_UPDATED  
 LAST\_UPDATED\_BY\_USER  
 CREATED\_BY\_USER  
 DRILLDOWN\_REPORT  
 VARIANT  
 AREA\_ID  
 PROJECT\_ID  
 TWENTY\_FOUR\_HOUR\_TIME  
 HTTP\_CHARSET  
 REGION  
 CHART\_FONT  
 STYLESHEET  
 MS\_OFFICE\_CHARSET  
 FILE\_ATTACH\_CHARSET  
 EMAIL\_CHARSET  
 PASSWORD\_INTERVAL  
 USER\_FIELD\_1  
 USER\_FIELD\_2  
 USER\_FIELD\_3  
 USER\_FIELD\_4  
 USER\_FIELD\_5  
 ADDITIONAL\_EMAIL  
 EMAIL\_ON  
 ADDITIONAL\_EMAIL\_ON

In addition, there are two further "pseudo columns" that can be chosen:

DISPLAY\_NAME – the full name of the user (first name plus last name)  
 LICENSE\_CONSUMER – the type of license that the user is occupying.

USER_LIST_DISPLAY	LIST	POPUP or LIST. If POPUP, then users are selected for adding and updating issues via a popup window. If LIST, the user names appear in a select list. Typically, if you have a large number of users, you will use POPUP
USER_POPUP_COLUMNS	YES	The fields displayed in a user search popup window are configurable using this setting. This setting takes a list of fields (using the schema column names) from the security_user table and presents these to the user. If there is no value provided for this setting, then the following fields are displayed: User ID,

Name, Phone, Email address, Company name, Pager and Mobile number. You can select from any of the following fields:

USER\_ID  
 DISPLAY\_NAME  
 PHONE  
 EMAIL  
 COMPANY\_NAME  
 PAGER  
 MOBILE  
 USER\_DEFINED\_1  
 USER\_DEFINED\_2  
 USER\_DEFINED\_3  
 USER\_DEFINED\_4  
 USER\_DEFINED\_5

USER_SELF_REGISTRATION	YES	<p>You can allow your users to self-register, or you can be the registrar. When this is set to Yes, a prompt appears on the Sign On screen, allowing a user to navigate to a page where they can register themselves as a user in ExtraView. When a user registers in this way, they will only be given the privileges of the user role defined in the behavior setting named LIMITED_USER_ROLE, but no user role is set in their account. When a user self-registers, an email is sent to an administrator, as defined by the following settings with Email Settings on the Email Notification administration menu.</p> <p>The user created will be in the business area and project defined by those of the ADMIN user account.</p> <p>Note that for users to be able to self-register, that the GUEST user role must have read and write permission to user fields. The most important of these is USER.USER_LAST_NAME. The user's default AREA and PROJECT is assigned from the behaviour settings named SELF_REG_DEFAULT_AREA and SELF_REG_DEFAULT_PROJECT. You should ensure that these behavior settings have valid entries when you wish to allow users to self-register.</p>
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## Workflow Settings

This section of behavior settings deals with the Workflow settings. The available settings are:

Workflow menu- Workflow Settings	Typical Value	Description
ADMIN_OVERRIDE_ROLE	ADMIN	<p>Name of the user role that bypasses several security controls, and has special properties. Users who have this set as their current role have the following properties:</p> <ul style="list-style-type: none"> <li>• Status change override privileges. The status change rules are not obeyed for this user role. This is a significant reason why the ADMIN_OVERRIDE_ROLE user role should not be used for normal operational work</li> <li>• The security key CF_SECURITY_ROLES in combination with the admin-bypass-group, determines what user role you need to be in order to see and edit other users' privacy groups and user roles. For example, if the ADMIN role has read and write privileges, but SUPPORT is the ADMIN_OVERRIDE_ROLE user role, members of the ADMIN user role will only be able to edit privacy groups and roles for users who are also in the ADMIN role. If ADMIN is the ADMIN_OVERRIDE_ROLE user role, members of ADMIN can edit privacy groups and roles for all users</li> <li>• If ExtraView access is disabled by an administrator, only members of the ADMIN_OVERRIDE_ROLE user role will be able to access ExtraView, until ExtraView access is restored</li> </ul>
ALLOW_BILEVEL_GROUPS	NO	This setting is provided for backwards compatibility. From version

		5.0 onwards, bi-level relationship groups have been superseded by many-to-many and one-to-many relationship groups. Only set this to YES if your system was created prior to version 5.0 and you previously used bi-level relationship groups. With a value of NO, you cannot select bi-level as a value for a new relationship group.
AUTO_POPULATE_ALLOWED_VALUES	YES	When this setting is YES, then in a popup from an <i>add</i> or <i>edit</i> screen that adds a new value to a list, and that list is the child within an allowed value relationship, then the new value will be added to the list and will be automatically added to the currently selected parent(s). If the value is NO, then the user will be prompted to select the Business Area, Project and the specific parent values to which the newly created child value will be added within the allowed value relationship.
ATTACH_SELECT_CHECKBOX	UNCHECKED	This setting controls behavior of the Attachment Select box (ATTACH_SELECT) on the Add and Edit layouts. Valid values are UNCHECKED, CHECKED and CHECKED ON ADD. A value of CHECKED or UNCHECKED will set the checkbox for an attachment on entry to the screen or when a new attachment is added. A value of CHECKED ON ADD will cause the checkbox to be checked only when the attachment is first added, otherwise it will be unchecked
ATTACHMENT_CONTROL_FIELDS	NO	This setting is only used in conjunction with the Java user custom exit named ucAllowAttachmentOperation. This setting enables the functionality within this method. When the value is NO the user custom exit is not called. When the value is YES the code within the method is called and acted upon
AUTO_POPULATE_ALLOWED_VALUES	YES	When this setting is YES, then in a popup from an add or edit screen that adds a new value to a list, and that list is the child within an allowed value relationship, then the new value will be added to the list and will be automatically added to the currently selected parent(s). If the value is NO, then the user will be prompted to select the Business Area, Project and the specific parent values to which the newly created child value will be added within the allowed value relationship
AV_NULL_PARENT_IS_NONE	YES	If the value of this setting is NO and no parent value is selected in an allowed value relationship, then child fields will be populated with all the possible child values. If the value of this setting is YES, then the values displayed in the child field will be those defined for the parent value of * None *.
CLONE_RELATION_GROUP		Relationship group name for clone relationships
COMPANY_OVERRIDE_FIELDS		This setting contains a comma separated list of field names with a display type of User, that must exist and that contain the users that the company name security feature works with. By default company name security works with only the ORIGINATOR field. This setting extends the feature to these other fields
COPY_ATTACHMENT_ON_CLONE	YES	When this setting is YES, attachments will be copied to the new issue when an issue is cloned
DEFAULT_USER_ROLE	GUEST	Default role for users, if they have not been assigned a role
DISABLE_INACTIVE_UDF_WARNINGS	NO	When this value is set to YES the warning message caused by references to inactive UDF list values will be disabled. The default value is NO.
DISALLOW_AREA_0_DATA	NO	When this setting is NO, issue data may be entered into AREA 0. This is provided for backwards compatibility for installations created prior to version 4.2. Installations created with version 4.2 and greater should not allow issue data to be placed in AREA 0. With installations from 4.2 onwards, this should be set to YES
DISALLOW_PROJECT_0_DATA	NO	When this setting is NO, issue data may be entered into PROJECT 0. This is provided for backwards compatibility for installations created prior to version 4.2. Installations created with version 4.2 and greater should not allow issue data to be placed in PROJECT 0. With installations from 4.2 onwards, this should be set to YES
EMBEDDED_LAYOUT_REFRESHES	NO	This setting is provided for full backwards compatibility with all

		versions prior to 6.0. When the value is NO (the default), sublayouts such as those rendered with the SELECTED mechanism and with the VISIBLE_IF mechanism are refreshed using AJAX calls to the server. This is fast, but browsers do not have the capability to retain the initial presentation of the fields refreshed. If you set the value to YES, then the sublayouts are refreshed by a return to the server, and the alignment is retained. The tradeoff is between speed and the alignment of the fields on the screen. For many purposes the precise alignment of embedded layouts is not significant and not noticeable by users
ENABLE_COMPANY_NAME_ACCESS	YES	When this behavior setting is set to YES (the default value), a user's company name overrides the privacy setting for an issue and gives the user access to all records that were originated by other users with the same company name. Valid values are YES and NO
ENABLE_GOOGLE_LANGUAGE_API	NO	When this setting has a value of YES, then the Google Language API is enabled. This relies on the presence of a JavaScript function in UserJavaScript.js. This function may be customized by the administrator. See the <a href="#">Application Programming Interface guide</a> for more details on how to configure this feature.
ENABLE_PRIVACY_GRP_OVERRIDE	YES	<b>This setting may have the value of YES or NO. When set to YES, any one issue in a one-to-many relationship group may only have a single parent at one time. This implies that if you set a different parent ID for an issue, then ExtraView will remove the issue as being the child of the original issue, and set the new parent ID for the issue in its place. If you have NO for the setting, then an issue may have more than one parent at one time.</b>
ENFORCE_ONE_TO_MANY_RG	YES	This setting may have the value of YES or NO. When set to YES, any one issue in a one-to-many relationship group may only have a single parent at one time. This implies that if you set a different parent ID for an issue, then ExtraView will remove the issue as being the child of the original issue, and set the new parent ID for the issue in its place. If you have NO for the setting, then an issue may have more than one parent at one time
ENFORCE_STATE_CHANGE_RULES	NO	Switch to enforce state change rules. Valid values are YES and NO
ENFORCE_UNIQUE_RELEASES	YES	Enforces uniqueness of RELEASE_FOUND in a repeating record row. If the value of this default is YES, repeating rows cannot be added where the field named RELEASE_FOUND has a null value. In addition, you may not have duplicate RELEASE_FOUND values within a single record. If the value of this default is NO, a repeating row will be added if any of the writeable fields in the repeating record row on screen are not empty (including default values). Also note that the fields named RELEASE_FOUND and RELEASE_FIXED are the children of the field named PRODUCT_NAME. Therefore, if you use these fields on a repeating row record, then you must also have the PRODUCT_NAME field on the same layout.
FILTER_CHILD_VALUES	NO	This may have the values YES, NO or USER. The setting controls search behavior when the query filter contains repeating row values. If set to YES, only those rows that match the search criteria will be returned by the query. If set to NO, all rows are returned for any issue where at least one row matches the criteria. If set to USER, this behavior is controlled by a checkbox that appears on the search screen.
FILTER_MODULE_BY_CATEGORY	NO	Allow filtering of modules by category. Valid values are YES and NO. This allows selection of a subset of modules based on both the <b>module type</b> and a <b>category</b> . By selecting <b>Category</b> , only the corresponding module types are displayed as valid choices within the select list of modules on the <i>add</i> and <i>edit</i> screens. For example, products may have hardware, software and documentation modules. If a problem is related to software, only software the modules should be selectable. This feature relies on use of the <b>Category</b> field in the Item record

		<p>to store a value for <b>Module Type</b>. When <b>FILTER_MODULE_BY_CATEGORY</b> is set to YES the value entered for <b>CATEGORY</b> is used as a second parent value for the module (<b>MODULE_ID</b> field) by providing a value for <b>MODULE_TYPE</b> in the same way that the product (<b>PRODUCT_NAME</b> field) is used as the first parent value.</p> <p>Note that this requires identical enumerated values for both <b>CATEGORY</b> and <b>MODULE_TYPE</b>.</p> <p>In the Data Dictionary setup for the <b>MODULE_ID</b> field, the following should be set:</p> <p>First Parent Field Name = <b>PRODUCT_NAME</b>          First Parent SQL = where product_name          Second Parent Field Name = <b>CATEGORY</b>          Second Parent SQL = and module.category</p> <p>To make these changes in the data dictionary, you must sign on to ExtraView with the <i>admin</i> user account.</p>
HIDE_ISSUE_ID	NO	Controls the title of the detailed report and the edit screens. When this is set to "YES" the standard title will be replaced with the text "ExtraView" and the current time
ITEM_ID_DISPLAY	ID	When this setting has a value of ID, then the internal issue ID is used in all the main display screens as the issue number that the user is dealing with. However, if the administrator sets their own logic to process the unique reference number to each issue, then setting the <b>ALT_ID</b> as the value of this setting tells ExtraView to display the <b>ALT_ID</b> value in place of the ID value
LIMITED_USER_ROLE	GUEST	This role does not own and cannot be assigned problems. This is typically the guest or customer user role in your installation
LINK_MODULE_USER	ASSIGNED_TO	Links the module owner field to the specified user field. Can be <b>ASSIGNED_TO</b> , <b>CONTACT</b> or <b>OWNER</b>
MINI_HISTORY_FIELDS	STATUS, TIMESTAMP, LAST_CHANGE_USER	This setting defines the fields that will be displayed on the <b>MINI_HISTORY</b> field when it is used on a layout. The <b>STATUS</b> field should always be used, and up to four additional fields can be defined. The additional fields that are available are: <b>SEVERITY_LEVEL</b> , <b>PRIORITY</b> , <b>STATUS</b> , <b>PRODUCT_NAME</b> , <b>OWNER</b> , <b>TIMESTAMP</b> , <b>ASSIGNED_TO</b> , <b>PRIVACY</b> , <b>LAST_CHANGE_USER</b> , <b>ALT_ID</b> , <b>AREA</b> , <b>PROJECT</b> , <b>CATEGORY</b> , <b>RESOLUTION</b> , <b>PRODUCT_LINE</b> , <b>DATE_LAST_STATUS_CHANGE</b> , <b>CONTACT</b> , <b>ORIGINATOR</b> , and <b>HIST_TIMESTAMP</b>
MULTIPLE_FIELD_SEPARATOR	-/-	Used as a separator for child level multi- value UDF's
RELATION_GROUP_DEFAULT		The name of the relationship group that will be used for any issue being placed into a relationship group. This default can be overridden by using a layout cell attribute on the <b>RELATED_ISSUE_DISPLAY</b> , or by using the field <b>RELATIONSHIP_GROUP</b> on the add or edit layout to offer the user a choice of relationship groups
RELATIONSHIP_GROUP_EMAIL_LIMIT	30	When you update the status of an issue within a relationship group, each issue will be subject to the standard notification process. When there are more than <b>RELATIONSHIP_GROUP_EMAIL_LIMIT</b> entries in the group, notification is only made to the users in the parent issue, and a comment is inserted on the issue with this information
RELATIONSHIP_GROUP_LIST_UDF		This setting is the name of a user defined field with a display type of list. This UDF is used to maintain a list of the names of relationship group for related issue display. The UDF is maintained by ExtraView as relationship groups are created or deleted. The UDF can also be aliased by other UDF's to provide an unlimited number of fields that can be used to identify the relationship group names to support multiple related issue displays on a single edit screen.
RELATIONSHIP_GROUP_MAX_DISPLAY	0	Maximum number of issues to display on the relationship group screen. A value of 0 will display all the records. Note that if your role is the one defined in <b>ADMIN_OVERRIDE_ROLE</b> then all the issues will always be displayed.

RELATIONSHIP_LINK_DISPLAY	SELECT	Display choice for relationship group indicator on edit screen (LINK or SELECT)
RELEASE_SORT_ORDER	DESCENDING	ASCENDING or DESCENDING
RG_UPDATE_BILEVEL_ONLY	NO	This behavior setting is for backwards compatibility with ExtraView version 4.x. If you set the value to YES, then related issue updates are only triggered when a change to the STATUS field takes place. If this is set to NO then updates to related issues may be triggered on different events and many updates to different fields are possible
RULES_DEFAULT_CALENDAR	24_BY_7	This setting selects the number of business days in a week. Valid values are 24_BY_7 or WEEKDAY. The WEEKDAY calendar runs Monday through Friday. The 24_BY_7 calendar uses all days
SAVE_AREA_PROJECT_CHANGES	NO	If the SAVE_AREA_PROJECT_CHANGES behavior setting is 'YES', then when a user changes their business area and/or projects while entering or updating an issue, the change will be reflected in both the current session and set as their personal default. If the behavior setting is set to NO, then any changes to the business area and/or project will not affect the user's personal setting or the value for the current session.
SAVE_ROLE_CHANGES	YES	Unless you have custom code that dynamically switches roles back and forward for a specific requirement of your site, then this should always be set to YES, allowing any change of role for a user, by themselves or by an administrator to be saved into the ExtraView database. If there is custom code that switches a user's role and you do not want to make this role change stick in the database or be visible to the user, then the value should be set to NO.
SELF_REG_DEFAULT_AREA	0	This setting is used to identify the business area ID to associate with a new user, when the user is created thru self registration
SELF_REG_DEFAULT_PROJECT	0	This setting is used to identify the project ID to associate with a new user, when the user is created thru self registration
SELF_REG_USE_COMPANY_NAME	NO	When set to YES the value of COMPANY_NAME application default will be used for self-registered users. Otherwise, the user_id will be used for user's company name
SEPARATE_WORK_FLOW	PRODUCT	Allow separate work flows per USERGROUP (role) or PRODUCT or NONE
SHOW_CLOSED_REL_GROUPS_PERIOD	0	The list of items on a relationship group will be displayed until all issues have been closed for a minimum number of days specified by this value. Valid values are numbers equal to or greater than 0. 0 means that as soon as all items within a relationship group are of the status specified by STATUS_CLOSED_NAME they will not be displayed on the list of relationship groups.
SORT_SELECTED_VALUES	NO	When this is set to NO, all multi-valued lists will be displayed in the order set by the field's standard sort sequence. When this value is set to YES, all selected values will be displayed at the beginning of the list, using their sort order, then the non-selected values will be displayed using their sort order
STATUS_CLOSED_NAME	CLOSED	Data dictionary name of the closed status of a problem. This value is typically set when configuring a new system, and should not be changed after that time. The consequence of changing this value, and using a different value is that history is no maintained, and it will not be possible to either know when past issues were closed.
UPLOAD_DISPLAY_SETTING	DND_DEFAULT	This setting controls the upload of file attachments by end users. If the default setting of DND_DEFAULT is selected, then a Java applet is used to provide a drag-and-drop interface to upload files and to capture images from the screen. The user can, at any time switch to a standard browser file upload screen as a backup. If the setting is set to STANDARD_DEFAULT, then the user is presented with a standard browser file upload screen but can switch to the drag-and-drop applet upload. If this is set to STANDARD_ONLY, then the applet upload is switched off

completely. If the setting is DND\_ONLY, then only the applet upload is available to users

## Business and Email Rules

There are many occasions when you need to set the value of a field based upon the value of one or more fields. Contemporary products typically achieve this via modifying the programming language. ExtraView allows you to set field values using this administrative feature. Field values can be set at different points in the process.

Business rules are also used to link together values from different business areas, creating relationships between different Business Areas. For example, a relationship can be created to populate a set of fields on a field within a Customer Issue business area, based upon the value of a customer name created in business area that contains a list of customers.

Rules may be defined as either global in scope, or to only be executed within a specific business area within your installation. Global rules have precedence over rules defined in a specific business area. Therefore, rules in a specific business area are executed first, and then the global rules are executed. This ensures that rules defined with a global scope will be the last to be executed. There is no checking of whether rules in a specific business area may be in conflict with one or more rules in the global area. It is the administrator's responsibility to ensure that rules work together. To avoid the possibility of a conflict, you may set a policy that no rules will be created as global, and are therefore all local in their scope. When the administrator views the list of business areas, they will only see those to which they have permission, thus enforcing the privacy of rules set in a business area to which the current administrator does not have permission.

For rules created in the global area, you may specify the fields AREA and PROJECT as part of filters. Indeed you may need to specify these as filters for the desired execution. For rules specified in an individual area, there is no need to specify the AREA as a filter, and all rules imply that the AREA is selected as a filter. You must supply a PROJECT filter if you want to confine the scope of a rule to an individual PROJECT.

Email rules can also be created, giving fine control over who will receive email upon the creation or updating an issue. The default notification scheme in ExtraView will send email to any user whose name appears on a form, and to members of any interest list. Email rules can complement or replace this arrangement, and give precise control over the notification process. For example, you might want to send notification to a user, only when the Status changes to a specific value, or if the Status changes.

Note that ExtraView's inbuilt notification rules remain active, and users will be notified as normal, unless you set the behavior setting named SUPPRESS\_STANDARD\_EMAIL\_LIST to a value of YES. This can be found in the Email Settings administrative function.

**Setup and Maintain Business and Email Rules** [Update] [Return] [Print Page]

### Rules Instructions

Rules may be defined in the Global Area or within a specific Area for your installation to which you have permission.

Rules defined within a specific Business Area are executed first. Rules defined within the Global Area are executed after the rules in the specific Business Area. There is no checking as to whether rules defined in a specific Business Area are in conflict with one or more rules in the Global Area. The Global Area rules always have precedence over the rules in a specific Business Area. From the list below, select the area within which you want to define or update the rules.

Select Business Area:  [v]

Edit the rules in the window below, and then press Update to save your changes.

```

##
## Pre-load rules - executed prior to the add or the edit screen being loaded
##
<== load ==>
if (AREA="Test Cases")
  {STATUS="Not Yet Tested";}

##
## Refresh rules - executed upon a refresh of the add or edit screen
##
<== refresh ==>
# rules to set the customer fields in the Customer Issues area
if (CUST_LIST={CHANGED}) {
  CUST_CONTACT_NAME      = (customerLink).CUST_CONTACT_NAME;
  CUST_PHONE_NUMBER      = (customerLink).CUST_PHONE_NUMBER;
  CUST_ADDRESS           = (customerLink).CUST_ADDRESS;
  CUST_EMAIL             = (customerLink).CUST_EMAIL;
  CUST_PHONE_CELL        = (customerLink).CUST_PHONE_CELL;
  CUST_CONTRACT_NUM      = (customerLink).CUST_CONTRACT_NUM;
  CUST_CONTRACT_SIGN_DATE = (customerLink).CUST_CONTRACT_SIGN_DATE;
  CUST_CONTRACT_RENEWAL_DATE = (customerLink).CUST_CONTRACT_RENEWAL_DATE;
  CUST_CONTRACT_ACT_REN_DATE = (customerLink).CUST_CONTRACT_ACT_REN_DATE;
}
##

```

[Update] [Return] [Print Page]

Editing the Business & Email Rules

## Automatic Backup of Rule Updates

As with all metadata changes, when you update the rules an entry is made in the System Log of the event. In addition to the usual information, a copy of the old rules text is also placed in the System Log. You may copy the text from the System Log and paste it back into the rules text area if you need to restore a prior set of rules.

If the rules text is greater than 3,800 characters in length, there is insufficient room to hold all the information in the System Log, so a partial entry is made there and the complete rule text is written to the application server log file.

## Language Description

The language that creates Business Rules is straightforward and composed of two primary elements.

Element	Purpose
Directives	There are a small number of directives that create holders for statements. These directives dictate when a statement is executed, for example before an <i>add</i> or <i>edit</i> screen is displayed, or before or after an update to the database is performed. There are also a number of directives that help with other tasks such as mailing, linking items and debugging. All directives are contained within the characters <== and ==>. Each directive may be repeated any number of times within the rules, usually to maintain clarity and to group statements for a single business function together.
Statements	Statements are logical expressions that perform specific actions within each directive. For example a statement may be assigned a discrete value or assigned the value of another field. You may use logical "if" statements. There are a number of special values and special actions that may be used within statements.

Business rules are organized by Business Area, and you may also define global rules.



# Directives

Rule directives have one of the following forms:

```
<== directive ==>
<== directive ==> value(s)
<== directive name ==> value(s)
```

The same directive may be specified any number of times within the rules. This allows the grouping of rules for a specific function together, as opposed to grouping all the rules by directive type which may not be the logical way in which to peruse them. All rules after a type directive within the rules will be interpreted as belonging to that type until the next type directive is encountered.

Directives are listed in the following table.

Directive Type	Use
calendar <i>calendar_name</i>	This directive is used to determine which business calendar is used in date computations. If no calendar directive is present, the calendar specified in the behavior setting named RULES_DEFAULT_CALENDAR is used. If this is not set to a valid calendar name, the 24_BY_7 calendar is used for date computations.
clone	This directive is used to execute rules and assignments during the clone process. For example, you can set the value, or reset the value of fields before the cloned record is saved to the database
debug	Logs rule activity and includes ExtraView internal values. Primarily for use by ExtraView support
end	Stops parsing of the rule file. If this directive is encountered in the rules file, ExtraView stops further actions and ignores the remainder of the rules.  Only the rules in the current business area stop executing. If you have also have rules in the global area then the will also execute, unless an <== end ==> directive also exists within there.  This is useful in debugging your rules, as you can enter this directive at different points in your rules file as you test successive sections of rules.
info	Causes log entries to verify that rules are being executed. Minimal details are listed
link	This directive is used to specify how to connect linked records from one business area to a different one, thereby creating a relationship between two business areas.  For example, you can find one or more related issues in a different business area, from which a value is to be retrieved:  <== link customer ==> AREA='Customer', CUSTOMER=CUSTOMER  is interpreted that a rule action like:  ASSIGNED_TO=(customer).OWNER  which is used to set the Assigned To field in an Issue record to the OWNER field in a Customer record.  The link directive can also be used to link related issue groups. For example:  <== link rglink ==> RG(RG_NAME = MY_RG, RG_TYPE = PARENTS)  where MY_RG is the name of an existing relationship group and RG_TYPE is one of PARENTS, CHILDREN, MEMBERS. If multiple records are referenced by the link, only the first one returned will be used for data assignments. For operations such as UPDATE all records will be processed.  You may add an expression to the related issue link to form the link. For example:  <== link rglink ==> RG(RG_NAME = MY_RG, RG_TYPE = PARENTS), STATUS != Closed  will only form the relationship for issues that are not in the <b>Closed</b> status.  Relationship Group links are not order dependent; the type and name may appear in either order, and the RG_ may be omitted, so RG(TYPE=CHILDREN, NAME=xxx) will work identically to RG(RG_NAME=xxx, RG_TYPE=CHILDREN). Also, the keywords may be eliminated entirely, giving RG(xxxx, CHILDREN) as a valid link. Note that GREATGRANDCHILDREN and GREAT-GRANDCHILDREN are only supported in links, and are not supported at this time by RelationshipGroup code.  {NULL} and {NOT NULL} may also be used within link conditions. For example:

```
<== link AREA='Licenses', LICENSE_TYPE='License', COMPONENT={NULL} ==>
```

You may also add the {EXISTS} as a qualifier to a clause in a link directive. This will check the link, before execution, to find whether the value is present, or is a null value. For example, consider:

```
<== link cousinLink ==>AREA='Functionality', BROTHER_ID = PARENT_ID.{EXISTS}
```

If the {EXISTS} was not present, all records with no value for the BROTHER\_ID will be selected if the PARENT\_ID is null.

You may also add a parameter of DISABLE\_LINK to a LINK directive. This has the effect of suppressing the drilldown into the issue on the link. For example, the following is correct syntax.

```
<LINK AREA='Bugs' DISABLE_LINK>
```

load	Called before the <i>Add</i> or <i>Edit</i> screen is rendered. Rules following this directive are executed before the screen is displayed. Therefore you can set values of fields before the screen loads
log	Logs rule activity in enough detail for end users to verify rule execution. Shows condition evaluation and assignments
object	This directive is used to define an object to be used as a link between two fields of different types. The most common purpose for this directive is to use it to enter a value into a text field, and have this value added to an existing list field.

Use the object directive to use a value entered in a text field to be inserted as a new value in a list field. As an example, you may create directive rules similar to:

```
<== object cust ==> AREA='Customers', LINK=CUST_LIST, TITLE=SHORT_DESCR, PRIVACY=false
<== object custpopup ==> AREA='Customers', LINK=CUST_POPUP, TITLE=SHORT_DESCR, PRIVACY=false
```

This link may be used in a rule similar to:

```
if (CUST_LIST.{changed}) {
  CUST_CONTACT = (cust).CUST_CONTACT;
  EMAIL_ADDRESS = (cust).EMAIL_ADDRESS;
}
```

This is a list of all the parameters that may be used with the object directive:

**LINK=<LIST or POPUP field name>**

Required - contains the name of the field with the list entry to be added, modified, or deleted

**TITLE=<TEXTFIELD field name>**

Required - contains the name of the field containing the title or text to be added to the list entry

**PARENT=<field name>**

Optional - contains the name of the parent field of the LINK field in an allowed value relationship

**AREA=<area title>**

Required - specifies the area of the issue where the object rule is executed

**RG\_NAME=<relationship group name>**

Unused at present

**PRIVACY=TRUE | FALSE**

Optional - the option to add PRIVACY=true will add the customer to a privacy group with the same title, and add the current user to that privacy group.

Note: All object rules must reside in the global area, not in the rules sections within each business area

In total, the link causes a value entered into the CUSTOMER field in the **Customers** business area to be automatically added to the list named CUST\_LIST. This list is available in any other business area and is used in the rule to bring the values associated with the customer into the current screen, when a customer is chosen from its list.

mail	Mail rules are used to notify users of updates. They can either complement the existing inbuilt notification rules or replace the inbuilt rules, depending on the value of the behavior setting named SUPPRESS_STANDARD_EMAIL_LIST
------	--

onchange or refresh When a field on your layout has a rule that references it, and that the user changes the value of that field, then an onchange rule is triggered. For example, you may have two fields on a layout, named **amount1** and **amount2**. You may have an onchange rule:

```
total = amount1 + amount2;
```

When the user changes either **amount1** or **amount2**, the **total** field on the layout will be updated via an Ajax call to the server

In previous versions, this functionality was provided by the refresh directive, which also required an HTML modifier on the fields **amount1** and **amount2**. If you are upgrading from ExtraView version 6.0 or a prior release, you should remove the HTML modifier on these fields as they will cause an unnecessary screen refresh

postupdate Postupdate rules are executed subsequent to a database update on the *add* or *edit* screen

preupdate or database Preupdate rules are executed prior to a database update. After you press the button to submit an issue to the database on the *add* screen, or you press the Update button on the *edit* screen, these rules are executed. The directives preupdate and database are synonymous. In the future, the term database may be deprecated as it is not fully descriptive of the purpose of the directive

## Rule Values

Value Identifiers are one of the following:

- A Data Dictionary Name, e.g. DESCRIPTION or DATE\_CREATED
- A User ID, e.g. BILL.SMITH
- A User Role, e.g. ADMIN or QA
- A Special Value as defined on this [page](#).

These must be upper case, and must match the internal name of the respective value.

Value Identifiers are interpreted first as a Data Dictionary Name, then User ID, and then User Role unless an IDENT: is specified.

Rule values are expressions of the form:

- 'Value' – Values can be quoted or left unquoted if their interpretation is unambiguous – i.e. there are no embedded spaces, etc. If this is a lookup field (typically this is a field with a display type of LIST, TAB, or POPUP) this will be treated as the Display title and verified against the database
- Special values are what their name implies: a placeholder for a value the system will provide. These are values, such as USER or SYSDATE. See this [page](#) for a full list of special values
- DD\_NAME – A Data Dictionary name may be used to reference the value associated with that data element, such as **ASSIGNED\_TO**. Data Dictionary names may be used on either side of the operator. Data dictionary names should always be expressed in uppercase.
- (link name).DD\_NAME – A link name may be specified before a DD\_NAME to reference the value contained in a related issue. The link name must be specified in a Link Directive
- Qualifiers - Complex identifiers consist of an optional link expression, a DD\_NAME followed by one or more qualifiers. Qualifiers are properties, such as {is external}, or conditions, such as {changed}. They may also be complex conditions, as {changed\_from:'value'}, where 'value' is interpreted as a simple value. See this [page](#) for a list of qualifiers
- IDENT:'Value' – This is a special form, used to force evaluation of an identifier as a specific type. For example, this can be used to force evaluation of a value as a User ID if there happens to be a Data Dictionary entry with the same value. Use one of the following forms:
  - EMAIL to specify an email address
  - USER to specify a User ID
  - ROLE to specify a User Role

## Comparison of Field Values

The internal and external representations of fields vary across their display type. When fields within rule expressions are compared (using relational operators such as "<", ">", "!=", or "="), the field values are coerced into objects that are appropriate or capable of comparison. The coercions used in rules are defined in the following:

- LIST – LIST : display titles in the default locale are compared as strings. Includes aliased lists
- LIST – TEXTFIELD: display title of list value in default locale is compared to the TEXTFIELD
- LIST – DATE: the display title of the list value is parsed as a date and compared to DATE field as Calendar object
- LIST – DAY: same as LIST – DATE
- LIST – NUMBER: the display title of the list value is parsed as a double (floating point) and compared to the NUMBER field as a Double object
- LIST – DECIMAL: the display title of the list value is parsed as a decimal and compared to DECIMAL field as a BigDecimal

- object
- LIST – CURRENCY: the display title of the list value is parsed as a currency and compared to CURRENCY field as a BigDecimal object
- LIST – USER: the display title of the list value is compared to the display name of the USER field as Strings
- TEXTFIELD – TEXTFIELD: the text field values are compared as Strings
- TEXTFIELD – DATE: the text field value is parsed as a date and compared to the DATE field as a Calendar object
- TEXTFIELD – DAY: same as TEXTFIELD – DATE
- TEXTFIELD – NUMBER: the text field value is parsed as a double and compared to the NUMBER field as a Double object
- TEXTFIELD – DECIMAL: the text field value is parsed as a decimal and compared to the DECIMAL field as a BigDecimal object
- TEXTFIELD – CURRENCY: the text field value is parsed as a currency and compared to the CURRENCY field as a BigDecimal object
- TEXTFIELD – USER: the text field value is compared to the display name of the USER field as Strings
- DATE – DATE: the DATE fields are compared as Calendar objects
- DATE – DAY: same as DATE – DATE
- DATE – NUMBER: unequal
- DATE – DECIMAL: unequal
- DATE – CURRENCY: unequal
- DATE – USER: unequal
- DAY – DAY: same as DATE – DATE
- DAY – NUMBER: unequal
- DAY – DECIMAL: unequal
- DAY – CURRENCY: unequal
- DAY – USER: unequal
- NUMBER – NUMBER: compared as double (floating point) numbers
- NUMBER – DECIMAL: the DECIMAL field value is converted to BigDecimal, and then Double, then the fields are compared as double (floating point) numbers
- NUMBER – CURRENCY: same as NUMBER-DECIMAL
- NUMBER – USER: unequal
- DECIMAL – DECIMAL: the DECIMAL field values are compared as BigDecimal objects
- DECIMAL – CURRENCY: same as DECIMAL-DECIMAL
- DECIMAL – USER: unequal
- CURRENCY – CURRENCY: same as DECIMAL-DECIMAL
- CURRENCY – USER: unequal
- USER – USER: the user display names are compared

## Special Values

Special values are used within rules to reference values outside the issue, or to set specific values to aid in manipulating the issue.

### EMAIL\_IGNORE\_GROUP

EMAIL\_IGNORE\_GROUP – This allows you to check or uncheck the checkbox that sends notification on the EMAIL\_IGNORE\_GROUP (normally the **Guest** or **Customer** Role), on the *add* and the *edit* screens. Set to a value of 'Y' to set the value to checked, or to a value of 'N' to set a value of unchecked. Use a preupdate rule such as:

```
if (SCREEN_NAME='ADD' && STATUS='Fixed')
  EMAIL_IGNORE_GROUP = 'Y';
}
```

Valid values are 'Y' and 'N'. Note that the value may be in upper or lower case.

### GENERATE\_EMAIL

GENERATE\_EMAIL – This allows you to check or uncheck the checkbox that governs notification on the *add* and the *edit* screens. Use a preupdate rule such as:

```
if (SCREEN_NAME='ADD' && CATEGORY='Undetermined')
  GENERATE_EMAIL = 'N';
}
```

Valid values are 'Y' and 'N'. Note that the value may be in upper or lower case.

### SCREEN\_NAME

SCREEN\_NAME – This has four possible values, ADD, EDIT, ADD\_CONFIRMATION or MASS\_UPDATE. This allows you to define a rule that will only be executed on the Add, Edit, Add Confirmation or mass update screens. For example:

if (SCREEN\_NAME='ADD' && STATUS='OPEN') will execute the rule, only if you are adding an issue and the status is OPEN.

## SYSDATE

SYSDATE – This provides a value of the current timestamp.

## SYSDAY

SYSDAY – This provides the Date Value of the current time.

## USER

USER – This references the current user.

## USER\_ROLE

USER\_ROLE – This references or sets the current user role.

Setting the user role is only allowed under specific conditions:

- a. This will only work on the *edit* screen, not the *add* screen
- b. To set a new role to the current user, the current user must be able to adopt the new role. I.e., their user account must specify that they are allowed to adopt the new role as part of the user configuration.
- c. If the rule attempts to set a role to a role to which the user does not have permission, the role will be changed to the role identified by the behavior setting named LIMITED\_USER\_ROLE. Thus, you may still affect a role change to a user who has a single role defined, but this will typically be the Guest or Customer role.

# Value Qualifiers

Qualifiers are applied to fields stored within the Data Dictionary or special values to return a condition or special value. You apply the value qualifier to the dictionary name of the field. They may be entered as lower or upper case. Some directives may only be used within specific directives. These constraints are listed below in the last column of the table. Valid qualifiers are:

Value Qualifier	Purpose	Used with Directives
{changed}	<p>This has two possible interpretations, both of which return true or false.</p> <p>First, this qualifies a change if a field value has been changed when the rule is triggered. For example, if you have a field named MY_FIELD and the user enters or selects a new value for the field, you can then trigger a rule such as:</p> <pre>if (MY_FIELD.{changed}) {   ANOTHER_FIELD = 'value'; }</pre> <p>The second use is when the <i>Add another</i> button on a repeating row has been pressed, and you want to perform an action on the repeating row that is being added. This is a change action that allows you to manipulate fields, usually to set values in the repeating row being added. An example of this usage, where you have a repeating row named RR_LAYOUT and you want to alter the value of a repeating row field named FIELD_NAME is:</p> <pre>if (RR_LAYOUT.{changed} &amp;&amp; RR_LAYOUT.{max_row_num} = 3) {   FIELD_NAME[3] = 'value'; }</pre> <p>Note that the value of 3 in the above example means to change the values on the 4th row, as the first row is row zero, the second is row one, etc.</p>	<p>Used with Directives</p> <p>onchange preupdate</p>
{changed from: value}	This returns true if the last value of the field was 'Value', else it returns false	onchange preupdate
{changed to: value}	This returns true if the field is changed to the new value 'Value', else it returns false	onchange preupdate
{company name}	This may only be applied to a field with a display type of <i>user</i> and returns the company name of the user referred to	
{contains}		

<code>value1[, value2, valuen, ...]}</code>	Used to determine if one or more values are selected within a multi-valued list	
<code>{days}</code>	This value qualifier is applied date calculations to determine the number of days between two dates. For example:  <code>X_NUMBER = (X_DATE1 - X_DATE2).{days};</code>  will return the number of days as an integer, between X_DATE1 and X_DATE2	
<code>{excludes value1[, value2, valuen, ...]}</code>	Used to determine if one or more values are not selected within a multi-valued list. This qualifier is only used with multi-valued fields	
<code>{exists}</code>	This qualifier is only used within a link directive to check whether a value is present or not present	exists
<code>{is active}</code>	This may only be applied to a field with a display type of <i>user</i> and returns true if the User field references an active user	
<code>{is external}</code>	This may only be applied to a field with a display type of <i>user</i> and returns true if the User's company name is different from the site company name, as defined by the behavior setting named COMPANY_NAME	
<code>{is guest}</code>	This may only be applied to a field with a display type of <i>user</i> and returns true if the user's only role is the role defined by the behavior setting named LIMITED_USER_ROLE	
<code>{is inactive}</code>	This may only be applied to a field with a display type of <i>user</i> and returns true if the User field references a deactivated user	
<code>{is internal}</code>	This may only be applied to a field with a display type of <i>user</i> and returns true if the company name of the User field specified matches the site company name defined by the behavior setting named COMPANY_NAME	
<code>{hours}</code>	This value qualifier is applied date calculations to determine the number of hours between two dates. For example:  <code>X_NUMBER = (X_DATE1 - X_DATE2).{hours};</code>  will return the number of hours as an integer, between X_DATE1 and X_DATE2	
<code>{like: value}</code>	This performs a like comparison on the value of the field providing a return of true or false. Use must use either an asterisk (*) or a question mark (?) as a wild card character in the value that you are evaluating. You may use more than one wildcard character in a single rule. If the string you are searching to match on may be in the middle of a value found, then you should use a wildcard at the beginning as well as at the end of the string. For example <code>{like:nation*}</code> will find the word <b>national</b> but not the word <b>international</b> . However, <code>{like:*nation*}</code> will find both <b>national</b> and <b>international</b> . This value qualifier is case-sensitive	
<code>{match: value}</code>	This performs an exact match using a regular expression on the value of the field, returning true or false. True is returned only if the entire value of the text matches the value in the rule. This value qualifier is case-sensitive	
<code>{max_row_num}</code>	This qualifier is used only with repeating row layouts and is used to provide an action on a row. For example, given a repeating row layout named RR_LAYOUT, and wanting to set the value of a field named FIELD_NAME, you can use the construct: <pre>if (RR_LAYOUT.{max_row_num} = 3 &amp;&amp; RR_LAYOUT.{changed}) {   FIELD_NAME[3] = 'value'; }</pre>	
	This changes the value of the FIELD_NAME on the fourth row of the layout, when that row is added to screen through the use of the <i>Add another</i> button on the repeating row layout.	onchange preupdate
	If you reference a row number that does not exist, an error is generated, of the form Repeating row index too large: FIELD_NAME. This indicates that your rule will not ever execute properly, and you must change the rule to avoid the error.	
	If you set the value of a field with such a rule, and any of the preceding repeating rows do not have a value set, then a null value is set into the value of the field on the preceding row.	
<code>{minutes}</code>	This value qualifier is applied date calculations to determine the number of minutes between two dates. For example:	

`X_NUMBER = (X_DATE1 - X_DATE2).{minutes};`

will return the number of minutes as an integer, between X\_DATE1 and X\_DATE2

{not null} This returns true if the field is not null

{null} This is true if the field is null

{old value} This returns the prior value of the field

onchange  
preupdate

{owner} This qualifier is used to determine whether the field referred to has the same value as the value of the built-in OWNER field

{seconds} This value qualifier is applied date calculations to determine the number of seconds between two dates. For example:

`X_NUMBER = (X_DATE1 - X_DATE2).{seconds};`

will return the number of seconds as an integer, between X\_DATE1 and X\_DATE2

## Actions

Actions are rule statements that may be executed within directives. Not all actions may be included within all directives. For example, it is not valid to perform a REAUTHORIZATION rule within a load directive. This action is only valid within an ONCHANGE or PREUPDATE directive.

Note that the square brackets in the actions on this page refer to optional syntax.

### ADD

`{ADD [as role]: field_1 = value_1 [, field_2 = value_2] ... ... [, ATTACHMENT[.{selected}]}`

This will add a new item to the ExtraView database, based upon a set of name value pairs, where the fields are the data dictionary names of the fields, and the values are valid for the display type of the field. This action only works within the *postupdate* directive, as it is essential to perform the underlying update before you initiate actions that are dependent. As an example, the following will add a new record when a button named ADD\_SERIAL\_BUTTON is pressed:

```
if (ADD_SERIAL_BTN.{changed} && UNIT_SERIAL.{not null}) {
  { ADD: AREA='Calibration',
    PROJECT='Unit',
    UNIT_SERIAL,
    COMPONENT,
    SITE,
    FACILITY};
}
```

If the field that provides the values for the ADD operation is of type Log Area (e.g. the COMMENTS field), then only the last entry from the source issue is added to the new issue.

The as role optional syntax allows the action to be implemented by altering the user's current role to the role, purely for the action. The role is the title of the role, not its name. This is useful when you need to add a record to a different Business Area or Project where the current user may not have sufficient permissions.

The optional ATTACHMENT keyword allows all or selected attachments to be copied from the current issue to the new issue being created. If the ATTACHMENT keyword is further qualified with {selected}, then only attachments that the user has individually selected with the **Select?** checkbox will be copied. The **Select?** checkbox is enabled on the user interface with the security permission keys named PR\_ADD\_PROBLEM.ATTACH\_SELECT and PR\_RESOLUTION.ATTACH\_SELECT.

### ADD ROW

`{ADD ROW: [TO layout_type_name] field_1 = value_1 [, field_2 = value_2] [,field3 = sourceField] ] }`

This will add a new row to a repeating record, where the square braces indicate optional elements and the parameter lists are the standard, as in the ADD or UPDATE actions. All the destination fields must be defined in the data dictionary as repeating row fields. The values may not be repeating row fields, as there is no certainty which of many repeating rows the value will refer to.

If the optional TO: `layout_type_name` is included, then the repeating row with that name is targeted for the addition of the new row. The fields being set must be in the layout that is loaded from the specified layout type, area, project and role of the user that is executing the rule operation.

## CLEAR

{CLEAR}

This causes the field to be cleared. As an example, to clear the contents of the field named PRIORITY:

PRIORITY.{clear}

## COPY

{COPY [as role]: field\_1 = value\_1 [, field\_2 = value\_2] ... .. [, ATTACHMENT[.{selected}]}}

This action is similar to the ADD action, except it may be used entirely without the field/value list. Thus {COPY} by itself will create a new issue, with all the values from the original issue. Specifying a name and value allows that value to be used for that specific field name. This action only works within the *postupdate* directive, as it is essential to perform the underlying update before you initiate actions that are dependent.

The optional ATTACHMENT keyword allows all or selected attachments to be copied from the current issue to the new issue being created. If the ATTACHMENT keyword is further qualified with {selected}, then only attachments that the user has individually selected with the **Select?** checkbox will be copied. The **Select?** checkbox is enabled on the user interface with the security permission key named PR\_ADD\_PROBLEM.ATTACH\_SELECT and PR\_RESOLUTION.ATTACH\_SELECT.

## DEFAULT

{DEFAULT}

This sets the field to its default value. As an example, to set the contents of the field named PRIORITY to its default value:

PRIORITY.{default}

## ERROR

{ERROR: Message}

This is only valid in preupdate rules. It will prevent the update from going forward and return an alert to the user with the text Message. Note that several messages may be accumulated and returned in the alert to the user as all the rules are executed without updating the database. Contrast this with the {STOP: Message} action where execution is stopped immediately.

You may use the standard escape characters in the error message. The most common requirement is to use **n** as a linefeed within your message.

## LOG

{LOG: Message}

This writes the Message to the system log.

## MAIL

{MAIL: 'template\_name', user}

This action uses an ad hoc email template named `template_name` and uses it to format the notification that is sent to the user named `user`.

Both HTML and text-based email templates may be sent with this action. This is controlled by the format of the template itself, and a simple naming convention for the template. The processing for this action requires either the `template_name` or the `template_title` to follow the MAIL: action. If this name or title has a suffix of `.txt`, then any email generated to a user whose personal email format is full, brief or very brief text will be generated in text. All other mails will be generated as HTML. This implies that if you want email templates where some users will receive HTML mail and others will receive text, you should create two templates. For example, you might have one template named **Customer\_Response\_Template** with the HTML and another named **Customer\_Response\_Template.txt** with the text.

When creating text-based email templates, make sure that you use the WYSIWYG (what-you-see-is-what-you-get) mode of the email template utility and be sure that the template does not contain any HTML tags.



In the email rule action, use the HTML template name or title, but without the .txt suffix.

If a text template does not exist, all users will receive the HTML template as a result of the action. If a text template exists, users with text email format preferences will receive the text email template. If an HTML template does not exist and a text template does exist, then all users will receive the text template.

## REAUTHORIZE

```
{REAUTHORIZE: user_field_name 'message to display'}
```

- This special action implements electronic signatures and is only available with the ExtraView GC version
- This action is only valid within the refresh and preupdate directive sections of the business rules
- The administrator may set up the reauthentication of the current user at the time the issue is updated. If the re-authentication is successful, the issue is updated and the name of the current user is placed in the field `user_field_name`. The reauthentication or electronic signature mechanism demands that the user must enter their password before the transaction is allowed to continue. The application will continue to request the user's password until it is entered correctly. The user may cancel out of the signature request, but will not be able to update the record
- The field `user_field_name` must be placed on the *add* or *edit* screen of an issue. The field also requires read and write access for the user roles that will perform the re-authentication. If you want to hide the field from the user's view, set a layout cell attribute of the type of **STYLE** and a value of `display:none`
- With most electronic signatures, you will want to record a timestamp of the event. You can set up a field with a display type of **day** or **date** and place it on the form in the same way as the `user_field_name`. It should also be given a similar layout cell attribute
- As an example, create the following business rule in the preupdate directive section of the rules:

```
if (STATUS.{changed to: 'Approved'} && APPROVED_BY.{is null}) {
  {REAUTHORIZE: APPROVED_BY 'By clicking the Submit button you are approving the update of this issue. This is an
  electronic signature which is recorded in the database. <span style=color:#CC0000>Any appropriate text may be placed here
  as a warning.</span>'};
}
# if we get here, we have assented to the reauthorization, so set the trigger fields:
if (STATUS.{changed to: 'Approved'} && APPROVED_BY.{is not null}) {
  APPROVAL_DATE = SYSDAY;
  APPROVED_BY = USER;
}
# clear approval if reopened:
if (STATUS.{changed from: 'Approved'} && STATUS != 'Closed') {
  APPROVAL_DATE = "";
  APPROVED_BY = {null};
}
if (STATUS.{changed from: 'Closed'} && STATUS != 'Approved') {
  APPROVAL_DATE = "";
  APPROVED_BY = {null};
}
```

Assign the `APPROVAL_DATE` to `SYSDAY` if the field is of type **day** as opposed to **date**. This will set the **APPROVAL\_DATE** to the current date and time when the **APPROVED\_BY** field is set, and set it to a null value if the **APPROVED\_BY** field is set to null

- The message to display in the REAUTHORIZE syntax allows the display of any text on the popup window where the electronic signature is provided. Many organizations have a message approved by their legal departments that is used here. Notice that the message to display may contain HTML, allowing you to format the message. A typical electronic signature popup window will look like the following:

Electronic signature display

- The administrator may set up any number of electronic signature requests, each with a different logical expression that triggers the requirement for the user to enter their signature
- If you implement the REAUTHORIZE rule within a repeating row, then the user field that contains the electronic signature must be a popup user field and the user must complete the electronic signatures in order, starting with the first repeating row

## STOP

{STOP: Message}

This will interrupt the processing of preupdate rules and returns to the user without executing further rules. This action works differently from the ERROR action in that the ERROR action continues execution and may accumulate more than one message.

You may use the standard escape characters in the error message. The most common requirement is to use **n** as a linefeed within your message.

## UPDATE

{UPDATE [as role]: linkName field\_1 = value\_1 [, field\_2 = value\_2] ... ... }

This will update one or more records, based upon the definition of the link specification. If the link points to more than one record, all affected records will be updated. This action only works within the *postupdate* directive, as it is essential to perform the underlying update before you initiate actions that are dependent. As an example, the following will update all customer contact records, if the contact is changed:

```
<== link custCSRInfo ==> AREA='CSR Calls', CUST_LIST
if (AREA = 'Customers' && CUST_CONTACT_PHONE.{changed}) {
  {UPDATE: custCSRInfo CUST_CONTACT, CUST_CONTACT_PHONE}
}
```

If the field that provides the values for the UPDATE operation is of type Log Area (e.g. the COMMENTS field), then only the last entry from the source issue is added to the new issue.

The as role optional syntax allows the action to be implemented by altering the user's current role to the role, purely for the action. The role is the title of the role, not its name. This is useful when you need to update a record in a different Business Area or Project where the current user may not have sufficient permissions.

# Permissions

Business Rules ignore security permissions for fields, for all roles. This is similar to developing user custom extensions to ExtraView using Java.

It is assumed that the developer of business rules understands that they have the ability to update the value of any field, without restriction, by using a business rule. Thus, a business rule may make an assignment to a field that is read-only to the user interface, or is not even placed on an *add* or *edit* screen layout.

# Writing Rules

## General Syntax

Rules consist of an action and an optional condition. If a Condition is omitted, the action will always occur; otherwise the action will be taken if all the conditions are true.

Rules will have one of the following syntaxes:

- <Rule Action>
- if (<Rule Condition >) <Rule Action> ; <Rule Action>
- if (<Rule Condition > && <Rule Condition> ...) {
  - <Rule Action> ; <Rule Action>
  - <Rule Action> ; <Rule Action>
  - <Rule Action> ; <Rule Action>
  - <Rule Action> ; <Rule Action>

There is also a special syntax for negative conditions:

if !(<Rule Condition >)

Rules also support the following conditional operators. These conditional operators will work with all numeric and date display field types. They also work as operators using a string compare operator when used with text and list display types.

Operator	Meaning
>	Greater than
<	Less than
<=	Less than or equal to
>=	Greater than or equal to

**Note:** The condition(s) may extend over multiple lines, and are controlled by the parentheses.

**Note:** You may not set the value of the fields AREA and PROJECT with a load, refresh or clone directive.

Within the rules, all referenced fields must exist in the data dictionary, and must appear on the layout to which the rule applies. You cannot define variables or new fields "on-the-fly".

## Assignment

By definition, all fields have a type, specified by its display type in the data dictionary. As with all other computer languages, assignments must be made between fields with the result being of the correct type. For example, you can assign a text field to another text field, but cannot assign a text field to a number field. However, you might assign the a value in a list field to a text field, as the individual values within the list field are of type text.

For the most part, automatic conversions are made between different data types. For example, if you assign a list type field to a text field, the display title of the list value is automatically provided and used. Similarly, if you assign a text field to a list value, then a reverse lookup is performed on the text value to populate the list field. Of course, if you make an assignment of this last type, then the value in the text field must correspond to an existing value of a list title else an error will be generated.

An important feature of rules within ExtraView is that you can only perform a single operation with a single rule. For example, to add two fields together (FLD\_1 and FLD\_2) and place the result in a third field (FLD\_TOTAL) you must take two steps:

```
FLD_TOTAL = FLD_1;
FLD_TOTAL += FLD_2;
```

You cannot and must not use the form:

```
FLD_TOTAL = FLD_1 + FLD_2;
```

When applied to a repeating row field, the above syntax updates the field value on all repeating row fields. The following syntax demonstrates how you make an assignment to a repeating row field on a single row. Note that the repeating rows are numbered from zero, not from one.

```
RR_FIELD[0] = 'value1';
RR_FIELD[1] = 'value2';
```

## Numeric Calculations

Assignment Operators:

Operator	Meaning
+=	Add
-=	Subtract
*=	Multiplication
/=	Division

Null numeric field values have special treatment. When a numeric field has a null value, and is being used in a calculation, it is assumed the value is zero. This avoids errors and null results occurring. However, tests on numeric type fields with value qualifiers such as `numeric_field.{is null}` and `numeric_field.{not null}` return true or false depending on whether there is a null value.

## Text Operation Assignments

Operator	Meaning
----------	---------

- + = Prepends text. For "area" display type text fields, the text to be added includes a line feed before and after the text
- & = Postpends text. For "area" display type text fields, the text to be added includes a line feed before and after the text
- \* = Prepends text. For "area" type text fields, the text to be added does not include a line feed before or after the text
- / = Postpends text. For "area" type text fields, the text to be added does not include a line feed before or after the text

## Date Calculations

Date calculations where you want to compute the difference between two dates, giving a numeric result are an exception to the above syntax. This is because you desire a numeric result and you cannot assign a date to a number without causing an error. The correct syntax to calculate the difference between two dates (DAT\_1 and DAT\_2) and place the result in the field DIFF is:

```
DIFF = (DAT1 - DAT2);
```

Date differences in rules may specify qualifiers to get results computed in units other than days. The qualifiers are {seconds}, {minutes}, {hours}, and {days}. Each of these results in an integral value after the date difference is computed. The fractional part of the computation is truncated, not rounded. This implies that the meaning is "the integral number of between the two dates".

Example:

```
## compute number of seconds between two dates
X_NUMBER = (X_DATE1 - X_DATE2).{seconds};
## compute integral number of days between two dates
X_DECIMAL = (X_DATE1 - X_DATE2).{days};
## compute total (including fractional) days between two dates
X_DECIMAL_DAYS = (X_DATE1 - X_DATE2);
```

You can specify a specific business calendar to use with date calculations. This is done with the calendar directive. For example, if you use the WEEKDAY calendar provided with ExtraView, and you have a calculation such as:

```
<== calendar WORKDAY ==>
DATE_RESULT = (SYSDATE + 3);
```

where SYSDATE is a Thursday, the result will be Tuesday, i.e. it is 3 workdays, plus the 2 weekend days.

If you add 0 to a date using a business calendar, the result will skip to the first work day beyond that date if that date is not a work day.

Null date and day field values have special treatment. When a date or day field has a null value, and is being used in a calculation, it is assumed the null date is *January 1st, 1900*. This avoids errors and null results occurring. However, tests on date and day type fields with value qualifiers such as `date_field.{is null}` and `date_field.{not null}` return true or false depending on whether there is a null value.

## Manipulating Multi-Valued List Fields

You may assign a single value to a multi-valued list field in exactly the same way you would assign a value to a standard list field. For each assignment of a value to a multi-valued field, you are effectively adding an additional selected value to the list. You can also use the following syntax to assign multiple values to a multi-valued list field at one time:

```
if (SCREEN_NAME='ADD') {
  FRED_USER = 'BILL.SMITH;ALISON.KELLY;DEBRA.HANSON';
};
```

## "IF" statements

IF statements allow the conditional processing of statements. For example, consider the following rule:

```
if (PROJECT = 'Customer Tickets')
  { ASSIGNED_TO = 'BSMITH' }
```

This will work equally well as a load rule, an onchange rule or a preupdate rule. It will not work as a postupdate rule, as no update will be made once the rule has been read and executed. Next, consider this rule:

```
if (PROJECT.{changed to:'Customer Tickets'})
  { ASSIGNED_TO = 'BSMITH' }
```

This will only work as an onchange or a preupdate rule, as it is during these times that changes can be detected.

## Simple Examples

1. The following is a preload rule that sets the **Status** field to a value of *Open* and the *Privacy* field to a custom value. These will always execute, as there is no condition:

```
<== load ==>
STATUS=Open;
PRIVACY=Engineering;
```

2. Here is an example of an 'if' statement with a single action line. The following assigns the issue to the *Current User* if the *Originator* is an internal user:

```
if (USER.{is internal}) ASSIGNED_TO=USER;
```

3. A single action rule could also be written on more than one line and either the condition or the action can contain multiple parts, but the action will only consist of a single line.

```
if (USER.{is internal} && ASSIGNED_TO.{is null} && STATUS = 'New' )
ASSIGNED_TO=USER; STATUS=Open;
```

4. Here is an example of an 'if' statement with multiple action lines. An 'if' statement may have multiple lines of actions if these are enclosed in braces. The following rule sets a field named **SUB\_STATUS** to a value of *Needs Review*, assigns the issue to a user named *BSMITH*, and sets the due date to the current day, but only if this is a *New Customer Support* issue entered by an external user:

```
if (AREA='Customer Support' && STATUS='Submitted'
&& ORIGINATOR.{is external}) {
SUB_STATUS='Needs Review'; OWNER=ASSIGNED_TO;
DUE_BY_DATE = SYSDAY;
}
```

## Writing Valid Expressions

Embedded *if* statements, *else / else if*, *()*, and *or* clauses are not supported at this time. However, you may write statements in a way that achieves your purpose. For example, a statement such as:

```
if (AREA='Customer Support') {
  if (STATUS='Submitted') {
    SUB_STATUS='Needs Review';
    OWNER=ASSIGNED_TO;
    DUE_BY_DATE = SYSDAY;
  }
} else if (AREA= 'Bugs') {
  STATUS = 'New';
} else {
  STATUS = 'Unassigned';
}
```

### IS NOT SUPPORTED

It should, and must be, written as:

```
if (AREA='Customer Support' && STATUS='Submitted') {
  SUB_STATUS='Needs Review';
  OWNER=ASSIGNED_TO;
  DUE_BY_DATE = SYSDAY;
}
if (AREA= 'Bugs') {
  STATUS = 'New';
}
if (AREA = 'Customer Support' && AREA !='Bugs')
  STATUS = 'Unassigned';
}
if (AREA != 'Customer Support' && AREA !='Bugs')
  STATUS = 'Unassigned';
}
```

Within the onchange directive, it is important to consider the change events. There are three of these, *changed*, *changed from* and *changed to*. You may only have one of these qualifiers in a statement. For example, the following rule will work:

```
if (CATEGORY.{changed to:"Software"} && PRIORITY = "P 1")
{ IMPORTANCE = "High" }
```

whereas the following will not work:

```
if (CATEGORY.{changed to:"Software"} && PRIORITY.{changed})
{ IMPORTANCE = "High" }
```

The reason is that a user implicitly only changes one item on the user interface at one moment. The rule will never trigger the change if it looks for two or more changes at the same moment.

## Quoting & Comments

### Quoting

Literal values may be quoted with either single or double quotes. No escape mechanism is currently provided.

### Comments

Comments are lines that begin with a '#'. All characters following the '#' on the line are ignored.

## Limitations

- Rules may only use fields that physically store their value in the database or use the special values as specified above. They will not work with computed fields from the data dictionary. For example, you cannot create a rule that uses fields such as **DATE\_CLOSED\_SINCE**, **DATE\_CREATED\_DAY**, **DATE\_CREATED\_MONTH**, **DATE\_CREATED\_WEEK**, **DATE\_CREATED\_TRUNC**, **DATE\_CREATED\_YEAR**, **DATE\_LAST\_STATUS\_CHANGED\_SINCE**, **DAYS\_IN\_STATUS**, **DAYS\_OPEN**, **MONTHS\_OPEN**, **WEEKS\_OPEN**, **TIMESTAMP\_MONTH**, **TIMESTAMP\_SINCE**, **TIMESTAMP\_TRUNC**, **TIMESTAMP\_WEEK**, **TIMESTAMP\_YEAR**, **WEEKS\_IN\_STATUS**, **WEEKS\_OPEN**, or any field with a display type of *Label* or *Custom*.

However, you can often provide your own expression in a rule to derive the same information. For example, to calculate the number of days since the creation of an issue you may create a field named **MY\_DAYS\_OPEN** with a display type of **Number** and then construct a rule such as:

```
MY_DAYS_OPEN = (SYSDATE - DATE_CREATED);
```

- This version of the Rules Engine does not support multi-value UDF's on repeating rows.
- Rules cannot be localized with this version. All values should use the title or value of the field in the base locale, as opposed to a localized value.

## Rule Parsing & Recursion

### Rule Parsing

Directives are case insensitive.

Conditional statements are case insensitive.

VALUE\_IDENTIFIERS are case sensitive, and generally expected to be uppercase.

Values are generally display titles, and are case sensitive. A reverse lookup is done on the value to determine its internal value if it a lookup type (list, popup, etc.). An exception is for user fields, which are assumed to be ExtraView User Ids, and are case insensitive.

### Recursion

Programmers will be familiar with the topic of recursion. With rules, it is possible to write a rule that causes an update to happen, and when an associated rule fires, it causes the same or a different rule to fire that then causes another update to occur. This can happen in a repeatable cycle with no way for ExtraView to recognize that this is happening. The rules may continue firing on the server with no indication to the user that an endless cycle has started. For this reason, your rules should be examined carefully, especially those which add or update issues with the postupdate directive. If you accidentally set an infinite loop running, you should immediately restart the application server and then change your rule to prevent this happening again.

## Debugging Rules

There are a number of directives and techniques that help with the debugging of rules. These all rely on the placement of entries into the application server log. These entries may be viewed with the **Admin --> System Controls --> System Log --> View Application Server Log** utility. Note the ability of this screen to be able to refresh the most recent entries. You can leave this window open as a message area while you alter rules and test their results in a different window.

After debugging, it is strongly suggested that you remove, or comment, the debugging directives, as they have a small impact on performance.

#### Directive Use

debug	Turns on the debugging. All messages from rules execution are written to the log, until the end of rules execution, or until an <code>&lt;== end ==&gt;</code> directive is encountered
end	Stops debugging messages being sent to the log
info	Causes log entries to verify that rules are being executed. Minimal details are listed
log	Logs rule activity in enough detail for end users to verify rule execution. Shows condition evaluation and assignments until the end of the rules, or until a <code>&lt;== nolog ==&gt;</code> directive is encountered
nolog	Turns off the <code>&lt;== log ==&gt;</code> directive

For example, create these rules:

```
<== load ==>
<== nolog ==>
if (AREA.{is not null}) SHORT_DESCR = 'Set at NO logging';
<== info ==>
if (AREA.{is not null}) SHORT_DESCR = 'Set at INFO level of logging';
<== log ==>
if (AREA.{is not null}) SHORT_DESCR = 'Set at LOG level of logging';
<== debug ==>
if (AREA.{is not null}) SHORT_DESCR = 'Set at DEBUG level of logging';
<== info ==>
```

The results from this will look something like this:

```
2010-07-20 16:10:34 [ info ] ExtraView. TP-Processor7 ,122118,TP-Processor7,
>>>Entering service,Display.doAddDisplay,,,sc,0,,,uid,BSMITH,tmem,41,fmem,10,nid
,http://nerdvana.extraview.net/evj ON WS_A:
2010-07-20 16:10:35 [ info ] TP-Processor7 ** Rules60: * Executing:
# L0000
if (AREA.{is not null}{not null} ()) {
    SHORT_DESCR = Set at NO logging (Set at NO logging);
}
2010-07-20 16:10:35 [ info ] TP-Processor7 ** Rules60: * Executing:
# L0001
if (AREA.{is not null}{not null} ()) {
    SHORT_DESCR = Set at INFO level of logging (Set at INFO level of logging);
}
2010-07-20 16:10:35 [ info ] TP-Processor7 ** Rules60: * Executing:
# L0002
if (AREA.{is not null}{not null} ()) {
    SHORT_DESCR = Set at LOG level of logging (Set at LOG level of logging);
}
2010-07-20 16:10:35 [ info ] TP-Processor7 ** Rules60: * Executing:
# L0003
if (AREA.{is not null}{not null} ()) {
    SHORT_DESCR = Set at DEBUG level of logging (Set at DEBUG level of logging);
}
2010-07-20 16:10:35 [ info ] ExtraView. TP-Processor7 ,122118,TP-Processor7,
>>>Leaving service,Display.doAddDisplay,time,1357,sc,0,cc,46,mc,0,uid,BSMITH,tmem,41,
fmem,12,nid, ,http://nerdvana.extraview.net/evj ON WS_A:
```

Note the effects of the different directives.

## Rules and Repeating Rows

In general, rules are executed on repeating rows, just as they are executed on the main *Add* and *Edit* screens. However there are some important differences.

- The first significant difference is that a rule such as:
 

```
<== onchange ==>
RR_FIELD = 'value';
```

is executed for all repeating rows in existence at the time of the onchange event, in the order of the repeating rows.

You can take advantage of this to perform an evaluation of all repeating rows in existence, and then set a value of a field in the main *Add* and *Edit* screen based upon what you find. An example of this is that you might have the repeating row field named `RELEASE_STATUS` with values of *New*, *Open* and *Closed*. There may be any number of repeating rows in existence with any one of these values in each repeating row. The task might be that you want to set the `STATUS` field on the main *Add* or *Edit* screen, to *New* if any repeating row has the value of *New*, then secondarily set the `STATUS` field value to *Open* if there is no *New* value on a repeating row, but at least one repeating row has the value of *Open*. Finally, you might then want to set the `STATUS` value to *Closed* when all the values of the repeating rows are *Closed*. The following rules will achieve this:

```
<== onchange ==>
```

```
# First, push our changed status to the STATUS field, so we can then trigger a reset
# based on all repeating row fields, not simply the one that changed
if (RELEASE_STATUS.{changed}) {
  STATUS = RELEASE_STATUS;
}
# Now do the actual roll up by resetting the main status based on whether specific
# RELEASE_STATUS values exist. Note that the order of these rules is critical
if (RELEASE_STATUS = 'Closed') {
  STATUS = 'Closed'; }
if (RELEASE_STATUS = 'Open') {
  STATUS = 'Open'; }
if (RELEASE_STATUS = 'New') {
  STATUS = 'New'; }
```

The rules are executed in order for all rows in the repeating row set. Therefore the last rule will have the last effect, setting *New* for the STATUS field if any repeating row has the value of *New* in the RELEASE\_STATUS field. This progresses back up the list, so that if all repeating rows have the value of *Closed*, then the STATUS value is set to *Closed*

- You can execute a rule when a new row is added via the *Add another* button. For example, the rule:

```
<== onchange ==>
if (RR_LAYOUT.{changed}) {
  RR_FIELD = 'value';
}
```

This has the effect of setting the value of the repeating row field named RR\_FIELD on all new rows that are added

- You can have more finite control, and only execute rules on specific repeating rows through the use of a rule such as:

```
<== onchange ==>
if (RR_LAYOUT.{changed} && RR_LAYOUT.{max_row_num} = 2) {
  RR_FIELD[2] = 'value';
}
```

Note the use of max\_row\_num to determine that the rule is executed only for the row being added.

In this example, the rule is only triggered when the third repeating row is added, and the value of RR\_FIELD is only set on the third row. Remember, the rows are numbered starting at zero, therefore the number 2 represents the 3rd row

## Business Rule How To Examples

- How do I set the **Assigned To** of the issue to the person updating the issue, if the current value is null?  
if (ASSIGNED\_TO={null} && USER.{is internal})  
ASSIGNED\_TO = USER;
- How do I set the value of a field on the *add* screen?  
if (AREA=Issues && PROJECT=Issues && SCREEN\_NAME='ADD')  
{FIELD\_NAME=VALUE;}
- How do I set the value of a field on the *edit* screen?  
if (AREA=Issues && PROJECT=Issues && SCREEN\_NAME=EDIT)  
{FIELD\_NAME=VALUE;}
- How do I set the value of a field without any conditions?  
FIELD\_NAME=VALUE;

Note that this construct does not work within a refresh rule.

- How do I set the value of a field within an onchange rule?  
if (FIELD\_NAME.{changed}) OTHER\_FIELD = FIELD\_NAME
- How do I set the value of a user field such as ASSIGNED\_TO to the current user's name?  
if (AREA="Contracts" && SCREEN\_NAME='ADD') {  
ASSIGNED\_TO=USER;}
- How do I check to see if the current user is the user assigned to the current issue?  
if (AREA = 'Issues' && USER = ASSIGNED\_TO) {  
IS\_MANAGER='Y'; }
- How do I add multiple values with one rule to a multi-valued list?  
if (AREA = 'Requests' && BUS\_UNIT.{CHANGED TO:'ABC'}){  
ASSIGNED\_TO =[PCOLLINS,MGREEN];}



- How do I check to see if a value is selected in a multi-valued list?

```
If (MY_LIST.{contains 'Yellow'}) {
  COLOR = 'Yellow';}
```

- How do I check to see if several values are selected in a multi-valued list?

```
If (MY_LIST.{contains 'Yellow', 'Blue', 'Orange'}) {
  COLOR = 'Yellow';}
```

- How do I check to see if a multi-valued list contains some values, but does not contain some other values?

```
If (MY_LIST.{contains 'Yellow', 'Green'} && MY_LIST.{excludes 'Blue', 'Red', 'Purple'}) {
  COLOR = 'Yellow';}
```

- How do I check whether the current user has the *Administrator* role to allow an operation?

```
if (AREA='Bugs' && STATUS.{changed_to:'Closed'} && USER_ROLE='Administrator')
  {COMMENTS='OK!'};
```

- How do I alter a value, if another value has changed?

```
if (STATUS.{changed})
  {FIELD_X='Changed'};
```

- How do I set the values of fields to values from the user's personal options?

```
if (AREA='Issues' && SCREEN_NAME='ADD'){
  PHS_COMPANY_NAME = USER.{company name};
  PHS_FIRST_NAME = USER.{first name};
  PHS_LAST_NAME = USER.{last name};
  PHS_JOB_TITLE = USER.{job title};
  PHS_ADDRESS = USER.{address};
  PHS_WORK_PHONE = USER.{work phone};
  PHS_EMAIL = USER.{email};
  PHS_USER_DEFINED_1 = USER.{user defined 1};
}
```

- When the **Status** field first changes its value from *Open* to *Fixed*, how do I set the UDF field titled **Date First Fixed** to the current date:

```
if (STATUS.{changed_to:Fixed} && STATUS.{changed_from:Open}
  && DATE_FIRST_FIXED.{is null} )
  DATE_FIRST_FIXED = SYSDATE;
```

- How do I add two values named **UNIT\_PRICE** and **TAX** together and put the results in a field named **TOTAL\_PRICE**?

```
if (AREA='Bug' && UNIT_PRICE.{not null} && TAX.{not null}){
  TOTAL_PRICE = UNIT_PRICE;
  TOTAL_PRICE += TAX;
}
```

- How do I add subtract a value named **DISCOUNT** from a field called PRICE and put the results in a field named **DISC\_PRICE**?

```
if (AREA='Issues' && DISCOUNT.{not null} ){
  DISC_PRICE = PRICE;
  DISC_PRICE -= DISCOUNT;
}
```

- How do I multiply two values named **HOURS** and **AMOUNT** together and put the results in a field named **PRICE**?

```
if (AREA='Customer Issues' && HOURS.{not null} ){
  PRICE = AMOUNT;
  PRICE *= HOURS;
}
```

- How do I divide a value named **TOTAL\_COST** by a value of **HOURS\_WORKED** and put the results in a field named **PRICE\_PER\_HOUR**?

```
if (AREA='Issues' && HOURS_WORKED.{not null} ){
  PRICE_PER_HOUR = TOTAL_COST;
  PRICE_PER_HOUR /= HOURS_WORKED;
}
```

- How do I make the **Comments** field required, when the **Status** changes to *Fixed*? At the same time, inform the user of their error if they do not provide a Comment (database only rule):

```
if (STATUS.{changed_to:Fixed} && STATUS.{changed_from:Open} && COMMENTS.{is null} )
{Error: Comments are required when an issue is marked fixed.};
```

- How do I build a text field from other text fields?

```
if (AREA="Customers" && SCREEN_NAME='ADD') {
SHORT_DESCR="New Customer - ";
SHORT_DESCR&=CUST_NAME;
SHORT_DESCR&=" - ";
SHORT_DESCR&=CUST_LEGAL_INDENTITY;
}
```

- How do I set the value of a date field to the current date?  
if (AREA='Issues' && ACT\_PERCENT\_COMPLETE.{changed}) {  
COMPLETE\_AS\_OF\_DATE = {SYSDATE};  
}
- How do I increment a date field?

```
NEXT_MAINTENANCE_DATE = MAINTENANCE_COMPLETION_DATE;
NEXT_MAINTENANCE_DATE += MAINTENANCE_INTERVAL;
```

- How do I set the value of a field based upon a button being pressed?

```
if (AREA=Reviews && ADD_EXPENSE_BTN.{changed})
{EXPENSE_ADD='Y';}
}
```

- How do I pop up an error message?

```
if (AREA=Issues && SEVERITY_LEVEL=1 && STATUS=Pending)
{
ERROR: Invalid status with this severity level
}
```

- How do I set the value of a field to the value of a linked issue field?

```
if (AREA='Contracts' && CUST_LIST.{not null}) {
RELATIONSHIP_GROUP_PARENT = (customerLink).ID;
}
```

- How do I "roll-up" the values in repeating rows, so that the main issue represents a consensus of all the repeating row values? A commonly-defined use case for this rule is a scenario where you have a STATUS field on the main issue, which represents the RELEASE\_STATUS values held in multiple repeating rows where each row may have the same or different values. For example, let's say that your STATUS and RELEASE\_STATUS fields have four values, **New**, **Open**, **Fixed** and **Closed**. You want the STATUS field to show the value that corresponds to the earliest one in the list that is encountered across all the RELEASE\_STATUS values. Thus, if there are three repeating rows, with values of **Open**, **Fixed** and **Fixed**, you want the STATUS field to indicate a "roll-up" value of **Open**. Likewise, if all three values of RELEASE\_STATUS are **Open**, then you want the STATUS to also show **Open**.

This is achieved with the following onchange rules:

```
# First, push our changed status to the STATUS field, so we can then trigger a reset
# based on all repeating row fields, not simply the one that changed
if (RELEASE_STATUS.{changed}) {
STATUS = RELEASE_STATUS;
}
# Now do the actual roll up by resetting the main status based on whether specific
# RELEASE_STATUS values exist. Note that the order of these rules is critical
if (RELEASE_STATUS = 'Closed') {
STATUS = 'Closed'; }
if (RELEASE_STATUS = 'Fixed') {
STATUS = 'Fixed'; }
if (RELEASE_STATUS = 'Open') {
STATUS = 'Open'; }
if (RELEASE_STATUS = 'New') {
STATUS = 'New'; }
```

- How do I "roll-up" the values in sibling related issues, so that they update the status of their parent issue to **Closed**, when all the statuses of the child issues change to **Closed**. This is a common requirement, where a parent issue reflects the status of several or many child issues. The child issues are in a sibling relationship to the parent. The following example can be expanded to provide a roll-up over many different status values, and the same technique can be used to update any other

field on the parent issue, using a common value over many child issues. To achieve this structure, consider the following postupdate directive rules:

```
# Define a link to the parent issue
<== link myParent ==> RG(RG_NAME = relatedChildren, RG_TYPE = PARENTS)
# Now define a link for the child issues of the same parent - i.e. the SIBLINGS
<== link openChildren ==> RG(RG_NAME = relatedChildren, RG_TYPE = SIBLINGS), STATUS != 'Closed'
<== postupdate ==>
# If we have a parent and all its children are Closed - i.e. there are no children that are not closed
if (STATUS.{changed to: 'Closed'} && (myParent).ID.{is not null} && (openChildren).ID.{is null}) {
  {UPDATE: myParent STATUS = 'Closed'};
}
```

- How do I add a value entered into one field to become a member of a list in another field? First define the object to be used to move the value from a text field to a list field:

```
<== object cust ==> AREA='Customers', LINK=CUST_LIST, TITLE=CUSTOMER, PRIVACY=false
```

Now, use the rule in a way that is similar to:

```
if (CUST_LIST.{changed} && AREA='Issues') {
  CUST_CONTACT = (cust).CUST_CONTACT;
  EMAIL_ADDRESS = (cust).EMAIL_ADDRESS;
}
```

- How do I handle multi-valued fields?

```
if (AGENCY.{contains 'Federal'})
  {GROUP = 'Fed'};
```

- How do I check if a field has a value of null?

```
if (AREA=Issues && THEME={null})
  { DRAFT=Y }
```

- How do I check if a field does not have a value of null?

```
if (AREA=Issues && THEME={not null})
  { DRAFT=N }
```

- How do I create an email rule to send a specific email template to a user depending upon a condition?

```
if (AREA=Issues && STATUS.{changed_to:Pending Approval}) {
  {MAIL:'Issue Approval Request', APPROVER} };
```

- How do I create an email rule to send email to all the users in a role?

```
if (AREA="Contracts" && STATUS.{changed to:Finished}) {
  ROLE:MANAGER; }
```

- How do I send email to the **ORIGINATOR**, all users in a role and to specific users?

```
if (AREA='Trouble Report' && SCREEN_NAME='ADD') {
  ROLE:CE;
  ORIGINATOR;
  JLACEY;
  KMORRIS;
  SCHRIANI;
  PREEVES;
  BKISER;
  LMJAMES;
}
```

- How do I add a new record based upon a user pressing a button on a screen?

```
if (ADD_SERIAL_BTN.{changed} && UNIT_SERIAL.{not null}) {
  {ADD: AREA='Calibration',
  PROJECT='Unit',
  UNIT_SERIAL,
  COMPONENT,
  SITE,
  FACILITY};
}
```

- How do I update existing records based upon a field on the current screen changing?

```
if (CALIB_DATE.{changed} && CALIB_DATE > (unitLink).CALIB_DATE && AREA='Calibration') {
  {UPDATE: unitLink, CALIB_DATE, UNIT_CAL_EXPIRES };
}
```

- How do I add a related issue record to the database, following the creation of an issue? This example also shows some other useful techniques. This rule would be executed in the `<== postupdate ==>` section of the rules. Note the use of the "if" condition to prevent recursion after the new record is added and when the rule fires again for the record just added. Next note the technique where the **SHORT\_DESCR** of the issue is modified before it is added to the new record. The relationship between the records is created by assigning the value of the ID of the current issue to the field named **MY\_PARENT\_ID**, which will exist within the *add* and *edit* screens of the destination Business Area / Project.

```
if (AREA='Helpdesk' && EMPLOYEE_NAME.{not null} && SCREEN_NAME='ADD' && STATUS='New') {
  SHORT_DESCR = 'Install new computer for - ';
  SHORT_DESCR &= EMPLOYEE_NAME;
  {ADD: AREA,
  PROJECT,
  MY_PARENT_ID = ID,
  ASSIGNED_TO = 'BSMITH',
  STATUS = 'Open',
  PRIORITY = 'P 3',
  IT_SELECT_TABS = 'New Employee',
  SHORT_DESCR,
  IT_DATE_REQUESTED,
  IT_APPROVED_BY,
  ORIGINATOR,
  EMPLOYEE_NAME,
  EMPLOYEE_DEPT,
  EMPLOYEE_START_DATE };
}
```

- How do I only allow the person in the **ASSIGNED\_TO** field have update permission to an issue? This is achieved by altering the current role of the user, if that user is not the **ASSIGNED\_TO**. Given that the Guest user is typically not allowed to update issues, then changing the role to that of the Guest or the role identified by the behavior setting **LIMITED\_USER\_ROLE**, will cause the record to appear in read-only mode if the user is not the **ASSIGNED\_TO**.

```
if (USER != ASSIGNED_TO) USER_ROLE = Guest;
```

- How can I use a link in a relationship group to detect no Open sub-issues?

```
<= link rgOpen ==> RG(RG_NAME=MY_GROUP, RG_TYPE=CHILDREN), STATUS != Closed
if (STATUS.{changed to: Closed} && (rgOpen).ID.{is not null} )
{ERROR: Cannot set the status to Closed when there are open
child issues.};
```

- How can I calculate one number as a percentage of another, and display the result with two decimal points? If you simply have two rules that state the following:

```
TOT_PERCENT_DEFECT = DEFECTS;
TOT_PERCENT_DEFECT /= SAMPLE_SIZE;
```

where the value for DEFECTS is 25, and the value for SAMPLE\_SIZE is 100, the result returned is .2, not .25. The reason for this result is that rules try to make sense of operations, especially division, and therefore avoids results like 1.333333333336, and returns 1.3 instead. The rules engine looks at the number of decimal places (the precision) of each of the values, and then limits the number of decimal places returned to no more than the number of decimal places used to express the value, plus the minimum additional needed to get a non-zero value. Generally this works well, but as seen in this case there can be display problems, not the least of which is that there is no way to guarantee that either of the numbers has a certain number of decimal places.

To avoid this, write the rules as follows:

```
TOT_PERCENT_DEFECT = DEFECTS;
# multiply by 100 first to preserve accuracy
TOT_PERCENT_DEFECT *=100;
TOT_PERCENT_DEFECT /= SAMPLE_SIZE;
# explicitly add '.00' to preserve 2 digits of precision in the result
TOT_PERCENT_DEFECT /= 100.00;
```

By first multiplying by 100, you guarantee that there will be an integer value, and then by specifying the .00 when scaling it back causes the rules to keep at least two digits of precision.

- How can I test an incoming email, uploaded with the EVMail utility to see if it is a new or an existing issue?

```
if (SHORT_DESCR.{like : 'RE: Extraview [*]*'} )
STATUS = "Response received";
```

This rule processes the issue and looks to see if the incoming issue matches the string 'RE: Extraview [\*]\*' (excluding the outermost quotations. The \* is a wildcard. If the SHORT\_DESC field in the issue contains a value similar to 'RE: Extraview [#223456] This is a report of a problem.' then the STATUS of the issue is set to the value of 'Response received'.

- How can I set the Assigned To field of an issue to the value of the owner of a specific user defined field?

```
if (CUST_LIST.{changed}) ASSIGNED_TO = CUST_LIST.{owner};
```

This onchange rule will look for the owner of the user defined field named CUST\_LIST and set this user's ID into the issue as the Assigned To

- How can I ensure that a user enters a date that is in the future, not the past?

First, create a user defined field in the data dictionary. This is used to hold the number of days different between a date (or day) field, and the current date. The field does not need to be on any layout, but it should have read and write permission. For this example, the field is DIFF\_DAYS. The following preupdate rule will check that the date is not in the past.

```
if (PROJECT = 'Action' && DATE_FOLLOW_UP.{not null})
{ DIFF_DAYS = (DATE_FOLLOW_UP - SYSDAY); }
if (PROJECT = 'Action' && DATE_FOLLOW_UP.{not null} && DIFF_DAYS < 0)
{ STOP: The Follow Up Date must be greater than todays date };
```

- How can I add new repeating rows and populate them with values?

The following onchange rule will populate the first blank repeating row, and add two new repeating rows, when the user clicks the button named GENERATE\_PARTS\_LIST\_BTN and the value of the field named ASSEMBLY has a value of *Primary*.

```
if (GENERATE_PARTS_LIST_BTN.{changed} && ASSEMBLY='Primary' ) {
PARTS='Part 1';
{ADD ROW: PARTS='Part 2'};
{ADD ROW: PARTS='Part 3'};
}
```

If you want to set additional values on the repeating rows, you can modify the above along these lines:

```
if (GENERATE_PARTS_LIST_BTN.{changed} && ASSEMBLY='Primary' ) {
PARTS='Part 1', RELEASE_STATUS='New';
{ADD ROW: PARTS='Part 2', RELEASE_STATUS='New'};
{ADD ROW: PARTS='Part 3', RELEASE_STATUS='New'};
}
```

## Security Permissions

Granting Security Permissions, controls each user role's access to all fields, buttons and features in ExtraView. In setting permissions, the System Administrator has the ability to make these kinds of items read only, write only, readable and writeable, or invisible.

The security system uses the concept of inheritance. Each Area and each Project can have different security permissions for each key. However, if no setting is made at the Area level, then the value of the key at the global level is used. In the same fashion, if no value is given at the Project level, then the key is set to the value at the Area level. This provides an economic means of administering ExtraView where you need only provide settings for security keys that differ from the global level.

When you update a security permission key, or a number of keys, the change in permissions is immediate for the administrative user who made the change. All other users will see the change when the time period defined by the behavior setting named SECURITY\_CACHE\_MINUTES, causes the security cache for each user to be refreshed. The default time period for this is 30 minutes, so any user signed on will see the change within this time period. Any user who signs on will see immediately, the newly updated permissions.

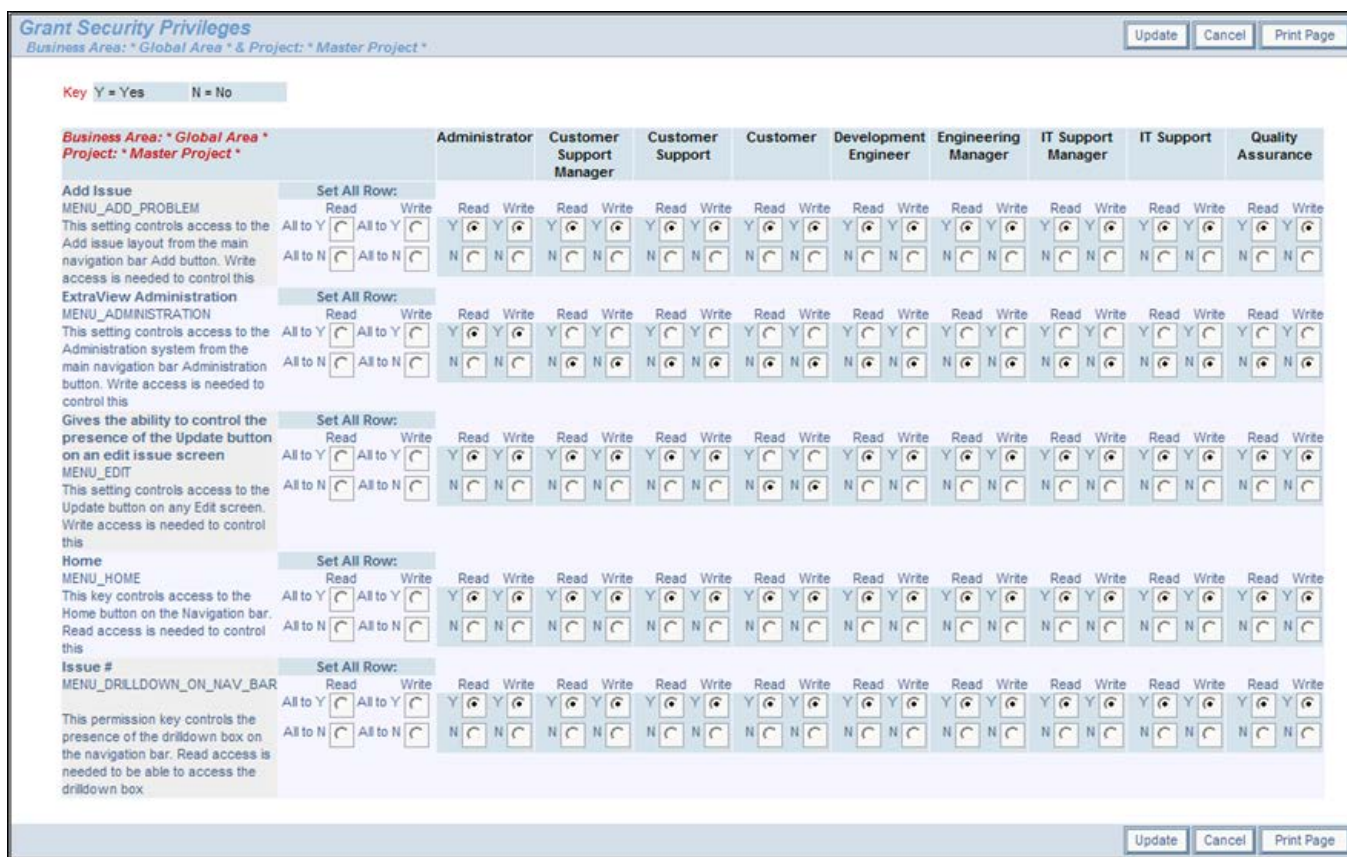
The security permissions for individual fields may also be set within the data dictionary and within the layout editor. This provides a convenient means of setting the permissions while working on a field.

1. Click on **Grant Security Privileges** within administration.

The following screen appears:

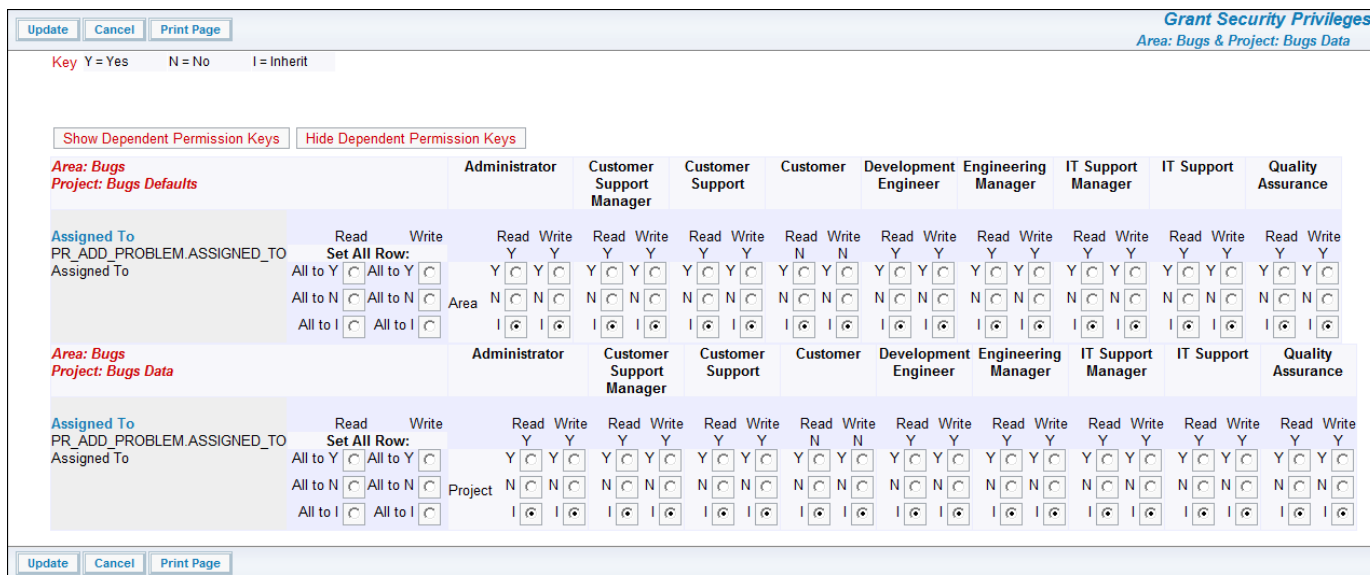
### Grant Security Privileges screen

2. This screen gives you access to alter the user role permissions for all of the System Security Keys. The options are as follows:
  - Business Area access by user role
  - Projects within Business Area for each user role
  - Navigation bar buttons and other screen options
  - The individual administration menus
  - Fields and other permissions used when adding issues
  - Fields and other permissions used when editing issues and querying/reporting
  - Access to personal and public report types
  - Security features, roles, password and privacy settings
  - Permissions to the values of the STATUS field
  - Fields on users' account records
  - Individual security keys, or a selection of individual security keys
3. After selecting a user role (or all user roles) and a security key category or individual security key, click the **Set Permissions for Selected Keys** button. You can select multiple keys by using the standard combination of CTRL and SHIFT keys on your keyboard, with the mouse button.



Grant Security Privileges screen

If you want to modify permission keys at an inherited level, i.e. you have not selected the Global Area and Master Project, the screen is modified, allowing you to see where security permissions for an individual key are inherited, and where they are overwritten. The following screenshot has an example.



Setting permissions for an inherited field

### Make a Field or Option Read Only

1. Identify the column head for the User Role whose privileges you would like to change.
2. Click the radio button in the **Read** box for that User Role only
3. Click the **Update** button.

### Make a Field or Option Write Only

1. Identify the column head for the User Role whose privileges you would like to change

2. Put a check mark in the **Write** box, for that User Role only
3. Click the **Update** button.

## Make a Field or Option Read and Write for a Particular User Role

1. Identify the column head for the User Role whose privileges you would like to change
2. Put check marks in both of the boxes, for that User Role only (Read and Write)
3. Click the **Update** button.

## Make a Field Invisible to a Particular User Role

1. Identify the column head for the User Role whose privileges you would like to change
2. Remove the check marks from both of the boxes for that User Role (Read and Write)
3. Click the **Update** button.

Note that you may alter all the permissions for a single field or object, across all user roles, by using the radio buttons beneath **Set All Row**. Use the buttons to set all read and/or write permissions to **Yes** or **No** for any row of settings.

## Inheritance

Permissions set in the global area and master project are inherited and used by all other business areas and projects unless the inheritance is broken at an individual business area or project. By doing this, you can establish a different set of permissions for any field or object at any level within your installation. Setting a different permission for a field within a business area, causes that permission to be used for all the projects within that business area. Setting a different permission within a master project causes all the other projects within that business area to use these permissions. Setting different permissions within a project other than the master project causes these permissions only to be used within that single project.

This provides an economic means of setting permission through your system. You set them at the root level, i.e. the global business area and master project. These permissions are then used with all junior objects, unless you choose to override them.

You provide the override by editing the field or object within the business area and project where you want to provide the override. When you first look at the permissions within a specific business area and project, you will see that the permission is set to "I", for inherit. You simply set the read and write privileges to override the inheritance. You can always set the permission back to the "I" value to restore the inheritance.

## Allowed Values

**Allowed Value Lists** give you the opportunity to have certain field lists and their values be dependent on other values in other list fields; for example, a list of specific *Platforms* may only be displayed if the connected parent Product is first selected. The following Parent ♦ Child relationships would be set up so that OS 9 or 10 platforms would only appear for Mac products, and Red Hat only appear for Linux.

Product	Platform
Macintosh Client	OS 9.x
Macintosh Client	OS 10.x
Linux Client	Red Hat
Windows Client	Windows 98
Windows Client	Windows XP

In the above example, when you select the product named Macintosh Client, the ExtraView Add Issue or Edit Issue screen will refresh, and the field titled *Platform* will have the two values OS 9.x and OS 10.x.

This feature can be used both to ensure data entered is valid, and that data entry can be accomplished with a minimum of searching. Allowed Values can be "chained" together, providing a cascading set of values. Common examples of allowed values are:

1. *Product name* ♦ *Module*
2. *Module* ♦ *Owner*
3. *Category* ♦ *Module* ♦ *Release* (example of a cascading list)
4. *Category* ♦ *Product name*

You may create chains of any length of allowed values; in concept, think of a grandfather ♦ father ♦ child ♦ grandchild type relationship.

With some limitations it is also possible to build multiple allowed value relationships where the same child field may have two or



three other fields, each of which is a parent in the allowed value relationship you are building. In this case, the child field is rendered using the intersection of the allowed values from each of the parents.

Not every combination of fields is allowable to be created as allowed values. For example, it is not possible to create an allowed value with a combination of MODULE\_ID or MODULE\_NAME and PRODUCT\_NAME, as another inbuilt mechanism exists to handle this requirement.

## Creating Allowed Values

The administrator creates allowed value definition (the allowed value type) from the **Fields & Layouts** tab on the administration menu, click **Allowed Value Types and Combinations**. The administrator also creates the allowed value combinations from within the same utility. The administrator can configure list type fields such that end users may add new values to a list (the **ADD\_NEW** layout cell attribute). [See the section at the end of this page](#) regarding the configuration of allowed values when an end user adds a value to a list field.

The following screen appears when the administrator uses the **Allowed Value Types and Combinations** utility:

**Allowed Value Types and Combinations**

**Add** Add a new allowed value relationship to the database

**Filter List**  
Select the column to use as a filter for the list. You may click on a letter to produce a list of the items which begin with this character, or you may enter a search pattern, including wildcards (\*). The Export button creates a CSV file of the results currently displayed on the screen.

Select filter column for report: Title

or click on a letter: A | B | <all> | <none>

or enter a search expression and click the Go button: Enter search expression

**Go** **Export**

	Title	Parent title	Child title	Refresh type	Enabled	Warn end users about stale values
<b>Edit</b> <b>List</b>	area-category	Area	Category	Page	Y	Y
<b>Edit</b> <b>List</b>	area-status	Area	Status	Page	Y	Y
<b>Edit</b> <b>List</b>	building-floor	Building	Floor Number	Ajax	Y	Y

**Return** **Print Page** 3 record(s) selected from a total of 3 record(s)

### Allowed Value Types screen

To create a parent-child dependency between *Category* and *Priority* (using a sample Title of "Test"), you would do so as explained below:

1. The Title can be any text that describes your Allowed Value Type.
2. For the Parent field, select the field that is the parent in the relationship. Then select the Child field that is dependent on the parent value you selected. These fields are both required
3. If you check the box against **Warn end users about stale values** then end users are warned when they edit a saved issue and a parent or child value in an allowed value relationship has been deactivated since the record was saved. The end user is informed that they can continue, but if they alter the saved value, they must choose a current valid value or leave the stale value. If this box is not checked, then the user is not issued the warning but the same rule applies. If the end user chooses a new value, it must be valid.
4. The most common allowed values use the Ajax refresh type. This means that when a user selects a parent value on an *Add* or *Edit* screen, the server is accessed with an Ajax call which determines what the values should be in the child list. The Ajax refresh type also ensures that any business rule or user custom programming call is made when the parent value changes
5. If you are creating an allowed value where the Parent field is either AREA or PROJECT, you should select **Page Refresh** as the refresh type. This is because a page refresh always occurs when a user changes the AREA or PROJECT field on an *Add* or *Edit* screen. If you select a different type of refresh when the parent is AREA or PROJECT, you are adding unnecessary overhead to the processing, which might degrade the performance of your system.
6. If you select JavaScript Refresh, the client browser uses JavaScript to update allowed value lists. This should be used for lists that contain a relatively small number of combinations of parent and child values. **Do not use JavaScript refresh if you are executing business rules based on a change in the parent or child value, as these will not be recognized and executed.** The size of the list that may be displayed using JavaScript refresh is controlled by the behavior setting named REFRESH\_LIST\_MAX\_SIZE. This setting is the number of combinations of parent and child values that will be downloaded to the client browser for processing, before ExtraView will use a Page refresh.
7. Click the **Add** button.

**Note:** If a field is a parent in more than one Allowed Value Relationship, you should not use JavaScript Refresh.

**Note:** You can create an allowed value relationship without specifying a Parent field name. This is useful under the following circumstance. You may want to create a list based upon itself. This may sound odd, but you can then only allow some of the values to appear on the screen. This has the effect of disabling specific values in the list, perhaps because you have retired their use.

Add Cancel Print Page
Allowed Value Types and Combinations

### Allowed Value Relationships

Allowed values set up parent - child relationships between fields. When a user chooses a value in the parent field, the child field list is automatically refreshed with the allowed children. The lists may be refreshed in one of three ways:

- Ajax Refresh causes only the values in the child list to be regenerated by the server. This is the default behavior for most allowed value relationships.
- A Page Refresh causes the browser to return to the server where the screen is regenerated in entirety.
- JavaScript Refresh loads all the logic into the user's browser page. JavaScript Refresh is fastest for small lists. Do not use this on large lists or if you have business rules that refer to the parent or child field.

- 1** Give a title to your allowed value list. This is only used to recognize your list.
- 2** Choose a Parent field for the allowed value list. If you leave the Parent field blank, then a relationship is still created. This has the effect of only allowing the selected values from the Child list to be displayed. This is useful if you want to disable some values in the list and only display some of the values to the user.
- 3** Choose a Child field for the allowed value list.

Title

Parent field

Child field

Enabled

Warn end users about stale values

Refresh Type  Ajax Refresh  Page Refresh  JavaScript Refresh

Add Cancel Print Page

New Allowed Value Type

## More about Refresh Methods for Allowed Values

There are three methods that can be used:

1. **Ajax Refresh.** When the parent value is selected, an Ajax call is made to the server to retrieve only the child values. The child list is refreshed, but the remainder of the screen is untouched. This provides a fast means of dealing with large lists, without the need to repaint the entire screen. For most purposes, this method should be used for maximum efficiency.
2. **Page Refresh.** On all changes of the parent value in the allowed value combination, the program returns to the server for the new data in the child list. This is primarily used when the parent field is either AREA or PROJECT. These fields, by definition, require a page refresh, therefore setting this refresh method minimizes the amount of work needed on the server, and delivers the smallest amount of code to the browser.
3. **JavaScript Refresh.** This method pre-calculates all the possible combinations of parent and child values and delivers these to the browser. For relatively small lists, this is very efficient. However, if either the parent or child value has a business rule that needs to be triggered when its value changes, then this type of refresh does not have the built-in intelligence to call back to the server to execute any business rule. The recommendation is to use JavaScript Refresh for modest sized lists where there are no business rules to be executed.

The same field may be used as a parent to more than one child field by creating more than one allowed value type. Each of these allowed value types may have any one of three refresh types. When a parent field is changed by a user on an *add* or *edit* screen, only one of the above three methods can be used. Which method chosen is decided as follows:

1. If there are any JavaScript refresh types for the parent, then a JavaScript refresh is done for all child values
2. If there are any Page refresh types for the parent, then a Page refresh is done for all child values
3. If neither of the above was true, an Ajax refresh is performed.

## Cascading Allowed Values

It is possible to construct allowed value relationships that “cascade”, i.e. you define a parent – child relationship for one pair of fields, and then define a second parent – child relationship where the parent is the child of the first relationship. This forms a grandparent – parent – child relationship between three fields. There are some restrictions about this usage:

- The data dictionary display type for all the fields must be **List**, **Popup** or **Tab**. Other display types will not work
- You must set JavaScript refresh to **No** for each of the allowed value relationships, if the display type is **Popup** or **Tab**.

The child field select list will always show only \* **None** \* as a possible value, until both the grandparent value and the parent values have been selected.

If you alter the metadata associating the allowed values, in such a way that editing a record causes a child record to be invalid, a warning will be displayed by ExtraView, informing the user that the child value is no longer valid. The invalid value is still displayed at this time though. If the user alters the values of the grandparent or parent, the invalid value in the child field will no longer be displayed.

## Allowed Value Parent Fields with Multiple Child Fields

One parent field may be the parent to multiple child fields. When you set up layouts with this scenario, you may also use JavaScript refresh to maintain the lists for users, provided that there are no more than 10 child fields for the parent. In the very rare and exceptional circumstance that you need more than 10 child fields to a single parent, then server-side refreshes will still work, and with no restriction on the number of child fields to a single parent.

## Allowed Value Child Fields with Two or Three Parent Fields

You may create two or three allowed value relationships for the one child field, with different fields as the parent field. When you create this scenario you individually populate the allowed children for each of the parents in their respective allowed value lists. When you include the two or three parent fields and the one child field on the same *add* or *edit* screen, then the children that are visible will be those that have common parents. If a child value only has one of the parent fields as an allowed value, the child will not be displayed and it is not a valid selection.

If only one parent and the child exists on the *add* or *edit* screen, then this combination will work correctly as the simpler single-parent allowed value combination.

The parent and child fields used for this combination must all be enumerated lists with a display type of List, Popup, Tab, Checkbox, or Radio button. User display types are not supported at this time. Note that you should not use JavaScript refresh for an allowed value with multiple parents.

## Allowed Value Additions by End Users

The **ADD\_NEW** layout cell attribute controls the ability of an end user being able to add a new value to a list on the *add* or *edit* screens. If a field with this layout cell attribute is the child in an allowed value relationship, there is control over the behavior of adding the new field value as a child of the allowed value relationship.

The control is achieved through a behavior setting named **AUTO\_POPULATE\_ALLOWED\_VALUES**. When this setting is YES, then in a popup from an add or edit screen that adds a new value to a list, and that list is the child within an allowed value relationship, then the new value will be added to the list and will be automatically added to the currently selected parent(s). If the value is NO, then the user will be prompted to select the Business Area, Project and the specific parent values to which the newly created child value will be added within the allowed value relationship.

- If you are adding a child list value from the *add* or *edit* screens, you must have the parent field value accessible on the layout *add* or *edit* layout
- If the child field belongs to more than one parent, the value of **AUTO\_POPULATE\_ALLOWED\_VALUES** is overridden and always behaves as if it is set to NO
- If the parent field is multi-valued, and multiple values are selected, ExtraView starts with all the selected parent values checked and the user can de-select or select additional values as they wish
- When selecting the business area and project field values, the process starts with the currently selected business area and project. There is a check to see if there are allowed values defined at that level. If not, the process moves up the layout inheritance tree until an allowed value is found. If none are defined, but the allowed value type exists, the allowed value is created in the global area and master project.

## Entering Allowed Value Combinations

Once the allowed value type has been created, navigate to **Allowed Value Types** administration menu.

The following screen with your metadata appears:

**Allowed Value Types and Combinations** Return Print Page

**Add** Add a new allowed value relationship to the database

	Title	Parent title	Child title	Refresh type
<b>Edit</b> <b>List</b>	area-category	Business Area	Category	Page
<b>Edit</b> <b>List</b>	building-floor	Building	Floor Number	Ajax

2 record(s) selected from a total of 2 record(s) Return Print Page

## Allowed Value Types

Once you have created the dependency relation above, you can view or specify the details of the relationship. For example you can view or modify which values of *Owner* will appear in a list box based on a selected *Category*. To do this, click the **List** icon next to the applicable Allowed Value Title. Note that the prompts for the Business Area and Project are only displayed if these are enabled in your system.

**Allowed value list** Return Print Page

area-category

The allowed value list for the Business Area and Project selected is displayed below. Press the Edit button to modify the list.

**Edit** Modify the allowed value list

Select Business Area

Select Project

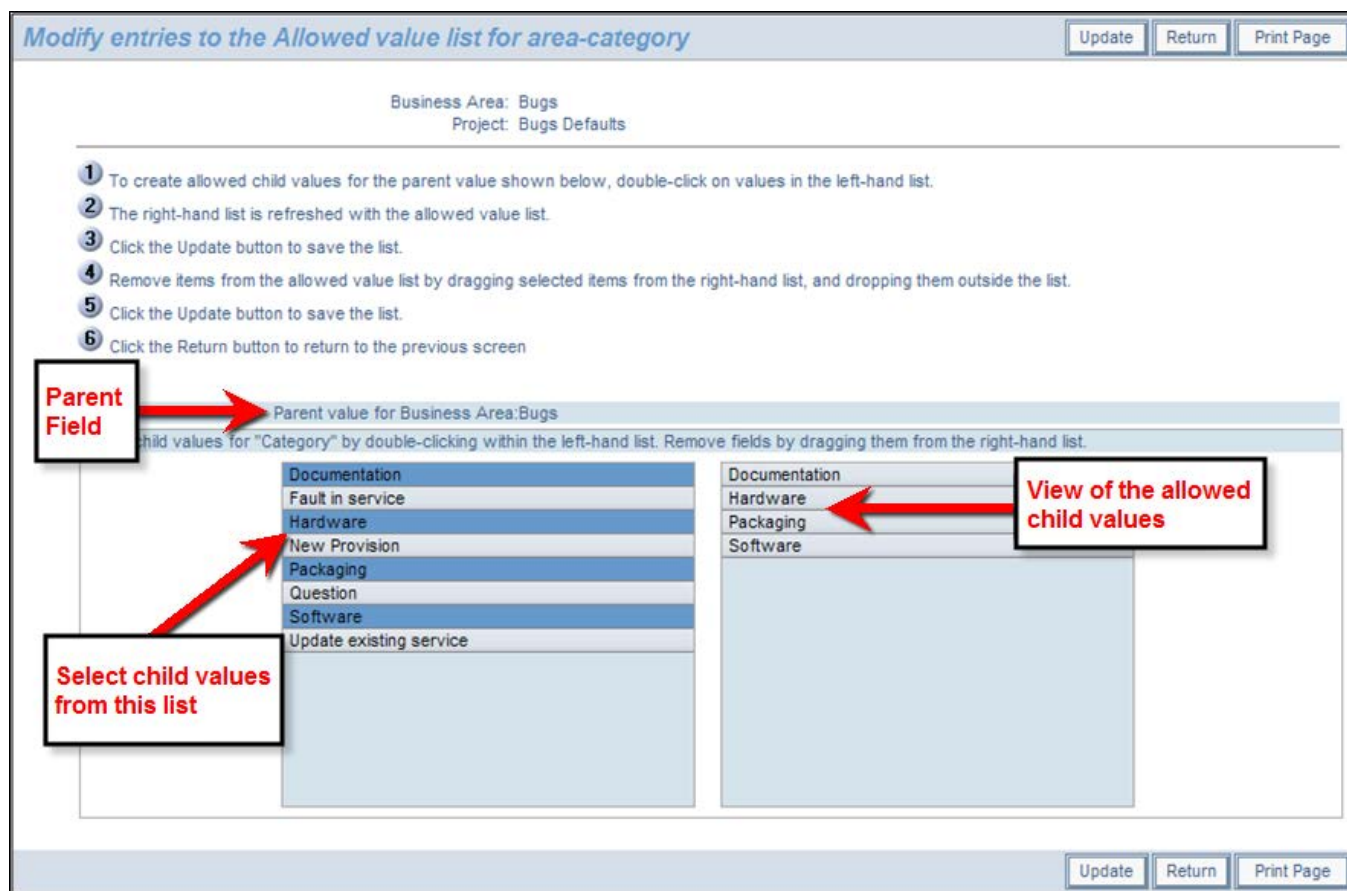
	Business Area	Category	Sort sequence
<b>Edit</b>	Bugs	Documentation	
<b>Edit</b>	Bugs	Hardware	
<b>Edit</b>	Bugs	Packaging	
<b>Edit</b>	Bugs	Software	

4 record(s) selected from a total of 4 record(s) Return Print Page

## Allowed Value List

If Business Areas and / or Projects are enabled, you can select any combination from the select lists to view the entire list of values defined for the allowed value relationship.

To modify an allowed value list, click on the **Edit** button. If Business Areas and / or Projects are enabled, you can define the values for the global area and global project, or you can define the values such that they only exist within a selected Business Area and Project.



## Managing the Allowed Value List

When you modify an allowed value list, the screen will look similar to the example above. You select the allowed child values from the left-hand list, by double-clicking with your mouse on each value you want to allow as a child. The value will then appear in the right-hand list. You remove allowed child values by holding your mouse button down on the list item in the right-hand list, and dragging the value out of the selection box. Note that if the parent field is AREA, then you cannot modify the parent list value from this screen, but you need to return to the previous screen to make a new selection. When you have selected the values as the valid list of children in the left-hand list, values are updated when you press the **Update** button. Note that the selected list displays the child values in the order they will appear in lists on other screens. This order is set in the list management screen for the value, unless you want to use the default alphanumeric order.

When you have modified the list, you must press the **Update** button to make your changes in the database. You can select other parents and modify their children before pressing **Return** to return to the previous screen.

**Note:** If the parent value is either the AREA or PROJECT field, you can only select its value from the previous list of Allowed Values.

**Note:** You can also maintain the allowed values from the List maintenance screens. When a list field value is a child in an allowed value relationship, you can select the parents to which it belongs from the List maintenance screen. The two methods of maintaining allowed values are complementary. The method described here is more convenient to use if you want to make the entries from the parent field, while the method available from the List maintenance screen is more convenient if you want to make your modifications from the child field.

You will typically place both the parent and child values in the allowed value relationship onto an *add*, *edit*, or *embedded* layout. If you place just one of them on a layout then the allowed values are not rendered; the field on the layout behaves as a normal list. You should always place the parent field on the layout before the child field, as there are occasions when the fields are processed in order, from left to right, top to bottom.

## Allowed Value Considerations

Not all fields are valid combinations as parents and children in allowed value relationships. The following is a list of valid combinations:

Parent Display Type	Valid child display types
List	List Pop-up

	Tab Radio button User
Pop-up	List Pop-up Tab Radio button User
Tab	List Pop-up Tab Radio button User
Radio button	List Pop-up Tab Radio button User
User	List Pop-up Tab Radio button User

**Note:** Other display types (Date, Log Area, Print Text, Text Area, and Text Field) are not supported in Allowed Value relationships.

## Allowed Values with Repeating Rows

There are some restrictions on the use of allowed value relationships with repeating row records. These are as follows –

- JavaScript refresh for the allowed value relationship must be used for the child values to be populated correctly in the child list
- Both the parent and child fields must be UDF's
- The mass update feature within repeating row fields with allowed values right is not supported at this time.

## Allowed Values and the Radio Button Display Field Type

Due to limitations within browsers with HTML and JavaScript, it is only permitted to use server refresh on field combinations where the child field is a radio button.

## Allowed Values and Different Refresh Types

Allowed values are applied upon each refresh, with the following priorities:

- **Page** refreshes have the highest priority
- **Ajax** refreshes have next highest priority
- **JavaScript** refreshes have lowest priority

These priorities are applied, irrespective of what has caused the refresh. The refresh cause can be triggered by the allowed value relationship, by a business rule being triggered, by a layout cell attribute, custom code or some other trigger. If any relationship causes a **Page** refresh, then everything is refreshed by the **Page** refresh.

If you have a chain of allowed values, say **Field\_A ==> Field\_B ==> Field\_C** and the refresh between the first and second pair of fields is of a different type, then only one refresh type is used during processing, according to which allowed value definition has the highest of the above priorities.

It is strongly recommended that you define and use **Ajax** refreshes as much as possible and that you do not mix the refresh types within a chain of allowed values. The exception to this is when the parent field in a relationship is either AREA or PROJECT. These fields always imply the use of a **Page** refresh. This will offer the highest performance, except in the case of simple allowed value relationships with a single parent and child where there are a relatively small number of combinations of allowed values. In this case, **JavaScript** refreshes are more efficient.

## Allowed Values Types with the Same Parent and Child Fields

You may create multiple allowed value types with the same parent field and child field. However, if you do, only one of the allowed value types may be active at one time. All inactive allowed value types are ignored.

## \* Default \* Parent Allowed Value

Each parent allowed value has an entry named \* **Default** \*. This allows you to set child allowed values to be used as a default, when the parent has no other allowed values set. This provides a means of economically setting up allowed values where you have a large number of parent values, with many requiring the same set of child values, and only a few parents needing their own specific set of child values.

Set up the allowed values for the parents where you need a specific set of values. Then set up the child values for the \* **Default** \* parent. All other parent values will now adopt the \* **Default** \* value children. Also, note that the \* **None** \* value on the *add* and *edit* screens for a child field will adopt the default children.

## Uploading from a File

**Note:** This option also allows you to create both the parent and the child list values at the same time that you create the allowed value relationships. Both the parent and child values should be user defined fields with a display type of a list form - i.e. List, Popup, Tab or Radio button.

It is sometimes convenient to upload a set of allowed value relationships from an external file. The file to be uploaded is of the form

```
parent_value_1, child_value_1
parent_value_1, child_value_2
parent_value_2, child_value_3
parent_value_2, child_value_4
parent_value_2, child_value_5
parent_value_3, child_value_6
... ..
```

The file may be comma-delimited or tab-delimited. Each set of allowed values to be uploaded may only be uploaded into the Business Area and Project that is selected on the screen, shown in this screenshot:

Selecting the Business Area & Project for the Upload

When you press the **Import Allowed Values** button, you see the following dialog:

Uploading the Allowed Value File

Note that you must select the delimiter you have used within the file you are importing. When the file has been successfully uploaded, you will see the following dialog:

Setting Options for the Upload of Allowed Values

As you can see from this screenshot, you can set the allowable parent and child allowed value relationships within the values in the file. At the same time, you may create parent or child values that do not exist. You may also use the sort order of the values as they exist in the file you are uploading, or you may let ExtraView sort the values alphanumerically.

## Allowed Value Compatibility Mode

With ExtraView version 5.0.2, a few subtle changes were made in the way that the children in allowed value relationships were presented to the user with some boundary conditions, such as when the parent value is null and is not null. The recommendation is to always set the behavior setting named AV\_NULL\_PARENT\_IS\_NONE to a value of YES for new applications. However a few customers relied on the earlier behavior for their workflow, so this behavior setting can be given a value of NO to retain the earlier behavior.

This setting is found on the Workflow behavior settings menu in Administration.

## Layout Types

Layouts are a basic building block in putting together all the screen forms used within ExtraView. Layouts are first defined with a **layout type**. There are many inbuilt layout types, one for each of the basic screen forms, such as the **add**, **edit** and **detailed report**.



Layouts are inherited at any specific Business Area from the Global Area. A new layout may be defined to override the Global Area layout within any Business Area. Within a Business Area, the default layout resides within the Master Project. Further projects that are created either inherit the layout from the Master Project, or have a specific layout defined, overriding the layout within the Master Project. At any level in the hierarchy you can also define different layouts for different user roles. There is a default stored and used for all roles, but this can be overridden by creating a layout for any individual user role.

Some inbuilt layout types, such as the **Related Issue Display** and the **Repeating Row Layout** can only be embedded within other layout types.

You can create your own layout types. These are used by embedding them within an inbuilt layout. Not all layout types can be embedded within all inbuilt layouts though. The documentation provides details.

Much of the way that layout types are used is within the Design Center; please consult this section of the guide for additional information.

ExtraView has a number of default system layouts that always will exist within an installation. These are as shown below. However, the administrator can create additional layout types, and create layouts using these that are embedded within the default system layouts. For example, if you have a block of fields that you always want to display in the same order on several *Add Issue* or *Edit Issue* screens, you can build these into an embedded layout, and simply include this layout within the default forms. Another use for embedded layouts is to create blocks of fields that are conditionally included in a form, dependent upon the value of a specific field. For example, in a defect tracking system, you may want to include a different block of fields to record information, dependent upon whether the user selects a **Category** of *Software*, *Hardware* or *Documentation*. At this time, embedded layouts are not supported within *Search Filter* and *Report* layouts.

Screen layouts can be created in a specific hierarchy, allowing many different layouts to be displayed according to your system design.

- There is always a default layout for the following screens and reports. These are provided with the default installation of ExtraView and can be altered to suit your needs, although they should never be deleted:
  - Add Issue screen
  - Attachment History
  - Edit Issue screen
  - Brief Email Notification layout
  - Filter layout for knowledgebase on the Home Page
  - Full Email Notification layout
  - Relationship Group Email Filter
  - Relationship Group Filter for managing relationship groups
  - Related Issue Display
  - Embedded Repeating Record layout
  - Detailed Report layout
  - History Report layout
  - Quicklist Report layout
  - Full Search filter screen
  - Quick Search filter screen
  - Chart Filter screen
  - Search Aging Report
- Each of these layouts is described within ExtraView with a Layout Type. A different Layout Type exists for each of the standard layouts, but the same Layout Type is used if a layout is created for a different Business Area, Project or User Role
- You can create new Layout Types. For example, if you want a new embedded layout, you can create a specific Layout Type for this, and then reuse this as often as needed, either as part of different Business Areas, Projects, User Roles or as different layouts that are selected dependent on the value of a field
- For each user role in your installation, you can define alternative layouts for each of the above. Once again, if you do not define an alternative, the default layout will be inherited and used
- If your installation uses Areas and Projects, then you can specify a different layout for each of the above, at both the Area and Project level. If you do not do this, then the default layout will be inherited and used.
- If your installation uses Areas and Projects, you may still define alternative layouts for each user role. This allows you to define an alternative layout for each and every user role and each Project and each Area
- Security privileges set for all fields will take precedence over the placement of a field on a layout. Thus, you can use the same layout for many user roles, but control the visibility and use of all fields simply, with security
- It is important to always include the ID field on the add and the edit layouts. This is because this is the key identifier for any issue you create or identify. However, if you do not want the field to be visible, then you can use a layout cell attribute to hide the field.

**Note:** The initial installation of ExtraView provides a standard layout for all inbuilt screens and reports. These can be altered for your organization.

## Built In Layout Types

Layout types are used to name and label each different type of report or layout. These are largely used by ExtraView to describe

built in functions such as the Add Issue screen, the search filters.

A layout type allows many individual layouts of the same type to be created. For example, an Add Issue screen can be created for each user role, and for each area, and for each project in the entire system.

As an administrator, the most likely reason you will have to create additional layout types will be if you want to create new embedded layouts. Embedded layouts may be contained within one or more layouts. A typical use of this feature is to have an embedded layout that is selected according to the value of a field such as Category. For example, if Category = DOCUMENTATION, then a set of fields on an embedded layout related to documentation issues can be displayed. If Category = HARDWARE, then a set of fields related to hardware issues can be displayed.

The following built in layout types exist in a new ExtraView installation. You typically need to create additional new layout types if you want to create layouts that you will embed within other standard layouts.

- ADD\_PROBLEM - the add issue layout
- ADD\_CONFIRMATION - the confirmation/verification screen displayed after a new issue is added
- ATTACHMENT\_HISTORY - the layout for the history of attachments
- EDIT\_PROBLEM - the edit issue layout
- EMAIL\_BRIEF - the layout for brief email mode
- EMAIL\_FULL - the layout for standard email notifications
- HISTORY - the layout for history audit trails
- POST\_EDIT\_UPDATE - the layout that is triggered following the update of an issue with related issues
- RELATED\_ISSUE\_DISPLAY - the layout for displaying related issues
- RELEASE - the layout for repeating rows
- SEARCH\_AGING\_REPORT - an internally used layout used to create aging reports
- SEARCH\_CHART\_REPORT - an internally used layout used to create charts
- SEARCH\_DETAILED - the layout for the detailed report
- SEARCH\_EMAIL - the layout used as a filter when creating ad hoc email notifications
- SEARCH\_EXPANDED - the layout used to created filter screens within reports
- SEARCH\_QUICK - the layout used on the Query screen
- SEARCH\_QUICKLIST - the layout used to produce Quicklists
- SEARCH\_RGFILTER - the layout used as a filter for relationship groups
- SIMPLE\_COL\_SELECT - an internally used layout for the preparation of column reports
- SUMMARY\_REPORT - an internally used layout for the preparation of summary reports

## Creating New Layout Types

To create a new layout type, click the administrative tab named Create and Maintain Layout Types. You can also access this screen from within the Design Center, by clicking the **New** button within the

The following screen appears:

Return
Print Page
Create and Maintain Layout Types

Add Add a new layout type to the database

### Filter List

Select the column to use as a filter for the list. You may click on a letter to produce a list of the items which begin with this character, or you may enter a search pattern, including wildcards (\*). The Export button creates a CSV file of the results currently displayed on the screen.

Select filter column for report Name

or click on a letter A | C | D | E | H | I | P | R | S | <all> | <none>

or enter a search expression and click the Go button Enter search expression  Go Export

Name	Title	Usage	Created	Last updated
<span style="background-color: #0070C0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> ADD_PROBLEM	Add Issue Screen	Screen	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070C0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> EDIT_PROBLEM	Edit Issue Screen	Screen	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070C0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> SEARCH_QUICKLIST	Report Layout - Quicklist Report	Report	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070C0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> SEARCH_DETAILED	Report Layout - Detailed Report	Report	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070C0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> HISTORY	Report Layout - History Report from Edit Screen	Report	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070C0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> SEARCH_EXPANDED	Search Filter Layout - Full Search	Search	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070C0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> SEARCH_QUICK	Search Filter Layout - Quick Search	Search	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070C0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> SUMMARY_REPORT	Report Layout - Summary Report	Report	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070C0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> RELEASE	Repeating Row Record	Screen	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070C0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> SIMPLE_COL_SELECT	Report Layout Template for Column Reports	Report	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070C0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> EMAIL_FULL	Report Layout - Full Email Notification Layout	Report	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070C0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> EMAIL_BRIEF	Report Layout - Email Brief Notification Layout	Report	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070C0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> SEARCH_EMAIL	Search Filter Layout - Email Filter for Ad Hoc Email from Edit screen	Search	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070C0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> SEARCH_RGFILTER	Relationship Group Filter	Screen	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070C0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> SEARCH_CHART_REPORT	Search Filter Layout - Charts	Search	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView
<span style="background-color: #0070C0; color: white; padding: 2px 5px; border-radius: 3px;">Edit</span> DEV_SELECT_TABS	Select tabs for bugs area	Screen	1/1/05 12:00 AM ExtraView	1/1/05 12:00 AM ExtraView

## Maintaining Layout Types

To add a new layout type, press the Add button and use the following screen:

Add
Cancel
Print Page
Add a New Layout Type

### Create a New Layout Type

Use this screen to create a new layout type. You may use layout types that you create to embed a layout within other layouts. Layout types that you create to embed within *add* and *edit* layouts should have a usage of **Screen**. Note that layout types being used as related issue displays should have a usage of **Report**, even though they are to be included within an *add* or *edit* layout.

Name

Title to display

Usage Screen

### Use This Section When Creating a Repeating Row Layout

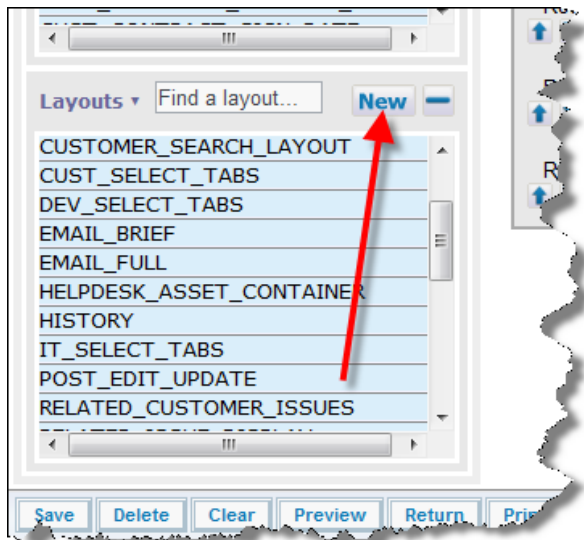
Use this section only if you are creating a new repeating row layout. Either select an existing repeating row type or use the radio button to create a new repeating row type. Note that a repeating row layout type may only be embedded once within an *add* or *edit* layout. Create a separate repeating row type for each repeating row that you require on an *add* or *edit* layout.

Select an existing repeating row type  Create a new repeating row type

Repeating Row Type \* Select a repeating row type \*

Add
Cancel
Print Page

## Maintaining Layout Types



### Adding a New Layout Type from the Design Center

Layout types must have a name, a title and a usage. The following usage values are valid: Screen, Report, Search, User Report.

If, and only if, you are creating a new layout type to be used as a repeating row, then complete the bottom section of the form. If you are creating a new repeating row layout type, then you also give this a name and a title. When you press the radio button to **Create a new repeating row type** these fields are shown. You can create a new layout type using an existing repeating row type, in which case you choose the option to **Select an existing repeating row type**. In this case you select the repeating row type from the list.

**Note:** The edit function allows you to delete layout types, whether they were created by yourself as an administrator, or created by ExtraView. **You should not delete an ExtraView created layout type.** ExtraView will not function correctly if you do so.

## Workflow Setup

In addition to user and security management, ExtraView allows the System Administrator to manage workflow and processes with many behavior settings, creating rules with a scripting capability and by creating and enforcing status change rules.

Business rules allow the administrator to configure ExtraView with field value assignments based upon the values of any other fields. In a similar way, email rules allow you to control the notification process with a set of rules, as opposed to using the defaults for notification.

Status change rules allow you to determine the valid transitions from status to status. This is completely under the control of the administrator, and can be set individually for each business area, project and user role.

You can also maintain relationship groups as part of your workflow. Relationship groups allow you to connect issues together. When linked, and you apply an update to one of the issues, you can automatically provide a status update and comments to the other issues in the relationship group.

Service Level Agreement management allows the administrator to set up the conditions to measure whether the handling of individual issues fall within predetermined conditions that you have set up to manage your customers. For example, you may have an obligation to respond to all customer issues within two hours, and an obligation to provide closure on an issue within two days. This utility allows you to set up these criteria. Under reporting, your users may use these criteria to prepare and run reports that show your organization's performance against these SLA's.

## Status Change Rules

Status change rules allow the Administrator to control the process by which the status of issues can be altered. To conform to your company's workflow, ExtraView can create status change rules based on three different workflow formats:

1. **Default Format:** All users must follow the same rules for all different product, projects, categories, modules etc.
2. **User Role Format:** Different state change rules apply to different user roles within your company.
3. **Product Format:** Certain products can be changed to statuses that are different from those that apply to other products.

Status change rules can be switched off altogether, with the behavior setting named ENFORCE\_STATE\_CHANGE\_RULES.

In addition, if you are using business areas and / or projects, the status change rules can be set independently for each combination. This gives the flexibility of setting status change rules for any combination of Area, Project and User Role, or any combination of Area, Project and Product. Thus the status change rules allow diverse tracking systems to be set up within a single database, each with their own process and workflow.

An important concept with status change rules is inheritance. When you have defined a combination of business areas and projects together with user roles or products, inheritance allows you to define a workflow at any point in the hierarchy, and have all the subordinate points inherit the same workflow. This provides an economic way of defining workflow, without having to provide a workflow for each and every combination of business area, project, user role and / or project that you define.

**Note:** If you provide even a single entry in the workflow matrix at any level in the hierarchy, then this is used as the workflow for the entire level.

## Enabling Status Change Rules

1. From the Administration menu, under the **Workflow** tab, click on **Workflow Settings**.
2. Click the **Edit** button next to the default value entitled ENFORCE\_STATE\_CHANGE\_RULES.
3. Change the value from NO to YES, and click the **Update** button (if the value is already YES then leave it so).

### Interaction with the ADMIN\_OVERRIDE\_ROLE Behavior Setting

Status change rules are not obeyed by a user whose current role is that specified by the behavior setting named ADMIN\_OVERRIDE\_ROLE. Thus users whose current role is that of an administrator, typically have freedom to alter the status of an issue from any value, to any other value. The audit trail for the issue will still show the transition.

### Choosing the Workflow Process

**Note:** For this next step, you have to decide which workflow is best for your company. You are able to choose between DEFAULT, PRODUCT and USERGROUP (as discussed above).

1. From the **Workflow** tab of Administration, click on **Workflow Settings**.
2. Click the **Edit** button next to the SEPARATE\_WORK\_FLOW default value.
3. Change the value to DEFAULT, USERGROUP or PRODUCT and press the **Update** button.

## Building Status Change Rules

From the Administration menu, under the Workflow tab, click on **Status Change Rules**. Based on your choice of workflow format, one of the following three screens will appear (the screens may look slightly different than what is represented here, but the functionality is identical).

Note the use of \* **None** \* as a value in the To Status and From Status column and row of the table. As well as control the movement of issues between different values, you can also control whether \* **None** \* is an allowable value. \* **None** \* may be set as a default value for the status field in the data dictionary.

When accessing the matrix showing the valid status transitions, all checkboxes may appear "grayed-out". This implies that the values shown for the combination of the user role or product, the business area and the project are being inherited and cannot be set explicitly for this combination. To break the inheritance and set explicit values for the combination, either press the Update button once, or use the Copy From option to select the values from another combination of user role or product, business area and project.

### Status Change Rules

Update Return Print Page

Status change rules can be defined for one Business Area by filling in the matrix. To fill out the matrix, check the boxes of the status changes you want to allow users to make.

Remember that the rules can be switched off or on altogether using the ENFORCE\_STATE\_CHANGE\_RULES setting in the "Workflow Settings" administration screen. The current value of ENFORCE\_STATE\_CHANGE\_RULES is YES.

Remember that the role set by ADMIN\_OVERRIDE\_ROLE bypasses the status change rules, and workflow is not enforced for this role.

View all  ? View disallowed  ? View unpermitted  ?

From Status	To Status							
	New	Open	Fixed/Pending	Closed	Duplicate	Not Found	* None *	
New		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Open	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fixed/Pending	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Closed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Duplicate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not Found	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
* None *	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>

Update Return Print Page

Status change rules applied universally to all issues

### Status Change Rules

Update Return Print Page

- 1 Set the values for the status rules to be modified in the list following the 'Define Settings' radio button.
- 2 Status change rules can be defined for one user role, by selecting the 'Define Settings' radio button and filling in the matrix. To fill out the matrix, check the boxes of the status changes you want to allow users to make.
- 3 You may press the 'Copy From' radio button and then the Update button to copy from the user role to the current selection in the 'Define Settings' list.
- 4 Remember that the rules can be switched off or on altogether using the ENFORCE\_STATE\_CHANGE\_RULES setting in the "Workflow Settings" administration screen. The current value of ENFORCE\_STATE\_CHANGE\_RULES is YES.
- 5 Remember that the role set by ADMIN\_OVERRIDE\_ROLE bypasses the status change rules, and workflow is not enforced for this role.

Define Settings       Copy From

User role: Administrator      User role: Administrator

View all  ? View disallowed  ? View unpermitted  ?

From Status	To Status							
	New	Open	Fixed/Pending	Closed	Duplicate	Not Found	* None *	
New		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Open	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fixed/Pending	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Closed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Duplicate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not Found	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
* None *	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>

Update Return Print Page

## Status change rules applied to different user roles

**Status Change Rules**
Update Return Print Page

1 Set the values for the status rules to be modified in the list following the 'Define Settings' radio button.  
 2 Status change rules can be defined for one Product, by selecting the 'Define Settings' radio button and filling in the matrix. To fill out the matrix, check the boxes of the status changes you want to allow users to make.  
 3 You may press the 'Copy From' radio button and then the Update button to copy from the Product selected, to the current selection in the 'Define Settings' list.  
 4 Remember that the rules can be switched off or on altogether using the ENFORCE\_STATE\_CHANGE\_RULES setting in the "Workflow Settings" administration screen. The current value of ENFORCE\_STATE\_CHANGE\_RULES is YES.  
 5 Remember that the role set by ADMIN\_OVERRIDE\_ROLE bypasses the status change rules, and workflow is not enforced for this role.

Define Settings
 Copy From

Product

Product

View all  View disallowed  View unpermitted

		To Status						
		New	Open	Fixed/Pending	Closed	Duplicate	Not Found	* None *
From Status	New	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Open	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Fixed/Pending	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Closed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Duplicate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Not Found	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	* None *	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	* None *	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Update Return Print Page

## Status change rules applied to different products

## Open-Ended Rules

Note: The fields **Status** and **Business Area** are subject to the allowed value relationship with a title of **area-status**.

The following table shows which statuses in this workflow do not have any predecessors and do not have any successors. This is displayed for information purposes only.

Values without predecessors	Values without successors
Not Yet Tested	New
Tested - Passed	Not Yet Tested
Tested - Failed	Tested - Passed
Fixed	Tested - Failed
Duplicate	Open
Not Found	
* None *	

## Viewing allowed values and other information

Towards the bottom of the screen that manages the status change rules there are two optional sections. If the status change rules are subject to the STATUS field being the child of either AREA or the PROJECT field as a parent, this is displayed.

The second piece of information is a table that shows which settings in the status change rules has no predecessors and which rules

have no successors. The first group represents the statuses that will be start points in the workflow; the second group represents those that are end-points in the workflow.

## Enforcing Status Change Rules

1. For Product or User Role workflows, select a Product or User Role from the dropdown list in the Define Settings list.
2. Start by clicking the check boxes for each *From Status* (left-hand side) to the *To Status* (top). Click on the box at the junction of the *From* and *To* statuses where you want to allow a status transition.
3. After you are satisfied with the *From* and *To* values, click the **Update** button.
4. Select another Product or User Role from the list, and follow steps 1 through 3. Do this for each Product or User Role.
5. Note that you may copy the settings for any Product or User Role from a different Product or User Role. To do this –
  1. Select the Product or User Role you want to define in the Define Settings List
  2. Choose the Product or User Role you want to copy the settings from in the Copy From List
  3. Click on the Copy From radio button

The screen will refresh with the copied values in place.

After your final update, your Status Change Rules are fully implemented. You can now test out the functionality by editing an issue and making status changes. Note that at any moment, you will only see the valid statuses in the list that you can move the status to, according to the present status of the issue.

## Enforcing Status Change Rules with Areas and Projects

As discussed above, you are able to use the principle of inheritance to control status change rules over multiple user roles, multiple areas and multiple projects.

**Status Change Rules**
Update Return Print Page

1 Set the values for the status rules to be modified in the list following the 'Define Settings' radio button.  
 2 Status change rules can be defined for one Product within an Business Area and Project, by selecting the 'Define Settings' radio button and filling in the matrix. To fill out the matrix, check the boxes of the status changes you want to allow users to make.  
 3 You may press the 'Inherit From' radio button and then the Update button, to inherit from the Product selected in the 'Inherit From' list.  
 4 You may press the 'Copy From' radio button and then the Update button to copy from the Product selected, to the current selection in the 'Define Settings' list.  
 5 Remember that the rules can be switched off or on altogether using the ENFORCE\_STATE\_CHANGE\_RULES setting in the "Workflow Settings" administration screen. The current value of ENFORCE\_STATE\_CHANGE\_RULES is YES.  
 6 Remember that the role set by ADMIN\_OVERRIDE\_ROLE bypasses the status change rules, and workflow is not enforced for this role.

**Define Settings**

Product: Tracker

Business Area: Master Area

Project: Master Project

**Inherit From**

Product: \_MASTER

Business Area: Master Area

Project: Master Project

**Copy From**

Product: Tracker

Business Area: Master Area

Project: Master Project

View all  View disallowed  View unpermitted

		To Status						
		New	Open	Fixed/Pending	Closed	Duplicate	Not Found	* None *
From Status	New	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Open	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Fixed/Pending	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Closed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Duplicate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Not Found	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	* None *	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Update Return Print Page

### Inheriting Status Rules from a different area or project

At any level in the hierarchy of user roles, areas and projects, the default is that the status change rules are inherited from the level above in the hierarchy. There is a fuller explanation of this in the section on inheritance in the Layout Editor section of this guide.

The screenshot above shows the view at the global level. As you can see, you cannot inherit from any higher level. When you



choose to Define Settings for a level beneath the global area and global project, the section of the form entitled Inherit From will show the available levels from which you can inherit the values and then alter them to suit your needs at the level in Define Settings.

Note that you can also copy the settings from a different combination of user role or product, and area and project, to the location set in Define Settings.

## Status Change Rule Views

It is possible to create an infinite number of statuses within an ExtraView installation. This can make it difficult to view and set the status change rules on a single screen, as the matrix displayed can grow very large, both horizontally and vertically. Commonly, business areas will use the AREA field as a parent in an allowed value relationship, and the STATUS field as the child in the same relationship.

The Status Change Rules screen will restrict the statuses shown to the statuses that are the children of the current business area. This makes the screen much more manageable.

At the same time, it is possible to use security permission keys in any valid combination of user roles and business areas to turn off the status.

A problem may arise, if you restrict a valid status change transition, then turn off the security permissions, or alter the allowed values for the allowed transition, in that you will no longer see the checkbox for the transition on the screen.

To facilitate the management of your metadata under these conditions, the status change rule screen has three checkboxes, which will turn on hidden transitions, allowing you to check for incorrect settings.



**View All** – This will turn on all the checkboxes, irrespective of permissions, and allowed values

**View Disallowed** – This will turn on the checkboxes that were omitted due to the allowed value relationship

**View Unpermitted** – This will turn on the checkboxes that were omitted due to security permission settings.

## Status Change Rules Example

This example shows the key elements of setting up the status change rules to form a workflow. This example shows the set up for two of the user roles, the *Development Engineers* and the *Quality Assurance engineers*. In most companies, there will be additional roles that will be configured, and the steps in the workflow (i.e. the statuses) can be composed of many additional steps.

The basic workflow tasks are centered on a defined set of statuses, as set up within the list manager **STATUS** field.

Task	Development Engineers	Quality Assurance Engineers
Create <b>NEW</b> issues	x	x
<b>OPEN</b> issues to work on them from the NEW status	x	
<b>FIX</b> issues that are Open	x	
Re- <b>OPEN</b> issues that were marked as Fixed	x	x
<b>CLOSE</b> issues that are marked as Fixed		x
Mark Open issues as <b>DUPLICATE</b>	x	
<b>OPEN</b> issues that were previously marked Duplicate	x	x
Re- <b>OPEN</b> an issue that was previously Closed		x
Mark Open issues as <b>NOT FOUND</b>	x	
Re- <b>OPEN</b> an issue marked as Duplicate	x	x

No user will be allowed to set the status of \* **None** \* within the **Status** list, therefore a layout cell attribute of **Remove None** will be set within the Status field on the *Add* and *Edit* Layouts.

**Status Change Rules**
Update Return Print Page

**1** Set the values for the status rules to be modified in the list following the 'Define Settings' radio button.  
**2** Status change rules can be defined for one user role, and an Business Area and Project by selecting the 'Define Settings' radio button and filling in the matrix. To fill out the matrix, check the boxes of the status changes you want to allow users to make.  
**3** You may press the 'Inherit From' radio button and then the Update button, to inherit from the user role selected in the 'Inherit From' list, to the user role selected in the 'Define Settings' list.  
**4** You may press the 'Copy From' radio button and then the Update button to copy from the user role to the current selection in the 'Define Settings' list.  
**5** Remember that the rules can be switched off or on altogether using the ENFORCE\_STATE\_CHANGE\_RULES setting in the "Workflow Settings" administration screen. The current value of ENFORCE\_STATE\_CHANGE\_RULES is YES.  
**6** Remember that the role set by ADMIN\_OVERRIDE\_ROLE bypasses the status change rules, and workflow is not enforced for this role.

**Define Settings**

User role:

Business Area:

Project:

**Inherit From**

User role: Development Engineer

Business Area: Master Area

Project: Master Project

**Copy From**

User role:

Business Area:

Project:

View all  View disallowed  View unpermitted

		To Status						
		New	Open	Fixed/Pending	Closed	Duplicate	Not Found	* None *
From Status	New		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Open	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Fixed/Pending	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Closed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Duplicate	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
	Not Found	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
	* None *	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Update Return Print Page

Status Rules Example for Development Engineering role

### Status Change Rules

Update Return Print Page

- 1 Set the values for the status rules to be modified in the list following the 'Define Settings' radio button.
- 2 Status change rules can be defined for one user role, and an Business Area and Project by selecting the 'Define Settings' radio button and filling in the matrix. To fill out the matrix, check the boxes of the status changes you want to allow users to make.
- 3 You may press the 'Inherit From' radio button and then the Update button, to inherit from the user role selected in the 'Inherit From' list, to the user role selected in the 'Define Settings' list.
- 4 You may press the 'Copy From' radio button and then the Update button to copy from the user role to the current selection in the 'Define Settings' list.
- 5 Remember that the rules can be switched off or on altogether using the ENFORCE\_STATE\_CHANGE\_RULES setting in the "Workflow Settings" administration screen. The current value of ENFORCE\_STATE\_CHANGE\_RULES is YES.
- 6 Remember that the role set by ADMIN\_OVERRIDE\_ROLE bypasses the status change rules, and workflow is not enforced for this role.

**Define Settings**

User role: Quality Assurance

Business Area: Bugs

Project: Bugs Defaults

**Inherit From**

User role: Quality Assurance

Business Area: Master Area

Project: Master Project

**Copy From**

User role: Administrator

Business Area: Master Area

Project: Master Project

View all  View disallowed  View unpermitted

From Status	To Status							
	New	Open	Fixed/Pending	Closed	Duplicate	Not Found	* None *	
New	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Open	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fixed/Pending	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Closed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Duplicate	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Not Found	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
* None *	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Update Return Print Page

### Status Rules Example for Quality Assurance role

With these two diagrams, the Status field will look as follows within the Edit Screen, dependent upon the value of Status as follows. Note that these examples display the status values using the STATUS\_TRANSITION field. If you use the STATUS field on your *edit* screen layout, you will see the same values for each role in each status, but in a drop-down select list.

Status	Development Engineers see	Quality Assurance see
New		
Open		
Fixed/Pending		
Closed		
Duplicate		
Not Found		

# Closing Issues

ExtraView maintains an accurate record of the date that each issue is closed. This is achieved by inserting the current system timestamp into the issue, when the issue is moved to the closed state. The closed state is defined by the behavior setting named `STATUS_CLOSED_NAME`. Its default value is `CLOSED`, but the administrator may change this. The value should only be changed during the implementation of a new system, as once data accumulates in a system, you will lose the historic references to when issues were closed, if you change this setting.

However, your workflow may (or may not) allow closed issues to be re-opened. The rules for setting the `DATE_CLOSED` date in the database are as follows:

1. The initial value for `DATE_CLOSED` is `NULL`. As long as the status of the issue is not set to the value of the `STATUS_CLOSED_NAME` behavior setting, `DATE_CLOSED` remains equal to `NULL`.
2. If the Status is changed to `STATUS_CLOSED_NAME`, then `DATE_CLOSED` is assigned the value of the current date.
3. If a user has write permissions the security permission key named `PR_RESOLUTION.ALLOW_EDIT_CLOSED`, and they change the status to a value other than `STATUS_CLOSED_NAME`, then `DATE_CLOSED` is reset back to `NULL`, until the issue is again changed to the status of `STATUS_CLOSED_NAME`.

**Note:** The field named `DATE_LAST_STATUS_CHANGE` always is initially set to the date that the issue is first created, and subsequently is only modified if the status changes value.

# Service Level Agreements

Service Level Agreement management allows the administrator to set up the conditions to measure whether the handling of individual issues fall within predetermined conditions that you have set up to manage your customers. For example, you may have an obligation to respond to all customer issues within two hours, and an obligation to provide closure on an issue within two days. This utility allows you to set up these criteria. Under reporting, your users may use these criteria to prepare and run reports that show your organization's performance against these SLA's.

SLA definitions for organizations can differ widely, and different parts of an organization may need to create their own SLA terms for their individual customers.

ExtraView provides a scalable method to provide many SLA's within the product, but for simplicity an example follows that builds a global set of SLA conditions that look like this:

	Status Transition		
Priority	New-Open	Open-Resolved	Resolved-Close
P1 Issues	< 2 hours	< 1 day	< 2 days
P2 Issues	< 4 hours	< 5 days	< 30 days
P3 Issues	< 1 day	No commitment	< 180 days

This implies that the `STATUS` field contains (at least) the values *New*, *Open*, *Resolved* and *Closed*. The `PRIORITY` field has the values P 1, P 2, and P 3.

**Note:** A key feature of measuring SLA's is that an issue may move between the different statuses many times, yet it is the total time in the status that is measured and reported. For example, a customer may report a P 2 issue via email, and it is initially created as an issue and placed in the *New* status via the EVMail capability. Your support technician moves the issue to an *Open* status in 3 hours, within the agreed time of 4 hours or less.

Three days later, the issue is moved from the *Open* to the *Resolved* status and handed back to the customer. This is within the agreed time for the SLA. However, some time later the customer reports back to your support technician that the resolution was not sufficient, and the issue is moved back to the *Open* status. In a further four days time the issue is handed back to the customer and the issue is once again moved to the *Resolve* status. The customer accepts this resolution.

The SLA that followed this workflow was not met, as the issue took a total of seven days to resolve, not just the three or four days for which the issue was *Open* on each occasion. The SLA measurement spans all the occasions the issue was in the *Open* status.

Following are instructions on how to set up this scenario to monitor all the conditions in the above table. The reporting tool allows end users to run reports that utilize the SLA's.

From the **Site Configuration** menu in **Administration**, select **Service Level Agreement Management**. You will see a screen similar to:

**Service Level Agreements** Return Print Page

**SLA Management**

If you define a Service Level Agreement definition in a specific Business Area and Project, it only affects issues in that Business Area and Project. There is no inheritance with Service Level Agreement definitions. You should therefore define multiple SLA's as required.

**Add** Add a new Service Level Agreement definition

**Filter List**

Select the column to use as a filter for the list. You may click on a letter to produce a list of the items which begin with this character, or you may enter a search pattern, including wildcards (\*). The Export button creates a CSV file of the results currently displayed on the screen.

Select filter column for report:  Name

or click on a letter:

or enter a search expression and click the Go button:

Name	Title	Business Area	Project	Sort Sequence	Created	Last updated
------	-------	---------------	---------	---------------	---------	--------------

0 record(s) selected from a total of 0 record(s) Return Print Page

## SLA Management screen

Click the **Add** button.

First, we use the upper part of the screen to create and add the SLA. For our example we can use the values in this screenshot to create our first SLA named **NEW\_ISSUE\_SLA**.

**Service Level Agreement** Update Cancel Delete Print Page

Fixed name: NEW\_ISSUE\_SLA

Title:

Business Area:

Project:

Enabled:

Sort Sequence:

Notes:

Define:  SLA states  SLA filters \* SLA state list \*

State fixed name:

State title:

Warning threshold (hours):

Drop-dead threshold (hours):

Calendar:

Select Field	Operator	Value
<input type="text" value="* Select *"/>		

## The NEW\_ISSUE\_SLA

We then create the individual SLA states in the lower half of the screen. Each time we make an entry, we use the **Add to state list** button to save the individual SLA states as we add their data. When we have added all the individual states, you must use the **Add** or **Update** button at the top and bottom of the screen to save the entire set of metadata, i.e. you are saving the overall SLA information plus the individual conditions that make up the SLA's.

At the same time that we implement the requirements for the SLA's we will also add an additional value. This is the **Warning threshold**. After this time, and before the drop-dead date / time for the SLA, reports will display the fact that the deadline is approaching.

We can create the SLA with the following values:

State fixed name	State title	Warning threshold (hours)	Drop-dead threshold (hours)	Filters
P1	P1 Issues	1	2	Priority = P1

				Status = New
P2	P2 Issues	3	4	Priority = P2 Status = New
P3	P3 Issues	20	24	Priority = P3 Status = New

Next, to implement the requirement, we will create an **OPEN\_ISSUE\_SLA** with the following metadata:

Fixed name = **OPEN\_ISSUE\_SLA**  
Title = **Open Issue SLA**

State fixed name	State title	Warning threshold (hours)	Drop-dead threshold (hours)	Filters
P1	P1 Issues	18	24	Priority = P1 Status = Open
P2	P2 Issues	96	120	Priority = P2 Status = Open

Lastly, we implement the **RESOLVE\_ISSUE\_SLA** as follows:

Fixed name = **RESOLVED\_ISSUE\_SLA**  
Title = **Resolved Issue SLA**

State fixed name	State title	Warning threshold (hours)	Drop-dead threshold (hours)	Filters
P1	P1 Issues	40	48	Priority = P1 Status = Resolved
P2	P2 Issues	650	720	Priority = P2 Status = Resolved
P3	P3 Issues	4000	4320	Priority = P3 Status = Resolved

When you have completed these additions, you have set up three SLA's to measure the conditions in the table at the beginning of this section, plus we have added warning times to aid users be aware of impending deadlines being exceeded.

As a result of creating an SLA, a new inbuilt field with a display type of *time interval* is created within the data dictionary. This field is created so that you have the appropriate method of selecting SLA results as fields to place on reports. All the usual attributes and security permissions apply to this field. In addition, this field has an option to set the format of time to either **days, minutes, hours** or to **dd: hh: mm**. The name of this field is computed by concatenating the fixed name of the SLA with the name of the SLA state fixed name.

## Reporting & Querying

This section provides information to the Administrator on reporting options that may, or may not, be granted to users of the system.

### Counting Issue Records versus Counting Repeating Row Records

It can sometimes be important to understand the distinction that ExtraView makes between rows on a report and records on a report. This difference in semantics is used to distinguish between the times when ExtraView returns a precise number of *records* on a report and when it returns a set of *rows* that may or may not correspond exactly to the number of records.

The difference comes when a query may return a single record multiple times on a report, or count the same record multiple times on the same report. This happens when there are one-to-many relationships within your data. The two most common times this happens are:

- You prepare a report that uses repeating row records, then use a repeating row field to sort the report. When you use a field on a repeating row record to sort, it will generate a row on the report for each occurrence of the repeating row. Therefore, if you have 3 repeating rows within a single issue, it will generate 3 *rows* on the report for each *record*.
- You use reporting hierarchies. In a similar manner to the above bullet, one record at a level in the hierarchy may have multiple child records, and when you sort by a field at the child level, you will generate one *row* on the report for each *record*.

## Report & Query Permissions

Reports fall into two major categories, **Public** reports and **Personal** reports.

**Public** reports appear on the Query screen underneath the section entitled **Public** reports while **Personal** reports appear in the **My Reports** section. There is a sub-division of **Public** reports whereby reports can be made public across one or more user roles.

For each type of report, there are three separate security permission keys. In total, this allows each report type to have its security permissions set for each role. The keys are:

Personal Key	Public Key	User Role Key
SR_PERSONAL_AGING	SR_PUBLIC_AGING	SR_USERROLE_AGING
SR_PERSONAL_CALENDAR	SR_PUBLIC_CALENDAR	SR_USERROLE_CALENDAR
SR_PERSONAL_CHART	SR_PUBLIC_CHART	SR_USERROLE_CHART
SR_PERSONAL_COLUMN_REPORT	SR_PUBLIC_COLUMN_REPORT	SR_USERROLE_COLUMN_REPORT
SR_PERSONAL_CONTAINER	SR_PUBLIC_CONTAINER	SR_USERROLE_CONTAINER
SR_PERSONAL_DASHBOARD_REPORT	SR_PUBLIC_DASHBOARD_REPORT	SR_USERROLE_DASHBOARD_REPORT
SR_PERSONAL_LINKED_REPORT	SR_PUBLIC_LINKED_REPORT	SR_USERROLE_LINKED_REPORT
SR_PERSONAL_MATRIX	SR_PUBLIC_MATRIX	SR_USERROLE_MATRIX
SR_PERSONAL_PAGE_LAYOUT	SR_PUBLIC_PAGE_LAYOUT	SR_USERROLE_PAGE_LAYOUT
SR_PERSONAL_PLANNING	SR_PUBLIC_PLANNING	SR_USERROLE_PLANNING
SR_PERSONAL_SUMMARY_REPORT	SR_PUBLIC_SUMMARY_REPORT	SR_USERROLE_SUMMARY_REPORT

If a user role has read permission, then the reports are visible on the query list, and the user role may run the report. If a user role has write permission, then the user role may save or overwrite reports of the type.

## Saving Reports

**Save report** Save Cancel Print Page

Enter the report title, the report description and then select the report visibility. With permission, you may save a public report for everyone's use, or for the members of a single user role, or for your own personal use. You can create a new folder within another folder by selecting an existing folder and entering a new name for the new subfolder.

**Report Title** Assigned To by Status

**Report Description** For a Group By Rport

**Visibility of Report**

- \* All Roles \*
- Administrator
- Customer
- Customer Support
- Development Engineer
- Engineering Manager

**Existing Folders**

- My Reports
- Folder with all reports that prepare PDF's
- Public Reports
- Bug Reports
- Knowledge Base Reports
- Customer Issue Reports
- Customer issues sub folder
- Customer issues sub-sub folder
- Helpdesk Reports
- Feature Request Reports
- General Reports
- Test Plan Reports
- Dashboard Reports
- SLA Reports

Create New Subfolder Within: 'My Reports'

Save Cancel Print Page

The section of the window **Visibility of Report** is present if you can save the report for different roles, i.e. you have permission to the SR\_USERROLE\_xxx permission key. You can save the report for all user roles or you can select multiple roles from the list, and only these roles will have the ability to access the report.

Within the **Existing Folders** section, you can select the **My Reports** section to save the report for your personal use. This requires permission to the SR\_PERSONAL\_xxx permission key. If you want to save the report within an existing personal folder, select that folder.

Within the **Existing Folders** section, you can select the **Public Reports** section to save the report for public use or for use across one or more user roles. This requires permission to the SR\_PUBLIC\_xxx or SR\_USERROLE\_xxx permission key. If you want to save the report within an existing public folder, select that folder.

To create a new subfolder within the **My Reports** section, select **My Reports** and then enter the name of the new folder in the bottom field. To create a new subfolder within the **Public Reports** section, select **Public Reports** and then enter the name of the new folder in the bottom field.

## Quicklists & Detailed Reports

Quicklist layouts and only Detailed Report layouts can be defined for each Business Area in your system. These reports are defined within the layout editor, in exactly the same way that screen layouts are created and maintained. The Quicklist and Detailed Report that are created at run time are dependent upon the current Business Area and Project of the user. The following security permission key is useful to understand when creating and maintaining the Quicklist and Detailed Report.

Security Key	Purpose
--------------	---------

PR_RESOLUTION.QUICKLIST	Controls access by user role to the Quicklist report. Most user roles should be given this privilege.
-------------------------	---

There are several points that you should be aware of when creating report layouts:

- There is a field in the layout list named VIEW\_BUTTON. This allows you to place the drill down button to the detailed report on the screen. Most often used on the Quicklist, and never used on the detailed report itself.
- There is a field in the layout list named HISTORY\_BUTTON. This allows you to place the drill down button to the history report on the screen. The user must have read permission for the PR\_RESOLUTION.MENU\_HISTORY security key in order to see the button on the screen.



- There is a field in the layout list named EDIT\_BUTTON. This allows you to place the drill down button to the *edit* issue screen.
- There is a field in the layout list named DELETE\_BUTTON. This allows you to place the delete issue function on a report. The user must also have privileges to the PR\_RESOLUTION.DELETE\_BUTTON security key in order to be able to delete issues.
- You may want to use the Highlight layout element attribute to alter the display color of some fields. For example, you may make critical issues appear in red. If you do this, then the color used is defined in the behavior setting named HIGHLIGHT\_COLOR.
- If you have a dependency within one field of a layout with another field on the layout, such as Highlight, then both fields must be on the layout.

## Quickedit Mode

The Quickedit mode allows the inline editing of fields within a row of a report. You may place the QUICKEDIT button onto any Quicklist layout, any Detailed Report layout or onto a column report. This is a very fast and efficient means of updating many records in succession. For example, if you have a weekly status meeting where you review many issues and make changes to details such as priorities and who an issue is assigned to, then the Quickedit mode is very useful.

Sample Quickedit Report

Refresh Group Issues Update Issues Return Print Page

Records 1 to 20 of 385

Prepared by Bill Smith on 1/28/08 2:46 PM

	ID #	Business Area	Product	Module	Last Modified	Priority	Severity	Title
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10571	Bugs	Tracker	GUI	10/24/07 1:20 PM	P 1	High	Here is the title of the issue
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10337	Bugs	Tracker		12/11/07 2:08 PM	P 1	Low	This is a demo of P4 interface
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10326	Bugs	Tracker		12/11/07 2:08 PM	P 1	Low	update times right away!
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10323	Bugs	Tracker	GUI	12/14/07 12:17 PM	P 1		new java file changes
<a href="#">Update</a> <a href="#">Cancel</a>	10278	Bugs	Tracker		12/11/07 2:07 PM	P 1	* None *	User requests information on how to format text
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10272	Bugs	Tracker	GUI	12/14/07 12:49 PM	P 1		This will be mapped to EV
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10271	Bugs	Tracker	Database	12/11/07 2:07 PM	P 1	Low	Customer server is down and requires immediate attention
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10270	Bugs	Tracker		12/11/07 2:08 PM	P 1	Medium	Problem with the GUI widget
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10241	Bugs	Tracker		12/11/07 2:07 PM	P 1		This is a new job
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10240	Bugs	Tracker		12/11/07 2:08 PM	P 1		I have a problem with this computer
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10239	Bugs	Tracker		12/11/07 2:07 PM	P 1		This will become the title in ExtraView
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10238	Bugs	Tracker		12/11/07 2:08 PM	P 1		This is a new issue entered about the need for web searches
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10237	Bugs	Tracker	Database	12/11/07 2:08 PM	P 1	High	This is a new job in P4 being mapped to EV
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10236	Bugs	Tracker		12/11/07 2:08 PM	P 1		When the administrator logs in, he will see a new report
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10229	Bugs	Tracker		7/3/07 8:24 AM	P 1		Here is the title for all to see
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10228	Bugs	Tracker		1/27/05 10:09 PM	P 1		Here is the title for ExtraView
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10227	Bugs	Tracker		1/27/05 9:55 PM	P 1		Problem with flat buttons
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10226	Bugs	Tracker		12/11/07 2:08 PM	P 1	Low	Provision of TNCP problem
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10189	Bugs	Tracker Enterprise	GUI	4/10/05 9:01 PM	P 1	Low	Build it and they will come
<a href="#">View</a> <a href="#">Edit</a> <a href="#">Quickedit</a>	10101	Bugs	Tracker Lite		6/30/04 1:07 PM	P 1	Low	A single swallow does not a spring make

Records 1 to 20 of 385

Refresh Group Issues Update Issues Return Print Page

### Report Quickedit mode

When you press the QUICKEDIT button, you are able to edit the fields that appear on that row of the report. This is often much speedier than going into the edit mode of the issue. When you are in the Quickedit mode, you must exit by either updating the issue, or canceling the update. There are some caveats using the Quickedit function, as follows:

- The user must have write access to a field in order to update its value
- As the administrator, you must have placed the field on the edit layout for the appropriate business area and project in order to update its value. If the field is part of the issue and not on the layout, you may still see it in a read-only mode
- The - character will be displayed in a field, if the field is not an ExtraView built-in field and it has not been placed on the *edit* screen layout. This may happen if the user is sitting in one Business Area, but the record they are trying to edit resides in a different Business Area or Project, and does not have that field
- Calculated fields such as **Days Open** and **Days in Status** will be displayed as read-only
- If a field has a link using the "Display as URL" function, this link is not active when in Quickedit mode
- The user cannot ever edit the Business Area or Project fields in Quickedit mode
- If repeating rows are on the report or layout, the user may edit the existing values on a row, but cannot add a new row or delete an existing row
- All allowed value relationships are maintained. However, if the parent value is not on the report, the user may only select a new child value within the current parent value
- Quickedit mode does not operate within a report displaying the results of a hierarchical report. This is because these reports display multiple issues on a single row

- All business rules will be executed in the same way as if the user were using the full edit mode on the issue
- All issue notifications will be sent out as normal

Any HTML modifier placed on a field that appears on a report in Quickedit mode will be ignored. Instead, there is a user custom JavaScript exit that will allow you to define any code required for functionality. This is named `ucHtmlModifierQuickEdit()` and if it exists in the `UserJavaScript.js` file you may place code that emulates the HTML modifiers.

## Quickedit on Detailed Report Layouts

There are the following restrictions in using Quickedit on Detailed Report layouts:

- Quickedit is not supported if the Detailed Report contains embedded layouts
- Quickedit is not supported on Detailed Reports if the behavior setting named `REPORT_LABELS_POSITION` has a value of `LEFT`. Only when the labels are rendered with `REPORT_LABELS_POSITION` equal to `TOP` is Quickedit supported

# Keyword Queries & Quickfind

Keyword queries are enabled with the following actions:

- Place the inbuilt field named `KEYWORD` on a query filter layout
- This is subject to the normal `PR_RESOLUTION.KEYWORD` security permission key, allowing you to control which roles have access to the facility
- There is a further security permission key named `PR_RESOLUTION.SEARCH_ATTACHMENTS`. When this is enabled for a user role, they will see a checkbox appear beneath the keyword search. When the user checks this box, attachments to issues will also be searched for the keywords entered.
- `ALLOWED_ATTACH_SEARCH_FILE_EXT` – this behavior setting controls which file attachment types are searched. For example, you may have large image files within your database, through which there is no point searching for keywords
- `ALLOW_SEARCH_TEXT_UDFS` – When this is set to `YES`, all User Defined Fields with a display type of `TEXT` are included in the keyword query search
- `SEARCH_ATTACH_THRESHOLD` – This is another control to stop huge searches when using keyword queries on attachments. ExtraView will first calculate the total size of the attachments that are to be scanned for keywords. If the size (in bytes) is greater than the number in this setting, then ExtraView will ask the user to confirm that he wants to execute the search.

ExtraView composes SQL queries to search for keywords in its underlying database by default. However, the Administrator may turn an extremely fast, indexed search mechanism named Quickfind. Quickfind requires additional resources and storage to provide this performance boost, but for large sites with a significant amount of text and attachment files, it significantly improves performance.

## Searching Microsoft Documents for Keywords

Microsoft documents, such as Word and Excel, are stored using a character set known as **UTF-16LE Unicode 16-bit LittleEndian**. If you want to search these documents for keywords, you should store the documents, when you upload them, using this as the character encoding. This is especially important for Asian languages. Many searches with Roman alphabets will work fine without correctly identifying the character set within the Microsoft document.

## Quickfind

If ExtraView Corporation is hosting your installation, you do not have direct access to the file system of the server to configure, alter or use this feature without contacting ExtraView support.

Quickfind uses indexes built and maintained by ExtraView to speed up the search process for keywords. Understanding these indexes and constructing your search terms properly is critical in generating the expected results from your query. The feature is built upon the Apache Lucene technology.

To enable this feature, see the section on [Managing Quickfind](#) and the section on setting up the task that performs the indexing. This is managed in the [Manage Tasks and Threads](#) administration utility.

The indexes built are based on words extracted from the data being searched. The database automatically extracts words from your documents, ignoring most special characters. Common words that are not useful for searches, such as “a”, “the”, and others are discarded. The list of words that are discarded depends upon your database vendor and the specific version of their product. A knowledgeable Database Administrator may alter the list of ignored words and other settings, as these are part of the database operation, not part of ExtraView’s functionality.

Since only words are indexed by the database ExtraView will use a more complete, but slower method to search if the keywords that the user is searching for contain special characters. This search can be much slower, especially if the user is searching for attachments. Special characters are any characters other than alphanumeric characters, a-z, A-Z, and 0-9. For example, if the keyword search is for the character string **FIND\_ME**, a slower search will be used to ensure that words containing the underscore are found. This is a limitation of the database operation underneath ExtraView, not a limitation of ExtraView.

One of the biggest implications of the word index is that searches for fragments of a word that do not start at the beginning of the word will not return that word. For example, a search for **FORM** can return results for **FORM**, but not **inFORMal**.

ExtraView extends the keyword search term entered to search for words that start with the same characters. For example, a search for **APPLE** can return results for **APPLE** as well as **APPLEs** and **APPLEsauce**.

The default installation of Quickfind into your database environment performs case insensitive matching. Any combination of upper and lower case characters will match the same list of characters with any other combination of capitalization. For example, the following list of words would all be found when searching for **apple**: **apple**, **ApPIE**.

You may configure which text fields and file attachments are indexed. The indexing happens as a background task run on a timer within ExtraView. This timer is controlled by a behavior setting on the management screen for Quickfind, with the default being every five minutes. This means that text entered or attachments uploaded are not immediately available for finding with the keyword search capability, but will be included in the results following the next completion of the Quickfind background task. To enter the settings, click on the **Manage Quickfind Settings** of the **Display & Reports** administration section.

Update Return Print Page
Manage Quickfind Settings

### Quickfind Settings

This is where you may manage the settings for Quickfind, an indexing mechanism that significantly speeds up keyword searching. You should carefully follow the instructions in the Installation Guide to set up Quickfind for the first time.

You will require a directory on your web server that can be read and written by the Quickfind process. If you are using multiple application servers, they must be able to share this directory.

The fields below control which data is searched when the 'KEYWORD' filter is used.

You must also go to the **Manage Tasks and Threads** administration utility to configure and start the FULL\_TEXT\_SYNCHRONIZE background task. This task should be run on only one of the application servers.

Enable Quickfind ?

Lucene Index Location ?

Allow Quickfind on user defined text fields ?

ExtraView data	Enabled for Keyword Search	
The short description for the issue	<input type="radio"/> Yes	<input checked="" type="radio"/> No
Text fields, such as comments, and other long text fields.	<input type="radio"/> Yes	<input checked="" type="radio"/> No
Attachment information including the file name, the file description, and the attachment content.	<input type="radio"/> Yes	<input checked="" type="radio"/> No
Image and document fields including the file name, the file description, and the document content.	<input type="radio"/> Yes	<input checked="" type="radio"/> No
All other user defined text fields	<input type="radio"/> Yes	<input checked="" type="radio"/> No

Manage Content Types
Manage Character Set Mapping
Estimate Storage Requirements

Update Return Print Page

### Managing Quickfind settings

Note that in addition to the **Estimate Storage Requirements** button, the two other buttons at the bottom of the screen:

**Manage Content Types** – This allows you to manage the different content types that are indexed by Quickfind. It is not very likely that you will need to modify these settings as the default values provided are fairly extensive.

**Manage Character Set Mapping** – This utility is only used for Oracle databases. Again it is not likely that you will need to alter the settings provided.

### Quickfind versus Standard Search

- Quickfind is faster searching for keywords, compared to the standard search mechanism.
- Quickfind requires significantly more database disk storage than the standard search mechanism

Text indexed with Quickfind will not be found immediately if it is inserted. There will be a delay, up to the time specified in the poll interval of the task, before the text may be found. In most circumstances this is not a significant issue

- The standard search mechanism will not find mixed case words
- Simple words that are in the stop word list of Quickfind are not found with keyword searches.

## Reporting Hierarchies

Reporting hierarchies allow the administrator to set up relationships for reporting purposes. These relationships may be more than just a single level with a single parent and single child. You can set up reporting hierarchies of up to ten levels although it is unlikely that use cases go beyond three or four levels.

Some examples of reporting hierarchies may be:

### *Customers* ♦ *Customer Issues*

A single customer may report many issues, and you may want to display customer information such as their name, contacts, and email addresses on a report along with the details of all the individual issues that were reported by the customer, such as the issue title, status and resolution.

### *Requirements* ♦ *Engineering* *Orders*

You may want to set up a business area within ExtraView that has the high-level requirements to build new products. Each of these high-level requirements may be the parent of many individual engineering orders that build the component parts of the new product.

### *Line of Business* ♦ *Action Plans* ♦ *Action Items*

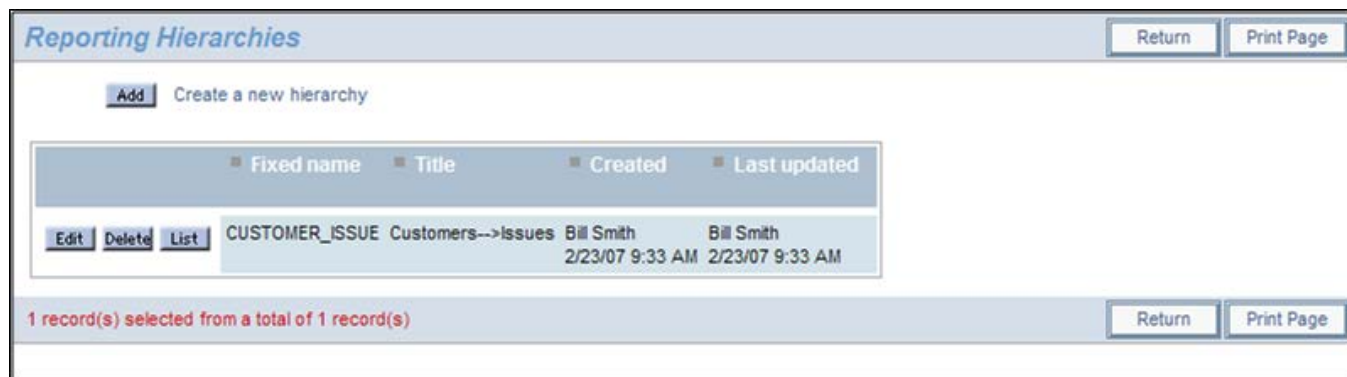
A company may be split into many lines of business, and each of these lines of business may have a number of high-level action plans, which themselves are broken down into action items. This can be represented by a reporting hierarchy.

The relationships between the parent and child levels of the reporting hierarchies are represented by relationship groups within ExtraView. Please see the section of this guide on how to set up and maintain Relationship Groups, and to see how issues are placed within these relationship groups.

A reporting hierarchy is simply the definition of the structure that makes it possible to create and view reports based upon the relationship groups. For instructions on how to create a report that uses a reporting hierarchy, see the Column Report section in the ExtraView User Guide.

To create a report hierarchy, select the **Reporting Hierarchies** entry on the **Site Configuration** tab of the **Administration** section of ExtraView. This presence of this menu entry is controlled by the security permission keys named CF\_HIERARCHY and CF\_HIERARCHY\_LEVEL. If you grant access to one of these permission keys, you should grant access to both in order to be able to set up the reporting hierarchies.

The following screen is displayed when you select the **Reporting Hierarchies** option:



### Reporting hierarchies management

From this screen you may use the **Add** button to create new hierarchies, use the **Edit** button to alter the title of an existing reporting hierarchy, use the **Delete** button to eliminate an existing reporting hierarchy, or use the **List** button to manage the hierarchy.

Adding a new reporting hierarchy offers you a simple screen where you enter the fixed name and the title of the hierarchy as seen below:

Adding a new reporting hierarchy

Once you have entered a fixed name and the title, click the **Add new hierarchy button**.

To add a new hierarchy level to an existing hierarchy, click on the **List** button from the Reporting Hierarchies Management screen. You will see the existing levels of the hierarchy, and you can add additional levels to this. This screenshot shows an existing reporting hierarchy level of one level:

Hierarchy level fixed name	Hierarchy level title	Level	Created	Last updated
CUSTOMER_ISSUES	Issues	1	Bill Smith 2/23/07 9:35 AM	Bill Smith 3/5/07 1:53 PM

Single level reporting hierarchy

If you use the **Edit** button to alter the metadata at this level, it will look similar to this:

Editing a hierarchy level

Note from the screenshot that the level is **1** and this cannot be changed. As you add new levels to the hierarchy they will automatically be set at an incrementally higher level. So, the next level you add will be **2**, etc. When adding a new hierarchy level you must choose an existing relationship group to represent the relationship, and you will then choose the relationship type. This must be one of *Children*, *Parents*, *Related*, *Members*, *Linked* or *Siblings*. These are defined in the section on relationship groups.

The above series of screenshots represent a reporting hierarchy of customer issues, where customers are the parents of issues.

The Business Area and Project in the last screen have special significance. If the behavior setting named DISPLAY\_ALL\_FIELDS is set to a value of NO, then the following the following behavior restricts the fields visible as filters:

- Set the behavior setting to a specific business area and project that represents an *edit* layout
- The normal rules of inheritance are obeyed if there is no *edit* layout at that business area and project level
- When you create or edit a report using the hierarchy, then only the fields on the *edit* layout and its sublayouts will be used to populate the field list for this level in the hierarchy. The normal security permission rules also apply.

This behavior helps provide clarity on the report editor screen. It is highly unlikely that a user will ever want to select a field at a hierarchy level that is not present on the *edit* screen and this behavior will most probably reduce the number of selectable fields at a level in the hierarchy from hundreds to tens.

# Report Expressions

Report expressions are used to calculate or derive new field values which are only placed on report output. For example, you may want to multiply the values held in two columns of a report to derive a new calculated value. Another example may be to subtract one date from another to calculate the number of days between two events.

Report expressions are first defined by creating a field in the data dictionary that is placed on the report. The actual calculation or expression is defined in the default value of the field, or in an attribute that is stored with the field within a report. Using the default value allows you to define a calculated field that may be shared across many reports without further configuration. However, you can use a single Expression type field defined in the data dictionary and reuse this on many reports for many purposes. You achieve this by selecting the field for use on any report, then using its **Alternative Title** and **Expression** attributes to modify its purpose for that report.

## Syntax for Report Expressions

The general syntax of an expression matches a subset of that in ANSI-99 SQL expressions, with arithmetic, string, and date data types. This includes infix and prefix operators, with standard precedence rules. Also, parentheses may be used to group sub-expressions.

Note that although the expressions utilize ANSI-99, the different databases upon which ExtraView may be installed do use different syntax for many operations, and the syntax you use within your expressions must be correct for the underlying database. To make matters even more complex, the syntax of some expressions varies across different versions of the same database.

Literals of each type are supported and although full ANSI syntax is not promised, it should be sufficient to allow specification of a specific value for each data type.

Variable names may refer to fields in the database. Each variable is in the form **\$\$\$DD\_NAME\$\$** and may refer to a standard ExtraView field name or special variable. Usually, the specification of a variable name refers to its report value (viz., its title or rendered form). However, inside an expression, the **value** of the variable is used, not its rendered form. Also, see the note on enumerated types below.

## Limitation

Expressions are not supported for use on repeating row fields within your data dictionary.

## Variable References to Enumerated Types

Enumerated types (fields with a display type of List, Popup, Checkbox, and Tab) may be referenced only as string variables, in which case their title is used in the expression. Only single-valued list type fields may be referenced.

## Evaluation of Expressions

As much as possible, report expressions are evaluated by ExtraView by processing at two levels:

- Select list construction within the detail report query; and
- Retrieval of the detailed expression values for rendering in the report row

Syntax checking includes tests for single-quoted strings, double-quoted strings, parentheses and the "cast" function. Syntax checking is done before the attribute is entered and stored as part of the report.

## Null Values

The existence of a null value in an expression renders the result of the entire expression value to be null.

## Expression Error Handling

Each report expression is syntax-checked and variable references are validated before allowing the containing report to be updated or run. There may be opportunity for the user to create erroneous expressions, as not all expressions can be determined without reference to the values in the database.

## Report Field Titles

To support report-specific titles on the expression fields, the **ALTERNATE FIELD TITLE** attribute is supported. This compensates for the difficulty for users to create column headings when they are sharing a data dictionary entry, such as the EXPRESSION type entries. The **ALTERNATE FIELD TITLE** attribute appears within the GUI of the report builder to allow the user to define a title for

a report through a simple selection mechanism.

## Use of Session Variables

Session variables defined in the data dictionary may be used as substitutable variables in a report expression. Each referenced session variable value must be set using a runtime filter for the report. Session variables may also be used within runtime filters to provide a mechanism to provide the same value for the occasions when the same field is used multiple times within filter queries. This can happen with advanced queries that use multiple **and** and **or** conjunctions.

The session variable must have been defined with a compatible display type, such as DATE, DAY, or TEXTFIELD for use within the expression.

## Examples

1. Compute the elapsed time, in number of days, from a timestamp in the issue to the current time:

```
Oracle 9 - round($sysdate$ - $date_field$)
```

```
Oracle 10 - extract(day from date1 - date2)
```

2. Compute a total sale value with sales tax based on a rate of 8%:

```
$currency_field$ * 1.08
```

3. Count the number of selections of a value in a field named **my\_field** with a value of **Yes**, when another field named **other\_field** has a specific value of **val**:

```
case when ($my_field$ = 'Yes' and $other_field$ = 'val') then 1 else null end
```

4. With a runtime filter referencing REPORT\_AS\_OF session variable with display type of DATE, the following expression computes the number of days between the current date and the specified runtime filter value for REPORT\_AS\_OF:

```
$$SYSDATE$ - $$REPORT_AS_OF$
```

## Remember Filter Values

In between sessions, ExtraView automatically remembers the filter values on advanced search screens. This is a time-saving device, as a user often wants to return to where they left off when returning to ExtraView. Further, it is only a single-click operation to clear the filters.

However, there is one item to recognize with this, in that the administrator may alter the metadata supporting the filters, or may even remove access to a field for a user. To support this, all remembered filter values will be removed if the administrator alters metadata such as a search layout.

## Complex Runtime Filters

There are occasions when you might want a user to run a report that has a complex set of advanced filters, including the use of several **and** and **or** conjunctions. For example, you might want to pose the following query filters (this is not a real query, but it is useful as an example):

```
(Customer = * Ask at runtime * AND Status = Open)  
OR (Customer = * Ask at runtime * AND Status = Fixed)  
OR (Customer = * Ask at runtime * AND Status = Duplicate)
```

This would be represented in the report editor like this:

The screenshot shows a 'Query Filters' window with a table structure. The table has three columns: 'Select Field', 'Operator', and 'Value'. There are six rows of filters, each starting with a '+' icon and a logical connector (and/or) in a dropdown menu. The filters are:

Select Field	Operator	Value
Customer(CUST_LIST)	equals	STH Computers Super Corp Trapeze Networks Westminster * Choose the Customer *
and		
Status(STATUS)	equals	Open Fixed Closed Duplicate Not Found
or		
Customer(CUST_LIST)	equals	STH Computers Super Corp Trapeze Networks Westminster * Choose the Customer *
and		
Status(STATUS)	equals	Fixed Closed Duplicate Not Found * Choose the Customer *
or		
Customer(CUST_LIST)	equals	STH Computers Super Corp Trapeze Networks Westminster * Choose the Customer *
and		
Status(STATUS)	equals	Fixed Closed Duplicate Not Found * Choose the Customer *

Setting up a complex query with runtime filters

When the report is run, the user will see the following screen:



**Report that uses session variables**

This report uses the value(s) you select for the following field(s), and will substitute the value(s) you select into all the runtime filter values below that use the filter field. This saves entering the same filter value several times.

Filter Field	Value to be used in substitution
Choose the Customer	<ul style="list-style-type: none"> <li>* Any *</li> <li>* None *</li> <li>Bank of America</li> <li>Bear Inc.</li> <li>Chrysler</li> </ul>

Provide values for the following filter(s) for the report

	Field	Operator	Value
	Customer	=	<ul style="list-style-type: none"> <li>* Any *</li> <li>* None *</li> <li>Bank of America</li> <li>Bear Inc.</li> <li>Chrysler</li> </ul>
AND	Status	=	Open
OR	Customer	=	<ul style="list-style-type: none"> <li>* Any *</li> <li>* None *</li> <li>Bank of America</li> <li>Bear Inc.</li> <li>Chrysler</li> </ul>
AND	Status	=	Fixed
OR	Customer	=	<ul style="list-style-type: none"> <li>* Any *</li> <li>* None *</li> <li>Bank of America</li> <li>Bear Inc.</li> <li>Chrysler</li> </ul>
AND	Status	=	Duplicate

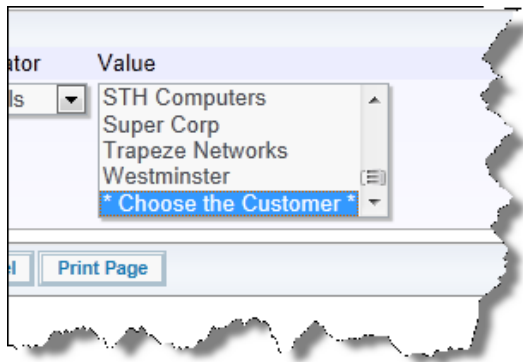
### Running a complex query with runtime filters

When the user selects a customer from the top list, all the bottom filters that require a Customer will be set to use the value set from the top list.

To accomplish this type of query with complex runtime filters, you set up Session Variable type fields in the Data Dictionary. Session Variable fields are created as follows:

- **Administration** menu
- **Site Configuration** tab
- **Session Variables** tab
- **Add** button
- Provide a **Fixed Name** for the field
- Provide a **Title** for the field. It is helpful to use a title like *Choose the XXXXX* so that the runtime filter will show a useful title. Obviously, XXXXX represents the title of the filter field
- Choose the **Display Type** for the field. It is important to understand that you need a session variable field for every filter that you will use in your complex queries, and that the display type must match the display type of the filter field it is being used with
- **Add** the field to the data dictionary.

Once this has been done, you will see that the advanced filter lists look something like this to the end users:



Session Variable field to be used as a runtime filter

Note that the Session Variables appear at the bottom of list fields. If you are using the Session Variable as a filter within a text, date or number field, you should enter it as `$$FIELD_NAME$$`, substituting `FIELD_NAME` with the name of your Session Variable field.

## Charts

There is overall control to access charting from within the Search / Report screens, as well as control over access to creating individual chart types. These are all controlled by security permission keys, as explained in the following table.

Security Key	Purpose
SR_PERSONAL_CHART	This security permission key allows access to produce charts and to save them for personal use. Read permission is needed.
SR_PUBLIC_CHART	This security permission key allows access to produce charts and to save them for public use or to save them for use by an individual user role. Read permission is needed.

## Aging Reports

When looking at the trends and movement of issues through a process as part of aging reports, it would be misleading to see only a partial view of an issue's movement through the workflow.

Therefore aging reports do not use the `STATUS.xxxx` permission keys and the user will see all the potential status values on the report. If this behavior is not desirable you should remove the user's access to all aging reports, using the `SR_PUBLIC_AGING`, `SR_PERSONAL_AGING` and `SR_USERGROUP_AGING` permission keys.

## Custom URL Linked Reports

ExtraView reports has a feature that makes it possible to gain access to reports or pages generated outside the system, or reports generated internally (via the API) that involve custom code. The administrator can create these links, and then make the reports available to a general user community by saving the report as a Public Report.

To use this feature, or to turn this off for your users, use the security permission keys named `SR_PERSONAL_LINKED_REPORT` and `SR_PUBLIC_LINKED_REPORT`, according to whether users should be able to create their own personal linked reports, or whether they should be able to create public linked reports.

As custom URL linked reports can generate any type of output, and may not even output directly to a browser, you may not put a custom URL linked report on the Home Page. If you have a need for this, it is possible to use the user custom programming feature to place a similar report on the Home Page.

### Link to a Report

From the **Report** screen, select the **Create New Custom URL Report** option from the list, and press the **Go** button.

The following screen appears:

Run Report Save Report Save As Share Report Clear All Cancel Print Page
**ExtraView Custom URL Report**

### Custom URL Report

Report title  Description

Output to Browser  Condensed Query Filters  Standard Query Screen

20 rows per page  Expanded Query Filters  Advanced Query Screen

### URL for Report

Enter URL address for report

Enter an absolute path (beginning with http://) or a relative path (to a custom code location within ExtraView). If you enter an invalid address and run this report, expect to encounter problems and program exceptions.

### Select filters - Filters are only used when the Custom URL report is programmed to recognize them

Area  \* Any \* Keywords  Search Attachments?

ID #  Created Start Date  Created Stop Date

Customer  \* Any \* Updated Start Date  Updated Stop Date

Category  \* Any \* Status  \* Any \* Originator  \* Any \*

Product  \* Any \* Priority  \* Any \* Assigned To

Module  \* Any \* Requested Release  \* Any \* Resolution  \* Any \*

Operating System  \* Any \* Reproducible  \* Any \*

Run Report Save Report Save As Share Report Clear All Cancel Print Page

Link to Report screen

- To link to custom reports created via the API, enter a report title, a report description, and then enter the URL in the field provided
- The URL can be an absolute path to a URL external to ExtraView. In this case, the URL must begin with **http://**. If you are pointing to a relative path within ExtraView, only enter the option and action you want to pass.

For example, to set up a report on an absolute URL that exists at a different server, the URL address for the report may look like this –

`http://www.myserver.com?param1=xxx&param2=yyy`



To set up a relative URL to produce a report within ExtraView itself, may look like this -

`?p_option=search.SearchReportDetailDisplay&p_action=doRunDetailed&id=10200`

This report actually runs a detailed report looking for the ID of 10200

- Select any desired filters, noting that these will only be available to reports generated internally within ExtraView, unless a user custom code exit is used to process these and pass them to an external URL
- Click the **Run Report** button, or **Save** the report

**Note:** ExtraView will not validate the URL that you enter at the time you create a Custom URL report. It is the user's responsibility to check that valid URL's are entered. It is exceedingly likely that you will generate a runtime programming exception error if you enter an invalid URL.

Notice that you can turn the filters on the screen off and on, with the  and  buttons.

## Searching for Disabled Values

There are occasions when users may need to search for results, using disabled list values as filters. For example, the user may want to search for issues that are assigned to a user whose account is disabled.

This functionality is accessed from the advanced search mode. When in advanced search mode, and a list contains inactive or disabled entries, there will be an entry in the list of values, labeled \* **Show disabled entries** \*. When you select this entry, the screen is refreshed and you will see all the disabled as well as enabled values in the list. Note that you can remove the disabled values from the list by then pressing on the \* **Do not show disabled entries** \* list entry.

# Record Selector

This feature allows a button to be placed on the output of a Quicklist, and this button is used to select some arbitrary issues on the report, and to perform an operation on the selection. This screen shows the result of clicking the button **Turn On Record Selector** on the Quicklist report.

ExtraView Quicklist Report

Refresh Turn Off Record Selector Detailed Report Group Issues Update Issues Return Print Page

Records 1 to 7 of 7

Status = Open Category = Software  
Prepared by Bill Smith on 4/13/07 2:26 PM

Click here to check or uncheck all the records on this page

ID #	Business Area	Title	Days Open	Priority	Customer	Status	Product	Module	Assigned To
<input type="checkbox"/> View Edit 10514	Bugs	This is a Coca-Cola issue reported by the customer when they were performing research into aissue #23232	1	P 2	Coca-Cola	Open	Tracker Enterprise	GUI	Bill Smith
<input checked="" type="checkbox"/> View Edit 10475	Bugs	This is a Coca-Cola issue reported by the customer when they were performing research into aissue #23232	49	P 4	Coca-Cola	Open	Tracker Enterprise	GUI	Bill Smith
<input checked="" type="checkbox"/> View Edit 10340	Customer Issues	Customer reports a problem with the widget	710		Trapeze Networks	Open	Tracker	GUI	Mary Brown
<input checked="" type="checkbox"/> View Edit 10300	Customer Issues	Customer needs help	731		Bank of America	Open	Tracker Enterprise		Greg Goldberg
<input type="checkbox"/> View Edit 10272	Bugs	This will be mapped to EV	754	P 1	SoftWorks	Open	Tracker	GUI	Mary Brown
<input checked="" type="checkbox"/> View Edit 10269	Bugs	New entry point to be created	754	P 2	Chrysler	Open	Tracker	GUI	Mary Brown
<input type="checkbox"/> View Edit 10215	Feature Requests	We need to add a new prompt to the screen to ask for the user name	812			Open	Tracker		Greg Goldberg

Click here to check or uncheck all the records on this page

Records 1 to 7 of 7

Refresh Turn Off Record Selector Detailed Report Group Issues Update Issues Return Print Page

The record selector mechanism

The user may click on any of the checkboxes to select the records, or they may click on the **Click here to check or uncheck all the records on this page** checkbox. After checking the boxes, if the user selects the **Detailed Report** button or the **Group Issues** button then a Detailed Report appears with these issues, or the selected issues are used as input to an operation to group them together.

The record selector option requires the following setup –

- Data dictionary The Label field named EV\_REPORT\_SELECTION must exist in the data dictionary. This is preset for you
- Permissions Set the Read permission to Yes for each role that you want to use this feature, for the permission key named PR\_RESOLUTION.EV\_REPORT\_SELECTION.
- Layouts On each of the Quicklist layouts that you want to use the feature, place the field EV\_REPORT\_SELECTION in row 1, column 1.

## Mass Updates of Issues

It is not recommended that you give end users access to this facility, as it allows the mass update of issues. One wrong update could affect hundreds or thousands of issues and may be very difficult or impossible to undo. This function is most frequently used for tasks such as:

- Reassigning issues from one person to another
- Reassigning open issues from one release to the next
- Setting a field on many issues to a single specific value



Access to this feature is controlled by the security key named `PR_RESOLUTION.MASS_UPDATE_ISSUES`.

Assuming the permission is set to be able to use this feature, there will be a button labeled **Update** on Quicklist Reports, Detailed Reports and Custom Reports that you generate. This button allows the batch or mass update of a list of fields available to you.

Not all fields can be updated by this method. Only fields to which you have write access, and fields that are of display type List, Pop-up, Tab, Checkbox, Log Area, Text, Currency, Number, Decimal, Date, Day and User can be updated. The fields that are offered for update are those that exist on the *edit* layout in the current business area and project. You cannot update any field outside your current business area and project. However, if your query that selected the field to mass update contains records in other business areas and/or projects, then these will be updated, assuming the field is on the *edit* layout of the specific area / project.

The execution of mass updates is a background process within ExtraView. Once started, the process cannot be interrupted. This provides several advantages, in that ExtraView will prevent several mass update operations happening concurrently (this may lead to data integrity problems, and the corruption of data) and it gives a significant amount of insulation from problems such as a disruption of the communications network or the client computer crashing midway through the process.

To use this feature:

- First, prepare a report
- Click on the **Update Issues** button on the menu bar of the report
- You may update from one to five fields with one pass of the mass update procedure. After you select a field, you can use the  button to add an additional field to the update process. If you want to remove a field, you can use the  button that appears on the second and subsequent fields
- For each field you add you will see a prompt asking for the new value for the field as well as a list of all the issues that are about to be updated. You can uncheck any issue from the list that you want to exempt from the update
- You must check the button **Generate Email** button if you want the standard notification sent for each issue being updated. The default for this is not to send email, as you may be generating a very large list of updates and hence email notifications.
- Click **Update all records**. Note that if you are updating a large number of issues, the process may take some time to complete, probably around one to three seconds for each issue.

**Note:** If a field you are updating is a multi-valued field or part of a repeating record that can have many values, then the update will add the new value to the existing list of values for the field you are updating.

**Note:** If you attempt to update a field to a value of \* **None** \*, ExtraView will perform a check to ensure this is a valid entry, dependent upon whether the field is required, or whether the field is subject to a "Visible If" layout cell attribute. If the field is required, then the \* **None** \* entry will not appear in the list of values shown. If the field is subject to a "Visible If" constraint, then an error will be returned if ExtraView attempts to update the field in a way that violates the "Visible If" rule.

**Note:** You may not be able to undo this mass update operation, so take care before pressing the **Update all records** button.

**Note:** Mass update is not restricted by rules such as Visible If and Required If, etc. Issues will be updated and only enforced if you attempt to interactively update an individual record again. The principal reason for this is that mass update cannot stop during its execution to ask for additional input on an issue-by-issue basis. It is a background task. When you modify an individual record following the mass update, the rule will be enforced.

**Note:** To conserve database resources, ExtraView limits this feature to updating a maximum of 5,000 issues in a single pass. If you need to update more than this number, simply run the selection multiple times and perform the update over again.

**Note:** You may update issues across multiple business areas and projects provided the value to be updated does not violate the required and required if layout cell attributes of the current user role, current business area and current project of the user performing the operation. Also, you must not violate the allowed values relationship of the issue, within the current user role, current business area and current project of the user. If any of these conditions are encountered, you will see an error message stating why the issue cannot be updated.

**Note:** If you include a field with a display type of Log Area in a mass update operation, the existing log area entries are untouched, and a new log area entry is added, corresponding to the text entered into the mass update field.

**Note:** It is possible that you may update issues across multiple business areas and/or projects, and that in doing so you will attempt to mass update a field that does not exist on the *edit* layout for one or more areas / projects. When this happens, the value in that area / project will not be updated, and no error occurs.

**Note:** The mass update function will not update all records if the query used to generate the list for updating used the advanced query interface, and used the or conjunction. There is a simple workaround, to create the list using each part of the filter without the or conjunction in turn, and perform the update.

**Example:** This shows how you can reassign all open issues from one person to another, for a given product:

Prepare a Quicklist report that uses Product, Assigned To and Status as filters. From the resulting report output, press the **Update** button.

You will see a screen similar to:

**Mass Update** Cancel Print Page

Select up to five fields to update. Use the + button to add additional fields to update, and use the - button to remove a field. For each field, select or enter the new value in the fields provided. When ready, press the **Update all records** button to process the mass update. If you are updating a significant number of fields, please wait for the screen to refresh to show you the current values of all the selected fields before you proceed.

If you want to mass clone the selected issues to a different project, click here. This screen will then allow you to create copies of the issues and place them in the new project

Select field(s) to update

\* Select Field \* + -

Cancel Print Page

### Selecting a field to update

Select the Assigned To field from the list and the screen will redisplay, showing something similar to:

**Mass Update** Update all records Cancel Print Page

Select up to five fields to update. Use the + button to add additional fields to update, and use the - button to remove a field. For each field, select or enter the new value in the fields provided. When ready, press the **Update all records** button to process the mass update. If you are updating a significant number of fields, please wait for the screen to refresh to show you the current values of all the selected fields before you proceed.

If you want to mass clone the selected issues to a different project, click here. This screen will then allow you to create copies of the issues and place them in the new project

Select field(s) to update

Assigned To (ASSIGNED\_TO) + - **Add more fields to update**

Provide the new value(s) for the field(s) you selected

Assigned To \* None \* + - **Provide value here**

Generate Email

ID #	Title	Assigned To	Business Area	Project
<input type="checkbox"/> <a href="#">View</a> 10529	Authorization to provide a new computer for new employee - Tom Hogue	<a href="#">B   Smith</a>	Helpdesk	Helpdesk Data
<input type="checkbox"/> <a href="#">View</a> 10475	This is a Coca-Cola issue reported by the customer when they were performing research into aissue #23232	<a href="#">B   Smith</a>	Bugs	Bugs Data
<input type="checkbox"/> <a href="#">View</a> 10452	The pins on the CGB logic chip are 0.5 mm too long	<a href="#">B   Smith</a>	Bugs	Bugs Data
<input type="checkbox"/> <a href="#">View</a> 10353	Need to know how exclusive or's are processed internally	<a href="#">B   Smith</a>	Customer Issues	Customer Support Issues Data
<input type="checkbox"/> <a href="#">View</a> 10297	This is a fault with the Processor module	<a href="#">B   Smith</a>	Bugs	Bugs Data
<input type="checkbox"/>	<a href="#">Click here to check or uncheck all the issues in the list</a>			

**Current issue values**

5 record(s) selected Update all records Cancel Print Page

### Mass update screen

From the select list labeled New Value for Assigned To, select the person you want to reassign the issues to. You can view any of the issues to check whether they should be part of the update, and you can uncheck any of the issues. You can also add one or more fields to the mass update by pressing the + button.

If the field you are trying to update is dependent upon another field (for example a *module* field may be dependent upon *product*), then you will be prompted for the parent field, then the child field, to ensure that the relationships between the values are kept intact and only valid combinations are stored.

If you try to update a parent field that would invalidate the child records, for example trying to set the product field to a value that is not appropriate for a given module, you will receive an error for that issue, or issues, and these issues will not be updated.

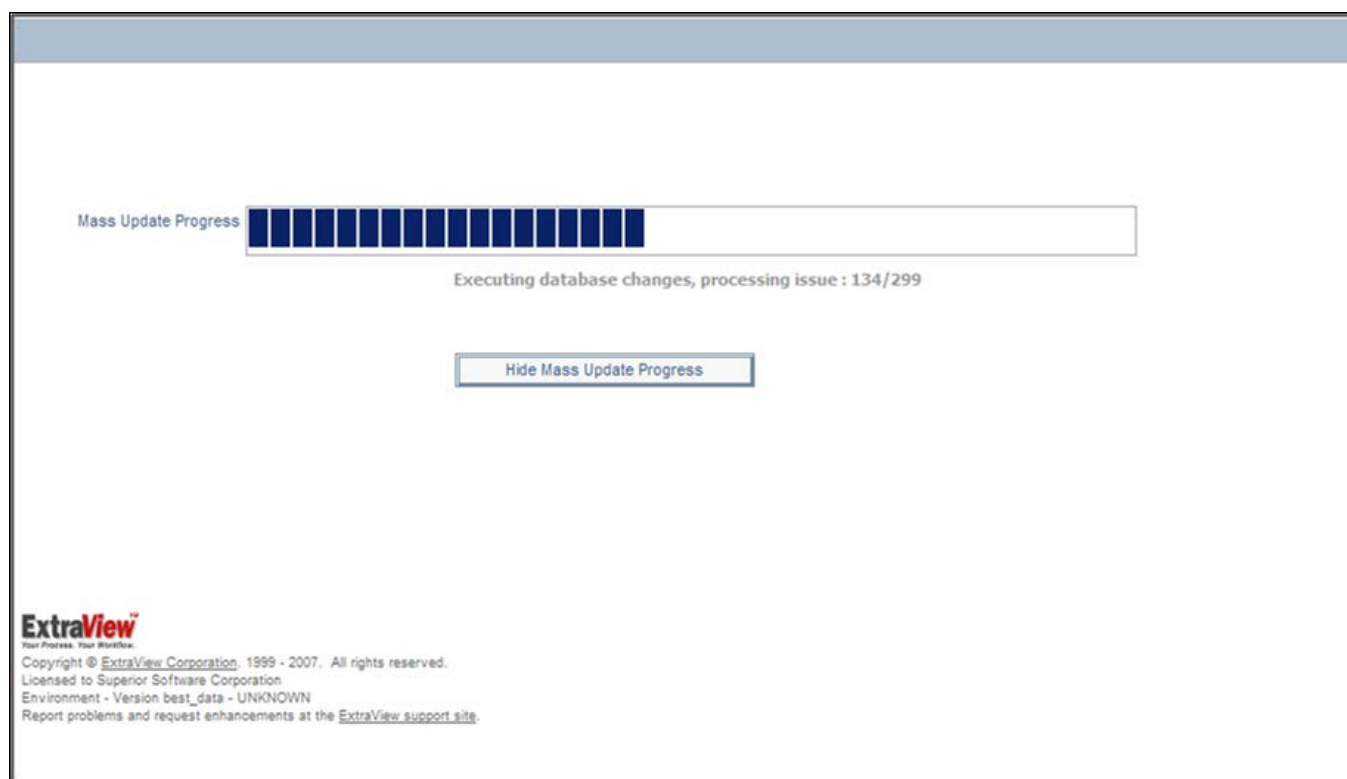
When ready, you can press the **Update all records** button.

You will be asked to confirm that you want to update the issues.

The default is that email notification is not sent when performing a mass update of issues. However, you can turn this on, by clicking the **Generate Email** checkbox to on.

On the screen, there is a checkbox that allows you to alter the mass update capability to a mass clone utility. When you check this, you will see that you can select a new business area and a new project. When you perform the update, the issues are copied to the new project, rather than updated. When you undertake this function, you are asked to confirm the operation before it proceeds. See the next section of this guide for more details.

While the mass update is underway, you will see a progress window as follows:



Mass update progress bar

**Note:** Pressing the button to hide the progress bar, or closing the window has no effect on the execution of the mass update. As a background process, it will continue. The progress bar is purely for informative purposes.

Once the mass update is complete, and assuming you have not closed the progress window, you will see a summary of the mass update, including any errors encountered. The most common error is trying to perform a global mass update across several business areas, when the field you are trying to update is not on the *edit* screen for the business area and project to which the issue belongs.

**Results of Mass Update** Close Window Print Page

Number of requested issue updates 299  
 Number of issues updated 52

**ERRORS**

ID: 10010  
 Mass Update Exception  
 Exception:com.extraview.applogic.problem.ValidationException: Field Actual Time (hrs) is not in the edit layout -- update is skipped

---

ID: 10018  
 Mass Update Exception  
 Exception:com.extraview.applogic.problem.ValidationException: Field Actual Time (hrs) is not in the edit layout -- update is skipped

---

ID: 10029  
 Mass Update Exception  
 Exception:com.extraview.applogic.problem.ValidationException: Field Actual Time (hrs) is not in the edit layout -- update is skipped

---

ID: 10032  
 Mass Update Exception  
 Exception:com.extraview.applogic.problem.ValidationException: Field Actual Time (hrs) is not in the edit layout -- update is skipped

---

ID: 10037  
 Mass Update Exception  
 Exception:com.extraview.applogic.problem.ValidationException: Field Actual Time (hrs) is not in the edit layout -- update is skipped

---

ID: 10042  
 Mass Update Exception  
 Exception:com.extraview.applogic.problem.ValidationException: Field Actual Time (hrs) is not in the edit layout -- update is skipped

---

ID: 10053  
 Mass Update Exception  
 Exception:com.extraview.applogic.problem.ValidationException: Field Actual Time (hrs) is not in the edit layout -- update is skipped

---

ID: 10057  
 Mass Update Exception  
 Exception:com.extraview.applogic.problem.ValidationException: Field Actual Time (hrs) is not in the edit layout -- update is skipped

---

ID: 10058  
 Mass Update Exception  
 Exception:com.extraview.applogic.problem.ValidationException: Field Actual Time (hrs) is not in the edit layout -- update is skipped

Results of a mass update, showing errors

## Cloning Issues via Mass Update

This procedure only clones issues from one Project in your installation to another Project. The destination project may be within a different Business Area. The operation of this feature is from within the Mass Update facility described in the last section. The user role must have both read and write access to the PROJECT fields (PR\_ADD\_PROBLEM.PROJECT and PR\_RESOLUTION.PROJECT) in order to be able to perform this function.

Follow the guide in the previous section and select the Project field from the list of available fields to update. Your administrator must have given you permission to write to this field within your current Business Area and Project. When you choose the Project field, you will see a screen similar to the following:



**Mass Update** Clone all records Cancel Print Page

Select up to five fields to update. Use the + button to add additional fields to update, and use the - button to remove a field. For each field, select or enter the new value in the fields provided. When ready, press the **Update all records** button to process the mass update. If you are updating a significant number of fields, please wait for the screen to refresh to show you the current values of all the selected fields before you proceed.

If you want to mass clone the selected issues to a different project, click here. This screen will then allow you to create copies of the issues and place them in the new project

Select field(s) to update

Business Area (AREA)

Project (PROJECT)

Provide the new value(s) for the field(s) you selected

Business Area

Project

[Check here to confirm the clone operation](#)

Generate Email

ID #	Title	Business Area	Project
<input type="checkbox"/> <a href="#">View</a> 10529	Authorization to provide a new computer for new employee - Tom Hogye	Helpdesk	Helpdesk Data
<input checked="" type="checkbox"/> <a href="#">View</a> 10475	This is a Coca-Cola issue reported by the customer when they were performing research into aissue #23232	Bugs	Bugs Data
<input checked="" type="checkbox"/> <a href="#">View</a> 10452	The pins on the CGB logic chip are 0.5 mm too long	Bugs	Bugs Data
<input checked="" type="checkbox"/> <a href="#">View</a> 10353	Need to know how exclusive or's are processed internally	Customer Issues	Customer Support Issues Data
<input checked="" type="checkbox"/> <a href="#">View</a> 10297	This is a fault with the Processor module	Bugs	Bugs Data
<input checked="" type="checkbox"/>	<a href="#">Click here to check or uncheck all the issues in the list</a>		

5 record(s) selected Clone all records Cancel Print Page

Mass cloning of issues from one Project to another

- You must give your consent to the cloning of the issues displayed before proceeding.
- Select the destination Business Area and Project in which to place the newly created issues
- If you choose Project, you cannot select any additional fields to update beyond the Area field
- Proceed by clicking on the **Clone all records** button
- No email notification is generated from the mass clone operation, even if the Generate Email checkbox is checked.

## Controlling Large Queries

With a very large database, you may want to control how large reports are run, restricting users from doing repeated queries which may each try to return hundreds of thousands or more records. Use these behavior settings to provide some sensible constraints:

- **ALLOW\_UNLIMITED\_SEARCH** – This behavior setting can be used to turn off the ability to perform unrestricted queries on the database. When this setting is set to NO, it is used in conjunction with the next setting, **LIMIT\_QUERY\_ROWS**
- **LIMIT\_QUERY\_ROWS** – This sets a numeric limit on the number of rows returned by a single user's query. This has no effect if **ALLOWED\_UNLIMITED\_SEARCH** is set to YES
- **MINIMUM\_SEARCH\_FIELDS** – This setting is used to force a user to select a number of filters before their queries will be executed. If you specify a single number, then this specifies the number of filters in addition to the **KEYWORD** filter that must be provided. If you provide two numbers, separated by a comma, then the first number specifies the number of filters in addition to the **KEYWORD** filter that must be provided and the second number specifies the number of filters that must be provided when no **KEYWORD** filter is provided. The default is 0,0. For large databases, a setting of 2 or 3 for each number typically provides sufficient control, to ensure that only a small section of the database is searched at one time, and that users do not attempt to download millions of records or perform complex queries across millions of records.

If the user has selected the advanced query mode, ExtraView only counts the conjunctions with an *and* conjunction. The other conjunctions do not restrict the query keyword query.

## Localization of Reports

When you have localization turned on, and you are an administrator (i.e. your current role is the same as that defined in the behavior setting named **ADMIN\_OVERRIDE\_ROLE**), then there will be an additional prompt at the top of the Custom Report, the Summary Report and the Chart screens, when you are editing the report and as shown below:

The screenshot shows the 'ExtraView Column Report' interface. At the top, there are buttons for 'Run Report', 'Save Report', 'Save As', 'Delete Report', 'Clear All', 'Cancel', and 'Print Page'. The 'Column Report Options' section includes a 'Report title' field with 'All Feature Requests', a 'Description' field with 'That are open', and a 'Localize' button. Below this are options for 'Output to Browser' (set to '20 rows per page') and checkboxes for 'Condensed Query Filters', 'Expanded Query Filters', 'Standard Query Screen', and 'Advanced Query Screen'. The 'Select columns to display on report' section shows three columns: 'Abstract (ABSTRACT)', 'ID # (ID)', and 'Act. Renewal Date (CUST\_CONT\_ACT\_REN...)', each with a list of fields and arrows for selection. The 'Query Filters' section contains various filters such as 'Business Area' (set to 'Feature Requests'), 'Keywords', 'ID #', 'Customer', 'Category', 'Product', 'Module', 'Operating System', 'Created Start/Stop Date', 'Updated Start/Stop Date', 'Status' (set to 'Open'), 'Priority', 'Requested Release', 'Reproducible', 'Originator', 'Assigned To', and 'Resolution'. At the bottom, there are buttons for 'Run Report', 'Save Report', 'Save As', 'Delete Report', 'Clear All', 'Cancel', and 'Print Page'.

### Localizing a Report Description

The **Localize** button can be used to provide a localized description of the report for each locale you have defined. However, note that you cannot localize the Report Title. The reason for this is that each Report Title must be unique through the entire system.

## Reports at a Point in Time

There are two special purpose filters, with data dictionary names of HIST\_RANGE\_START and HIST\_RANGE\_END, with default titles of **Historic data filter (start)** and **Historic data filter**. These allow the user to run a report as of a specific date / time, range of dates, in history. Simply use these fields as filter on a query and the results displayed will be shown as they existed at that point in time.

These filters have a special use, and may only be placed on a search layout for use in standard queries. There is no access to use this filter from advanced query screens.

It is important to note that the filters will only return reasonable results if the user sets HIST\_RANGE\_START to be less than or equal HIST\_RANGE\_END.

Other filters used in conjunction with a query that uses HIST\_RANGE\_START and HIST\_RANGE\_END are applied to the current values of these fields, not to the values that these issues had at any point in the past. It would not be logical to do otherwise, as the filter values may have changed many times during the history time range selected. One consequence of this is that it is never possible to return values for deleted issues, within the time period selected.

## Updating Consecutive Issues from Reorts

Some workflows find it useful to be able to edit a number of records in sequence. For example, a user may want to run a report of their open issues, then edit each record in turn, but without needing to return to the report to click on the **Edit** button for each

issue. An alternative is to use the Quickedit feature within the report itself.

To set up this feature, there is a permission key named `PR_RESOLUTION.ALLOW_EDIT_NEXT_PREVIOUS`. This key is operable when write permission is available for the user's current role, and the user executes a Quicklist or column report. When the user drills down into any issue with the **Edit** button on any issue, the *edit* screen will have two additional buttons on the menu bar, titled **Update & Prev** and **Update & Next**. When the user clicks one of these buttons, they will be taken directly to the previous or next issue following a successful update.

## Privacy Groups

Privacy groups are designations that limit the visibility of issues, except those users who are members of the privacy group to which the issue belongs.

For example, your company may have six divisions, each of whom report issues using ExtraView. You may want to set up a structure, whereby each of the divisions report issues that remain private to each division, and are not shared with other divisions. Layered on top of this is the ability for a management or supervisory function that has access to all the issues, irrespective of the division that originated the issue. This can be implemented within ExtraView by setting up individual privacy groups for each division, restricting each member of a division to only enter issues for their own division (i.e. privacy group), and giving the management function access to all privacy groups.

To turn on the privacy group feature in your instance of ExtraView, use the behavior setting named `ENABLE_PRIVACY_GROUPS`. This is found in the Users behavior settings menu.

**Note:** If `ENABLE_PRIVACY_GROUPS` is set to `NO`, then issues may only be marked as `PUBLIC` or `PRIVATE`. If `ENABLE_PRIVACY_GROUPS` is set to `YES`, then issues may be marked as `PUBLIC`, `PRIVATE` or a member of a privacy group that you create. With the latter option, you may also elect to remove either the `PUBLIC` and / or `PRIVATE` designation from the list, as explained in the section following.

**Note:** There is a behavior setting named `ENABLE_PRIVACY_GRP_OVERRIDE`. If the value is set to `YES`, then internal users can see all issues regardless of the value of the `PRIVACY` field. Internal users are defined by the user's personal Company Name being identical to the company name defined by the behavior setting named `COMPANY_NAME`. If the value is set to `NO`, users may only see issues when they are a member of the privacy group to which the issue is assigned.

The precise rules for how issues are handled with respect to privacy groups are as follows:

- **Private issues.** When an issue is marked as private, then only users whose Company name setting in their user account settings is identical to the behavior setting named `COMPANY_NAME` will be able to view and update the issue. If the `PRIVACY` field does not appear on the Add Issue screen, then ExtraView will automatically set the `PRIVACY` field with its default value as specified in the data dictionary (usually `PRIVATE`). If there is no default, ExtraView always sets the value to `PRIVATE`. Security permission settings for individual fields, screens and functions still apply. Note that there is a behavior setting named `ENABLE_COMPANY_NAME_ACCESS` that overrides this behavior for specific circumstances. Please refer to the section in this guide on Company Name Security for full details.
- **Public issues.** When an issue is marked as public, then any user with an active account can potentially view and / or update the issue. The specific permissions to view and update the entire record or individual fields are subject to the security permissions for each object.
- **Issues within a privacy group.** As a user, you must be a member of the specific privacy group to view and update the record. Once again, security permissions for all objects still apply.

## PUBLIC and PRIVATE Visibility

When using privacy groups, it is sometimes useful to be able to control whether the entries for `PUBLIC` and `PRIVATE` also appear within the select list boxes on the *add*, *edit* and *search* screens.

For example, you may always want a privacy group to be selected for every issue without exception.

This can be achieved through the settings of the following security permission keys. These can be set for each user role within ExtraView, in the standard way of setting security permissions.

Security permission key	Purpose
<code>PR_ADD_PROBLEM.SHOW_PRIVATE_IN_PRIVACY_LIST</code>	Write permission to this security key is needed to place the entry for Private in the select list for the Privacy field on the add issue screen. If this key is set to <code>N</code> , then issues cannot be marked as private for the user role.
<code>PR_ADD_PROBLEM.SHOW_PUBLIC_IN_PRIVACY_LIST</code>	Write permission to this security key is needed to place the entry for Public in the select list for the Privacy field on the add issue screen. If this key is set to <code>N</code> , then issues cannot be marked as public for the user role.
<code>PR_RESOLUTION.SHOW_PRIVATE_IN_PRIVACY_LIST</code>	Write permission to this security key is needed to place the entry for Private in the select list for the Privacy field on the edit issue and query screens. If this key is set to <code>N</code> , then issues

cannot be marked as private or searched for the user role.

PR\_RESOLUTION.  
SHOW\_PUBLIC\_IN\_PRIVACY\_LIST

Write permission to this security key is needed to place the entry for Public in the select list for the Privacy field on the edit issue and query screens. If this key is set to N, then issues cannot be marked as public or searched for the user role.

## Creating New Privacy Groups

From the Site Configuration administration menu, click the **Privacy Groups** button. A screen similar to the following appears:

The screenshot shows the 'Privacy Groups' administration interface. At the top right, there are 'Return' and 'Print Page' buttons. Below the header, there is an 'Add' button and the text 'Add a new privacy group'. The main area contains a table with two columns: 'Privacy group name' and 'Title to display'. Each row in the table has an 'Edit' button to its left. The table lists 16 records, each with a unique ID and a company name. At the bottom of the table, a status bar indicates '16 record(s) selected from a total of 16 record(s)'. At the bottom right, there are 'Return' and 'Print Page' buttons.

	Privacy group name	Title to display
Edit	818	Bank of America
Edit	853	Bear Inc.
Edit	793	Chrysler
Edit	1194	Cisco
Edit	798	Citibank
Edit	783	Corona
Edit	863	Evian
Edit	803	GE
Edit	828	Hewlett Packard
Edit	958	Liberty
Edit	813	NEC
Edit	858	NTT
Edit	788	Pfizerx
Edit	808	SoftWorks
Edit	823	Toyota
Edit	1033	Trapeze Networks

Privacy Groups screen

To create a new privacy group, click the **Add** button.

The following screen appears:

The screenshot shows the 'Add' form for creating a new privacy group. At the top right, there are 'Add', 'Cancel', and 'Print Page' buttons. The form contains the following fields and controls:

- 'Fixed database name' text input field.
- 'Title to display on screens' text input field.
- 'Create a global interest list for this value' checkbox, which is currently unchecked.
- 'Add users to this interest list' label followed by a dropdown menu labeled '\* Select a User \*'.

At the bottom right, there are 'Add', 'Cancel', and 'Print Page' buttons.

## Add New Groups screen

Enter a database name (no spaces or special characters) and a display name. If an interest list is allowed on the field, you can optionally create an interest list for this value and add a user. When ready, click the Add button to create your new value.

Once the Privacy Group is created, the administrative user may assign individual users to the group by checking the appropriate check box on the Change a User's Details screen.

The screenshot shows the 'Change user's details: GREG (Enabled)' interface. At the top right are buttons for 'Update User', 'Cancel', and 'Print Page'. Below the title bar are tabs for 'Personal Details', 'Personal Options', 'Reports', 'Notification Options', 'User Roles/Security', and 'Privacy Groups'. The 'Privacy Groups' tab is active, showing a list of 17 groups, each with a checked checkbox:

- Bank of America
- Bear Inc.
- Chrysler
- Cisco
- Citibank
- Corona
- Evian
- GE
- Hewlett Packard
- Liberty
- NEC
- NTT
- Pfizerx
- SoftWorks
- Toyota
- Trapeze Networks

At the bottom of the list is a red link: [Click here to check or uncheck all the groups in the list](#). At the bottom right of the screen are buttons for 'Update User', 'Cancel', and 'Print Page'.

Change User's Details screen with Privacy Groups

## User Roles

User Roles are the functional teams of your company or the external users that will be using ExtraView. User Roles are assigned specific privileges based on what you want each of them to be able to see and do. Example user roles may be:

- Administrator
- Customer
- Engineer
- QA
- Manager

There is no limit to the number of user roles that may exist within your ExtraView system. Additional user roles may be created at any time. Individual users may belong to any number of user roles. When a user is given the privilege of belonging to more than one user role, they are automatically given a link in the title bar of the screen that shows their current role. Following the link allows them to alter their role. A user may not change their role when in the add / edit issue process, or during the process of preparing a report as this change may significantly alter their permissions, and would lead to unpredictable behavior.

### Altering the Current User Role

Users have the ability to change their role as long as they belong to more than one. This allows each user to wear a "different hat". By changing their role, they can perform different functions. For example, a user may be both an *Administrator* and a *QA Engineer*.

**LOGO** Bill Smith Administrator

Home Add Query Admin Help Sign Off Search for ID# Go Reports

Print Page

**Quick Start**

- Add your users
- Populate your lists
- Start adding issues

**Resources & Documentation**

- Quick Start Guide to Administration
- Frequently asked questions
- Free daily training
- Documentation

**Need More?**

- Sophisticated configurations
- Product Tour
- Personalized demonstration
- Pricing

**Home Page Dashboard**

Summary of Statuses		Open Issues by Business Area	
Status	Total	Area	Total
New	98	Bugs	9
Open	24	Test Cases	1
Fixed	135	Helpdesk	5
Closed	63	Customer Issues	7
Duplicate	17	Feature Requests	1
Not Found	19	Knowledge Base	1
<b>Grand Total</b>	<b>356</b>	<b>Grand Total</b>	<b>24</b>

**Key Statuses**

Pie Chart Data:

- Open: 24
- New: 98
- Duplicate: 17
- Closed: 63
- Fixed: 135

**Open Issues by Priority**

Bar Chart Data:

Priority	Count
P1	~30
P2	~50
P3	~150
P4	~20

**My Open Issues**

	ID #	Area	Product	Module	Last Modified	Priority	Severity	Title
<a href="#">View</a> <a href="#">Edit</a>	10323	Bugs	Tracker	GUI	8/11/08 9:51 PM	P 1		new java file changes
<a href="#">View</a> <a href="#">Edit</a>	10226	Bugs	Tracker		8/11/08 9:51 PM	P 1	Low	Provision of TNCP problem
<a href="#">View</a> <a href="#">Edit</a>	10557	Bugs	Tracker	Database	4/17/09 9:08 PM	P 3		There is a defect in the admin module when a user r

Home Page screen

- Click on the list of user roles in the navigation bar and observe a list of the roles that your user may adopt
- Select the role you would like to adopt by clicking on its name. Your role is immediately changed and your permissions will reflect the change. You may find that access to certain buttons on the navigation bar disappear or appear, or that fields no longer show up in the add/edit screens, or that buttons are added and fields appear in some screens; this is a direct result of changing your role.
- When you change the user role to which you currently belong, ExtraView automatically adapts and presents the various screens and reports that have been customized for that user role.

## Adding New User Roles

Click the **User Roles** entry under the Site Configuration tab within administration. Click the **Add** button on the User Roles Screen.

**User Roles** Return Print Page

Add Add a new user role

	User role database name	Title to display on screens
Edit	ADMIN	Administrator
Edit	GUEST	Customer
Edit	CSR	Customer Support
Edit	CSR_MANAGER	Customer Support Manager
Edit	DEV_ENGINEER	Development Engineer
Edit	ENG_MANAGER	Engineering Manager
Edit	IT	IT Support
Edit	IT_MANAGER	IT Support Manager
Edit	DEV_QA	Quality Assurance

9 record(s) selected from a total of 9 record(s) Return Print Page

#### User Roles Summary screen

1. Type in a fixed name, and make it relevant to the name you will use as a title.
2. Type in a title to display on all screens and reports.
3. You can then choose to clone the Security Privileges from another existing user role, or set your own from Grant Security Privileges by first selecting \* create with no permissions \*. Cloning a user role is particularly useful when you want to create a new role similar to an existing one. After cloning the privileges, you can make any changes to the new role from the Grant Security Privileges screen.
4. You can set default Home Page reports for each role. When a new user is created, and given a role, then the reports selected on this screen are used to provide the initial Home Page reports for the new user.

Add a User Role screen

5. Click the **Update** button when done.

## Multi-Language Setup

ExtraView allows each user to select their own language for the user interface of the product. In addition to localizing the system messages and prompts, the administrator may also localize their own metadata for the fields and layouts that they create. Note that no matter what languages you want to support on the user interface, ExtraView will handle any alphabet within the data that is entered within issues. Unicode is fully supported.

Setting up a multi-lingual setup requires a number of behavior settings to be set at their correct values. These settings may be found in the **Environment** behavior settings category.

Environment Settings	Purpose
DEFAULT_ATTACHMENT_CHARSET	The default character encoding for files being uploaded to ExtraView. This value is used to select the initial value presented to the administrator when creating a new user. UTF-8 is the default value and should be used for most installations. If the majority of your users use Japanese, you may consider an alternative such as Shift-JIS
DEFAULT_LANGUAGE	This is the default language for the installation and will be used as the default for new users. The value should be set to <b>en</b> for English. The two-character country codes are defined within ISO 3166-1. Enter the value in lower case
DEFAULT_REGION	This is the default region for the installation. Unless you are using multiple locales in your installation, and have created other locales, you should not alter this setting. A locale for the DEFAULT_REGION must exist before you alter this setting. Note that this setting is in upper case
DEFAULT_VARIANT	The default variant for the installation. This is not typically used
LOCALIZE_TITLES	This setting is used to turn off and on the localization buttons within administration. This is used when you are using ExtraView's multiple languages on the user interface. When this option is set to YES, a button with the title of <b>Localize</b> will appear beside all metadata titles and values that can be localized into different languages. Valid values are YES and NO



**MULTI\_LOCALE** ExtraView will behave as a single locale system, using the language specified in the behavior setting named `DEFAULT_LANGUAGE` when this value is `NO`. When it is set to `YES`, the administrator may add any number of additional language locales to the system, and provide localized messages and metadata for each locale. If you are only using a single language, do not set this value to `YES`, as there are performance impacts to running in a multi-locale mode

The following settings are sensitive if you are working within a language such as Japanese, where there are not necessarily any space characters between each word or character. Under these circumstances, the HTML language used in display browsers is not very forgiving and can give strange display results.

Display Settings	Purpose
<code>FOLD_TEXT_POSITION</code>	This specifies the character position at which to fold text lines in <code>TEXT_AREA</code> and <code>LOG_AREA</code> fields. You should not specify a number lower than 65. If you specify a high number, such as 99999, the text input will never be folded. This is important for double-byte languages where spaces may not appear between words, as it will force ExtraView to introduce line-breaks at appropriate intervals
<code>FOLD_WORD_POSITION</code>	This specifies the character position at which to break up a long word in <code>TEXT_AREA</code> and <code>LOG_AREA</code> fields. You should not specify a number lower than 65. If you specify a high number, such as 99999, the long word will never be broken up. This is important for double-byte languages where spaces may not appear between words, as it will force ExtraView to introduce line-breaks at appropriate intervals
<code>REPORT_WITH_FIXED_WIDTH_FONT</code>	This should always be set to <code>NO</code> when working with double-byte languages.

## Home Page Shortcut Buttons

This feature allows any number of shortcut buttons to be placed on a layout that is part of the Home Page. The shortcuts either jump to an *add* screen or run a report.

Permissions to the shortcut buttons are controlled by the permission the user has to the underlying object. For example, if you are using a shortcut button to go to an *add* screen, then the user must have permission to go to the business area and project of the *add* screen. If you are using the shortcut button to run a report, then it is the permission the user has to that report that controls the visibility of the button.

### Creating the Button Fields

Create a field in the data dictionary for each shortcut button that you require. To create a shortcut to an *add* screen, create a field where the fixed name has the form **BUTTON\_ADD\_name**. To create a shortcut to a report, the fixed name must have the form **BUTTON\_RUN\_name**. All fields should have a display type of **Custom**. The title of the button becomes the text that appears on the button. Make sure you provide security permissions for each role that you want to use each button. This is an example of a button in the data dictionary:

Shortcut Button in the Data Dictionary

## Creating the Layout Type

Go to **Administration** ♦ **Fields & Layouts** ♦ **Create and Maintain Layout Types**. Add a new layout type. This layout type must have a fixed name of **HOME\_PAGE**. The usage must be **Screen**.

## Adding the Layout to the Home Page

Go to **Administration** ♦ **Fields & Layouts** ♦ **Design Center**. You may create a Home Page layout in the \* **Global Area** \* where it will be used across all business areas and projects, or using the standard inheritance mechanism, you can create different Home Page shortcut layouts in different business areas, projects or roles. Use the **Add a new layout for the entire system** select list to add the layout type you just created in the previous step.

After adding the layout, you are able to place the buttons onto the layout, similar to the screen shown here:

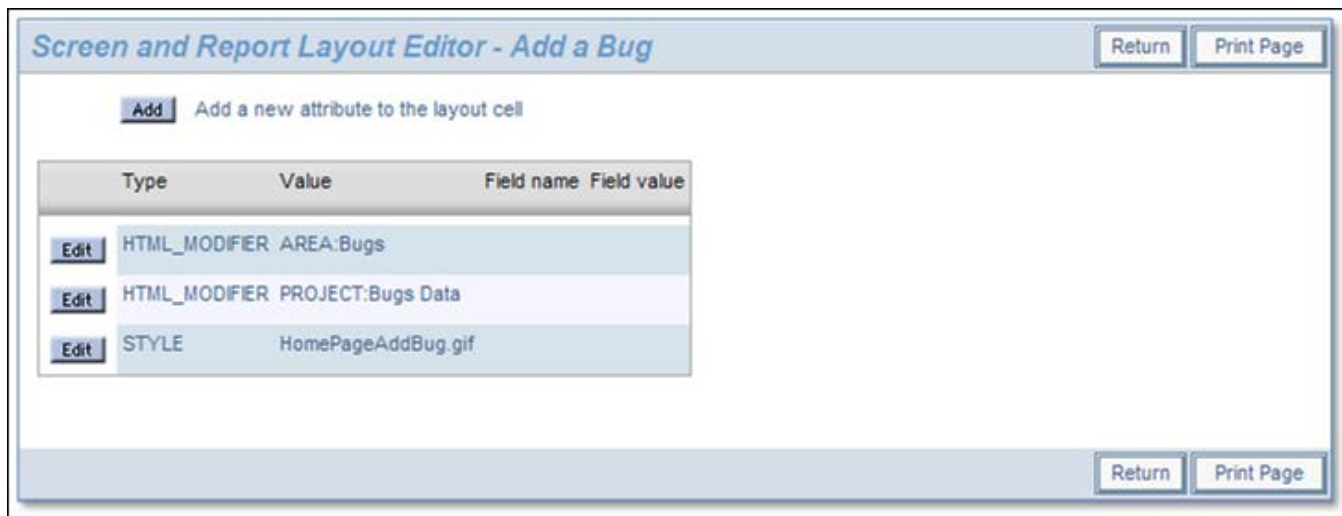
HOME\_PAGE Layout

This screenshot creates a single row of shortcut buttons. You may create multiple rows of buttons. You must next add layout cell attributes to each button. These describe the action for the button as follows.

## Shortcut Add Buttons

Attribute	Example	Purpose
HTML_MODIFIER	AREA:BUGS	This points the button to add an issue in the <b>BUG</b> business area. The name of the business area provided must match the name of an existing business area to which the user has permission. To see the names of the business areas in your installation, go to <b>Administration</b> ♦ <b>Lists</b> ♦ <b>Business Areas</b> . This modifier is required.
HTML_MODIFIER	PROJECT:BUGS_DATA	This points the button to add an issue in the <b>BUGS_DATA</b> project within the business area specified by the <i>AREA:</i> modifier above. This is required. Note that the Project fixed name must match the one into which you want to add data. Normally, this is <b>not</b> the Project with an ID of 0. If you are not certain of the Business Area and Project names, go to <b>Administration</b> ♦ <b>Lists</b> ♦ <b>Project</b> , select the Business Area and you will see a list of all the Projects within the Business Area.
STYLE	HomePageAddBug.gif	This is an optional attribute. If it is provided, the button will use this image for the button. The image is situated within the directory pointed to by the behavior setting named IMG_NAV_BAR_HOME. If you do not provide a STYLE attribute, then the button is rendered as a text style HTML button. Images for Home Page Shortcuts are not provided, but can easily be created with any button/image creation program.  If ExtraView Corporation is hosting your installation, you do not have direct access to the file system of the server upload these images to the web server.
HTML_MODIFIER	CSS:font-size:20pt;background-color:#FF8888	This is an optional attribute that overrides the built-in style of buttons, allowing you to set your own style. The style is expressed as CSS. Do not use this if you are using the <b>STYLE</b> attribute

Example of the attributes for an add shortcut button.



Shortcut Button Attributes

## Shortcut Run Buttons

Attribute	Example	Purpose
HTML_MODIFIER	REPORT:My Report	This points the button to run the report named <b>My Report</b> . The name must match the title of an existing report which the user has permission to run. This is required. Note that running Container reports and Custom URL reports from shortcut buttons is not supported.
STYLE	HomPageAddBug.gif	This is an optional attribute. If it is provided, the button will use this image for the button. The image is situated within the directory pointed to by the behavior setting named IMG_NAV_BAR_HOME. If you do not provide a STYLE attribute, then the button is rendered as a text style HTML button. Images for Home Page Shortcuts are not provided, but can easily be created with any button/image creation program.  If ExtraView Corporation is hosting your installation, you do not have direct access to the file system of the server to upload these images to the web server.

HTML\_MODIFIER CSS:font-size:20pt;background-color:#FF8888

This is an optional attribute that overrides the built-in style of buttons, allowing you to set your own style. The style is expressed as CSS. Do not use this if you are using the **STYLE** attribute

Example of the attributes for a run report shortcut button.



Shortcut Button Attributes

## Customize the Home Page

Different users may have different customized Home Pages. The Home Page is composed of the following sections:

- A navigation bar with the following features:
  - Key ExtraView functions available as buttons. There are Home, Add, Query, Admin, Help and Sign Off buttons. Depending on the security permissions, not all these buttons may be visible to all user roles
  - An input area offering quick access to any issue for which the user knows the ID
  - **Account details** – the user's account settings and options are available from a link on the user's name if the user has permission to the security permission key named CF\_PERSONAL\_OPTIONS
  - **User role** – a list allowing the user to alter their role. This only appears if the user has the ability to change their role and they have permission to the security permission key named CF\_ALLOW\_CHANGE\_ROLE
  - **Business area and project** – offers a list where a new default area and / or project may be selected. Once again, this is only displayed if the user has permission to change their Business Area or Project. The appearance of this entry on the navigation bar is controlled by the security permission keys named CF\_AREA and CF\_PROJECT
  - A list of reports that the user can run by simply selecting a report from the list. Note that both public reports and the user's personal reports are available. Some report types may not be run from this list. Access to this menu is controlled by the security permission key named SR\_MENUBAR\_REPORTS
- A sign on message, predefined by the system administrator
- An optional dashboard, created with user custom code, turned off and on for each user role with the security permission key named SR\_DASHBOARD\_ON\_HOME\_PAGE
- An optional search box for a knowledge base, turned off and on for each user role with the security permission key named SR\_KB\_ON\_HOME\_PAGE
- An optional set of shortcut buttons, created with a special layout type named HOME\_PAGE.
- A list of up to three predefined reports
- A section that allows the user to choose which reports are seen on their Home Page. In addition, they can run any report they have permission to see. This report will appear in a separate window. This section will appear if the user has permission to use the Query screen and is controlled by the security permission screen named SR\_SET\_HOME\_PAGE\_REPORTS. You can use this facility to either allow a user to select their own Home Page reports, or to only allow the administrator to select the Home Page reports for any user.

**Note:** The Home Page will refresh automatically, according to the time (in seconds) set in the behavior setting named HOME\_PAGE\_REFRESH\_SECONDS. This is found on the **Reporting & Query Settings** administration menu.

Care should be taken by both the administrator and by users in composing their Home Page. Performance of the Home Page is essential in making sure users see good performance from the system. Suggestions for consideration are:

- If you or users have many reports (say more than a few hundred), then it is advised to turn access to the permission key named SR\_SET\_HOME\_PAGE\_REPORTS off
- Dashboard reports should only be configured that are extremely fast in execution
- Individual reports and charts should only be placed on the Home Page if they are also fairly fast. For example, summarizing a significant quantity of data in a chart on a daily basis over a year may take a lot longer and not offer much more information

that the same chart displaying the data by month

- Keep the value of the behavior setting named LIMIT\_HOMEPAGE\_QUERY\_ROWS to 20, thereby ensuring users do not repeatedly report hundreds or thousands of rows of data to their Home Page
- Set the value of MINIMUM\_SEARCH\_FIELDS to around 2 or 3, thereby ensuring that users must choose a number of filters in addition to keywords. This will help speed reports as filters provide indexes to the data tables, thus speeding the queries
- Consider setting the value of HOME\_PAGE\_REFRESH\_SECONDS to more than 900, thus only refreshing the user's Home Pages on a less frequent basis.

**LOGO**
**Navigation Bar**
Bill Smith Administrator

Home Add Query Admin Help Sign Off
Search for ID #  Go
Reports

Print Page
ExtraView Home

**Quick Start**

- Add your users
- Populate your lists
- Start adding issues

**Resources & Documentation**

- Quick Start Guide to Administration
- Frequently asked questions
- Free daily training
- Documentation

**Need More?**

- Sophisticated configurations
- Product Tour
- Personalized demonstration
- Pricing

**Sign On Message**

**Knowledgebase Layout**

**Search the ExtraView Knowledge Base**

Product  Keywords

Search Attachments?

**Shortcuts**

Add a Feature Request
Add a New Bug
Add a New Customer
Add a New Customer Issue
View My Issues
View My Team's Issues
Customer List
High Priority Issues

**Home Page Dashboard**

Status	Total
New	98
Open	24
Fixed	135
Closed	63
Duplicate	17
Not Found	19
<b>Grand Total</b>	<b>356</b>

Area	Total
Bugs	9
Test Cases	1
Helpdesk	5
Customer Issues	7
Feature Requests	1
Knowledge Base	1
<b>Grand Total</b>	<b>24</b>

**Key Statuses**

**Open Issues by Priority**

**My Open Issues**

	ID #	Area	Product	Module	Last Modified	Priority	Severity	Title
<a href="#">View</a> <a href="#">Edit</a>	10323	Bugs	Tracker	GUI	8/11/08 9:51 PM	P 1		new java file changes
<a href="#">View</a> <a href="#">Edit</a>	10226	Bugs	Tracker		8/11/08 9:51 PM	P 1	Low	Provision of TNCP problem
<a href="#">View</a> <a href="#">Edit</a>	10557	Bugs	Tracker	Database	4/17/09 9:08 PM	P 3		There is a defect in the admin module when a user makes an error
<a href="#">View</a> <a href="#">Edit</a>	10552	Bugs	Tracker	Database	8/14/08 9:51 PM	P 3	Low	The box label may be off center
<a href="#">View</a> <a href="#">Edit</a>	10526	Helpdesk	Tracker		8/11/08 1:03 PM	P 3		Authorization to provide a new telephone extension for new employee - Frank Bell
<a href="#">View</a> <a href="#">Edit</a>	10353	Customer Issues	Tracker	Processor	1/8/09 4:05 PM	P 3		Need to know how exclusive or's are processed internally
<a href="#">View</a> <a href="#">Edit</a>	10293	Customer Issues	Tracker		1/8/09 4:05 PM	P 3	Low	Customer reports a missing item in the most recent delivery
<a href="#">View</a> <a href="#">Edit</a>	10285	Customer Issues	Tracker Enterprise		1/8/09 4:05 PM	P 3	Low	Customer called to say he did not receive the spare part sent on 4/3/05

Count: 8 records

Records 1 to 8 of 8

**Bugs by Priority by Status**

		Priority				Total
		P 1	P 2	P 3	P 4	
<b>S t a t u s</b>	New	4	5	13		22
	Not Yet Tested			1		1
	Open	4	2	2	1	9
	Fixed	11	21	23	6	61
	Closed	3	6	12	6	27
	Duplicate		3	3	1	7
	Not Found	1	2	4	1	8
	<b>Total</b>	<b>23</b>	<b>39</b>	<b>58</b>	<b>15</b>	<b>135</b>

**Select home page reports**

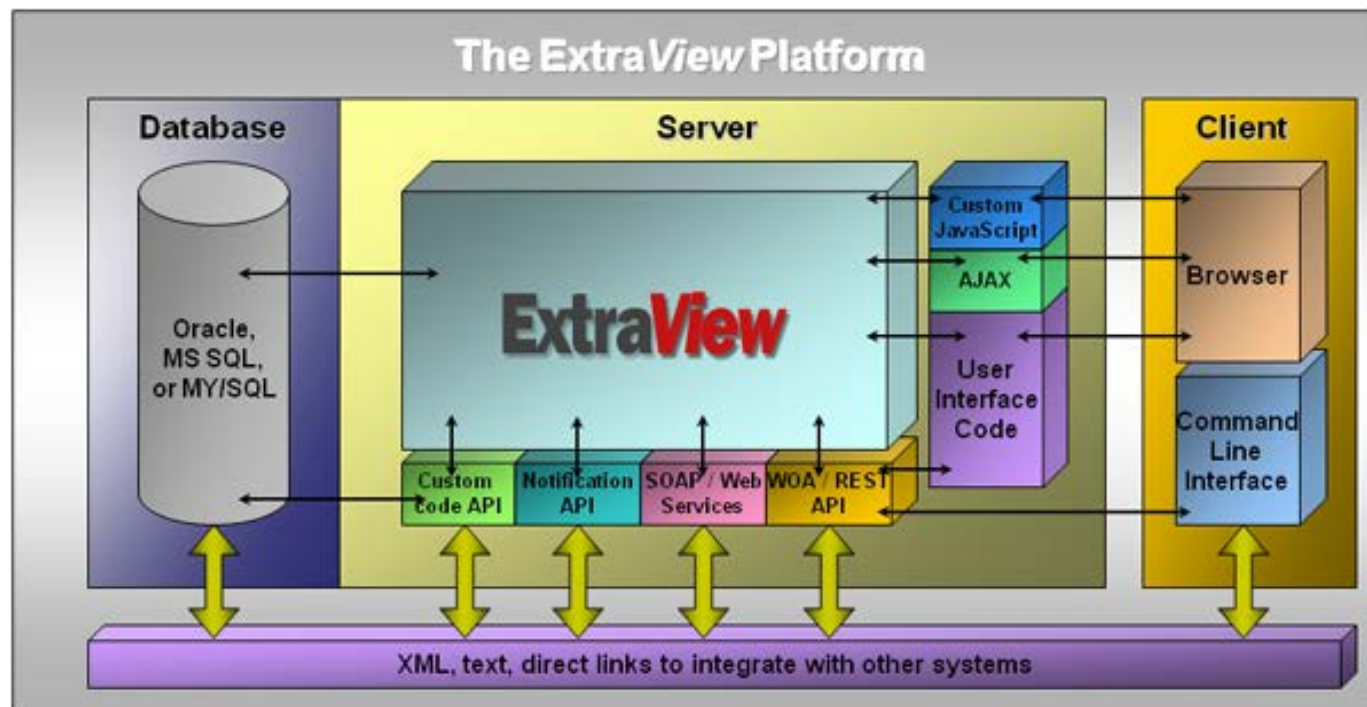
Public:Home Page Dashboard
Public:My Open Issues
Public:Bugs by Priority by Status

Sample Home Page screen

# Custom Coding Extensions

If ExtraView Corporation is hosting your installation, you do not have direct access to the file system of the server to configure, alter or use this feature without contacting ExtraView support.

One of ExtraView's most powerful features is the ability to extend and alter its inbuilt functionality, by adding your own "user custom" code. This topic is covered in more detail in the [User Custom Guide](#). It is covered briefly within this document.



The ExtraView architecture

## Java custom coding

Java custom coding supplements or alters the behavior of the standard ExtraView code. Within many of ExtraView's inbuilt functions, a code exit takes place to a method within a user custom module. If no user custom code exists within these methods, ExtraView continues its operation. If user custom code exists within the method, this will be executed.

Within the UserCustom.java class provided within ExtraView, the programmer can inherit from this class and override the methods of interest.

A sample of places where user custom coding can be inserted is:

- Before and after the display of an object, such as a screen
- Before and after the screen refresh of an object such as a screen
- To alter the contents of a list of data
- To alter the functionality when a button is pressed, such as the Relationship Group button, the Delete button or the Clone button
- To alter email notification functionality
- Before and after the updating of an issue
- Before the deletion of an issue
- In function calls made through the API

You will require a full Java development environment and JDK to create user custom Java code. It is also recommended that you use an IDE such as Borland's JBuilder or Eclipse.

**Note:** ExtraView strongly recommends that it be consulted about the user custom coding you wish to implement. ExtraView is a complex environment, and it takes both programming experience with the Java language as well as a thorough understanding of the internal structure of ExtraView to successfully design and build user custom extensions to ExtraView.

**Note:** If you are experiencing any errors in an ExtraView environment where you have installed user custom coding, we recommend that you check for the presence of the error with the user custom code removed, before you report the issue to ExtraView support.

## JavaScript custom coding

JavaScript custom coding functions are typically called from an individual field of the *add* or *edit* screen. The JavaScript can perform many purposes, such as:

- Validation of the entry being made into the field by the user
- Complex validations that involve the comparison of many field values on the form
- Triggers to produce alerts to the user, by popping up messages according to the logic of the function

User custom JavaScript is placed in a single file named `UserJavaScript.js`. This file exists within your web server tree structure in a directory named `/user_javascript`.

JavaScript functions are downloaded into the client browser at the time the form is generated on the screen for the user. They are efficient, in that no call to the server is needed when you invoke a function. The code will execute within the browser.

Most JavaScript custom functions are defined within layout cell attributes for a field, using the HTML MODIFIER. This HTML modifier calls the JavaScript function that you create in the specified place on the server.

For example, if you want to check that an entry in a field named `product_code` on the `edit` screen is always sent to the server in upper case, you may do the following:

- On the field named `product_code` on the `edit` screen, define a layout cell attribute of type HTML Modifier and with a value of `onclick='checkUpperCase()'`;
- Create a user custom JavaScript function within the `user_javascript` file, similar to:

```
<script language=JavaScript>
function checkUpperCase() {
  var s = document.editForm.product_code.value;
  document.editForm.product_code.value = s.toUpperCase();
}
</script>
```

## Email Notification

ExtraView offers a number of email notification features that are designed to facilitate maximum flexibility in managing inter-group, cross-functional, and business-to-customer communication. As a general default, ExtraView automatically sends email to the person who Originated an issue, the person who is Assigned to the issue, and the person who is selected as the Owner of the issue. These can be altered or replaced using Email Rules.

## Creating a Mailing List for an Issue

There are four types of users for email notification. All these users go through the same validation process as explained in this section.

1. **Interest list users.** These are the users qualified to be in the mailing list based on interest list conditions and subscription. Note that if the interest list uses filters with operators such as *changed to* and *changed from* then users that are added to the interest list based upon the results of these filters, then the mailing list on the *add* and *edit* issue screens will not display these users. This is because these users cannot be evaluated until the issue is updated. Of course, they will receive the notification upon the insertion or update to the issue.
2. **CC Mail users.** These are USER IDs or Email addresses entered manually into CC Mailbox
3. **Business Rule users.** Business rules may add additional users to the email list before it is processed. These users will be added unconditionally to the email list.
4. **Built-in users.** The following users are built-in users and they are automatically qualified to be in the mail list. They are also called standard email recipients. You may suppress this list with the behavior setting named `SUPPRESS_STANDARD_EMAIL_LIST` by setting it to a value of YES.

Data Dictionary Field Name

OWNER

ASSIGNED\_TO

CONTACT

ORIGINATOR

LAST\_CHANGE\_USER

Previous OWNER

Previous ASSIGNED\_TO

Previous CONTACT



Previous ORIGINATOR

Release ASSIGNED\_TO

Release OWNER

Module ASSIGNED\_TO

UDF list OWNER

Module default OWNER if the behavior setting named EMAIL\_MODULE\_OWNER\_ALWAYS = YES

When an issue is created or updated, ExtraView makes a determination of who is to be notified from the users in the above list, and the rules to process the mail notification are based on the following criteria.

- Check whether **EMAIL\_CUSTOMER** = YES or NO. This comes from the check box on the *add* or *edit* screen. The value is always YES for Custom Email
- Check whether the behavior setting named **SUPPRESS\_STANDARD\_EMAIL\_LIST** = YES or NO
- Check whether each user's email address and alternative email address is valid – **VALID EMAIL ADDRESS** = YES or NO. The program checks whether each email address has @ sign within the address and has a "." at the 3rd or 4th position from the end. Examples of valid addresses are john@extraview.com and john@extraview.com.jp. If the address is not valid, processing does not halt, but the invalid address is dropped from the notification list
- A check is made to see whether the issue is available for viewing by each user. This is the **PRIVACY GROUP TEST** which will result in PASS or FAILED. This test is performed by ExtraView. The result is always PASS if the email being generated is an ad hoc email. The basic test results in PASS if the issues' privacy group is PUBLIC or PRIVATE or the user being tested is in the issue's privacy group
- The role of the user being tested is examined. The test results in PASS or FAILED. The result is always PASS if the behavior setting named LIMITED\_USER\_ROLE is not defined or is blank. The result is PASS if the user's current role is different from the value of the behavior setting LIMITED\_USER\_ROLE. The result is FAILED if the user's role is the same as that defined in LIMITED\_USER\_ROLE.

If the result was FAILED, then by definition the user is a GUEST account and the following test is made – if the checkbox **EMAIL\_CUSTOMER** on the *add* or *edit* screen is checked, then an email to the GUEST user is generated if one of the following conditions is true:

- It is an ad-hoc mail that is being sent
- The behavior setting named ALLOW\_GUEST\_MAIL is set to YES. Note that this behavior setting is not changeable by the administrator and is only available with a special license key from ExtraView. The reason for this is that access to this key could allow all users to bypass the ExtraView licensing scheme and have unlimited use of ExtraView.
- A check is made on whether the user is to **RECEIVE NOTIFICATION AT PRIMARY ADDRESS** = YES or NO. This comes from the user's personal options. This defines the initial address to which notification is sent
- A check is made on whether the user is to **RECEIVE NOTIFICATION AT ALTERNATE EMAIL ADDRESS** = YES or NO. This comes from the user's personal options. This defines the alternate address to which notification is sent
- Next, a check is made of the user's personal option **RECEIVE NOTIFICATION ON OWN UPDATES** = YES or NO. This checks whether the user who is inserting or updating the issue is to be removed from the notification list
- Lastly, a check of the behavior setting named **EMAIL\_MODULE\_OWNER\_ALWAYS** = YES or NO is made. If the check returns YES, then the user ID who is attached to the field MODULE\_ID is added to the notification list.

At the end of these checks, ExtraView has a list of the user's who are to be notified. The process then takes each of these users in turn and creates the outgoing email for the user, based upon their role and all security permissions.

## Administrator-Controlled Email Features

- Turn system-wide email on or off
- Disable email generation control for user roles
- Control specific notification option for user roles while adding and updating issues
- Enable or disable email to external users
- Optionally assign a module owner who will automatically receive notification upon a new or updated issue
- Optionally set a product email address to notify a product manager upon a new or updated issue
- The administrator can set up conditions which, when met, will cause an action to occur. Most often, this is used to escalate issues when they have remained in a specific status for longer than your process requires
- The email subject line can be tailored to contain text or any fields within the current issue
- Optionally show the email recipient the CC list for the notification
- The administrator can define email templates as either text or HTML. These templates can contain as much or as little data as is required for the standard notification of issues to ExtraView users
- The administrator can optionally define a range of email templates that can be used to communicate with customers or users, merging data from the current issue with pre-defined text. These templates can be made available on a user role basis

See also the section on [Scheduled Reports](#) for information on how the administrator may control the email delivery of reports to users.

# Email Options

## Email addresses

Each user may have two email addresses within ExtraView, a primary email address and an alternative email address. The primary email address is maintained on the Personal Details tab of the user account maintenance screen. The alternative email address and the controls for receiving email are on the Notification Options tab of the user account maintenance screen.

The administrator or the end user can select options for the end user to receive email at their primary and alternative email addresses independently.

If the behavior setting named CHECK\_EMAIL\_ADDRESS\_FORMAT has a value of YES, then the format of each email address is checked at the time it is entered or updated and an error message is returned if the format is not valid.

## Turning System-Wide Email On or Off

1. From Administration menu, under the **Email Notification** tab, click on **Email Settings**.
2. Scroll down until you see EMAIL\_NOTIFICATION.
3. Click **Edit** and change the value to YES, in order to turn on Email Notification, or set the value to NO to turn off Email Notification system-wide.
4. Click the **Update** button.

## Disabling Access to the Email list for Specific User Roles

You can control access to the mailing list with the security permission keys named PR\_ADD\_PROBLEM.NOTIFICATION and PR\_RESOLUTION.NOTIFICATION. If these keys are turned off for a combination of user role, business area and project, then the user will not have control over, or visibility of the email notification section of the *add / edit* screens.

## Notification Permission Keys

These keys have both PR\_ADD\_PROBLEM and PR\_RESOLUTION entries to control both the *add* and the *edit* screens.

Key	Purpose
NOTIFICATION	This is the master control for the display of the notification section on <i>add</i> and <i>edit</i> screens. You must have WRITE permission to these keys to observe the notification section on <i>add</i> and <i>edit</i> screens. Note that turning off this key is independent of the values of the fields and the security permission values of these keys. Just turning this display off does not alter the value of the EMAIL_SWITCH key. You can either set this key off as well, or use a business rule to inhibit the sending of email notifications from any screen within any Role / Business Area / Project combination.
CC_EMAIL	This key controls the visibility of the CC Email text entry box
CC_EMAIL_BUTTON	This permission key controls access to the CC Email button to the right of the CC Email text entry box
EMAIL_CUSTOMER	Giving permission to this key enables or disables access to the checkbox that turns notification on or off to users in the DEFAULT_USER_ROLE. Note that this checkbox may be set programatically using a business rule
EMAIL_SWITCH	This controls access to the checkbox that has the prompt <b>Generate Email</b>
INTEREST_LIST	With this key you control access to the ability to allow users to add users to an interest list for the issue they are adding or updating
MAILING_LIST	This is the control for the list of users who will be notified upon inserting or updating the issue

## Assign Module Owners

The System Administrator may assign *Module Owners*, such that changes on issues with given modules produce automatic email notification to the designated owner.

In addition, the module owner may be used to automatically populate the *assigned\_to* field on the Add Issue screen, if the behavior setting named LINK\_MODULE\_OWNER\_ASSIGNED\_TO on the Workflow Settings screen is set to a value of YES. This allows you to create the Add Issue screen in such a way that when a module is selected from a list, the Assigned To is automatically set to be the module owner.

1. From the Administration menu, under the **Lists** tab or from the Data Dictionary, click **Module Names**

2. Locate the *Module* to which you would like to assign an *Owner*, and click the associated **Edit** button

Change an entry - Module names

Product BBB

Module Fixed Name PROCESSOR

Module Title Processor Localize

Module Type \* None \*

Owner Susan Green

Sort sequence

Update Cancel Delete Print Page

Updating the module owner

3. Scroll through the list of available users or else select the owner from the pop up text box
4. Click the **Update** button.

## Set Product Email Address

The Administrator may set an email address for specific *products*, so that ExtraView users associated with that *product* will receive automatic email notification about product-related issues. This is achieved from the Products list within the **Lists** tab of the administration menu.

Change an entry to Products

Fixed database name BBB

Title to display Tracker Enterprise Localize

Sort sequence

Email address

Active  Yes  No

Update Cancel Delete Print Page

Setting the Product email address

## Notification Subject Line

ExtraView gives the Administrator the ability to customize the subject line of emails that are automatically sent when inserting and updating issues.

1. From the Administration menu, click on the **Behavior Settings** entry and then choose the **Email Settings** category
2. Scroll down until you see the behavior setting named EMAIL\_SUBJECT\_TEMPLATE, and click the associated **Edit** button
3. Type in the names of the fields you would like to display. Your custom email subject line can include any field from your ExtraView installation. These values are generated dynamically, based on the particular issue
4. If you would like values in your email subject line you must surround them with "\$\$". Normal static values can be typed in. See the example below:

Sample Text

\$\$ID\$\$ - \$\$SHORT\_DESC\$\$

\$\$ASSIGNED\_TO\$\$ (\$\$PRODUCT\_NAME\$\$; \$\$MODULE\_ID\$\$)  
- This is an Email

Issue # \$\$ID\$\$ This is Assigned to \$\$ASSIGNED\_TO\$\$

Subject Line Output

12345 – Problem with List Entries

rlloyd (Product X; Module Y) - This is an Email

Issue # 12345 This is Assigned to rlloyd

## Notification History

There is a special field named NOTIFICATION\_HISTORY which can only be placed on layouts with a type of HISTORY. As this field must be placed on the HISTORY layout, it only works when the behavior setting named ABBREVIATED\_HISTORY is set to NO.

The user role accessing history must have read permission to the key named PR\_RESOLUTION.NOTIFICATION\_HISTORY to see the information in the history audit trail.

# CC Email Capability

This feature gives users the opportunity to send a one-time email to people who are not directly associated with a particular issue.

This feature is controlled by the Security Privilege Settings as follows. A different setting can be used for each user role within the system.

Security Key Name	Purpose
PR_RESOLUTION.CC_EMAIL	This controls the appearance of the CC Email entry box on the Edit Issue screen
PR_ADD_PROBLEM.CC_EMAIL	This controls the appearance of the CC Email entry box on the Add Issue screen
PR_RESOLUTION.CC_EMAIL_BUTTON	This controls the presence of a user popup button on the Edit Issue screen. This button gives access to a list of users within ExtraView, who can be mailed
PR_ADD_PROBLEM.CC_EMAIL_BUTTON	This controls the presence of a user popup button on the Add Issue screen. This button gives access to a list of users within ExtraView, who can be mailed

To utilize the CC Email functionality, type email addresses (separated by commas or semi colons) into the CC Email field prior to updating the issue, or select named users from the list by first clicking the people icon. Unless you have a license from ExtraView that allows your installation to send email to non-ExtraView users, email addresses entered must belong to registered and activated ExtraView users. Also note that if there is a privacy group restriction on the issue, the user whose name, ID or email address is entered must have permission to view the issue.

The screenshot shows the 'Add' screen with the following elements:

- Attachments:** Add button
- File Description:** [Empty]
- File Name:** [Empty]
- File Size:** [Empty]
- Notification:**
  - Generate Email
  - Include self on interest list
  - Include Customer users in notification
- CC Email:** [Empty text box]
- Add users to interest list:** [Empty text box]
- Mailing List:** Bill Smith ; Chris Robinson ; Mary Brown ; Susan Green
- Buttons:** Submit, Clear, Print Page

Email notification on the Add or Edit screen

## Disabling Email Generation

### Disable Automatic Email Generation

Each time a user adds or edits an issue, he or she has the opportunity to halt all email generation by un-checking the **Generate Email** checkbox at the bottom of the Add and Edit screens.

This is controlled by the following security permission keys

Security Key Name	Purpose
PR_RESOLUTION.EMAIL_SWITCH	This controls the appearance of the Generate Email checkbox on the Edit Issue screen
PR_ADD_PROBLEM.EMAIL_SWITCH	This controls the appearance of the Generate Email checkbox on the Add Issue screen

The screenshot shows the 'Add' screen with the following elements:

- Attachments:** Add button
- File Description:** [Empty]
- File Name:** [Empty]
- File Size:** [Empty]
- Notification:**
  - Generate Email
  - Include self on interest list
  - Include Customer users in notification
- CC Email:** [Empty text box]
- Add users to interest list:** [Empty text box]
- Mailing List:** Bill Smith ; Chris Robinson ; Mary Brown ; Susan Green
- Buttons:** Submit, Clear, Print Page

Email notification on the Add or Edit screen

## Disable Generation of Email to External Users

Situations often arise where a customer may need to enter an issue, but you may not want the customer to see all of the different state changes that the issue goes through. When you add or update an issue, you have the option of halting email to external users.

This is controlled by security permission keys for each user role as follows:

Security Key Name	Purpose
PR_RESOLUTION.EMAIL_CUSTOMER	This controls the appearance of the Include Guests checkbox on the Edit Issue screen
PR_ADD_PROBLEM.EMAIL_CUSTOMER	This controls the appearance of the Include Guests checkbox on the Add Issue screen

At the bottom of the Add and Edit screens you will see something similar to the screenshot below. The default setting is not to send email to external users. Note that the term "Customers" is replaced by your organizations own name for guests or customers.

Email notification on the Add or Edit screen

If you would like your external users to receive an email, click the **Include Customer users in notification** check box and continue to update the issue.

## BatchMail Task

If ExtraView Corporation is hosting your installation, you do not have direct access to the file system of the server to configure, alter or use this feature without contacting ExtraView support.

When a notification is generated by ExtraView, it is written to a directory on the filesystem of the server. The location of the directory is controlled by the behavior setting named EMAIL\_DIRECTORY.

This directory is managed by the BatchMail task or process. With ExtraView 6.0 and beyond, this task may be managed within the ExtraView administration utility to [configure BatchMail](#). Previous to version 6.0, the BatchMail task was managed external to ExtraView. For backwards compatibility, the task may still be operated externally.

Please see this section in this guide for information on how this utility works.

## Locale Handling

### Notification and the User's Locale

When a user receives an email notification, they will receive it in their current locale irrespective of the locale of the person who updated the issue. For example, if you are on the interest list for an issue, and your locale is Japanese, you will receive the notification using Japanese as the language. If your locale is English, you will receive the notification in English.

## User-Controlled Notification Features

- Turn on and off notification of user's own updates
- Select incoming email format to be text or HTML.
- Select from a fuller or briefer form of notification when receiving text
- Disable automatic email generation
- CC Email
- Send pre-formatted email, using templates set up by the administrator, to communicate information to customers or other users

**Note:** This guide describes the user-controlled email features along with the administration features, as a review of this functionality here helps to provide a more complete overview of email functionality in ExtraView.

## Notify of Own Updates

This feature gives an individual user the option to disable automatic email to their self on issues that they add or update. The administrator can also apply this option on behalf of any user.

1. As an individual user, click on your account name in the title bar to edit your account details, or from the User tab on the Administration menu click on the **User Account Maintenance** option and edit the user whose account you want to modify. Click on the **Notification Options** tab.

A screen similar to the one below will appear:

Change a User's Details screen

2. Click on the radio buttons by **Notify on own updates** to toggle the option on and off.
3. Click the **Update User** button.

## Select Email Format

This feature gives an individual user the option to choose whether to receive notifications in text or HTML formatted email. The administrator can also apply this option on behalf of any user. The choices are to display incoming email in one of four formats: HTML, Plain Text (full), Plain Text (brief) and Plain Text (very brief).

Type	Purpose
HTML	Notification is sent using the layout named EMAIL_FULL, and is delivered in an HTML format
Plain Text (full)	Notification is sent using the layout named EMAIL_FULL, and is delivered as plain text format
Plain Text (brief)	Notification is sent using the layout named EMAIL_BRIEF and is delivered in a plain text format
Plain Text (very brief)	No layout is used for the notification, but a plain text format email is delivered, only showing the fields that changed in the insert or update operation of the issue. If a field value was modified, it is preceded with a * character. If a field value is inserted, it is preceded with a + character.

1. As an individual user, click on your account name in the title bar to edit your account details, or from the **User** tab on the Administration menu click on the **User Account Maintenance** option and edit the user whose account you want to modify. Click on the **Notification Options** tab.

A screen similar to the one below appears:

The screenshot shows a web interface titled "Change a user's details". At the top, there are three buttons: "Update User", "Cancel", and "Print Page". Below the title bar, there are six tabs: "Personal Details", "Personal Options", "Reports", "Notification Options", "User Roles/Security", and "Privacy Groups". The "Notification Options" tab is active. In this tab, there are two settings: "Email format" and "Notify on own updates". The "Email format" is a dropdown menu currently showing "HTML", with a red arrow pointing to it. The "Notify on own updates" setting has two radio buttons: "Yes" (which is selected) and "No". At the bottom of the screen, there are three buttons: "Update User", "Cancel", and "Print Page".

Change User Details screen

2. The default email format is HTML. If you would like to see your email notifications in another format, select the desired format from the Email format list.
3. Click the **Update User** button.

Below are examples of the different email formats:

Open [ExtraView-36474]-[P 3]-Execute notification using opt in/out rules, per new Interest List and E...

File Edit View Insert Format Tools Actions Help

Reply Reply to All Forward

From: ExtraView Support [support@extraview.com] Sent: Fri 2/24/2006 11:08 AM  
 To: carl@sesame.com  
 Cc:  
 Subject: Open [ExtraView-36474]-[P 3]-Execute notification using opt in/out rules, per new Interest List and Escalation Rules

Issue #	Created	Last Modified	
36474	February 8, 2006 11:38:51 AM PST	February 24, 2006 11:07:28 AM PST	
Area	Status	Days Open	Changed by
Defects	Open	16	Allan Rofer
Category	Cust. Sup. Issue ID #	Customer	
Feature Enhancement		Vodafone	
Title			
Execute notification using opt in/out rules, per new Interest List and Escalation Rules			
Product	Module	Originator	Assigned To
ExtraView	Administration	Dan Fineman	Ali Goksel
Found in Release	Severity	Browser	Priority
4.3.5		All Platforms	P 3
Found In Build #	Database	OS	Duplicate Bug ID
	All		
Requested Release	Committed Release	Branch Status	Fixed-in build #
4.3.6	5.0	Open	
Planned Time (days)	Planned due date	Phase	Spec. Ref #
	April 3, 2006	3	6.2
Description			
Execute notification under new paradigm, involving opt-in / opt-out by users for Escalation Rules and Interest Lists.			

cc: [Carl Koppel](#) ; [Allan Rofer](#) ; [Cindy Norman](#) ;  
[Ali Goksel](#) ; [Dan Fineman](#)

HTML Email in Microsoft Outlook



Subject: Open [#19419]: Category doesn't seem tied to Product anymore  
Date: Wed, 2 May 2001 13:57:53 -0700 (PDT)  
From: "ExtraView" <extraview-user@customer.com>  
To: <support@sesame.com>

ExtraView Notification for Bug # 19419

\*Synopsis: Category doesn't seem tied to Product anymore

Link: [http://www.extraview.net/extraviewsql/SE\\_Signon.FrameSet?p\\_case\\_id=19419](http://www.extraview.net/extraviewsql/SE_Signon.FrameSet?p_case_id=19419)

\*Product: Dev Tools

\*Originator: rlloyd

\*Owner: rlloyd

\*Changed By: dwong

\*Priority: 1

Severity:

\*View: Private

\*Last Modified: 02-MAY-2001 13:57

\*Category: Software

Alt ID:

Created: 02-MAY-01

\*Module: ExtraView

Component:

\*Platform: all

OS:

Clarify ID:

Test Case ID:

Test Case Location:

Problem Reproducible in SQA:

\*Version Open: 3.1.2.1

\*Status: Open

Version Closed:

Disposition:

\*Description:

If you select Product=EV, Category=Software, you will see two modules called "EV". Go into Admin...Modules and one is Hardware, one is Software.

Comments:

---

ExtraView - Copyright Sesame Technology 1999, 2000. All rights reserved.

Plain Text (Full)

```

Subject: Open [#19419]: Category doesn't seem tied to Product anymore
Date: Wed, 2 May 2001 13:57:53 -0700 (PDT)
From: "ExtraView" <extraview-user@customer.com>
To: <support@sesame.com>

```

ExtraView Notification for Bug # 19419

\*Synopsis: Category doesn't seem tied to Product anymore

Link: [http://www.extraview.net/extraviewsql/SE\\_Signon.FrameSet?p\\_case\\_id=19419](http://www.extraview.net/extraviewsql/SE_Signon.FrameSet?p_case_id=19419)

```

*Product: Dev Tools
*Originator: rlloyd
*Owner: rlloyd
*Priority: 1
Severity:

```

---

ExtraView - Copyright Sesame Technology 1999, 2000. All rights reserved.

Plain Text (Brief)

**Note:** These standard email formats can be modified using the layout editor and modifying the EMAIL\_FULL or EMAIL\_BRIEF layouts.

## Adding Issues with EVMail

Many organizations want to use email to submit new issues to ExtraView, either from their own employees or from their customers. ExtraView enables this capability via a task named EVMail. This task may be configured to allow ExtraView to receive and process emails that both insert and update issues. See the section entitled Email Poller Task for instructions on how to configure the EVMail task.

EMail can perform the following tasks:

- Add new issues to your database
- Update existing issues

See the section entitled [Configuring EVMail](#) for instructions on how to setup and configure the EVMail task.

## LDAP & SSO Servers

If ExtraView Corporation is hosting your installation, you do not have direct access to the file system of the server to configure, alter or use this feature without contacting ExtraView support.

ExtraView may be configured to work with both Lightweight Directory Access Protocol (LDAP) and Single Sign On (SSO) servers. LDAP servers include Microsoft's implementation named Active Directory. It is not necessary to configure both LDAP and SSO at the same time, although this can be done.

We strongly recommend that you have access to a resource that is skilled in administering LDAP and/or SSO to set up these features.

You may connect directly to an LDAP server, or you may connect to an LDAP server via SSO. Typically, it is slightly easier to configure the combination of LDAP and SSO servers, as opposed to configuring only an LDAP server.

This section discusses connecting ExtraView with both SSO and LDAP first, and then discusses a direct connection to LDAP without SSO.

Neither LDAP nor SSO is part of ExtraView, but are separate applications that ExtraView may integrate with. There are many "flavors" and implementations of both LDAP and SSO and they may be configured in many different ways by different organizations. While ExtraView may connect to and use LDAP and SSO, the configuration is often different from one installation to another. ExtraView's professional services team can help with the integration of ExtraView to your LDAP and SSO servers, but this is not part of the standard installation, and may be a separate, chargeable event.

Setting up LDAP and SSO implies that you will set up the configuration in both behavior settings and within the Configuration.properties file external to ExtraView.

Note that there is also a hybrid authentication mode, where ExtraView can authenticate against an LDAP server and also use its own internal authentication mechanism. This is ideal in an environment where you want to use the LDAP server for internal users, but use ExtraView's authentication for your customer users.

## LDAP Synchronization

The standard configuration is that ExtraView performs a lookup of information in the LDAP server for each request that requires the information, such as to authenticate a user or to perform a search for users. If the connection from the ExtraView servers to the LDAP servers has high latency, a performance problem may be introduced. To counteract this, there is an inbuilt ExtraView task that will perform an LDAP synchronization with ExtraView on a timed basis. With this synchronization, ExtraView will lookup information in its own database, while the synchronization task keeps the ExtraView database up-to-date.

The advantage is a performance gain, but the expense is that the information in the ExtraView database will only be up-to-date as of the last synchronization. Thus, new users may take some time to be recognized and changes to a user's record, such as password change, will only propagate when the synchronization fires. See the page [here](#) for more information.

## SSO Connections

The Single Sign On facility allows another application to control user access to ExtraView. When this is enabled through ExtraView's behavior settings (see above), the SSO application is entirely responsible for the authentication of each user. Once the authentication is complete, the SSO application forwards the authenticated information to ExtraView, and ExtraView automatically signs on the user. If necessary, and subject to any licensing restrictions, a new user will be created within ExtraView.

When ExtraView is configured to use SSO as the user authentication mechanism, the user points their browser to the SSO sign on page. ExtraView extracts the user ID and other pertinent data from the HTTP request header and automatically logs the user into ExtraView – no ExtraView sign on page is displayed. During the sign on process, ExtraView will access all of the user's information in the LDAP Server, assuming this is configured. A new ExtraView user will be created, if the user does not exist. If the user exists in the ExtraView database, their record is updated to ensure synchronization with the LDAP server.

## SSO Header Mapping

The "login" HTTP header from SSO contains the authenticated user's information. ExtraView administrative data held in the security\_user table defines the headers that are used by ExtraView and where in ExtraView each field is stored. All of these fields map to the individual fields that contain user data. This mapping is used in conjunction with the LDAP user data, bypassing the need for an administrator to add a new user specifying this information.

In the ExtraView configuration file (Configuration.properties), these fields are mapped to match the host header data as shown in the following example:

```
#####
## SSO HEADER MAPPING ##
#####
SSO_PRIMARYKEY = USER_NAME
SSO_SURNAME = SURNAME
SSO_GIVENNAME = GIVEN_NAME
SSO_EMAIL = EMAIL_ADDRESS
SSO_STREET = STREET
SSO_CITY = CITY
SSO_STATE = STATE
SSO_POSTALCODE = POSTALCODE
SSO_COUNTRY = COUNTRY
SSO_PHONE = TELEPHONE_NUMBER
SSO_MOBILE = MOBILE_NUMBER
SSO_PAGER = PAGER_NUMBER
```

As well as the fields such as USER\_NAME and CITY in the example above, you can also map the user defined fields in the ExtraView security\_user table. There are five of those, named USER\_FIELD\_1 through USER\_FIELD\_5.

## The SSO\_DN\_USER\_ID\_ATTRIBUTE

SSO\_DN\_USER\_ID\_ATTRIBUTE - short for Distinguished Name User ID Attribute - indicates two behaviors:

1. The SSO header is in Distinguished Name format, e.g., cn=abc,dn=def,ou=ghi

- The attribute of the user ID within the DN is the value of the SSO\_DN\_USER\_ID\_ATTRIBUTE followed by an optional instance number.. For example, if SSO\_DN\_USER\_ID\_ATTRIBUTE=cn, then the user ID would be abc based on the example in the previous point.

Another example is:

```
cn=2055092,cn=Users,dc=dsd,dc=fmcna,dc=com
```

In this case, SSO\_DN\_USER\_ID\_ATTRIBUTE=cn would still work to establish 2055092 as the user\_id.

If the DN is:

```
cn=Users,cn= 2055092,dc=dsd,dc=fmcna,dc=com
```

then the SSO\_DN\_USER\_ID\_ATTRIBUTE=cn#2 would establish the 2055092 as the user\_id (the #2 indicates that the second instance of the attribute should be used). Note that cn#1 and cn act the same when used as configuration values for SSO\_DN\_USER\_ID\_ATTRIBUTE.

## ExtraView API in a SSO Environment

When you require accessing the ExtraView API, and a Single Sign On server is in place, special needs exist to ensure that all API calls are correctly authenticated, and that every access is from an authorized source. ExtraView uses the following logic to establish whether a call to the API is authentic, when a Single Sign On server is in place:

- The API call is examined and if the parameters user\_id and password exist, these are used to authenticate the user
- If the first step does not result in a valid user, the headers returned from a SSO connection are examined. If these contain a valid user ID and password, these are used to authenticate the user
- If there is still no authenticated user, and if the behavior setting ALLOW\_ANONYMOUS\_API\_ACCESS is set to YES, then an anonymous connection is established, using the permissions of the role of the user that is set in the behavior setting ANONYMOUS\_API\_USER\_ID.

## Direct LDAP Connections

When ExtraView is configured to work directly to an LDAP server, the following functions are enabled, all without any need for custom programming within ExtraView:

- Access to an unlimited number of LDAP fields
- Customized mapping of one or more fields in ExtraView to one or more fields LDAP fields
- Customized pre-population of mapped fields on the ExtraView Add and Edit Screens
- Customized pre-population of fields through a popup link
- The upsert of data to the ExtraView user table, based on a configuration value. Upsert is a combination of insert and update. If a record exists, it is updated, if it does not exist, it is inserted.

## Setting LDAP Fields in the Configuration.properties File

In the configuration file of the application server (Configuration.properties), there is a parameter named LDAP\_FIELDS. These are the meta-names of the mappings to be used with LDAP. These must be comma separated, listed on one line.

The following fields are mandatory and must be provided as the fields for the upsert operation:

```
LDAP_FIELDS = LDAP_PRIMARYKEY,
              LDAP_SURNAME,
              LDAP_GIVENNAME,
              LDAP_COMMONNAME,
              LDAP_EMAIL,
              LDAP_STREET,
              LDAP_CITY,
              LDAP_STATE,
              LDAP_POSTALCODE,
              LDAP_COUNTRY,
```

## LDAP\_PHONE

Other fields may be added. They should follow the same naming convention. These represent the fields for which information will be retrieved. For example, you might add more fields such as:

LDAP\_MOBILE,  
 LDAP\_PAGER,  
 LDAP\_COMPANYNAME,  
 LDAP\_DEPARTMENT,  
 LDAP\_TITLE  
 LDAP\_ADDITIONAL\_EMAIL  
 LDAP\_ADDRESS\_LINE2  
 LDAP\_PHONE  
 LDAP\_HOME\_PHONE  
 LDAP\_COMPANYNAME  
 LDAP\_FAX  
 LDAP\_USER\_DEFINED\_1  
 LDAP\_USER\_DEFINED\_2  
 LDAP\_USER\_DEFINED\_3  
 LDAP\_USER\_DEFINED\_4  
 LDAP\_USER\_DEFINED\_5  
 LDAP\_USER\_DEFINED\_6  
 LDAP\_USER\_DEFINED\_7  
 LDAP\_USER\_DEFINED\_8  
 LDAP\_USER\_DEFINED\_9  
 LDAP\_USER\_DEFINED\_10

## Map the Fields in LDAP\_FIELDS to Values in the LDAP Directory

These fields are mapped with a 1:1 relationship, similar to the following example:

LDAP\_PRIMARYKEY = employeenumber  
 LDAP\_SURNAME = sn  
 LDAP\_GIVENNAME = givenname  
 LDAP\_COMMONNAME = cn  
 LDAP\_EMAIL = mail  
 LDAP\_STREET = street  
 LDAP\_CITY = l  
 LDAP\_STATE = st  
 LDAP\_POSTALCODE = postalcode  
 LDAP\_COUNTRY = postaladdress  
 LDAP\_PHONE = telephonenumber  
 LDAP\_MOBILE = mobile  
 LDAP\_PAGER = pager  
 LDAP\_COMPANYNAME = displayname

LDAP\_DEPARTMENT = department

LDAP\_TITLE = title

## Map the Fields in LDAP\_FIELDS to Values in ExtraView

There can be more than one ExtraView field mapped to an LDAP\_FIELD. You must prefix the name of the LDAP field meta-name with the characters EV\_. For example, LDAP\_PRIMARYKEY becomes EV\_LDAP\_PRIMARYKEY. You should separate multiple values with a comma.

EV\_LDAP\_PRIMARYKEY = USR\_ID

EV\_LDAP\_SURNAME = USR\_LNAME

EV\_LDAP\_GIVENNAME = USR\_FNAME

EV\_LDAP\_COMMONNAME = USR\_NAME

EV\_LDAP\_EMAIL = USR\_EMAIL

EV\_LDAP\_STREET =

EV\_LDAP\_CITY = USR\_CITY

EV\_LDAP\_STATE = USR\_STATE

EV\_LDAP\_POSTALCODE =

EV\_LDAP\_COUNTRY =

EV\_LDAP\_PHONE = USR\_PHONE,USR\_PHONE2

EV\_LDAP\_MOBILE = USR\_MOBILE

EV\_LDAP\_PAGER =

EV\_LDAP\_COMPANYNAME =

EV\_LDAP\_DEPARTMENT = USR\_DEPT

EV\_LDAP\_TITLE =

## List Fields to be Pre-populated

Ensure each of these is placed on ONE line:

### *Add Screen*

This is a comma-separated list of ExtraView field names that are to be filled in on *add* screens, from values in the LDAP, and based on a search for a user. Example:

ADD\_SCREEN\_LDAP\_FIELDS = USR\_NAME, USR\_TITLE, USR\_DEPT, USR\_EMAIL, USR\_PHONE, USR\_PHONE2, USR\_MOBILE, USR\_FAX, USR\_CITY, USR\_STATE, USR\_BUILDING

### *Edit Screen*

This is a comma-separated list of ExtraView field names that are to be filled in on *edit* screens, from values in the LDAP, and based on a search for a user. Example:

EDIT\_SCREEN\_LDAP\_FIELDS = USR\_NAME, USR\_TITLE, USR\_DEPT, USR\_EMAIL, USR\_PHONE, USR\_PHONE2

### *Searching on the Add and Edit Screens*

This is a comma-separated list of ExtraView field names whose values are to be used as the search key for filling the field values on the *add* or *edit* screens. Example:

LDAP\_USER\_FIELD\_NAMES = USR\_NAME, USR\_TITLE

## Specify if you want to Update ExtraView User Information with the Latest Information from the LDAP Server

If you specify YES, then when each user signs in to ExtraView, the code will upsert that user's information to the ExtraView user table, directly from the LDAP directory.

```
LDAP_UPSERT = YES
```

If LDAP\_UPSERT is NO, a user will not be able to sign on to ExtraView if they have not already been added to the system. The default value for this behavior is YES, so new users will be upserted and will be signed on.

## Extending the Query Capability

When you have configured your LDAP connection to ExtraView, and you click on the search icon by a user field, a popup allows you to search the LDAP directory for users and to return one or more user's details into the form on the screen. It is sometimes useful to configure the fields used for the query.

This is accomplished with the LDAP\_SEARCH\_FIELDS property within the Configuration.properties file. This is a comma-separated list of LDAP field names. The LDAP search may be filtered by these additional attributes.

For example, entering the following on a single line within the Configuration.properties file:

```
LDAP_SEARCH_FIELDS = SURNAME,  
GIVENNAME,  
PRIMARYKEY,  
PHONE,  
COMPANYNAME
```

Extends the search for users on user pop-ups to use the PHONE and the COMPANYNAME fields in addition to the standard fields.

## User Name Lookup

There is an optional field within the Configuration.properties files named LDAP\_EDIT\_FIELDS\_CHANGE\_ON\_REFRESH. When there is a parent user field mapped to an LDAP field and this is placed on an *edit* screen and this field is set to a value of NO, the child fields that are mapped are not altered when the parent field is changed. This allows the values of a record on the LDAP server to be placed on an *edit* screen and not be altered once they have been read from the LDAP server. The default value for this property is YES, allowing the child fields to be refreshed when the parent is altered.

## User ID's

Some LDAP installations are configured to support User ID's that contain space characters. ExtraView does not support space characters within a User ID. It is considered bad practice to use User ID's that contain space characters. User ID's that contain space characters on the LDAP server cannot be mapped to User ID's in ExtraView.

## Upsert of Users

If the Configuration.properties file contains the entry LDAP\_UPSERT = YES, then you may specify which fields within ExtraView are updated with the upsert operation. The entry LDAP\_UPSERT should be followed with an entry named UPSERT\_LDAP\_FIELDS. This will include all or a subset of the fields in the following list:

```
UPSERT_LDAP_FIELDS = LDAP_COMMONNAME, LDAP_GIVENNAME, LDAP_SURNAME, LDAP_EMAIL, LDAP_ADDITIONAL_EMAIL,  
LDAP_STREET, LDAP_ADDRESS_LINE2, LDAP_PHONE, LDAP_HOME_PHONE, LDAP_MOBILE, LDAP_PAGER, LDAP_COMPANYNAME,  
LDAP_POSTALCODE, LDAP_STATE, LDAP_CITY, LDAP_COUNTRY, LDAP_FAX, LDAP_USER_DEFINED_1, LDAP_USER_DEFINED_2,  
LDAP_USER_DEFINED_3, LDAP_USER_DEFINED_4, LDAP_USER_DEFINED_5, LDAP_TITLE
```

If the UPSERT\_LDAP\_FIELDS statement is not included then all the fields are assumed to be updated upon the upsert operation.

## Timeouts

It is important that the connection from ExtraView to the LDAP server is extremely fast. A poor LDAP connection will introduce unacceptable performance problems into the environment. To guard against LDAP connections that do not return information in a timely manner, there are two timeouts:

**TCP connection timeout.** If there is general network slowness, there is a two-minute timeout period.

**LDAP read timeout.** This is set to one minute, and guards against a response not being received from the LDAP server. Note that Java 1.6 (or greater) is required for this timeout to work.

## LDAPS Connections

## LDAPS Connections (LDAP over SSL)

The objective of configuring ExtraView for LDAPS is to install the LDAP server SSL certificate into the JVM that is used by the application server hosting the ExtraView web application in order for the client (ExtraView webapp) to be able to authenticate directly to the LDAP server.

Before starting the process to configure ExtraView to work in this mode, ensure the LDAP server has already been configured for secure LDAP with a SSL certificate, and the secure LDAP port has been confirmed to be active. Consult your LDAP server documentation for configuring your LDAP server for secure LDAP with a SSL certificate.

More information on LDAPS configuration is available at <http://java.sun.com/products/jndi/tutorial/ldap/security/ssl.html#SERVER>

### Java Configuration

1. Download the InstallCert.java file and compile it with your JDK
2. Run the InstallCert program as follows:  

```
java InstallCert <host>:<port>
```

 where <host> is the hostname of your LDAP server, and <port> is the LDAPS port (e.g., 636) configured on your LDAP server
3. You will see some Java error text:

```
javax.net.ssl.SSLHandshakeException: sun.security.validator.ValidatorException: PKIX path building failed:
sun.security.provider.certpath.SunCertPathBuilderException: unable to find valid certification path to requested target
```

and be prompted to select a certificate to add to the trusted keystore

4. Select the certificate to add to the keystore and the InstallCert program will display the entire certificate.  
Also, be aware that the InstallCert program creates the file jssecacerts in the current directory
5. To verify that the certificate has been added, re-run the InstallCert program as in step 2, and instead of the Java error text you should see the following message:

```
No errors, certificate is already trusted
```

6. Lastly, you need to add the jssecacerts file to your JDK by copying it to the JAVA\_HOME/jre/lib/security/ directory.

## LDAP Connections with SSO

ExtraView can be configured to use an LDAP directory for details of users. This is optional, and is controlled by the same behavior setting that signifies whether SSO is turned off or on (SSO\_STATE). See the section on Single Sign On within this guide for more information.

### LDAP Server Information

Once again, see above for the ExtraView behavior settings that control the connection. In addition, the ExtraView configuration file Configuration.properties specifies the parameters required to access the LDAP server.

There is an assumption that only a single LDAP server will be configured. The following information also assumes that the administrator is familiar with the configuration of LDAP servers.

In the ExtraView configuration file, the following fields will be mapped to matched the host LDAP data structures:

```
#####
## LDAP SEARCH MAPPING ##
#####
LDAP_PRIMARYKEY = primary_key
LDAP_SURNAME = surname
LDAP_GIVENNAME = given_name
LDAP_COMMONNAME = common_name
LDAP_DISTINGUISHEDNAME = distinguishedname
LDAP_EMAIL = email_address
LDAP_STREET = street_address
LDAP_CITY = city
LDAP_STATE = state
LDAP_POSTALCODE = postal_code
LDAP_COUNTRY = country_name
LDAP_PHONE = telephone_number
LDAP_MOBILE = mobile_number
```



LDAP\_PAGER = pager\_number  
 LDAP\_COMPANYNAME = your\_companyname

ExtraView maps the following LDAP fields, if they are configured for use and if they are accessible in LDAP by ExtraView.

ExtraView Field	LDAP Field	Mapped	Comments
<b>User ID</b>	LDAP_PRIMARYKEY	Yes	Used for login and user authentication
First name	LDAP_GIVENNAME	Yes	
<b>Last name</b>	LDAP_SURNAME	Yes	
<b>Password</b>	LDAP_PSWRD	Yes	Used for login and user authentication. Note that the password is used only when inserting a new user via LDAP connection, and only if the CUSTOM_AUTHENTICATION behavior setting is set to NO.
Expire password	NA	No	
User Roles	NA	Optional	May use rule mapping to map this field
Privacy Groups	NA	Optional	May use rule mapping to map this field
Set Default Area	NA	Optional	May use rule mapping to map this field
Set Default Project	NA	Optional	May use rule mapping to map this field
<b>Email address</b>	LDAP_EMAIL	Yes	
Date Format	NA	No	
Time in 24 Hour Format	NA	No	
Drilldown Report format	NA	No	
Time zone	NA	Yes	
Notify on own updates	NA	No	
Job title	NA	Yes	
<b>Company name</b>	LDAP_COMPANYNAME	Yes	This is not used in the mapping
Address	LDAP_STREET	Yes	
City	LDAP_CITY	Yes	
State / Province	LDAP_STATE	Yes	
Zip / Postal Code	LDAP_POSTALCODE	Yes	
Country	LDAP_COUNTRY	Yes	
Work phone	LDAP_PHONE	Yes	

Home phone	NA	Yes	
Cell phone	LDAP_MOBILE	Yes	
Fax	LDAP_FAX	Yes	
Pager	LDAP_PAGER	Yes	
Any UDF field	A distinguished Name	Yes	
User Expired	NA	Yes	Value is used but not saved locally within ExtraView
Session expiration limit	NA	No	

It is supported to map the same LDAP schema name to multiple ExtraView configuration properties, for example:

```
LDAP_PRIMARYKEY = uid
LDAP_EMAIL = uid
```

**Note:** The fields in bold in the above table are typically mandatory in ExtraView.

**Note:** Most of the ExtraView fields are accessible through the user administration screens.

**Note:** ExtraView user role information is not stored in the LDAP server.

## LDAP and SSO Example

The following is an excerpt from a Configuration.properties file showing the entries to connect to both an LDAP and SSO server.

```
... ..
... ..
#####
## SSO HEADER MAPPING ##
#####
SSO_PRIMARYKEY = SM_USER
SSO_SURNAME = SSO_SURNAME
SSO_GIVENNAME = SSO_GIVENNAME
SSO_EMAIL = SSO_MAIL
SSO_STREET = SSO_STREET
SSO_CITY = SSO_CITY
SSO_STATE = SSO_STATE
SSO_POSTALCODE = SSO_POSTALCODE
SSO_COUNTRY = SSO_COUNTRY
SSO_PHONE = SSO_TELEPHONENUMBER
SSO_MOBILE = SSO_MOBILE
SSO_PAGER = SSO_PAGER

LDAP_FIELDS = LDAP_PRIMARYKEY,LDAP_SURNAME,LDAP_GIVENNAME,LDAP_COMMONNAME,LDAP_EMAIL,LDAP_STREET,
LDAP_CITY,LDAP_STATE,LDAP_POSTALCODE,LDAP_COUNTRY,LDAP_PHONE,LDAP_MOBILE,LDAP_PAGER,
LDAP_COMPANYNAME,LDAP_DEPARTMENT,LDAP_TITLE

#####
## LDAP SEARCH MAPPING ##
#####
LDAP_PRIMARYKEY = employeenumber
LDAP_SURNAME = sn
LDAP_GIVENNAME = givenname
LDAP_COMMONNAME = cn
LDAP_EMAIL = mail
LDAP_STREET = street
LDAP_CITY = l
LDAP_STATE = st
LDAP_POSTALCODE = postalcode
```

LDAP\_COUNTRY = postaladdress  
 LDAP\_PHONE = telephonenumber  
 LDAP\_MOBILE = mobile  
 LDAP\_PAGER = pager  
 LDAP\_COMPANYNAME = displayname  
 LDAP\_DEPARTMENT = department  
 LDAP\_TITLE = title

EV\_LDAP\_PRIMARYKEY = USR\_ID  
 EV\_LDAP\_SURNAME = USR\_LNAME  
 EV\_LDAP\_GIVENNAME = USR\_FNAME  
 EV\_LDAP\_COMMONNAME = USR\_NAME  
 EV\_LDAP\_EMAIL = USR\_EMAIL  
 EV\_LDAP\_STREET =  
 EV\_LDAP\_CITY = USR\_CITY  
 EV\_LDAP\_STATE = USR\_STATE  
 EV\_LDAP\_POSTALCODE =  
 EV\_LDAP\_COUNTRY =  
 EV\_LDAP\_PHONE = USR\_PHONE,USR\_PHONE2  
 EV\_LDAP\_MOBILE = USR\_MOBILE  
 EV\_LDAP\_PAGER =  
 EV\_LDAP\_COMPANYNAME =  
 EV\_LDAP\_DEPARTMENT = USR\_DEPT  
 EV\_LDAP\_TITLE =

... ..  
 ... ..

## Pre-population of Fields

Assuming that you have set up the above configuration parameters, when you load the ExtraView Add screen, the fields you selected for ADD\_SCREEN\_LDAP\_FIELDS in Configuration.properties will pre-populate with values from the LDAP directory, according to the LDAP mappings configured in Configuration.properties.

In the below example, the circled fields were all pre-populated from the LDAP entry based on the current user (Campbell, Rob).

*Extraview Add Issue*

Title

Product       Originator **Rob Campbell**

Module       Assigned To       Company Name

Category       Status

Priority       Severity

Display Name	Campbell, Rob	User Title		Department	N/A
Email	N/A	Phone	831-461-7100	Phone2	831-461-7100
Mobile	262-391-0000	Fax		City	Scotts Valley
State	CA	Building			

Generate Email      CC Email

Include Guest      Mailing List

**Popup Link**

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 Licensed to Sesame Technology  
 Environment - Version evbugtracker - UNKNOWN  
 Report problems and request enhancements at the [ExtraView support site](#).

Example of fields pre-populated from an LDAP server

## Popup Link Configuration

After you have decided which fields to put on your Add and Edit screen layouts, you can pick one (usually a primary identifier such as the user's name) to have a URL link popup window beside it. This popup window will allow for dynamic searching of the LDAP directory. It will also populate multiple fields on the Add or Edit screen with the values for the primary identifier. ExtraView fields will be populated from the LDAP directory based on the mappings you set up in Configuration.properties.

First, configure the link with the appropriate URL, within the Data Dictionary. Full instructions for this are in the Data Dictionary section of this administration guide.

The screenshot shows the 'Change a Data Dictionary Entry' interface for the 'SPELL\_CHECK' field. The configuration is as follows:

- Fixed name:** SPELL\_CHECK
- Title to display:** Spell Check (with a 'Localize' button)
- Type of field:** User defined field
- Field belongs to:** Issue records
- Display type:** Text Field
- Field Properties:**
  - Select Area:** \* Global Area \*
  - Select Project:** \* Master Project \*
  - Allow selection on reports:** Yes (selected)
  - Remember last value:** No (selected)
  - Filter criteria:** No (selected)
  - Is sortable:** No (selected)
  - Display as URL:** Yes (selected)
  - Image for Display as URL:** (empty)
  - URL:** http://www.extraview.com/cgi-bin/spell?Title=\$\$SHORT\_DESCR\$\$&
  - Default value:** (empty)
  - Help text:** Spell check the text fields on the form (with a 'Localize' button)
  - Help URL:** (empty)

Data Dictionary entry where the popup link is configured

- Set Display as URL to Yes.
- Enter the first part of the URL, exactly as shown. Do not complete the field entry yet

?p\_action=doDisplay&p\_option=security.SearchLDAPDisplay

- Append to the URL the list of fields you want populated in the following pattern, but using the fields for your installation:

```
&FIELD=USR_NAME&FIELD=USR_TITLE&FIELD=USR_DEPT
&FIELD=USR_EMAIL&FIELD=USR_PHONE
&FIELD=USR_PHONE2&FIELD=USR_MOBILE
&FIELD=USR_FAX&FIELD=USR_CITY&FIELD=USR_STATE
&FIELD=USR_BUILDING
```

where the pattern for each field is *&FIELD=DataDictionaryName*

The final URL will look something like this:

```
?p_action=doDisplay&p_option=security.SearchLDAPDisplay
&FIELD=USR_NAME&FIELD=USR_TITLE&FIELD=USR_DEPT
&FIELD=USR_EMAIL&FIELD=USR_PHONE
&FIELD=USR_PHONE2&FIELD=USR_MOBILE
&FIELD=USR_FAX&FIELD=USR_CITY&FIELD=USR_STATE
&FIELD=USR_BUILDING
```

## Popup Link Usage

When you click on the popup link beside the primary identifier, ExtraView will open a new window, where you can search for users by typing in search criteria. This is shown in the following screen shot.

The screenshot shows the ExtraView 'Add Issue' screen with a 'Lookup User Account Directory' popup window. The popup window has a title bar with 'Search for Account', 'Clear Form', 'Cancel', and 'Print Page' buttons. Below the title bar is a text area with instructions: 'Use this form to search the directory for users. Enter information you know about the user. The more information you enter, the more likely you are to find the user you are looking for. In the fields, you can enter as much of the name as you know. For example, 'Smi' entered in the last name field will match 'Smith', 'Smile', etc. You can use an '\*' as a wildcard pattern in your search. Searching is not case sensitive.'

The 'Directory Search' section contains the following fields:

- Last name: \*s\*
- First name: (empty)
- User ID: (empty)
- Sort By: Last name

The 'Search Results' section contains a table with the following data:

User ID	Name	Phone	Email	Company	Pager	Mobile	Login ID
<a href="#">MARY</a>	Mary Dickens	(831) 461-7100	mary@ssc.com	Superior Software Corp	(831) 461-7100	(831) 461-7100	MARY
<a href="#">CSR</a>	Chris Robinson	(831) 461-7100	csr@xxx.com	Superior Software Corp	(831) 461-7100	(831) 461-7100	CSR
<a href="#">BSMITH</a>	Bill Smith	(831) 461-7100	bsmith@x.com	Superior Software Corp	(831) 461-7100	(831) 461-7100	BSMITI

The popup window also has 'Search for Account', 'Clear Form', 'Cancel', and 'Print Page' buttons at the bottom.

Searching for users in the LDAP directory

After using the search criteria, click on one of the results in the ID field. The fields on the parent add or edit screen will be populated with all the fields you requested.

## Updating ExtraView User Information

When the LDAP\_UPSERT = YES functionality is set in Configuration.properties, a user's information will be updated in ExtraView with the latest information found in the LDAP directory. This occurs when the user signs into ExtraView, and without any action on the user's part.

With this feature, the ExtraView administrator needs only to create the account for a new user, using the SAME unique id as the LDAP\_PRIMARYKEY in the LDAP directory. Then upon sign on, these users have their account information in ExtraView updated. All

fields that are mapped are updated, and kept up to date automatically.

**Note:** This feature should only be used if you have licensed ExtraView with concurrent license usage, as users can continually add new licenses to the user table.

## ExtraView Help

The ExtraView application includes a comprehensive HTML-based help system that you can access at any time by clicking the **Help** button on the navigator frame. In addition, many tool tips and context-sensitive links are defined throughout the application.

When you place the mouse cursor over a screen label that has a tool tip, a small window will appear next to your mouse cursor with a definition of what this label does. These labels allow you to define help tips for your users. If you press the mouse button over a label, you will be taken to a specific page within the help system. If you do not have a specific page defined within the screen name Administrative section, you will be taken to the Help Index page. This page consists of links to detailed information about the system.

## ExtraView End-User Help Index

### Version 7.0

This is the end-user Help Index for the ExtraView issue tracking and workflow management system. Use these [links](#) to navigate to topics in the help system. Topics may also be accessed by clicking on field name [links](#) as found throughout ExtraView's various interface screens.

Note that while the features and functions described here are generic, the "look and feel" of the screens may not match your specific installation. Please contact your System Administrator with questions.

For complete end-user and complete administrative documentation on ExtraView, please visit the [ExtraView Documentation center](#).

### Help Topic List

- [Before You Get Started](#)
- [User Sign On](#)
- [Home Page and Navigation](#)
  - [Changing Personal Options from the Navigation Bar](#)
- [Adding a New Issue](#)
- [Editing an Existing Issue](#)
- [Queries](#)
  - [Expanded Queries](#)
  - [Advanced Queries](#)
- [Reports](#)
  - [Column Reports](#)
  - [Summary Reports](#)
  - [Matrix Reports](#)
  - [Aging Reports](#)
  - [Calendar Reports](#)
  - [Planning Reports](#)
  - [Charts](#)
  - [Dashboard Reports](#)
  - [Custom URL Reports](#)
  - [Container Reports / Layouts](#)
- [Workspaces](#)
- [Email Notification Features](#)
- [Field-Type Behaviors](#)
- [Glossary](#)
- [ExtraView Corporation, the Author of ExtraView](#)

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ExtraView Help screen

## Defining Your Own Help System

It is straightforward to develop your own help system within ExtraView. This can be completely separate from ExtraView's inbuilt system, or it can completely replace the inbuilt system.

### Default Help System Paths

The standard Help system HTML files are stored in a directory with the path of en\_US/help, within the installation directory where your ExtraView installation resides. The images embedded within the Help system are stored by default in the path en\_US/images. Note that the menu buttons for the Help system are stored in the standard images directory for the system.

### Defining the Path to your own Help System

If you develop a complete help system, it is recommended that you set the behavior setting named HELP\_HOME in the Installation Defaults menu within the ExtraView Configuration menu within Administration.

You can then set a regular index.html file within this directory, and set up a complete system from there.

When you press the **Help** button on the main menu, this page is accessed, in a new window.

## Accessing your own Help System

You can obviously build the help file with internal links to navigate around the pages. You can also use the Help URL within each field of the Data Dictionary to provide context sensitive help on each field that appears on each screen such as the *Add Issue* and *Edit Issue* screens.

You can also use the standard html bookmark convention to provide a drilldown from the Data Dictionary to a place within a help page.

# Initial Setup Menu

## Uploading New License Keys

If you purchase additional ExtraView licenses or make other changes to your ExtraView license you import the new license with the utility titled **Upload New License Activation Key**.

The screenshot shows a web-based utility titled "Upload New License Key". At the top right, there are three buttons: "Upload File", "Return", and "Print Page". Below the title bar, there is a "Directions" section with two numbered steps: 1. "Press the Browse button and select the license file to install" and 2. "Press the Upload File button and ExtraView will install new the license". Below this is an "Actions" section with the text "Choose file to upload:" followed by a text input field and a "Browse..." button. At the bottom right, there are three buttons: "Upload File", "Return", and "Print Page".

Importing a new license key

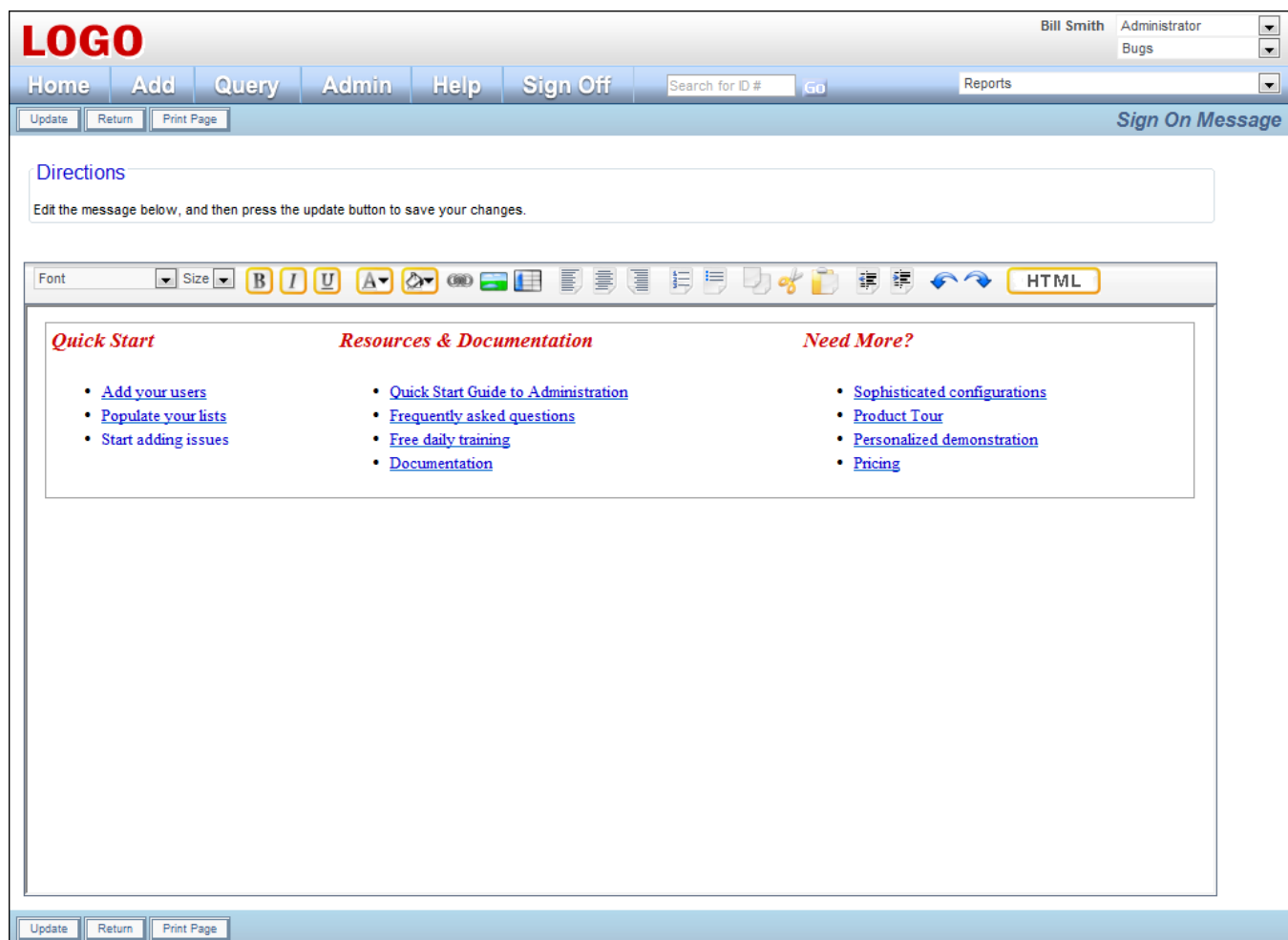
Simply take the license key file provided by ExtraView and upload it with the utility. Your new license key will take immediate effect.

## Sign On Message

Many organizations use the Sign on Message screen as a bulletin board for system-wide messaging to the members of the organization. You may use all the capabilities of HTML to customize your own Sign on Message.

From the Administration screen, under the **Initial Setup Menu**, click on **Sign On Message**. The following screen appears:





### Sign On Message screen

With Internet Explorer as your browser, the HTML Area utility is used to enter and edit your sign on message. See Appendix F for a guide to using this utility to edit your message. If you are using a different browser, the message is edited as direct HTML within the edit box presented to you.

You can modify the Sign On Message in any manner, utilizing valid HTML. This screen allows you to display HTML on the home screen at the top of the page. When you are finished, press the **Update** button.

Within the sign on message, use CSS styles as opposed to HTML to style the fonts of the message to be displayed. This will ensure that styles you want for your characters will take effect. Some HTML styling of the text may not appear because of the precedence of styles used in the overall document.

As an example, you should use

```
<span style=font-size:20px>Here is some text</span>
```

as opposed to

```
<font size=7>Here is some text</font>
```

Below is an example of a Home screen with the Sign On Message:

**LOGO** Bill Smith Administrator  
Bugs

Home Add Query Admin Help Sign Off Search for ID# Go Reports

Print Page ExtraView Home

**Quick Start**

- Add your users
- Populate your lists
- Start adding issues

**Resources & Documentation**

- Quick Start Guide to Administration
- Frequently asked questions
- Free daily training
- Documentation

**Need More?**

- Sophisticated configurations
- Product Tour
- Personalized demonstration
- Pricing

**Home Page Dashboard**

**Summary of Statuses**

Status	Total
New	98
Open	24
Fixed	135
Closed	63
Duplicate	17
Not Found	19
<b>Grand Total</b>	<b>356</b>

**Open Issues by Business Area**

Area	Total
Bugs	9
Test Cases	1
Helpdesk	5
Customer Issues	7
Feature Requests	1
Knowledge Base	1
<b>Grand Total</b>	<b>24</b>

**Key Statuses**

Status	Count
Open	24
New	98
Fixed	135
Closed	63
Duplicate	17

**Open Issues by Priority**

Priority	Count
P 1	~30
P 2	~50
P 3	~150
P 4	~10

**My Open Issues**

Home Page screen

The sign on message is limited to a maximum length of 4,000 characters. This includes all the HTML tags and attributes. If you attempt to enter more than this number of characters, an error is generated, and you will need to reduce the size of the message. However, it is possible to include references to JavaScript functions in the UserJavaScript.js file. From there you can generate additional HTML with document.write statements.

It is the administrator's responsibility to ensure that the HTML inserted into the sign on page is valid. It is possible (for example by opening an `<A . . . >` tag without a corresponding `</A>`) to introduce a Sign On Message that will effectively lock all users out of the system. Should this happen, you must sign on to ExtraView with the *admin* user account and password. This bypasses the sign on message and allows you to edit the message and remove any poor HTML.

## Uploading a Company Logo

The company logo that appears in the top left hand corner of the navigation bar can be replaced with your own image. Click on the link named **Upload Your Company Logo** within the Initial Setup Menu admin screen. You will see the following:

**Upload your company logo** Return Print Page

The image you upload should be of a suitable size. If you are using a vertical navigation menu bar, it should be no wider than the behavior setting named MENU\_SIZE. If you are using a horizontal navigation menu bar, its height should be no more than the behavior setting named MENU\_SIZE. If you are unsure of the size, please try a logo that is about 100 pixels wide, and 50 pixels high. Only images with a type of GIF can be uploaded.

After uploading your new logo, you may need to refresh your browser page before the new logo is displayed.

**Add** Click the Add button to upload a new Company Logo to replace the one shown below

Your Logo

Return Print Page

Uploading your company logo

When you click the **Add** button, a dialog box appears, allowing you to choose a file from your local computer to upload.

If you upload a logo that is too large for the available space on the navigation bar, ExtraView will resize the logo so that it fits in the space. If your navigation bar is set to the horizontal direction, then the logo is reduced in size so that its height is equal to the MENU\_SIZE. If your navigation bar is set to the vertical direction, the logo is reduced in size so that its width is equal to the MENU\_SIZE.

If your application server and your web server are on different physical servers, you will need to have a mount point within the application server to ensure that the logo you upload is served up from the application server, not the web server.

Only files of type gif may be uploaded.

**Note:** The new company logo image may not appear immediately on your page, especially if the new one you uploaded is of identical size to the previous one. The reason for this is that the browser caches the image, and does not always detect that it should download a fresh copy. Please click on the Home button on the navigation bar to see the new logo in situ.

The same logo is placed on the sign on screen. There may be some occasions when, for aesthetic reasons, you want to place a different logo on the sign on screen. This is possible, utilizing two behavior settings, under the Display Settings menu. You will find two behavior settings there:

SIGN_ON_SCREEN_LOGO	This is the path to the logo used for the sign on screen logo. By default, this points to ../images/CompanyLogo.gif. This is the location of the company logo that is uploaded with this utility. You can point to any other valid location with an absolute or relative URL. You must place this logo on the file system of the server yourself. This allows you to place any logo image on your sign on screen.
SIGN_ON_SCREEN_LOGO_STYLE	This setting is typically used to place the logo in SIGN_ON_SCREEN_LOGO at a specific location on the sign on screen. The default is to use a style of position: absolute; left:10px;top:10px which places the logo 10 pixels from the top left-hand corner of the screen.

**Note:** You cannot use this feature if you are running ExtraView from within a deployed War file. Simply copy the logo file to the correct path on the server.

**Note:** The logo you upload will also be used in Workspaces. It will be resized automatically to fit the space in the Workspace screen.

## User Interface Themes

This administrative function provides a shorthand method to set all the individual font, color and image settings with a single selection. This is the recommended method to select your user interface. Select **User Interface Themes** from the menu and you will see this screen:

## Select the User Interface Theme

Choose from one of the following navigation and color schemes by clicking on a radio button at the left-hand side. After making your choice and pressing the Update button on the menu bar, please sign out and then sign in again so the changes can take effect.

Click to select Theme sample and description

Mixed blues color theme with horizontal navigation bar

Pale blues color theme with horizontal navigation bar

Light blues color theme with horizontal navigation bar

Selecting a user interface theme

Scroll down the available themes and use the checkbox to select the theme that you wish to use for your installation. Next, click on the **Update** button to make your changes. You should sign off and sign on again for all the changes to take place.

## Manage Quickfind

This screen is used to set up Quickfind, a mechanism that greatly increases the speed of text searches through the ExtraView database. This utility defines exactly what text will be indexed, and where the indexes will be stored. The Quickfind indexing mechanism is based upon the Apache Foundation Lucene technology.

Update Return Print Page
**Manage Quickfind Settings**

### Quickfind Settings

This is where you may manage the settings for Quickfind, an indexing mechanism that significantly speeds up keyword searching. You should carefully follow the instructions in the Installation Guide to set up Quickfind for the first time.

You will require a directory on you web server that can be read and written by the Quickfind process. If you are using multiple application servers, they must be able to share this directory.

The fields below control which data is searched when the 'KEYWORD' filter is used.

You must also go to the **Manage Tasks and Threads** administration utility to configure and start the FULL\_TEXT\_SYNCHRONIZE background task. This task should be run on only one of the application servers.

Enable Quickfind ?

Quickfind Index Location ?

Allow Quickfind on user defined text fields ?

Manage Content Types
Manage Character Set Mapping
Estimate Storage Requirements

Update Return Print Page

The Quickfind management utility

The button named **Estimate Storage Requirements** gives an approximate estimate of how much storage is required with the current database, to store the indexes. Make sure you have sufficient storage available at all times, as your database grows in size.

On rare occasions, it might be necessary to manipulate the content types and the character set mappings of information to be indexed. It is not recommended that you alter these settings.

- The **Enable Quickfind** prompt is an overall switch to enable or disable Quickfind
- The **Quickfind Index Location** is the disk location where the indexes will be stored. All application servers in your installation must have read and write access to this location. Further, you must make sure you have sufficient disk space to store the indexes as they grow. If the location is on an NFS mount, then you should include this in the index location by using the convention `nfs:pathname`. This assists ExtraView in its handling of Quickfind.
- The prompt **Allow Quickfind on user defined text fields** determines whether the text within all the user defined fields should be indexed. The recommendation is that you set this to Yes

When Quickfind is first turned on, and the task named FULL\_TEXT\_SYNCHRONIZE is also turned on, ExtraView will build the indexes on your database. Information on the [Manage Quickfind task is found here](#). If you ever need to rebuild the indexes, there is utility named FullTextIndexSetup provided with ExtraView, located in the WEB-INF/data folder. This utility will initialize and rebuild all the Quickfind indexes when it is run. This should be done from the command line of your server.

When you first setup Quickfind, the indexes are built with the utility named FullTextIndexSetup. This is extremely quick on a new database, but may take some time on a very large existing database. This is done in chunks, so that you can continue working while the indexing task runs in the background, without it consuming all the resources of the server. It is difficult to predict exactly how long this will take on a large database, as there are many factors such as the processing speed, memory, amount of text, and the amount of attachments that all have an impact. However, it is unlikely that the process will take more than a few hours. Your users can continue working during this period, and the search results will improve as the process continues. Our recommendation is to start the process after the majority of users leave work for the day.

Note that files larger than 16MB cannot be indexed.

As stated above, Quickfind utilizes the Apache Lucene software to provide the indexing mechanism. One support issue is that if your Java Virtual Machine, or your application server (Apache Tomcat or whatever) crashes for any reason, then the indexes may be left in a locked state on the server. The lock files are kept in the directory specified by the `org.apache.lucene.lockdir` system property if it is set, or by default in the directory specified by the `java.io.tmpdir` system property (on Unix boxes this is usually `/var/tmp` or `/tmp`). If for some reason `java.io.tmpdir` is not set, then the directory path you specified to create your index is used. Lock files have names that start with `lucene-` followed by an MD5 hash of the index directory path. If you are certain that a lock file is not in use, you can delete it manually.

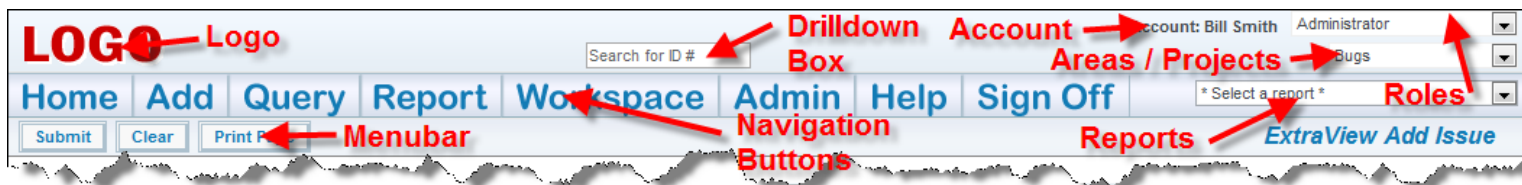
## Configuring your own User Interface

The ExtraView user interface is composed of the following components:

- **The Navigation Bar.** This may appear horizontally at the top of the screen or may appear vertically down the left-hand edge of the screen. This always contains the main navigation buttons and a drilldown box to search for issues.
- **The Menu Bar.** This appears at the top of the screen within the main frame. If there is a horizontal navigation bar, then it appears beneath the navigation bar, else it appears at the top of the screen within the main frame.
- **Background and Text Colors.** In conjunction with the Cascading Style Sheets, these allow for the setting of the main frame colors including the text.
- **Images.** This is the range of images used as buttons within the main frame, as well as graphics used on the various screens.
- **Main Screen Image Sets.** This section shows the settings used within the preset themes. Normally you can set one of these image sets to get close to your desired interface.
- **Sign On Screen.** This explains how to add your own embellishments to the user sign on screen.
- **Cascading Style Sheets.** This provides an explanation of the different style sheets used within ExtraView.

## Navigation Bar

The navigation bar is a set of horizontal buttons and links that appear at the top of the browser window. The navigation buttons may be presented differently within a workspace.



The components of the navigation bar are:

- Your company logo. The company logo image (CompanyLogo.gif) should be sized to fit correctly within your selected user interface theme
- Navigation buttons. The **Home**, **Help**, and **Sign Off** buttons are always present. The **Add**, **Query**, **Report**, **Workspace** and **Admin** buttons are present if the user's current role has permission to see and use these buttons
- The user's name with a link to their personal account information
- A reports list from which the user may execute reports to which they have permission
- A list from which the user can alter their current role
- A list from which the user can alter their current business area and / or project
- A drilldown box into which a user can enter one or more ID's and drilldown into these issues
- A contextual menubar beneath the main navigation buttons. The buttons that appear on the menubar are dependent upon the page you are visiting. The menubar also has the name of the screen. The position of the buttons and the screen name can be switched with the behavior setting named MENU\_BUTTON\_POSITION.

To aid the configuration of the navigation bar, there are several behavior settings in the Display category, as follows:

Behavior setting	Purpose
NAV_BAR_DRILLDOWN_BOX_STYLE	The CSS style to be applied to the table containing the drilldown box on the navigation bar. This is only used when the MENU_DIRECTION is set to HORIZONTAL with horizontal style navigation bars and is used to alter the position of the drilldown box for different styles of navigation bar. Most frequently, you can position the drilldown box in an absolute position on the navigation bar, but you can also use effects such as altering the background-color to change the presentation of the control
NAV_BAR_LOGO_STYLE	This style is used to position the CompanyLogo.gif on the navigation bar, when the MENU_DIRECTION is set to HORIZONTAL
NAV_BAR_STYLE	This allows you to apply a CSS style to the navigation bar buttons.
NAV_BAR_GO_BUTTON	This places a Go button onto the navigation bar by the drilldown box
LOGO_STYLE	This is an optional CSS style that is applied to the ExtraViewLogo.gif image on the navigation bar if the MENU_DIRECTION is set to HORIZONTAL.
MENU_TEXT_COLOR	This allows you to select the color of text on the navigation bar, to ensure a contrasting color to the background

The following security permission keys control the ability for a user role to edit / alter their access to the options in the title bar:

Menu Bar Entry    Control

- Account** The CF\_PERSONAL\_OPTIONS controls access to the user's account details and options. If the user's role has only read access to this key, then the user name will appear in the title bar, but they are not able to drill down into the personal options screen. Write permission is needed in order to be able to drill down into the personal options screen
- Reports** The SR\_MENUBAR\_REPORTS security permission key controls the presence of this entry on the menu bar. It is worth noting that if you have an installation where each user has access to many hundreds of reports, there is a noticeable performance issue in generating this reports menu, each time the user hits a button that navigates to a new screen. In this environment, the recommendation is to turn this permission key off, and have the users reach reports via the Query button on the navigation bar. This one additional mouse click may save them one or more seconds each time they move to a new screen.
- Role** If the user has only a single role defined, this title bar entry will not appear. If the user may adopt two or more roles, this entry appears and the user can drill down to a screen to alter their current role
- Area and Project** The security permission keys named CF\_AREA and CF\_PROJECT control access to whether the user's role may alter their current business area and project

## Background and Text Colors

The following screen shots give the names of many of the behavior settings that can be altered within the Display category of behavior settings.

Refresh Group Issues Mass Update Issues Return Filters Print Page Owners of open bugs

Records 1 to 9 of 9 Sorted by owner

Status = Open AND Area = Bugs **← LABEL\_COLOR** **WINDOW\_BG\_COLOR**  
Prepared by Bill Smith on 9/5/11 11:43 AM

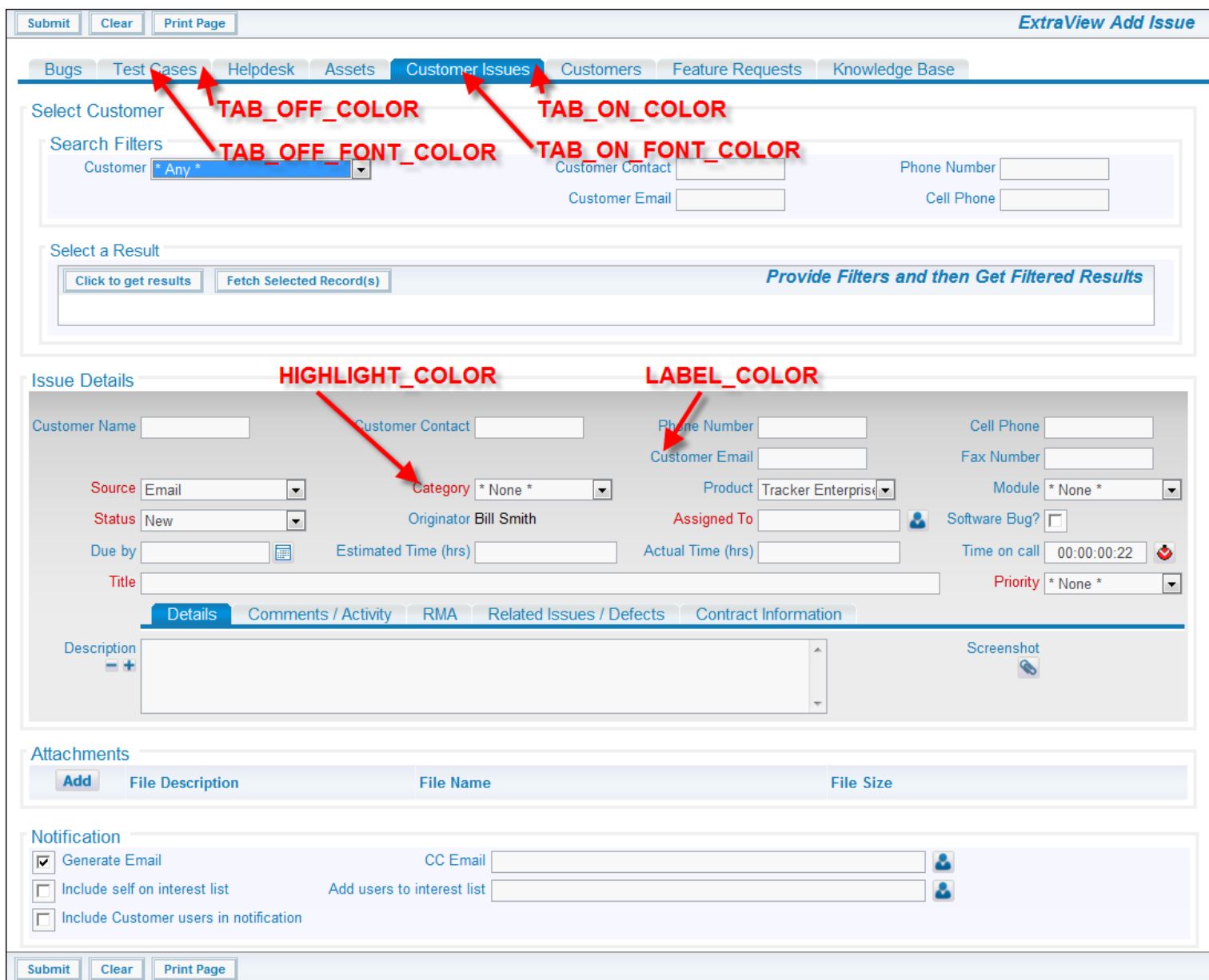
	ID #	Owner ▲	Status	Priority	Title
<a href="#">View</a> <a href="#">Edit</a>	10544	<a href="#">Bill Smith</a>	Open	P 1	Testing the translation engine
<a href="#">View</a> <a href="#">Edit</a>	10454	<a href="#">Chris Robinson</a>	Open	P 2	Test
<a href="#">View</a> <a href="#">Edit</a>	10552	<a href="#">George Miller</a>	Open	P 3	The box label may be off center <b>← MOUSEOVER_COLOR</b>
<a href="#">View</a> <a href="#">Edit</a>	10269	<a href="#">Greg Goldberg</a>	Open	P 2	New entry point to be created
<a href="#">View</a> <a href="#">Edit</a>	10475	<a href="#">Jimmy Duncan</a>	Open	P 4	This is a Coca-Cola issue reported by the customer when they were performing research into aissue #23232
<a href="#">View</a> <a href="#">Edit</a>	10272	<a href="#">Jimmy Duncan</a>	Open	P 1	This will be mapped to EV <b>← BG_COLOR</b>
<a href="#">View</a> <a href="#">Edit</a>	10565	<a href="#">Susan Green</a>	Open	P 1	Provision of TNCP problem
<a href="#">View</a> <a href="#">Edit</a>	10226	<a href="#">Susan Green</a>	Open	P 1	Provision of TNCP problem
<a href="#">View</a> <a href="#">Edit</a>	10557		Open	P 3	There is a defect in the admin module when a user makes an error

Count: 9 records

Records 1 to 9 of 9 **← HIGHLIGHT\_COLOR**

Refresh Group Issues Mass Update Issues Return Filters Print Page

Color Names



Color Names

## Images










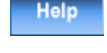




If ExtraView Corporation is hosting your installation, you do not have direct access to the file system of the server to configure, alter or use this feature without contacting ExtraView support.

Navigation and action buttons within ExtraView are created and stored as gif files. They reside in the images directory, which is defined by the paths in the IMG\_HOME and the IMG\_NAV\_BAR\_HOME behavior settings. The IMG\_NAV\_BAR\_HOME setting contains all the images required by the navigation bar and the remaining images are stored in IMG\_HOME. Any gif can be replaced with an alternative or you may create a new directory and place a complete set of images within the new directory. Define the path to the new directory in the IMG\_HOME or the IMG\_NAV\_BAR\_HOME behavior settings. Care should be taken not to provide gif's that are too large, and cause your browser to display them with unsatisfactory results. The following table shows the standard gif's that can be altered by the user, and their suggested size (width x height). If the gif should be sized differently, according to the MENU\_DIRECTION behavior setting, then the table shows the optimum size for both vertical and horizontal images.








Note that the file named CompanyLogo.gif does not reside within the IMG\_HOME or the IMG\_NAV\_BAR\_HOME location, but sits directly under the directory named /images. This allows your company logo to sit in one place, but be accessible to any set of issues you select. Also note that there is an administrative function that allows you to upload the file CompanyLogo.gif, without needing access to the file system of the server.

### Navigation Bar Images in the IMG\_NAV\_BAR\_HOME Directory



















Sample Image	Filename	Size	Purpose
	bHomeOff.gif	V=100x25 H=80 x 30	The off state for the homepage button
	bHomeOn.gif	V=100x25 H=80 x 30	The on state for the homepage button
	bSystemConfigOff.gif	V=100x25 H=80 x 30	The off state for the administration button
	bSystemConfigOn.gif	V=100x25 H=80 x 30	The on state for the administration button
	bAddProblemOff.gif	V=100x25 H=80 x 30	The off state for the add issue button
	bAddProblemOn.gif	V=100x25 H=80 x 30	The on state for the add issue button
	bSearchOff.gif	V=100x25 H=80 x 30	The off state for the search/report button
	bSearchOn.gif	V=100x25 H=80 x 30	The on state for the search/report button
	bHelpOff.gif	V=100x25 H=80 x 30	The off state for the help button
	bHelpOn.gif	V=100x25 H=80 x 30	The on state for the help button
	bLogoffOff.gif	V=100x25 H=80 x 30	The off state of the sign off button
	BannerBackground.gif	V=any reasonable size x 85 H=130 x any reasonable size	Image background for the main menu
	ExtraViewLogo.gif	V=any reasonable size x 37 H=100 x any reasonable size	The ExtraView logo that appears on the navigation bar
	GoButton.gif	V=any reasonable size x 37 H=100 x any reasonable size	Optional button displayed by the drilldown box on the navigation bar

## Other Images in the IMG\_HOME Directory

Sample Image	Filename	Size	Purpose
	AddButton.png	30 x 15	This is a general use add button used throughout
	DescButton.png	30 x 15	Used to access the metadata for file attachments
	DeleteButton.png	30 x 15	The delete button on the layout editor screen or on a report
	EditButton.png	30 x 15	This is a general use edit button used throughout
	HistoryButton.png	30 x 15	Used to access History from a report
	InsertButton.png	30 x 15	The insert button on the layout editor screen
	ListButton.png	30 x 15	This is a general purpose list button

	MapButton.png	30 x 15	Used in the import functions
	QuickEditButton.png	30 x 15	Used to access the Quickedit mode
	UpdateButton.png	30 x 15	Update button in metadata screens
	ViewButton.png	30 x 15	The button used to view a detailed report
	RemoveButton.png	50 x 15	Used to remove issues from relationship groups
	NextButton.png	18 x 18	The button used to select the next page of a report
	PreviousButton.png	18 x 18	The button used to select the previous page of a report
	Calendar.png	19 x 18	Button used to access the calendar
	ColorPicker.png	19 x 18	Used to indicate the color-picker popup
	LinkButton.png	19 x 18	The button used to provide on-screen links to other functions
	PermissionsButton.png	19 x 18	Provides access to security permissions
	QmarkButton.png	19 x 18	Button used to access a pop-up list of users
	timerOff.png	19 x 18	Used for the timer field
	timerOn.png	19 x 18	Used for the timer field
	Style.png	19 x 18	Access to the style of an object
	AgingIcon.gif	19 x 18	Icon used to signify a report is an aging report
	ChartIcon.gif	15 x 15	Icon used to signify a report is a chart
	ContainerIcon.gif	15 x 15	Icon used to signify a report is a container report
	ExternalReportIcon.gif	15 x 15	Icon used to signify a report is an external report
	MatrixIcon.gif	15 x 15	Icon used to signify a report is a matrix report
	PageLayoutIcon.gif	15 x 15	Icon used to signify a report is a layout
	ReportIcon.gif	15 x 15	Icon used to signify a report is a columnar report
	StatisticsReportIcon.gif	15 x 15	Icon used to signify a report is a statistics report
	SummaryIcon.gif	15 x 15	Icon used to signify a report is a summary report
	AgingIconBig.gif	19 x 19	Icon used to signify a report is an aging report
	ChartIconBig.gif	19 x 19	Icon used to signify a report is a chart
	ContainerIconBig.gif	19 x 19	Icon used to signify a report is a container report
	ExternalReportIconBig.gif	19 x 19	Icon used to signify a report is an external report
	MatrixIconBig.gif	19 x 19	Icon used to signify a report is a matrix report
	PageLayoutIconBig.gif	19 x 19	Icon used to signify a report is a layout
	ReportIconBig.gif	19 x 19	Icon used to signify a report is a columnar report
	StatisticsReportIconBig.gif	19 x 19	Icon used to signify a report is a statistics report
	SummaryIconBig.gif	19 x 19	Icon used to signify a report is a summary report
	GrowButton.png	10 x 10	Button used to enlarge a text area when editing
	ShrinkButton.png	10 x 10	Button used to reduce the size of a text area when editing
	smallbullet.gif	10 x 10	General purpose small button
	ArrowSelectOff.png	12 x 12	Icon used to signify report columns that can be sorted
	ArrowSelectOn.png	12 x 12	Icon used to show the column currently used as the descending sort key for a report
	B0.gif...B9.png	18 x 18	Ten Separate gifs with the numerals 0 to 9, used in many places

	Arrow.gif	11 x 9	Used on the menubar to indicate entries with sub-menus
	promote.gif	15 x 15	Used in reports to indicate a group heading that may be promoted
	SelectorOff.gif	15 x 15	Used as the off indicator for the record selector
	SelectorOn.gif	15 x 15	Used as the on indicator for the record selector
	SortAscend.gif	15 x 15	Used to indicate ascending sort
	SortDescend.gif	15 x 15	Used to indicate descending sort
<b>Add</b>	TreeAddButton.gif	38 x 15	Tree button to add elements
<b>Edit</b>	TreeEditButton.png	38 x 15	Tree button to edit elements
<b>Delete</b>	TreeDeleteButton.png	38 x 15	Tree button to delete elements
<b>View</b>	TreeViewButton.png	38 x 15	Tree button to view elements
<b>Opt-in</b>	TreeOptInButton.png	38 x 15	Tree button to opt-in
<b>Opt-out</b>	TreeOptOutButton.png	38 x 15	Tree button to opt-out
	ChartLayout.gif	270 x 160	Part of PDF preparation
	GroupChartPic.gif	270 x 160	Part of PDF preparation
	GroupColDGPic.gif	270 x 160	Part of PDF preparation
	GroupColPic.gif	270 x 160	Part of PDF preparation
	GroupColReportPic.gif	270 x 160	Part of PDF preparation
	GroupHeadersPic.gif	270 x 160	Part of PDF preparation
	GroupRowDGBPic.gif	270 x 160	Part of PDF preparation
	GroupRowPic.gif	270 x 160	Part of PDF preparation
	ReportLayout.gif	270 x 160	Part of PDF preparation
	ReportContainer.gif	150 x 100	Depicts container report layout
	AreaProjectFlow.gif	500 x 250	Exemplifies the Area / Project structure
	TransitionArrow.gif	30 x 20	Used as part of the Status Transition diagram
	TransitionArrow.gif	20 x 20	Used as part of the Status Transition diagram

## Main Screen Image Sets

To select any of these, alter the behavior setting named IMG\_HOME in the Environment Settings menu beneath the Administration Advanced tab, and set the behavior settings to those shown. Consider using the themes to select a color set, as all settings are made for you.

### Pale Blue Theme

These images offer theme of pale blue colors with light blue buttons.

**ExtraView Add Issue**

Submit Clear Print Page

Bugs Test Cases Helpdesk Assets Customer Issues Customers Feature Requests Knowledge Base

### Bug Details

Category \* None \*
Status New
Priority \* None \*
Severity \* None \*

Title

Product Tracker Enter
Module \* None \*
Platform \* None \*
Customer \* None \*

Release Found 
Originator Bill Smith
Assigned To 
Owner \* None \*

Details Comments Test Case Related Issues Release Fix Info Source Control Release Notes

### Description

Description

Screenshot

Spell Check

### Attachments

Add	File Description	File Name	File Size
+			

### Notification

Generate Email

CC Email

Include self on interest list

Add users to interest list

Include Customer users in notification

Submit Clear Print Page

Setting	Value
IMG_HOME	../images/images_light_blue/
BG_ALT_COLOR	#F7F7FB
BG_COLOR	#F0F1FC
BORDER_COLOR	#1292EA
LABEL_COLOR	#333366
MOUSEOVER_COLOR	#FAE992
REPORT_HEADER_FOOTER_COLOR	#ADBFD0
REPORT_SUMMARY_TOTAL_COLOR	#ADBFD0
SCREEN_HEADER_FOOTER_BG_COLOR	#D5DEE9
TAB_FONT_OFF_COLOR	#333366
TAB_FONT_ON_COLOR	#FFFFFF
TAB_OFF_COLOR	ADBFD0
TAB_ON_COLOR	3F5A7A
WINDOW_BG_COLOR	#FFFFFF

## Dark Blue Theme

These images offer theme of rich blue colors with dark blue buttons.

Submit Clear Print Page
**ExtraView Add Issue**

Bugs Test Cases Helpdesk Assets Customer Issues Customers Feature Requests Knowledge Base

### Bug Details

Category \* None \* ▼    Status New    Priority \* None \* ▼    Severity \* None \* ▼  
 Title   
 Product Tracker Enter ▼    Module \* None \* ▼    Platform \* None \* ▼    Customer \* None \* ▼  
 Release Found     Originator Bill Smith    Assigned To     Owner \* None \* ▼

Details Comments Test Case Related Issues Release Fix Info Source Control Release Notes

### Description

Description  Screenshot   
 Spell Check

### Attachments

Add	File Description	File Name	File Size

### Notification

Generate Email    CC Email    
 Include self on interest list    Add users to interest list    
 Include Customer users in notification

Submit Clear Print Page

Setting	Value
IMG_HOME	../images/images_dark_blue/
BG_ALT_COLOR	#EBF1F9
BG_COLOR	#E0EDF9
BORDER_COLOR	#1292EA
LABEL_COLOR	#405E87
MOUSEOVER_COLOR	#EFEFEF
REPORT_HEADER_FOOTER_COLOR	#B4C6F2
REPORT_SUMMARY_TOTAL_COLOR	#B4C6F2
SCREEN_HEADER_FOOTER_BG_COLOR	#D5DEE9
TAB_FONT_OFF_COLOR	#615499
TAB_FONT_ON_COLOR	#FFFFFF
TAB_OFF_COLOR	E0EDF9
TAB_ON_COLOR	3F5A7A
WINDOW_BG_COLOR	#FFFFFF

## Light Blue Theme

These colors are a mix of light blues, with contrasting highlights.

**ExtraView Add Issue**

Submit
Clear
Print Page

Bugs
Test Cases
Helpdesk
Assets
Customer Issues
Customers
Feature Requests
Knowledge Base

### Bug Details

Category \* None \*
Status New
Priority \* None \*
Severity \* None \*

Title

Product Tracker Enter
Module \* None \*
Platform \* None \*
Customer \* None \*

Release Found 
Originator Bill Smith
Assigned To 
Owner \* None \*

Details
Comments
Test Case
Related Issues
Release Fix Info
Source Control
Release Notes

### Description

Description

Screenshot

Spell Check

### Attachments

Add	File Description	File Name	File Size
+			

### Notification

Generate Email
CC Email

Include self on interest list
Add users to interest list

Include Customer users in notification

Submit
Clear
Print Page

Setting	Value
IMG_HOME	../images/images_light_blue/
BG_ALT_COLOR	#D5E3EB
BG_COLOR	#F5F5FF
BORDER_COLOR	#1292EA
LABEL_COLOR	#405E87
MOUSEOVER_COLOR	#E0E8F3
REPORT_HEADER_FOOTER_COLOR	#ADBFD0
REPORT_SUMMARY_TOTAL_COLOR	#ADBFD0
SCREEN_HEADER_FOOTER_BG_COLOR	#D5DEE9
TAB_FONT_OFF_COLOR	#FFFFFF
TAB_FONT_ON_COLOR	#FFFFFF
TAB_OFF_COLOR	ADBFD0
TAB_ON_COLOR	3F5A7A
WINDOW_BG_COLOR	#FFFFFF

## Green Theme

A palette of green tones.

Submit Clear Print Page
*ExtraView Add Issue*

Bugs Test Cases Helpdesk Assets Customer Issues Customers Feature Requests Knowledge Base

### Bug Details

Category \* None \*
Status New
Priority \* None \*
Severity \* None \*

Title

Product Tracker Enter
Module \* None \*
Platform \* None \*
Customer \* None \*

Release Found 
Originator Bill Smith
Assigned To 
Owner \* None \*

Details Comments Test Case Related Issues Release Fix Info Source Control Release Notes

### Description

Description

Spell Check

Screenshot

### Attachments

Add	File Description	File Name	File Size
+			

### Notification

Generate Email
CC Email

Include self on interest list
Add users to interest list

Include Customer users in notification

Submit Clear Print Page

Setting	Value
IMG_HOME	../images/images_green/
BG_ALT_COLOR	#E8F7E7
BG_COLOR	#FFFFFFE
BORDER_COLOR	#1292EA
LABEL_COLOR	#389538
MOUSEOVER_COLOR	#D4F0B4
REPORT_HEADER_FOOTER_COLOR	#98DB98
REPORT_SUMMARY_TOTAL_COLOR	#98DB98
SCREEN_HEADER_FOOTER_BG_COLOR	#DDE8A0
TAB_FONT_OFF_COLOR	FFFFFF
TAB_FONT_ON_COLOR	FFFFFF
TAB_OFF_COLOR	99CC99
TAB_ON_COLOR	389538
WINDOW_BG_COLOR	FFFFFF

## Grey Theme

This theme provides a mixture of grey tones complemented by dark red highlights.

ExtraView Add Issue

Submit Clear Print Page

Bugs Test Cases Helpdesk Assets Customer Issues Customers Feature Requests Knowledge Base

**Bug Details**

Category	* None *	Status	New	Priority	* None *	Severity	* None *
Title							
Product	Tracker Enter	Module	* None *	Platform	* None *	Customer	* None *
Release Found		Originator	Bill Smith	Assigned To		Owner	* None *

Details Comments Test Case Related Issues Release Fix Info Source Control Release Notes

**Description**

Description

Screenshot

Spell Check

**Attachments**

	File Description	File Name	File Size
<span>Add</span>			

**Notification**

<input checked="" type="checkbox"/>	Generate Email	CC Email	
<input type="checkbox"/>	Include self on interest list	Add users to interest list	
<input type="checkbox"/>	Include Customer users in notification		

Submit Clear Print Page

Setting	Value
IMG_HOME	../images/images_grey/
BG_ALT_COLOR	#FAFAFA
BG_COLOR	#F6F6F6
BORDER_COLOR	#1292EA
LABEL_COLOR	#444444
MOUSEOVER_COLOR	#E7DBDD
REPORT_HEADER_FOOTER_COLOR	#BABABA
REPORT_SUMMARY_TOTAL_COLOR	#BABABA
SCREEN_HEADER_FOOTER_BG_COLOR	#DDDDDD
TAB_FONT_OFF_COLOR	#000000
TAB_FONT_ON_COLOR	#FFFFFF
TAB_OFF_COLOR	CCCCCC
TAB_ON_COLOR	990000
WINDOW_BG_COLOR	#FFFFFF

## Sign On Screen

Consider this example sign on screen:





### ExtraView User Sign On

User ID

Password

[Change Password](#)

[New User Registration](#)

[Forget your User ID or password?](#)



Health. Education. Services. Support.

It is composed of the following areas:



These areas are configurable in the following way:

### Sign On Logo Area

This is a single image whose location is defined by the behavior setting named SIGN\_ON\_SCREEN\_LOGO. The default for this is the image named CompanyLogo.gif, but you can set this to any valid image file. You can apply a CSS style to the image with the behavior setting named SIGN\_ON\_SCREEN\_LOGO\_STYLE. Typically you can use this style to provide an absolute position to the image

### Promo Area

This is an optional area defined by a screen type field in the data dictionary named PROMO. This field contains HTML which can be used to create any valid entry on the sign on screen. Note, you can insert JavaScript into the screen with this field

### Sign On Area

This area is generated internally by ExtraView and its presentation may not be altered. However, its background color is set by the display theme chosen

### Display Area 1

This is an optional area that is insert onto the sign on screen within an IFRAME. It may contain any valid HTML. The HTML is

located on a server at the location defined in the behavior setting named `DISPLAY_SIGNON_URL_1`. The size of the `IFRAME` area is 500 pixels wide by 600 pixels high. The behavior setting named `DISPLAY_SIGNON_PROD_INFO` must be set to a value of `YES` to turn this feature on

## Display Area 2

This is an optional area that is insert onto the sign on screen within an `IFRAME`. It may contain any valid HTML. The HTML is located on a server at the location defined in the behavior setting named `DISPLAY_SIGNON_URL_2`. The size of the `IFRAME` area is 350 pixels wide by 300 pixels high. The behavior setting named `DISPLAY_SIGNON_PROD_INFO` must be set to a value of `YES` to turn this feature on

# Cascading Style Sheets

If ExtraView Corporation is hosting your installation, you do not have direct access to the file system of the server to configure, alter or use this feature without contacting ExtraView support.

Each user can select between one of three font sizes as a personal option. These are named *small*, *medium* and *large*. When the user selects one of these, ExtraView loads a corresponding cascading style sheet (CSS). The style sheets installed by ExtraView are within your web server environment, defaulting to the directory named `IMG_HOME/stylesheets`. This contains a number of sections with font sizes and other style parameters.

If you want to create your own version of the style sheets, it is typical that you want to do this in conjunction with creating your own image set for all buttons. It is recommended that you retain the same structure of the existing image sets and stylesheets by creating a new directory and subdirectory within `locales/en_US/images` and copy an existing image set into this directory. You use the `IMG_HOME` behavior setting to point to this new directory, and then make all your changes within there. In this way future upgrades of ExtraView will not write over your files, although you may need to extend these files if new entries, images or stylesheet settings are part of the upgrade. Note that if you are using or creating localized versions of the image sets, you will need also to place the stylesheets in other locale directories. Your stylesheets/ directory must contain the following files:

File	Purpose
<code>small.css</code>	The main stylesheet when the user selects the <i>small</i> text personal option
<code>medium.css</code>	The main stylesheet when the user selects the <i>medium text personal option</i>
<code>large.css</code>	The main stylesheet when the user selects the <i>large text personal option</i>
<code>dnd.css</code>	The style used to control the presentation of drag and drop objects
<code>menustyle.css</code>	The style of the menu used at the top of most screens
<code>popupwindow.css</code>	This style us used for window popups that are generated from within the browser, as opposed to being generated from the server
<code>popupwindowsafari.css</code>	This is similar to <code>popupwindow.css</code> , but is only used for the Apple Safari browser
<code>tooltip.css</code>	The style of popul tooltips that apper on many screens

Typically you will not add new or alter existing style names, but you can alter the existing styles. Also, you must be careful in altering the existing styles as some of these are used for accurate positioning or sizing of objects on ExtraView screens. As a rule of thumb, you can alter colors safely, but you should be careful about altering all other style information.

Consult a good HTML or Cascading Style Sheet manual for full details of options available to set up alternate styles.

## Import / Export Menu

This section of administration deals with the import and export of data and metadata with ExtraView. The available functions are:

- Metadata export - Exports the configuration, or part of the configuration of the installation to a local file
- Metadata import - Imports a previously exported file into an installation
- File Import - Issue Data - Imports issue data from a CSV or TSV file
- File Import - User Information - Imports and creates users from a CSV or TSV file
- File Import - Data Dictionary - Imports and create new user defined fields in the data dictionary from a tab-delimited or comma-delimited file

**Note: It is strongly recommend that you backup your entire database using its standard features, before you use the import facility. Importing metadata, layouts, reports and user data is irreversible, and it is possible that failures can occur during the process.**

Note that exporting metadata is different from backing up your entire database. This should be performed with the tools that are provided by your database vendor, or third party tools that are specifically developed for the task.

Data within ExtraView is split into two parts, metadata and item data. Metadata is the supporting data for the application, such as information supplied as part of the product, data you supply such as the entire list of available product names, the entire list of possible status values, and the screen layouts you design. Item, or issue, data is the physical data relating to the items being tracked. This will contain the attributes of a specific issue such as its ID, its specific product name, specific status currently assigned, and all the history information relating to the issue.

There are several reasons to export and import just the metadata, within an ExtraView instance:

- To produce a backup of all or part of the metadata in a form that can be restored. This is separate from performing a backup of the database instance itself, as the metadata is exported in XML format.
- To transfer the metadata from a test or staging environment to a production database. Upon transfer, operations such as update or update and merge can be selected.
- To obtain the data in a standardized format (XML) that can be used to interface to other systems.

When exporting the metadata, there is an import overall option to understand. You may check the option box titled **Minimize the user information exported**. Doing so serves the purpose of leaving the data associated with users undisturbed on the production server. User data such as passwords and each user's personal options is dynamic and you most often want to leave the production version of the user information alone.

It helps, but is not essential, to have an understanding of the ExtraView schema when using the metadata transfer utility.

When you export information, all the tables that are associated with the family are also exported, including subordinate information. When you import information, there are three modes, as follows:

- **Update** – modify existing objects of same name and type from the export image
- **Update / Merge** – this is a combination of update plus a merging of new data items in the export file.
- **Localization Merge** – import only the messages for all languages, which were exported as a family

**Note:** For most common import purposes, you should use the Update / Merge facility, as this is most likely to produce the desired results of adding new data, whilst updating existing data.

When an object is loaded from the saved disk image to the instance, all necessary referential integrity and uniqueness constraints are maintained. Maintaining uniqueness constraints necessarily involves incrementing or modifying the sequence values for specific objects in the instance appropriately. Maintaining referential integrity constraints implies that multiple tables may be updated, because rows on which the new values depend must be added, if they are not already there.

When deleting objects in the target database, all referential integrity constraints are maintained, using a cascade deletion policy. That is, if an import results in the removal of an object, the metadata object references to that object must be removed as well. This strategy is designed to ensure information is unlikely to be lost, since dependent objects are likely to be restored during the import.

When adding new metadata, additional rules may be imposed on the data relationships for user problem data. In these cases, all existing issue data is checked against the new relationships.

When you move the business rules from one instance to another as part of the export / import process, the rules are never merged with the existing rules in the target database. The old rules are always overwritten with the new rules.

## Export Family Information

Family	Tables exported	
All Metadata	ALLOWED_FUNCTIONS	LAYOUT_TYPE
	ALLOWED_VALUE_TYPE	MODULE
	ALLOWED_VALUES	MODULE_TYPE
	APPLICATION_DEFAULT	OUTPUT_TYPE
	AREA	PRIORITY
	CATEGORY	PRIVACY_GROUP
	CHART_TYPE	PRIVACY_GROUP_USER
	CUSTOMER	PRODUCT
	DATA_DICTIONARY	PRODUCT_LINE
	ESCALATION_RULE	PRODUCT_PRODUCT_LINE

ESCALATION_RULE_ACTION	PRODUCT_RELEASE
ESCALATION_RULE_ELEMENT	PROJECT
ESCALATION_RULE_USER	RELATIONSHIP_GROUP
EV_FILE_IMPORT	RESOLUTION
EV_HIERARCHY	SECURITY_GROUP
EV_HIERARCHY_LEVEL	SECURITY_GROUP_USER
EV_LIST_MAP	SECURITY_MODULE
EV_RULE_TEXT	SECURITY_PERMISSION
EV_TEMPLATE	SECURITY_USER
EV_TEXT_LOOKUP	SEVERITY_LEVEL
INTEREST_LIST	START_PAGE
INTEREST_LIST_ELEMENT	STATUS
INTEREST_LIST_USER	STATUS_RULE
ITEM_GROUP_TYPE	TITLE_MAP
ITEM_TYPE	UDF
LAYOUT	UDF_LIST
LAYOUT_ELEMENT	
LAYOUT_ELEMENT_ATTRIBUTE	
All metadata minus reports	
ALLOWED_FUNCTIONS	LAYOUT_TYPE
ALLOWED_VALUE_TYPE	MODULE
ALLOWED_VALUES	MODULE_TYPE
APPLICATION_DEFAULT	OUTPUT_TYPE
AREA	PRIORITY
CATEGORY	PRIVACY_GROUP
CHART_TYPE	PRIVACY_GROUP_USER
CUSTOMER	PRODUCT
DATA_DICTIONARY	PRODUCT_LINE
ESCALATION_RULE	PRODUCT_PRODUCT_LINE
ESCALATION_RULE_ACTION	PRODUCT_RELEASE
ESCALATION_RULE_ELEMENT	PROJECT
ESCALATION_RULE_USER	RELATIONSHIP_GROUP
EV_FILE_IMPORT	RESOLUTION
EV_HIERARCHY	SECURITY_GROUP
EV_HIERARCHY_LEVEL	SECURITY_GROUP_USER
EV_LIST_MAP	SECURITY_MODULE
EV_RULE_TEXT	SECURITY_PERMISSION
EV_TEMPLATE	SECURITY_USER
EV_TEXT_LOOKUP	SEVERITY_LEVEL
INTEREST_LIST	START_PAGE
INTEREST_LIST_ELEMENT	STATUS
INTEREST_LIST_USER	STATUS_RULE

ITEM_GROUP_TYPE	TITLE_MAP
ITEM_TYPE	UDF
LAYOUT	UDF_LIST
LAYOUT_ELEMENT	
LAYOUT_ELEMENT_ATTRIBUTE	

## Layout

AREA	PROJECT
DATA_DICTIONARY	SECURITY_GROUP
LAYOUT	SECURITY_MODULE
LAYOUT_ELEMENT	SECURITY_PERMISSION
LAYOUT_ELEMENT_ATTRIBUTE	TITLE_MAP
LAYOUT_TYPE	UDF
MODULE	UDF_LIST
PRODUCT	

## Report

AREA	PROJECT
CALCULATED_FIELD	RELATIONSHIP_GROUP
CATEGORY	REPORT
CHART	REPORT_ATTRIBUTE
CHART_PROPERTY_GROUP	REPORT_GROUP
CHART_TYPE	REPORT_LAYOUT
DATA_DICTIONARY	REPORT_SECURITY_GROUP
EV_HIERARCHY	RESOLUTION
EV_HIERARCHY_LEVEL	SECURITY_GROUP
FILTER	SECURITY_MODULE
FILTER_CRITERIA	SECURITY_PERMISSION
FILTER_GROUP	SECURITY_USER
ITEM_TYPE	SEVERITY_LEVEL
LAYOUT	SORT_ORDER
LAYOUT_ELEMENT	SORT_ORDER_FIELD
LAYOUT_ELEMENT_ATTRIBUTE	START_PAGE
LAYOUT_TYPE	STATUS
MODULE	SUBREPORT
OUTPUT_TYPE	TITLE_MAP
PRIORITY	UDF
PRIVACY_GROUP	UDF_LIST
PRODUCT	

## User

AREA	START_PAGE
PROJECT	TITLE_MAP
SECURITY_USER	

## Text Messages

EV_TEXT_LOOKUP	TITLE_MAP
----------------	-----------

# Import of Item Data

There are three modes of importing item data from an XML format.

- **Batch Mode.** In this mode, an XML formatted input file is processed sequentially, creating new issues in the ExtraView database. This is driven from an administration screen.
- **API Command.** In this mode, an API command is executed, passing a single issue to ExtraView as part of the HTTP data stream. This issue is processed and with success is added to the database. The API command returns a success message or a failure error message.
- **API Command with Input File.** In this mode, an API command is executed. The command references an input file with one or more issues to be imported to ExtraView. The file is processed and results are passed back to the calling command.

The XML data to be imported must adhere to the Document Type Definition (DTD) detailed below. This is supplied with ExtraView, in the WEB-INF/data/xml\_dtd directory of your installation, and can be directly referenced from your XML import file or data stream. The file name supplied is extraview\_item.dtd.

```
<?xml version="1.0" encoding="UTF-8" ?>

<!ELEMENT locale (EMPTY) >
<!ATTLIST locale region CDATA "US">
<!ATTLIST locale language CDATA "en">
<!ATTLIST locale variant CDATA " ">

<!ELEMENT item_list (item*) >

<!ELEMENT item (short_descr , severity_level , priority , status , product_name , date_created ,
owner , timestamp , assigned_to , privacy , last_change_user , alt_id , area ,
project , category , resolution , product_line , date_last_status_change ,
date_closed , release_found , release_fixed , contact , originator ,
item_id , item_udf* , item_release* , item_module* , item_attachment* )>

<!ELEMENT item_udf (title_specifier?, name_specifier?, CDATA*)>

<!ELEMENT item_release (title_specifier?, name_specifier?,
short_descr , severity_level , priority , status , product_name , date_created ,
owner , timestamp , assigned_to , privacy , last_change_user , alt_id , area ,
project , category , resolution , product_line , date_last_status_change ,
date_closed , release_found , release_fixed , contact , originator ,
item_id , item_udf*)>

<!ELEMENT item_module (title_specifier?, name_specifier?, assigned_to ,status ,timestamp ,
rc_version ,last_change_user ,item_module_id )>

<!ELEMENT title_specifier (CDATA)>
<!ELEMENT name_specifier (#PCDATA)>

<!ELEMENT short_descr (CDATA) >
<!ELEMENT severity_level (CDATA) >
<!ELEMENT priority (CDATA) >
<!ELEMENT status (CDATA) >
<!ELEMENT product_name (CDATA) >
<!ELEMENT date_created (CDATA) >
<!ELEMENT owner (CDATA) >
<!ELEMENT timestamp (CDATA) >
<!ELEMENT assigned_to (CDATA) >
<!ELEMENT privacy (CDATA) >
<!ELEMENT last_change_user (CDATA) >
<!ELEMENT alt_id (CDATA) >
<!ELEMENT area (CDATA) >
<!ELEMENT project (CDATA) >
<!ELEMENT category (CDATA) >
<!ELEMENT resolution (CDATA) >
<!ELEMENT product_line (CDATA) >
<!ELEMENT date_last_status_change (CDATA) >
<!ELEMENT date_closed (CDATA) >
<!ELEMENT release_found (CDATA) >
<!ELEMENT release_fixed (CDATA) >
```

```

<!ELEMENT contact (CDATA) >
<!ELEMENT originator (CDATA) >
<!ELEMENT item_id (CDATA) >
<!ELEMENT rc_version (CDATA) >
<!ELEMENT item_module_id (CDATA) >

<!ELEMENT item_attachment (CDATA)>
<!ATTLIST item_attachment file_desc CDATA #IMPLIED >
<!ATTLIST item_attachment file_name CDATA #IMPLIED >
<!ATTLIST item_attachment path CDATA #IMPLIED >
<!ATTLIST item_attachment content_type CDATA #IMPLIED >
<!ATTLIST item_attachment file_size CDATA #IMPLIED >
<!ATTLIST item_attachment date_created CDATA #IMPLIED >
<!ATTLIST item_attachment created_by_user CDATA #IMPLIED >

```

Note that all data related to items, including repeating records, UDF's, and attachments are described with the DTD and can all be imported by ExtraView.

A portion of a sample XML file is shown below, with two issues to be imported. This references the above DTD. Note that the attachment within the example import file is shortened, for brevity.

The following points should be noted about the import of items:

- The DOCTYPE refers to the DTD and the path should correspond to the path where it is stored on your server.
- UDF's can be referred to by NAME or by TITLE. We recommend that you use the NAME wherever possible, as the TITLE field may not be unique across your installation. Furthermore, the TITLE may vary with the locale specified in the DTD. You may create different DTD's for each locale, and use the localized TITLE within the XML files being imported.
- We recommend that all character data is embedded within CDATA tags.
- Certain constructs are required in the XML, following the web interface rules. For example, a file-name-attribute should always appear in the item-attachment-attributes list.
- UserCustom methods prAddPreInsert and prAddPostInsert are executed on each item insert.
- Allowed values between fields are ignored when you import a record via this interface. If you mistakenly create an invalid parent – child relationship, this will be indicated when you try to update the record via the web interface.
- The ITEM\_ID is allocated to the new issue at the time the ExtraView code validates the issue being read from the XML input. If the record is rejected for any reason, the ITEM\_ID is discarded, and an issue with this ID will never be created. The next record to be imported will be allocated the next number in the sequence.
- If a field is read-only, on the add screen layout (as defined by the user role, business area and project of the issue), then this will be respected with the item import function. Further, if this field has a default value defined in the data dictionary, this value will be inserted.
- Attachments must be encoded using the Base64 algorithm.
- Values in other CDATA sections may be encoded in Base64 if desired or required. Whether or not the string is encoded is signaled by a sentinel ("%25S") in the front of the CDATA string. Encoding is required if any of the following arise:
  - a. The string value starts with the sentinel value ("%25S"), or
  - b. The string value contains the CDATA end marker ("]]>"), or
  - c. The string value contains any non-CDATA-permissible characters. CDATA-permissible characters are defined using the following production with Unicode character values as derived from the web page at <http://www.w3.org/TR/REC-xml-NT-Char>

```

Char ::= #x9 | #xA | #xD | [#x20-#xD7FF] | [#xE000-#xFFFF] |
[#x10000-#x10FFFF]

```

```

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE extraview_item SYSTEM "file:///C:/path_to_my_dtd/extraview_item.dtd">
<ITEM_LIST>
<ITEM>
<AREA><![CDATA[Bugs]]></AREA>
<PROJECT><![CDATA[&Bugs Data&]]></PROJECT>
<CATEGORY><![CDATA[Software]]> </CATEGORY>
<PRODUCT_NAME><![CDATA[ExtraView]]></PRODUCT_NAME>
<ITEM_UDF>
<TITLE_SPECIFIER><![CDATA[OS]]></TITLE_SPECIFIER>
</ITEM_UDF>
<ITEM_RELEASE>
<RELEASE_FOUND><![CDATA[1.2.3.4]]></RELEASE_FOUND>
</ITEM_RELEASE>
<ITEM_RELEASE>
<ITEM_UDF><TITLE_SPECIFIER><![CDATA[This is text in a field]]></TITLE_SPECIFIER>
<![CDATA[BILL.SMITH]]>

```



```

</ITEM_UDF>
</ITEM_RELEASE>
</ITEM>
<ITEM>
<CATEGORY> <![CDATA[Software]]> </CATEGORY>
<PRODUCT_NAME> <![CDATA[ExtraView]]> </PRODUCT_NAME>
<ITEM_UDF><NAME_SPECIFIER>OP_SYS</NAME_SPECIFIER>
<![CDATA[Solaris]]>
</ITEM_UDF>
<ITEM_RELEASE>
<RELEASE_FOUND>
<![CDATA[2.3.4.5]]>
</RELEASE_FOUND>
</ITEM_RELEASE>
<ITEM_RELEASE>
<ITEM_UDF>
<NAME_SPECIFIER>RELEASE_COMMITTED_RELEASE</NAME_SPECIFIER>
<![CDATA[5.2.2.1]]>
</ITEM_UDF>
<RELEASE_FOUND>
<![CDATA[2.5.6]]>
</RELEASE_FOUND>
</ITEM_RELEASE>
<ITEM_ATTACHMENT FILE_DESC='Current log file' FILE_NAME='EVJ.log' PATH='C:/t/' CONTENT_TYPE='text/plain' >
<ATA[VEhJUyBJUyBBIEZJTEU=]]>
</ITEM_ATTACHMENT>
</ITEM>
</ITEM_LIST>

```

## Export of Item Data

To achieve the export of data from ExtraView, the user should use the Command Line Interface (CLI) commands, evhist, evget and evsearch. These commands are covered in depth in the Command Line Interface Guide.

**Note:** For this version of ExtraView, the above import and export functions use different DTD's. Thus, records exported from ExtraView cannot be imported with the functions documented here directly. A future version will offer compatibility of import and export XML data, by changing the CLI commands.

## Metadata Export

The export creates a flat file containing the metadata in XML format. This file can be moved between different platforms and different instances of ExtraView. The order of objects in the file is defined by the requirements of ExtraView, not by the user. The data export is defined satisfying the requirements of being able to perform an import of the data, to build new objects. In short, all dependent data must follow the data upon which it is dependent.

There are a wide range of options, allowing you to perform exports of all or subsections of the metadata within an ExtraView installation. Each option that defines a subset of the database is termed a family.

This option is available from the **Import/Export** tab of administration.

**Note:** If you are using ExtraView with the Apache Derby database, the metadata export feature is significantly limited. You may only perform a metadata export of the complete database, and cannot use the features described below to constrain the export to small parts of the database.

<a href="#">Load / Manage Export Profiles</a>	<a href="#">Continue with Export</a>	<a href="#">Return</a>	<a href="#">Print Page</a>	<b>Metadata Export</b>
---	--------------------------------------	------------------------	----------------------------	------------------------

### Directions

The metadata export utility creates a file on your computer that contains all the metadata required for one of the following purposes:

- To import into another ExtraView database
- To use as a backup of your metadata
- To use the data as an interface and source of data to another system

You may save the current setup, or restore a saved setup with the **Load / Manage Export Profiles** button. Make your selection(s) below, then please press the **Continue with Export** button.

### Select Metadata Families

Metadata is exported in families. Each family contains all of the data needed to reconstruct the family in another ExtraView database. From the list of families below, please select the set you wish to export.

**\* Select 'Export all metadata' or at least one family**

- Export all metadata
- Export all metadata tables except reports
- Export business rules
- Export layouts and supporting information
- Export reports and associated data
- Export text messages
- Export user profile information

---

- Minimize the user information exported [?](#)

### Filter Options

You can filter the output by Area or by or by the date the metadata was last updated.

Area  ▼

▼

Updated Since

<a href="#">Load / Manage Export Profiles</a>	<a href="#">Continue with Export</a>	<a href="#">Return</a>	<a href="#">Print Page</a>
---	--------------------------------------	------------------------	----------------------------

## Exporting ExtraView Families

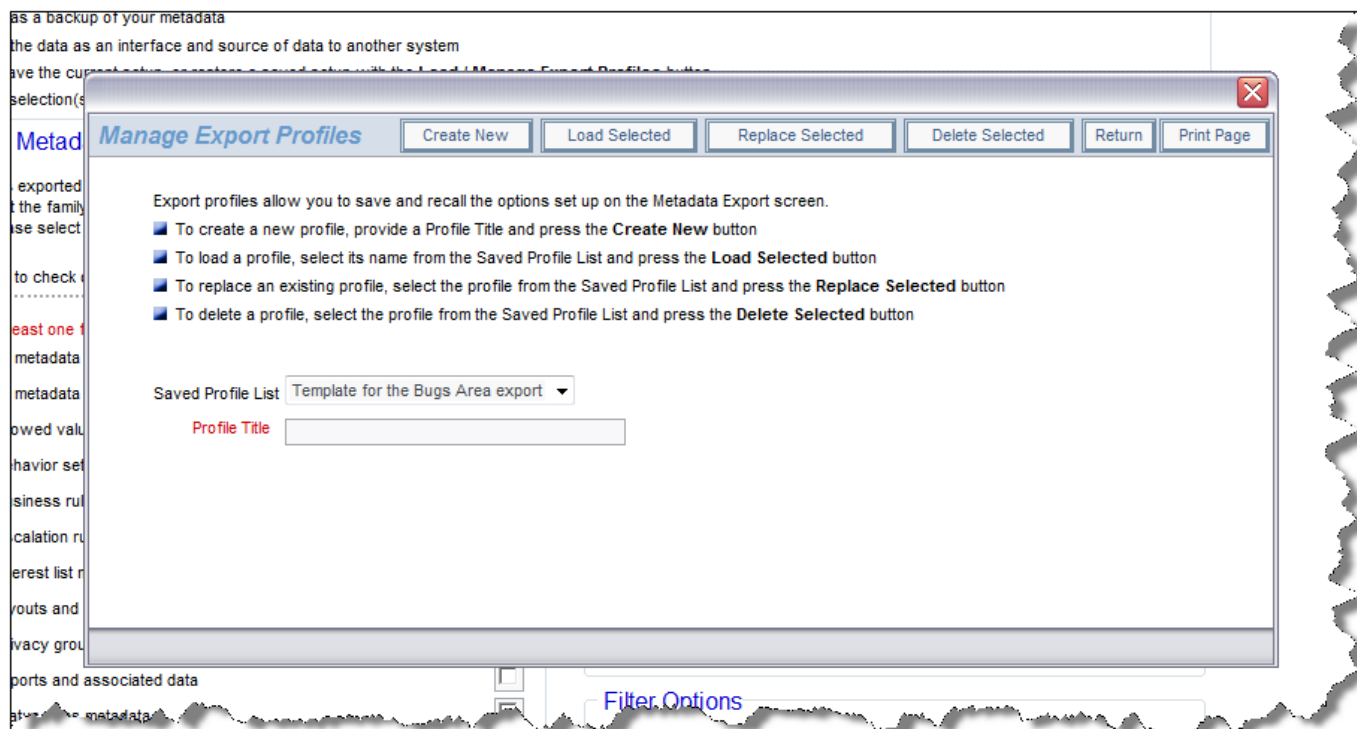
The following are the metadata families that may be exported:

- Export all metadata
- Export all metadata tables except reports
- Export business rules
- Export layouts and supporting information
- Export reports and associated data
- Export text messages
- Export user profile information

If you click the option **Minimize the user information exported**, then only the essential user information to export the metadata is written to the export file. This may solve a number of issues. For example, user information is often dynamic, and users may frequently change passwords, or administrators may activate and deactivate accounts on a production system or the references to the user information must always be taken from an LDAP or Active Directory server. While you may want the metadata from a development system to be migrated to a production system, you often may want to leave the production data related to users in place.

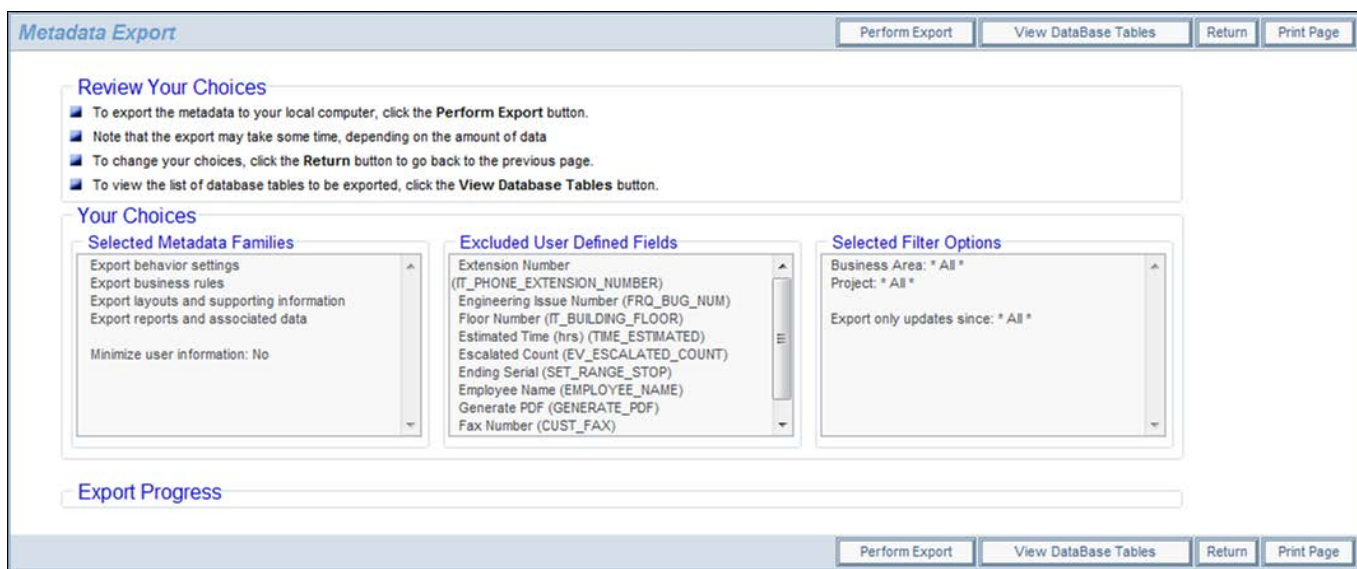
You may choose some overriding filters for the export. As opposed to exporting the data across all Business Areas and Projects, you may select a single Business Area and Project to export. You may also choose to only export data updated since a specific date and time.

Once you have set up an export profile, you may decide to save the combination for future use. This is accomplished through the **Load / Manage Export Profiles** button on the menu bar. This will display a popup as follows:



You may create new profiles and save them, load an existing template, replace an existing template or delete an existing template from the popup window.

Once you have set up the profile to export, click the **Continue with Export** button. You are taken to a screen similar to this:



Continuing with the metadata export process

Confirm your choices on this screen, before clicking the **Perform Export** button.

You will be prompted to enter a file name for the export. This file will be saved on your local file system of your client computer.

An export can take some time, based upon the amount of metadata in your system. Files generated vary in size from a few to more than 50MB in size, dependent on the amount of metadata.

An export file can be imported into the same or a different instance of ExtraView. The file can also be used to integrate with other applications.

## Metadata Import

**Note:** Again, we strongly recommend that you backup your data before you use the import facility, using your

**database's standard facilities. Importing metadata, layouts, reports and user data is irreversible, and it is possible that a failure can occur during the process.**

The import menu is situated within the **Import/Export** tab of the administration menu, and allows the administrator to specify the file to load.

The import function reads a flat image file (which is in XML format) and updates the tables as required by the administrator's selection of objects to load. The utility takes into account the relational dependencies and all internal sequence renumbering as needed, ensuring consistent and correct instance updates.

Validity checking for data adherence to new rules is performed as early as possible, thereby minimizing the impact of some validity failure that may cause termination of the import.

Most imports will utilize the Update / Merge operation. This will update records that exist, and merge into the database the new records that were part of the file being imported.

Although it is possible to create your own file to be used as an import file to ExtraView, extreme care should be taken before attempting to do this, and it is essential that you have a complete and thorough knowledge of the ExtraView schema. Often, it may appear straightforward to compose an XML file, or to edit an existing file that was created by ExtraView's own Export feature, but there are many relationships described in the file that are not obvious and that must be maintained for an import to be successful. We suggest that before attempting to create your own import file by modifying an existing file or creating it from scratch, that you consult with ExtraView support. **In any case, always back up your target database before performing any import.**

Starting the importing process

Follow the instructions on the screen. As displayed, the principal import methods are:

- |                                  |   |
|----------------------------------|---|
| <b>Update / Merge</b>            | This combines operations of update and merge, Records that already exist in the target schema are updated, and a new record is inserted if record being imported does not exist.  |
| <b>Merge</b>                     | This leaves existing records in the target schema alone, and adds new ones from the file that is being imported. ExtraView will use new sequence numbers for the operation within the database.   |
| <b>Localization Update/Merge</b> | This mode only imports the localized messages from the import file, and does not touch the remainder of the metadata. This is typically used to move localized messages from one installation to another, providing just the updated localized messages to the target installation. |

If you have altered metadata such as the titles of objects in lists, within the destination database, and these same modifications to the data were not made in the source database from which the export was taken, ExtraView gives you an opportunity to remap the fields, as opposed to creating new fields from the import file, and inserting these into the destination database. To perform this check, make sure the **Map unmatched titles** prompt is checked.

When you perform the check, the import is split into two parts. First the uploaded file is preprocessed, and each list value in the import is checked against the target destination database. If there are any values in the import file that do not exist in the destination database, then you will be shown the values from the import file that do not have a matching value, and you will be able to select from the values in the target database that do not have a value specified in the import file. After selecting the values to map, if there are discrepancies, you then proceed to the second part of the import. The file is processed again, the destination database is updated, and the mappings you selected are applied.

When importing data into a business area, if the import process is able to create a project with an ID numbered 0, and the project ID in the import file is 0, then a project ID of 0 is used and mapped into the target database. If a project ID of 0 already exists in the target business area, the project ID of 0 in the import file is mapped to a new non-zero project ID. In any case, the matching project title within the business area and the mapped project overrides these decisions.

This is important, as a project ID of 0 is used for inheritance of layouts, permissions and other objects for the non-zero project ID's within the business area, and ExtraView is trying to ensure that a project ID of 0 always exists for the inheritance to be allowed to work.

There is one circumstance in which the import process may have difficulty in resolving all the data from the export file. If you are not importing user data, and the information in the import file contains references to users that do not exist in the target database, then import errors may result. This is especially noticed if the missing user was the person who created or last updated items such as layouts. These will not be imported, as ExtraView must maintain referential integrity of the users who are connected to its internal objects.

In general, allowed value lists that have an invalid current value in parent or child will cause an import error and will not be imported. This may result in incomplete allowed value lists.

**Results of preprocessing** Print Page

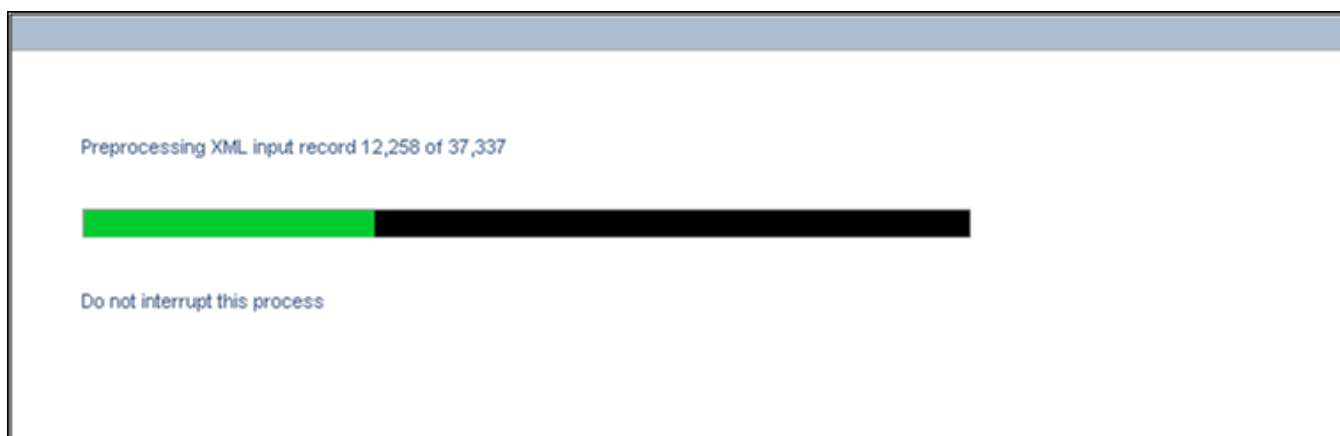
Update/Merge: Combines update and merge, updates records if they exist in the target schema, and inserts new records if they do not.

Number of rows read	36,893
Number of rows inserted	0
Number of rows updated	0
Number of tables read	49

No mapping errors were found during preprocessing. You should proceed with the import. Once again, do not interrupt the process.

Results from preprocessing the import file

While data is being preprocessed or imported, a status bar is shown as follows:



Progress bar during the importing process

**Note:** Importing the data can take some time, from ten minutes in smaller installations, to thirty minutes or more in larger installations. It is dependent upon the size of the file being processed, factors such as the number of fields, layouts and permissions, and the speed of the server loading the data. Due to the inherent limitations of browsers, there is little feedback during the initial part of the process, when the browser is uploading the import file from the client machine to the server. It is recommended that you prohibit users from using ExtraView during this time, especially if you are importing layouts. You can do this by locking users out of the system while you are importing the data. You can achieve this with the **Disable and Enable User Access** on the **Users** tab of the administration menu.

**Note:** You can improve the time to execute the import operation, by zipping the import file. Exported files compress significantly (perhaps to less than 10% of their original size). ExtraView will look for the XML file contained within a zip file as long as the name of the zip file and the name of the import file are the same.

**Note:** Once the import operation is started, you must not interrupt it. Once the actual import has begun, ExtraView will not cancel the server operation, even if you close your browser.

After the import is complete, you will see a summary screen that shows the number of records imported into each database table. Any errors encountered will be displayed here. Note that the results of the import vary according to the exact tables imported from the file you uploaded. There may be anything from a few to more than one hundred tables displayed in the results.

**Metadata XML Reader & Updater**
Account: Carl Koppel | Role: Admin, Level 1 | Area: Defects | Interest list

**Results of update**

UpdateMerge: Combines update and merge, updates records if they exist in the target schema, and inserts new records if they do not.

Number of rows read	5,733
Number of rows inserted	1
Number of rows updated	5,732
Number of tables read	4

Table PROJECT	Updates 3	Inserts 0	Errors 0
Table AREA	Updates 3	Inserts 0	Errors 0
Table TITLE_MAP	Updates 5,568	Inserts 1	Errors 0
Table SECURITY_USER	Updates 158	Inserts 0	Errors 0

Return

Summary screen of the imported data

## Handling User Data

Users frequently change their personal settings when using ExtraView. For example, users may change their Home Page reports, their display format for the timestamp, their password, or one of many other attributes. If you export the metadata from a development system, wait some time and then import this metadata to a production system, you may overwrite recent changes made by users in their personal data. A behavior setting named `OMITTED_IMPORT_USER_COLUMNS` allows the administrator to set up specific columns that will be ignored upon the import of the metadata. The value of this field is a comma-separated list of column names. Note that you set this in the target system, not the system from which you are exporting the data. The possible values you can add to this list are as follows:

Column Name	Meaning
<code>LAST_NAME</code>	User's last name
<code>FIRST_NAME</code>	User's first name
<code>SECURITY_PASSWORD</code>	User's password
<code>JOB_TITLE</code>	User's job title
<code>WORK_TELEPHONE</code>	Work telephone number
<code>HOME_TELEPHONE</code>	Home telephone number
<code>CELL_PHONE</code>	Cell phone number
<code>FAX</code>	Fax number
<code>PAGER</code>	Pager number
<code>COMPANY_NAME</code>	Company name
<code>ADDRESS_LINE1</code>	Address line 1
<code>ADDRESS_LINE2</code>	Address line 2
<code>CITY</code>	City
<code>STATE</code>	State
<code>POSTAL_CODE</code>	Postal code or Zip code
<code>COUNTRY</code>	Country
<code>LAST_ACCESS_DATE</code>	Timestamp the user last accessed ExtraView
<code>EMAIL</code>	Email address
<code>EMAIL_FORMAT</code>	Format for received email
<code>LANGUAGE</code>	Display language
<code>DATE_FORMAT</code>	Format to display dates
<code>TIMEZONE</code>	User's time zone
<code>NOTIFY_ON_OWN_UPDATES</code>	User notification when making an update
<code>USER_ROLE</code>	User's current role
<code>DRILLDOWN_REPORT</code>	Where does the user drill down to for reports?
<code>VARIANT</code>	Locale variant
<code>REPORT_EXPANDED_QUERY</code>	Standard or compressed query filters
<code>AREA_ID</code>	User's current area
<code>PROJECT_ID</code>	User's current project
<code>TWENTY_FOUR_HOUR_TIME</code>	Display of times in 12 or 24 hour format
<code>REPORT_1_ID</code>	Home page report 1
<code>REPORT_2_ID</code>	Home page report 2
<code>REPORT_3_ID</code>	Home page report 3
<code>HTTP_CHARSET</code>	Browser character set
<code>REGION</code>	Locale region
<code>CHART_FONT</code>	Chart font

STYLESHEET	Size of text in browser
MS_OFFICE_CHARSET	Character set output to MS Office applications

## Error Logging During Import

A text log of errors is created on the server, as the XML updater executes. Each error entry will contain as much useful information as possible, including the table, row number, the data being used at the time, and the exception message, if any. This error log is echoed to the summary screen in the browser.

The error file is stored in the system temp directory under the name:

```
<time_in_ms>_<user_id>_XML_ERRORS.txt
```

for example:

```
1026520070671_JEFF.SYKES_XML_ERRORS.txt
```

All error messages begin with

```
::XML_UPDATE_ERROR::
```

plus a new line, and end with

```
::END_XML_UPDATE_ERROR::
```

followed by two new line characters. Here is an example of an error:

```
::XML_UPDATE_ERROR::
```

```
An error occurred updating row 125 of ITEM_MODULE with this data:
```

```
{blah = blah, this = that, you = them}
```

```
Exception:
```

```
java.sql.SQLException: ORA-00904: invalid column name
```

```
::END_XML_UPDATE_ERROR::
```

```
::XML_UPDATE_ERROR::
```

```
An error occurred updating row 126 of ITEM_MODULE with this data:
```

```
{blah = blah, this = those, you = me}
```

```
Exception:
```

```
java.sql.SQLException: ORA-00904: invalid column name
```

```
::END_XML_UPDATE_ERROR::
```

In order to be able to store multi-byte characters within the error file, note that the error file is not created as standard text. If you open the file in a standard editor, you will notice that what looking at most of the metadata in the file, every second character is null.

## Handling rejected records during the import of metadata

As ExtraView processes the XML import file and fires the updating routines, if errors prevent an update are generated, the problematic XML nodes' data is captured, and used to generate a new XML file. This file is of the same structure as the original file, but only includes those items that could not be properly updated. If there are no errors generated during the upload process, this file is deleted at the end of the update process, as it is empty.

This file is saved under the system temp directory under the name:

```
<time_in_ms>_<user_id>_XML_REJECTS.xml
```

for example

```
1026520070671_JEFF.SYKES_XML_REJECTS.xml
```

## Using Export and Import to Update Instances

The Metadata Export and Metadata Import procedures are designed to make it straightforward to update your production instance of ExtraView. The update may be required for a number of reasons –

- You are developing new functionality in the form of business areas, projects, layouts, logic, reports, etc. and do not want to do this in your production, live instance of ExtraView



- You have a new release of ExtraView software and want to upgrade your production system, after testing the new release with your application

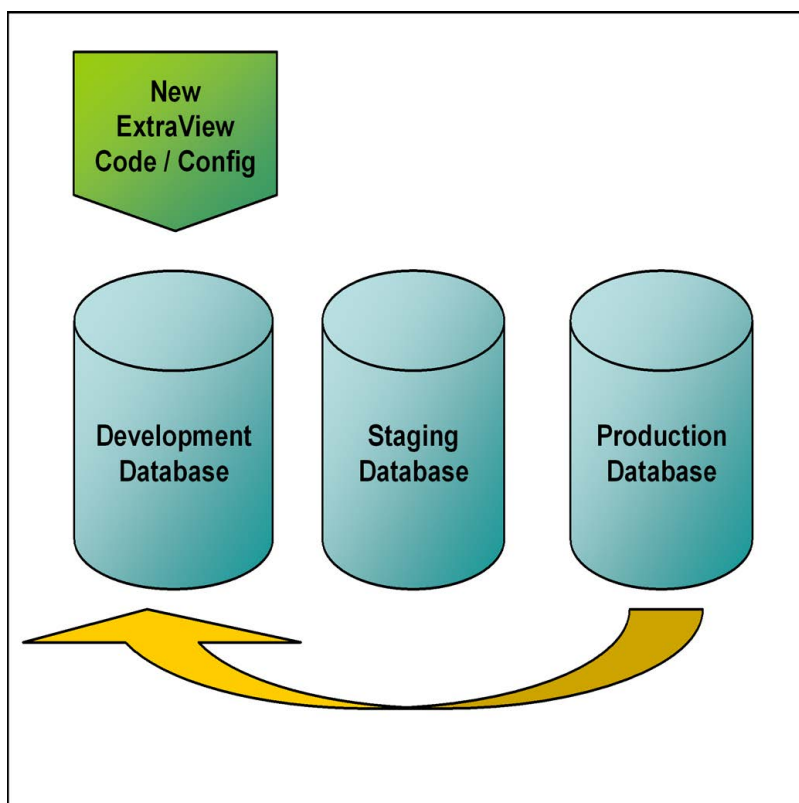
It is important to have a repeatable, recoverable process to perform these tasks, and the following recommendations should give you a robust method to fulfill these tasks. The recommendations below can be simplified somewhat, according to your circumstances and the level of risk you are willing to carry. If you want to simplify these steps, you may move your development instance directly to the production instance, without going through the staging instance.

## The instances

- **Production environment** – this is the server instance of ExtraView that is used for the live processing of your issues
- **Staging environment** – this is an intermediate server which will have a copy of production data and a copy of the development ExtraView system. No changes should be made to ExtraView metadata on this instance. It is purely used to check and test the functionality of ExtraView before applying the changes to the production environment
- **Development environment** – this is the instance of ExtraView where you will carry out all changes to the configuration before applying the changes to the staging environment

### Step 1 – Create a development instance

- Use your database backup procedures to take a dump of the production database and create the database schema in a new development database
- If you are upgrading ExtraView and there is a database upgrade script to run, do this now against the development database
- Install the ExtraView application code, configuring it to connect to the new development database and start the application server



### Step 2 – Perform the configuration work

Within the development environment, perform all your configuration and testing, to develop the completed system you intend to deploy

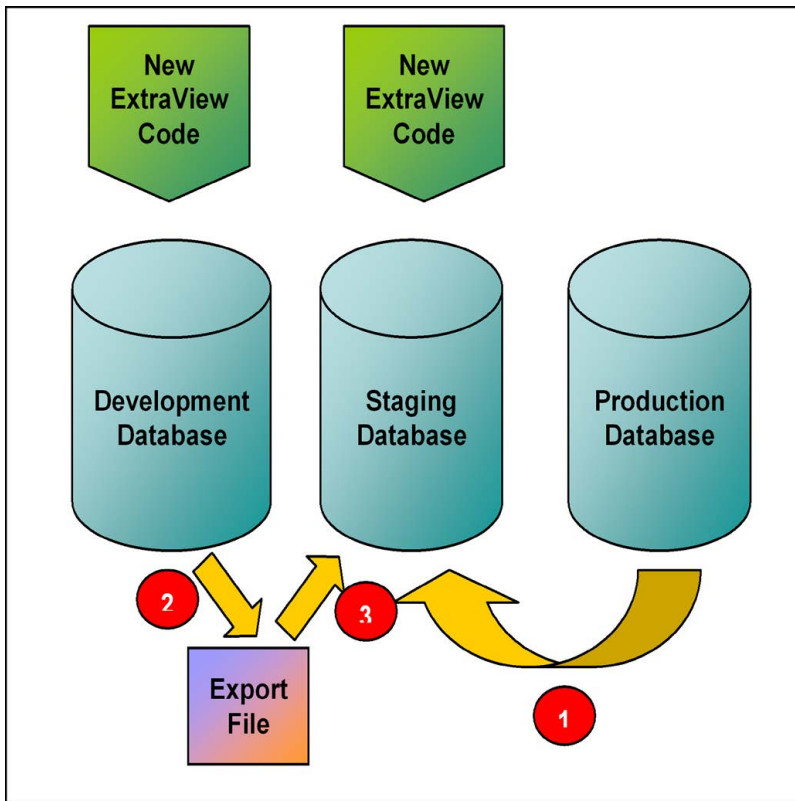
### Step 3 – Move the development environment to the staging environment

The purpose of this step is to obtain a full working system on which you can perform all your quality assurance and final testing.

- Take another backup copy of the production database
- Create a new staging database, and import the production data into this new database
- If you are upgrading ExtraView and there is a database upgrade script to run, do this now against the staging database. **It is critically important that the version number of the ExtraView database in the staging environment be the**

**identical version number you are about to import from the development environment**

- Use the Metadata Export feature to export the ExtraView metadata
- Use the Metadata Import feature to import the ExtraView metadata into the staging database
- If you are upgrading the ExtraView code, install this now and restart the application server



Moving the development instance to the staging instance

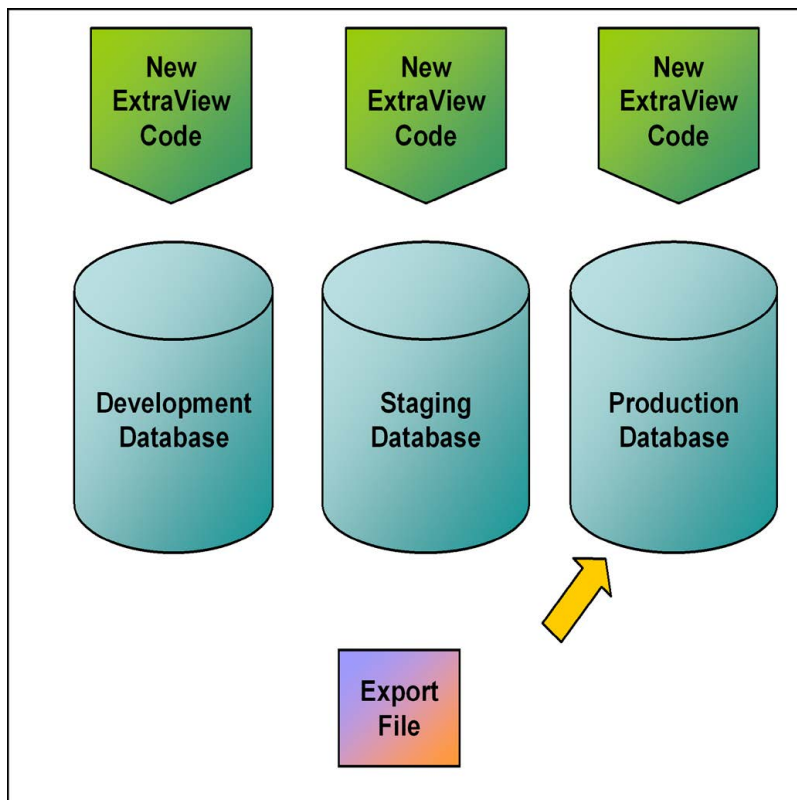
#### Step 4 – QA the entire ExtraView environment in the staging database

This is an essential part of the process to ensure that you gain the expected results, and that you can accurately predict the results you will obtain in the final production environment.

**Note:** You should not make any configuration changes to ExtraView here. If you find problems, you should repeat the process from step 1.

#### Step 5 – Upgrade the Production database

- Turn off the production database so users cannot access this during the upgrade process
- Take a backup of the production database
- If you are upgrading ExtraView and there is a database upgrade script to run, do this now against the production database. **It is critically important that the version number of the ExtraView database in the staging environment be the identical version number you are about to import from the development environment**
- Use the Metadata Import feature in the production database to import the export file that was created in Step 3
- If you are upgrading the ExtraView code, install this now and restart the application server
- With administrative access, check that the production environment is working correctly



Updating the production instance

The process to upgrade your production ExtraView instance is now complete.

## Item Data XML Import

### Batch Mode

This function is driven from the **Import/Export** tab of the **Administration** menus, in the function named **Item Data XML Import**. When you access this function, you will see a screen similar to the following:

**Item Data XML Import** Return Print Page

**Directions**

- 1 Press the "Browse" button and select the XML file to be uploaded
- 2 Wait for ExtraView to upload the file. This may take several minutes before the file is uploaded from your computer to the server and the import to the database begins

**Actions**

Merge: Leaves existing records in the target schema alone and adds new ones from the XML using new sequence numbers.

Browse...

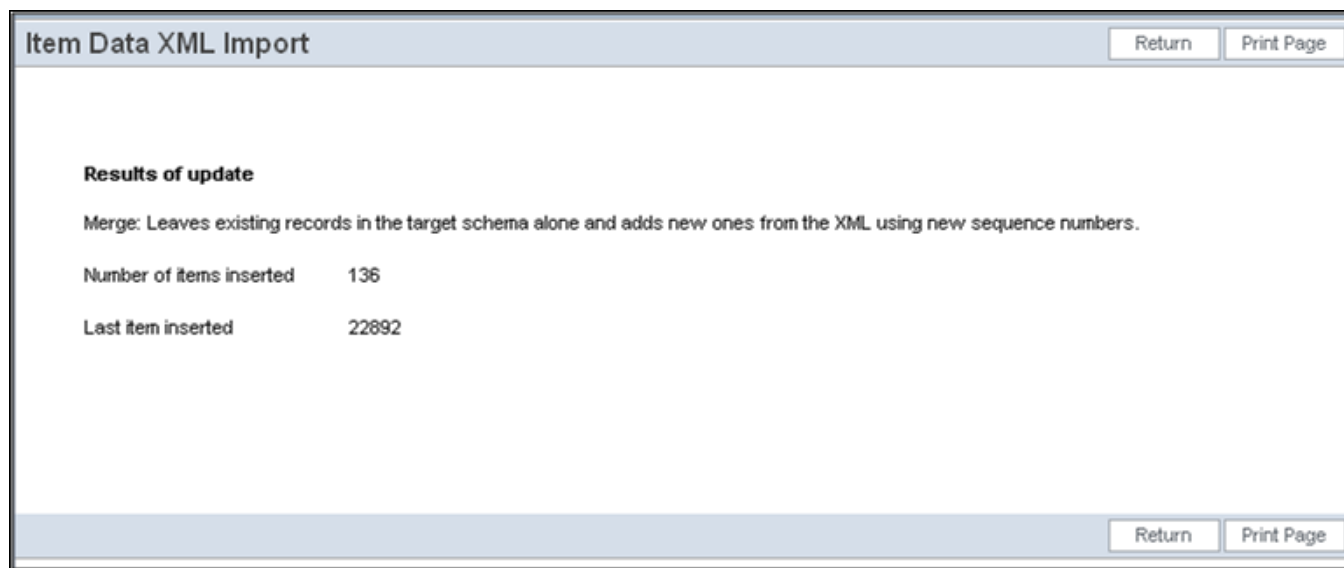
Return Print Page

Batch interface to load an XML item file

Only a "merge" function is imported at this point in time. Future versions will support additional methods of importing item data.

Use the Browse button to navigate to the XML file containing the item data to be imported. Then press the Upload XML file. Be prepared to wait until the XML data file is uploaded to the server. This may take some time, depending upon its size.

**Note:** To save time on a large import, you may zip the input file and upload the zipped file. ExtraView will automatically unzip the uploaded file.



Results screen from a batch XML import

While the file is being processed, you will see a status bar informing you of progress. Once complete, you will see a screen similar to the one above. If there are any errors in the import file, you will see these on the results screen.

## API Commands

These commands are also explained in the ExtraView CLI & API Guide.

An API action named `xml_insert` creates a new record or records in the ExtraView database from input formatted as XML. The input can be made as part of the HTTP data stream, or can be input from a file in XML format.

Syntax:

```
http://www.myserver.com/evj/ExtraView/ev_api.action?
user_id=username
&password=password
&statevar=insert_xml
&xml_file_name=filename | &xml_string=xml_data
&template_file=file.html
```

- Provide either the `xml_file_name` or `xml_string`, but not both. You provide `xml_file_name` if the input is from a file that exists at the time of the execution of the command. You provide `xml_string`, if the data for the insert is provided as part of the HTTP request. This string contains the XML data to be parsed.
- `template_file` is the name of the template to be used for return value string generation. Generally, this template file is stored on the server in the `WEB-INF/user_templates` directory. On normal completion of the operation, this template undergoes parameter substitution with the following variable names:

Tag	Explanation
<code>__ID__</code>	The item number of the last item inserted
<code>__NUMBER_ITEMS_INSERTED__</code>	The number of inserted items
<code>__ITEM_TITLE__</code>	The title of the <code>ITEM_ID</code> dictionary entry

See the section on Templates in the ExtraView CLI & API Guide, for a full explanation of how to create user templates.

If no template file is requested, the command returns a completion message to the calling program via HTTP.

On error completion, the return string contains an error message substituted into the `error.html` user template in the format:

error-message "at line=xxx and column number=yyy"

where xxx and yyy are the values returned by the XML parser.

As an example, the following message may be returned:

"The end-tag for element type "ITEM" must end with a '>' delimiter at line=8 and column number=9"

- Only one record should be inserted with the XML\_STRING in one call to the API. When the input is in a file, there is no restriction to the number of records in a single operation.

## Item Data Import Errors

Error Message	Explanation
Ambiguous Area title: <i>title</i>	The business area title in the XML is not unique within the database. Use its name instead.
Ambiguous Module title: <i>title</i>	The module with the title is not unique. Use the module name in this case to avoid conflicts
Ambiguous Project title: <i>title</i>	The project title in the XML is not unique within the database. Use its name instead.
Ambiguous Repeating record title: <i>title</i>	The repeating record with the title is not unique. Use the name in this case to avoid conflicts
Ambiguous UDF title: <i>title</i>	The UDF with the title is not unique. Use the UDF name in this case to avoid conflicts
Bad zip file or invalid XML tag at beginning of file	ExtraView cannot read the zip file with the XML data, or the XML tag at the beginning of the file is invalid
Cannot dereference list entry for ddname [ <i>value</i> ]	There is no list value corresponding to the <i>value</i> for the data dictionary name
End Attachment tag outside Attachment	The end attachment tags must be at the end of the attachment data
End item tag outside item	The end item tags must be at the end of the item data
End module tag outside module	The end module tags must be at the end of the module data
End <i>name</i> tag outside <i>name</i>	The end name tags must be at the end of the name data
End Repeating record tag outside Repeating record	The end repeating row tags must be at the end of the repeating row data
End UDF tag outside UDF	The end UDF tags must be at the end of the UDF data
Illegal NAME construct ignored	Provide valid name constructs
Invalid characters in the title value: [ <i>value</i> ]	The title value contains illegal characters
No ddentry for dereferenced name: <i>dd_name</i>	There is no data dictionary entry corresponding to <i>dd_name</i>
No Area with title: <i>title</i>	The business area with the <i>title</i> does not exist in the database
No Module with title: <i>title</i>	The module with the title does not exist
No product name for module: <i>name</i>	You must always provide the product_name field in the XML when adding modules
No product name for release: <i>name</i>	You must always provide the product_name field in the XML when adding repeating records which are dependent upon this field
No Project with title: <i>title</i>	The project with the <i>title</i> does not exist in the database
No Repeating record with title: <i>title</i>	The repeating record with the title does not exist
No such XML file: <i>file_name</i>	Indicates the input XML file does not exist
No UDF with title: <i>title</i>	The UDF with the title does not exist in the data dictionary
Nothing to convert from XML to DB; quitting	Input XML file appears to be empty
Unrecognized end element tag: <i>name</i>	The end tag for the name does not match the beginning tag for the name
Unrecognized start element tag: <i>tag_name</i>	The element tag name is not valid
WARNING: this source locale: [ <i>locale</i> ] is not available in target system	The DTD indicated that a locale is to be used that does not exist within the ExtraView installation

Validation exception: *exception*General validation exception, as given in *exception*

## File Import - Issue Data

The file import utility allows the administrator to upload a tab-delimited or comma-delimited file from their client computer, for the fields and values within this file to be mapped to ExtraView values, to validate the data and to finally import the data. Data can be uploaded as new issues, or can be used to update existing issues. Access to this feature is via the security permission key named CF\_FILE\_IMPORT. The import works as a separate process for each business area and project, therefore your import files will only target a single business area and project. For a field to be imported, it must exist on the appropriate *add* layout or one of its embedded layouts for the business area and project.

Typically, the files to be imported will contain data from other systems that is to be inserted into ExtraView. Microsoft Excel is a good tool that can be used to prepare data in the appropriate format for the import. The process followed is:

- Create a template for the import and upload the file
- ExtraView automatically provides mappings for fields that are both in the uploaded file and within the ExtraView database
- ExtraView automatically provides mappings for field values that are both in the uploaded file and within the ExtraView database
- You can see the results of the mapping and alter the mapping of any field or field value
- You may then validate the uploaded data, ensuring the file is error free before performing the upload
- If there are errors, you can fix these and upload the file again, into the same template
- Finally, you can perform the import and insert the records.

**Note:** ExtraView will ignore whether fields are or are not mandatory when importing data. It will also ignore whether fields have correct allowed value relationships when importing data. It will not ignore read-only fields and later in this section, you will find how to import fields that are read-only on your *edit* screen layout. However, when you edit any of these records in the web-interface or via the CLI, and attempt to update, the appropriate validations will be performed and you must correct any errors of these types at this time. Fields with default values defined in the data dictionary will have the default value created, unless there is a value provided in the import file.

## Import Strategies

### Legacy Data Issues

Importing data from a legacy system is often problematic, for a number of reasons. These include –

- Data in legacy systems is rarely “clean”. For example, you may have been required to type in entries that become list values in ExtraView. Typing data often leads to mistakes, making it difficult to map different entries. ExtraView allows you to map more than one input value to a list value
- You may not want to carry over all users from a legacy system to ExtraView. For example, you may not want to purchase an ExtraView license for an ex-employee who was the creator of an issue in ExtraView. You can either create a user account in ExtraView and deactivate the account, or you can map the name to a different person in ExtraView
- To take advantage of all the exciting features in ExtraView, you may be changing your workflow and data items that you capture in a significant way. Not all legacy data will have value in these circumstances, but you may want to import it for historic purposes. ExtraView allows you to do this
- If you want to import data that is read-only when in the mode of updating an issue, temporarily alter the field to be read-write, import your data, then reset the field to be read-only.

### The ID Field

One field of particular note when importing data from a legacy system is the ID field. ExtraView licensees may want to retain the legacy number. ExtraView must use its own sequence of numbers. To facilitate this requirement, a text field named ALT\_ID is defined in the ExtraView data dictionary. Map your legacy field to this ExtraView field and retain it on the layouts while you make the transition. Eventually, you may remove this field from the ExtraView layout.

### Other Fields with Special Treatment

When a record is inserted into ExtraView or updated by ExtraView there are several fields which are maintained automatically, and cannot be inserted or updated via the web-based interface, the API or the CLI. However, when importing legacy data, you may need to import values from these fields. ExtraView supports this. However, the fields must be on the add screen layout, and must have write access to accommodate the import utility. This table specifies the treatment of these fields:

Data Dictionary Field Name	Treatment
DATE_CREATED	If this exists in the import file and is mapped, the value provided will be inserted, else the

	current date and time will be used
DATE_CLOSED	If this exists in the import file and is mapped, and the STATUS of the issue equals the STATUS defined in the behavior setting named STATUS_CLOSED_NAME, the value provided will be inserted, else no value will be inserted
DATE_LAST_STATUS_CHANGE	If this exists in the import file and is mapped, the value provided will be inserted, else the current date and time will be used
LAST_CHANGE_USER	If this exists in the import file and is mapped, the value provided will be inserted, else the current user ID will be used
ORIGINATOR	If this exists in the import file and is mapped, the value provided will be inserted, else the current user ID will be used
TIMESTAMP	If this exists in the import file and is mapped, the value provided will be inserted, else the current date and time will be used

## Business Areas and Projects

The import utility will only import data into a single business area and project. It is not possible to map and import data into multiple business areas and projects, or into the main item structure and the repeating record structure at the same time with the import facility. Other methods exist within ExtraView to handle complex structures; the utility described here is intended for the import of simple structures (this method handles about 80% of requirements), and it is quick and simple to use. For complex data migration purposes, consider the XML import utility or the CLI evimport function.

The strategy to import data into multiple areas and projects is to segment your data by area and project in your import file, and to import each one separately.

## Read-only Fields

Most of the time, the data you import will be writeable through the add screen layout that you are using. The layout selected for the import is defined by:

- The business area defined in the import template (if you are using business areas in your installation)
- The project defined in the import template (if you are using business areas and projects in your installation)
- The current role of the user performing the import. Normally this is an administrative role, such as admin.

## Import Strategy

If you have a straightforward file to import, simply use the add screen layout you have created, and create an import file to upload that reflects its contents.

However, if your administrative role does not have all the fields on the add screen and they are not all writeable, or you have a relatively complex system with multiple Business Areas and Projects, the following strategy is good to follow. This is especially true for companies needing to import data from other sophisticated tracking systems which contain a good deal of metadata about each issue:

- Create a new user role named *import* or similar
- For this new user role create a new add screen layout. The speediest way of doing this is to choose the an *add* or *edit* screen layout for a role with a layout close to what you need, to then alter the user role on the *edit* screen for the layout to the new user role, then save the layout as the *add* screen for this role
- Make sure that the fields are writeable on this new layout
- Alter your current role to the new user role
- Perform the import

## The upload file

Issue #	Category	Title	Assigned To	Last Modified	Product	Priority	Committeec	Customer	Status
23769	Feature Enhancement	RELATIONSHIP_GROUP re	Jon Green	11/6/2003	Global Pow	P 3	4.2.3	Small Inc	Open
23768	Product Bug	Reformat the Home Page HT	Jim Smithers	2/3/2004	Galaxy	P 3	4.2.3	Big Corp	Open
23767	Product Bug	STATUS field changes when	Jon Green	8/8/2003	Galaxy	P 2	4.2.2		Fixed
23766	Product Bug	MODULE_ID cannot be set b	Jon Green	1/6/2004	Galaxy	P 3	4.2.3		Open
23765	Product Bug	Different reports in evreport	Jim Smithers	11/16/2003	Global Pow	P 3	4.2.2	Middling In	Open
23764	Product Bug	Prefixes in evadddlist not work	Jon Green	2/6/2004	Galaxy	P 3	4.2.2		Open
23763	Product Bug	Can't use titles with spaces i	Jim Smithers	10/3/2004	Galaxy	P 3	4.2.3	ABC	Not a Bug
23762	Product Bug	Assigning invalid user on eva	Dave Elson	1/5/2003	Global Pow	P 3	4.2.2		Open
23761	Product Bug	timezone vs. alpha_timezone	Ed Baumann	1/6/2004	Galaxy	P 2			Fixed

### Sample upload file in Excel

The top arrow in the diagram points to row 1 of the spreadsheet. Here you see that each column contains the field names that are part of the input. The remaining rows of the spreadsheet contain the data that corresponds to the field names. Note:

- Fields in the import file may have different names to the fields in ExtraView. However, if they have the same name (when compared on a case insensitive basis), ExtraView will automatically map the field from the import file to its own data dictionary
- ExtraView will attempt to map, automatically, values that are in fields that are of display type List, Tab, Popup and User. This is on a case insensitive basis. For example, a status in the import file named *open* will be automatically mapped to an ExtraView status value of *Open*. If the value cannot be mapped by ExtraView, you must provide a mapping before the record can be uploaded
- Values within the import file, in fields of display type List, Tab, Popup and User must exist in ExtraView, before the data can be imported. ExtraView will not automatically create new values for you, because of the inherent dangers of propagating bad data from a legacy system to ExtraView. However, ExtraView will allow you to map from a non-existent value to a legitimate value.
- If you are importing date fields, then the format of date is important and must match the format of date for the user who is performing the import. If this did not happen, then ExtraView may encounter ambiguous dates as there will be no certainty of the date format in the import file. To achieve this, the user should enter their personal options screen and select a date format from those shown that matches the format in the import file. If no format in the list matches the format in the import file, then **Custom date mask** should be selected, and the date format should be entered into the field provided for the custom format. See Appendix A of this guide for the specifications of custom date masks.
- If a default value is set in the data dictionary for any field, this value will be inserted into all records, if there is no value in the import file.

Once the spreadsheet is prepared, use the File, Save As menu within Excel, and choose either Text (Tab Delimited) or CSV (Comma Delimited) as the type.

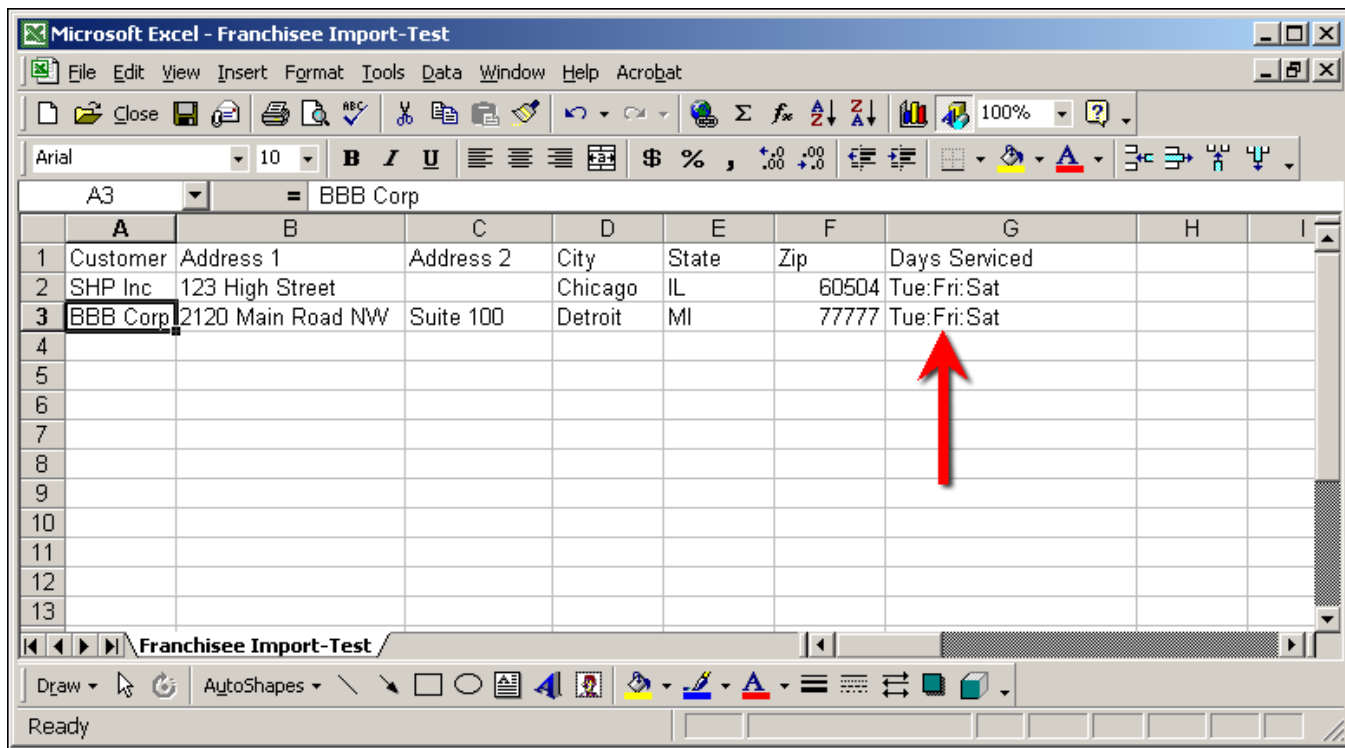
**Note:** There is a limit of 20,000,000 bytes and 100 fields per record to the size of files that can be imported. If you have a very large amount of data to import, it is more efficient to break this down into several import files, and to process these individually.

## Fields

### Multi-Value Fields

Fields to be imported that are of a multi-value type require special preparation within the import file. All the values to be imported must exist in between the delimiters of the file (tabs or commas), yet ExtraView must be able to distinguish between the different values. This is accomplished by using the system-wide delimiter in the behavior setting named DEFAULT\_TEXT\_REPORT\_DELIMITER. This has a default value of ":". Use this delimiter to distinguish values. For example, you may have a list with days of the week (*Sun, Mon, Tue, Wed, Thu, Fri, Sat*). If you need to indicate that the valid values of data within the record are *Tue, Fri* and *Sat*, you would use an entry of *Tue:Fri:Sat* on your spreadsheet:





Importing multi-valued fields

## Text Fields

Fields that are to be mapped to Text Area, Log Area and Print Text display types have special treatment, to allow you to import values that contain a return character (ASCII 13). This character is normally used by many applications to indicate the end of data of a row. This implies that the data following the return character is a new record. Unfortunately, when you export a comma or tab delimited file from Excel or other applications, these return characters are treated as an end of record. To counteract this in a way acceptable to Excel and the import facility in ExtraView:

1. Ensure new lines separated by a return character appear inside quoted strings (double quotes only). They will be transferred over into the record as is. In detail, carriage returns are discarded by ExtraView because they are non-existent within Unix files, and browsers behave correctly when they only receive a linefeed character
2. Tab characters may be inserted into the record inside quotes (if tab-delimited) or anywhere (if comma-delimited). They will be carried over to the record as is.
3. To get a double quote into a field, you need double it. Thus, "" represents one quote character. However, you can also put a double quote into a field if it is NOT the first non-whitespace character in a word. Thus, abc"def will carry across without modification, but "abcdef" will require modification.

## User Name Fields

ExtraView expects to find user name in the import file in the same format as specified by the behavior setting USERNAME\_DISPLAY. For example, this may be FIRST, LAST or ID. We recommend that for large imports where there may be more than one person with the same first and last name, that you import data using the ID setting. This will ensure that all users can be identified uniquely.

## Maximum Field Sizes

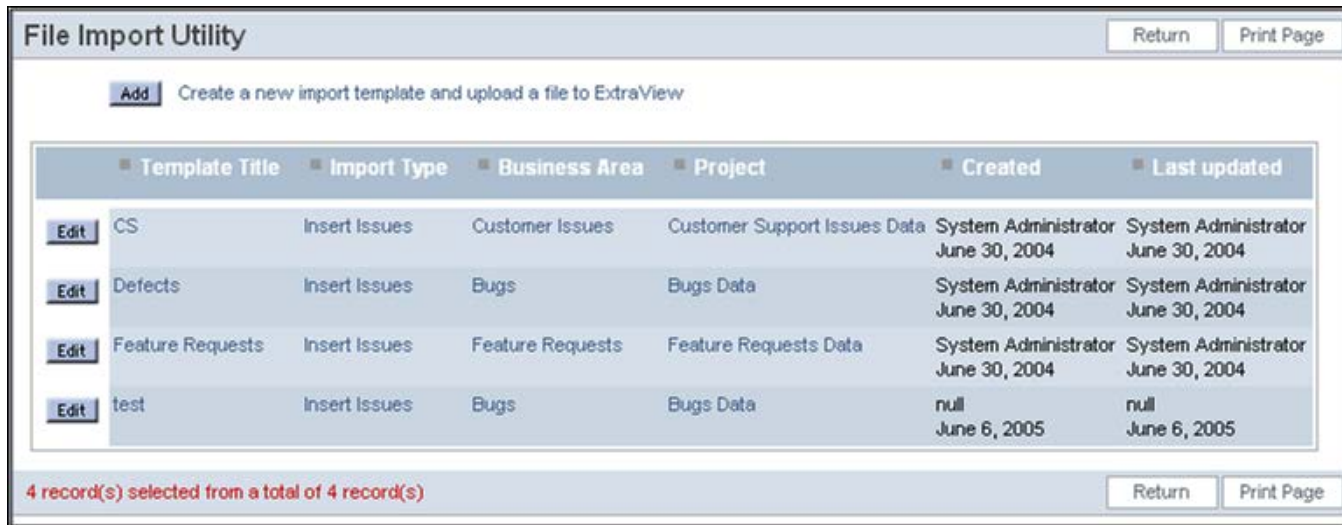
Fields that are imported are subject to the maximum size constraints of their field types, and are as follows –

Field / Field Type	Maximum size
List field titles (loaded as metadata)	100 bytes
User ID (loaded as metadata)	30 bytes
User First Name (loaded as metadata)	128 bytes
User Last Name (loaded as metadata)	128 bytes
SHORT_DESCR	255 bytes

ALT_ID	128 bytes
UDF text field display types	256 bytes
UDF text area, log area, print text display types	Approx 31k bytes

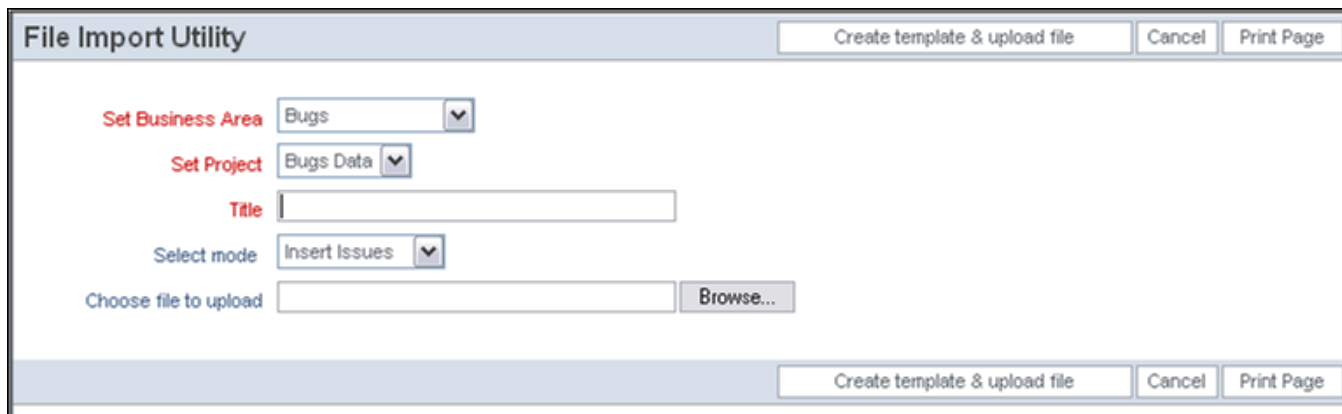
## Mapping your data

Within ExtraView administration, enter the File Import Utility. The following screen appears:



### File Import Utility

Create a new import template and the following screen appears. Simply provide a name for the template, and select the file that is to be uploaded. Note that if your installation uses Business Areas and Projects, select lists for these will appear on the screen. Once a template has been created for a specific Business Area and Project, these cannot be altered. Note that you select whether the template is to be used to create new records, or to update existing records. You achieve this using the **Select Mode** prompt.



### Creating the import template

Now you will see the main import screen, as follows:



Software,CSR,12/17/2003,New,P 3,Low,Developer,Developer,Turn left at the next Exit,Tracker Enterprise,How many are  
 Documentation,CSR,12/18/2003,Fixed,Fixed,P 2,Medium,Test,CSR,Build it and they will come,Tracker Life,You can leave it to H

Tab-separated fields

**Field Mappings** For each import file field, choose an ExtraView field to map your data into. ExtraView will map the values within a field, if the same value exists in both the import file and ExtraView. To provide alternative mappings, click on the Map button. Choose \*None\* if you do not want to map a field in the import file. Click on the Refresh mappings button to see the results of your mapping.

Import file field	ExtraView field
[1] Category	Category(CATEGORY) <input type="button" value="Map"/>
[2] Originator	Originator(ORIGINATOR) <input type="button" value="Map"/>
[3] Date Created	* None * <input type="button" value="Map"/>
[4] Status	* None * <input type="button" value="Map"/>
[5] Resolution	* None * <input type="button" value="Map"/>
[6] Priority	Priority(PRIORITY) <input type="button" value="Map"/>
[7] Severity	Severity(SEVERITY_LEVEL) <input type="button" value="Map"/>
[8] Assigned To	Assigned To(ASSIGNED_TO) <input type="button" value="Map"/>
[9] Changed by	* None * <input type="button" value="Map"/>
[10] Title	Title(SHORT_DESCR) <input type="button" value="Map"/>
[11] Product	Product(PRODUCT_NAME) <input type="button" value="Map"/>
[12] Description	Description(DESCRIPTION) <input type="button" value="Map"/>

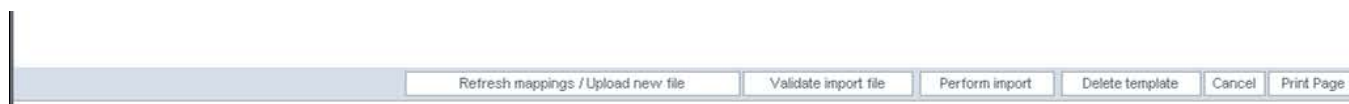


**Mapping Results** This displays the results of mapping your data and how it will appear in ExtraView. The top field name in the table is the field in your import file, the bottom field is the ExtraView field. Click on any header, if you want to map list values from your input file, to different values in ExtraView. Press the Refresh button after changing any mapping.

Field values will be inserted into ExtraView  Field values will not be inserted into ExtraView

Row Number	Category	Originator	Date Created	Status	Resolution	Priority	Severity	Assigned To	Changed by	Title
	Category(CATEGORY)	Originator(ORIGINATOR)				Priority(PRIORITY)	Severity(SEVERITY_LEVEL)	Assigned To(ASSIGNED_TO)		Title(SHORT_DESCR)
1	Hardware	CSR	12/17/2003	Unassigned		P 1	High	Developer	CSR	Metal mounting bracket is too short
2	Software	CSR	12/17/2003	New		P 3	Low	Developer	Developer	Turn left at the next Exit
3	Documentation	CSR	12/18/2003	Fixed	Fixed	P 2	Medium	Test	CSR	Build it and they will come
4	Hardware	CSR	12/19/2003	Closed	Implemented	P 4	High	Developer	Developer	Have wings will fly that's what they say
5	Documentation	CSR	12/20/2003	Duplicate		P 3	Medium	Test	CSR	A single swallow does not a spring make
6	Software	CSR	12/20/2003	Rejected	Not Found	P 2	Medium	Developer	CSR	Save it to a file with a good name
7	Hardware	CSR	12/20/2003	Unassigned		P 3	High	Developer	Test	Metal mounting bracket is too short
8	Software	CSR	12/21/2003	New		P 2	Medium	Test	CSR	Turn left at the next Exit
9	Documentation	CSR	12/21/2003	Closed	Fixed	P 1	Low	Developer	Developer	Build it and they will come
10	Software	CSR	12/21/2003	Closed	Implemented	P 3	Low	Test	CSR	Save it to a file with a good name
11	Software	CSR	12/22/2003	Fixed	Fixed	P 2	High	Test	Developer	Turn left at the next Exit
12	Hardware	CSR	12/22/2003	Closed	Implemented	P 4	Medium	Test	Test	Have wings will fly that's what they say
13	Documentation	CSR	12/27/2003	Duplicate		P 3	Medium	Developer	Test	A single swallow does not a spring make
14	Software	CSR	12/27/2003	Closed	Fixed	P 3	High	Test	Developer	Build it and they will come
15	Hardware	CSR	12/27/2003	Fixed	Fixed	P 2	High	Test	Test	Have wings will fly that's what they say
16	Documentation	CSR	12/27/2003	Rejected	Not Found	P 3	Medium	Developer	Developer	Metal mounting bracket is too short
17	Software	CSR	12/27/2003	Fixed	Fixed	P 4	Medium	Test	CSR	Turn left at the next Exit
18	Documentation	CSR	12/28/2003	Closed	Implemented	P 3	High	Developer	Developer	Save it to a file with a good name
19	Hardware	CSR	12/28/2003	New		P 2	Medium	Developer	CSR	Turn left at the next Exit
20	Hardware	CSR	12/28/2003	Fixed	Fixed	P 3	Medium	Test	Developer	Save it to a file with a good name





Import screen

**Function buttons** – these perform the following functions:

- *Refresh mappings / Upload new file* – if you alter the mapping of any field in the field mappings section, or use the Map button to alter a value mapping, or upload a new file, pressing this button will refresh the screen, redisplaying the results section
- *Validate import file* – this function checks each row of the import file and displays any errors in the input file. These errors should be corrected in the source file and the file uploaded again before performing the import. This can be done without leaving the import screen. You may validate the import file, correct errors within the file and re-upload the file as often as you need until the import file is error free
- *Perform import* – once the mappings are complete and the data validated, this button will perform a final validation and import the data into ExtraView. ExtraView will create new issues for each row of the uploaded, including new ID's
- *Delete template* – this deletes the current template and all mappings
- *Cancel* – this returns you to the initial file import screen with the list of templates.

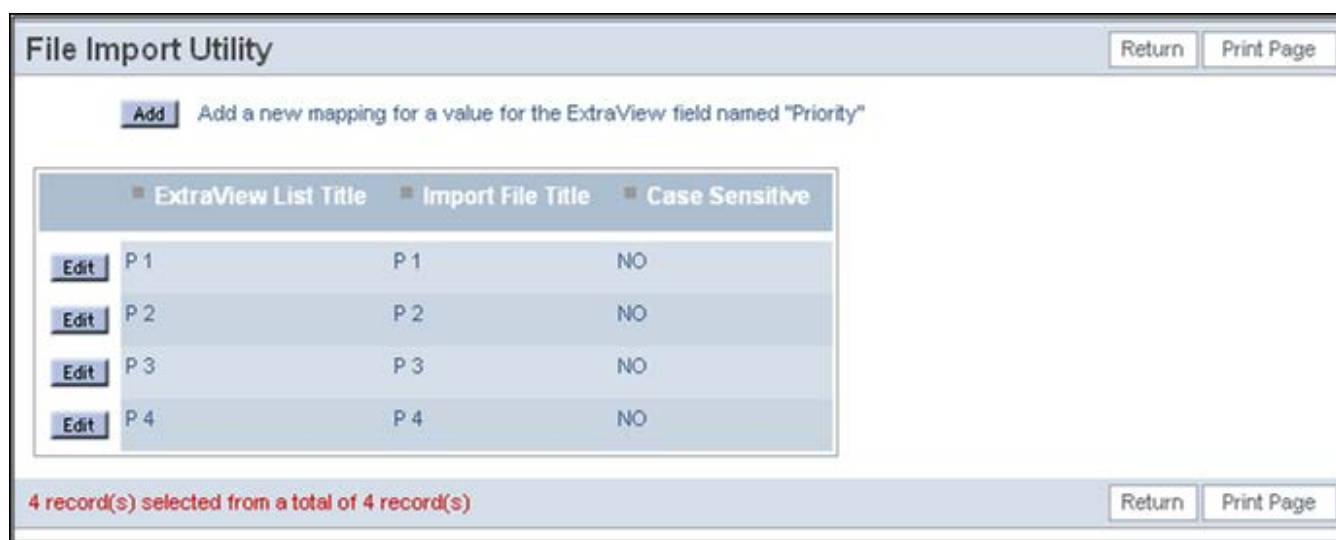
**Template details** – shows the title of the template and allows you to upload another file into the template. Note that if the installation utilizes Business Areas and Projects, these will be shown for the current import template.

**Sample data** – this section shows a sample of data from the file that has been uploaded. You cannot edit the data within this text box, but must return to your source data to make any amendments.

**Field mappings** – Here you will see a fixed field name for each field header in the import file and a select list offering all the available fields within ExtraView to which you can map that column. To be a valid field for the import, the field must exist on the add screen layout or one of its embedded layouts for the appropriate business area and project, if these are in use and for the current role of the user performing the import. The field must have its security permissions set so the field can be updated. Further, you cannot map to the ID field. The ID field is maintained by ExtraView, and no value can ever be assigned to this from an external source. See later in this section on how to deal with read-only fields on your add screen layout. If you are trying to preserve the key identifying field from a previous system, the usual practice is to map the record identifier to the ALT\_ID field.

ExtraView will attempt to map the field in the import file to a field on the *edit* screen layout, by comparing the field name in the import file to the data dictionary titles of the fields on the *edit* screen layout. This comparison is case insensitive. When a match is found, ExtraView sets the ExtraView field as the selected field for the mapping. You can override this selection, and you can provide your own selection for any field. This includes mapping a field to \* None \*, thereby skipping it during the import.

In a similar way that fields are mapped, ExtraView will attempt to map the values within any field that has a display type list, tab, or popup.. User fields cannot be mapped at this point. Performing a validation will show which field values are not mapped. To map the values within a field, press the Map button to the right of the field. The screen that appears will be similar to the following:



Mapping field values

You may press Add to create a new mapping, or you can edit an existing mapping. Note that you have a choice as to whether you want the mapping to be case sensitive or case insensitive.

One point of note is that you can map fields with null values to a specific value in ExtraView, and you can map values to different values than set as default. This gives you flexibility in altering the data that you are importing.

**Note:** Field mappings are retained within your template. This means that if you set up a number of mappings and want to re-use these with a different import file, you simply need to re-use the same template.

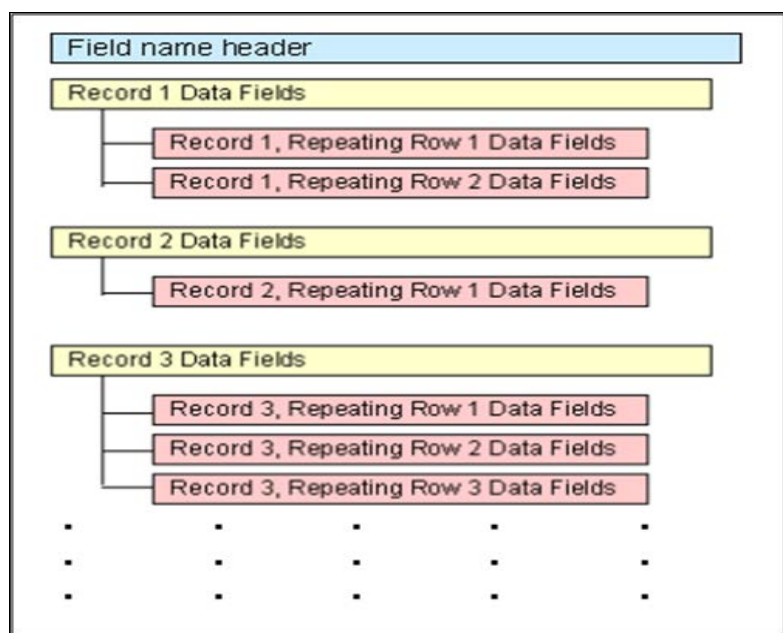
**Results of mapping** – This section of the screen shows which values will be inserted on which records, when you perform the import. The color-coding shows the fields that will be skipped when importing the data and shows the specific values that will be inserted into specific fields in the ExtraView database.

## Updating Existing Issues

The file import utility has the capability to upload a file and to then update existing issues within ExtraView. To achieve this, a match must be made of a key field within the import file, with an existing key field within ExtraView. The only two key fields that can be used are either the ID field, or the ALT\_ID field. Further, as ExtraView does not impose a unique value limitation on the ALT\_ID field, the user must ensure that the values are unique. In practice this is usually achieved with the ALT\_ID field by using user custom code.

## Importing Repeating Row Data

If your ExtraView installation is configured to use repeating rows within the defined process, special consideration must be given in preparing the input file, to describe the repeating row fields, and to provide the data for the repeating rows. This diagram shows the structure:



Structure of the import file

Within the import file that you create, this is reflected as shown in this screenshot of Excel, being used to prepare a comma separated value file:

	A	B	C	D	E	F	G	H	I	J	K	L
1	Item Type	Category	Originator	Title	Product	Priority	Assigned To	Status	Description	Release Status	Requested Release	Committed Release
2	Issue Item	Software	Developer	This is the first is Tracker	Tracker	P 2	Developer	New	Here is a description for this			
3	RepeatingRow Item	Open	v1	v1								
4	RepeatingRow Item	Fixed	v2	v2								
5	Issue Item	Documentation	Guest User	Issue number 2 of Tracker	Enterp	P 3	Developer	Open	Here is a description for this			
6	RepeatingRow Item	Open										
7	Issue Item	Software	Test	An issue originated Tracker	Tracker	P 3	Test	Fixed	Here is a description for this			
8	RepeatingRow Item	Open	v3	v4								
9	Issue Item	Documentation	Developer	Another issue is Tracker	Tracker	P 2	Developer	Closed	Here is a description for this			
10	RepeatingRow Item	New	v1	v1								
11	RepeatingRow Item	New	v2	v2								
12	RepeatingRow Item	New	v3	v3								
13	RepeatingRow Item	Open	v4	v4								
14	Issue Item	Software	Guest User	A title for yet ano Tracker	Enterp	P 3	Developer	New	Here is a description for this			
15	Issue Item	Documentation	Test	And this is the last Tracker	Tracker	P 3	Test	Open	Here is a description for this			
16	RepeatingRow Item		v1	v1								
17	RepeatingRow Item		v1	v1								
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												

### Import file with repeating row data

Note these differences when preparing a file for import that contains repeating rows:

- The header row with the field names must begin in the first column with the value **Item Type**
- Each row in the data must begin with the type of data on the row. The valid entries are either a 0 to represent **Issue Items** or a 1 to represent **Repeating Row Items**
- The next series of columns in the first row of the data contain the field names of the Issue Record data
- The last series of columns in the first row contain the field names of the Repeating Row data. Note that there will not necessarily be any values underneath these row headings
- For each row that is of type **Issue Item**, place the values for each field underneath the column heading corresponding to the field name
- For each row that is of type **Repeating Row Item**, place the values of each field name, beginning in the second column of data, directly following the repeating row value.

Repeating row data stored within ExtraView issues may or may not have a unique identifier for each row of data. This is controlled with the behavior setting named ENFORCE\_UNIQUE\_RELEASES. When this is set to YES, you must:

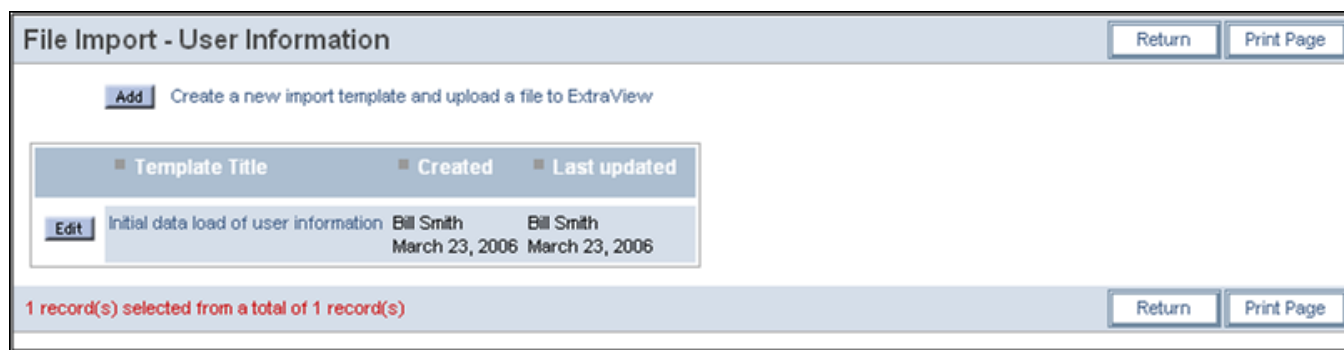
- Map one field in the repeating row data to be imported to the ExtraView field named RELEASE\_FOUND
- Have a unique value of the field being mapped to RELEASE\_FOUND for each row in the import file, within each issue
- Have write permission to the RELEASE\_FOUND field

## File Import - User Information

The import utility for user data allows the administrator to upload a tab-delimited or comma-delimited file from their client computer, for the fields and values within this file to be mapped to ExtraView values, to validate the data and to finally import the data. Data being uploaded is imported as new user data. You cannot use this utility to update existing user data. Access to this feature is via the security permission key named CF\_USER\_FILE\_IMPORT.

Much of the user data file import utility is similar to the previous topic of importing issue data, so this section focuses on the differences.

When you choose to import user data, similarly to importing issue data, you will create a template that can be reused with different uploaded files. This is shown in the next screenshot.



### Adding a new user upload template

Once you have created a template, the process is to:

- Upload the data file containing the user data
- Map the fields in the import file to fields in ExtraView
- Make sure you have write permission to all the user fields that you are creating. The security permission fields for the user fields are all prefaced with USER.
- Validate the data
- Import the data

All mapping operations are similar to those for importing issue data. The fields that can be mapped to within ExtraView are:

Field	Purpose
ADDRESS_LINE1	The first line of the user's address. If none is specified, this is left blank
ADDRESS_LINE2	The second line of the user's address. If none is specified, this is left blank
ALPHA_TIMEZONE	The user's time zone. If none is specified, the value in the behavior setting named DEFAULT_TIMEZONE is used
AREA_ID	The default business area for the user. If none is supplied, the user will be placed in the current business area of the user performing the import
CELL_PHONE	The cell phone number of the user. If none is specified, this is left blank
CHART_FONT	The user's font they will use on charts they produce. If none is specified, the value in the behavior setting named DEFAULT_CHART_FONT is used
CITY	The City of the user. If none is specified, this is left blank
COMPANY_NAME	The user's company name. If none is specified, this is left blank
COUNTRY	The Country of the user. If none is specified, this is left blank
DATE_FORMAT	The user's date format. If none is specified, the value in the behavior setting named DEFAULT_DATE_FORMAT is used
DRILLDOWN_REPORT	This has the value <i>QUICKLIST</i> by default. The two valid values are <i>QUICKLIST</i> and <i>DETAILED</i>
** EMAIL	The user's email address. If none is specified, the value is left blank
EMAIL_FORMAT	The default for this field is the value <i>HTML</i> . The list of valid values is <i>HTML</i> , <i>TEXT</i> , <i>BRIF</i> and <i>VERY_BRIF</i> , corresponding to <i>HTML</i> , <i>text</i> , <i>brief text</i> and <i>very brief text</i>
ENABLED_USER	The default for this field is the value <i>Enabled</i> . If you want to create the user in a disabled state, then use the value of <i>Disabled</i> .
FAX	The fax number of the user. If none is specified, this is left blank
** FIRST_NAME	The first name of the user. If none is specified, this is left blank
HOME_TELEPHONE	The home telephone number of the user. If none is specified, this is left blank
HTTP_CHARSET	The user's character set. If none is specified, the value in the behavior setting named HTTP_CHARSET is used
JOB_TITLE	The job title of the user. If none is specified, this is left blank
LANGUAGE	The language defaults to the setting in DEFAULT_LANGUAGE. Note that this should be in lower case. If you set another value, then ensure you have created the appropriate locale

* LAST_NAME	The last name of the user. Note this is a required field in the import file.
MS_OFFICE_CHARSET	The user's character set to use when outputting information to Microsoft Office products. If none is specified, the value in the behavior setting named MS_OFFICE_CHARSET is used. Note this is only useful if you are running versions of Microsoft Office prior to the Office 2003 versions
NOTIFY_ON_OWN_UPDATES	The default for this value is Y. You can also give it the value of N.
PAGER	The pager number of the user. If none is specified, this is left blank
* PASSWORD	The password, in plain text, for the user. The password is not stored in plain text, but is encrypted within the database as the user is created.
PASSWORD_EXPIRY_DATE	The date you want the user's account to expire. Note that if you do not provide this value, the password will never expire
PASSWORD_INTERVAL	The number of days between password expirations for the user. If this is not supplied, the default is zero which means the password will not expire
POSTAL_CODE	The postal code of the user. If none is specified, this is left blank
PRIVACY_GROUP	Each user may belong to multiple privacy groups; therefore importing privacy groups requires a different syntax than for most other user fields. Refer to the section above titled <b>Importing Repeating Row Data</b> . This shows how to construct the spreadsheet data to import user roles into ExtraView. Use <i>Privacy Group</i> as the title to the field.
PROJECT_ID	The default project for the user. If none is supplied, the user will be placed in the current project of the user performing the import. The project must be valid for the AREA_ID specified
RECORDS_PER_PAGE	This defaults to 20 and is the number of records that will be displayed on a home page report
REGION	The language defaults to the setting in DEFAULT_REGION. Note that this should be in upper case. If you set another value, then ensure you have created the appropriate locale with its region
REPORT_1_ID REPORT_2_ID REPORT_3_ID	This is the location to set the three Home Page reports. For each report, you must use the precise mapping of the report's name. This is case sensitive. As an example, if you want to refer to a <b>Public</b> report that has a title of <b>Assigned to you</b> , and a description of <b>Issues assigned to you</b> then you would enter <b>Public:Assigned to you, Issues assigned to you</b>
* SECURITY_USER_ID	This is a required field and is the key field for the entire user record. It must be alphanumeric, and be from one to thirty characters in length. As well as alphanumeric characters, the user ID may also contain periods ('.') and underscores ('_').
START_PAGE_ID	By default this has a value of zero. The potential values for this are: <ul style="list-style-type: none"> <li>0 Home Page</li> <li>1 Query Screen</li> <li>2 Add Issue Screen</li> </ul> <p>Note that it is possible for the administrator to add additional values to this list.</p>
STATE	The state of the user. If none is specified, this is left blank
STYLESHEET	The default value for this field is <i>small</i> . Other valid values are <i>medium</i> and <i>large</i> . These correspond to the font size for the user's account
TWENTY_FOUR_HOUR_TIME	This defaults to N. You may also provide a value of Y if you want the user to use a twenty-four hour clock
USER_FIELD_1 USER_FIELD_2 USER_FIELD_3 USER_FIELD_4 USER_FIELD_5	These are user defined fields that may be imported into ExtraView. Their titles are set in the data dictionary, and you may import values into these fields from your import file.
USER_ROLE	Each user may have multiple roles; therefore importing roles requires a different syntax than for most other user fields. Refer to the section above titled <b>Importing Repeating Row Data</b> . This shows how to construct the spreadsheet data to import user roles into ExtraView. Use <i>Role</i> as the title to the field. See below for additional information
VARIANT	The user's region variant. If none is specified, the value in the behavior setting named is used. This is not commonly used.
WORK_TELEPHONE	The work telephone number of the user. If none is specified, this is left blank.



\*\* indicates that the field is always required.

\* indicates that the field may be required, depending on the value of the behavior setting ENFORCE\_DETAILED\_USER\_INFO.

This screenshot displays a sample import file. Note how the PRIVACY\_GROUP and ROLE fields may be mapped to multiple values, for a single user. The fields with the multiple values are defined in the first row, and the values are placed in rows following each user, using an **Issue Type** of **1** as opposed to the user details which have an **Issue Type** of **0**.

	A	B	C	D	E	F	G	H	I	J
1	Issue Type	SECURITY_USER_ID	FIRST_NAME	LAST_NAME	EMAIL	COMPANY_NAME	JOB_TITLE	PASSWORD	PRIVACY_GROUP	ROLE
2	0	bsmith	William	Smith	bsmith@xyz.com	Superior Software	Doctor	Welcome		
3	1	Internal	Customer Support							
4	1		IT Support Manager							
5	0	jjone	Jennifer	Jones	jjones@xyz.com	BBC Company	Laboratory	Welcome		
6	1	Cust A	Guest							
7	0	ssingh	Sanjay	Singh	ssingh@xyz.com	Superior Software	Nurse	Welcome		
8	1	Internal	Administrator							
9	1	HR	IT Support Manager							
10										

The following screen shot displays the screen where you map the fields, validate the data and perform the import. Again, please consult the previous section for full details.

The one difference to importing issue data is the prompt **Allow duplicates**. When this is checked, any duplicate combinations of **First Name** and **Last Name** or duplicate values of **Email Address** will be allowed. If this is not checked, then whenever a duplicate is found, the value will be rejected during the import phase.

**File Import - User Information**

From this screen you can perform all the tasks to import your file. You can edit the template details, and upload a different import file to use with the template. This is where you map fields and their values from the imported file to ExtraView. Finally, you can validate your imported file and perform the actual import.

Title:

Upload a different file:

File character set:

Sample of uploaded file:

```
User ID,First Name,Last Name,Cell Phone,City,Company,Language,Area,Project
user1,First,Last,1234,Soquel,Any Company,English,Sample Business Area,Sample Project One
user2,First,Last,1234,Soquel,Any Company,English,Sample Business Area,Sample Project One
user3,First,Last,1234,Soquel,Any Company,English,Sample Business Area,Sample Project One
```

Tab-separated fields:

Allow duplicates:

---

**Field Mappings**

For each import file field, choose an ExtraView field to map your data into. ExtraView will map the values within a field, if the same value exists in both the import file and ExtraView. To provide alternative mappings, click on the Map button. Choose "None" if you do not want to map a field in the import file. Click on the Refresh mappings button to see the results of your mapping.

Import file field	ExtraView field	Map
[1] User ID	User ID(SEcurity_USER_ID)	<input type="button" value="Map"/>
[2] First Name	First Name(FIRST_NAME)	<input type="button" value="Map"/>
[3] Last Name	Last Name(LAST_NAME)	<input type="button" value="Map"/>
[4] Cell Phone	Cell phone(CELL_PHONE)	<input type="button" value="Map"/>
[5] City	City(CITY)	<input type="button" value="Map"/>
[6] Company	Company(COMPANY_NAME)	<input type="button" value="Map"/>
[7] Language	Language(LANGUAGE)	<input type="button" value="Map"/>
[8] Area	Area(AREA_ID)	<input type="button" value="Map"/>
[9] Project	Project(PROJECT_ID)	<input type="button" value="Map"/>

---

**Mapping Results**

This displays the results of mapping your data and how it will appear in ExtraView. The top field name in the table is the field in your import file, the bottom field is the ExtraView field. Click on any header, if you want to map list values from your input file, to different values in ExtraView. Press the Refresh button after changing any mapping.

Field values will be inserted into ExtraView    
 Field values will not be inserted into ExtraView

Row Number	User ID	First Name	Last Name	Cell Phone	City	Company	Language	Area	Project
	User ID(SEcurity_USER_ID)	First Name(FIRST_NAME)	Last Name(LAST_NAME)	Cell phone(CELL_PHONE)	City(CITY)	Company(COMPANY_NAME)	Language(LANGUAGE)	Area(AREA_ID)	Project(PROJECT_ID)
1	user1	First	Last	1234	Soquel	Any Company	English	Sample Business Area	Sample Project One
2	user2	First	Last	1234	Soquel	Any Company	English	Sample Business Area	Sample Project One
3	user3	First	Last	1234	Soquel	Any Company	English	Sample Business Area	Sample Project One
4	user1	First	Last	1234	Soquel	Any Company	English	Sample Business Area	Sample Project One
5	user5	First	Last	1234	Soquel	Any Company	English	Sample Business Area	Sample Project One
6	user6	First	Last	1234	Soquel	Any Company	English	Sample Business Area	Sample Project One
7	user7	First	Last	1234	Soquel	Any Company	English	Sample Business Area	Sample Project One
8	user8	First	Last	1234	Soquel	Any Company	English	Sample Business Area	Sample Project One

## Validating and Importing Users

When validating the data and performing the import you will receive feedback in the same way as described in the previous section.

**Note:** For security purposes, the initial password of the user is set to a random value and is not defaulted to any value. The passwords will need to be set by the administrator individually, or via a custom-designed process.

**Note:** If inserting a new user will violate the number of licensed users, then an error is generated, and no update to the database is made. However if you do not specify the license type for a user, then they will be set to be concurrent, and this most probably will avoid any license constraints when loading the user. You may also load users in the disabled state by setting the ENABLED\_USER field to a value of **D**.

**Note:** If your input file contains, or would cause a user to be created with a duplicate email address, or with a duplicate combination of first and last name, an error is also generated and the record is rejected.

## More about Mapping User Roles

Excel is a great tool but has one inherent disadvantage for importing user role information. Each user may have multiple roles, and we need to represent that a single user may have multiple roles, all on a two-dimensional spreadsheet. To achieve this, we use the first column in the spreadsheet (with the title **Issue Type** as a label to indicate whether the row of data is the user information or the role information that refers to the user. The user information is indicated with a **0** in the cell, whereas we indicate that it is user role information in the role by placing a **1** in the cell. When you signify that the row is to hold user roles, the headings in the first row of the spreadsheet do not apply, and you can place the roles in the columns of that row. However, you must still tell ExtraView that the spreadsheet contains user roles, and this is done by placing the title **ROLE** in the first row of the spreadsheet. The above

Excel screenshot shows how this is configured.

## File Import - Data Dictionary

The purpose of this feature is to create new fields in the data dictionary from a spreadsheet. When creating a large ExtraView installation, there is often a significant amount of replication with similar fields, but with different **names**. You are able to create a spreadsheet with a set of fields plus their attributes from a comma- or tab-delimited file, and upload this file into ExtraView. Note that the template that you download is a Microsoft Excel spreadsheet. This allows the use of validation within the spreadsheet while preparing the input file. **You must save the file as a comma-delimited or tab-delimited file before you import it back into ExtraView.**

Significant validation is performed on the file you upload, with a similar two-step process as in uploading issue data. You are also able to save the templates you create for future use, allowing you to prepare fields in batches, and upload them as and when you are prepared.

Importing fields from a spreadsheet

## Preparing the import file

Use Microsoft Excel or a similar spreadsheet tool to create your input data. An empty spreadsheet for use as an input file can be downloaded from within the utility. **You must save the file as a comma-delimited or tab-delimited file before you import it back into ExtraView** See the previous screenshot for details of how to download an empty spreadsheet.

Area	Project	Field belongs to	Fixed database name	Title to display	Display type	Alias of	Allow Selection on reports	Total field on reports	Remember last value	Multiple value	Filter criteria	Is sortable	Display as URL	URL	Help Text	Help URL	Currency unit	Symbol	Thousands separator	Negative sign
* Global Area *	Default Template	Repeating row records	MY_DD_IMPORT	MY_DD_IMPORT	LIST	MY_DD_IMPORT_LIST	Y	Y	N	N	N	N	N	N	help	help	Y	Y		
* Global Area *	Default Template	Issue records	MY_DD_IMPORT_NUM	MY_DD_IMPORT_NUM	NUMBER		Y	Y	N	N	N	N	Y		help number	help help number	Y	N	Black	
* Global Area *	Default Template	Issue records	MY_DD_IMPORT_CUR	MY_DD_IMPORT_CUR	CURRENCY		Y	Y	N	N	Y	Y	Y		help currency	help help currency	USD	N	N	Red
* Global Area *	Default Template	Issue records	MY_DD_IMPORT_LIST	MY_DD_IMPORT_LIST	LIST		Y	Y	N	N	Y	Y	N		help list	help list		N	N	
* Global Area *	Default Template	Issue records	MY_DD_IMPORT_LIST_ALIAS	MY_DD_IMPORT_LIST_ALIAS	LIST	MY_DD_IMPORT_LIST	Y	Y	N	N	Y	Y	N		help list	help list		N	N	

Similar to the web-based input for the data dictionary, the following fields are available for input:

Field Name      Description

Area      The title of the Business Area for the field. If the field is to be global, use \* **Global Area** \*. This field is required

Project      The title of the Project within the Business Area to which you want to load the fields. If you are creating a global field, this will be \* **Master Project** \*. If you are loading the fields for use across a single Business Area, this will be

the default Project for the Business Area. If you want the field to only be visible within a single Project, then you will use the title of that Project. This field is required

Field belongs to	This must be set to <b>Issue records</b> if you want the field to be available to the main body of issues, or to <b>Repeating row records</b> if you want to use the field on a repeating row. This field is required
Fixed name	This is the fixed name for the field. Names can only consist of the characters A to Z, 0 to 9, and '_'. The first character of a fixed name must be alphabetic and the name can be up to 30 characters in length. Names cannot contain characters from non-English alphabets. A further restriction is that you may not have two underscore characters together in a name. This field is required
Title to display	The display title for the field. This may be up to 100 characters long and may contain any characters such as punctuation. This field is required
Display type	This must map to a valid display type within ExtraView. This field is required. The valid entries are: <ul style="list-style-type: none"> <li>• Button</li> <li>• Checkbox</li> <li>• Currency</li> <li>• Custom</li> <li>• Date</li> <li>• Day</li> <li>• Decimal</li> <li>• HTML Area</li> <li>• Image</li> <li>• Label</li> <li>• List</li> <li>• Log Area</li> <li>• Number</li> <li>• Pop-up</li> <li>• Print Text</li> <li>• Radio Button - Horizontal</li> <li>• Radio Button - Vertical</li> <li>• Tab</li> <li>• Text Area</li> <li>• Text Field</li> <li>• Time Interval</li> <li>• User</li> </ul>
Alias of	If the field is to be created as an alias of another field, and the other field is of type list, tab, or radio button then place the other field name in this column
Allow Selection on reports	Create as Yes or No
Total field on reports	Create as Yes or No
Remember last value	Create as Yes or No
Multiple value	Create as Yes or No
Filter criteria	Create as Yes or No
Is sortable	Create as Yes or No
Display as URL	Create as Yes or No
URL	If you are using the field as a display as URL, then provide the URL here
Help Text	The help text for the tooltip on the field
Help URL	The URL to use if you are providing your own help on the field
Currency unit	The currency unit for the field
Currency symbol	The currency symbol to be used for the field

Thousands separator    Create as Yes or No

Negative sign    Create as Yes or No

## Uploading the File and Providing any Mappings

This utility is very similar in usage to importing issue data. Please see the previous section in this guide for full instructions.

**File Import - Data Dictionary**

From this screen you can perform all the tasks to import your file. You can edit the template details, and upload a different import file to use with the template. This is where you map fields and their values from the imported file to ExtraView. Finally, you can validate your imported file and perform the actual import.

---

**Title**

Upload a different file

File character set

Sample of uploaded file

Tab-separated fields

Override existing field

---

**Field Mappings** For each import file field, choose an ExtraView field to map your data into. ExtraView will map the values within a field, if the same value exists in both the import file and ExtraView. To provide alternative mappings, click on the Map button. Choose "None" if you do not want to map a field in the import file. Click on the Refresh mappings button to see the results of your mapping.

**Import file field** **ExtraView field**

[1] Area	<input type="text" value="Area(AREA_ID)"/>	<input type="button" value="Map"/>
[2] Project	<input type="text" value="Project(PROJECT_ID)"/>	<input type="button" value="Map"/>
[3] Field belongs to	<input type="text" value="Field belongs to(ITEM_TYPE_ID)"/>	<input type="button" value="Map"/>
[4] Fixed name	<input type="text" value="Fixed name(NAME)"/>	<input type="button" value="Map"/>
[5] Title to display	<input type="text" value="Title to display(TITLE)"/>	<input type="button" value="Map"/>
[6] Display type	<input type="text" value="Display type(DISPLAY_TYPE)"/>	<input type="button" value="Map"/>
[7] Alias of	<input type="text" value="Alias of(ALIAS_OF)"/>	<input type="button" value="Map"/>
[8] Allow Selection on reports	<input type="text" value="Allow selection on reports(SELECT_FOR_REPORTS)"/>	<input type="button" value="Map"/>
[9] Total field on reports	<input type="text" value="Total field on reports(COL_REPORT_TOTAL)"/>	<input type="button" value="Map"/>
[10] Remember last value	<input type="text" value="Remember last value(REMEMBER_LAST_VAL)"/>	<input type="button" value="Map"/>
[11] Multiple value	<input type="text" value="Multiple value(MULTIPLE_VALUE)"/>	<input type="button" value="Map"/>
[12] Filter criteria	<input type="text" value="Filter criteria(FILTER_CRITERIA)"/>	<input type="button" value="Map"/>
[13] Is sortable	<input type="text" value="Is sortable(IS_SORTABLE)"/>	<input type="button" value="Map"/>
[14] Display as URL	<input type="text" value="Display as URL(DISPLAY_AS_URL)"/>	<input type="button" value="Map"/>
[15] URL	<input type="text" value="URL(URL)"/>	<input type="button" value="Map"/>
[16] Help Text	<input type="text" value="Help Text(HELP_TEXT)"/>	<input type="button" value="Map"/>
[17] Help URL	<input type="text" value="Help URL(HELP_URL)"/>	<input type="button" value="Map"/>
[18] Currency unit	<input type="text" value="Currency unit(CURRENCY_UNIT)"/>	<input type="button" value="Map"/>
[19] Currency symbol	<input type="text" value="Currency symbol(SHOW_CUR_SYMBOL)"/>	<input type="button" value="Map"/>
[20] Thousands separator	<input type="text" value="Thousands separator(SHOW_THOU_SEP)"/>	<input type="button" value="Map"/>
[21] Negative sign	<input type="text" value="Negative sign(NEGATIVE_SIGN)"/>	<input type="button" value="Map"/>

---

**Mapping Results** This displays the results of mapping your data and how it will appear in ExtraView. The top field name in the table is the field in your import file, the bottom field is the ExtraView field. Click on any header, if you want to map list values from your input file, to different values in ExtraView. Press the Refresh button after changing any mapping.

	Field values will be inserted into ExtraView	Field values will not be inserted into ExtraView					
Row Number	Area	Project	Field belongs to	Fixed name	Title to display	Display type	Alias of
	Area(AREA_ID)	Project(PROJECT_ID)	Field belongs to(ITEM_TYPE_ID)	Fixed name(NAME)	Title to display(TITLE)	Display type(DISPLAY_TYPE)	Alias of(ALIAS_OF)
1	* Global Area *	Default Template	Repeating row records	MY_DD_IMPORT	MY_DD_IMPORT	LIST	MY_DD_IMP
2	* Global Area *	Default Template	Issue records	MY_DD_IMPORT_NUM	MY_DD_IMPORT_NUM	NUMBER	
3	* Global Area *	Default Template	Issue records	MY_DD_IMPORT_CUR	MY_DD_IMPORT_CUR	CURRENCY	
4	* Global Area *	Default Template	Issue records	MY_DD_IMPORT_LIST	MY_DD_IMPORT_LIST	LIST	
5	* Global Area *	Default Template	Issue records	MY_DD_IMPORT_LIST_ALIAS	MY_DD_IMPORT_LIST_ALIAS	LIST	MY_DD_IMP
6	* Global Area *	Default Template	Issue records	MY_DD_IMPORT_LIST_ALIAS_2	MY_DD_IMPORT_LIST_ALIAS_2	LIST	MY_DD_IMP

## Importing fields into the data dictionary

The key difference in using this utility and using the import issue data feature is that there is a prompt on the screen, **Override existing field**. If you check this, then you may update the properties of the field given in the **Fixed name** column.

## Advanced Menu

The Advanced Menu contains administrative topics that are not regularly accessed. The administrative features within this menu are:

- ExtraView Version Information – This displays information regarding the server installation
- ExtraView Licenses – the End User License Agreement (EULA) for ExtraView
- Allowed Locales – If this is enabled in your system, this utility allows you to add a new language locale to the installation
- Translate System Messages and Prompts – If this is enabled in your system, this utility allows you to translate all the system messages and metadata in your system to an allowed locale
- Upload Server-side templates for use with ExtraView API – If you are creating server-side templates for use with external web pages, this utility allows you to upload the templates, without having access to the file system of the server
- Statistics – Key statistics of ExtraView usage
- System Log Types – Maintains the list of items that are logged within the System Log
- System Security Keys – This displays and allows you to create security keys within the installation, to which permissions are attached by the Grant Security Privileges routine
- View Allowed Functions – This displays all the functions within your installation and shows the difference between the allowed functions in the ExtraView Standard version and the ExtraView Global Compliance version
- Start Page Management – This controls the list of pages that can be addressed directly when a user first signs on to ExtraView
- Pre-cache Layouts at System Startup – This controls the list of layouts that can be loaded when the application server is started, providing improved performance when users first sign onto the system
- Edit the labels of the Administration tabs – This allows the editing of the labels on the tabs of the administration page. The only purpose for this utility is to localize the labels on the tabs

## Version Information

This function, found under the **Advanced Menu** tab within Administration, provides the system user with all the vital operational, maintenance, and troubleshooting information available about their specific ExtraView installation. Companies that are self-hosting ExtraView on their own servers may use this feature as a convenient way to find information regarding their environment such as the ExtraView build number, third party software versions, operating system details, Java environment details, etc.

A screen similar to the following appears:

ExtraView Version Information	
Build label	UNKNOWN
Build date	Mon 02/27/2006 16:07:53.73
Build OS	Windows_NT
Build DB Host	127.0.0.1
Build DB SID	nerdvana
Build DB User	best_data
Build DB Url	jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS=(HOST=127.0.0.1)(PROTOCOL=tcp)(PORT=1521))(CONNECT_DATA=(SID=nerdvana)))
Build Instance	/evj5.0
Build Domain	.extraview.net
Build Connection Pool Size	20
Build Connection Pool Max	200
Build Connection Use Count	500
Build Connection Timeout	10
Build Connection Pool Timeout	20
License expiration dateTime	NEVER
Database product name	Oracle
Database product version	Oracle9i Enterprise Edition Release 9.2.0.1.0 - Production With the Partitioning, OLAP and Oracle Data Mining options JServer Release 9.2.0.1.0 - Production
JDBC version	9.2.0.3.0
java.runtime.name	Java(TM) 2 Runtime Environment, Standard Edition
sun.boot.library.path	C:\BuilderX\jdk1.4\jre\bin
java.vm.version	1.4.2_01-b06
java.vm.vendor	Sun Microsystems Inc.
java.vendor.url	http://java.sun.com/
path.separator	;
java.vm.name	Java HotSpot(TM) Client VM
file.encoding.pkg	sun.io
user.country	US
sun.os.patch.level	Service Pack 2
java.vm.specification.name	Java Virtual Machine Specification
user.dir	C:\Documents and Settings\Carl\My Documents\ExtraView\projects\evj5.0
java.runtime.version	1.4.2_01-b06
java.awt.graphicsenv	sun.awt.WIn32GraphicsEnvironment
java.endorsed.dirs	C:\BuilderX\jdk1.4\jre\lib\endorsed
os.arch	x86
java.io.tmpdir	C:\DOCUME~1\Carl\LOCALS~1\Temp\
line.separator	
java.vm.specification.vendor	Sun Microsystems Inc.
user.variant	
java.naming.factory.url.pkgs	org.apache.naming
os.name	Windows XP
sun.java2d.fontpath	
log4j.configuration	file:c:/ApacheGroup/jakarta-tomcat-4.1.30/conf/log4j.properties
java.library.path	C:\BuilderX\jdk1.4\bin; ;C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\system32;C:\WINDOWS\system32\WBEM;C:\oracle\ora92\bin;C:\Program Files\Oracle\jre\1.3.1\bin;C:\Program Files\Oracle\jre\1.8\bin;C:\Program Files\ATI Technologies\ATI Control Panel;C:\Program Files\Intel\Wireless\Bin;C:\Program Files\Microsoft SQL Server\80\Tools\Binn;C:\Program Files\UltraEdit;C:\Program Files\SecureCRT;C:\Program Files\Perforce;C:\Program Files\Intel\Wireless\Bin;C:\Program Files\Intel\Wireless

### Version Information screen

This information is useful for support purposes. ExtraView support personnel may ask you to review information on this screen when debugging problems.

## ExtraView Licenses

The ExtraView end user license agreement (EULA) is available for reading within the **Advanced Menu** section of Administration.

Note that the license displayed here is the standard online version, which is agreed to when you first start ExtraView. This license may be superseded by a license agreement negotiated between ExtraView Corporation and your company. If such as license exists, then the license displayed here is not valid.

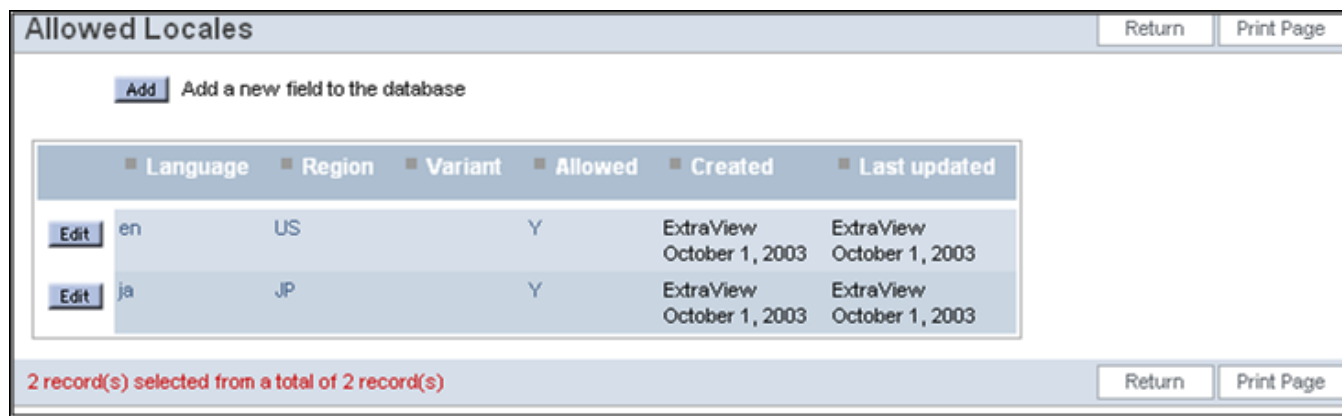


Note that, like virtually all modern enterprise software applications, ExtraView takes advantage of several open source components, which themselves are subject to licenses provided by the authors of these components. ExtraView only uses these open source components in their original, binary form, and does not alter the code. The licenses for these open source components are stored within the ExtraView distribution. These can be found within your deployed tree within the directory at localesen\_USlicense.

## Allowed Locales

This function allows you to define the locales that users may select with the Language prompt on the user administration screen. Before this option appears within administration, you must set the behavior setting named MULTI\_LOCALE to YES, and the security permission key named CF\_ALLOWED\_LOCALES must give you read and write permissions.

When you first access this function, you will see a list of the locales that are set up, and you can choose to modify the settings of these with the **Edit** button, or you can add a new locale.



### List of Allowed Locales

When you add a new language package, you instantly allow any user to switch to that language, but localized messages may not exist for that language. You can use the **Translate System Messages and Prompts**, or the **Localize** buttons that appear to provide the messages in any new language you define.

Adding a new locale does more than giving the capability to translate the messages into that language. All date formats and other locale specific features will use different defaults. For example, the default locale is en\_US (English US), but you may add a new locale of en\_GB for British English. When you do this, the default date formats will be those to which a British user is familiar, rather than the traditional ones familiar to a user in the USA.

When no localized messages are available, or if the program is missing some localized messages in any specific language, ExtraView will display the language entry for the behavior setting named in DEFAULT\_LOCALE. This is normally en\_US. Note that a user in a country such as Britain can override a few localized messages, to eliminate any US English spelling.

**Note:** Once the setting named MULTI\_LOCALE has been set to YES in an ExtraView database, and any changes to any text message has been made, the setting should not be reset to NO. Doing so may result in seeing text in a variety of locales being displayed to the user.

## Localization

If the option to Translate System Messages & Prompts is enabled, the end user is able to select, as a personal preference, which language in which he wants to operate. There are three fundamental areas where localized messages can be entered and maintained:

- The user interface of ExtraView, including all system messages and prompts. Typically, these messages are the same for all installations of ExtraView. For example, this includes informative and error messages that come from the ExtraView software.
- The metadata values provided by the administrator, which are local to the installation. For example, if the administrator creates titles for each status value used across his organization in English, and he wants to provide the localized equivalents in French, German and Japanese, he can insert the appropriate translations.
- The metadata values provided by users, which are local to the installation. For example, if a user creates a report title used across his organization in English, and he wants to provide the localized equivalents in French, German and Japanese, he or another user may insert the appropriate translations.

These areas of localization are independent, and can be used in a mutually exclusive fashion.

Localized versions of images can also be installed on the server. Please see the section on Initial Setup & Configuration for details.

Note: If a particular term or message is not translated into a specific language, ExtraView will choose to display the item with the default locale (normally US English). This can be used with advantage, for example, to provide a UK English localization, with the minimum of effort, only translating messages and metadata that have different spellings between the two languages.

Note: No matter what setting is used for a user's language preference, data can be entered and updated in any language, assuming the user's character set and browser provide the necessary support. For this reason, ExtraView recommends that the default character set used in the installation of an Oracle database be set at UTF-8, and that for a Microsoft SQL Server database, the character should be UCS-2.

Note: Before performing any localization, you should check your browser is set to use the UTF-8 character set. Failure to do this may result in corrupting previously saved messages that contain accented or double-byte characters. If you are not sure whether your browser is correctly configured, make sure you take a backup of your database before you start.

Testing is extremely important as part of localizing ExtraView metadata and prompts into any language. Please thoroughly check your work before deploying into a production environment.

## Entering Accented Characters

As stated above, your browser should be set to use the UTF-8 character set. However, there are still some issues to be aware of when entering characters. The characters that present the most problems are the quote (') and the double quote ("). The reason for this is that these characters are often used within a computer program to specify a string value being sent to the user interface. For example, the statement –

```
document.write('Today is Wednesday')
```

may be written by a JavaScript function to a screen. When this is translated to French, this would look like –

```
document.write('Aujourd'hui est Mercredi')
```

The additional quote in the middle of the text will cause a syntax error when the browser attempts to display the character. For this reason, you may need to substitute the character value of the quote as so –

```
document.write('Aujourd&#39hui est Mercredi')
```

or as

```
document.write('Aujourd&#x27hui est Mercredi')
```

The first method uses the decimal value of the quote; the second method uses the hexadecimal value.

This same principle can be used for all characters. Please see Appendix E for a list of characters, their decimal and hexadecimal values. Some characters, such as the double quote also have a form like –

```
&quot;
```

## End-User Selection of Language

Each user can select the language in which he wants to operate, by updating his account options. From the title bar at the top of each screen, the user clicks on the Account: link, enters their password and then sees a screen similar to the following, after clicking on the **Personal Options** tab.

The pull-down list labeled *Language* displays the available languages for this installation. Once the language is chosen, the account is updated and this language will be used for the display of all system messages, prompts and metadata.

Update User Cancel Print Page **Change user's details: BSMITH (Enabled)**

Basic Information **Personal Options** Report Options Notification Options Privacy Groups

Text size ? Medium ▾

Language ? English(United States) ▾

Time zone ? English(United States) ▾

Date format ? German(Germany) 3 PM ▾

Custom date mask ?

Time in 24 hour format ?  Yes  No

Start page ? Home Page ▾

Default Workspace ? 3 windows ▾

Chart / PDF output font ? SansSerif ▾

Update User Cancel Print Page

User Accounts Screen

## Localizing System Messages

This function is accessed from the Administration tab named **Advanced**, and is named **Translate System Messages and Prompts**. When you select this link, you will see a screen similar to the following:

Return Print Page **Translate System Messages and Prompts**

**Message Translation**

First select whether you want to display all the messages for the target language you will select, or whether you only want to display the messages that have yet to be translated. Next select the target language you want to work with. Select a metadata category. Choose **\* All System Text Messages \*** as the metadata category to localize all the system messages. Choose a different category to localize metadata values from this screen as an alternative to localizing these values on the individual metadata maintenance screens.

Display  All messages  Untranslated messages only

Select target language \* Select target language \* ▾

Select metadata category \* Select category \* ▾

Return Print Page

Selecting a language to translate

Choose the language you want to localize and the category of messages. Choosing the **System Text Messages** provides access to all the system level messages. Alternatively choose a different category to localize the metadata values of a specific object. Once you choose these options, the screen refreshes, similar to the following:

Update modified entries   Return   Print Page   **Translate System Messages and Prompts**

### Message Translation

First select whether you want to display all the messages for the target language you will select, or whether you only want to display the messages that have yet to be translated. Next select the target language you want to work with. Select a metadata category. Choose \* **All System Text Messages** \* as the metadata category to localize all the system messages. Choose a different category to localize metadata values from this screen as an alternative to localizing these values on the individual metadata maintenance screens.

Display  All messages    Untranslated messages only

Select target language

Select metadata category

Click on a letter [0](#) | [1](#) | [2](#) | [3](#) | [4](#) | [5](#) | [6](#) | [7](#) | [8](#) | [9](#) | [A](#) | [B](#) | [C](#) | [D](#) | [E](#) | [F](#) | [G](#) | [H](#) | [I](#) | [J](#) | [K](#) | [L](#) | [M](#) | [N](#) | [O](#) | [P](#) | [Q](#) | [R](#) | [S](#) | [T](#) | [U](#) | [V](#) | [W](#) | [X](#) | [Y](#) | [Z](#) | [<other>](#) | [<all>](#) | [<none>](#)

Total number of entries: 4,577

English	Japanese
<b>MAXLENGTH - the maximum number of characters allowed in text and number fields</b> fn=com/extraview/presentation/admin/LayoutElementAttributeDisplay.java	MAXLENGTH - テキスト・フィールドおよび数字フィールドで許容される文字の最大数
<b>MIME Type Name</b> fn=	MIME タイプ名
<b>MINUS</b> fn=com/extraview/presentation/search/Search.java	差
<b>MODAL WINDOW - This opens the edit screen in a modal popup window - applies to EDIT button on relate</b> *Inserted dynamically by ExtraView*	MODAL WINDOW - This opens the edit screen in a modal popup window - applies to EDIT button on related issue layouts only
<b>MS Office char. set</b> fn=com/extraview/presentation/admin/UserAccountsDisplay.java	MS Office の文字セット
<b>MS Office character set</b> *Inserted dynamically by ExtraView*	MS Office 文字セット
<b>Mail destinations cannot contain spaces or commas in action: {0}</b> fn=	メールの送信先にはスペースまたはカンマを含めることはできません: {0}
<b>Make changes and manage sharing</b> fn=	変更の実施および共有の管理

Screen where messages are localized

Note the option with the radio button that allows you to display all messages, or to only display the messages that have not yet been translated. This gives you the ability to home in on the remaining messages to be localized, as opposed to looking at all messages.

The messages appear in alphabetic order of the 'from' language. Edit any of the messages or prompts and then press the update button at the foot of the screen.

- Messages may contain one or more numbers within braces such as

Add entry to the {0} for {1}

Do not remove the numbers within braces from the localized message. The numbers within braces may be placed anywhere within the localized message.

- If there is HTML formatting tags within the message, such as:

`<i>ExtraView</i>` will not function correctly without cookies.

You can optionally alter the HTML tags, but it is recommended that you leave these.

## Localizing Metadata

Once localization is switched on within an ExtraView installation, all titles that can be localized will have a new button, named Localize, by the title within the administration section. For example, the titles of items with lists can be localized, and the titles within the data dictionary can be localized.

Note: You may localize all the metadata values on the same screen as that which localizes system messages. The two methods complement each other. You may either localize the metadata values when you access the underlying item, or in a single place on the system metadata screen.

Once again, if you do not provide a localized equivalent for a value, ExtraView will revert to displaying the default locale's language. Usually this is US English.

When you edit a status value, for example, the screen will look something similar to:

Localization button for metadata

When you first press the Localize button, you see a screen similar to the following:

Localizing metadata

Notice that as no localization has yet been completed for this value, all available languages show the term "Open" as the value to display. Editing the Japanese value will show a screen like:

Creating a Japanese Status entry

When you have completed editing all the localized value for the status fields, the screen for the values will look similar to:



Completed localized text for a Status entry

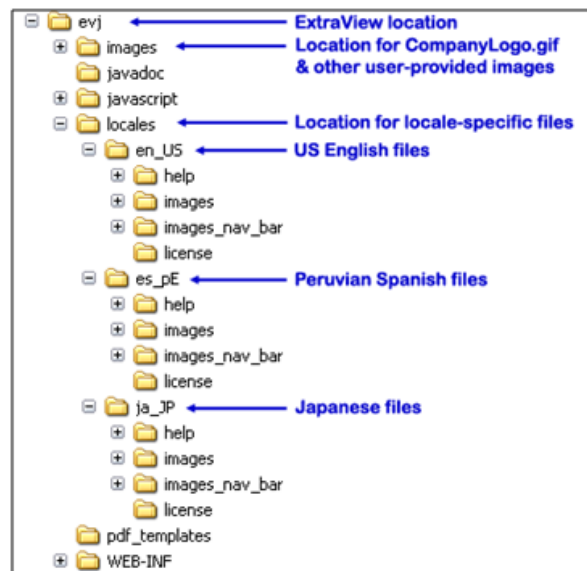
## Globalization File Structure

If ExtraView Corporation is hosting your installation, you do not have direct access to the file system of the server to configure, alter or use this feature without contacting ExtraView support.

If you are considering altering the user interface, or adding additional image sets, or customizing the help pages, it is important to understand where ExtraView places files that can be altered or localized. The types of files that can be altered are as follows:

- Image files – note that the file with your company's logo is treated differently from the remainder of the images
- Help files

The following tree structure shows the location of directories on a Microsoft Windows server.



Localization directory structure

- The image with your company logo is placed within the directory named `/images`. Its name is `CompanyLogo.gif`. There may only be a single company logo file for an instance.
- The `/images` directory also contains a directory named `/tab_corners`. This contains the images used to construct tabs that appear within ExtraView.
- The `/locales` directory is where all the locale specific image and help files are stored. ExtraView is always shipped with at least one set of files within this directory. This is named `/en_US` and contains US English image and help files. `/en_US` is the default locale for the installation. Other locale specific directories can be created and will contain the appropriate images and help.

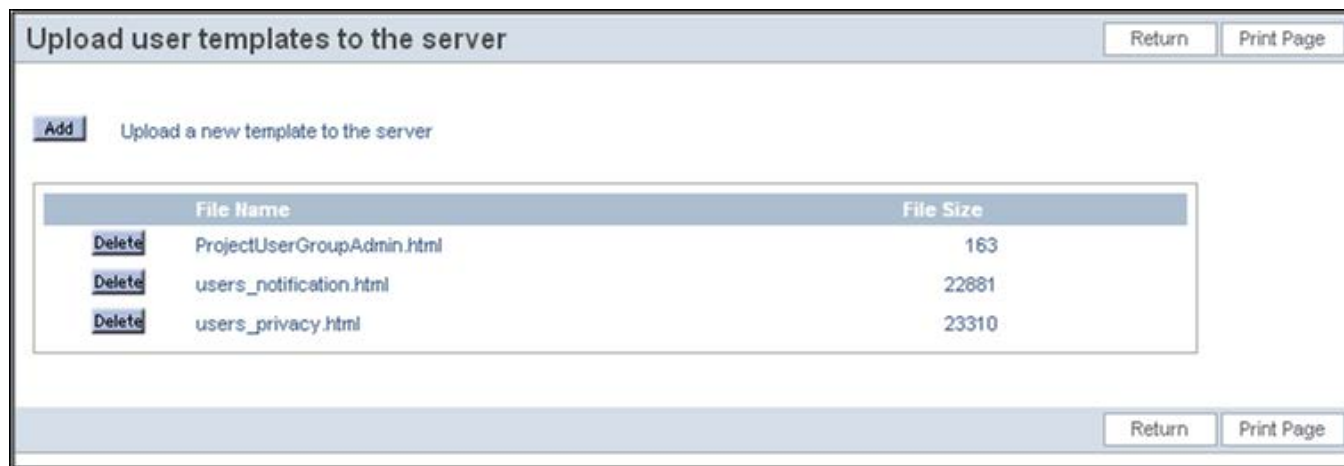
## Manage Server-Side Templates

Server-side templates are used to format information returned from the API to a client browser or script. For example, when you enter a new issue from the API to ExtraView, you can format the information returned by the command (the ID of the issue or an error if the command failed) with a template, perhaps to style the output in the same form as your company's website.

This is fully explained in the **Application Programming Interface Guide**. Templates are typically stored in the directory named WEB-INF/user\_templates. To aid in placing templates on the server, when you may not have access to the directory structure of your server, this administrative function allows you to upload server-side templates, and allows you to delete them. They must be edited on your client computer.

Access to this feature is controlled by the security key named CF\_UPLOAD\_USER\_TEMPLATES.

From the Administration menu, click on the **System Controls** tab. Then click on the link named Upload Server-Side Templates for use with ExtraView API. You will see the following screen:



### Managing Server-side templates

The **Add** button allows you to add a new template. Once templates have been uploaded to the server, you can delete them with the **Delete** button.

**Note:** You cannot use this feature if you are running ExtraView from within a deployed War file.

## Statistics

ExtraView maintains statistics on key information. Statistics are accessed via the Administration menu, under the System Controls tab.

Click **Statistics** to view the statistics.

The page is divided into 5 main sections: User Statistics, Issue Statistics, File Attachments, Background Time Counts, and Background Frequencies

User Statistics	
Total number of users (active and inactive)	15
Number of active users	14
Number of active customer users	2
Number of internal (non customer) users	12
Number of active users in user role <i>Administrator</i>	4
Number of active users in user role <i>Customer</i>	7
Number of active users in user role <i>Customer Support</i>	5
Number of active users in user role <i>Customer Support Manager</i>	2
Number of active users in user role <i>Development Engineer</i>	7
Number of active users in user role <i>Engineering Manager</i>	3
Number of active users in user role <i>IT Support</i>	5
Number of active users in user role <i>IT Support Manager</i>	3
Number of active users in user role <i>Quality Assurance</i>	6

### User Statistics section

- **Total number of users (active and inactive)**. This is the total number of users stored in ExtraView's database. It includes both active and deactivated user accounts.
- **Number of active users**. This is the number of active user accounts, and excludes deactivated accounts.
- **Number of active customer users**. This is the number of active users, in the user role specified by the behavior setting named LIMITED\_USER\_ROLE.
- **Number of internal (non-customer) users**. This is the number of users who are allocated to users groups other than the LIMITED\_USER\_ROLE. If a user is allocated to both LIMITED\_USER\_ROLE and any other group, they will appear in this total.
- **Number of active users in user role *group\_name***. This is the number of active users in the user role named *group\_name*.

Issue Statistics	
Total number of issues in database	347
Number of issues created to date this month	0
Number of issues created last month (January)	0
Number of issues created in last 30 days	0
Number of updates applied to date this month	0
Number of updates applied last month (January)	0
Number of updates applied in last 30 days	0

### Issue Statistics section

File attachments	
Number of attachments in system	29
Average size of attachment (kB)	126
Maximum size of an attachment (kB)	1602

### File Attachments section

Background Time Counts	
Database data manipulation language	0
Database connection allocation	0

### Background Time Counts



Background Frequencies	
Database data manipulation language	15
Database connection allocation	1

## Background Frequencies

The Background Time Counts and Frequencies match those shown in EVSTATS for individual services, but they are accumulated for any task that runs in the background, such as SESSION\_MONITOR, TASK\_CONTROL, FULL\_TEXT\_SYNCHRONIZE, and BATCHMAIL when run as a background task. The values are accumulated for the period of time from the most recent instance start of your application server (boot time) to the current time.

The database manipulation language (DML) statistics are those used to access or modify the database, in particular, any SELECT, UPDATE or DELETE SQL statements. The database connection allocation frequency is the number of times a connection is allocated from the ExtraView Connection Pool.

## System Security Keys

It is unlikely that you will need to access this screen, therefore it is turned off by default. Should you require access to this feature, set the security permission key named SE\_SECURITY\_MODULE to read and write.

Each field, button, each screen and many features within ExtraView have corresponding System Security Keys. From the **Grant Security Privileges** section under the **Fields & Layouts** tab, you are able to control the visibility of the elements controlled by these keys, thereby restricting the access to these fields, buttons, and features.

**Note:** Changes in the system security keys area have system-wide implications. ExtraView Corporation strongly recommends that, other than editing the display titles (which appear in the grant security privileges screens) you not attempt to make changes in this area without first contacting ExtraView Support. It is unlikely that you will need to create new keys.

	Security key fixed name	Title to display on screens	Description
<a href="#">Edit</a>	CF_ADMIN_MENU	Edit the labels of the Administration tabs	This is provided so you can localize the labels
<a href="#">Edit</a>	CF_ALLOWEDLOCALES	Allowed Locales	Maintain the list of locales allowed to be set by users in this installation. Note that even though a locale is defined, the translated messages may need to be created
<a href="#">Edit</a>	CF_ALLOWEDVALUE_TYPE	Allowed Value Types	Define and specify parent-child hierarchical relationships between fields. Once a relationship is established, you can maintain the list of allowed values
<a href="#">Edit</a>	CF_ALLOWED_VALUES	Allowed value list	Access to the screen for maintenance of allowed value lists. These lists can also be maintained individually from the child list maintenance screen
<a href="#">Edit</a>	CF_ALLOW_DEACTIVATE_USERS	Allow the administrator role to deactivate / activate users	When this is set to Y, the administrator may deactivate and reactivate users from the User Account Maintenance function. This is useful if you have multiple admin roles defined, and do not want every administrator to be able to deactivate users. Write permission is needed to enable this function
<a href="#">Edit</a>	CF_ALL_BEHAVIOR_SETTINGS	All Behavior Settings	The complete list of behavior settings (in alphabetic order) can be viewed and modified from this list
<a href="#">Edit</a>	CF_API_SETTINGS	API Settings	Maintain behavior settings that access ExtraView via the API
<a href="#">Edit</a>	CF_AREA	Business areas	Maintain the list of Business Areas for the inbuilt AREA field
<a href="#">Edit</a>	CF_CATEGORY	Categories	Maintain the list of Categories for the inbuilt CATEGORY field
<a href="#">Edit</a>	CF_COMPANY_SETTINGS	Company Information Settings	Access the administration screen to set your company name, address and contact information
<a href="#">Edit</a>	CF_DATA_DICTIONARY	Data Dictionary	The data dictionary is where you create and maintain inbuilt and user defined fields & other objects. This includes modifying their titles, display types, basic behavior and default values
<a href="#">Edit</a>	CF_DEBUG_SETTINGS	System Debugging & User Custom Settings	Access the behavior settings for debugging options and the user custom classname
<a href="#">Edit</a>	CF_DISPLAY_INFO	Font and Color Settings	Modify the behavior settings for fonts and colors to be used within ExtraView screens and layouts

System Security Keys Summary screen

## Edit an Existing Security Key

1. Click on the **System Security Keys** option on the ExtraView Administration menu, under the **Advanced** tab.
2. Click on **Edit** and change the description or title as needed.

## System Log Types

It is unlikely that the administrator will need to add or alter entry types to the system log. Each entry is used to monitor the usage of ExtraView metadata alterations by individual users, giving an audit of who changed which piece of metadata. The system log itself can be viewed from the **System Controls** administration menu.

## Managing Start Pages

The behavior setting named `USER_DEFINED_START_PAGE` must be set to YES before this feature is used. This feature allows the administrator to add additional start pages to be available. A start page is the location on which a user lands, after they successfully sign on. The default pages available are the Home Page, the Add Issue screen, the Search / Report screen and the Administration screen. It is unlikely that you will need more than these, but they can be added through this screen if necessary. Before adding a new entry, you will need to know the calling convention to be used. These are internal to ExtraView and are defined in terms of the Action and the Option. We suggest that if you need a new start page, you should consult with ExtraView support to define these values.

**Start Page Management** Return Print Page

**Add** Add a new field to the database

	Title to display	Permission	Action	Option	Created	Last updated
<b>Edit</b>	Home	MENU_HOME	doDisplay	HomeDisplay	October 1, 2003 SYSTEM	October 17, 2005 TOYO
<b>Edit</b>	Search/Report	MENU_RESOLUTION	doDisplay	search.SearchDisplay	October 1, 2003 SYSTEM	October 17, 2005 TOYO
<b>Edit</b>	Add Issue	MENU_ADD_PROBLEM	doAddDisplay	Display	October 1, 2003 SYSTEM	October 17, 2005 TOYO
<b>Edit</b>	Administration	MENU_ADMINISTRATION	doDisplay	admin.AdminDisplay	October 1, 2003 SYSTEM	October 17, 2005 TOYO

4 records selected Return Print Page

The list of start pages

## Changing the Administration Menu Titles

This option is rarely used, but allows the administrator to re-title or localize the administration menus. You can turn this option off with the security permission key named CF\_ADMIN\_MENU if you do not wish to see this on your screen.

**Edit the labels of the Administration tabs** Return Print Page

**Add** Add a new field to the database

	Administration Menu Number	Title to display	Sort sequence
<b>Edit</b>	1	Users	1
<b>Edit</b>	5	Lists	2
<b>Edit</b>	3	Fields & Layouts	3
<b>Edit</b>	8	Display	4
<b>Edit</b>	7	Workflow	5
<b>Edit</b>	9	Email Notification	6
<b>Edit</b>	4	System Controls	7
<b>Edit</b>	6	Import/Export	8

8 record(s) selected from a total of 8 record(s) Return Print Page

Altering the titles of the options within Administration

To alter or localize a title, access this function, then press the Edit button. There you may alter the title, or provide a localized title. Update after you alter the title and you will immediately see your new title within the administration screen.

## Pre-Caching Layouts Upon System Restart

When a layout is first accessed, either upon a restart of the application server, or upon a change to the layout by the administrator, it is read by ExtraView, and compiled into a form that can be rendered speedily. This action may take a half-second for simple layouts to many seconds for complex layouts.

This feature is controlled by the security permission key named SE\_TEMPLATE\_PRECACHE.

If you do not want an end-user to face this delay when they are the first person to access a layout, you can use the utility at **Fields & Layouts --> Controls pre-caching templates at system startup** to compile and cache layouts when the application server

is restarted.

Return [Print Page](#)
Controls pre-caching templates at system startup

### Directions

After you start or restart the application server(s), the server caches the layouts it accesses when they are first used. This takes a few seconds each time an end user accesses each layout for the first time. This utility allows the administrator to set up layouts so that they are cached when the server(s) first start. This offers a performance benefit to the first users who access ExtraView following the server(s) restart. It is suggested that you use this utility to pre-cache the most frequently accessed layouts. You should not pre-cache all layouts and are limited to 100 layouts being pre-cached. Pre-caching more than 100 layouts leads to a performance degradation and is therefore not allowed.

### Keys

Select one or more user roles

- \* None \*
- \* All \*
- Administrator
- Customer
- Customer Support

Select one or more areas and projects

- \* None \*
- \* All \*
- Assets | Assets Data
- Bugs | Bugs Data
- Customer Issues | Customer Support Issues Data

Select one or more layout types

- \* None \*
- \* All \*
- Add Issue Screen
- Attachment History
- Customer Selection Tabs

Select one or more locales

- \* None \*
- \* All \*
- English(United States)
- Japanese(Japan)

[Add Selected Keys](#)
[Remove Selected Keys](#)

### Filter List

Select the column to use as a filter for the list. You may click on a letter to produce a list of the items which begin with this character, or you may enter a search pattern, including wildcards (\*). The Export button creates a CSV file of the results currently displayed on the screen.

Select filter column for report

or click on a letter

or enter a search expression and click the Go button

Area Title

B | C | <all> | <none>

Enter search expression

[Go](#)

[Export](#)

	Area Title	Project Title	Layout Type	Layout Id	Layout Title	Security Group	Display Mode	Locale	Created	Last updated
<a href="#">Del</a>	Bugs	Bugs Data	Attachment History	1498	Default layout for Attachment History	Administrator	EDIT	en_US_	Bill Smith Jul 3, 2010	Bill Smith Jun 27, 2010
<a href="#">Del</a>	Bugs	Bugs Data	Attachment History	1498	Default layout for Attachment History	Administrator	REFRESH	en_US_	Bill Smith Jun 27,	Bill Smith Jun 27, 2010

## Pre-caching Layouts

ExtraView has an overall limit of 100 layouts held in the cache at one time, and if this number is exceeded, then the oldest layout is removed from the cache. At the same time, there is a cost in time to pre-cache layouts, therefore the recommendation is to only pre-cache layouts if a user is likely to complain about the time taken to reach the layout if they are first person to use it.

To pre-cache layouts, use the filters at the top of the screen to select the layout(s) you want to cache. This will be a combination of user role, business area, project, layout type and the locale with which the layout is to be displayed. Once you select the filters, use the **Add Selected Keys** button to add the layouts to the pre-cache list. You can remove layouts individually using the **Del** button, or you can set up keys and remove a list of layouts at one time.

The caching is controlled by a system task named TEMPLATE\_LOADER. This task must be started in order for the caching to take place. Go to the **Manage Tasks and Threads** administrative utility and **Add** the task. The task should be set up to run on each node of a clustered system. It is recommended that you set the poll interval to zero. This causes the task to run once upon system startup and not to be run again.

Caching layouts is somewhat tricky, as a full understanding of exactly what needs to be cached to speed up the initial load time is essential. Some recommendations:

- Do not assume that trying to pre-cache all layouts will lead to better performance
- Do not cache the layouts in the Master Projects for any area. Only cache the layouts in the projects that actually store the user's data
- First cache the *Add* and *Edit* layouts for the most frequently used business areas in their data projects
- If you have embedded layouts in the *Add* and *Edit* layouts then cache these

<http://docs.stg.extraview.com/site/book/export/html/17003>[3/20/2012 10:12:02 PM]

- Cache the layouts only for the most frequently used roles
- Cache the layouts only for the most frequently used locales
- On a sizeable system, there can be many, many layouts when you look at the combination of the layouts, the business areas, the projects, the user roles and the locales. Look to cache only the most frequently used combinations, because of the limitation of being able to pre-cache 100 layouts.

## Appendices

### Date and Time Formats

#### Overview

Each ExtraView user has the capability to set their date and time format. The date and time formats determine how dates and times are displayed in output text or html and how they are parsed when entered by the user. The user can select their date and time format on the Personal Options screen. Either one of the in-built formats can be selected, or the user can set the **Date Format** to the value of **Custom Date Mask** and then provide their own mask in the field labeled **Date Mask**.

#### Localizable Date and Time Formats

Dates and times are represented differently around the world. An ExtraView user may choose one of the date/time formats that are sensitive to the specific locale they are using. The following date and time formats will be represented differently dependent on the user's current locale setting. The following table shows the date format names used in ExtraView, with an example of how this appears in English/US locale representation:

Format Name	Description	Example
SHORT	Short without time	12/30/02
MEDIUMDATE	Medium without time	Dec 30, 2002
LONGDATE	Long without time	December 30, 2002
FULLDATE	Full without time	Monday December 30, 2002
SHORTDATETIME	Short with time	12/30/02 1:15 PM
MEDIUMDATETIME	Medium with time	Dec 30, 2002 1:15 PM
LONGDATETIME	Long with time	December 30, 2002 1:15 PM
FULLDATETIME	Full with time	Monday December 30, 2002 1:15 PM

#### Standard Date/Time Parsing Formats

Certain date and time formats are built in to ExtraView as patterns to be used for parsing dates. If a date is entered in one of the standard formats, it will be parsed without any errors. Use of a custom date mask extends the possible date/time entry formats to include the custom mask pattern.

The following are the standardized date/time parsing formats:

Format	Example
MM/dd/yy	04/21/03
dd/MM/yy	21/04/03
MM/dd/yyyy	04/21/2003
dd/MM/yyyy	21/04/2003
dd-MMM-yy	21-April-03
dd-MMM-yyyy	21-April-2003
yyyy/MM/dd HH:mm:ss z	2003/04/21 10:23:34 PST
yyyy/MM/dd HH:mm:ss	2003/04/21 10:23:34

yyyy/MM/dd	2003/04/21
yyyy-MM-dd HH:mm:ss	2003-04-21 10:23:34
yyyy MM dd HH:mm:ss	2003 04 21 10:23:34
MM-dd-yyyy HH:mm	04-21-2003 10:23
yyyy-MM-dd	2003-04-21
MM/dd/yy HH:mm	04/21/03 10:23
MM/dd/yy HH	04/21/03 10
yy-MM-dd	03-04-21
MMM dd yyyy	April 21 2003
MMM dd, yyyy	April 21, 2003
MMM. dd yyyy	Apr. 21 2003
MMM. dd, yyyy	Apr. 21, 2003

## Custom Date Masks

A custom date mask provides the ExtraView user with the maximum of flexibility, but the representation of dates and times using a custom date mask are formatted similarly regardless of the user's current locale setting. Text strings such as month names or days of week within the representation are locale-sensitive.

Entry of date values into forms can use one of the ExtraView standard date formats or whatever format the user has defined using a custom date mask.

Custom date masks consist of a sequence of characters consisting of punctuation or pattern letters that are chosen from the following:

Letter	Date or Time Component	Usage	Examples
y	Year	yyyy, yy	1996; 96
M	Month in year	MMMM, MMM, MM	July; Jul; 07
d	Day in month	dd	10
E	Day in week	EEEE, EE	Tuesday; Tue
a	Am/pm marker	a	PM
k	Hour in day (1-24)	kk	24
h	Hour in am/pm (1-12)	hh	12
m	Minute in hour	mm	30
s	Second in minute	ss	55
z	Time zone	Z	Pacific Standard Time; PST; GMT-08:00
Z	Time zone	Z	-0800

Pattern letters are usually repeated, as their number determines the exact presentation:

- **Text:** For formatting, if the number of pattern letters is 4 or more, the full form is used; otherwise a short or abbreviated form is used if available. For parsing, both forms are accepted, independent of the number of pattern letters.
- **Number:** For formatting, the number of pattern letters is the minimum number of digits, and shorter numbers are zero-padded to this amount. For parsing, the number of pattern letters is ignored unless it's needed to separate two adjacent fields.
- **Year:** For formatting, if the number of pattern letters is 2, the year is truncated to 2 digits; otherwise it is interpreted as a number. For parsing, if the number of pattern letters is more than 2, the year is interpreted literally, regardless of the number of digits. So using the pattern "MM/dd/yyyy", "01/11/12" parses to "Jan 11, 12 A.D". For parsing with the abbreviated year pattern ("y" or "yy"), ExtraView must interpret the abbreviated year relative to some century. In ExtraView, the year on a date parsed from user input is always checked to see if it is greater than 1000. If not, the year is adjusted to a more "rational" value by adding either 1900 or 2000 to the specified year. 2000 is added if the result would be less than or equal to the current year, otherwise, 1900 is added. For example, using a pattern of "MM/dd/yy" and a date presented on Jan 1, 1997, the string "01/11/03" would be interpreted as Jan 11, 2003 while the string "05/04/64" would be interpreted as May 4, 1964.
- **Month:** If the number of pattern letters is 3 or more, the month is interpreted as text; otherwise, it is interpreted as a

number.

- **General time zone:** Time zones are interpreted as text if they have names. For time zones representing a GMT offset value, the following syntax is used:

```
GMTOffsetTimeZone:
GMT Sign Hours : Minutes
Sign: one of
-
Hours:
Digit
Digit Digit
Minutes:
Digit Digit
Digit: one of
0 1 2 3 4 5 6 7 8 9
```

Hours must be between 0 and 23, and Minutes must be between 0 and 59. The format is locale independent and digits must be taken from the Basic Latin block of the Unicode standard.

For parsing, RFC 822 time zones are also accepted.

- **RFC 822 time zone:** For formatting, the RFC 822 4-digit time zone format is used:

```
RFC822TimeZone:
Sign TwoDigitHours Minutes
TwoDigitHours:
Digit Digit
```

TwoDigitHours must be between 00 and 23. Other definitions are as for general time zones.

For parsing, general time zones are also accepted.

## Security Permission Keys

Permission Key	Explanation
CF_ADMIN_MENU	Edit the labels of the Administration tabs
CF_ALL_BEHAVIOR_SETTINGS	The complete list of behavior settings (in alphabetic order) can be viewed and modified from this list. Write access is needed to control this
CF_ALLOW_CHANGE_ROLE	Display the Role: change option on the menu bar
CF_ALLOWED_VALUES	Access to the screen for maintenance of allowed value lists. These lists can also be maintained individually from the child list maintenance screen
CF_ALLOWEDLOCALES	Maintain the list of locales allowed to be set by users in this installation. Note that even though a locale is defined, the translated messages may need to be created. Write access is needed to control this
CF_ALLOWEDVALUE_TYPE	Define and specify a parent-child hierarchical relationship between two fields. Write access is needed to control this
CF_API_SETTINGS	Access to the configuration screen to maintain behavior settings that access ExtraView via the API. Write access is needed to control this
CF_AREA	Maintain the list of Business Areas for the inbuilt AREA field. Write access is needed to control this
CF_CATEGORY	Maintain the list of Categories for the inbuilt CATEGORY field. Write access is needed to control this
CF_COMPANY_SETTINGS	Access the administration screen to set your company name, address and contact information. Write access is needed to control this
CF_DATA_DICTIONARY	Access to the data dictionary where you create and maintain inbuilt and user defined fields & other objects, including modifying their title, display type, basic behavior and default values. Write access is needed to control this
CF_DEBUG_SETTINGS	Access the behavior settings for debugging options and the user custom classname. Write access is needed to control this
CF_DISPLAY_INFO	Access the behavior settings for fonts and colors to be used within ExtraView screens and

layouts. Write access is needed to control this

CF_DISPLAY_SETTINGS	Control and set behavior settings that affect how screens and layouts are presented. Write access is needed to control this
CF_EMAIL_SETTINGS	Setup and administer email behavior settings. Write access is needed to control this
CF_ENABLE_DISABLE_USER_ACCESS	Access the administrative option to quiesce the ExtraView system for maintenance. Write access is needed to control this
CF_ENVIRONMENT	Access the behavior settings that maintain physical paths and URL information for accessing ExtraView. Write access is needed to control this
CF_ESCALATION_RULES	Escalation Rules
CF_EXPIRE_PASSWORD	This key controls access to allow the administrator to expire password in user accounts. Write access is needed to control this
CF_FILE_IMPORT	Access to the File Import Utility to upload and import a tab-delimited or comma-delimited data file containing records. Write access is needed to control this
CF_HIERARCHY	Reporting Hierarchies
CF_HIERARCHY_LEVEL	Reporting Hierarchy Levels
CF_INSTALLATION_DETAILS	Setup the basic behavior settings of the ExtraView installation. Write access is needed to control this
CF_INTEREST_LIST	Interest List access. Note that giving read and write access to this key will allow non-administrative users access to maintain interest lists. This access is from a prompt on the Notification section of their Personal Options screen. Be aware that the end-user will have full access to interest list maintenance if they are given this permission
CF_ITEMDATA	Access the administrative function to export item data to an XML formatted file. The file can be used for import to a different ExtraView schema. Read access is needed to control this
CF_LAYOUT	Create and alter the layouts for all screens and reports. Write access is needed to control this
CF_LAYOUT_TYPE	Maintain the list of types of screen and report layouts that can be defined. Write access is needed to control this
CF_LICENSE	The End User License Agreement (EULA) for ExtraView. Write access is needed to control this
CF_LOCALIZE	Access to this key allows locale-specific titles to be added to metadata field values. Write access is needed to control this
CF_MANAGE_USER_CONNECTION	Manage and disconnect users connection to ExtraView, releasing licenses back to the common pool. This is only used for concurrent license installations. Write access is needed to control this
CF_METADATA	Provide access to the export function where system metadata is dumped in XML format. Read access is needed to control this
CF_METADATA_UPDATER	Imports XML from a formatted file created with the XML export utility, and updates ExtraView with the information. Please make sure you backup your installation before using! Write access is needed to control this
CF_MODULE	Access to maintain the list of modules (MODULE_ID) within products (PRODUCT_NAME). Write access is needed to control this
CF_MODULE_TYPE	Create and manage the list of module types. Note that this key may be deprecated in a future release. Write access is needed to control this
CF_OBJECT_IMPORT	Access to import item data from an imported file prepared in XML format. Write access is needed to control this
CF_PERSONAL_OPTIONS	This key controls access to each user role's personal option link that appears in the title bar of the screen. Write access is needed to control this
CF_PRIORITY	Maintain the list of values for the inbuilt PRIORITY field. Write access is needed to control this
CF_PRODUCT	Maintain the list of values for the inbuilt PRODUCT_NAME field. Write access is needed to control this



CF_PRODUCT_LINE	Maintain the list of values for the inbuilt PRODUCT_LINE field. Write access is needed to control this
CF_PROJECT	Access and maintain the list of Projects (PROJECT) within Business Areas (AREA). Write access is needed to control this. There is no use case to have read or write access to this key unless the same access is given to the CF_AREA permission key
CF_RELATIONSHIP_GROUP	This key controls access to the global settings and names of issue relationship groups. Write access is needed to control this
CF_RELATIONSHIP_GROUP_DELETE_BUTTON	This key controls access to delete an issue from within a relationship group. Write access is needed to control this
CF_RELATIONSHIP_GROUP_EDIT	This key controls whether a user role may modify an existing relationship group of issues. Write access is needed to control this
CF_RELATIONSHIP_GROUP_EDIT_PROBLEM_BUTTON	This permission key controls the presence of the "Edit issue" button on the relationship group screen. Write access is needed to control this
CF_RELATIONSHIP_GROUP_PROBLEM_ADD_PROBLEM_BUTTON	This key controls whether a user role may add an issue to an existing relationship group of issues. Write access is needed to control this
CF_RELATIONSHIP_GROUP_VIEW_PROBLEM_BUTTON	This permission key controls the presence of the "View" button on the relationship group screen. Write access is needed to control this
CF_REPORT_SETTINGS	This key grants permissions to alter the behavior settings that affect reports and queries. Write access is needed to control this
CF_REPORT_USER	Create and manage reports created by individual users
CF_RESOLUTION	Maintain the list of values for the inbuilt RESOLUTION field. Write access is needed to control this
CF_SESSION_SETTINGS	This key controls access to the maintenance screen for system-wide behavior settings. Write access is needed to control this
CF_SEVERITY	Maintain the list of values for the inbuilt SEVERITY_LEVEL field. Write access is needed to control this
CF_SSO_SETTINGS	Set up ExtraView to work with SSO and LDAP servers
CF_STATISTICS	This provides access to summary information about users, user roles and usage patterns.. Read access is needed to control this
CF_STATUS	Maintain the list of values for the inbuilt STATUS field. Write access is needed to control this
CF_STATUS_RULES	This controls access to the definition screen for rules that apply to status changes. Sets up the business rules for workflow based on status. Write access is needed to control this
CF_SYSTEM_LOG	Controls access to reporting on all metadata changes in the administration log. Read access is needed to control this
CF_SYSTEM_LOG_TYPE	The list of activities in the administration log. New entries must be supported by program changes at the source code level
CF_SYSTEM_SIGNON	Controls access to view the log entries that track the sign on and sign off activities of all users. Read access is needed to control this
CF_TEMPLATE	Controls access to create and edit email templates to use in communication with internal and external users when updating issues
CF_TRANSLATOR	Controls access to translate all system messages and prompts into different languages. Write access is needed to control this
CF_UDF_LIST	Controls access to maintain the list of values for User Defined Fields stored within ExtraView. This is a single key that controls access to all lists. Each member of the list also has an individual security key. Write access is needed to control this
CF_UPLOAD_COMPANY_LOGO	Controls access to the feature that allows an administrator to upload a Company Logo
CF_UPLOAD_USER_TEMPLATES	Write access to this key allows the uploading of Server-Side Templates for use with the ExtraView API
CF_USER_FILE_IMPORT	Controls access to the File Import - User Information feature. Write access allows the administrator to create new users with this facility
CF_USER_SETTINGS	This key controls access to the behavior settings and options associated with user names

and users. Write access is needed to control this

CF_VERSION_INFO	This key controls access to version information for ExtraView and its supporting software. Read access is needed to control this
CF_VIEW_APP_SERVER_LOG	Read access to this permission key will place a button on the System Log administration screen. Pressing this button will display the application server log in a new window.
CF_WORKFLOW_DEFAULTS	This key controls access to the behavior settings and options associated with workflow. Write access is needed to control this
MENU_ADD_PROBLEM	This setting controls access to the Add issue layout from the main navigation bar Add button. Write access is needed to control this
MENU_ADMINISTRATION	This setting controls access to the Administration system from the main navigation bar Administration button. Write access is needed to control this
MENU_EDIT	This setting controls access to the Update button on any Edit screen. Write access is needed to control this
MENU_DRILLDOWN_ON_NAV_BAR	This permission key controls the presence of the drilldown box on the navigation bar. Read access is needed to be able to access the drilldown box.
MENU_HOME	This key controls access to the Home button on the Navigation bar. Read access is needed to control this
MENU_RESOLUTION	This key controls access to the Query (Search & Reports) screen. Read access is needed to control this
PR_ADD_PROBLEM.ALT_ID	Alternate ID
PR_ADD_PROBLEM.AREA	Business Area
PR_ADD_PROBLEM.ASSIGNED_TO	Assigned To
PR_ADD_PROBLEM.ATTACH_CONTENT_TYPE	This controls the presence of the content type on an attachment record. This can be seen with read access, but cannot be written to
PR_ADD_PROBLEM.ATTACH_CREATED_BY_USER	This controls the presence of the user's name who created the attachment. This can be seen with read access, but cannot be written to
PR_ADD_PROBLEM.ATTACH_DATE_CREATED	This controls the presence of the date an attachment was created. This can be seen with read access, but cannot be written to
PR_ADD_PROBLEM.ATTACH_FILE_DESC	This controls the presence of the attachment description, when you are entering the file name to be uploaded to an attachment. Write access is needed to control this
PR_ADD_PROBLEM.ATTACH_FILE_NAME	This controls the presence of the attachment file name on an attachment record. This can be seen with read access, but cannot be written to
PR_ADD_PROBLEM.ATTACH_FILE_SIZE	This controls the presence of the file size on an attachment record. This can be seen with read access, but cannot be written to
PR_ADD_PROBLEM.ATTACH_HIST_TIMESTAMP	Controls the presence of a timestamp that shows when an attachment was accessed, This is viewable with the read permission key on the History screen of an attachment
PR_ADD_PROBLEM.ATTACH_LAST_UPDT_COMPANY	Controls the presence of the name of a user's company that accessed an attachment, and viewable with the read permission key on the History screen of an attachment
PR_ADD_PROBLEM.ATTACH_PATH	This controls the presence of the original client attachment path to an attachment file, on an attachment record. This can be seen with read access, but cannot be written to
PR_ADD_PROBLEM.ATTACH_THUMBNAIL	Controls the presence of a thumbnail of an attachment of an image type, when the record that contains the attachment is viewed on the edit screen or on a report containing the ATTACHMENT record
PR_ADD_PROBLEM.ATTACHMENT	This is the controlling key for attachments. Without read and write permission to this key, attachments will not appear on the add issue screen layout. Once this key gives permission to the user role, the remaining attachment keys control the read / write permissions to the individual fields
PR_ADD_PROBLEM.ATTACHMENT_ADD	This controls the Add button on attachments. Write access is needed to control this
PR_ADD_PROBLEM.CATEGORY	Category
PR_ADD_PROBLEM.CC_EMAIL	Controls the presence of the CC Email input box on the add screen. The user role should

have read and write permission to this field to allow the users to input email addresses on this line

PR_ADD_PROBLEM. CC_EMAIL_BUTTON	Controls the presence of a button by the CC Email input box on the add screen. The user role should have read permission to this field to allow the user to pop up a list of users that can be added to the CC Email box
PR_ADD_PROBLEM.COMMENTS	Comments
PR_ADD_PROBLEM.CONTACT	Contact
PR_ADD_PROBLEM.DATE_CREATED	Date Created
PR_ADD_PROBLEM.DESCRPTION	Description
PR_ADD_PROBLEM.EMAIL_CUSTOMER	If the user role has Read permission to this field, the checkbox to allow email to be sent to external users will be visible
PR_ADD_PROBLEM.EMAIL_SWITCH	This key enables or disables the Generate Email checkbox for the user role. If there is no Read access to this key, the Generate Email checkbox is not visible, and its setting is obtained from the value of the behavior setting named GENERATE_EMAIL_BOX.
PR_ADD_PROBLEM.ID	Controls access to the inbuilt field named ID
PR_ADD_PROBLEM.INTEREST_LIST	If the user role has write access to this permission key, they will see a checkbox in the notification area of the add screen and will be able to add themselves to an interest list for the issue they are creating. The user will also be able to add other users to an interest list for the issue via an input box
PR_ADD_PROBLEM.ITEM_ID	Controls access to the inbuilt field named ITEM_ID
PR_ADD_PROBLEM.MAILING_LIST	Controls access to the distribution email list for the issue. When the user has Read access to this permission key, an icon is also available to refresh the list
PR_ADD_PROBLEM.MODULE_ID	Module ID - this is the main key that should be used to control the Module field on a form
PR_ADD_PROBLEM.ORIGINATOR	Originator of the problem
PR_ADD_PROBLEM.OWNER	The owner of the issue
PR_ADD_PROBLEM.PRIORITY	The priority of the issue
PR_ADD_PROBLEM.PRIVACY	The Privacy of the issue
PR_ADD_PROBLEM. PROBLEM_RELEASE_DELETE	This key controls the presence of a check box on a repeating row record, that allows you to delete the current row. Write access is needed to control the checkbox
PR_ADD_PROBLEM.PRODUCT_LINE	Product Line
PR_ADD_PROBLEM.PRODUCT_NAME	Product name
PR_ADD_PROBLEM.PROJECT	Project
PR_ADD_PROBLEM.RELEASE	This is the controlling key for repeating row records. If you have read and write permission to this key, the entire repeating row structure will be available to the user role, and access to the individual fields on the repeating row structure is controlled by the security permission keys for each field
PR_ADD_PROBLEM. RELEASE_ASSIGNED_TO	Release Assigned To
PR_ADD_PROBLEM. RELEASE_DATE_CREATED	Release Date Created
PR_ADD_PROBLEM.RELEASE_FIXED	Release Fixed
PR_ADD_PROBLEM.RELEASE_FOUND	Release Found
PR_ADD_PROBLEM.RELEASE_OWNER	Release Owner
PR_ADD_PROBLEM. RELEASE_PRIORITY	Release Priority
PR_ADD_PROBLEM. RELEASE_PRODUCT	Release Product
PR_ADD_PROBLEM. RELEASE_RESOLUTION	Release Resolution

PR_ADD_PROBLEM. RELEASE_SEVERITY	Release Severity
PR_ADD_PROBLEM.RELEASE_STATUS	Release Status
PR_ADD_PROBLEM. RELEASE_TIMESTAMP	Release Timestamp
PR_ADD_PROBLEM.RESOLUTION	Resolution
PR_ADD_PROBLEM.SEVERITY_LEVEL	Severity Level
PR_ADD_PROBLEM.SHORT_DESCR	Short description or Title of an issue
PR_ADD_PROBLEM. SHOW_PRIVATE_IN_PRIVACY_LIST	When you give a user role write access to this key, they will be able to enter Private issues within the privacy field
PR_ADD_PROBLEM. SHOW_PUBLIC_IN_PRIVACY_LIST	When you give a user role write access to this key, they will be able to enter Public issues within the privacy field
PR_ADD_PROBLEM.STATUS	Status
PR_ADD_PROBLEM.TIMESTAMP	Last date modified
PR_RESOLUTION. ALLOW_EDIT_CLOSED	Access to this key controls whether a user role can edit "closed" issues, as defined by the behavior setting named STATUS_CLOSED_NAME.
PR_RESOLUTION. ALLOW_EDIT_NEXT_PREVIOUS	Access to this key controls whether a user role can move from one issue in a list created from a report, to the next or the previous issue in the report list, reviewing and updating each issue in turn. When this is enabled for a role, there will be two additional buttons on the edit screen of each issue allowing the user to move back and forwards in the list of issues on the current page of the report in which the user first started to edit issues.
PR_RESOLUTION.ALT_ID	Alternate ID
PR_RESOLUTION.AREA	Business Area
PR_RESOLUTION.ASSIGNED_TO	Assigned To
PR_RESOLUTION. ATTACH_CONTENT_TYPE	This controls the presence of the content type on an attachment record. This can be seen with read access, but cannot be written to
PR_RESOLUTION. ATTACH_CREATED_BY_USER	This controls the presence of the user's name who created the attachment. This can be seen with read access, but cannot be written to
PR_RESOLUTION.ATTACH_DATE _CREATED	This controls the presence of the date an attachment was created. This can be seen with read access, but cannot be written to
PR_RESOLUTION. ATTACH_FILE_DESC	This controls the presence of the attachment description, when you are entering the file name to be uploaded to an attachment. Write access is needed to control this
PR_RESOLUTION.ATTACH_FILE_NAME	This controls the presence of the attachment file name on an attachment record. This can be seen with read access, but cannot be written to
PR_RESOLUTION.ATTACH_FILE_SIZE	This controls the presence of the file size on an attachment record. This can be seen with read access, but cannot be written to
PR_RESOLUTION.ATTACH_PATH	This controls the presence of the original client attachment path to an attachment file, on an attachment record. This can be seen with read access, but cannot be written to
PR_RESOLUTION.ATTACHMENT	This is the controlling key for attachments. Without read and write permission to this key, attachments will not appear on the <i>edit</i> issue screen layout. Once this key gives permission to the user role, the remaining attachment keys control the read / write permissions to the individual fields
PR_RESOLUTION.ATTACHMENT_ADD	This controls the Add button on attachments. Write access is needed to control this
PR_RESOLUTION. ATTACHMENT_DELETE	This is to enable and disable the delete attachment button
PR_RESOLUTION.ATTACHMENT_EDIT	Controls whether a user role may edit the attachment description of a previously uploaded attachment. Write permission is needed for this
PR_RESOLUTION.ATTACHMENT_VIEW	Controls whether a user role may view a previously uploaded attachment. Read or write permission is needed for this
PR_RESOLUTION.CATEGORY	Category
PR_RESOLUTION.CC_EMAIL	Controls the presence of the CC Email input box on the <i>edit</i> screen. The user role should

have read and write permission to this field to allow the users to input email addresses on this line

PR_RESOLUTION.CC_EMAIL_BUTTON	Controls the presence of a button by the CC Email input box on the <i>edit</i> screen. The user role should have read permission to this field to allow the user to pop up a list of users that can be added to the CC Email box
PR_RESOLUTION.CLONE	Controls the presence of a Clone button on the <i>edit</i> screen toolbar. The user should have write permission to be able to clone issues
PR_RESOLUTION.COMMENTS	Comments
PR_RESOLUTION.CONTACT	Contact
PR_RESOLUTION.DATE_CREATED	Date Created
PR_RESOLUTION.DELETE_BUTTON	Controls the presence of the Delete button on the <i>edit</i> screen. If a user role has write access to this key they will be able to delete the issue
PR_RESOLUTION.DESCRPTION	Description
PR_RESOLUTION.EDIT_BUTTON	Controls whether a user role has access to an Edit button within reports and email. Write access is needed for this control
PR_RESOLUTION.EDIT_LOGAREA_FIELDS	Controls whether a user role is allowed to edit historic logarea fields such as COMMENTS. Normally only administrators will be given this control, through write access to the key
PR_RESOLUTION.EMAIL_BUTTON	Determines whether a user role has the Email button on the toolbar of the Edit screen
PR_RESOLUTION.EMAIL_CUSTOMER	If the user role has Read permission to this field, the checkbox to allow email to be sent to external users will be visible
PR_RESOLUTION.EMAIL_FILTER_SCREEN	Read permission to this key controls access to the search filter screen for ad hoc email
PR_RESOLUTION.EMAIL_SWITCH	This key enables or disables the Generate Email checkbox for the user role. If there is no Read access to this key, the Generate Email checkbox is not visible, and its setting is obtained from the value of the behavior setting named GENERATE_EMAIL_BOX.
PR_RESOLUTION.HISTORY_BUTTON	Read access to this key gives access to the history (audit trail) of an issue. History buttons can be placed on the <i>edit</i> screen and reports.
PR_RESOLUTION.ID	Controls access to the inbuilt field named ID
PR_RESOLUTION.INTEREST_LIST	If the user role has write access to this permission key, they will see a checkbox in the notification area of the edit screen and will be able to add themselves to an interest list for the issue they are updating. The user will also be able to add other users to an interest list for the issue via an input box
PR_RESOLUTION.ITEM_ID	Controls access to the inbuilt field named ITEM_ID
PR_RESOLUTION.KEYWORD	Determines whether a user role may perform searches by keyword, through the KEYWORD field on a filter layout. Read access is needed
PR_RESOLUTION.LAST_CHANGE_USER	Last user to update an issue
PR_RESOLUTION.MAILING_LIST	Controls access to the distribution email list for the issue. When the user has Read access to this permission key, an icon is also available to refresh the list
PR_RESOLUTION.MASS_UPDATE_ISSUES	Controls access to the Mass Update button on report output. Write permission is needed to perform mass updates. Normally this facility is only given to key personnel
PR_RESOLUTION.MODULE_ID	Module ID - this is the main key that should be used to control the Module field on a form
PR_RESOLUTION.MONTHS_IN_STATUS	Number of months a problem has remained in its current status
PR_RESOLUTION.MONTHS_OPEN	Number of months a problem has been open
PR_RESOLUTION.OWNER	The Owner of an issue
PR_RESOLUTION.PRIORITY	The priority of the issue
PR_RESOLUTION.PRIVACY	The Privacy of the issue
PR_RESOLUTION.PROBLEM_RELEASE_DELETE	This key controls the presence of a check box on a repeating row record, that allows you to delete the current row. Write access is needed to control the checkbox

PR_RESOLUTION.PRODUCT_LINE	Product Line
PR_RESOLUTION.PRODUCT_NAME	Product name
PR_RESOLUTION.PROBLEM. PROBLEM_RELEASE_DELETE	This key controls the presence of a check box on a repeating row record, that allows you to delete the current row. Write access is needed to control the checkbox
PR_RESOLUTION.PROJECT	Project
PR_RESOLUTION. RELATIONSHIP_GROUP	Relationship Groups on Edit Screen
PR_RESOLUTION. RELATIONSHIP_GROUP_ID	Controls visibility of the relationship group ID on the <i>edit</i> screen
PR_RESOLUTION. RELATIONSHIP_GROUP_OWNER	Read access to this key provides the user role with visibility of the owner of relationship groups
PR_RESOLUTION. RELATIONSHIP_GROUP_TITLE	Read access to this key provides the user role with visibility of the title of relationship groups
PR_RESOLUTION. RELATIONSHIP_GROUP_TYPE	Read access to this key provides the user role with visibility of the type of relationship groups
PR_RESOLUTION. RELATIONSHIP_GRP_ADMIN	This permission key controls access to the Manage Relationship Groups button that is placed on the menubar of edit screens. When permission is granted to this key, users can access the management screen for relationship groups directly from the edit screen.
PR_RESOLUTION. RELATIONSHIP_GRP_PARENT_ID	Read access to this key provides visibility to the parent issue of the relationship group
PR_RESOLUTION.RELEASE	This is the controlling key for repeating row records. If you have read and write permission to this key, the entire repeating row structure will be available to the user role, and access to the individual fields on the repeating row structure is controlled by the security permission keys for each field
PR_RESOLUTION. RELEASE_ASSIGNED_TO	Release Assigned To
PR_RESOLUTION. RELEASE_DATE_CREATED	Release Date Created
PR_RESOLUTION.RELEASE_FIXED	Release Fixed
PR_RESOLUTION.RELEASE_FOUND	Release Found
PR_RESOLUTION.RELEASE_OWNER	Release Owner
PR_RESOLUTION.RELEASE_PRIORITY	Release Priority
PR_RESOLUTION.RELEASE_PRODUCT	Release Product
PR_RESOLUTION. RELEASE_RESOLUTION	Release Resolution
PR_RESOLUTION.RELEASE_SEVERITY	Release Severity
PR_RESOLUTION.RELEASE_STATUS	Release Status
PR_RESOLUTION. RELEASE_TIMESTAMP	Release Timestamp
PR_RESOLUTION.RESOLUTION	Resolution
PR_RESOLUTION.RG_EMAIL_BUTTON	Provides access to the email button on the Relationship Group Filter Screen.
PR_RESOLUTION.RG_MERGE_BUTTON	Provides access to the merge button on the Relationship Group Filter Screen
PR_RESOLUTION.RG_SPLIT_BUTTON	Provides access to the split button on the Relationship Group Filter Screen
PR_RESOLUTION. SEARCH_ATTACHMENTS	This key controls the searching of attachments on the query filter screens. When this key has Write access, a checkbox appears underneath the KEYWORD field, giving the ability to search through attachments for the user role
PR_RESOLUTION.SEVERITY_LEVEL	Severity Level
PR_RESOLUTION.SHORT_DESCR	Short description or Title of an issue
PR_RESOLUTION.	When you give a user role write access to this key, they will be able to enter Private

SHOW_PRIVATE_IN_PRIVACY_LIST	issues within the privacy field
PR_RESOLUTION. SHOW_PUBLIC_IN_PRIVACY_LIST	When you give a user role write access to this key, they will be able to enter Public issues within the privacy field
PR_RESOLUTION.START_DATE	This key offers the user role the ability to enter the Created Date as the lower value in a query filter when searching for an issue. Typically used in conjunction with PR_RESOLUTION.STOP_DATE
PR_RESOLUTION.START_UPDATE	This key offers the user role the ability to enter the Last Modified Date as the lower value in a query filter when searching for an issue. Typically used in conjunction with PR_RESOLUTION.STOP_UPDATE. Note that the data dictionary setting " <b>Filter criteria</b> " must be set to <b>Yes</b> for this field to work.
PR_RESOLUTION.STATUS	Status
PR_RESOLUTION.STATUS_HIST	Status History
PR_RESOLUTION.STOP_DATE	This key offers the user role the ability to enter the Created Date as the upper value in a query filter when searching for an issue. Typically used in conjunction with PR_RESOLUTION.START_DATE
PR_RESOLUTION.STOP_UPDATE	This key offers the user role the ability to enter the Last Modified Date as the upper value in a query filter when searching for an issue. Typically used in conjunction with PR_RESOLUTION.START_UPDATE. Note that the data dictionary setting " <b>Filter criteria</b> " must be set to <b>Yes</b> for this field to work.
PR_RESOLUTION.TIMESTAMP	Last date modified
PR_RESOLUTION.VIEW_BUTTON	Controls the visibility of the View button on reports. Read access is required for this
SE_LOGIN_MESSAGE	Provides access to alter the sign on message that appears on all users' Home Pages. Write access is required for this function
SE_PRIVACY_GROUP	Write access allows the creation and management of the list of privacy groups
SE_SECURITY_GROUP	Create and manage the list of user roles with this key. Write access is needed
SE_SECURITY_MODULE	Create and maintain the list of security objects. Normally these are created automatically by ExtraView. Write access is required
SE_SECURITY_PERMISSION	This key controls access to update the security permission keys within the installation. Write access is required. Without access to this key, no security permissions can be altered
SE_SECURITY_USER	Provides access to create and maintain user accounts and user account details. Write access is needed
SR_ALLOW_ADVANCED_QUERIES	When this setting is YES, the user role can create, edit, save, delete and execute reports composed with the Advanced Query option. When this is set to NO, reports composed with Advanced Query may only be run, and only if the user role has permission to the appropriate SR_PUBLIC_COLUMN_REPORT and SR_PERSONAL_COLUMN_REPORT permission keys
SR_ALLOW_EXPANDED_QUERIES	When the user role has read access to this key, the users can switch between condensed and expanded queries. When this key is set to no access, the users will only be able to create queries with the condensed mode and will not be able to switch into the expanded mode
SR_DASHBOARD_ON_HOME_PAGE	Read access provides the user role with access to an executive dashboard report on the home page. Note that this report must be configured in user custom code
SR_KB_ON_HOME_PAGE	Read access provides the user role with access to search the inbuilt Knowledgebase business area from the home page
SR_SET_HOME_PAGE_REPORTS	Read access to this key allows the user to select and set their Home Page reports
SR_PERSONAL_AGING	Read access determines access to save personal aging reports and to place personally created aging report on the user's home page
SR_PERSONAL_CHART	Read access determines access to save personal charts and to place personally created charts on the user's home page
SR_PERSONAL_COLUMN_REPORT	Determines the ability to create and run personal reports. Both Read and Write access can be used to determine the functionality required
SR_PERSONAL_SUMMARY_REPORT	Determines the ability to create and run personal summary reports. Both Read and Write access can be used to determine the functionality required

SR_PUBLIC_AGING	Read access determines access to save public aging reports and to place public aging reports on the user's home page
SR_PUBLIC_CHART	Read access determines access to save public charts and to place public charts on the user's home page
SR_PUBLIC_SUMMARY_REPORT	Determines the ability to create and run public summary reports. Both Read and Write access can be used to determine the functionality required
SR_PERSONAL_LINKED_REPORT	This key controls access to the linked report button on the Search screen
SR_PUBLIC_LINKED_REPORT	Read access determines access to the linked report feature
SR_PUBLIC_COLUMN_REPORT	This key controls access to public reports. Read access gives the ability to run public reports, Write access gives the ability to create public reports
SR_USERROLE_AGING	Read access for this key gives the ability to see and run aging reports created for the current user role. Write access gives the ability to create these aging reports
SR_USERROLE_CHART	Read access for this key gives the ability to see and run charts created for the current user role. Write access gives the ability to create these charts
SR_USERROLE_COLUMN_REPORT	Read access for this key gives the ability to see and run reports created for the current user role. Write access gives the ability to create these reports
SR_USERROLE_SUMMARY_REPORT	Determines the ability to create and run summary reports for the current user role. Both Read and Write access can be used to determine the functionality required

## Language and Locale Codes

The following is a list of language and locales supported by Java, and therefore by ExtraView.

Language	Country	Locale ID
Arabic	Saudi Arabia	ar_SA
Chinese (Simplified)	China	zh_CN
Chinese (Traditional)	Taiwan	zh_TW
Dutch	Netherlands	nl_NL
English	Australia	en_AU
English	Canada	en_CA
English	United Kingdom	en_GB
English	United States	en_US
French	Canada	fr_CA
French	France	fr_FR
German	Germany	de_DE
Hebrew	Israel	iw_IL
Hindi	India	hi_IN
Italian	Italy	it_IT
Japanese	Japan	ja_JP
Korean	South Korea	ko_KR
Portuguese	Brazil	pt_BR
Spanish	Spain	es_ES
Swedish	Sweden	sv_SE
Thai (Western digits)	Thailand	th_TH
Thai (Thai digits)	Thailand	th_TH_TH



The following list is provided, and believed to work, but is not part of the testing done by Sun with their Java releases.

Language	Country	Locale ID
Albanian	Albania	sq_AL
Arabic	Algeria	ar_DZ
Arabic	Bahrain	ar_BH
Arabic	Egypt	ar_EG
Arabic	Iraq	ar_IQ
Arabic	Jordan	ar_JO
Arabic	Kuwait	ar_KW
Arabic	Lebanon	ar_LB
Arabic	Libya	ar_LY
Arabic	Morocco	ar_MA
Arabic	Oman	ar_OM
Arabic	Qatar	ar_QA
Arabic	Sudan	
Arabic	ar_SD	
Arabic	Syria	ar_SY
Arabic	Tunisia	ar_TN
Arabic	United Arab Emirates	ar_AE
Arabic	Yemen	ar_YE
Bulgarian	Bulgaria	bg_BG
Belorussian	Belorussia	be_BY
Catalan	Spain	ca_ES
Chinese	Hong Kong	zh_HK
Croatian	Croatia	hr_HR
Czech	Czech Republic	cs_CZ
Danish	Denmark	da_DK
Dutch	Belgium	nl_BE
English	India	en_IN
English	Ireland	en_IE
English	New Zealand	en_NZ
English	South Africa	en_ZA
Estonian	Estonia	et_EE
Finnish	Finland	fi_FI
French	Belgium	fr_BE
French	Luxembourg	fr_LU
French	Switzerland	fr_CH
German	Austria	de_AT
German	Luxembourg	de_LU
German	Switzerland	de_CH
Greek	Greece	el_GR

Hungarian	Hungary	hu_HU
Icelandic	Iceland	is_IS
Italian	Switzerland	it_CH
Latvian	Latvia	lv_LV
Lithuanian	Lithuania	lt_LT
Macedonian	Macedonia	mk_MK
Norwegian (Bokmål)	Norway	no_NO
Norwegian (Nynorsk)	Norway	no_NO_NY
Polish	Poland	pl_PL
Portuguese	Portugal	pt_PT
Romanian	Romania	ro_RO
Russian	Russia	ru_RU
Serbian (Cyrillic)	Yugoslavia	sr_YU
Serbo-Croatian	Yugoslavia	sh_YU
Slovak	Slovakia	sk_SK
Slovenian	Slovenia	sl_SI
Spanish	Argentina	es_AR
Spanish	Bolivia	es_BO
Spanish	Chile	es_CL
Spanish	Colombia	es_CO
Spanish	Costa Rica	es_CR
Spanish	Dominican Republic	es_DO
Spanish	Ecuador	es_EC
Spanish	El Salvador	es_SV
Spanish	Guatemala	es_GT
Spanish	Honduras	es_HN
Spanish	Mexico	es_MX
Spanish	Nicaragua	es_NI
Spanish	Panama	es_PA
Spanish	Paraguay	es_PY
Spanish	Peru	es_PE
Spanish	Puerto Rico	es_PR
Spanish	Uruguay	es_UY
Spanish	Venezuela	es_VE
Turkish	Turkey	tr_TR
Ukrainian	Ukraine	uk_UA

## Time Zones

Offset to GMT	Time Zone
GMT -12:00	Etc/GMT +12
GMT -11:00	Etc/GMT +11

Offset to GMT	Time Zone
GMT +1:00	Africa/Ceuta
	Africa/Douala

	MIT	Africa/Kinshasa
	Pacific/Apia	Africa/Lagos
	Pacific/Midway	Africa/Libreville
	Pacific/Niue	Africa/Luanda
	Pacific/Pago_Pago	Africa/Malabo
	Pacific/Samoa	Africa/Ndjamena
	US/Samoa	Africa/Niamey
GMT -10:00	America/Adak	Africa/Porto-Novo
	America/Atka	Africa/Tunis
	Etc/GMT+10	Africa/Windhoek
	HST	Arctic/Longyearbyen
	Pacific/Fakaofu	Atlantic/Jan_Mayen
	Pacific/Honolulu	CET
	Pacific/Johnston	ECT
	Pacific/Rarotonga	Etc/GMT-1
	Pacific/Tahiti	Europe/Amsterdam
	SystemV/HST10	Europe/Andorra
	US/Aleutian	Europe/Belgrade
	US/Hawaii	Europe/Berlin
GMT -9:30	Pacific/Marquesas	Europe/Bratislava
	AST	Europe/Brussels
	America/Anchorage	Europe/Budapest
	America/Juneau	Europe/Copenhagen
	America/Nome	Europe/Gibraltar
GMT -9:00	America/Yakutat	Europe/Ljubljana
	Etc/GMT+9	Europe/Luxembourg
	Pacific/Gambier	Europe/Madrid
	SystemV/YST9	Europe/Malta
	SystemV/YST9YDT	Europe/Monaco
	US/Alaska	Europe/Oslo
GMT -8:00	America/Dawson	Europe/Paris
	America/Ensenada	Europe/Prague
	America/Los_Angeles	Europe/Rome
	America/Tijuana	Europe/San_Marino
	America/Vancouver	Europe/Sarajevo
	America/Whitehorse	Europe/Skopje
	Canada/Pacific	Europe/Stockholm
	Canada/Yukon	Europe/Tirane
	Etc/GMT+8	Europe/Vaduz
	Mexico/BajaNorte	Europe/Vatican
	PST	Europe/Vienna

	PST8PDT		Europe/Warsaw
	Pacific/Pitcairn		Europe/Zagreb
	SystemV/PST8		Europe/Zurich
	SystemV/PST8PDT		MET
	US/Pacific		Poland
	US/Pacific-New	GMT +2:00	ART
GMT -7:00	America/Boise		Africa/Blantyre
	America/Cambridge_Bay		Africa/Bujumbura
	America/Chihuahua		Africa/Cairo
	America/Dawson_Creek		Africa/Gaborone
	America/Denver		Africa/Harare
	America/Edmonton		Africa/Johannesburg
	America/Hermosillo		Africa/Kigali
	America/Inuvik		Africa/Lubumbashi
	America/Mazatlan		Africa/Lusaka
	America/Phoenix		Africa/Maputo
	America/Shiprock		Africa/Maseru
	America/Yellowknife		Africa/Mbabane
	Canada/Mountain		Africa/Tripoli
	Etc/GMT+7		Asia/Amman
	MST		Asia/Beirut
	MST7MDT		Asia/Damascus
	Mexico/BajaSur		Asia/Gaza
	Navajo		Asia/Istanbul
	PNT		Asia/Jerusalem
	SystemV/MST7		Asia/Nicosia
	SystemV/MST7MDT		Asia/Tel_Aviv
	US/Arizona		CAT
	US/Mountain		EET
GMT -6:00	America/Belize		Egypt
	America/Cancun		Etc/GMT-2
	America/Chicago		Europe/Athens
	America/Costa_Rica		Europe/Bucharest
	America/El_Salvador		Europe/Chisinau
	America/Guatemala		Europe/Helsinki
	America/Managua		Europe/Istanbul
	America/Menominee		Europe/Kaliningrad
	America/Merida		Europe/Kiev
	America/Mexico_City		Europe/Minsk
	America/Monterrey		Europe/Nicosia
	America/North_Dakota/Center		Europe/Riga
	America/Rainy_River		Europe/Simferopol

America/Rankin_Inlet		Europe/Sofia
America/Regina		Europe/Tallinn
America/Swift_Current		Europe/Tiraspol
America/Tegucigalpa		Europe/Uzhgorod
America/Winnipeg		Europe/Vilnius
CST		Europe/Zaporozhye
CST6CDT		Israel
Canada/Central		Libya
Canada/East-Saskatchewan		Turkey
Canada/Saskatchewan	GMT +3:00	Africa/Addis_Ababa
Chile/EasterIsland		Africa/Asmera
Etc/GMT+6		Africa/Dar_es_Salaam
Pacific/Easter		Africa/Djibouti
Pacific/Galapagos		Africa/Kampala
SystemV/CST6		Africa/Khartoum
Mexico/General		Africa/Mogadishu
SystemV/CST6CDT		Africa/Nairobi
US/Central		Antarctica/Syowa
GMT -5:00		Asia/Aden
America/Bogota		Asia/Baghdad
America/Cayman		Asia/Bahrain
America/Detroit		Asia/Kuwait
America/Eirunepe		Asia/Qatar
America/Fort_Wayne		Asia/Riyadh
America/Grand_Turk		EAT
America/Guayaquil		Etc/GMT-3
America/Havana		Europe/Moscow
America/Indiana/Indianapolis		Indian/Antananarivo
America/Indiana/Knox		Indian/Comoro
America/Indiana/Marengo		Indian/Mayotte
America/Indiana/Vevay		W-SU
America/Indianapolis		Asia/Tehran
America/Iqaluit	GMT +3:30	Iran
America/Jamaica		Asia/Aqtau
America/Kentucky/Louisville	GMT +4:00	Asia/Baku
America/Kentucky/Monticello		Asia/Dubai
America/Knox_IN		Asia/Muscat
America/Lima		Asia/Oral
America/Louisville		Asia/Tbilisi
America/Montreal		Asia/Yerevan
America/Nassau		Etc/GMT-4
America/New_York		

	America/Nipigon		Europe/Samara
	America/Panama		Indian/Mahe
	America/Pangnirtung		Indian/Mauritius
	America/Port-au-Prince		Indian/Reunion
	America/Porto_Acre		NET
	America/Rio_Branco	GMT +4:30	Asia/Kabul
	America/Thunder_Bay	GMT +5:00	Asia/Aqtobe
	Brazil/Acre		Asia/Ashgabat
	Canada/Eastern		Asia/Ashkhabad
	Cuba		Asia/Bishkek
	EST		Asia/Dushanbe
	EST5EDT		Asia/Karachi
	Etc/GMT+5		Asia/Samarkand
	Jamaica		Asia/Tashkent
	SystemV/EST5		Asia/Yekaterinburg
	SystemV/EST5EDT		Etc/GMT-5
	US/East-Indiana		Indian/Kerguelen
	US/Eastern		Indian/Maldives
	US/Indiana-Starke		PLT
	US/Michigan	GMT +5:30	Asia/Calcutta
GMT -4:00	America/Anguilla		IST
	America/Antigua	GMT +6:00	Antarctica/Mawson
	America/Aruba		Antarctica/Vostok
	America/Asuncion		Asia/Almaty
	America/Barbados		Asia/Colombo
	America/Boa_Vista		Asia/Dacca
	America/Caracas		Asia/Dhaka
	America/Cuiaba		Asia/Novosibirsk
	America/Curacao		Asia/Omsk
	America/Dominica		Asia/Qyzylorda
	America/Glace_Bay		Asia/Thimbu
	America/Goose_Bay		Asia/Thimphu
	America/Grenada		BST
	America/Guadeloupe		Etc/GMT-6
	America/Guyana		Indian/Chagos
	America/Halifax	GMT +6:30	Asia/Rangoon
	America/La_Paz		Indian/Cocos
	America/Manaus	GMT +7:00	Antarctica/Davis
	America/Martinique		Asia/Bangkok
	America/Montserrat		Asia/Hovd
	America/Port_of_Spain		Asia/Jakarta
	America/Porto_Velho		

	America/Puerto_Rico		Asia/Krasnoyarsk
	America/Santiago		Asia/Phnom_Penh
	America/Santo_Domingo		Asia/Pontianak
	America/St_Kitts		Asia/Saigon
	America/St_Lucia		Asia/Vientiane
	America/St_Thomas		Etc/GMT-7
	America/St_Vincent		Indian/Christmas
	America/Thule		VST
	America/Tortola	GMT +8:00	Antarctica/Casey
	America/Virgin		Asia/Brunei
	Antarctica/Palmer		Asia/Chongqing
	Atlantic/Bermuda		Asia/Chungking
	Atlantic/Stanley		Asia/Harbin
	Brazil/West		Asia/Hong_Kong
	Canada/Atlantic		Asia/Irkutsk
	Chile/Continental		Asia/Kashgar
	Etc/GMT+4		Asia/Kuala_Lumpur
	PRT		Asia/Kuching
	SystemV/AST4		Asia/Macao
	SystemV/AST4ADT		Asia/Macau
GMT -3:30	America/St_Johns		Asia/Makassar
	CNT		Asia/Manila
	Canada/Newfoundland		Asia/Shanghai
GMT -3:00	AGT		Asia/Singapore
	America/Araguaina		Asia/Taipei
	America/Belem		Asia/Ujung_Pandang
	America/Buenos_Aires		Asia/Ulaanbaatar
	America/Catamarca		Asia/Ulan_Bator
	America/Cayenne		Asia/Urumqi
	America/Cordoba		Australia/Perth
	America/Fortaleza		Australia/West
	America/Godthab		CTT
	America/Jujuy		Etc/GMT-8
	America/Maceio		Hongkong
	America/Mendoza		PRC
	America/Miquelon		Singapore
	America/Montevideo	GMT +9:00	Asia/Choibalsan
	America/Paramaribo		Asia/Dili
	America/Recife		Asia/Jayapura
	America/Rosario		Asia/Pyongyang
	America/Sao_Paulo		Asia/Seoul
			Asia/Tokyo

	Antarctica/Rothera		Asia/Yakutsk
	BET		JST
	Brazil/East		Japan
	Etc/GMT+3		Etc/GMT-9
GMT -2:00	America/Noronha		Pacific/Palau
	Atlantic/South_Georgia		ROK
	Brazil/DeNoronha	GMT +9:30	ACT
	Etc/GMT+2		Australia/Adelaide
GMT -1:00	America/Scoresbysund		Australia/Broken_Hill
	Atlantic/Azores		Australia/Darwin
	Atlantic/Cape_Verde		Australia/North
	Etc/GMT+1		Australia/South
GMT +0:00	Africa/Abidjan		Australia/Yancowinna
	Africa/Accra	GMT +10:00	AET
	Africa/Bamako		Antarctica/DumontDUrville
	Africa/Banjul		Asia/Sakhalin
	Africa/Bissau		Asia/Vladivostok
	Africa/Casablanca		Australia/ACT
	Africa/Conakry		Australia/Brisbane
	Africa/Dakar		Australia/Canberra
	Africa/El_Aaiun		Australia/Hobart
	Africa/Freetown		Australia/Lindeman
	Africa/Lome		Australia/Melbourne
	Africa/Monrovia		Australia/NSW
	Africa/Nouakchott		Australia/Queensland
	Africa/Ouagadougou		Australia/Sydney
	Africa/Sao_Tome		Australia/Tasmania
	Africa/Timbuktu		Australia/Victoria
	America/Danmarkshavn		Etc/GMT-10
	Atlantic/Canary		Pacific/Guam
	Atlantic/Faeroe		Pacific/Port_Moresby
	Atlantic/Madeira		Pacific/Saipan
	Atlantic/Reykjavik		Pacific/Truk
	Atlantic/St_Helena		Pacific/Yap
	Eire	GMT +10:30	Australia/LHI
	Etc/GMT		Australia/Lord_Howe
	Etc/GMT+0	GMT +11:00	Asia/Magadan
	Etc/GMT-0		Etc/GMT-11
	Etc/GMT0		Pacific/Efate
	Etc/Greenwich		Pacific/Guadalcanal
	Etc/UCT		Pacific/Kosrae
	Etc/UTC		



	Etc/Universal		Pacific/Noumea
	Etc/Zulu		Pacific/Ponape
	Europe/Belfast		SST
	Europe/Dublin	GMT +11:30	Pacific/Norfolk
	Europe/Lisbon	GMT +12:00	Antarctica/McMurdo
	Europe/London		Antarctica/South_Pole
	GB		Asia/Anadyr
	GB-Eire		Asia/Kamchatka
	GMT		Etc/GMT-12
	GMT0		Kwajalein
	Greenwich		NST
	Iceland		NZ
	Portugal		Pacific/Auckland
	UCT		Pacific/Fiji
	UTC		Pacific/Funafuti
	Universal		Pacific/Kwajalein
	WET		Pacific/Majuro
	Zulu		Pacific/Nauru
GMT +1:00	Africa/Algiers		Pacific/Tarawa
	Africa/Bangui		Pacific/Wake
	Africa/Brazzaville		Pacific/Wallis

## Character Set Values

The following table represents the ISO Latin 1 Character Entities as defined by the ASCII-ISO 8859-1 standard. Note that not all browsers can display all these characters accurately.

Decimal	Symbol	HTML Code	Decimal	Symbol	HTML Code
32		&#32	144		&144
33	!	&#33	145	'	&145
34	"	&#34	146	'	&146
35	#	&#35	147	"	&147
36	\$	&#36	148	"	&148
37	%	&#37	149	•	&149
38	&	&#38	150	–	&150
39	'	&#39	151	—	&#151
40	(	&#40	152	~	&#152
41	)	&#41	153	™	&#153
42	*	&#42	154	§	&#154
43	+	&#43	155	>	&#155
44	,	&#44	156	œ	&#156
45	-	&#45	157		&#157

46	.	&#46	158	ž	&#158
47	/	&#47	159	ÿ	&#159
48	0	&#48	160		&#160
49	1	&#49	161	ı	&#161
50	2	&#50	162	¢	&#162
51	3	&#51	163	£	&#163
52	4	&#52	164	¤	&#164
53	5	&#53	165	¥	&#165
54	6	&#54	166	¦	&#166
55	7	&#55	167	§	&#167
56	8	&#56	168	¨	&#168
57	9	&#57	169	©	&#169
58	:	&#58	170	ª	&#170
59	;	&#59	171	«	&#171
60	<	&#60	172	¬	&#172
61	=	&#61	173		&#173
62	>	&#62	174	®	&#174
63	?	&#63	175	¯	&#175
64	@	&#64	176	°	&#176
65	A	&#65	177	±	&#177
66	B	&#66	178	²	&#178
67	C	&#67	179	³	&#179
68	D	&#68	180	´	&#180
69	E	&#69	181	µ	&#181
70	F	&#70	182	¶	&#182
71	G	&#71	183	•	&#183
72	H	&#72	184	ˆ	&#184
73	I	&#73	185	ı	&#185
74	J	&#74	186	°	&#186
75	K	&#75	187	»	&#187
76	L	&#76	188	¼	&#188
77	M	&#77	189	½	&#189
78	N	&#78	190	¾	&#190
79	O	&#79	191	¿	&#191
80	P	&#80	192	À	&#192
81	Q	&#81	193	Á	&#193
82	R	&#82	194	Â	&#194
83	S	&#83	195	Ã	&#195
84	T	&#84	196	Ä	&#196
85	U	&#85	197	Å	&#197
86	V	&#86	198	Æ	&#198
87	W	&#87	199	Ç	&#199

88	X	&#88	200	È	&#200
89	Y	&#89	201	É	&#201
90	Z	&#90	202	Ê	&#202
91	[	&#91	203	Ë	&#203
92	\	&#92	204	Ì	&#204
93	]	&#93	205	Í	&#205
94	^	&#94	206	Î	&#206
95	_	&#95	207	Ï	&#207
96	`	&#96	208	Ð	&#208
97	a	&#97	209	Ñ	&#209
98	b	&#98	210	Ò	&#210
99	c	&#99	211	Ó	&#211
100	d	&#100	212	Ô	&#212
101	e	&#101	213	Õ	&#213
102	f	&#102	214	Ö	&#214
103	g	&#103	215	×	&#215
104	h	&#104	216	Ø	&#216
105	i	&#105	217	Ù	&#217
106	j	&#106	218	Ú	&#218
107	k	&#107	219	Û	&#219
108	l	&#108	220	Ü	&#220
109	m	&#109	221	Ý	&#221
110	n	&#110	222	Þ	&#222
111	o	&#111	223	ß	&#223
112	p	&#112	224	à	&#224
113	q	&#113	225	á	&#225
114	r	&#114	226	â	&#226
115	s	&#115	227	ã	&#227
116	t	&#116	228	ä	&#228
117	u	&#117	229	å	&#229
118	v	&#118	230	æ	&#230
119	w	&#119	231	ç	&#231
120	x	&#120	232	è	&#232
121	y	&#121	233	é	&#233
122	z	&#122	234	ê	&#234
123	{	&#123	235	ë	&#235
124		&#124	236	ì	&#236
125	}	&#125	237	í	&#237
126	~	&#126	238	î	&#238
127		&#127	239	ï	&#239
128	€	&#128	240	ð	&#240

129		&#129	241	ñ	&#241
130	,	&#130	242	ò	&#242
131	f	&#131	243	ó	&#243
132	„	&#132	244	ô	&#244
133	...	&#133	245	õ	&#245
134	†	&#134	246	ö	&#246
135	‡	&#135	247	÷	&#247
136	^	&#136	248	ø	&#248
137	‰	&#137	249	ù	&#249
138	Š	&#138	250	ú	&#250
139	<	&#139	251	û	&#251
140	Œ	&#140	252	ü	&#252
141		&#141	253	ý	&#253
142	Ž	&#142	254	þ	&#254
143		&#143			

## The HTML Area Utility

The HTML Area is available to as an editor for HTML, allowing you to create HTML without knowing the HTML code set. It offers many features similar to a word processor, and allows you to switch to directly edit HTML.



















By default, the toolbar for HTML Area fields look like the following screenshot, but your administrator may have configured the buttons in a different way. Note that not all buttons work within all browsers.

The HTML Area utility makes use of scripts that run within the browser and according to the security settings of the browser, the user may need to acknowledge that it is OK to run these scripts.



The use of the buttons is intuitive, but is explained here for fullness. Note that different image styles may appear.

Button	Label	Function
	fontName	Choose from the list of available fonts. This list can be customized by the administrator
	fontSize	Choose from the list of font sizes
	bold	Toggle bold on and off for the selected text
	italic	Toggle italic on and off for the selected text
	underline	Toggle underline on and off for the selected text
	justifyLeft	Left justify the selected text
	justifyCenter	Center the selected text
	justifyRight	Right justify the selected text
	insertOrderedList	Toggle a numbered list on and off
	insertUnorderedList	Toggle a bulleted list on and off
	outdent	Outdent the selected text
	indent	Indent the selected text

	foreColor	Choose the color of the selected text
	backColor	Choose the background color of the selected text
	insertHorizontalRule	Insert a horizontal rule
	insertLink	Create a link for the selected text
	insertImage	Insert a link to an image (note that the image must be available to the server)
	insertTable	Insert a table of a defined size
	switcher	Toggle between the HTML editing mode and the text editing mode
	browser	Preview the content of the editor area in a new browser window
	copy	Copies the text to the clipboard
	paste	Pastes from the clipboard into the current position of the cursor in the window
	cut	Cuts the selected area from the editor window
	maximize	Maximizes the size of the editor window to the full page
	undo	Undo
	redo	Redo
	save	Save the editor content to a file
	selectAll	Selects all the text in the editor
	fetch	Fetches a special character from a popup window
	newPanel	Causes a separator to be drawn in the toolbar

## Configuring the Editor

The toolbar presented to users in the editor is controlled by a behavior setting named EDITOR\_BUTTONS. This setting is found in the **Display** ➤ **Display Settings** administration menu. This is a list of the labels for the buttons, in the order you want them to appear on the toolbar. The default entry is:

```
'fontName', 'fontSize', 'newPanel', 'bold', 'italic', 'underline', 'newPanel', 'foreColor', 'backColor', 'insertLink', 'insertImage',
'insertTable', 'newPanel', 'justifyLeft', 'justifyCenter', 'justifyRight', 'newPanel', 'insertOrderedList', 'insertUnorderedList', 'newPanel',
'copy', 'cut', 'paste', 'newPanel', 'outdent', 'indent', 'newPanel', 'undo', 'redo', 'newPanel', 'switcher'
```

## Editor Limitations

For security reasons, no JavaScript is allowed to be entered by users inside HTMLAREA fields, with the exception of the Sign On message. It is assumed that the administrator is aware of the risks of introducing JavaScript into a page.

The undo and redo buttons will not appear in Internet Explorer and are not supported in this browser, because of a limitation with the browser.

The Apple Safari browser does not support all the editor functions at this time. According to Apple, most of these features will become available when they release WebKit version 420, but at this time the Safari browser is released with WebKit version 419.3. The features that are known not to work are FormatBlock (<h1>, <h2>, <p>, etc.), Edit Font (type, size), Strikethrough, Justify Full, Insert Horizontal Rule, Insert ordered and unordered lists, Insert Link, Image, Unlink, and Remove Formatting.

## Applets and Proxy Servers

If your network utilizes a proxy server, then the Java client software that runs in each user's browser must be configured correctly if you make use of the Java applet to upload files as attachments, document fields and image fields. The behavior setting named UPLOAD\_DISPLAY\_SETTING controls whether or not your users can use the Java applet.

To configure the browser in order that applets can use a proxy server, you access the Java control panel. Within the control panel, access the **Network Settings** and provide the correct proxy server address and port. Remember to restart the browser after saving these settings.

More information can be found at [http://www.java.com/en/download/help/proxy\\_setup.xml](http://www.java.com/en/download/help/proxy_setup.xml).

## Attachment Migration

This appendix describes an ExtraView command-line utility that moves file attachments from internal storage within the database, to the file system.

By default, file attachments uploaded to ExtraView are stored as binary objects in the database. The ExtraView Administrator has the choice to configure the system to store some or all of the uploaded attachments to a file system accessible by the application server.

Within ExtraView, the program keeps track of where all particular attachment are located. Prior to the conversion, all attachments are marked as being stored “internally” – within the database. As part of the migration process, as each individual file is extracted and copied to the final location on the external file system, the system marks that attachment as now being stored “externally”. This allows the migration process to be done as a background task, without impacting the availability of ExtraView or its attachments to the end users.

This provides flexibility – the Administrator can choose to have all files stored internally in the database, all files stored externally in the file system, or have a mixture of some file types stored within the database, and some file types stored on the file system.

### Configuring External Storage

Note: It is strongly recommend that you back up your database prior to performing any of the procedures described below.

To configure attachment storage options, log in to ExtraView with the Administrator role. Click on the **Admin** navigation button, then the **System Controls** tab, then select **All Behavior Settings**, and edit the following settings:

- **ATTACHMENT\_REPOSITORY\_OPT** - This setting controls whether attachments are stored internally within the database, externally on the file system, or in some combination of the two methods.

If the value of this setting is **INTERNAL** (the default value), then all attachments are stored internally within the database. If the value is set to **EXTERNAL**, then all the attachments are stored on the external file system.

Alternatively, you may provide a comma separated list of file extensions and then all files with these extensions are stored in the database while all others are stored externally in the file repository.

For example, if you set the value of this setting to **txt, doc, docx, htm, html** then files of these types will be stored within the database. This strategy leaves the files stored internally in the database as searchable by keywords, while image and video files with extensions such as **jpg** and **mp4** are stored externally.

Regardless of the setting, ExtraView will continue to store dynamically generated thumbnail-sized image files in the database as these are relatively small files and for performance reasons must be more readily available.

- **ATTACHMENT\_REPOSITORY\_ROOT** – This setting defines the location outside the database where attachments will be stored. You must ensure that the path is valid from the application server(s) that are running ExtraView and that you have all the permissions to read and write to the storage. In a clustered or load-balanced environment, you must ensure that all instances of ExtraView can read and write to the same file system using this path.

Please note – if you change this setting, new attachments will be saved to the new location, and existing attachments will still reference the old location. You will need to ensure that the previous file path is still accessible by the ExtraView instance, or these existing attachments will not be available to end users.

Set up a separate backup method for this external storage as backing up your database will no longer backup the file attachments

- **ATTACHMENT\_REPOSITORY\_DMAX** - This setting defines the maximum number of files or directories that will be created under one node of the external directory structure. The default for this value is 999. It is not likely that this value needs to be altered.

### Sizing the file system

You should ensure that there is adequate space for future growth when sizing the file system to be used for storing attachments externally. To do this, have your DBA connect to your ExtraView database using Query Analyzer (MSSQL) or SQL Plus (Oracle) and run the following queries:

```
-- bring back the total size of the attachments stored in the database, in bytes.
select sum(file_size) from attachment;
-- bring back the number of attachments in the database
```

```
select count(*) from attachment;
```

## Migration Utility Options

There are several forms of the `doAttachmentMigration` command. All require one or more parameters passed as part of the `ExtraView` command line utility:

- Move a single attachment by providing a single attachment ID:

```
doAttachmentMigration "-id 10000"
```

- Move a batch of attachments by providing a range of attachment IDs:

```
doAttachmentMigration "-from 10000 -to 50000"
```

- Move attachments according to their content type:

```
doAttachmentMigration "-type content-type ..."
```

The content type may contain valid database wildcard characters. This typically means that a percentage sign (%) will match multiple characters and an underscore (\_) will match a single character. Further, you can specify multiple `-type` parameters in a single command. For example, the following will migrate all the files that contain **binary** and **zip** within their content types:

```
doAttachmentMigration "-type %binary% -type %zip%"
```

- Migrate a list of attachments, from a file containing the list of ID's:

```
doAttachmentMigration "-id_list filename"
```

The *filename* contains a list of the IDs that are to be migrated.

Attachment ID values can be found by having your DBA run the following SQL query against the `ExtraView` database:

```
select min(attachment_id), max(attachment_id) from attachment;
```

Optional parameters can be added inside the double quotes:

`-report <filename>` - Generates a specific location for the report file. By default the report will be dumped into `ExtraView` log file.

`-delete` - If specified, deletes the attachment content blob from the database after migration. We would not generally recommend this if you have a large number of attachments, as it is much more efficient to simply have your DBA truncate the table when you have completed the migration and you have validated your results.

`-testOnly` - This allows a dry run migration of the attachments without any modification to the database or the repository.

`-noValidation` - This prevents the CRC-32 check on the stored migrated attachments, and will be somewhat faster. Use of this parameter is not recommended, because the extra time to validate the file content vis-à-vis the blob content is nominal, and the consequences of storing a blob in the file system incorrectly due to I/O error or network error could include a loss of valuable data. If the CRC-32 validation fails, the attachment is not migrated and an error is posted to the log and/or report file.

## Running the Migration Utility

The migration command line utility is included in the `ExtraView` application package. It requires Java be installed on the application server to run. We provide shell and batch file scripts that you can use to run the utility.

If you have deployed `ExtraView` in a WAR/EAR file, you will need to set up an exploded directory to run this script. The scripts are located in the `evj/WEB-INF/data` folder on your application server.

## Microsoft Windows with Apache Tomcat

Edit the `doAttachmentMigration.bat` file

Locate the lines

```
set JAVA_HOME=%1
set TOMCAT_HOME=%2
set EV_BASE=%3
```

replace %1 with your path to Java, e.g. `D:\ExtraView\javajdk-1.4.2`

replace %2 with your path to Tomcat, e.g. `D:\ExtraView\jakarta-tomcat-5.0.28`

replace %3 with your path to ExtraView, e.g. D:ExtraViewjakarta-tomcat-5.0.28webappsevj

Save and exit the edit session.

Open a Command window in the evjWEB-INF\data folder and type the following command:

```
doAttachmentMigration "parameters"
```

where "parameters" is a double-quote enclosed list of parameters as per the options listed above.

## Linux / Unix with Tomcat

Edit the doAttachmentMigration.sh file

Locate the lines

```
TOMCAT_HOME=/usr/local/extraview/tomcat
JAVA_HOME=/usr/local/extraview/java
```

Set TOMCAT\_HOME and JAVA\_HOME to the correct paths for your installation.

Save and exit the edit session.

At the command prompt, type the following command:

```
sh doAttachmentMigration.sh "parameters"
```

where "parameters" is a double-quote enclosed list of parameters as per the options listed above

## Linux / Unix with Weblogic

Edit the doAttachmentMigrationWeblogic.sh file

Locate the lines

```
JAVA_HOME=/usr/local/extraview/java
WL_HOME=/usr/local/BEA/weblogic81
EV_BASE=/path/to/extraview/application/evj52-x.jar
```

Set JAVA\_HOME, WL\_HOME and EV\_BASE to the correct paths for your installation.

Save and exit the edit session.

At the command prompt, type the following command:

```
sh doAttachmentMigrationWeblogic.sh "parameters"
```

where "parameters" is a double-quote enclosed list of parameters as per the options listed above.

## Validation and Completion

While the migration utility runs, it will print out information to the console. It will also write detailed log entries to a file in the evj/WEB-INF/log folder or to the file defined in the -report parameter option. Once the process has completed, you can check the log file to determine if there were any problems.

If all attachments were migrated, you can verify that the attachments are available to download and view through the ExtraView web interface. Once you are satisfied, you can have your DBA remove the binary attachments from the database.

If you have selected the option to have all attachments stored in the file system, your DBA can simply run the command

```
update attachment set thumbnail_id = null where thumbnail_id is not null;
truncate table attachment_content;
```

Note: this will remove all thumbnails. The thumbnail will be regenerated dynamically the next time the attachment is referenced, e.g., as part of a detailed report.

If you have selected the option of having some types of file stored in the database and some files stored externally, your DBA will need to run some variant of

```
delete from attachment_content
where attachment_id in (
```



```
select attachment_id
from attachment
where STORED_INTERNAL = 'N'
);
```

Note: We strongly recommend that you back up your database prior to performing any of the procedures described above (particularly before deleting any attachments). Please contact [support@extraview.com](mailto:support@extraview.com) if you would like assistance with this step.

## VPAT for ExtraView

ExtraView Corporation is committed to the delivery of software that meets or exceeds the requirements of Section 508.

In January 2009, the Information Technology Industry Council (ITI) asked for the development of a specification that could be used for ITI's Voluntary Product Accessibility Template (VPAT). This VPAT has been embraced by the U.S. General Services Administration as a way to simplify government market research on IT products with accessible features. This page indicates how the VPAT is supported by ExtraView's web-based, end-user application.

The first table of the Template provides a summary view of the section 508 Standards. The subsequent tables provide more detailed views of each subsection. There are three columns in each table. Column one of the Summary Table describes the subsections of subparts B and C of the Standards. The second column describes the supporting features of the product or refers you to the corresponding detailed table, "e.g., equivalent facilitation." The third column contains any additional remarks and explanations regarding ExtraView. In the subsequent tables, the first column contains the lettered paragraphs of the subsections. The second column describes the supporting features of the product with regard to that paragraph. The third column contains any additional remarks and explanations regarding the product.

ExtraView is reliant on the correct functioning and support of an Internet browser. Supported browsers are Microsoft Internet Explorer, Mozilla Firefox, Google Chrome and Apple Safari. If there are exceptions to any of the VPAT criteria within any of these browsers, then ExtraView will only meet the criteria to the extent that the browser meets the criteria. The VPAT for these browsers should be consulted for any and all limitations that may exist.

<i>Summary Table</i>		
<b>VPAT™</b>		
<b>Voluntary Product Accessibility Template®</b>		
<i>Criteria</i>	<b>Supporting Features</b>	<b>Remarks and explanations</b>
Section 1194.21 Software Applications and Operating Systems		
Section 1194.22 Web-based Internet Information and Applications		
Section 1194.23 Telecommunications Products		
Section 1194.24 Video and Multi-media Products		
Section 1194.25 Self-Contained, Closed Products		
Section 1194.26 Desktop and Portable Computers		
Section 1194.31 Functional Performance Criteria		
Section 1194.41 Information, Documentation and Support		

<i>Section 1194.21 Software Applications and Operating Systems – Detail VPAT™ Voluntary Product Accessibility Template®</i>		
<i>Criteria</i>	<b>Supporting Features</b>	<b>Remarks and explanations</b>

(a) When software is designed to run on a system that has a keyboard, product functions shall be executable from a keyboard where the function itself or the result of performing a function can be discerned textually.	Supports with exceptions that may exist within the browser software that is required for ExtraView to function	ExtraView supports all standard keyboard operations of the user interface provided by the browser software that is required to operate ExtraView.
(b) Applications shall not disrupt or disable activated features of other products that are identified as accessibility features, where those features are developed and documented according to industry standards. Applications also shall not disrupt or disable activated features of any operating system that are identified as accessibility features where the application programming interface for those accessibility features has been documented by the manufacturer of the operating system and is available to the product developer.	ExtraView does not interfere with any keyboard accessibility features built into the operating system or the browser that supports ExtraView.	ExtraView does not interfere with Mouse Keys, Sticky Keys, Filter Keys or Toggle Keys
(c) A well-defined on-screen indication of the current focus shall be provided that moves among interactive interface elements as the input focus changes. The focus shall be programmatically exposed so that Assistive Technology can track focus and focus changes.	ExtraView utilizes a visual focus indicator that moves among interactive objects as in the input focus changes is provided. This visual focus indicator is provided by the browser that supports ExtraView and ExtraView is therefore subject to limitations and extensions of any individual browser type.	
(d) Sufficient information about a user interface element including the identity, operation and state of the element shall be available to Assistive Technology. When an image represents a program element, the information conveyed by the image must also be available in text.	ExtraView provides information to the extent that the underlying browser provides this information and is subject to any limitations that may exist in the supported browser required for operation.	ExtraView extends functionality by providing a means to document each element of the user interface into which data is entered and stored with a tooltip. The ExtraView administrator is able to define a context and function sensitive message which appears on the screen and is available to assistive technology.
(e) When bitmap images are used to identify controls, status indicators, or other programmatic elements, the meaning assigned to those images shall be consistent throughout an application's performance.	There is a consistent set of bit map images used throughout the user interface.	There are a number of complete sets of images, or themes, that are selectable by the administrator, to offer the user of ExtraView. All images that are members of a set are consistent throughout the set, in regard to color, style and font.
(f) Textual information shall be provided through operating system functions for displaying text. The minimum information that shall be made available is text content, text input caret location, and text attributes.	Again, ExtraView is compliant with this criteria to the extent that the required browser is compliant.	
(g) Applications shall not override user selected contrast and color selections and other individual display attributes.	Again, ExtraView is compliant with this criteria to the extent that the required browser is compliant. Note that different browsers offer a different level of compliance with this criteria.	In practice this is not a limitation for ExtraView's end users unless an end user's browser has been configured with unusual settings.
(h) When animation is displayed, the information shall be displayable in at least one non-animated presentation mode at the option of the user.	The only place where animation is used is for progress bars for lengthy data import, and mass update operations. In these cases, the progress is indicated with both an animation and with text-based numeric counters that show how far the operation has progressed and how far there is to go to reach completion.	The user interface never relies only on animation for user feedback and always offers text information.
(i) Color coding shall not be used as the only means of conveying information,	Firstly, ExtraView works within any constraints imposed by the supported	Many of the distinguishing elements may be set by the ExtraView administrator, so

indicating an action, prompting a response, or distinguishing a visual element.	browsers. Secondly, ExtraView uses color to differentiate different elements of information on the screens generated to end users. However, this color embellishment is for aesthetics only and does not impart any essential information to the end user. When there is a requirement to distinguish information, ExtraView uses non-color elements such as underlines, bolding and font sizes.	much of the control becomes the responsibility of the administrator to ensure the meeting of the criteria.
(j) When a product permits a user to adjust color and contrast settings, a variety of color selections capable of producing a range of contrast levels shall be provided.	The only area of ExtraView where end users may choose color settings is when preparing charts for viewing. A number of different color preconfigured palettes are available, from high-contrast color to monochrome.	End users may also define their own color palettes for charts, and may choose from any colors that their computer browser and computer operating system will generate.
(k) Software shall not use flashing or blinking text, objects, or other elements having a flash or blink frequency greater than 2 Hz and lower than 55 Hz.	ExtraView does not utilize any flashing or blinking objects.	
(l) When electronic forms are used, the form shall allow people using Assistive Technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.	ExtraView offers highly customizable forms. Indeed this feature is at the core of ExtraView's functionality. Each form can be designed with a variable number of fields, of varying types, and this information is programmable by the ExtraView administrator. ExtraView offers a complete toolbox (the Design Center) with which to create the electronic forms, and it is the administrator's responsibility to ensure that compliance with this criteria is met. For example, every field has the capability of text being available to assistive technology, but it is the administrator's responsibility to compose relevant text for the field.	The text offered to assistive technology is fully customizable by the ExtraView administrator, and each message may be of any length up to 4,000 characters.

*Section 1194.22 Web-based Internet information and applications – Detail*

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<i>Criteria</i>	<b>Supporting Features</b>	<b>Remarks and explanations</b>
(a) A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content).	Non-text elements are implemented in the form of bitmap images. All such images are complemented with a text equivalent which can be interpreted by assistive technology.	It is possible for the ExtraView administrator to implement non-text elements. When they do this, it is their responsibility to provide a text equivalent.
(b) Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.	Not applicable	
(c) Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.	Color is used for aesthetics only and does not impart any essential information.	
(d) Documents shall be organized so they are readable without requiring an associated style sheet.	It is the responsibility of the ExtraView administrator to comply with this criteria when they configure an ExtraView installation. For example, it is possible to implement a field display type known as	It is ExtraView Corporation's recommendation that administrators do not utilize the <i>HTML Area</i> field display type if compliance with Section 508 is required. There are two other field display

	an <i>HTML Area</i> field. In this case, markup information within the field might be inserted by an end user that would not satisfy this criteria.	types that may be used as alternatives.
(e) Redundant text links shall be provided for each active region of a server-side image map.	Not applicable	
(f) Client-side image maps shall be provided instead of server-side image maps except where the regions cannot be defined with an available geometric shape.	Only end user charts which are generated with drilldown links utilize client-side image maps. In all cases the regions are defined within either a rectangular or pie-slice shape.	
(g) Row and column headers shall be identified for data tables.	These are implemented throughout the reporting function and all data tables that present information in the form of results to an end user have the appropriate column and/or row headers.	There are a number of generated data tables that only use column headers and row headers are not applicable in their context.
(h) Markup shall be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers.	Only reports known as Matrix Reports fall within this category, and there are two logical levels of row and column headers. Each of these is supported with markup that indicates to assistive devices what the underlying data means.	
(i) Frames shall be titled with text that facilitates frame identification and navigation	There are two possible frames used through ExtraView, that present information to the end user. In both cases, these are identified with titles	There is a third frame that appears on some screens. This is hidden from the end user and is only used to store transactional data that is invisible to the end user. Purposely, this frame is not titled.
(j) Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.	Not applicable	
(k) A text-only page, with equivalent information or functionality, shall be provided to make a web site comply with the provisions of this part, when compliance cannot be accomplished in any other way. The content of the text-only page shall be updated whenever the primary page changes.	Not applicable	
(l) When pages utilize scripting languages to display content, or to create interface elements, the information provided by the script shall be identified with functional text that can be read by Assistive Technology.	JavaScript is used within various pages to display user alerts. These alerts are text-based and are visible to assistive technology. Ajax techniques are frequently used to retrieve parts of screen forms from the server. When this occurs, the appropriate text information that is required by assistive technology is automatically downloaded to the user's browser.	
( m) When a web page requires that an applet, plug-in or other application be present on the client system to interpret page content, the page must provide a link to a plug-in or applet that complies with §1194.21(a) through (l).	There is a single function within ExtraView (file upload) that utilizes an applet, as opposed to HTML and JavaScript. This applet only contains a single message, supported by alternative text, and is therefore compliant with this criteria.	
(n) When electronic forms are designed to be completed on-line, the form shall allow people using Assistive Technology to access the information, field elements,	ExtraView offers highly customizable forms. Indeed this feature is at the core of ExtraView's functionality. Each form can be designed with a variable number	The text offered to assistive technology is fully customizable by the ExtraView administrator, and each message may be of any length up to 4,000 characters.

and functionality required for completion and submission of the form, including all directions and cues.	of fields, of varying types, and this information is programmable by the ExtraView administrator. ExtraView offers a complete toolbox (the Design Center) with which to create the electronic forms, and it is the administrator's responsibility to ensure that compliance with this criteria is met. For example, every field has the capability of text being available to assistive technology, but it is the administrator's responsibility to compose relevant text for the field.	
(o) A method shall be provided that permits users to skip repetitive navigation links.	Not applicable	

*Section 1194.23 Telecommunications Products – Detail*

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<i>Criteria</i>	<b>Supporting Features</b>	<b>Remarks and explanations</b>
(a) Telecommunications products or systems which provide a function allowing voice communication and which do not themselves provide a TTY functionality shall provide a standard non-acoustic connection point for TTYs. Microphones shall be capable of being turned on and off to allow the user to intermix speech with TTY use.	Not applicable	
(b) Telecommunications products which include voice communication functionality shall support all commonly used cross-manufacturer non-proprietary standard TTY signal protocols.	Not applicable	
(c) Voice mail, auto-attendant, and interactive voice response telecommunications systems shall be usable by TTY users with their TTYs.	Not applicable	
(d) Voice mail, messaging, auto-attendant, and interactive voice response telecommunications systems that require a response from a user within a time interval, shall give an alert when the time interval is about to run out, and shall provide sufficient time for the user to indicate more time is required.	Not applicable	
(e) Where provided, caller identification and similar telecommunications functions shall also be available for users of TTYs, and for users who cannot see displays.	Not applicable	
(f) For transmitted voice signals, telecommunications products shall provide a gain adjustable up to a minimum of 20 dB. For incremental volume control, at least one intermediate step of 12 dB of gain shall be provided.	Not applicable	
(g) If the telecommunications product	Not applicable	

allows a user to adjust the receive volume, a function shall be provided to automatically reset the volume to the default level after every use.		
(h) Where a telecommunications product delivers output by an audio transducer which is normally held up to the ear, a means for effective magnetic wireless coupling to hearing technologies shall be provided.	Not applicable	
(i) Interference to hearing technologies (including hearing aids, cochlear implants, and assistive listening devices) shall be reduced to the lowest possible level that allows a user of hearing technologies to utilize the telecommunications product.	Not applicable	
(j) Products that transmit or conduct information or communication, shall pass through cross-manufacturer, non-proprietary, industry-standard codes, translation protocols, formats or other information necessary to provide the information or communication in a usable format. Technologies which use encoding, signal compression, format transformation, or similar techniques shall not remove information needed for access or shall restore it upon delivery.	Not applicable	
(k)(1) Products which have mechanically operated controls or keys shall comply with the following: Controls and Keys shall be tactilely discernible without activating the controls or keys.	Not applicable	
(k)(2) Products which have mechanically operated controls or keys shall comply with the following: Controls and Keys shall be operable with one hand and shall not require tight grasping, pinching, twisting of the wrist. The force required to activate controls and keys shall be 5 lbs. (22.2N) maximum.	Not applicable	
(k)(3) Products which have mechanically operated controls or keys shall comply with the following: If key repeat is supported, the delay before repeat shall be adjustable to at least 2 seconds. Key repeat rate shall be adjustable to 2 seconds per character.	Not applicable	
(k)(4) Products which have mechanically operated controls or keys shall comply with the following: The status of all locking or toggle controls or keys shall be visually discernible, and discernible either through touch or sound.	Not applicable	

*Section 1194.24 Video and Multi-media Products – Detail*

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<i>Criteria</i>	<b>Supporting Features</b>	<b>Remarks and explanations</b>
(a) All analog television displays 13 inches and larger, and computer equipment that includes analog television receiver or display circuitry, shall be equipped with caption decoder circuitry which appropriately receives, decodes, and displays closed captions from broadcast, cable, videotape, and DVD signals. As soon as practicable, but not later than July 1, 2002, widescreen digital television (DTV) displays measuring at least 7.8 inches vertically, DTV sets with conventional displays measuring at least 13 inches vertically, and stand-alone DTV tuners, whether or not they are marketed with display screens, and computer equipment that includes DTV receiver or display circuitry, shall be equipped with caption decoder circuitry which appropriately receives, decodes, and displays closed captions from broadcast, cable, videotape, and DVD signals.	Not applicable	
(b) Television tuners, including tuner cards for use in computers, shall be equipped with secondary audio program playback circuitry.	Not applicable	
(c) All training and informational video and multimedia productions which support the agency's mission, regardless of format, that contain speech or other audio information necessary for the comprehension of the content, shall be open or closed captioned.	Not applicable	
(d) All training and informational video and multimedia productions which support the agency's mission, regardless of format, that contain visual information necessary for the comprehension of the content, shall be audio described.	Not applicable	
(e) Display or presentation of alternate text presentation or audio descriptions shall be user-selectable unless permanent.	Not applicable	

*Section 1194.25 Self-Contained, Closed Products – Detail*

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<i>Criteria</i>	<b>Supporting Features</b>	<b>Remarks and explanations</b>
(a) Self contained products shall be usable by people with disabilities without requiring an end-user to attach Assistive Technology to the product. Personal headsets for private listening are not Assistive Technology.	Not applicable	

(b) When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.	Not applicable	
(c) Where a product utilizes touchscreens or contact-sensitive controls, an input method shall be provided that complies with §1194.23 (k) (1) through (4).	Not applicable	
(d) When biometric forms of user identification or control are used, an alternative form of identification or activation, which does not require the user to possess particular biological characteristics, shall also be provided.	Not applicable	
(e) When products provide auditory output, the audio signal shall be provided at a standard signal level through an industry standard connector that will allow for private listening. The product must provide the ability to interrupt, pause, and restart the audio at anytime.	Not applicable	
(f) When products deliver voice output in a public area, incremental volume control shall be provided with output amplification up to a level of at least 65 dB. Where the ambient noise level of the environment is above 45 dB, a volume gain of at least 20 dB above the ambient level shall be user selectable. A function shall be provided to automatically reset the volume to the default level after every use.	Not applicable	
(g) Color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.	Not applicable	
(h) When a product permits a user to adjust color and contrast settings, a range of color selections capable of producing a variety of contrast levels shall be provided.	Not applicable	
(i) Products shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.	Not applicable	
(j) (1) Products which are freestanding, non-portable, and intended to be used in one location and which have operable controls shall comply with the following: The position of any operable control shall be determined with respect to a vertical plane, which is 48 inches in length, centered on the operable control, and at the maximum protrusion of the product within the 48 inch length on products which are freestanding, non-portable, and intended to be used in one location and which have operable controls.	Not applicable	
(j)(2) Products which are freestanding, non-portable, and intended to be used in one location and which have operable controls shall comply with the following:	Not applicable	



Where any operable control is 10 inches or less behind the reference plane, the height shall be 54 inches maximum and 15 inches minimum above the floor.		
(j)(3) Products which are freestanding, non-portable, and intended to be used in one location and which have operable controls shall comply with the following: Where any operable control is more than 10 inches and not more than 24 inches behind the reference plane, the height shall be 46 inches maximum and 15 inches minimum above the floor.	Not applicable	
(j)(4) Products which are freestanding, non-portable, and intended to be used in one location and which have operable controls shall comply with the following: Operable controls shall not be more than 24 inches behind the reference plane.	Not applicable	

*Section 1194.26 Desktop and Portable Computers – Detail*

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<i>Criteria</i>	<b>Supporting Features</b>	<b>Remarks and explanations</b>
(a) All mechanically operated controls and keys shall comply with §1194.23 (k) (1) through (4).	Not applicable	
(b) If a product utilizes touchscreens or touch-operated controls, an input method shall be provided that complies with §1194.23 (k) (1) through (4).	Not applicable	
(c) When biometric forms of user identification or control are used, an alternative form of identification or activation, which does not require the user to possess particular biological characteristics, shall also be provided.	Not applicable	
(d) Where provided, at least one of each type of expansion slots, ports and connectors shall comply with publicly available industry standards	Not applicable	

*Section 1194.31 Functional Performance Criteria – Detail*

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<i>Criteria</i>	<b>Supporting Features</b>	<b>Remarks and explanations</b>
(a) At least one mode of operation and information retrieval that does not require user vision shall be provided, or support	Assistive Technology supports this criteria.	Note that each user has the ability to alter the text size of all information presented to them when using ExtraView.

for Assistive Technology used by people who are blind or visually impaired shall be provided.		This setting allows visually impaired users to better use ExtraView, without the limitations that are often inherent when using browser settings alone.
(b) At least one mode of operation and information retrieval that does not require visual acuity greater than 20/70 shall be provided in audio and enlarged print output working together or independently, or support for Assistive Technology used by people who are visually impaired shall be provided.	Both modes are provided within ExtraView.	
(c) At least one mode of operation and information retrieval that does not require user hearing shall be provided, or support for Assistive Technology used by people who are deaf or hard of hearing shall be provided	Not applicable	
(d) Where audio information is important for the use of a product, at least one mode of operation and information retrieval shall be provided in an enhanced auditory fashion, or support for assistive hearing devices shall be provided.	Not applicable	
(e) At least one mode of operation and information retrieval that does not require user speech shall be provided, or support for Assistive Technology used by people with disabilities shall be provided.	Not applicable	
(f) At least one mode of operation and information retrieval that does not require fine motor control or simultaneous actions and that is operable with limited reach and strength shall be provided.	Not applicable	

*Section 1194.41 Information, Documentation and Support – Detail*

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**Voluntary Product Accessibility Template®**

<i>Criteria</i>	<b>Supporting Features</b>	<b>Remarks and explanations</b>
(a) Product support documentation provided to end-users shall be made available in alternate formats upon request, at no additional charge	Product support documentation is provided as standard and at no charge to all end users in an online format, accessed through a standard web browser, where Assistive Technology may be utilized. The documentation may also be downloaded by any end user in the Adobe PDF format. Other formats may be obtained by copying the text of the product documentation into a word processor or text editor for reading or conversion into alternate formats.	
(b) End-users shall have access to a description of the accessibility and compatibility features of products in alternate formats or alternate methods upon request, at no additional charge.	This VPAT is available online as part of the product documentation. In addition the product documentation refers to many parts of this VPAT to highlight specific criteria.	
(c) Support services for products shall accommodate the communication needs	Support services for the product are available in many forms, telephone,	

of end-users with disabilities.

email, fax and writing are the common forms of accessing the support services.