Administrative User's Guide

XFRACAS

Version 2020

ReliaSoft

XFRACAS 2020 Administrative User's Guide

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ReliaSoft XFRACAS by HBM Prenscia is a highly configurable, web-based Failure Reporting, Analysis and Corrective Action System (FRACAS). Depending on how your implementation is configured, this can include incident/failure reporting, failure analysis on returned parts, part tracking for serialized systems, root cause analysis, team-based problem resolution and tracking the completion of assigned actions.

Since XFRACAS is highly configurable, the specific features, field names and behavior will depend on the settings for your implementation.

This guide covers features that are available only to users with administrative permissions, to help you configure XFRACAS to meet your organization's specific needs. You may also need to consult the following resources:

- User Guide- covers features that may be available to all XFRACAS users.
- Implementation Guide (*.pdf) - guidance for an IT admin to prepare the database and web server(s) and install the website, and for an application admin to complete the initial configuration.

XFRACAS can also be integrated with other ReliaSoft applications. This provides intelligent integration between reliability program activities and tools while simultaneously facilitating effective information sharing and cooperation between engineering teams of any size. Other ReliaSoft software by HBM Prenscia includes Weibull++, BlockSim, Lambda Predict, XFMEA, RCM++, RBI, MPC, and SEP.

Tip: Click the **Print** icon, , to save any help topic as a PDF or to print it to a device from your browser.

Technical Support

The configurable settings for your XFRACAS implementation will be set and maintained by user(s) with administrative permissions. If you have questions about these settings, see the About page in XFRACAS for the name and e-mail address for the primary admin contact for your implementation.

For organizations with an active maintenance agreement, we provide technical support for software-related issues via a network of regional offices and partners/distributors throughout the world. To get contact details for technical support worldwide, visit http://www.reliasoft.com/about/contact-us.

WHEN REQUESTING TECH SUPPORT

When you contact us to request technical support, please be prepared to provide the following information:

- Your phone number and e-mail address.
- The build version of your implementation (displayed on the About page).
- The name and version of your web browser.
- What you were doing when the problem occurred and exactly what happened. Please include the specific wording of any message(s) that appeared.

Note: Technical support representatives are not reliability consultants. Their assistance is limited to technical issues that you may encounter with the software tools.

Administrative Ribbon Tabs

System Tab

In the navigation ribbon, the System tab will be visible if you have either of the following permissions: Manage Serialized Systems or Manage Template Systems.

SYSTEM

Template opens the Template page, which allows you to view and manage generic system configurations.

Serialized opens the Serialized page, which allows you to view and manage the specific parts in a particular piece of equipment.

TEMPLATE

Create Template allows you to create a new system template.

Find Template allows you to search for an existing system template by template part name or template part number.

XFMEA Import allows you to import system hierarchy data from XFMEA, RCM++ or RBI into XFRACAS. This command appears only if the current database has associated tables that you have permission to access and at least one project with a system hierarchy. (See Import or Sync from XFMEA.)

SERIALIZED

Create System allows you to create a serialized system based on an existing system template.

Find System allows you to search for an existing serialized system.

PART

Template Commands

When you are working with a template, the following commands will appear:

Create allows you to create a new system part under the part currently selected in the system configuration.

Edit allows you to edit the information for the part currently selected in the system configuration.

Delete removes the currently selected part from the system configuration or retires it if it is used in records within the system.

Associate allows you to select one or more existing template parts to associate below the part currently selected in the system configuration.

Disassociate removes the currently selected part from the system configuration and makes it a top-level part.

Assign Owner allows you to specify the owner who is responsible for the selected part.

Remove Owner removes the owner from the selected part and clears the e-mail notification list for the part. This command is available only for parts with owners.

CC List allows you to specify additional users to be included in the e-mail notification list for the selected part. This command is available only for parts with owners.

Sync with XFMEA synchronizes the data in XFRACAS to reflect changes made within XFMEA, RCM++ or RBI after a part has been imported. This command is available only when you are working with a part that was imported from a desktop application.

Remove XFMEA Association removes the association of the part with XFMEA. This command is available only when you are working with a part that was imported from a desktop application.

Export exports the currently selected part and any children to a new *.xml file. Depending upon your permissions, this command may have a drop-down list of options. In this case, choose **Part** to export the currently selected part and any children to a new *.xml file, or choose **Master BOM** to export the entire system configuration that the currently selected part belongs to, including all details associated with all parts.

Serialized System Commands

When you are working with a serialized system, the following commands will appear:

Create Serialized allows you to create a new serialized part under the part currently selected in the system configuration.

Edit Serialized allows you to edit the information for the serialized part currently selected in the system configuration.

Delete Serialized removes the currently selected serialized part from the system configuration or retires it if it is used in records within the system.

Add Non-Serialized allows you to select one or more existing non-serialized parts to associate below the part currently selected in the system configuration.

Add Existing Serialized allows you to select an existing serialized part to associate below the part currently selected in the system configuration.

Disassociate removes the currently selected part from the serialized system configuration and makes it a top-level part.

Export exports the currently selected part and any children to a new *.xml file. (See Exporting to XML.)

Admin Tab

In the navigation ribbon, the Admin tab will be visible if you have the following permission: Access Admin Tab.

The available commands will depend on your permissions for individual features.

CONFIGURE

Security

Users opens the Users page, which allows you to add contact and permissions information for authorized XFRACAS users and edit the properties of existing user accounts.

Security Groups opens the Security Groups page, which allows you to create and edit groups of users who have the same categories and permissions.

User Groups opens the User Groups page, which allows you to create and manage predefined groups of users that can quickly be added to the team for an incident, problem or project.

Applicants opens the Applicants page, which allows you to add users who have requested access to XFRACAS and to set their permissions.

Active Directory opens the Active Directory page, which allows you to add users from Microsoft Active Directory.

Manage

Contacts opens the Contacts page, which allows you to view and maintain contacts.

Companies opens the Companies page, which allows you to view and maintain companies.

Locations opens the Locations page, which allows you to view and maintain locations.

Preferences opens the Preferences page, which allows you to maintain the preferences that control various aspects of XFRACAS.

Details opens the Details page, which allows you to manage some of the fields that appear in various record types.

Lists opens the Lists page, which allows you to maintain lists of available values for user interface fields that require selection from specified values.

User Categories opens the User Categories page, which allows you to maintain the categories that users can be assigned to. These categories can be used to filter drop-down lists of users (e.g., when assigning users to failure review boards).

Action Management opens the Action Management page, which allows you to maintain the action type categories that users can select from when they create actions.

Criticality opens the Criticality page, which allows you to maintain the criticality fields that may appear in the Incident and Problem pages.

TOOLS

Diagnostics opens the Diagnostics page, which provides an error log for the current entity.

Resource Editor opens the Resource Editor page, which allows you to manage the text that appears in the XFRACAS interface.

Entities opens the Entities page, which allows you to manage the entities that exist in XFRACAS.

Import opens the Data Import page, which allows you to manage the process of importing data from other sources via *.xml files.

Report Viewer opens the Report Viewer page, which allows you to control the display of the standard reports, chart reports, custom reports and administrator reports.

USERS/USER GROUPS

When you are creating a new user or user group, the following commands will appear:

Create saves the user/group once you have entered all required information.

Delete deletes the applicant from the request list. This command is available only when working on the Applicants page. ***There is no undo for delete.***

When you are working with an existing record, the following commands will appear:

Save saves the current user/group. This command is available on the Users page and the User Groups page.

New clears the user/group information from the interface so that you can create a new one. The existing user/group is unaffected. This command is available on the Users page and the User Groups page.

Duplicate duplicates the current user so that you can easily create a new user who has similar properties. This command is available only on the Users page.

Export exports the current user to a new *.xml file. This command is available only on the Users page. If you want to export multiple users simultaneously, use the **Admin > Import > Export** command on the Data Import page**.**

Delete deletes the current user/group. This command is available on the Users page and the User Groups page. ***There is no undo for delete.***

CONTACTS/COMPANIES/LOCATIONS

When you are creating a new contact, company or location, the following command will appear:

Create saves the new record once you have entered all required information.

When you are working with an existing record, the following commands will appear:

Save saves the current record.

New clears the current record information from the interface so that you can create a new one. The existing record is unaffected.

Export exports the current record to a new *.xml file. Alternatively, if you want to export multiple records simultaneously, use the **Admin > Import > Export** command on the Data Import page**.**

Delete deletes the current record. ***There is no undo for delete.***

PREFERENCES

Save saves your changes to the preferences.

DIAGNOSTICS

Excel exports the Diagnostic error log to a new *.xlsx file.

Delete removes the currently selected error(s) from the Diagnostic error log. ***There is no undo for delete.***

RESOURCE EDITOR

Find allows you to search for the resources in the current entity that you want to work with in the Resource Editor.

Replace allows you to replace all occurrences of a text string in the current entity with new text.

Update Script opens the Update Script utility, which allows you to specify a range of changes that you have made in the current database and implement those changes in another database.

Default All returns all resources in the current entity to the default text.

ENTITIES

Edit opens the Entity utility, which allows you to edit the entity that is currently selected in the Entities page.

Create opens the Entity utility, which allows you to add a new entity to the XFRACAS database.

IMPORT

Add opens the Add Import File utility, which allows you to specify an *.xml file to import into XFRACAS.

Process causes scheduled imports to be processed immediately, rather than waiting for a scheduled import. This command will appear only if you have certain permissions.

Export allows you to specify one or more records to export to an *.xml file.

REPORT VIEWER

Save saves your changes in the Report Viewer page.

Managing Users

The Users page allows you to manage accounts for XFRACAS users. To access this page, you'll need the "Access Admin Tab and Manage Users" permission. To open it, choose **Admin > Configure > Security > Users**.

Entities and Users

If your implementation has more than one entity, the login and contact details will be the same for all entities that are assigned to the user (System Wide Information); however, the user's permissions and other information will be managed separately for each entity (User Account Settings).

The drop-down list at the top of the page determines which entity-specific information is currently displayed.

User/License Counts

The following information is displayed in the summary area of the Users page:

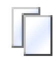
- **Current Entity Users** - number of user accounts assigned to the current entity
- **Current System Users** and **Remaining User Licenses** - number of user accounts across all entities and the number of additional user accounts allowed by your license
- **Current Entities** and **Remaining Entity Licenses** - number of entities and the number of additional entities allowed by your license
- **Days Remaining** - number of days until the license expires

Creating a New Account

To create a new account, the **Select Name to Edit** list must be blank. You can simply enter information into the required fields and choose **Admin > Users > Create**.

To clear an existing user's account information before creating a new one, choose **Admin > Users > New**.

To start with the settings from an existing account, select it from the list and then choose **Admin > Users > Duplicate**.



Editing a User Account

To edit an existing user account, choose the user name from the **Select Name to Edit** list. Make the desired changes and then choose **Admin > Users > Save**.

Remember that a user can have different permissions in each entity. If you change the permission for one entity, it will not change the permissions in the other entities that the user is assigned to.

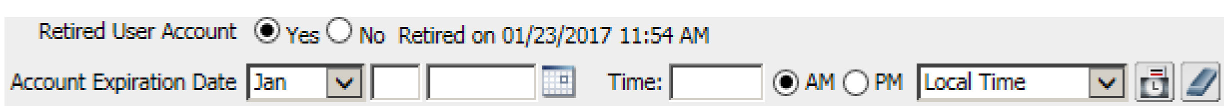
Deleting a User Account

To delete an existing user account, choose the user name from the **Select Name to Edit** list and then choose **Admin > Users > Delete**.

You can delete a user account only if no records are associated with the account. If the user account is listed as an owner, author, team member or reviewer for any record or status, choosing **Delete** will instead retire the user account.

Retiring a User Account

A user can be retired from a particular entity or from the entire XFRACAS website. In both cases, you can configure the account to be retired automatically on a certain date and time, or you can manually retire the account.



- To retire an account from the website (all entities), use the options in the **System Wide Information** area.
- To retire an account from a particular entity, make sure the appropriate entity is selected and then use the options in the entity-specific area.

System Wide Information

The System Wide Information section of the Users page (**Admin > Configure > Security > Users**) allows you to manage permissions that are common to all entities that the user can access.

- For name and address, only the **First Name** and **Last Name** are required.
- The **Time Zone** is the offset from Coordinated Universal Time (formerly known as Greenwich Mean Time) that is appropriate for this user. The default setting is specified on the Preferences page ("Default GMT Offset for New Users").

> ***Tip:*** If you choose the **Local Time** option, XFRACAS will detect the current time zone offset on the client device and apply that (including the effect of daylight savings time). If you select a specific time zone, daylight savings will not be considered and you must change the setting twice a year.

- **Language** sets the user's preferred language for interface text. If this field is blank, the user will see the interface text in the default language for the entity, which is specified on the Preferences page ("XFRACAS - Language").
- **E-mail Address** is required. The following preferences can be configured on the Preferences page to autopopulate the address based on first and last name (e.g., firstname.lastname@email_suffix.com).
  - Under Boolean Preferences: "Manage User - E-mail/Login Auto Build"
  - Under E-mail Preferences: "Manage User - E-mail Suffix Used for Auto Build"
- **Login** is required. If you are using Active Directory or Windows Authentication, this is typically in the format of "domain\username." If you are using SSO for authentication, it would be the SSO ID passed to the application. If you are unsure what to use, ask the user to try accessing the website. If the account is not recognized, the login that you need to use will be displayed in single quotes in the Unknown User page.

> **Note**: If the "Manage User - E-mail/Login Auto Build" preference is enabled, the website will automatically start building the login based on the user's first and last names. You can edit or replace the text that's automatically populated or change the preference at any time.

- The **Retired User Account** and **Account Expiration Date** options in this area will retire the account for all entities and the user will have no access to the website. Alternatively, if you want to retire the account only for the current entity, use the options in the entity-specific area.
- The **Default Entity** is the entity that will be selected by default when the user visits the site. This field is not displayed until the user's account is created.
- **Entities** allows you to assign or remove the user's access to the entities for which you have the "Manage Users" permission. Click the link to change the assignments. Note that:
    - This utility only shows entities for which you have permission to manage users. If the user has access to other entities, they will be visible in the default entity list.
    - You will not be able to remove access for the user's default entity, which is displayed in square brackets.
    - If you remove access to an entity, all entity-specific information will be deleted. If you later add the entity back to the user's account, you will need to re-assign groups, categories and permissions.

Entity-specific User Permissions

USER SETTINGS

The entity information section of the Users page (**Admin > Configure > Security > Users**) allows you to manage settings and permissions that apply only to the entity that is currently selected.

- The **Retired User Account** and **Account Expiration Date** options in this area will retire the account only for the entity that is currently selected. Alternatively, to retire the account for the entire website, use the options in the system-wide area.
- **Security Groups** are the security group(s) that the user has been assigned to for the current entity. Each security group has certain permissions associated that are managed on the Security Groups page.

Permissions

- **Permissions by Record Type** - user permissions for incidents, problems, projects, CSI records, failure analyses and actions
- **Administrative Permissions** - permissions that allow the user to access or manage various features, functions and tools within XFRACAS
- **Other Permissions** - permissions related to details, reports and charts, dashboards, the text search utility, the portal, ribbon and data syncing and export functions.

Assigned Categories, Parts and Open Items

- **Categories** - specify which categories, if any, the user belongs to. The available categories for each entity are managed on the User Categories page.
- **Responsible Parts** - shows parts that the user has been assigned as the owner. When a user account is retired, all parts that the user is responsible for should be reassigned.

   **Reassign Owner for Selected Parts** allows you to assign a different owner for the part(s) that are currently selected.

   **Remove Owner for Selected Parts** removes the current user's ownership of the part(s). This will also clear the e-mail CC list.

- **Responsible Open Items** - displays a count of all open incidents, problems and actions that have been assigned to the current user.
  - Clicking each count opens a report that lists all records of that type. When a user is retired, all items that the user is responsible for should be reassigned.
  - **Reassign Owner for Open Items** allows you to assign a different owner for all records of a particular type.

PERMISSIONS BY RECORD TYPE

Incidents

Creating, Closing and Deleting Records

Incident - Create Incident Reports - The user can create incidents. If set to No, the **Incident** button will not appear in the ribbon for that user.

Incident - Close Incidents - The user can close incidents that they can edit.

Warning - Allow Incident Delete - The user can delete incidents. Take care when giving these permissions; ***there is no undo for delete***. We recommend granting these permissions only when users need to delete a record and then setting this to No after that is done.

Editing and Reopening Records

Note: The "Incident - Disable Edit of Closed Incidents" Boolean preference determines whether closed records will be editable or read-only.

Incident - Edit All Incidents - The user can edit all incidents and their associated actions. They can also reopen all closed incidents.

Incident - Edit All Open Incidents - The user can edit all open incidents and any open associated actions.

Incident - Team Edit - If the user belongs to the team, they can edit open incidents.

Incident - Open a Closed Incident - Determines whether a user who does not have the "Incident - Edit All Incidents" permission can reopen a closed incident. The behavior of this permission depends on the setting for the "Incident - Disable Edit of Closed Incidents" Boolean preference:

- If the preference is True, users who have the "Incident - Open a Closed Incident" permission can reopen a closed incident if they also have the "Incident - Edit All Open Incidents" permission or if they are also an incident owner, incident creator or team member with the "Incident - Team Edit" permission.
- If the preference is False, the "Incident - Open a Closed Incident" permission has no effect. The user can reopen a closed incident if they are an incident owner, an incident creator or a team member with the "Incident - Team Edit" permission.

Field-level Permissions

Incident - Change Responsible Part - The user can edit the responsible part after the record has been created.

Incident - Change Owner - The user can change the field that identifies the incident owner.

Incident/Problem - Change Creator Name - The user can change the fields that identify the incident or problem creator.

Incident - Duplicate Repair/Replace Row - The user can duplicate line items in the Repaired/Replaced Parts table on the Incident page.

Incident/Problem - Allows Incident/Problem Association - The user can associate incidents with problems or problems with incidents.

Warning - Allow Repaired/Replaced Part Row Delete - The user can delete rows in the Repaired/Replaced Parts table. Take care when giving these permissions; ***there is no undo for delete***. We recommend granting these permissions only when users need to delete a record and then setting this back to No after that is done.

Note: For serialized incidents, deleting a row removes the replacement part from the system configuration and restores the original part, unless the replacement part is from a different serialized system. In this case, the part will be removed from the system where it was replaced but not restored on the system that it came from.

These permissions apply to serialized incidents only:

- **Incident - Override Automatic Warranty Determination** - This permission applies to serialized incidents that are associated with a CSI record, assuming the display preference (**CSI - Display Warranty Section**) is enabled. If set to Yes, the user can change the “Under Warranty” determination (**Yes** or **No**) that is assigned automatically when the incident is created based on criteria established for the CSI record (see Integer Preferences).

- **Incident - Update Location Information** - The user can change the "Unit Location" that is automatically assigned based on the associated CSI record.

- **Incident - Allow Serialized System Modifications** - This permission applies when using the Repair or Replace Parts utility. For more information, see Repair or Replace Parts Utility in the user help.

    - If set to Yes, the user can specify a replacement part from a source other than the current template. This modifies the current template (along with its serialized system) but does not change any other serialized systems that are based on this template. Once the part has been added, it will be available for use in any other systems that are based on the current template.

    - If set to No, the user can only save the new part if it already exists in the template that the serialized system is based on.

These permissions apply to serialized and part incidents:

- **Incident - Edit Serialized Part Information** - The user can specify serial / part numbers during incident creation.
  - Setting this permission to No disables those fields and allows the user to create the incident without this information.
  - Serial / part numbers can be selected later by a user who has this permission; the fields remain editable until the record is saved with part / serial numbers.
- **Incident - Edit System Hours** - The user can edit time/usage metrics after the record has been created.
  - This permission only applies if the time/usage metrics are not auto-calculated or auto-populated (the **Incident - Always Auto-calculate Time Metric [X]** and **Incident - Auto-populate Time Metric 1** preferences are set to False).
  - If the **Incident - Edit Serialized Part Information** permission is disabled, the user will not be able to save time/usage metrics even upon incident creation.

Problems

Creating, Closing and Deleting Records

Problem - Create Problems - The user can create problems. If set to No, the **Problem** icon will not appear in the ribbon for that user.

Problem - Close Problem - The user can close a problem if they can edit the record.

Warning - Allow Problem Delete - The user can delete problems. Take care when giving these permissions; ***there is no undo for delete***. We recommend granting these permissions only when users need to delete a record and then changing them back to No after that is done.

Editing and Reopening Records

Once a problem is closed, the record becomes read-only and cannot be edited until it is reopened (using the **Reopen** button) by a user who has the required permissions.

Problem - Edit All Problems - The user can edit open problems and associated actions. In addition, they can reopen closed records without having the "Problem - Open a Closed Problem" permission.

Problem - Edit All Open Problems - The user can edit open problems and associated open actions, but they will require the "Problem - Open a Closed Problem" permission to reopen records that are closed.

Problem - Team Edit - If the user belongs to the team, they can edit open problems and associated open actions, but they will require the "Problem - Open a Closed Problem" permission to reopen records that are closed.

Problem - Open a Closed Problem - The user can reopen a closed problem that they have permission to edit.

Field-level Permissions

Incident/Problem - Change Creator Name - The user can change the fields that identify the incident or problem creator.

Problem - Change Problem Owner and Priority - The user can set the owner and priority when creating a new problem and change the owner and priority for an existing one. If set to No, the user can still specify the problem's priority when creating a new record, but they can't change it for an existing one.

Incident/Problem - Allows Incident/Problem Association - The user can associate incidents with problems or problems with incidents.

Problem - Edit FRB List - The user can edit the FRB lists for problems. The problem owner can always change the FRB lists, even if this permission is No.

Projects

Project - Create Projects - The user can create projects. If set to No, the **Project** icon will not appear in the ribbon for that user.

Project - Edit All Projects - The user can edit all open projects and associated actions, but they will require the "Project - Open a Closed Project" permission to reopen closed records.

Project - Team Edit - If the user belongs to the team, they can edit open projects and associated actions, but they will require the will require the "Project - Open a Closed Project" permission to reopen closed records.

Project - Open a Closed Project - The user can reopen a closed project that they have permission to edit. If set to Yes, the **Reopen** button will be available.

Warning - Allow Project Delete - The user can delete projects. Take care when giving these permissions; ***there is no undo for delete***. We recommend granting these permissions only when users need to delete a record and then changing them back to No after that is done.

Project - Change Creator Name: The user can change the name of the project creator.

Customer Support (CSI) Records

CSI - Create CSIs - The user can create CSI records if they also have the **CSI - View Customer Support** permission. If set to No, the **Customer Support** icon will not appear in the ribbon for that user.

CSI - Update/Edit Customer Support - The user can edit all customer support records and associated actions if they also have the **CSI - View Customer Support** permission.

CSI - View Customer Support - The user can view Customer Support pages.

Warning - Allow CSI Delete - The user can delete CSI records. Take care when giving these permissions; ***there is no undo for delete***. We recommend granting these permissions only when users need to delete a record and then changing them back to No after that is done.

CSI - Edit Commission Date - The user can change the **Commission Date** for the serialized system.

CSI - Edit System Hours Report Date - The user can add time metrics reports to the CSI record.

- If set to Yes, the **Add** icon, , appears next to the time metrics field (Customer Support Summary section).
- If set to No, the user cannot manually add metrics reports, but they can still delete any reports that have been manually added.

CSI - Update Ship Date - The user can edit the **Shipment Date**, which appears in the Customer Support Summary section after the record is created.

Failure Analysis Records

Failure Analysis - Edit/Update Failure Analysis - The user can edit all failure analysis records and associated actions.

Actions

Creating and Deleting Actions for Specific Record Types

Action - Create CSI Action and **Action - Delete CSI Action**

Action - Create Failure Analysis Action and **Action - Delete Failure Analysis Action**

Action - Create Incident Action and **Action - Delete Incident Action**

Action - Create Problem Action and **Action - Delete Problem Action**

Action - Create Project Action and **Action - Delete Project Action**

Additional Permissions for Actions

If the user has the required permission(s) to edit the parent record (e.g., an incident), then they can also edit any action associated with that parent.

Action - Open a Closed Action - The user can reopen a closed action if they were able to edit the record when it was open.

Action - Change Action Association - The user can change the record that an action is associated with.

Action - Set/Alter Action Due Dates - The user can set and change the dates within an action. The owner of the record that the action is associated with can edit the action properties, even if the permission is set to No. In addition, a user who has permission to edit all records of a given type can also edit the action properties.

ADMINISTRATIVE PERMISSIONS

Only the administrative permissions that the logged in user has will be shown in this list (i.e., you can only give other users a permission that you have yourself).

- **Access Data Export**: The user can access the Export command in the ribbon for individual records (e.g., incidents, problems, etc.), generic templates, serialized systems and in the Import page.
- **Access Import Processing**: On the Import page, the user can cause scheduled imports to be processed immediately, rather than waiting for a scheduled import. The user must have this permission to upload and process files either through the Import page, the web service or the API.

- **Access Master BOM Export**: On the Template page, the user can export a list of the currently selected part and its child items within the template configuration that the part belongs to, including all details associated with all parts. This export is intended to allow the user to update the details, part names and part numbers for specific parts.
- **Access Admin Tab**: The user can access the Admin tab on the XFRACAS ribbon.

These permissions enable access to parts of the administrative functionality:

- **Manage Action Categories**
- **Manage Active Directory**
- **Manage Companies**
- **Manage Contacts**
- **Manage Criticality**
- **Manage Details**
- **Manage Diagnostics Page**
- **Manage Entities**
- **Manage Import**
- **Manage Lists**
- **Manage Locations**
- **Manage Part Owners**
- **Manage Report Viewer**
- **Manage Resource Editor**
- **Manage Security Groups**
- **Manage Serialized Systems**
- **Manage Template Systems**
- **Manage User Categories**

- **Manage User Groups**
- **Manage Users**

These permissions allow the user to manage the specific preference types on the Preferences page.

- **Manage System-Wide Preferences**
- **Manage Entity Preferences**

OTHER PERMISSIONS

Details

These permissions set what the user can do with certain types of detail fields in any record where that type of detail is used.

- **Details - Allow Issue Creation**: The user can enter new drop-down values in a "Select List" detail field that has the **Allow User Creation** option selected.
- **Details - Edit All Statuses**: The user can edit statuses that have been entered, by any user, in a "Status" detail.
- **Details - Overwrite Read-Only**: The user can modify detail fields that are set to "Read-Only - Always." This option is intended to be used for values that will be imported and should not be changed by users via the web interface. This permission enables the user to correct the imported values if needed.
- **Details - Allow Failure Mode Creation**: The user can create failure modes.
- **Details - Delete Associated File**: The user can delete files that have been uploaded/linked in an "Attachments Table" detail. ***There is no undo for delete***.

Reports and Charts

These permissions enable the user to view reports and charts:

- **Reports - Access Reports Page**: The user can run reports.
- **Charts - Access Charts Page**: The user can run charts.

- **Reports - My Queries Enabled**: The user can view and use reports saved to the "My Reports" and "My Chart Reports" lists.
- **Reports - Public Queries Enabled**: The user can view and use reports saved to the "Public Reports" and "Public Chart Reports" lists.
- **Report - Show Report SQL**: The user can view the SQL statement used with report results, using the **Show SQL Statement** icon on the Reports Toolbar.
- **Allow Sending XFRACAS Data via E-mail**: The user can send report results via e-mail, using the **E-mail Report** icon on the Reports Toolbar.

These permissions enable the user to build reports and charts:

- **Report Builder - Access Report Builder**: The user can use the Report Builder to create custom reports and charts and to modify their versions of the built-in standard reports for their personal use.
- **Report Builder - Set Application Default**: The user can use the Report Builder to modify the application default for each type of standard report and chart.
- **Reports - Access Custom SQL Reports**: The user can use the Report Builder to create custom SQL statements.
- **Report Builder - Assign or Remove Public Access**: The user can save reports to the "Public Reports" and "Public Chart Reports" lists. There is a separate permission for the ability to access public reports in the Reports or Charts page ("Reports – Public Queries Enabled").
- **Reports - Save Report for Another User**: The user can save a report to another user's or group's "My Reports" or "My Chart Reports" lists. If you save the report for yourself, a separate permission is needed to access "my reports" in the Reports or Charts page ("Reports – My Queries Enabled"). If you save the report for someone else, you will not be able to view it again after it is saved.

> **Note*:*** This also controls the ability of a user to save dashboard layouts for another user or group.

- **Reports - Serialized System Search Enabled** and **Reports - Template Part Search Enabled**: The user can see the Serialized Search and Part Search commands in the Report Builder ribbon. These enable the user to find specific part numbers and serial numbers without giving admin permissions to the part template and serialized system pages.

Dashboards

These permissions enable the user to view and design dashboards:

- **Dashboard - Access Dashboard Page**: The user can view existing dashboard layouts.
- **Dashboard Designer - Access Dashboard Designer Page**: The user can create custom dashboard layouts.
- **Dashboard Designer - Assign or Remove Public Access**: The user can make dashboard layouts available to all users in the current entity.
- **Dashboard Designer - Set Application Default**: The user can use the Dashboard Designer to modify the application default dashboard layout.

Test Search for Select Existing Utility

The following permissions enable the user to access the Select Existing Utility for description and status fields. (See Configuring the Select Existing Utility.)

- **Details - Allow Existing Text Search**
- **Action - Allow Existing Text Search**
- **CSI - Allow Existing Text Search**
- **Project - Allow Existing Text Search**
- **Failure Analysis - Allow Existing Text Search**

Portal

These permissions enable the user to edit his/her portal preferences and information:

- **Portal - Edit User Information**: The user can edit their own user information (**Options > Settings > User Information**).
- **Portal - Edit Portal Preferences**: The user can change their own portal preferences.
- **Portal - Set Default Portal Preferences**: The user can change the Portal preferences that are used by default for new accounts (using the "Save as application default" check box).
- **Links and Announcements**: These permissions allow the user to create and modify public links and announcements.

- **Portal - Create Public Links and Announcements**
- **Portal - Modify Public Links and Announcements**

Ribbon

Ribbon - Quick Search Enabled enables the user to view and use the Quick Search utility that appears at the top of many pages.

Data Syncing and Export

- **RS Desktop - Read Failure Mode Data**: The user can import or sync failure mode data with XFMEA/RCM++/RBI. (See Import or Sync from XFRACAS in the XFMEA/RCM++/RBI documentation.)
- **RS Desktop - Read Time to Event Data**: The user can export time to event data for use in Weibull++. (See Reliability Data Warehouse in the Weibull++ documentation.)

Adding Users from Active Directory

Use the Active Directory page to add users from Microsoft Active Directory. Permissions required to access this page: Access Admin Tab and Manage Active Directory.

To open the page, choose **Admin > Configure > Security > Active Directory**.

Note*:* This feature uses settings that are specified on the Preferences page. See Entering an ADS Path.

USING THE ACTIVE DIRECTORY PAGE

First, use the **Search Options** fields to narrow the Active Directory users that will be shown:

1. Specify the **Domain** to search in.
2. Specify a **Group Type**.
3. If desired, enter text to search for in the **Group Name** field to limit the groups shown.
4. Click the **Load Groups** icon, , to populate the **Group** drop-down list. Select the group of interest from the list.

5. If desired, use the **Filter By** fields to select a criterion for filtering the users and to specify the text to match.

Once you have specified all of your search criteria, click the **Load Users** link to populate the **Active Directory Users** list. Any Active Directory users that already have XFRACAS accounts will be shown in the **Current XFRACAS Users** list.

Use the arrows to move some or all user names from the **Active Directory Users** list to the **New XFRACAS Users** list. You can then set the basic account information, user groups, categories and permissions for all of the users in the **New XFRACAS Users** list. (For more details on these settings, see Managing Users.) Choose **Admin > Users > Create** to create the accounts.

The accounts will be created, and will appear in the **Current XFRACAS Users** list.

Managing User Categories

The User Categories page allows you to maintain categories that users can be assigned to. These categories determine which users will appear in certain drop-down lists throughout the application. Permissions required to access this page: Access Admin Tab and Manage User Categories.

To open the page, choose **Admin > Configure > User Categories**.

If your implementation has more than one entity, the user categories can be configured separately for each. The drop-down list at the top of the page determines which entity's categories are currently displayed.

- To create a new user category, click the **Add** icon, .
- To edit an existing user category, select it in the list and click the **Edit** icon, . Changes will apply to all user accounts that have already been associated with that category.
  - **User Category Description** - the name of the category.
  - **Display Order** - the order in which categories are displayed in the Users page and, if applicable, when assigning Failure Review Boards (FRBs) in the Problem page.

  - **FRB Reviewer** - a check box that must be enabled if you want the user category to appear in the **Available Reviewers List**, which allows users to be assigned to an FRB on the Problem page.

- To remove a user category from the current entity, select it in the list and click the **Delete** icon, . If the category is associated with any other entities, it will still be available for those entities.

The following default categories cannot be deleted or renamed:

- The **D2 Approver - D8 Approver** categories correspond to the steps in a problem and determine which users can be assigned to an FRB to approve those respective steps. (See Failure Review Boards in the user help.)

- **Default Problem Reviewer** determines which users appear by default in the **Selected Reviewers List** for a problem step. To appear in the list, users must be assigned not only to the "Default Problem Reviewer" category but also to the approver category (D2 - D8) for the problem step.

- **FA Engineer** sets permission for the user to be assigned as a failure analysis engineer.

- **Legal Expert** determines the list of users who can be assigned to the "Legal" role in a team. (See Assign Team Members Utility in the user help.)

- **Problem Owner** determines the list of users for the **Owner** field on the Problem page.

- **Project Owner** determines the list of users for the **Owner** and **Creator** fields on the Project page.

Managing Security Groups

Use the Security Groups page to manage sets of permissions and categories that can be assigned to individual user accounts. The categories and permissions on this page are the same as those on the Users page. Permissions required to access this page: Access Admin Tab and Manage Security Groups.

To open the page, choose **Admin > Configure > Security > Security Groups**.

If your implementation has more than one entity, user permissions can be managed separately for each.

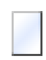
CREATING A SECURITY GROUP

To create a new security group, you can:

- Leave the **Select Group to Edit** drop-down list blank. Enter the group name and description, set the permissions and then choose **Admin > Security Groups > Create**.

- If you are currently viewing an existing security group and want to clear the information and create a new group, choose **Admin > Security Groups > New** or clear the **Select Group to Edit** field.

  You can then enter the group name and description, set the permissions and choose **Admin > Security Groups > Create**.

EDITING A SECURITY GROUP

To edit an existing security group, choose the group from the **Select Group to Edit** drop-down list. Make the desired changes and then choose **Admin > Security Groups > Save**.

DELETING A SECURITY GROUP

To delete an existing security group, choose the user name from the **Select Group to Edit** drop-down list and then choose **Admin > Security Groups > Delete**.

Note that this will remove any users from the group and delete the group. Any users with permissions via the group will lose those permissions.

GROUP MEMBERSHIP

Click **Manage Group Membership** to view or modify the users who are assigned to this security group. (Note that you can also change a particular user's security group from the Users page.)

If your organization uses Microsoft Active Directory, you can manage the membership of any security group based on an associated Active Directory group. For example, any users assigned to the "ABC Team" or the "XYZ Team" in Active Directory can be assigned to have specific sets of permissions in the entity. If a user needs to be added or removed from a security group, the administrator can manually sync the group to the Active Directory group to reflect the changes made in Active Directory.

To associate a security group with an Active Directory group, select the **Associate Active Directory Group** check box and then specify the domain name. Click the **Load** icon, , beside the **Security Group** field to load available groups, then select the group and click the **Load** icon beside the **Active Directory Users** field to load the users in the group. Click **Associate** to finalize the association.

Managing User Groups

Use the User Groups page to manage predefined groups of users and team roles that can be quickly assigned to teams for incidents, problems or projects. Permissions required to access this page: Access Admin Tab and Manage User Groups.

To open the page, choose **Admin > Configure > Security > User Groups**.

If your implementation has more than one entity, you must create separate user groups for each entity.

CREATING A GROUP

1. Make sure the **Select Group to Edit** drop-down list is blank. If you are currently viewing another group, you can either choose the blank option from the list, or click **Admin > User Groups > New**.

2. Enter at least a **Name** for the new group.

3. Click **Admin > User Groups > Create**.

ASSIGNING MEMBERS TO A GROUP

1. Select the group from the **Select Group to Edit** drop-down list.

2. Click **Assign/Remove Members** to open the Assign Members utility.

- To add users, select a **Team Role**, then select the user(s) who will have that role, then click **Add User(s)**. Note that only users who have the "Legal Expert" category in the Users page can be assigned to the "Legal" role on a team.

- To remove group members, select the user(s) in the **Current Members** list and click **Remove Selected**.

- Click **Save** to close the window.

Changes to group members are saved when you close the Assign/Remove Members window. If you need to save changes to the group's name or description, choose **Admin > User Groups > Save**.

DELETING A GROUP

To delete an existing user group, choose the group name from the **Select Group to Edit** drop-down list and then choose **Admin > User Groups > Delete**.

Managing Applicants

Use the Applicants page to process user account requests that have been submitted via the "Request Access" process. Permissions required to access this page: Access Admin Tab and Manage Users.

To open the page, choose **Admin > Configure > Security > Applicants**.

Tip: The process also sends an e-mail to the administrator of each entity that the user has requested to access (as specified in the "Administrator E-mail" preference). Click the link in the e-mail to open the Applicants page.

If your implementation has more than one entity, the applicants will be managed separately for each. The drop-down list at the top of the page determines which entity's applicants are currently displayed.

GRANTING ACCESS

The **Select Name to Edit** list shows the applicants who have requested access to the current entity.

To grant access, select a name from the list and review/update the system-wide and entity-specific information. These are the same options as in the Users page. Then choose **Admin > Users > Create**.

REMOVING AN APPLICANT

To remove an applicant, select the name from the list and choose **Admin > Users > Delete**.

Managing Parts and Systems

Managing System Templates

Use the Template page to view and manage generic system configurations that identify the types of parts that may be included in a system (e.g., "Bill of Materials") or the steps in a process. If applicable, you can use these templates to create separate serialized configurations for the specific parts in a particular piece of equipment. Permissions required to access this page: Access Admin Tab and Manage Template Systems.

To open the page, choose **System > System > Template**.

If your implementation has more than one entity, the system templates are managed separately for each. The drop-down list at the top of the page determines which entity's templates you are currently managing.

CREATING A NEW TEMPLATE

To create a new system template, choose **System > Template > Create Template**.

In the Create Template utility, enter at least the part number and part name.

To import a system configuration from XFMEA, RCM++ or RBI, choose **System > Template > XFMEA Import**.

This command appears only if the database has at least one desktop project that has a system hierarchy. You must also have permission to access this project. (See Import or Sync from XFMEA.)

VIEWING AN EXISTING TEMPLATE

To view or edit an existing system template, choose **System > Template > Find Template**.

In the Find Template utility, you can search by part name or part number. Alternatively, if you want to see a list of all system templates in the current entity, leave the value blank and click **Search**.

VIEWING HIERARCHY AND PART PROPERTIES

When you are working with an existing system template, the left side of the page shows the hierarchical configuration and the right side shows the properties for the part that is currently selected.

If you are working with a large system configuration, the Part Search utility provides a quick way to find the part you want to view or edit. Click the **Find part on system...** link at the top of the hierarchy, then search based on part number, name or version.

EDITING AN EXISTING PART

To edit an existing part, select the part in the hierarchy and choose **System > Part > Edit**.

CREATING OR ASSOCIATING PARTS

When adding parts to a template, you can create a new part (with a new unique Part ID) or add an instance of an existing part (with the exact same Part ID used multiple times in the same template and/or in multiple templates).

To add a new part, or to add an existing part when you know the part number and version, choose **System > Part > Create**.

In the Create Template Part utility, enter at least the part number and part name and click **Save**. The behavior depends on whether the **Use Existing Part if Found** check box is selected and whether there are any existing parts with the same part number and version:

- Not selected - creates a new part with a unique Part ID.
- Selected and no matching parts - creates a new part with a unique Part ID.

- Selected and at least one matching part - opens the Associate Template Parts utility where you can select an existing part to add.

To add an existing part when you don't know the part number and version, or to add multiple existing parts at the same time, choose **System > Part > Associate**.

In the Associate Template Parts utility:

- When you click a part in the **Available Items List**, the area at the bottom of the utility shows where that part is used, and whether it has subitems (aka "children").

- The **Selected Items Lists** shows the existing part(s) that will be added to the current template when you click **OK**. If the **Associate Children** check box is selected, any subitems/children will also be associated at the same time. *Note that the save process may take several minutes if you are associating a large number of existing parts.*

DELETING, RETIRING OR DISASSOCIATING A PART

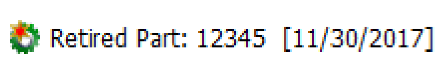
When removing parts from a template, the behavior depends on the command you choose and the location(s) where the part is used.

To remove a part that you don't want to use again, select the part in the hierarchy and choose **System > Part > Delete**.

- If the part is not used anywhere else, it will be permanently deleted.

- If the exact same Part ID is used in another location within the current template or in a different template, it will be removed from the current location and remain unchanged in the other location(s).

- If this is the only location where the part is used in a template, and the part has been used in at least one incident, problem or serialized system, it will be "retired." A retired part continues to show in the system hierarchy, identified by an icon and with the retirement date shown in brackets.



Tip: The application provides a warning when you attempt to delete a part that will have to be retired because it is used in at least one incident, problem or serialized system. In addition, if a part has already been retired, the **Part in Use** area will display in the part properties panel. If you want to permanently delete the part, you must first remove it from all locations where it is used.

Also note that if a part has ever been saved as the Responsible Part for an incident, it will remain in the Responsible Part History for that record, and therefore cannot be permanently deleted.

To remove a part that may be used again in another template or in a different location in the current template, select the part and choose **System > Part > Disassociate**.

This will remove the part from the current location and create a new top-level part that you can later associate in a different location.

DEFINING FAILURE MODES

The potential failure modes and root causes defined for a template part will be available for selection in failure mode detail fields (if any) in the incidents, problems or failure analysis reports.

Add Failure Mode adds a new failure mode for the part.

Add Existing Failure Mode copies failure mode(s) and root cause(s) that were defined for another part.

Add Root Cause adds a new root cause for the selected failure mode.

To edit or delete an existing failure mode or root cause, select it and click **Edit**, , or **Delete**, .

If you are using ReliaSoft XFMEA, RCM++ or RBI for failure modes and effects analysis, you also have the option to import and/or synchronize system templates and failure modes. (See Import or Sync from XFMEA.)

ASSIGNING AN OWNER

Each template part can be associated with an owner. Parts that have an owner are indicated in the template by .

When users create new incidents, if they do not specify an incident owner, it will be set automatically to the owner of the first responsible part. Depending on the configurable settings for the entity, the incident owner may receive e-mail notifications when the incident is created, when actions are created for the incident, etc.

Note: If the incident page is configured to require users to select a single responsible part from a drop-down list (i.e., if the "Incident - Use Tree to Select Responsible Part" preference is false), users will not be able to create incidents until there is at least one template part with an owner assigned. The following warning will be displayed in the incident page: "Incomplete System Setup: Responsible Part not configured correctly. Please contact your XFRACAS administrator."

- To assign an owner, select the part and choose **System > Part > Assign Owner**.

- To remove the owner, select the part in the template and choose **System > Part > Remove Owner**.

- To add more users to the e-mail notification list for a part that already has an owner, select the part and choose **System > Part > CC List**.

Managing Serialized Systems

Use the Serialized page to view and manage serialized system configurations, which are based on generic system templates. For example, the template for Model A identifies all the parts that may be included in specific units. The serialized system identifies the parts that actually are included in a specific unit, including the unique serial numbers when applicable. Permissions required to access this page: Access Admin Tab and Manage Serialized Systems.

To open the page, choose **System > System > Serialized**.

If your implementation has more than one entity, the serialized systems must be configured separately for each. The drop-down list at the top of the page determines which entity's systems you are currently managing.

CREATING A SERIALIZED SYSTEM

To create a serialized system, choose **System > Serialized > Create System**.

In the utility that appears, choose the kind of system you want to create from the **Template Part** drop-down list. Then enter the serialized part properties.

FINDING AN EXISTING SYSTEM

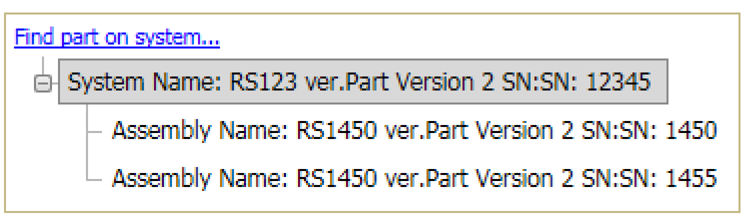
To work with an existing serialized system, choose **System > Serialized > Find System**.

In the utility that appears, you can search by system serial number or by subsystem serial number.

SYSTEM CONFIGURATION

When you are creating or editing a serialized system, the system configuration is displayed on the left side of the interface. Click the plus (+) or minus (-) icons to expand or collapse a branch of the tree.

To locate a specific part, click the **Find part on system** link at the top of the hierarchy to search by part number or serial number.



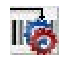
If a part in the system configuration has been replaced, it will appear at the bottom of the hierarchy and a replacement date will appear next to it. Replaced parts are indicated by .

ADDING OR REMOVING PARTS

Once you have selected a system to work with, you can add new or existing parts to it and you can remove parts from the system.

- **Create Serialized** - adds a part based on the generic system template and requires you to enter a unique serial number.

- **Add Existing Serialized** - removes a part from another system and moves it to the current system.



- **Add Non-Serialized** - adds a part based on the generic system template and does not require you to enter a unique serial number.

  If you select the **Associate Children** check box, all children of each newly selected part will also be added to the list of selected items. Note that this can add a large number of parts and that, depending on the size of the tree underneath each selected part, the save process may take several minutes. To see a detailed view including child parts, click the **View Structure** link in the item hierarchy to open the full hierarchy in a new window.

- **Disassociate** - removes the selected part from the system and makes it available for future use.

- **Delete Serialized** - removes the selected part from the system, unless there are already records pertaining to the part, in which case the part is retired instead.

SERIALIZED PART PROPERTIES

- The **Serial Number** and **Build Date** are required for a system while only the **Build Date** is required for parts.
- These characters are not allowed in serial numbers: @ # % & = { } " < >.

- If the part has accumulated age before being added to the system (i.e., the part is "used"), specify the **Starting Age** (e.g., "Run Hours," "Number of Starts" or "kw Run Hours"). If you extract the data to Weibull++ for reliability analysis, the starting age may be added to the part's time on the system to estimate the part's time/usage. (For example, if the part had a starting age of 100 hours when it was added to the system, the system runs for 200 hours before the next failure and you have not directly specified the part's time/usage, we assume it is 300 hours.)

If you have configured additional detail fields to meet your organization's specific needs, they will be grouped together in a separate **Details** area.

Managing Preferences

Preferences

Use the Preferences page to manage many of the configurable settings within XFRACAS. Permissions required to access this page: Access Admin Tab, and Manage System Wide Preferences or Manage Entity Preferences.

To open the page, choose **Admin > Configure > Preferences**.

Choose **Admin > Preferences > Save** to save any changes.

System-Wide Preferences apply to your organization's entire XFRACAS implementation; all other preferences must be managed separately for each entity. The drop-down list at the top of the Preferences page determines which entity-specific preferences are currently displayed.

Preferences are grouped by type (e.g., true/false, date, string, etc.) and then listed alphabetically on the XFRACAS Preferences page. In the help topics listed below, however, related preferences are discussed together when applicable and may not always appear in alphabetical order.

- System-Wide Preferences
- Boolean Preferences
- Date Preferences
- Display Option Preferences
- Integer Preferences
- String Preferences
- Time Zone Preferences

- URL Preferences
- Target and Completed Dates

Preferences for e-mail alerts are covered in a separate help section. To see which preferences apply for a given situation, see Conditions for Triggering E-mail Alerts.

SYSTEM-WIDE PREFERENCES

To open the Preferences page, choose **Admin > Configure > Preferences**.

Secure Socket Layer Protection

SSL Server Mode Required: If True, the website will use https (rather than http) when building links. Before you enable this option, make sure the IIS web server is configured properly for SSL/TLS (as discussed in the Implementation Guide).

SSO Authentication - XFRACAS uses Windows authentication by default. Alternatively, if your web server is set up to support SSO authentication, XFRACAS will check for the "Auth_User" variable by default. If your SSO method has been configured to use a different variable, set the following preferences:

- **Single Sign-On (SSO) Authentication Enabled**: If True, indicates that your web server is set up for SSO authentication and uses a variable other than "Auth_User."
- **Single Sign-On (SSO) Server Variable**: The alternative variable that XFRACAS needs to check for SSO authentication.

The admin/TESTSSO.aspx page on the website provides additional details to help with troubleshooting the configuration.

Location of the XFRACAS Website

XFRACAS Server - Filesystem Prefix: The absolute path on the server where the website's IIS folder is installed (e.g., C:\inetpub\wwwroot\XFRACAS\).

XFRACAS Server - IIS Prefix: The path that can be used to build links to pages within the XFRACAS website (e.g., servername/XFRACAS or 10.0.0.2/xfracas).

Link to the SEP Web Portal (if Applicable)

Display SEP Command: If True, the XFRACAS ribbon will include a link to your organization's SEP web portal.

SEP Server - IIS Prefix: The path that can be used to build the link to the SEP web portal (e.g., servername/SEP).

Upload Files for Attachments

Attachments - Allow Uploaded Files: If True, the Attachments window will include the option for users to upload files. The files may be stored in the database or uploaded to a designated folder on the web server, depending on how you configure the related preferences.

Attachments - Store Uploaded Files in Database: If True, files will be stored in the database. If False, files will be stored in a designated folder on the web server.

Attachments - Uploaded Files Filesystem Prefix: If applicable, this is the absolute path to the folder on the web server where uploaded attachments will be stored (e.g., C:\inetpub\wwwroot\XFRACAS\uploads\ or D:\storage\xfracas) For requirements and instructions to prepare this folder, refer to the Implementation Guide.

Attachments - Uploaded Files IIS Prefix: If applicable, this is the path that will be used to build links to download files that were saved on the web server.

- If you are using an actual file folder within the website, enter a relative path (e.g., uploads).
- If you are using a virtual directory created in IIS, use an absolute path (e.g., http://servername/uploads).

SMTP Server for E-Mail Notifications

SMTP Server: The address of the SMTP server that will be used for sending e-mails (e.g., mail.servername.com or 10.0.0.2).

SMTP Port: The port used to connect to the SMTP server. If left blank, the default SMTP port 25 will be used.

SMTP Connection Timeout: The amount of time, in seconds, before the connection to the SMTP server times out when sending e-mails.

Other

Use Web-based Help: If True, the help commands always open the most up-to-date help files from the Internet when possible. If False, they open the local help files that were installed with the software.

DIU Service - Generate Import Log: If True, an import log will be generated during an import. The log will be stored with the import record.

Terms of Use Agreement Page Required: If True, users will be prompted to accept an agreement the first time they access XFRACAS each day. To customize the content of the agreement, edit the files directly on the web Server:

- Agreement.aspx is stored in the website's main folder and will be displayed if the user visits any of the regular pages.
- AdminAgreement.aspx is stored in the website's Admin folder and will be displayed if the user visits any of the admin pages.

Unknown Users - Allow Account Request: If True, users not already in XFRACAS can request access to the system, and users not already in an entity can request access to the entity.

Report Filter Display Max Rows: Indicates the maximum number of rows that a report can return and still have filtering and grouping capabilities.

DB Version and **License Number**: The database version and license number of the XFRACAS system. These are available for technical support purposes and cannot be changed.

BOOLEAN PREFERENCES

To open the Preferences page, choose **Admin > Configure > Preferences**.

Incident Preferences

Display Preferences

Incident - Display Incident Wizard: If True, the Use Incident Wizard command will be available for new Incident records. The wizard prompts users to enter the data one step at a time, instead of all in a single form.

These preferences show/hide some of the fields in the Incidents page. For information about how these fields are used, see Incidents. To configure other fields for this record type, use the Details page.

- **Incident - Display Unit Location**
- **Incident - Display Title (and Incident - Require Title)**
- **Incident - Display Team Members**
- **Incident - Display Potential Criticality and Incident - Display Actual Criticality** (see Managing Criticality Fields)
- **Incident - Display Service Response Time/Date**
- **Incident - Display ASP Field Service Tech (and Incident - Require ASP Field Service Tech)**
- **Incident - Display Repair Duration**
- **Incident - Display Repair/Replace Parts**

Incident - Display System Status: If True, the System Status field will show in part incidents, for information purposes only. This field is always hidden for simple incidents and always shown for serialized incidents. When applicable, the summary area of the Customer Support page displays the current status for a particular system based on all of the serialized incident reports for that unit.

These preferences specify whether to display calculated metrics in the summary for a serialized incident.

- **Incident - Display Calculated Response Time**
- **Incident - Display Calculated Downtime**

Incident/Problem - Display Audience Restriction and **Incident/Problem - Require Legal Team Member**: If both of these preferences are True, the Audience Restriction field will be displayed in the Incident page and Problem page after the record is created, and if the "Attorney/Client Privilege" option is selected for a particular incident or problem, then:

- Only users assigned to the team for that record will be able to view it in any form. Make sure the "Incident - Display Team Members" and "Project - Display Team Members" preferences are also enabled so users will be able to assign an appropriate team before restricting access to the record.
- The team assigned to the record must have at least one user assigned to the "Legal" team role. Only users who have the "Legal Expert" category in the Users page can be assigned to this role.

Incident - Display Customer Requested Feedback: If True, the "Customer Requested Feedback" check box is displayed in the Incident page and the "Report Sent to Customer" check box is displayed on the Failure Analysis page.

E-mail Alert Preferences

These preferences specify whether e-mails are sent to the incident owner and/or team whenever an incident is closed:

- **Incident - E-mail - Incident Closed**
- **Incident - E-mail - Incident Closed - Team**

Time Metrics Preferences

Incident - Auto-populate Time Metric 1: If True, the primary time/usage metric field (e.g., hours. miles, kilometers, cycles, etc.) will be populated automatically in a serialized incident when the required inputs are available. (See Time Metric Calculations.)

These preferences specify whether to track additional time or usage metrics (e.g., hours, miles, kilometers, cycles, etc.) in the Customer Support page and Incident page for serialized incidents and part incidents. By default, these three metrics are labeled "System Hours," "Number of Starts" and "kW Run Hours" but you can use the Resource Editor to customize the labels to fit your specific needs.

- **Incident - Display Time Metric 2**
- **Incident - Display Time Metric 3**

These preferences specify whether to automatically calculate the value of one time/usage metric based on the value entered for another. The behavior also depends on the "Display Time Metric" and "Time Metric Formula" preferences. (See Time Metric Calculations.)

- **Incident - Always Auto-calculate Time Metric 1**
- **Incident - Always Auto-calculate Time Metric 2**
- **Incident - Always Auto-calculate Time Metric 3**

Part / Responsible Part Preferences

Incident - Use Tree to Select Responsible Part: If True, the "Responsible Part" field in the Incident page will allow users to select one or multiple parts from a tree view of all system templates. If False, users can select only one part from a drop-down list. When the tree is used, you can also specify:

- **Incident - Auto-select Responsible Part for New Incidents:** If True, the part number specified in the System/Component Information area will be selected by default in the Responsible Part tree.
- **Incident - Enable Responsible Part Filter:** If True, the Responsible Part tree will only allow users to select parts from the system specified in the System/Component Information area.

Incident - Defaults: These preferences apply when the entity has only one system template defined. If True, then XFRACAS will automatically set relevant part fields when creating a new incident.

- **Incident - Default Part Number**
- **Incident - Default Responsible Part**

These preferences specify whether XFRACAS will automatically set date fields in the incident based on today's date.

- **Incident - Default Repair Date**
- **Incident - Default Response Date**

Closure Preferences

Incident - Closure: These preferences specify the conditions that must be met to close an incident. Select all that apply.

- **Incident - Closure Restriction Level 1**: All actions for the incident are completed.
- **Incident - Closure Restriction Level 2**: All failure analysis reports belonging to the incident are closed.

Note: Once an incident is closed, it no longer appears in the XFRACAS Portal under "Unclosed Incidents."

Incident - Disable Edit of Closed Incidents: This preference determines whether closed incidents will be read-only or editable for users who have permission to reopen them. (See Permissions by Record Type.)

- If True, closed incidents will be read-only and can be reopened using the **Reopen** button.
- If False, closed incidents will be editable and can be reopened by changing their state.

Problem / Incident Preferences

Allow Cross Entity Association: These preferences apply when assigning an incident to a problem or assigning a problem to a project. They also apply when creating an attachment to an XFRACAS record. If True, records from all entities that the user has access to will be available. If False, only records from the current entity will be available.

- **Incident/Problem - Allow Cross Entity Association**
- **Project/Problem - Allow Cross Entity Association**

These preferences apply when the user clicks the **Create New Problem** icon in the Incident Summary Area of the Incident page. (See "Assigning an Incident to a Problem" in the user help for more information.)

- **Incident - Create Problem Link Transfers Incident Description**: If True, the incident's description will be used to auto-populate the description field in step 2 of the problem. (See Problems.)
- **Incident - Create Problem Link Transfers Incident Title:** If True, the incident's title will be used to auto-populate the title field in step 2 of the problem.
- **Incident - Create Problem Link Transfers Responsible Part:** If True, the incident's responsible part will be used to auto-populate the **Part Category Code** field in step 1 of the problem. If the incident has multiple responsible parts, only the first part in the list of responsible parts is transferred.

Other Incident Preferences

Incident - Assign Creator as Owner: If True, the user who creates the incident will be assigned as the owner of the incident. If False, the incident owner depends upon the responsible part or the choice in the Owner field.

I**ncident - Require Date Field Validation**: If True, the date in any date field on the Incident page cannot be less than the incident's creation date.

Problem Preferences

Display Preferences

These preferences show/hide some of the fields in the Problem page. For information about how these fields are used, see Problems. To configure other fields for this record type, use the Details page.

- **Problem - Display Team Members**
- **Problem - Display Requested Closure Date**
- **Problem - Display Expected Closure Date**
- **Problem - Display Associated Incidents**
- **Problem - Display Associated Projects**

These preferences show/hide some of the fields in the Associated Incident Reports section on the Problem page.

- **Problem - Display Incidents by Status** (open or closed)
- **Problem - Display Incidents by Chargeability** (chargeable or non-chargeable)

Problem - Show Steps: These preferences specify which of the optional steps will be displayed on the Problem page in addition to the four steps that are always displayed: **Establish the Team**, **Describe the Problem**, **Choose and Verify Permanent Corrective Actions** and **Prevent Recurrence**.

- **Problem - Show Step - Implement and Verify Containment Actions**
- **Problem - Show Step - Identify and Verify Root Cause**
- **Problem - Show Step - Implement Permanent Corrective Actions**
- **Problem - Show Step - Congratulate the Team**

Problem - Always Show All Problem Steps: If True, after a user has entered the first step and created a new problem, the page will show all of the subsequent steps that need to be performed. If False, each subsequent step will be displayed only after the previous step is completed and saved.

FRB and Closure Preferences

Problem - FRB Sign-Off Restriction: This applies only if the "Problem – FRB Sign-Off CC Restriction" preference is True. If True, the review request e-mail will be sent only to the next FRB reviewer based on priority order. If False, the e-mail will be sent to all reviewers on the Failure Review Board (FRB) reviewers list for the current step.

Problem - FRB Sign-Off CC Restriction: If True, the priority order of FRB reviewers will be enforced. Once the first reviewer signs off on the problem step, the second reviewer can then review the step. Reviewers cannot sign off out of order.

These preferences specify the conditions that must be met before a problem step or problem can be closed. Select all that apply.

- **Problem - Closure Restriction Level 1**: All actions for the problem must be completed.
- **Problem - Closure Restriction Level 2**: All incidents associated with the problem must be closed.
- **Problem - Closure Restriction Level 3**: All actions associated with a problem step must be completed before you can close the step.

When a problem is closed, it no longer appears in the XFRACAS Portal under "Open Problems." Only users with the "Problem - Open a Closed Problem" or "Problem - Edit All Problems" permissions can reopen a closed problem.

Other Problem Preferences

Problem - Completed Date Warning: If True, entering a problem completed date that is in the future will show a warning.

Problem - Enable Created Date Restriction: If True, the problem's creation date must be earlier than the completion/sign-off date for any step in the problem.

Project Preferences

Display Preferences

These preferences show/hide some of the fields in the Project page. For information about how these fields are used, see Projects. To configure other fields for this record type, use the Details page.

- **Project - Display Team Members**

- **Project - Display Target Completion Date**
- **Project - Display Revised Completion Date**
- **Project - Display Actual Completion Date**
- **Project - Display Scope of Project**
- **Project - Display End Result**
- **Project - Show Associated Problems**
- **Project - Show Associated Incident Reports**
- **Project - Display Associated Incidents**
- **Project - Show Associated FA Reports**

Closure Preferences

These preferences specify the conditions that must be met before a project can be closed. Select all that apply.

- **Project - Closure Restriction Level 1**: The actual completion date must be set and all actions for the project must be completed.
- **Project - Closure Restriction Level 2**: The actual completion date must be set and all problems associated with the project must be closed.

When a project is closed, it no longer appears in the XFRACAS Portal under "My Projects." Only users with the "Project - Open a Closed Project" or "Project - Edit All Projects" permissions can reopen a closed project.

Customer Support Preferences

Display Preferences

CSI - Display CSI Wizard: If True, the Use CSI Wizard command will be available when users are creating new Customer Support records. The wizard prompts users to enter the data one step at a time, instead of all in a single form.

These preferences show/hide some of the fields in the Customer Support page. For information about how these fields are used, see Customer Support. To configure other fields for this record type, use the Details page.

- **CSI - Display Shipment Date**
- **CSI - Display Delivery Date**
- **CSI - Display Distributor**
- **CSI - Display MTBF**
- **CSI - Display MTBCF**
- **CSI - Display MTBNCF**
- **CSI - Display MTBI**
- **CSI - Display Chargeable Incident Count**
- **CSI - Display Non-Chargeable Incident Count**
- **CSI - Enable Operational Availability**
- **CSI - Display Calculated System Downtime**
- **CSI - Display Unit Owner Address Information**
- **CSI - Display Contact**
- **CSI - Display Warranty Section**
- **CSI - Display ASP Information** (ASP and ASP Field Service Tech)

CSI - Display All Authorized Service Technicians: This applies if the "CSI - Display ASP Information" preference is enabled. If True, all service technicians will be displayed in the drop-down list, regardless of the company they are associated with. If False, only service technicians associated with the selected company will be displayed.

CSI - Show All Unit Contact Names: This applies if the "CSI - Display Contact" preference is enabled. If True, the Contact field will show all contacts available in the system. If False, the list will be filtered by unit owner.

Other CSI Preferences

CSI - Commission Date Required: If True, the commission date is required in the Customer Support page. If False, the shipment date becomes a required field and will be populated based on the system build dateif left blank by the user.

CSI - Create Incident Link Transfers Hours from CSI: This applies when the user clicks the "Create Incident" link in the Customer Support page. If True, the time metric field(s) in the incident (e.g., System Hours) will be populated based on the latest info in the CSI. (See Time Metric Calculations.)

CSI - Extended Warranty Purchase Anytime: This applies if the "CSI - Display Warranty Section" preference is enabled. If False, the purchase date for the extended warranty must be within the date range of the initial warranty. (See Warranty Information Area).

Other Entity-specific Preferences

E-mail Preferences

For information about e-mail preferences, see Conditions for Triggering E-mail Alerts.

Report Preferences

Reports - Allow Send via E-mail: If True, the E-mail button will be available in the Reports page.

Reports - BCC Administrator on Data Sent via E-mail: If True, the e-mail address specified in the "Administrator E-mail" preference will receive a copy when report results are sent via e-mail.

Reports - Display Qualifiers: If True, the "Results based on the following qualifiers" area will be displayed in report results.

Reports - Include End Date Matches: If True, the end date set in a report is included in the results. For example, with a setting of True, a report of dates between Jan. 1, 2017 and Jan. 2, 2017 would include results for date matches from the entire days of Jan. 1, 2017 and Jan. 2, 2017. With a setting of False, the report would only include results from the entire day of Jan. 1, 2017. This applies if the "XFRACAS - Display Time with Date Fields" preference is set to False.

Date / Time Preferences

These preferences apply to all date/time input fields. Note that there are separate preferences for dates and times displayed as regular text (the "XFRACAS - Date Format - Long" and "XFRACAS - Date Format - Short" string preferences).

- **XFRACAS - Display Day Before Month in Date Input Fields**: If True, Date input fields will display using the day before month format (e.g., "21 March 2017").
- **XFRACAS - Display Time with Date Fields**: If True, the Time input fields will be displayed with applicable Date fields.

- **XFRACAS - Display Time in 24 Hour Format**: If True, the Time field will display using a 24-hour clock. If False, it will display an A.M./P.M. indicator.

Application Preferences

XFRACAS - Autopopulate Associated Record Dialog: This applies to all Assign/Find windows (e.g., when assigning an incident to a problem). If True, all records will be displayed when the window opens. If False, only currently assigned records will be displayed upon open and users can click **Filter** to see all records.

XFRACAS - Display Debug IDs: If True, the resource IDs will be shown in square brackets beside the name for all fields. You can use this in conjunction with the Resource Editor to customize text labels displayed in the website. In addition, the Detail Type IDs will be shown in square brackets on the Details page.

XFRACAS - Display Employee ID With User Name: If True, the employee ID will be displayed along with the user name in locations where a user is being selected (e.g., the Assign Team Members utility, drop-down lists, etc.).

XFRACAS - Display Last Updated Timestamp: If True, information on the last update of the record will be displayed in the summary area for incidents, problems, projects, failure analysis reports, CSIs and actions.

XFRACAS - Enable Header in Printed Records: If True, the print logo and full entity name will appear in the document header when records are printed using the Print Preview command on the Home tab. To change the logo, you can replace the logopfv.gif file stored in the Images folder on the web server (e.g., C:\inetpub\wwwroot\XFRACAS\Images\logopfv.gif).

XFRACAS - Sort Statuses by Descending Date: If True, the notes in the Status fields will be displayed in descending order based on creation date (i.e., the oldest note is listed first).

XFRACAS - Testing Mode: If True, a "watermark" that reads "TESTING" will be placed in the background of the pages to indicate that the "testing" version of the system is distinguished from the actual "live" system.

Lists - Autosize List Height: If True, the area used to display lists in the Lists page varies in height depending on the number of items in the list. If False, a scroll bar will be used to scroll through the list. Note that there is a maximum height of 300 pixels for any list, even when this preference is set to True.

Manage User - E-mail/Login Auto Build: If True, the user login and e-mail address fields will automatically be assigned in the Users page based on the user's first and last names and the "Manage User - E-mail Suffix used for Auto Build" e-mail preference.

These preferences apply to the "data tree" on the Template page and the Serialized page. They also apply to the Responsible Part in incidents (when it is used as a tree) and for the Part Category Code in problems.

- **System - Data Tree Auto Collapse**
- **System - Data Tree Sort by Part Description** (rather than part number)

Reliability Data Warehouse (RDW) Preferences

These settings apply when using the RDW in Weibull++ to extract data sets for life data analysis:

- **Analysis - Fixed Daily Operating Hours**: If True, systems are considered to run constantly (i.e., 24x7). System operating time (system up hours) will be calculated based on numerous factors, including commission or shipment date, incident occurrence date, the "Incident - Max Units/Day" Integer preference and the system down time. If False, the times are those reported in either the incidents or in the CSI.
- **Analysis - Weibull++ Export Rollup**: If True, failures of child parts will be considered to also precipitate failures of parent parts. If the System Down Event incident detail is available in the current entity, then for incidents that are marked as system down events, the failure will affect all levels above the child part all the way to the top level item. For incidents that are not marked as system down events, the failure will affect all but the top level item. If False, failures of child parts will not roll up to parent parts.

  It is important to note that if this preference is True, the times that are exported are the times between failures, not the failure times. If you are unsure if this analysis method is appropriate for you, please contact ReliaSoft for further information.

Actions Preference

Action - Allow Setting Due Date Before Current Date: If True, users can enter an action date that is earlier than the creation date. This allows you to enter historical information that did not get entered when the action was actually performed.

DATE AND DISPLAY OPTION PREFERENCES

Date Preferences

Fiscal Year Begins: The start date of the fiscal year, which is used to determine the current quarter when reporting information based on a specified date range. The value entered must be a valid date but the current year will always be assumed when calculating the date range. For example, if the fiscal year begins on January 1st, you can enter that date with any year (01/01/2005, 01/01/2020, 01/01/2015). XFRACAS will only consider the month and day.

Portal - What's New Modify Date: The date of the most recent modification to the What's New page maintained by your company (i.e., the Whatsnew.html page in the main folder on the web server where XFRACAS was installed). This page is displayed if the user has not visited the website since the page was last modified.

Display Option Preferences

These preferences specify which type(s) of incident can be created, and which will be selected by default.

- **Incident - Display Part Incident Type**
- **Incident - Display Serialized Incident Type**
- **Incident - Display Simple Incident Type**

Problem - Display Criticality determines which problem step, if any, displays criticality fields. (See Managing Criticality Fields.)

These preferences specify whether the failure review board (FRB) will be displayed for each step in the Problem page, and whether all assigned members are required to sign off before users can move to the next step.

- **Problem - Display FRB - Describe the Problem**
- **Problem - Display FRB - Implement and Verify Containment Actions**
- **Problem - Display FRB - Identify and Verify Root Cause**
- **Problem - Display FRB - Choose and Verify Permanent Corrective Actions**
- **Problem - Display FRB - Implement Permanent Corrective Actions**

- **Problem - Display FRB - Prevent Recurrence**
- **Problem - Display FRB - Congratulate the Team**

XFRACAS - Language: The default language for the interface text. If the **Language** option in the user's account is blank, the interface will display in the default language. However, if the user's account specifies a language, the interface will display in the user's preferred language instead.

XFRACAS - Skin: Sets the appearance of the ribbon and some other elements within the XFRACAS interface.

INTEGER PREFERENCES

CSI - Hours Decimal Places: The number of decimal places displayed in time figures in the Customer Support page.

CSI - Operational Availability Decimal Places: The number of decimal places that the Operational Availability percentage in the Customer Support page will be rounded to.

CSI - Warranty Months: These preferences set the number of months in the warranty period in the Customer Support page, if company-specific values have not been specified on the Companies page.

- **CSI - Warranty Months from Commission**
- **CSI - Warranty Months from Shipment**

CSI - X Warranty Days for Repaired/Replaced Parts: The number of parts that were repaired or replaced in the last X days. This information will display below the associated incidents on the Customer Support page.

Max Units/Day: These preferences set the maximum amount of time/usage (e.g., hours, miles, kilometers, cycles, etc.) that a serialized system may accumulate in a single day. The max value for Time Metric 1 is used in the Customer Support page to make sure the "Estimated System Hours" calculation does not exceed the maximum possible per day. It is also used if you have selected to auto-populate Time Metric 1 in the Incident page for serialized systems. (See Time Metric Calculations.)

Note that the max values for Time Metric 2 and 3 are relevant only if you are using a custom report that requires these inputs, or a custom method for extracting reliability data for analysis in Weibull++.

- **Incident - Max Units/Day - Time Metric 1**

- **Incident - Max Units/Day - Time Metric 2** (only for custom functionality)
- **Incident - Max Units/Day - Time Metric 3** (only for custom functionality)

Default Due Dates and Closure Dates: These preferences specify the number of days from today's date to set as the default due date for a new action or the default closure dates for new problems.

- **Action - Default Due Date Offset by X Days**
- **Problem - Expected Closure Date Offset**
- **Problem - Requested Closure Date Offset**

Preferences that specify the number of business days for e-mails based on calendar date are covered in the following topics:

- "Closure Date for Problem Step is Approaching or Past Due"
- "Action Due Date is Approaching or Past Due"

These preferences set the number of days that records will be highlighted in the XFRACAS Portal.

- **Portal - Action Due Date Highlight Offset** (days prior to the action due date)
- **Portal - Incident Due Date Highlight Offset** (days after the incident occurrence date)
- **Portal - Problem Due Date Highlight Offset** (days prior to the problem requested closure date - if the requested closure date is turned off, then the due date is calculated)
- **Portal - Problem to Review Due Date Highlight Offset** (days prior to the problem review due date)
- **Portal - Project Due Date Highlight Offset** (days prior to the project due date)

XFRACAS - Description Number of Lines Displayed: The default height for description fields (i.e., the maximum number of lines of text that can be visible without scrolling). For descriptions that are configurable detail fields, you can override this for a specific field by setting the **Number of Lines Displayed** in the detail properties.

Reports - Filter Display Max Columns: The maximum number of optional columns that a report created in the Report Builder can include.

XFRACAS - System Search Timeout: The maximum amount of time, in seconds, that the application can spend searching for a part in a system.

Diagnostics - Number of Exception Items Displayed: The maximum number of items the Diagnostics page can display on a single page.

Active Directory - Maximum Groups to Display: The maximum number of groups that will be displayed when loading Active Directory groups.

STRING PREFERENCES

To open the Preferences page, choose **Admin > Configure > Preferences**.

About Page

These preferences specify information that displays on the XFRACAS About page.

- **Administrator Name**
- **Administrator Phone**
- **Company Name**
- **Company Homepage Link**: This the anchor text for the link. The URL is specified in the "XFRACAS - Company Homepage" URL preference.

E-mails

These preferences specify the formats of e-mail alerts.

- To learn how variables are used in e-mails, see Configuring E-mail Message Formats.
- To see which formats apply for specific types of e-mails, follow the links in Conditions for Triggering E-mail Alerts.

Criticality Metrics

These preferences define the formulas used to calculate the criticality metrics for an incident or problem. (See Configuring Criticality Metrics.)

- **Criticality - Incident Actual**
- **Criticality - Incident Potential**

- **Criticality - Problem Base CIN**
- **Criticality - Problem Current CIN**

Time / Usage Metrics

These preferences specify the formulas used to calculate the value of one time/usage metric based on the value entered for another. The behavior also depends on the "Display Time Metric" and "Always Auto-calculate Time Metric" preferences, and what the user enters in the incident page. (See Time Metric Calculations.)

- **Incident - Time Metric 1 Formula**
- **Incident - Time Metric 2 Formula**
- **Incident - Time Metric 3 Formula**

Dates

These preferences specify the formats for dates. Note that this should match the IIS culture setting on the web server in order for dates in charts to be displayed correctly.

- **XFRACAS - Date Format - Short:** Displays only the date and not the time. The default format is MM/dd/yyyy (e.g., 03/01/2017).
- **XFRACAS - Date Format - Long**: Displays the time along with the date when applicable. The default format is MM/dd/yyyy hh:mm tt (e.g., 03/01/2017 01:00 PM).
    - If the "XFRACAS - Display Time in 24 Hour Format" Boolean preference is True, remove the "tt" segment from the long date format (e.g., MM/dd/yyyy hh:mm will display 03/01/2017 13:00).
    - If you want to display only the date (without the time), set to the same format as the short date field (e.g., MM/dd/yyyy) or set the "XFRACAS - Display Time with Date Fields" Boolean preference to False.

Other

Problem - Default Owner: The user who will be assigned by default as the owner for new problems.

XFRACAS Decimal Separator: The text (usually a period or comma) used to indicate the decimal place in both input and output.

XFRACAS Thousands Separator: The separator (usually a comma, period or space) used to separate groups of thousands in both input and output.

XFRACAS - Web Page Title Suffix: The text that will be displayed at the end of the title in the browser caption bar (e.g., "Proprietary and Confidential Information").

Exchange ADS Path: The Active Directory Services Path used for an LDAP connection to the GAL (Global Address List). (See Entering an ADS Path.)

TIME ZONE AND URL PREFERENCES

Time Zone Preferences

Default GMT Offset for New Users: The time zone, or offset from Coordinated Universal Time (formerly known as Greenwich Mean Time), that will be used when a new user is created if a different time zone is not specified for that user.

URL Preferences

Tips URLs: For many fields in XFRACAS, a help icon next to the input box opens a separate HTML page designed to provide data entry tips for that particular field. You can customize the information in these pages to meet the particular needs of your organization. By default, they are installed in the "Tips" folder on the web server (e.g., C:\inetpub\wwwroot\XFRACAS\Tips), but you can change the URLs if desired.

URLs for Tips

These preferences specify the URLs for some of the fields that have tips. For other fields that are configured from the Details page (such as the Incident Description or the Problem Description), you can specify the "Tips URL" when you edit the settings for the special detail field.

- **Action - Description Tips**
- **Action - Result Tips**
- **Action - Status Tips**
- **CSI - Installation Detail Tips**
- **FA - Detailed Analysis Tips**
- **FA - Fault Description/Troubleshooting/Rework Tips**

- **FA - Initial Repairs/Comments Tips**
- **FA - SAP Items**
- **FA - Visual Inspection Tips**
- **Incident - Actual Criticality Tips**
- **Incident - Potential Criticality Tips**
- **Problem - Criticality Tips**
- **Problem - FRB Rejection Description Tips**
- **Project - End Result Tips**
- **Project - Scope of Project Tips**

XSLT Style Sheet URLs

These preferences specify the URLs for the *.xslt style sheets for pages and reports that have a Print Preview command in the ribbon. By default, these are installed in the "XSLT" folder on the web server (e.g., C:\inetpub\wwwroot\XFRACAS\XSLT), but you can change the URLs if desired.

- **CSI - Print Preview Style Sheet**
- **FA - Print Preview Style Sheet**
- **Incident - Print Preview Style Sheet**
- **Problem - Print Preview Style Sheet**
- **Project - Print Preview Style Sheet**

XFRACAS - Company Homepage: The URL of your company's home page link that displays on the XFRACAS About page. The anchor text is specified in the "Company Homepage Link" string preference.

TARGET AND COMPLETED DATES

These preferences specify whether target and/or completed date fields will display in specific areas of the Incident page and Problem page.

- **Incident - Description - Show Target Date**

- **Incident - Description - Show Completed Date**
- **Incident - Resolution - Show Target Date**
- **Incident - Resolution - Show Completed Date**
- **Incident - Initial Failure Analysis - Show Target Date**
- **Incident - Initial Failure Analysis - Show Completed Date**
- **Incident - Additional Comments - Show Target Date**
- **Incident - Additional Comments - Show Completed Date**
- **Problem - Problem Description - Show Target Date**
- **Problem - Containment Description - Show Target Date**
- **Problem - Root Cause Verification - Show Target Date**
- **Problem - Corrective Action Description - Show Target Date**
- **Problem - Implement Corrective Action Description - Show Target Date**
- **Problem - Prevent Recurrence Description - Show Target Date**
- **Problem - Recognize Team Description - Show Target Date**

Static Pages

For some features, you can customize the interface to meet your particular needs by editing files stored directly on the web server.

- **What's New page** (Whatsnew.html) is installed in the website's main folder. The "Portal - What's New Modify Date" preference defines the date of the most recent modification to the page.
- **General Error page** (GeneralError.aspx) is installed in the website's main folder.
- **Terms of Use agreement pages** (Agreement.aspx and AdminAgreement.aspx) are installed in the website's main folder (displayed when the user visits any of the regular user pages) and in the Admin folder (displayed when the user visits any of the admin pages). To enable this feature, set the "Terms of Use Agreement Page Required" preference to True.

- **Description Criteria Link pages** are installed in the website's "Tips" folder (e.g., C:\inetpub\wwwroot\XFRACAS\Tips). If you want to use a file stored in a different location instead, edit the relevant link on the Preferences page under **URL Preferences** (e.g., "Incident - Actual Criticality Tips," etc.).

- **Print Preview XSLT files** are installed in the website's "XSLT" folder (e.g., C:\inetpub\wwwroot\XFRACAS\XSLT). These configure the "Print Preview" output for an incident, failure analysis, problem, project or CSI record or report. If you want to use a file stored in a different location instead, edit the relevant link on the Preferences page under **URL Preferences** (e.g., Incident - Print Preview Style Sheet," etc.).

Tip: If the record has an Attachments Table detail (also called "Associated Files"), the default XSLT templates installed with XFRACAS will display any attached image files (e.g.,*. jpg, *.gif, *.jpeg or *.png) as images in the print preview. If you need to change the list of file types that are treated as images, you can modify the following code in the template:

```
<xsl:when test="AttachmentType = 'Blob Data' and ('jpg' =
substring($imageName,string-length($imageName) - string-
length('jpg') +1) or 'gif' = substring($imageName,string-
length($imageName) - string-length('gif') +1) or 'jpeg' =
substring($imageName,string-length($imageName) - string-
length('jpeg') +1) or 'png' = substring($imageName,string-
length($imageName) - string-length('png') +1))">
```

E-mail Alerts

STEPS FOR CONFIGURING E-MAIL ALERTS

About E-mail Alerts in XFRACAS

In XFRACAS, a variety of settings on the Preferences page (**Admin > Configure > Preferences**) allow admin users to specify not only the conditions for sending e-mail alerts but also the contents of these e-mails. In general, XFRACAS can be configured to send e-mails when:

- An incident, problem, project, action, failure analysis (FA) or customer support (CSI) record is created or closed.

- An incident or problem is assigned a new owner.

- An action is created or closed.

- An action has an approaching or past due date.
- A status is updated.
- A user selects a drop-down list option that's configured to trigger an alert.
- A problem resolution step requires signoff, or has been signed off, by a failure review board (FRB) member.
- A user wants to notify a specified recipient about certain events related to FAs or the processing of failed parts.

Steps for Configuring E-mails

To configure e-mail settings, you'll need to have the "Manage System-Wide Preferences" and "Manage Entity Preferences" permissions.

1. Configure your implementation to send and receive e-mails.
    - In the **System-Wide Preferences** section of the Preferences page, specify an SMTP server, port and connection timeout. (See System-Wide Preferences, Implementation Guide.)
    - In **Admin > Configure > Security > Users**, make sure each user account that will send or receive e-mails has a valid e-mail address. (See Managing Users.)

> **Tip**: You can use the "Manage User - E-mail Suffix Used for Auto Build" preference to define the suffix (e.g., @company.com) to be used for e-mail addresses that are automatically generated for new users if the "Manage User - E-mail/Login Auto Build" Boolean preference is True.

2. Set the applicable preferences in the **Boolean Preferences** section of the Preferences page to True.
    - To determine which preferences apply, follow the applicable links in Conditions for Triggering E-mail Alerts.
    - If you plan to use e-mails in detail lists, follow the instructions in Working with E-mails in Detail Lists.
3. Configure the applicable e-mail "formats" (content) in the **String Preferences** section using the variables defined in the following help topics:

- E-mail Variables for Incidents, Problems, Projects, FAs and CSIs
- Action E-mail Variables
- Status E-mail Variables

To determine which formats apply for each preference, follow the applicable links in Conditions for Triggering E-mail Alerts.

Note: If you enable a preference but leave its corresponding format blank, your organization's SMTP server may prevent those e-mails from being sent.

4. Optional: In the **E-mail Preferences** section of the Preferences page, specify the following:

   - **E-mail - Single From Address** - defines the default "from" address for all e-mails
   - **E-mail - Default New Incident From** - defines the default "from" address for new incidents

   If you leave these preferences blank, the sender will be the user who initiates the e-mail — i.e., the user who creates the new incident, closes an action, etc.

5. To send copies of e-mails containing data from incident, problem, project, FA or CSI records / reports to an administrator for your organization, do the following:

   - Set **E-mail - BCC Administrator on XFRACAS Data Sent** to True in the **Boolean Preferences** section.
   - Specify an address for the **Administrator E-mail** in the **E-mail Preferences** section.

   These settings apply to e-mails that are triggered whenever a user selects the **Printer Friendly View** option in the Send E-mail utility. (See Send E-mail Utility in the user help). They create an audit trail and allow an administrator to monitor outbound e-mails to ensure compliance with ITAR and other security requirements.

6. If you plan to send reminder e-mails based on calendar date, do the following:

   - Configure the appropriate preferences and formats. (See "Action Due Date is Approaching or Past Due" and "Closure Date for Problem Step is Approaching or Past Due.")

- In the **Integer Preferences section** of the Preferences page, specify the intervals, in days, for any reminder e-mails you wish to send for actions and FRB signoffs.

- Verify that the DIU service is running by checking its status at the top of the Data Import page. If not, follow the instructions in the Implementation Guide to start the service. (This may require support from an IT admin.)

CONDITIONS FOR TRIGGERING E-MAIL ALERTS

Follow these links to see the required preferences and formats for e-mail alerts.

See also Working with E-mails in Detail Lists.

Actions

These settings apply to incident, problem, project, failure analysis (FA) or customer support (CSI) actions.

- User Creates a New Action
- User Completes / Closes an Action
- User Updates an Action
- Action Due Date is Approaching or Past Due

Status Updates

- User Updates the Status of an Existing Action, Incident, Problem, Project or FA

Incidents

- User Creates a New Incident
- User Assigns a New Owner to an Incident
- User Closes an Incident

Problems and FRB Signoffs

- User Creates a New Problem
- User Assigns a New Owner to a Problem

- User is Assigned to Review a Problem Step
- FRB Reviewer Signs Off on a Problem Step
- FRB Reviewer Rejects the Closure of a Problem Step
- Closure Date for a Problem Step is Approaching or Past Due

FA Reports

- User Updates an RMA Received Date for a Failed Part
- User Wants to Initiate a Request for an SAP Work Order
- Customer Requests Feedback on an FA Report Associated with an Incident

E-mail Preferences

Action E-mail Preferences

These alerts are sent from the user who initiates the action, unless a different address has been specified for **E-mail - Single From Address**. (See Steps for Configuring E-mail Alerts.)

Note: The formats required for these preferences are listed in Action E-mail Variables.

User Creates a New Action

- Boolean preferences:
  - **E-Mail - Incident Action Creation**
  - **E-Mail - Problem Action Creation**
  - **E-Mail - Project Action Creation**
  - **E-Mail - FA Action Creation**
  - **E-Mail - CSI Action Creation**
- Recipients:
  - Action owner

    - Action creator, if different from the action owner
    - Owner of the parent record, if **E-mail - Action Parent's Owner on Creation** is True (e.g., the incident owner would be notified upon creation of an action associated with the incident)
    - Team members who are assigned to the parent record, if **E-mail - Action Parent's Team on Creation** is True (e.g., the incident's team would be notified upon creation of an action associated with the incident)
- Formats:
    - **Action - E-mail Message Format - New - Incident**
    - **Action - E-mail Message Format - New - Problem**
    - **Action - E-mail Message Format - New - Project**
    - **Action - E-mail Message Format - New - FA**
    - **Action - E-mail Message Format - New - CSI**

User Completes / Closes an Action

- Boolean preferences:
    - **E-Mail - Incident Action Closed**
    - **E-Mail - Problem Action Closed**
    - **E-Mail - Project Action Closed**
    - **E-Mail - FA Action Closed**
    - **E-Mail - CSI Action Closed**
- Recipients:
    - Action owner
    - Action creator, if different from the action owner

- Owner of the parent record, if **E-mail - Action Parent's Owner on Close** is True (e.g., the incident owner would be notified upon when an action associated with the incident is closed)
- Team members who are assigned to the parent record, if **E-mail - Action Parent's Team on Close** is True (e.g., the incident's team would be notified when an action associated with the incident is closed)

- Formats:
  - **Action - E-mail Message Format - Complete - Incident**
  - **Action - E-mail Message Format - Complete - Problem**
  - **Action - E-mail Message Format - Complete - Project**
  - **Action - E-mail Message Format - Complete - FA**
  - **Action - E-mail Message Format - Complete - CSI**

User Updates an Action

Users update action records whenever they assign a new owner or change a description or due date.

- User assigns a new owner to an action:
  - Boolean preference: **E-Mail - Incident Action Creation**
  - Recipients: New and former action owners
- User updates an action's description or due date:
  - Boolean preference: **E-mail - Action Owner on Update**
  - Recipient: Action owner (if the update was made by someone else)
- Formats:
  - **Action - E-mail Message Format - Updated - Incident**
  - **Action - E-mail Message Format - Updated - Problem**
  - **Action - E-mail Message Format - Updated - Project**

- **Action - E-mail Message Format - Updated - FA**
- **Action - E-mail Message Format - Updated - CSI**

Action Due Date is Approaching or Past Due

You can configure XFRACAS to send reminder e-mails for incident, problem, project, FA and CSI actions. The following preferences determine when these e-mails are sent:

- **E-mail - Action Due in X Days Offset** - the number of days prior to the action due date that the e-mail will be sent.
- **E-mail - Send Action Due Notify Once** - If True, only the initial e-mail will be sent; if False, reminder e-mails will be sent at regular intervals until the action is complete (the number of days between reminders is set in E-mail - Remind Action Due Every X Days).
- **E-mail - Group Action Due Date** - If True, reminders for all actions that are approaching their due dates will be grouped into a single e-mail; if False, individual e-mails will be sent for each action.

Note: The DIU service must be running to send e-mail alerts based on the calendar date.

- Boolean preferences:
    - **E-mail - Incident Action Due Date**
    - **E-mail - Problem Action Due Date**
    - **E-mail - Project Action Due Date**
    - **E-mail - FA Action Due Date**
    - **E-mail - CSI Action Due Date**
- Recipients:
    - Action owner
    - Incident owner, if **E-mail - CC Incident Owner Action Due Date** is True
    - Problem owner, if **E-mail - CC Problem Owner Action Due Date** is True
- Formats:

- **Action - E-mail Message Format - Complete - Incident**
- **Action - E-mail Message Format - Complete - Problem**
- **Action - E-mail Message Format - Complete - Project**
- **Action - E-mail Message Format - Complete - FA**
- **Action - E-mail Message Format - Complete - CSI**

E-mail Preferences for Status Updates

These alerts are sent from the user who initiates the update, unless a different address has been specified for **E-mail - Single From Address**. (See Steps for Configuring E-mail Alerts.)

Note: The formats required for these preferences are listed in Status E-mail Variables.

User Updates the Status of an Existing Action, Incident, Problem, Project or FA

- Boolean preferences:
  - **E-mail - Incident Status Update**
  - **E-mail - Problem Status Update**
  - **E-mail - Project Status Update**
  - **E-mail - Action Status Update**
  - **E-mail - FA Status Update**
- Recipients: The user who updated the status, along with the recipients specified in the update dialog box. Preferences determine which check boxes are selected by default:
  - **E-mail - Incident Status Update Creator Checked**
  - **E-mail - Incident Status Update Owner Checked**
  - **E-mail - Incident Status Update Team Checked**
  - **E-mail - Problem Status Update Creator Checked**
  - **E-mail - Problem Status Update Owner Checked**

- **E-mail - Problem Status Update Team Checked**
- **E-mail - Project Status Update Owner Checked**
- **E-mail - Project Status Update Team Checked**
- **E-mail - Action Status Update Creator Checked**
- **E-mail - Action Status Update Associated Owner Checked**
- **E-mail - Action Status Update Team Checked**
- **E-mail - FA Status Update Creator Checked**
- **E-mail - FA Status Update Associated Owner Checked**
- **E-mail - FA Status Update Team Checked**

- Formats:
  - **Detail Status - E-mail Message Format - Incident**
  - **Detail Status - E-mail Message Format - Action**
  - **Detail Status - E-mail Message Format - Problem**
  - **Detail Status - E-mail Message Format - Project**
  - **Detail Status - E-mail Message Format - FA**

Incident E-mail Preferences

Incident e-mails are sent from the user who initiates the activity (e.g., creates a new incident, closes an existing incident, etc.) unless one of the following has been specified:

- **E-mail - Single From Address** - sets a default “from” address for all e-mails.
- **E-mail - Default New Incident From** - sets a default “from” address for new incidents only. If the recipient’s address is invalid, e-mails will bounce back to this address instead of the e-mail for the user who created the incident.

Note: The formats required for these preferences are listed in "Incident E-mail Variables."

User Creates a New Incident

- Boolean preference: **E-mail - Incident Creation**
- Recipient: Incident owner
- Format: **Incident - E-mail Message Format - New**

User Assigns a New Owner to an Incident

- Boolean preference: **E-mail - Incident Owner Reassigned**
- Recipients: Incident owners (previous and new)
- Format: **Incident - E-mail Message Format - New**

User Closes an Incident

- Boolean preferences:
  - **E-mail - Incident Closed**
  - **E-mail - Incident Closed - Team**
- Recipients: Incident owner and/or team members
- Format: **Incident - E-mail Message Format - Closed**

E-mail Preferences for Problems and FRB Signoffs

E-mails for problems and failure review boards (FRBs) are sent from the user who initiates the activity (e.g., creates a new problem, closes problem, etc.), unless a different address has been specified for **E-mail - Single From Address**. (See Steps for Configuring E-mail Alerts.)

Note: The formats required for these preferences are listed in "Problem E-mail Variables."

User Creates a New Problem

- Boolean preference: **E-mail - Problem Creation**
- Recipient: Problem owner, unless he/she is also the problem creator
- Format: **Problem - E-mail Message Format - New**

User Assigns a New Owner to a Problem

- Boolean preference: **E-mail - Problem Owner Reassigned**
- Recipient: Problem owner (new and previous), unless he/she is also the problem creator
- Format: **Problem - E-mail Message Format - New**

User is Assigned to Review a Problem Step

- Boolean preference: **E-mail - Reviewer Added to FRB**
- Recipient: The reviewer who was added to the FRB
- Format: **Problem - E-mail Message Format - Closure Requested**

FRB Reviewer Signs Off on a Problem Step

- Boolean preferences:
  - **E-mail - Send Problem Signed Off**
  - **E-mail - Problem Signed Off by FRB (All)**
- Recipients:
  - Problem owner and reviewer
  - The rest of the FRB, if **E-mail - Problem Signed Off by FRB (All)** is True
- Format: **Problem - E-mail Message Format - Signed Off**

FRB Reviewer Rejects the Closure of a Problem Step

- Boolean preference: **E-mail - Problem FRB Rejected**
- Recipients: Problem owner and all FRB members
- Format: **Problem - E-mail Message Format - Reject**

Closure Date for Problem Step is Approaching or Past Due

Note: The DIU Service must be running to send e-mail alerts based on the calendar date.

- Boolean preference: **E-mail - Problem FRB Not Signed Off**
- Recipients: FRB reviewers
- Format: **Problem - E-mail Message Format - Closure Requested**
- In addition, the following preferences determine how often reminder e-mails are sent to FRB reviewers once a Completed Date has been entered for a problem step:
  - **E-mail - FRB After Requested Closure in X Days Offset** - the number of business days after closure when a reminder e-mail is sent to reviewers who have not yet signed off on the step.
  - **E-mail - Remind FRB After Requested Closure Every X Days** - the interval, in days, for sending additional e-mail reminders to reviewers (for the final step only).

  If **E-mail - Group Problem FRB Not Signed Off** is True, only one reminder e-mail will be sent to a user for all problem steps for which he/she is an FRB reviewer; otherwise, individual e-mails will be sent for each step.

FA E-mail Preferences

XFRACAS provides options for sending various types of e-mail alerts to support the repair or replacement of failed parts.

User Updates an RMA Received Date for a Failed Part

For incidents that have been assigned to a problem, these settings notify the problem owner that a return materials authorization (RMA) has been received for a failed part so he/she can initiate and/or track its repair or replacement. The RMA can be entered on either the Incident or Failure Analysis page.

- Boolean preference: **E-mail - RMA Received to Problem Owner**
- Recipient: Problem owner
- Format: **Incident - E-mail Message Format - RMA Received** (see "Incident E-mail Variables")

User Wants to Initiate a Request for an SAP Work Order

These settings allow users to notify a specified recipient to initiate a request for a remanufacturing work order (or similar record) from an enterprise resource planning system such as SAP.

- Boolean preference: **E-mail - FA SAP Work Order Request**
- Recipient: Defined by **E-mail - SAP Work Order Request To**
- Format: **Failure Analysis - E-mail Message Format - Work Order** (see "Failure Analysis E-mail Variables")

Customer Requests Feedback on an FA Report Associated with an Incident

These settings send an e-mail to a specified recipient to notify him/her to send a copy of the report to the customer. The e-mail is sent when the incident status changes from open to closed.

Note: For these e-mails, the **Customer Requested Feedback** option must be selected on the Incident page and the **Report Sent to Customer** option must be deselected on the Failure Analysis page.

- Boolean preference: **E-mail - Incident Customer Requested Feedback**
- Recipient: Defined by **E-mail - Customer Requested Feedback Notify To**
- Format: **Incident - E-mail Message Format - Customer Feedback** (see "Incident E-mail Variables")

WORKING WITH E-MAILS IN DETAIL LISTS

E-mail alerts can be triggered from various administratively controlled custom detail lists, including select / multiple select (drop-down) lists, trees and multiple check boxes. (See Field Types.)

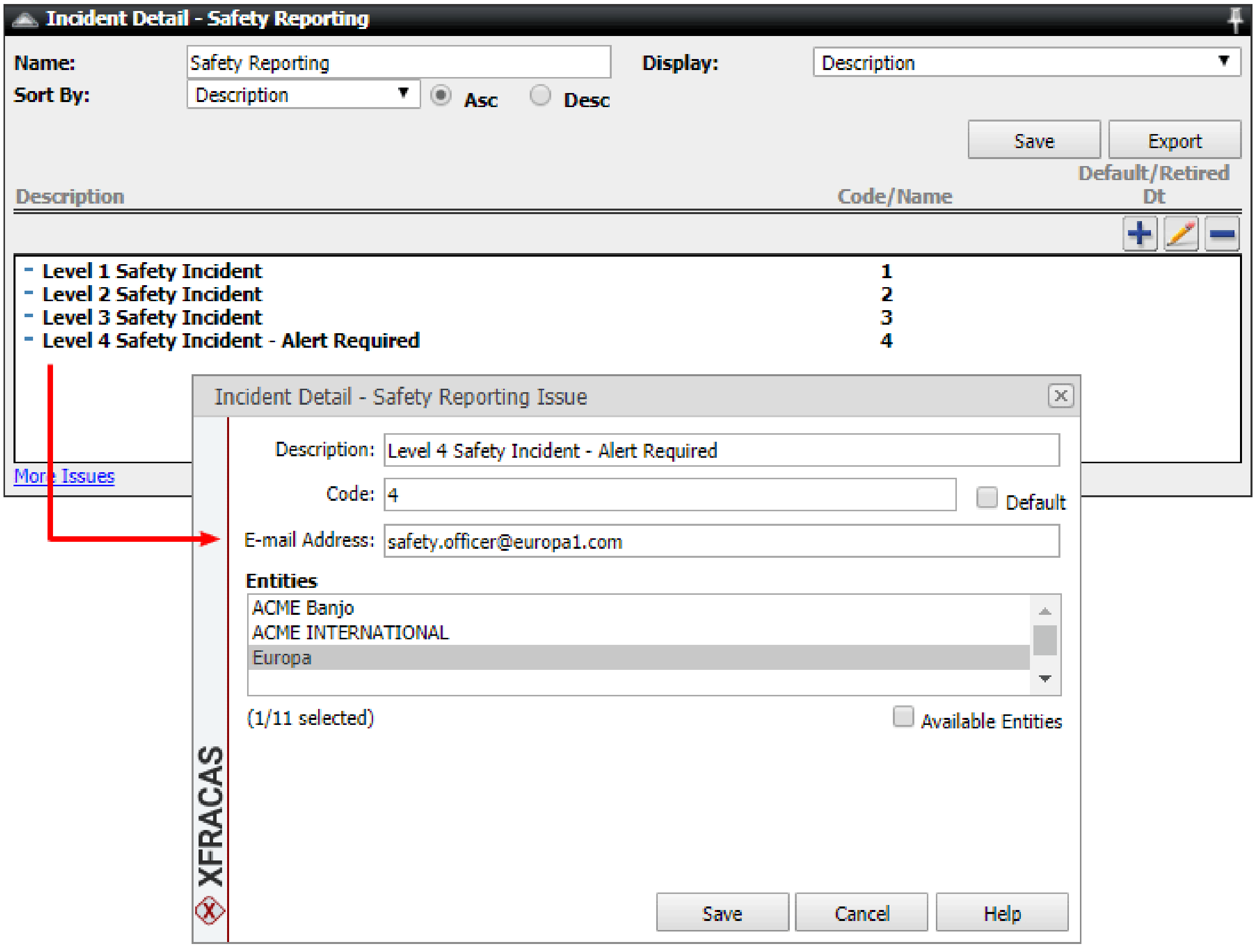
These types of e-mails are especially useful when you want to notify a specific person about a critical situation — e.g., one that might cause a loss of data, work stoppage or safety issue — so they can take immediate action. E-mails are sent when the user selects an option from the list and saves the record.

To configure these alerts, you'll need to do the following:

1. Create a detail. (See Managing Details.)

2. Go to the Lists page (**Admin > Configure > Lists**) and find the detail you just created.

3. Populate the detail list with options (issues). (See Managing Lists). You can specify an e-mail address for any or all of the options in the list; in the example below, only the level 4 safety incident requires an e-mail address.



E-mails will be sent from the user, unless a different address has been specified for the **E-mail - Single From Address** preference. The recipient will be the address specified for the selected list option.

If you want the e-mail to include the list name and selected option that triggered the alert, you'll need to use the %DTM variable (see E-mail Variables for Incidents, Problems, Projects, FAs and CSIs) and one of the following formats:

- **Detail Drop-down - E-Mail Message Format - Incident**

- **Detail Drop-down - E-mail Message Format - Problem**
- **Detail Drop-down - E-mail Message Format - Project**
- **Detail Drop-down - E-mail Message Format - FA**
- **Detail Drop-down - E-mail Message Format - CSI**

Configuring E-mail Contents

Configuring E-mail Message Formats

The "E-mail Message Format" preferences in the String Preferences area of the Preferences page (**Admin > Configure > Preferences**) use variables to specify which information is included in each type of e-mail.

For example, this is the default format for e-mails sent when a new action is assigned from within an incident: %1|%2|%3|%4|%5|%6|%8.

It results in e-mails like the following:

> **New Action Assigned**
> **Action ID**: 2268
> **Action Creator**: JOHN SMITH
> **Action Created Date/Time**: 07/12/2013 08:37 AM
> **Action Type**: Incident Action
> **Incident Report: E1-16118**
> **Action Due Date**: 07/20/2013
> **Action Description**: This is a sample description.

You can replace the default with your own custom format that uses any of the variables that are available for incident action e-mails. For example, if you specify a custom format like this:

%I1 - %1|%2|%10|%6|%8|Acme Industries - Internal Use Only

It results e-mails like the following:

New Action Assigned
Incident Report: E1-16118 - **Action ID**: 2268
Action Creator: JOHN SMITH
Assigned To: JILL ENGINEER
Action Due Date: 07/20/2010
Action Description: This is a sample description.
Acme Industries - Internal Use Only

- See E-mail Variables for Incidents, Problems, Projects, FAs and CSIs for a list of variables for e-mails that apply to those record types.
- See Action E-mail Variables for a list of variables for incident, problem, project, CSI, and failure analysis action e-mails.
- See Status E-mail Variables for a list of variables that apply to status updates for incidents, actions, failure analysis, problems or projects.

E-mail Variables for Incidents, Problems, Projects, FAs and CSIs

Incident E-mail Variables

These variables related to incident records can be used in any of the following e-mail formats:

- **Detail Drop-down - E-mail Message Format - Incident**
- **Incident - E-mail Message Format - New**
- **Incident - E-mail Message Format - Closed**
- **Incident - E-mail Message Format - Customer Feedback**
- **Incident - E-mail Message Format - RMA Received**

Variable	Description	Example
%1	Incident Number (with link to incident)	Incident Report: #E1-115
%2	Incident Title	Incident Title: Part Failed
%3	Incident Created By (with e-mail link)	Incident Creator: John Smith
%4	Incident Created Date and Time	Incident Created Date & Time: 07/12/2013 07:38 AM
%5	Incident Owner	Incident Owner: Robert Jones

%6	Incident Part Number	Incident System Part Number: 1001
%7	Incident Serial Number	Incident System Serial Number: 2
%8	Incident Description	Incident Description: Some part failure occurred...
%9	Incident State	Incident State: Closed
%10	Incident Closed Date and Time	Incident Closed Date & Time: 11/06/2018 08:01 AM
%11	Incident Responsible Part (for all selected responsible parts)	Incident Responsible Part: Fan: 1001; Power Supply: 1003; Brass Fitting: 1005
|	New Line	Starts a new line in the message
%DTM	Value of the selected option in a list detail*	Detail Name: Selected Value
%DTX	Detail Value*	Text Detail: Value

* See "Using Detail Variables" for more information.

Problem E-mail Variables

These variables related to problem records can be used in any of the following e-mail formats:

- **Detail Drop-down - E-mail Message Format - Problem**
- **Problem - E-mail Message Format - New**
- **Problem - E-mail Message Format - Closure Requested**
- **Problem - E-mail Message Format - Reject**
- **Problem - E-mail Message Format - Signed Off**

Variable	Description	Example
%1	Problem Number (with link to problem)	Problem: #E1-4
%2	Problem Created By (with e-mail link)	Problem Creator: John Smith
%3	Problem Created Date and Time	Problem Created Date & Time: 07/11/2013 02:23 PM
%4	Problem Owner (with e-mail link)	Owner: Tom Smith
%5	Problem Title	Problem Title: Parts
%6	Problem Description	Problem Description: Part Reports

|	New Line	Starts a new line in the message
%DTM	Value of the selected option in a list detail*	Detail Name: Selected Value
%DTX	Detail Value*	Text Detail: Value

* See "Using Detail Variables" for more information.

Project E-mail Variables

These variables related to project records can be used with this e-mail format:

- **Detail Drop-down - E-mail Message Format - Project**

Variable	Description	Example
%1	Project Number (with link to project)	Project: #E1-4
%2	Project Owner	Project Owner: John Smith
%3	Project Start Date and Time	Project Start Date: 07/11/2013 02:23 PM
%4	Project Title	Project Title: Part Redesign
%5	Project Scope	Project Scope: To identify problems with the redesign process and implementation
|	New Line	Starts a new line in the message
%DTM	Value of the selected option in a list detail*	Detail Name: Selected Value
%DTX	Detail Value*	Text Detail: Value

* See "Using Detail Variables" for more information.

CSI E-mail Variables

These variables related to CSI records can be used with the following e-mail format:

- **Detail Drop-down - E-mail Message Format - CSI**

Variable	Description	Example
%1	Customer Support Information Number (with link to CSI)	Incident Report: #E1-115
%2	Customer Support Information Author	CSI Author: Tom Smith
%3	Customer Support Information Shipment Date	Shipment Date: 05/21/2013 03:32 PM

<table>
<tr><td>%4</td><td>Customer Support Information Commission Date</td><td>Commission Date: 05/26/2013 09:01 AM</td></tr>
<tr><td>%5</td><td>Customer Support Information Decommission Date</td><td>Decommission Date: 07/15/2013 04:44 PM</td></tr>
<tr><td>%6</td><td>Customer Support Information System Configuration</td><td>System Configuration: 867978, Part 1983 ver. 1</td></tr>
<tr><td>|</td><td>New Line</td><td>Starts a new line in the message</td></tr>
<tr><td>%DTM</td><td>Value of the selected option in a list detail*</td><td>Detail Name: Selected Value</td></tr>
<tr><td>%DTX</td><td>Detail Value*</td><td>Text Detail: Value</td></tr>
</table>

* See "Using Detail Variables" for more information.

Failure Analysis E-mail Variables

These variables related to failure analysis records can be used in any of the following e-mail formats:

- **Detail Drop-down - E-mail Message Format - FA**
- **Failure Analysis - E-mail Message Format - Work Order**

<table>
<tr><th>Variable</th><th>Description</th><th>Example</th></tr>
<tr><td>%1</td><td>Failure Analysis Number (with link to failure analysis report)</td><td>Failure Analysis Report: #E1-9</td></tr>
<tr><td>%2</td><td>Failure Analysis Created By</td><td>Created By: John Smith</td></tr>
<tr><td>%3</td><td>Failure Analysis Created Date and Time</td><td>FA Report Open Date: 07/13/2013 01:23 PM</td></tr>
<tr><td>%4</td><td>Incoming Part Number</td><td>Incoming Part #: 5309a</td></tr>
<tr><td>%5</td><td>Incoming Part Description</td><td>Incoming Part Description: Parts</td></tr>
<tr><td>%6</td><td>Incoming Serial Number</td><td>Incoming Serial #: 867</td></tr>
<tr><td>%7</td><td>System Part Number</td><td>System Part #: 5309b</td></tr>
<tr><td>%8</td><td>System Part Description</td><td>System Part Description: Parts</td></tr>
<tr><td>%9</td><td>System Serial Number</td><td>System Serial #: 1943</td></tr>
<tr><td>|</td><td>New Line</td><td>Starts a new line in the message</td></tr>
<tr><td>%DTM</td><td>Value of the selected option in a list detail*</td><td>Detail Name: Selected Value</td></tr>
<tr><td>%DTX</td><td>Detail Value*</td><td>Text Detail: Value</td></tr>
</table>

* See "Using Detail Variables" for more information.

Using Detail Variables

Two variables — **%DTM** and **%DTX** — allow you to include information from details in your e-mail alerts. (See Managing Details.) They can be used in the formats listed above for each record type.

- Use **%DTM** for e-mail alerts that are triggered when a user selects an option from a detail list in an incident, problem, project, CSI or failure analysis record. (See Working with E-mails in Detail Lists.) It adds the name and selected value for the detail that triggered the e-mail alert.
- Use **%DTX** to include one or more details from the current incident, problem, project, CSI or failure analysis record. It adds the detail's text and value to the e-mail alert. For this variable, you'll need to specify X, the detail type ID. (See Using Detail Type IDs to find this number).

Action E-mail Variables

Use the following variables to format action e-mails for incidents, problems, projects, CSIs and failure analyses.

Incident Action E-mail Variables

These variables related to incident action records can be used in any of the following e-mail formats:

- **Action - E-mail Message Format - New - Incident**
- **Action - E-mail Message Format - Updated - Incident**
- **Action - E-mail Message Format - Complete - Incident**

Variable	Description	Example
%1	Action ID (with link to action)	Action ID: #128
%2	Action Created By Name (with e-mail link)	Action Creator: John Smith
%3	Action Created Date and Time	Action Created Date/Time: 07/12/2013 08:38 AM
%4	Action Type	Action Type: Incident Action
%5	Associated ID (with link to incident)	Incident Report: E1-115
%6	Action Due Date	Action Due Date: 08/12/2013

%7	Action Complete Date	Action Complete Date: 08/02/2013
%8	Action Description	Action Description: Description...
%9	Action Result	Action Result: Result description...
%10	Action Assigned to	Assigned to: John Smith
%I1	Incident Number (with link to incident)	Incident Report: #E1-115
%I2	Incident Title	Incident Title: Part Failed
%I3	Incident Created By (with e-mail link)	Incident Creator: John Smith
%I4	Incident Created Date and Time	Incident Created Date & Time: 07/12/2013 07:38 AM
%I5	Incident Owner	Incident Owner: Robert Jones
%I6	Incident Part Number	Incident System Part Number: 1001
%I7	Incident Serial Number	Incident System Serial Number: 2
%I8	Incident Description	Incident Description: Some part failure occurred...
|	New Line	Starts a new line in the message
%DTX	Action Detail Value*	Detail Text: Value
%IDTX	Incident Detail Value*	Detail Text: Value

* See "Using Detail Variables" for more information.

Problem Action E-mail Variables

These variables related to problem action records can be used in any of the following e-mail formats:

- **Action - E-mail Message Format - New - Problem**
- **Action - E-mail Message Format - Updated - Problem**
- **Action - E-mail Message Format - Complete - Problem**

Variable	Description	Example
%1	Action ID (with link to action)	Action ID: #132
%2	Action Created By (with e-mail link)	Action Creator: John Smith
%3	Action Created Date and Time	Action Created Time/Date: 07/12/2013 10:15 AM
%4	Action Type	Action Type: Problem Action

%5	Associated ID (with link to problem)	Problem: E1-4
%6	Action Due Date	Action Due Date: 08/09/2013
%7	Action Complete Date	Action Complete Date: 08/07/2013
%8	Action Description	Action Description: Description...
%9	Action Result	Action Result: Result description...
%10	Action Assigned To	Assigned To: John Smith
%R1	Problem Number (with link to problem)	Problem: #E1-4
%R2	Problem Created By (with e-mail link)	Created By: John Smith
%R3	Problem Created Date and Time	Problem Created Date & Time: 07/11/2013 02:23 PM
%R4	Problem Owner (with e-mail link)	Owner: Tom Smith
%R5	Problem Title	Problem Title: Parts
%R6	Problem Description	Problem Description: Part Reports
|	New Line	Starts a new line in the message
%DTX	Action Detail Value*	Detail Text: Value
%RDTX	Problem Detail Value*	Detail Text: Value
%PDTX	Problem's Associated Project Detail Value*	Detail Text: Value

* See "Using Detail Variables" for more information.

Project Action E-mail Variables

These variables related to project action records can be used in any of the following e-mail formats:

- **Action - E-mail Message Format - New - Project**
- **Action - E-mail Message Format - Updated - Project**
- **Action - E-mail Message Format - Complete - Project**

Variable	Description	Example
%1	Action ID (with link to action)	Action ID: #117
%2	Action Created By Name (with e-mail link)	Action Creator: John Smith

%3	Action Created Date and Time	Action Created Time/Date: 07/12/2013 01:21 PM
%4	Action Type	Action Type: Project Action
%5	Associated ID (with link to project)	Project: E1-4
%6	Action Due Date	Action Due Date: 08/21/2013
%7	Action Complete Date	Action Complete Date: 08/13/2013
%8	Action Description	Action Description: Description...
%9	Action Result	Action Result: Result description...
%10	Action Assigned To	Assigned To: John Smith
%P1	Project Number (with link to project)	Project: #E1-4
%P2	Problem Owner (with e-mail link)	Project Owner: John Smith
%P3	Project Start Date and Time	Project Start Date: 07/11/2013 02:23 PM
%P4	Project Title	Project Title: Part Redesign
%P5	Project Scope	Project Scope: To identify problems with the redesign process and implementation
|	New Line	Starts a new line in the message
%DTX	Action Detail Value*	Detail Text: Value
%PDTX	Project Detail Value*	Detail Text: Value

* See "Using Detail Variables" for more information.

CSI Action E-mail Variables

These variables related to CSI action records can be used in any of the following e-mail formats:

- **Action - E-mail Message Format - New - CSI**
- **Action - E-mail Message Format - Updated - CSI**
- **Action - E-mail Message Format - Complete - CSI**

Variable	Description	Example
%1	Action ID (with link to action)	Action ID: #203
%2	Action Created By Name (with e-mail link)	Action Creator: John Smith

%3	Action Created Date and Time	Action Created Time/Date: 07/16/2013 11:16 PM
%4	Action Type	Action Type: CSI Action
%5	Associated ID	Customer Support: E1-9
%6	Action Due Date	Action Due Date: 08/27/2013
%7	Action Complete Date	Action Complete Date: 08/19/2013
%8	Action Description	Action Description: Description...
%9	Action Result	Action Result: Result description...
%10	Action Assigned To	Assigned To: John Smith
%C1	Customer Support Information Number	CSI: #E1-9
%C2	Customer Support Information Author	CSI Author: Tom Smith
%C3	Customer Support Information Shipment Date	Shipment Date: 05/21/2013 03:32 PM
%C4	Customer Support Information Commission Date	Commission Date: 05/26/2013 09:01 AM
%C5	Customer Support Information Decommission Date	Decommission Date: 07/15/2013 04:44 PM
%C6	Customer Support Information System Configuration	System Configuration: 867978, Part 1983 ver. 1
|	New Line	Starts a new line in the message
%DTX	Action Detail Value*	Detail Text: Value
%CDTX	CSI Detail Value*	Detail Text: Value

* See "Using Detail Variables" for more information.

Failure Analysis Action E-mail Variables

These variables related to failure analysis action records can be used in any of the following e-mail formats:

- **Action - E-mail Message Format - New - FA**
- **Action - E-mail Message Format - Updated - FA**
- **Action - E-mail Message Format - Complete - FA**

Variable	Description	Example
%1	Action ID (with link to action)	Action ID: #121
%2	Action Created By Name (with e-mail link)	Action Creator: John Smith
%3	Action Created Date and Time	Action Created Time/Date: 07/12/2013 09:32 AM
%4	Action Type	Action Type: Failure Analysis Action
%5	Associated ID	Failure Analysis: E1-3
%6	Action Due Date	Action Due Date: 08/21/2013
%7	Action Complete Date	Action Complete Date: 08/13/2013
%8	Action Description	Action Description: Description...
%9	Action Result	Action Result: Result description...
%10	Action Assigned To	Assigned To: John Smith
%F1	Failure Analysis Number	Failure Analysis Report: #E1-3
%F2	Failure Analysis Created By	Created By: John Smith
%F3	Failure Analysis Created Date and Time	FA Report Open Date: 07/13/2013 01:23 PM
%F4	Failure Analysis Incoming Part Number	Incoming Part #: 5309a
%F5	Failure Analysis Incoming Part Name	Incoming Part Description: Parts
%F6	Failure Analysis Incoming Serial Number	Incoming Serial #: 867
%F7	Failure Analysis System Part Number	System Part #: 5309b
%F8	Failure Analysis System Part Name	System Part Description: Parts
%F9	Failure Analysis System Serial Number	System Serial #: 1943
|	New Line	Starts a new line in the message
%DTX	Action Detail Value*	Detail Text: Value
%FDTX	Failure Analysis Detail Value*	Detail Text: Value

* See "Using Detail Variables" for more information.

Using Detail Variables

The following variables allow you to include information from details in your action e-mails. (See Managing Details.) They can be used in the formats listed in the preceding sections for each record type.

- **Current action**. To include one or more details from the current action, use **%DTX**.
- **Parent records**. To include one or more details from parent records, use **%IDTX** (incident), **%RDTX** (problem), **%PDTX** (project), **%CDTX** (CSI) and **%FDTX** (failure analysis).

For each of these variables, you'll need to specify X, the detail type ID. (See Using Detail Type IDs to find this number).

Status E-mail Variables

These variables (related to the status updates that users can add in incidents, actions, failure analysis, problems or projects) can be used in any of the following e-mail formats:

- **Detail Status - E-mail Message Format - Action**
- **Detail Status - E-mail Message Format - Incident**
- **Detail Status - E-mail Message Format - FA**
- **Detail Status - E-mail Message Format - Problem**
- **Detail Status - E-mail Message Format - Project**

Variable	Description	Example
%1	Status Added By (with link to send e-mail to user)	Status Added By: John Smith
%2	Date and Time	Date & Time: 07/11/2013 02:23 PM
%3	Associated Record	Associated Incident: E1-103
%4	Status Text	Status Text: Status description...
|	New Line	Starts a new line in the message
%DTX	Detail Value*	Text Detail: Value

* Use **%DTX** to include information for one or more details from the parent incident, problem, project, action or failure analysis record. (See Managing Details.) For each detail, you'll need to specify X, the detail type ID. (See Using Detail Type IDs to find this number).

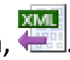
Using Detail Type IDs

You may need to know a detail type ID (i.e., the ID number for a specific detail) if you are...

- Building XML files for import into XFRACAS. (See Data Import Page.)

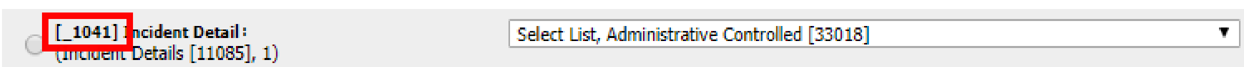
- Configuring an e-mail message format and you want to include the name of a detail, along with its selected value. (See Configuring E-mail Message Formats and Working with E-mails in Detail Lists.)

To find the detail type ID:

1. Open the record containing the detail of interest and click the **Export** icon, . (See "Exporting to XML.")
2. Open the XML file that you just exported in a browser (Firefox is recommended) and then scan or search to find the `<DetailTypeID>` for the detail.

Note: You'll need to have the "Access Data Export" permission to see the **Export** command.

Alternatively, you can also find the ID by setting the "XFRACAS – Display Debug IDs" preference to True and then checking the Details page. The ID will appear in brackets preceding the detail name.



Time Metric Calculations

If you configure XFRACAS to track incidents and part repairs/replacements for specific serialized systems, you can capture time/usage data for use in reliability data analysis.

There will always be one primary time/usage metric (Time Metric 1) and you can choose to enable up to two additional fields (Time Metric 2 and Time Metric 3). By default, these fields are called "System Hours," "Number of Starts" and "kW Run Hours," but you can record any metric(s) of interest (hours, miles, kilometers, cycles, etc.) and use the Resource Editor to modify the interface labels.

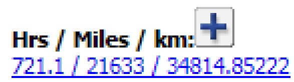
REPORTED SYSTEM HOURS

The Customer Support (CSI) page for a serialized system displays the latest reported value(s) for the time/usage metric(s) enabled for the entity. This information can be obtained from any or all of the following sources:

- Incidents reported for the serialized system
- Manual entry via the Customer Support interface

- Usage data imported from an external source

Click the link to see the history of all usage reports for that particular system. Click to manually enter new information.



ESTIMATED SYSTEM HOURS

For the primary metric only (Metric 1), the Customer Support page also displays the estimated usage at today's date. If there are at least two reported values for the system's actual time/usage, the estimate is calculated as follows:

```
(Commission Date - Today's Date) x Average Usage per Day
```

To estimate the average usage per day, XFRACAS fits a slope to the reported time/usage values. However, if the estimate exceeds the maximum possible per day (which is specified in the "Incident - Max Units/Day - Time Metric 1" preference), the max per day will be used instead.

This estimate is used for CSI MTBF calculations (discussed below) and may also be incorporated into custom reports and charts if applicable.

AUTO-POPULATE TIME METRIC 1

By default, users will be prompted to enter the time/usage metric(s) in each incident report for a serialized system. Alternatively, you can configure XFRACAS to automatically populate the primary metric (Metric 1) when the following preferences and inputs are available:

Preferences

- **Incident - Auto-populate Time Metric 1** is True
- **Incident - Max Units/Day - Time Metric 1** is a number greater than 0

Incident

- **Serial Number** has been entered
- **Occurrence Date** has been entered

Customer Support

The commission date has been entered and it is earlier than the incident's occurrence date.

- If the **System Down Event** field (a special Detail field for incidents) is not enabled for the entity, the calculation is as follows:

  ```
  (Commission Date - Occurrence Date) x Max Units/Day
  ```

- If the **System Down Event** field is enabled, downtime is obtained from any incidents for the serialized system where this check box is selected. For each incident, the time down is the Repair Date – Occurrence Date (or if a repair has not been entered, it is Today's Date – Occurrence Date). The calculation to auto-populate Metric 1 is:

  ```
  (Commission Date - Occurrence Date - Time Down) x Max
  Units/Day
  ```

AUTO-CALCULATE TIME METRIC 1, 2 OR 3

You can also configure XFRACAS to automatically calculate a time metric based on the value for another metric. For example, if Metric 1 is miles, you can configure Metric 2 as kilometers and calculate it automatically based on the value entered for miles (t1 * 1.60934). The behavior depends on the following preferences and what the user enters in the incident page.

- **Incident - Display Time Metric [2/3]**
- **Incident - Always Auto-calculate Time Metric [1/2/3]**
- **Incident Time Metric [1/2/3] Formula**

It is important to be aware that your Preferences settings do not prevent you from saving incompatible settings or invalid formulas, which may result in unexpected behavior for the metric fields in incidents. Note that:

- If the formula is blank, the field saves the entered value, regardless of whether "Auto-calculate" is True.
- If the formula is not blank and "Always Auto-calculate" is True, the field attempts to calculate the value. If the formula is invalid, the calculated value will be 0.
- If the formula is not blank and "Always Auto-calculate" is False, the field EITHER saves the entered value OR attempts to calculate if a value was not entered. For example, this

configuration may be appropriate if some incidents have usage reported in Metric 1 and other incidents have usage reported in Metric 2.

Also note that:

- Operands and operators must be separated by spaces.
- Valid operators are * / + and –.
- A valid operand can be a number, a time metric field (t1, t2 or t3) or a list of parameters (e.g., [t1,t2]) that will be checked in order until a parameter is found that is not 0.
    - A metric's formula should not refer to itself. For example, the formula for Metric 1 should not be t1 * 20.
    - A metric's formula should not refer to a metric that is not enabled.
    - A metric's formula should not refer to a metric that is already set to auto-calculate. For example, if the formula for Metric 2 is t1 * 30 (e.g., 30 miles for every hour), do not set the formula for Metric 3 as t2 * 1.60934 (e.g., 1.60934 km for every mile). Instead, set it to t1 * 48.202 (e.g., 48.202 km for every hour).

MTBF, MTBCF, MTBNCF AND MTBI

The CSI page provides the option to display some very basic reliability metrics based only on the data from a single serialized system. If the preferences are enabled, the MTBF metrics are calculated as follows:

```
Number of Incidents ÷ Total Time/Usage
```

Although we recommend using Weibull++ for more robust reliability analysis whenever possible, the CSI MTBF metrics may be used, for example, to monitor a specific machine in a manufacturing line to determine whether it is meeting the contracted MTBF.

The CSI page displays two values for each metric (e.g., MTBF / MTBFE). The first is based on the *reported* usage for Metric 1; the second is based on the *estimated* usage.

Since an incident may be a "chargeable failure" or a "non-chargeable failure" depending on the Incident Category, there's a choice of four metrics that can be displayed:

- **CSI - Display MTBF** (mean time between failures) and **CSI - Display MTBCF** (mean time between chargeable failure incidents) are the same metric

- **CSI - Display MTBNCF** is the mean time between non-chargeable failure incidents
- **CSI - Display MTBI** is the mean time between incidents (both chargeable and non-chargeable)

EXTRACT DATA FOR RELIABILITY ANALYSIS

For more robust reliability analysis, you can use the Reliability Data Warehouse (RDW) in the ReliaSoft Weibull++ desktop application to extract data from XFRACAS that can be used for either life data or reliability growth analysis.

For information about using the desktop applications to extract the data and transfer to an analysis folio, see Extracting Data from XFRACAS in the desktop application's help files. The extraction process for life data analysis works as follows:

1 – Select Part

The user selects one or multiple parts to be analyzed together in the same data set.

2 – Get Data from Serialized Incidents

The RDW identifies all serialized systems that contain the specified part(s). For each serialized system, the RDW then finds all "serialized incidents" and orders them by occurrence date to build a timeline.

- The RDW finds all incidents within the timeline in which the specified part(s) were repaired or replaced.
- The RDW checks the "Failure Type" for the repair and the "Incident Category" for the incident:
  - If both are chargeable (e.g., repair is "Primary Failure" and incident is "Component Failure"), then the incident is treated as a Failure (F).
  - If one or both are non-chargeable (e.g., repair is "Primary Failure" but the incident is "ASP Error"), then the incident is treated as a Suspension (S).

3 – Get Data from Part Incidents

The RDW finds all "part incidents" in which the specified part(s) were repaired or replaced.

The RDW checks the "Failure Type" for the repair and the "Incident Category" for the incident (as described above) to determine if the incident will be treated as a Failure (F) or Suspension (S).

Configuring Criticality Metrics

To configure a criticality formula in the String Preferences area of the Preferences page, the formula must consist of one of the following:

- A number (e.g., 7, 12.4, etc.).
- A criticality field, represented by "c" plus the field's display order. For example, c2 or c4. The field's display order is set and shown in the Criticality page.
- A list of numbers or criticality fields separated by commas, surrounded by brackets. For example, [c4,c3,c2] or [c7,c5,9].

Every number or criticality field (except those in brackets) must be separated by one of the following math operators: *, /, + or –.

The formula requires a space between the numbers and math operators but not between the items in brackets.

The formula is parsed from left to right with numbers or criticality fields alternating with math operators. When a bracketed list is encountered, the list is checked for any value that is not a 0. The first value that is not a 0 is the value that is used in the formula.

The default Incident Potential Criticality formula is **c1 * c2 * c3**. In this formula, criticality field 1, criticality field 2 and criticality field 3 are multiplied together.

The default Problem Current CIN formula is **c1 * c2 * c3 * [c6,c5,c4] * c7**. In this formula, criticality field 1, criticality field 2 and criticality field 3 are multiplied together. Next, criticality field 6, then criticality field 5 and then criticality field 4 are checked for 0. The first criticality field that does not contain a 0 is multiplied into the formula and the two other criticality fields are ignored. Finally, the formula is multiplied by criticality field 7.

Entering an ADS Path

This topic is relevant if you wish to use the Active Directory page to add users from Microsoft Active Directory (AD).

The Active Directory Services (ADS) path uniquely represents each object in the ADS. This can be compared to your mailing address. If the path showed "United States, Arizona," then all addresses in the state would be displayed. In contrast, "United States, Arizona, Pima County, Tucson, Eastside Loop" would display only the addresses on that street.

To retrieve the network's Global Address List (GAL), you can enter the correct ADS path for a Lightweight Directory Access Protocol (LDAP) connection in the "Exchange ADS Path" preference, which is located in the String Preferences area of the Preferences page. LDAP is a set of protocols used to access contact information from a server (in this case, a Windows AD server). This path is necessary to retrieve e-mail addresses from the network's GAL.

If you do not plan to implement this functionality, leave the three Exchange preferences blank. If your server supports CDO 1.21, the Exchange ADS Path preference can be left blank and the Exchange Profile Name and Exchange Server Name preferences can be used to access the network's GAL via a CDO connection.

LDAP CONNECTION STRING EXAMPLES

Although each ADS path will be unique, it will follow this general format for a Windows/Exchange system:

LDAP://YourDomain.local/OU=Users,DC=YourDomain,DC=local

If there is a problem resolving the name, try using the IP address instead:

LDAP://10.0.0.25/OU=Users,DC=YourDomain,DC=local

Managing Configurable Fields

Managing Details

Use the Details page to manage configurable fields in various record types. Permissions required to access this page: Access Admin Tab and Manage Details.

To open the page, choose **Admin > Configure > Details**.

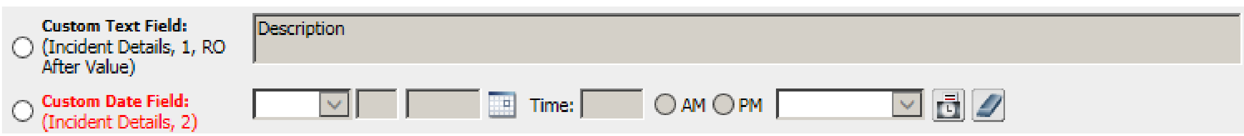
If your implementation has more than one entity, the detail fields can be configured separately for each. The drop-down list at the top of the page determines which entity's detail fields are currently displayed.

TYPES OF DETAIL FIELDS

- **Action Fields** appear in the Action page.
- **Company Fields** appear in the Companies page.
- **Contact Fields** appear in the Contacts page.
- **CSI Fields** appear in the Customer Support page. You can specify the sections where the fields will appear.
- **FA Fields** appear in the Failure Analysis page. You can specify the sections where the fields will appear.
- **Incident Fields** appear in the Incident page. You can specify the sections where the fields will appear.
- **Location Fields** appear in the Locations page.
- **Part Fields** appear in the parts that are associated with system templates.
- **Problem Fields** appear in the Problem page. You can specify the sections where the fields will appear.

- **Project Fields** appear in the Project page. You can specify the sections where the fields will appear.
- **Serialized Part Fields** appear in the parts that are associated with serialized systems.

The options depend on the type of field (description, date, check box, etc.) and record (incident, problem, etc.). Some current settings appear in parentheses under the field name. In the following example, the "Custom Text Field" will display in the first detail field position in the "Incident Details" area of the Incident page, and it will be read-only after a value is entered. The "Custom Date Field" will display in the second portion of that area, and is required (red text).



Fields identified with an asterisk (*) are referred to as "special detail fields" and can be retired but not deleted.

ADDING OR EDITING A FIELD

To add a new field, click the **Add** icon, , for the relevant record type. To edit an existing field, select it using the radio button to the left of the field and then click **Edit**, .

Note that you can use the same detail field in multiple entities, if desired. The **Add or Remove Entities** area shows the entities that you have access to, and allows you to choose which ones will include the detail field you're currently editing. If you do not have access to all the entities where a field is used, you can add or remove it from the entities that you have access to, but you can't edit the other options.

1. If applicable, select the area that the field will appear in from the **Section** or **Step** drop-down list.
2. Select a **Field Type** from the drop-down list.
3. Enter the **Field Name** (the label shown in the interface) and **Field Description** (the tip that appears when a user points to the field).
4. Specify whether user input is **Optional/Required**. This option is not available for the following field types: Accessory; Attachments Table; Check Box; Separator; Status.

5. Specify the **Display Order**, which determines where the field will be displayed in the page. If you don't specify a value, XFRACAS will automatically assign one. If the display order numbers are not in sequence (e.g., 1, 2, 4), then a blank space will fill that position.

6. Enable **Span width of page**, if desired. This forces the detail field to span the entire width of the area on the page. If not selected, the field will display at its default width, which varies depending on the field type.

7. Specify the **Default Value** that will be displayed on new record creation, if applicable. This option is not available for the following field types: Accessory; Address; Attachments Table; Company; Current System Users; Failure Mode; Separator; Status; System Contacts; Tree.

8. If applicable, select an **Existing Dropdown**. For some detail types (e.g., select list, tree, etc.), you will need to use the Lists page to configure values that will be available to select. When you create the detail, you can choose an **Existing Dropdown** or leave the option blank so XFRACAS will create a new list.

9. Specify whether the detail is read-only. The **Read-only** options allow you to make the detail unavailable to edit in certain circumstances. The options depend on the field and/or record type.

    a. **Always** - the field is always read-only in the web interface (e.g., because the value is intended to be imported). If the value is imported incorrectly, only a user with the "Details - Overwrite Read-Only" permission will be able to modify it.

    b. **After a value is entered** - once a user enters a value in the field, it can't be changed.

10. Specify the **Number of Lines Displayed**. This option is available for the Description field type only. If not specified, then the number of lines displayed is set by the **XFRACAS - Description Number of Lines Displayed** preference.

DELETING OR RETIRING A FIELD

To remove or retire a field, first select it and then click the **Delete** icon, .

- If the field is a special detail field (identified with an asterisk) or has already been used in any existing records, it will be retired for the current entity and appear grayed out.

- If the field has never been used in any existing records, it will be completely removed.

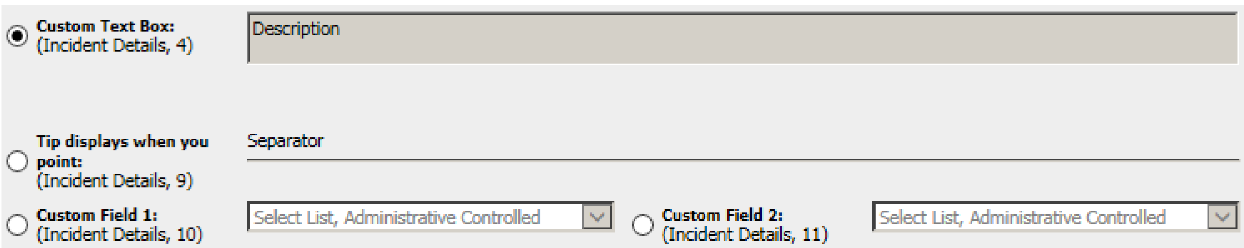
To unretire a detail field, select the field name and click the **Edit** icon, . You will see a message confirming that you want to unretire the detail field. Click **OK** to proceed.

USING SPACES AND SEPARATORS

To add or remove spaces above a particular detail, select the radio button to the left of the field and then click the **Add Space** or **Delete Space** links for the relevant record type.

To add a line within an area of the space, add a "Separator" detail. The Field Description will display as a label within the page, and the Field Name will display as a tip when the user points to the separator. If you leave both fields blank, only the line will be displayed.

In the following example, there are 4 extra spaces between a custom description field (in position 4) and a separator (in position 9) that identifies a custom sub-section within two list fields (positions 10 and 11).



Field Types

The following types of detail fields can be created:

- **Accessory** - a drop-down list where users can select multiple options, each of which involves a description, a part number and a serial number. The options in the list will be controlled by the users via **Add**, **Edit** and **Delete** icons that appear next to the list.
- **Address** - a drop-down list displaying the combinations of company and location that have been defined for your implementation.
- **Alphanumeric Input Box** - an input box where users can enter letters and numbers. You can set a maximum length between 1 and 255 characters; the default maximum is 50 characters.
- **Attachments Table** - a table that allows users to create attachments.
- **Check Box** - a check box that users can select or clear.
- **Company** - a drop-down list displaying all companies that have been defined for your implementation.

- **Contacts** - a drop-down list displaying all contacts that have been defined for your implementation.
- **Currency** - an input box where users can only enter numbers. The input is interpreted as currency. You can specify the number of decimal places to display, the minimum and/or maximum acceptable value that can be entered in the field and the world currency type.
- **Date** - a date field.
- **Description** - an input box in which users can enter letters and numbers. You can set a maximum length between 1 and 4,000 characters; the default is 4,000 characters. You can select the **Allow Existing Text Search** check box to allow users to choose text that has already been used in the field in other records.
- **Failure Mode** - a field controlled by two drop-down lists where users can select options — one for failure mode and one for root cause. The options in the lists will be determined by the failure modes and root causes of failure modes assigned to the parts on the Templates page. It is also possible to allow users to add options to the list by selecting the **Allow User Creation** check box. This field type is available only for the Failure Analysis, Incident and Problem pages.
- **Hyperlink** - a hyperlink that allows linking to an external site with the ability to pass variables. (See Configuring Hyperlink Details).
- **Item Category** - a field that allows users to select from the same list of item categories that are defined in the data for ReliaSoft desktop applications. This is used when importing or synchronizing parts and failure mode data from XFMEA, RCM++ or RBI. (See "Using the Item Category Field.")
- **Multiple List** - a list where users can select multiple options. The options in the list will be controlled by the users via **Add**, **Edit** and **Delete** icons that appear next to the list.
- **Numeric Input Box** - an input box where users can only enter numbers. You can specify the number of decimal places to display and the minimum and/or maximum acceptable value that can be entered in the field.
- **Print Preview** - a link that provides a print preview of the page, based on the *.xslt file specified for the field. This field type is available only for the CSI, Failure Analysis, Incident, Problem and Project pages.

Note: If you upload a new *.xslt file after opening a page that includes a "print preview" link, you'll need to reload that page to use the new template.

- **Select List, Administrative Controlled** - a drop-down list where users can select an option. These options will be controlled via the Lists page. It is also possible to allow users to add options to the list by enabling the **Allow User Creation** option. If you want to use the same list of values as an existing detail field within the current entity, select the name of that field from the **Existing Dropdown** list.

- **Select List, Administrative Controlled, Multiple** - a drop-down list where users can select multiple options. The options in the list will be controlled via the Lists page. It is also possible to allow users to add options to the list by enabling the **Allow User Creation** option. If you want to use the same list of values as an existing detail field within the current entity, select the name of that field from the **Existing Dropdown** list.

- **Select List, Checkbox Options, Multiple** - a list where users can select multiple options using check boxes. Note that pointing to a selected option will display a tool tip indicating the user who checked the item and the time it was checked. The options in the list will be controlled via the Lists page. It is also possible to allow users to add options to the list by enabling the **Allow User Creation** option. If you want to use the same list of values as an existing detail field within the current entity, select the name of that field from the **Existing Dropdown** list.

- **Select List, User Controlled, Multiple** - a drop-down list where users can select multiple options. The options in the list will be controlled by the users via **Add**, **Edit** and **Delete** icons that appear next to the list.

- **Separator** - a horizontal line. Note that the **Field Name** will be the tool tip that appears when a user points to the field and the **Field Description** will be shown as a label below the separator.

- **Status** - a status table with an **Add** icon that allows users to add status messages. You can enable **Allow Existing Text Search** to allow users to choose text that has already been used in the field in other records.

- **Tree** - a list of values or issues organized into a tree structure. The options in the tree will be controlled via the Lists page.

- **Users** - a drop-down list of all current users. You can use the **User Category** drop-down list to specify a single user category that will be used to filter the users list, if desired. Fields of this type will have an icon, , that allows users to select themselves from the list with a single click.

- **Yes/No Option Buttons** - **Yes** and **No** radio buttons.

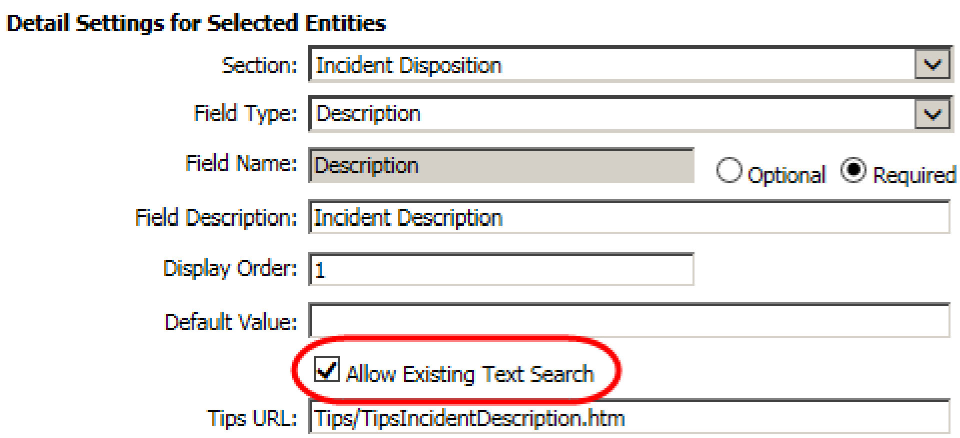
Configuring the Select Existing Utility

The Select Existing utility enables users to reuse text from existing description and status fields in action, customer support, failure analysis, project, incident and problem records. This can save time on data entry, ensure consistency and facilitate brainstorming.

When the description or status is a configurable detail field, you can choose whether the feature will be available for that particular field. You can also choose which users will be able to access the utility when it is available.

ENABLE THE SEARCH FEATURE FOR SELECTED DETAIL FIELDS

When you create or modify a description or status field in the Details page (**Admin > Configure > Details**), select **Allow Existing Text Search** to enable the feature for that field. It will be visible only to uses who have the "Details - Allow Existing Text Search" permission.



SET THE USER PERMISSIONS

When you create or modify a user account in the Users page (**Admin > Configure > Security > Users**), set the following permissions to specify whether the user can access the utility when it is available.

Permission for Any Record Type

The **Details - Allow Existing Text Search** permission applies for detail fields in any record type — all of the description and status fields in incidents and problems, as well as any relevant configurable details in actions, CSIs, failure analysis reports and projects.

Permissions for Specific Record Types

These permissions apply for description and status fields that are built-in for a specific record type (e.g., action descriptions, failure analysis visual inspection, etc.).

- **Action - Allow Existing Text Search**
- **CSI - Allow Existing Text Search**
- **Failure Analysis - Allow Existing Text Search**
- **Project - Allow Existing Text Search**

Configuring Hyperlink Details

A hyperlink detail allows linking to an external site with the ability to pass variables.

Variable	Description
%1	Record number (e.g., "E1-1")
%2	User ID (ID of the currently logged in XFRACAS user)
%3	Page ID (the internal ID of the record)
%4	User Name (username, with domain, of the currently logged in XFRACAS user, e.g., "COMPANY\USERNAME")
%5	Page title (title of the record)
%6	User Name Without Domain (username of the currently logged in XFRACAS user, but with the Windows domain stripped off. For example, "COMPANY\USERNAME" would be included as just "USERNAME.")
%7	User Language Code
%DTX	Detail Value (X represents the detail type ID)

For example, the **URL** field for a hyperlink detail might look like this:

http://external.site.com/doStuff.cgi?record=[%1]&user=[%2]&title=[%5]&lang=[%7]

When incident E1-1, titled "Overflow," is edited by the user with ID 234, the URL generated would be:

http://external.site.com/doStuff.cgi?record=E1-1&user=234&title=Overflow&lang=en

Clicking the link opens the result in a new browser window. There is no expectation of anything being returned.

Managing Criticality Fields

Use the Criticality page to maintain the criticality fields that may appear in the Incident and/or Problem pages. Permissions required to access this page: Access Admin Tab and Manage Criticality.

To open the page, choose **Admin > Configure > Criticality**.

If your implementation has more than one entity, the criticality fields can be configured separately for each. The drop-down list at the top of the page determines which entity's criticality fields are currently displayed.

USING CRITICALITY FIELDS

To calculate criticality metrics in the Incident and/or Problem page, configure all of the following:

Preferences

- Incident - Display Actual Criticality
- Incident - Display Potential Criticality
- Problem - Display Criticality

(See Managing Preferences)

Criticality Fields and Lists

Customize the fields that are installed with XFRACAS and/or create new fields to meet your particular needs.

Criticality Formulas

Customize the formula that calculates the criticality for each record based on the user's selections in the criticality fields. (See Configuring Criticality Metrics)

ADDING, EDITING, DELETING OR RETIRING FIELDS

The steps to add, edit, delete or retire a criticality field are similar to managing other types of fields in the Details page. (See Managing Details.)

Note that:

- Criticality fields are automatically set to the "Select List, Administrative Controlled" field type. Use the Lists page to manage the options in the drop-down lists.
- For incident criticality fields, the **Section** indicates whether the field is used to calculate the potential criticality or the actual criticality. This is not relevant for problem criticality fields.
- The label under each field indicates the code that represents the field in the criticality metric formulas. For example, c2 = schedule, c3 = cost, etc.

Managing Lists

Use the Lists page to maintain the values for fields that require selection from predefined options (such as drop-down lists, trees and check box fields). Permissions required to access this page: Access Admin Tab and Manage Lists.

To open the page, choose **Admin > Configure > Lists**.

If your implementation has more than one entity, the lists can be configured separately for each, but the same list may be used in multiple entities. The drop-down list at the top of the page determines which entity's lists are currently displayed.

Some lists are defined in every XFRACAS implementation and you can configure them to meet your particular needs (see "Standard Lists" below). You can also create and manage custom lists that are used with certain types of configurable detail fields. Custom lists will have names like "Incident Detail - Field Name" or "Action Detail - Field Name" by default.

EDITING LIST PROPERTIES

Each list has the following properties. The name will be the same in all entities where the list is used; the display and sort-by properties, as well as the list options, may differ in each entity.

- **Name** - the label that displays on the bar in the Lists page. This may not correspond to the name of the user interface field(s) where the list is used.
- **Display** - determines whether the list will display codes, descriptions or a combination of both. For example, you could configure the list of currency types to display "USD," "US Dollars," "USD: US Dollars" or "US Dollars: USD."

> **Note**: Reports and charts display only the description, regardless of which setting you choose. (See "Editing Option Properties.")

- **Sort By** - determines whether the list will be sorted alphabetically or numerically, by code or description, in ascending or descending order. If you choose to sort numerically, make sure all options have a number in that field.

To save changes to the list's properties, click **Save**. To export the list's options to XML, click **Export**.

ADDING, EDITING OR DELETING LIST OPTIONS

For each list, the table shows the options for the current entity. A check box in the last column indicates that the option will be selected by default for new records. A date in the last column indicates that the option is retired and will not be available to select for new records.

- To add a new option, click **Add**, .

> ***Tip:*** Some lists can have the options defined in more than one level (i.e., tree details). If an existing option is selected when you click **Add**, the new one will be added to the next level under that option. If an existing option is not selected, the new one will be added to the top level. After an option is created, you can edit its properties to change the "parent."

- To edit an option, select it and click **Edit**, .
- To delete or retire one or multiple options, select the option(s) and click **Delete**, . If an option has never been used, it will be deleted. If it has been used, it will be retired.

To add options that have been defined for this list in another entity, click **More Issues**. In the popup window, select another entity that has the same list. The left panel shows options that are not available in the current entity, if any. To add selected options to the current entity, move them into the center panel and then click **Save**.

EDITING OPTION PROPERTIES

Each list option has the following properties:

- **Description** - a text label that can be up to 200 characters.
- **Code** - a number, or a shorter text label (e.g., abbreviation) that can be up to 40 characters.
- **Default** - if selected, the option will be selected by default for new records.
- **Entities** - shows the entities where the list is used. For the entities that are selected (highlighted with a gray background), this option will appear in the list in that entity.

When applicable, you may also be able to specify:

- **E-mail Address** - applies for lists used by certain types of configurable detail fields. If your implementation is configured for e-mail notifications, the application can send an e-mail when the option is selected in a record.
- **Reciprocal** - applies for the "Attachment - Record Association Type" list. It sets the options for the **Relationship Type** field in the Associated Files window. For example, if "Superseding" and "Superseded" are configured as reciprocal relationship types, users can create links between two XFRACAS records where one record is identified in the attachments table as "Superseding" and the other is identified as "Superseded."
- **Parent** - applies when options can be defined in more than one level (e.g., tree details). As discussed above, the parent is set automatically when you add a new option. You can change the parent when editing the properties for an existing option.

STANDARD LISTS

These lists are defined in every XFRACAS implementation:

- **Attachment – Record Association Type** - sets the options for the **Relationship Type** field in the Associated Files window. (See Attachments.)
- **Audience Restriction** - sets the options for the **Audience Restriction** field, which can be displayed in the Incident page and Problem page if the preference is enabled.

- **Company Sales Region** - sets the options for the **Sales Region** field in the Companies page. (See Managing Companies.)
- **CSI Detail - Build Designation**, **Market Segment**, **Mode of Operation** and **Primary Application** - sets the options for some "special detail fields" in the CSI page.
- **CSI Extended Warranty Terms** - sets the options for the **Terms** field in the CSI page.
- **Currency Type** - sets the options for detail fields with type = Currency.
- **FA ATP Test Result** - sets the options for the **Test Results** fields in the ATP / Burn-in section of the Failure Analysis page.
- **FA Customer Return Type -** sets the options for the **Return Type** field in the Failure Analysis page.
- **FA Status** and **FA Status Close** - sets the options for the **FA Status** field in the Failure Analysis page. The selected option determines whether a record is open or closed.
- **Incident Category Chargeable** / **Non-Chargeable** and **Incident Failure Type Chargeable** / **Non-Chargeable** - set the options in the **Incident Category** field in the Incident page and the **Failure Type** field in the Repair or Replace Parts utility. These determine how data are extracted for reliability analysis. (See Repair or Replace Parts Utility.)
- **Incident Criticality - Cost**, **Criticality** and **Schedule** - sets the options for criticality fields in the Incident page and/or the Problem page, if the preferences are enabled. (See Managing Criticality Fields.)
- **Incident Parts Disposition** - sets the options for the **Parts Disposition** field in Repair or Replace Parts utility.
- **Incident Report Type** - sets the options for the **Report Type** field in the Incident page.
- **Incident State** and **Incident State Closed** - sets the options for the **State** field in the Incident page. The selected option determines whether a record is open or closed.
- **Incident System Status** - sets the options for the **System Status** field in the Incident page for serialized incidents (and for part incidents if the preference is enabled).
- **Output Record Count** - sets the options for the **Records per Page** field in the Output section of the Report Builder page. This determines the number of records displayed on each page of the report results.

- **Portal Link Groups** - sets the options for the **Groups** field in the Links panel. (See Links Panel.)
- **Problem Criticality - Business Decision**, **Customer Rate**, **LT Rate** and **ST Rate** - sets the options for criticality fields in the Problem page, if the preferences are enabled. (See Managing Criticality Fields.)
- **Problem Priority** - sets the options for the **Priority** field in the Problem page.
- **Problem Status Closed** - sets the options for the **Set Close Status** field that appears in the Problem page after the required number of steps have been completed.
- **Project Priority** - sets the options for the **Priority** field in the Project page.
- **Reporting Organization** - sets the options for the **Reporting Organization** field in the Users page.
- **Team Member Role** - sets the options for the **Team Role** field in the Assign Members utility. This may be used in the Incident, Problem and Project pages (if the preferences are enabled) and in the User Groups page. (See Assign Team Members Utility.)

Managing Action Fields and Categories

Use the Action Management page to hide or display actions fields and maintain the categories that users can select from when they create actions. Permissions required to access this page: Access Admin Tab and Manage Action Categories.

To open the page, choose **Admin > Configure > Action Management**.

HIDE OR DISPLAY ACTIONS FIELDS

Use the **Display** option under each bar to specify whether an actions field will display in that page or section of a page. For incidents, failure analysis reports, CSIs and projects, there can be a single actions field in each type of record. For problems, there can be separate actions fields for different steps in the problem resolution process (Description, Containment, Root Cause Analysis, etc.).

MANAGE THE ACTION CATEGORIES

Each action record has a **Category** drop-down list. The main category always indicates the actions field where the record is displayed (e.g., in an incident, in the Description step for a problem, etc.). If desired, use the table under each bar to define your own custom subcategories ("action types").

- To add a new subcategory, click the **Add** icon, .
- To edit an existing subcategory, select it in the list and click the **Edit** icon, . Changes will apply to all records that have already been associated with that subcategory. Alternatively, if you do not want the changes to apply to existing records, you can retire the existing subcategory and create a new subcategory with the new label.
- To delete or retire an existing subcategory, select it in the list and click the **Delete** icon, .

Note: If you attempt to duplicate an entity that has custom subcategories defined for actions, the following error message may appear: "An error occurred while creating <New Entity Name> from <Existing Entity Name>. Some data may not have been completely duplicated."

In such cases, the new entity will not show the custom action subcategories that were defined in the original entity. To address the issue, go to the Action Management page and select the original entity. For each custom subcategory that you want to show in the new duplicated entity, click . In the Action Type window, make sure the new duplicated entity is selected and click **Save**.

Managing Contacts

Use the Contacts page to manage the list of contacts that are available to select in CSI records, Incidents or any record that includes a "Contacts" detail field. Permissions required to access this page: Access Admin Tab and Manage Contacts.

To open the page, choose **Admin > Configure > Manage > Contacts**.

If your implementation has more than one entity, the same set of contacts will be available in all of them.

Tip: Users can also create and edit contacts that belong to the "Unit Owner" category while working in the CSI page.

Using Contacts in CSIs, Incidents and Other Records

- In CSI records, contacts are used in the "Unit Owner" and "ASP Field Service Tech" fields.
- In Incidents, contacts are used in the "ASP Field Service Tech" field if it is enabled for the entity.
- Contacts are also used in any record that has a Detail field with type = Contacts.

Creating, Editing and Deleting a Contact

To create a new contact, make sure the **Contact** drop-down list is blank, enter information into the required fields and choose **Admin > Contacts > Create**.

If you need to clear an existing contact before creating a new one, choose **Admin > Contacts > New**.

To edit a contact, choose the name from the **Contact** list. Make the desired changes and then choose **Admin > Contacts > Save**.

To delete a contact that is not used in any records, choose the name from the **Contact** list and then choose **Admin > Contacts > Delete**.

Alternatively, if you clear all categories from the contact properties, it will remain assigned to any existing records but will not be available to assign to new records.

Contact Properties

FIRST NAME AND LAST NAME

These fields are required; **MI** (middle initial) is optional.

COMPANY AND LOCATION

First select the company and then select one of the locations associated with that company. (See Managing Companies and Managing Locations.)

> ***Tip:*** In the CSI page, the **ASP Field Service Tech** field displays contacts that are associated with the company that is selected in the ASP field.

CATEGORY

- **Unit Contact** - the contact can be selected in the **Contact Name** field on the CSI page. Click the **Associated Systems** link to view a report of all CSIs where this contact has been selected.
- **ASP Field Tech** - the contact can selected in the **ASP Field Service Tech** field on the CSI page or Incident page.
- **External User** - please contact ReliaSoft for information about this option.

If you have configured additional detail fields to meet your organization's specific needs, they will be grouped together in a separate **Contact Details** area at the bottom of the page.

Managing Companies

Use the Companies page to manage the list of companies that are available to select in Contact records, CSI records or any record that includes a "Companies" detail field. Permissions required to access this page: Access Admin Tab and Manage Companies.

To open the page, choose **Admin > Configure > Manage > Companies**.

If your implementation has more than one entity, the same set of companies will be available in all of them.

Tip: Users can also create and edit companies while editing a Contact or CSI record.

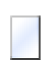
USING COMPANIES IN CSIS AND OTHER RECORDS

- In CSI records, companies are used in the **Distributor**, **Unit Owner** and **ASP** fields.
- Each Contact record may be associated with one company and one location.
- Companies are also used in any record that has a Detail field with type = Company.

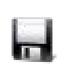
CREATING, EDITING AND DELETING A COMPANY

To create a new company, make sure the **Company** drop-down list is blank, enter the required fields and choose **Admin > Companies > Create**.

If you need to clear an existing company before creating a new one, choose **Admin > Companies > New**.



To edit a company, choose the name from the **Company** list. Make the desired changes and then choose **Admin > Companies > Save**.



To delete a company that is not used in any records, choose the name from the **Company** list and then choose **Admin > Companies > Delete**.

Alternatively, if you clear all categories from the company properties, it will remain assigned to any existing records but will not be available to assign to new records.

COMPANY PROPERTIES

- **Name** - a required field.
- **Sales Region** - a list of options that are managed under **Company Sales Region** on the Lists page.
- **Location** - the locations that are currently associated with this company, shown in a list. The table under the list shows the address for the location that is currently selected. Any of these locations will be available to select when the company is used in a CSI or Contact record. (See Managing Locations.)
    - To add a location to the list, click **Add**, . In the Location Page window, you can either create a new location record or select an existing one. Note that a location cannot be associated with more than one company. If you select a location that is already associated with another company, it will be removed from the other company.
    - To edit a location, select it in the list and click **Edit**, .
    - To remove a location, select it in the list and click **Remove**, . This will remove the association with this company, but the location will remain in the database and could be associated with another company and/or used in an incident.
- **Category** - the fields (**Unit Owner**, **ASP**, **Distributor**) in which the company appears on the CSI page. The company can be selected in these fields.

  The following fields will be enabled only if the company record has been saved with the **Distributor** category selected. These are the warranty settings that will be applied when you create a new CSI record for this distributor. The default settings for a new distributor are based on the CSI - Warranty Months preferences, but you can change them for a particular distributor.

    - **Warranty From Shipment** and **Warranty From Commission** - the number of months for the warranty period.

- **Initial Warranty Months** - whether the warranty period starts on the date of the shipment to the distributor or on the date of the delivery to the end-user.

If you have configured additional detail fields to meet your organization's specific needs, they will be grouped together in a separate **Company Details** area.

If the company has contacts associated with it, they will be listed in the **Associated Contacts** area at the bottom of the page.

Managing Locations

Use the Locations page to manage the list of locations that are available to select in Companies, Contacts, CSI records, Incidents or any record that includes an "Address" detail field. Permissions required to access this page: Access Admin Tab and Manage Locations.

To open the page, choose **Admin > Configure > Manage > Locations**.

If your implementation has more than one entity, the same set of locations will be available in all of them.

Tip: Users can also create and edit locations while editing a Company, Contact or CSI record.

USING LOCATIONS IN COMPANIES AND OTHER RECORDS

In XFRACAS, a company may be associated with multiple locations. When the company is used in a CSI or Contact record, users can select one of the associated locations for that particular instance. For example, if ACME Company has sites in Chicago, Dallas and Detroit, the company record shows all three locations. When ACME Company is the unit owner for a CSI, users can select one of those sites as the location for that particular unit.

- In Company records, the "Location" field shows all of the locations that are associated with that company.
- In Contact records, the "Locations" field allows users to select one of the locations associated with the company that is selected in the "Company" field.
- In CSI records, the "Location" field allows users to select one of the locations associated with the company that is selected in the "Unit Owner" field.

- In serialized and part Incidents, the "Unit Location" field allows users to select any of the locations defined in the database. If a location is associated with a company, the company name will also appear in the list (e.g., "Company - Location").
- Locations are also used in any record that has a Detail field with type = Address.

CREATING, EDITING AND DELETING A LOCATION

To create a new location, make sure the **Location** drop-down list is blank, enter information into the required fields and choose **Admin > Locations > Create**.

If you need to clear an existing location before creating a new one, choose **Admin > Locations > New**.

To edit an existing location, choose the name from the list, make the desired changes and then choose **Admin > Locations > Save**.

To delete a location that is not associated with any records, choose the name from the list and then choose **Admin > Locations > Delete**.

You cannot delete a location that is being used other records.

LOCATION PROPERTIES

- **Description** - required; must be unique across all location records in the database.
- **Address**, **Address 2** and **Zip** - optional; values are entered/edited separately for each location record. For example, if you edit the zip code in one location, any other locations with the same zip code value will not be affected.
- **City**, **State** and **Country** - optional; the same lists will be used for all locations in the database. For example, if you edit the name of a city in one location, the change will apply in all locations where that city is used.

If you have configured additional detail fields to meet your organization's specific needs, they will be grouped together in a separate **Location Details** area at the bottom of the page.

Managing Entities

Use the Entities page to manage the entities defined for your implementation. Permissions required to access this page: Access Admin Tab and Manage Entities.

To open the page, choose **Admin > Tools > Entities**.

XFRACAS can be configured with a single entity (where all users share the same configuration settings and data) or with multiple entities (where each entity has its own separate permissions, settings and data. The system-wide preferences, companies, contacts and locations will be the same for all entities in the database. The user permissions, system templates, serialized systems, entity-specific preferences and configurable detail fields can be managed separately for each entity.

Your XFRACAS license determines the maximum number of active entities that can be defined for your implementation.

Adding or Editing an Entity

To add a new entity, choose **Admin > Entities > Create**.

In the properties window, enter the required fields (at least a long name and unique record prefixes) and click **Save**.

IMPORTANT: After you create a new entity, it can be made "inactive" but it cannot be deleted! This could affect your ability to manage settings that are shared across multiple entities. We recommend that you plan your entity configurations in advance, establish a "template" entity that defines common settings for all entities, and implement changes in a staging environment before moving to production.

To edit an existing entity, select the name and then choose **Admin > Entities > Edit**.

Entity Properties

- **Long Name** displays in the entity drop-down list at the top of many XFRACAS pages, and in other locations where the full entity name is used.
- **Record Prefix** allows you to specify an entity-specific prefix for use in record numbers (e.g., "ENT-I-" for incidents, "ENT-P-" for problems, etc.). Record prefixes must be unique across entities in the same database, and only one entity can be configured without prefixes. Users who have the "Manage Entities" permission can change the number (including this prefix) for individual records. (See Record Types in the user help.)
- **Parent Entity** (optional) allows you to display entities in a tiered structure in the entity drop-down list. The name of the parent will be appended to the entity's name in the drop-down list (e.g., "Parent - Child"). However, there is no implied inheritance for the data or settings. For example, if you search for incidents associated with the parent entity, results will not be returned for the child entity. Likewise, the configurable settings and permissions for the parent entity may not be consistent with the settings for the child entity.
- **Entity Status** sets whether the entity is **Active** (available for use) or **Inactive** (unavailable for use). If there is only one active entity in the system, you cannot make it inactive, so this field will be disabled.

> **Tip:** In addition to using the Inactive status to retire/hide an entity, you can also use it to create a tiered structure in the entity drop-down list. For example, if you have an Automotive Power Train business unit with an Engine division and a Transmission division, you could set "Automotive Power Train" as the inactive parent to the active "Engine" and "Transmission" entities. The entity drop-down list would display the active entities as "Automotive Power Train - Engine" and "Automotive Power Train - Transmission."

Duplication Settings

When you create a new entity (or when you change the status to "active" for an entity that was "inactive" upon creation), some basic required settings will always be copied from another entity.

- Text resources
- Preferences
- Detail fields that are required (e.g., Incident Description, Problem Description, etc.); if you select **Copy Detail Fields**, the rest of the configurable detail fields will also be copied.

- Lists associated with required fields (e.g., Incident State, Problem Priority, etc.); if you select **Copy Lookup Lists**, the rest of the configurable lookup lists will also be copied.
- Action types
- Standard reports and charts

In addition, you can also choose to:

- **Copy Criticality Fields** (See Managing Criticality Fields)
- **Copy Users** (See Managing Users)
- **Copy Security Groups** (See Managing Security Groups)

For detail fields, lookup lists and action types, duplicated settings will be the same as the entity they were copied from unless you later remove the entity from each particular detail, list or type and replace it with something else. We recommend establishing a "template" entity that defines the settings that are common to all entities and using that template to copy settings for each new entity you create.

Note: Duplicating an entity can consume a large amount of database resources. When you are duplicating an entity, other users cannot access the Entities page; they will see a message stating that an entity is being duplicated.

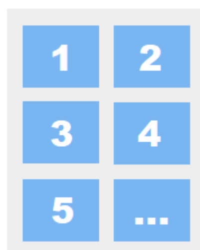
Reports

Report Viewer

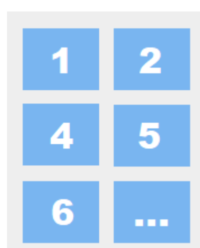
Use the Report Viewer page to specify which built-in reports will be visible to users and to set their display order. This page also determines which options are available in the Quick Search utility. Permissions required to access this page: Access Admin Tab and Manage Report Viewer.

To open the page, choose **Admin > Tools > Report Viewer**.

For each category of reports in the Report Viewer, specify the display order for the reports. The reports will be displayed in the following arrangement:



Note that skipped numbers do not leave a space in the interface. For example, if you do not have a report with a display order of 3, the ordered reports will be displayed as follows:



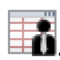
- To hide a report from its list, leave the display order blank.
- The numbers in parentheses after the report names are the query IDs.
- To save the changes you have made on the Report Viewer page, choose **Admin > Report Viewer > Save**.

Administrator Reports

Administrator Reports are tabular reports/queries for information managed by application admins. These reports provide information about users and their permissions, options in configurable lists and owners for template parts. Permissions required to access these reports: Access Admin Tab.

REPORTS PAGE

1. To use saved admin report templates, choose **Home > View > Reports**.

2. Click **Administrator Reports** .

REPORTS BUILDER PAGE

1. To modify or create new admin report templates, choose **Options > Designers > Report Builder**.

2. In the **Select Report** drop-down lists, select **Administrator Reports** and then select the specific type of report.

Imports/Exports

Importing and Exporting Data

XFRACAS offers several ways to import and export XFRACAS records (e.g., incidents, system configurations, etc.) via *.xml or *.xlsx templates.

- Use the Data Import page to view and manage the import queue, the log of processed files and the log of files that could not be processed.
- Use the optional XFRACAS Data Import Utility (DIU) Windows service (running on the web server) to process the import queue on a scheduled basis.
- Use the optional XFRACAS Web Service in your own custom application to insert XML files into the import queue, along with other related functions.

Tip: Example files are available for some of the more common import scenarios. You may be able to save time by downloading and adapting these files to import your own data. (See XML and XLST Templates.)

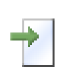
If you are using ReliaSoft XFMEA, RCM++ or RBI for failure modes and effects analysis, you also have the option to import and/or synchronize system templates and failure modes. (See Import or Sync from XFMEA.)

Note that you can also use the Reliability Data Warehouse (RDW) in Weibull++ to extract data from XFRACAS to build data sets for life data analysis or repairable system/reliability growth analysis. (See Reliability Data Warehouse in the Weibull++ documentation.)

Data Import Page

The Data Import page allows you to import and export XFRACAS records (e.g., incidents, system configurations, etc.) using *.xml or *.xlsx templates. This page can be used in conjunction with the optional XFRACAS DIU (Windows service) and/or the XFRACAS Web Service, if applicable. Permissions required to access this page: Access Admin Tab and Manage Import.

To open the Data Import page, choose **Admin > Tools > Import**.



If your implementation has more than one entity, import schedules and logs are managed separately for each. The drop-down list at the top of the page determines which entity's import details are currently displayed.

Tip: The XML and XLST Templates topic in the XFRACAS Admin help file provides templates and examples for common import scenarios. You may be able to save time by downloading and adapting these files to import your own data.

ADDING FILES TO IMPORT

1. Choose **Admin > Import > Add**.

2. In the Add Import File utility, select the import type and browse for the file.

3. Click **Add** to add the file to the import queue.

PROCESSING FILES IN THE INBOX

The **Inbox** shows all of the import tasks that are currently in the queue to be imported. Each task is an *.xml or *.xlsx file that contains data you wish to import.

If you have the "Access Import Processing" permission, you can immediately process the import queues for all entities. Click **Admin > Import > Process**.

Alternatively:

- If the DIU Service is running on the web server, it will attempt to process the file(s) at the date/time specified in the **Import Schedule** for the relevant data type and entity.

- If you have created your own custom application using the Web Service, it includes a function to immediately process the import queues for all entities.

The **Processed** area shows the import tasks that have been completed successfully, while the **Error** area shows the files that could not be processed. The **DIU Log** shows all actions performed by the DIU Service (including e-mail notifications that are triggered based on calendar date).

Note*:* For most record types, if the relevant ID matches an existing record, it will not be imported and it will be logged as a duplicate in the error log.

For incidents, if the EnableUpdate element in the *.xml file is set to "Yes," certain fields can be updated in existing records. For details, see XFRACAS XML Import Business Logic (*.pdf).

EXPORTING TO XML

If you have the "Access Data Export" permission, the easiest way to export a single record to XML is to open the record and click the **Export** command in the ribbon.

Alternatively, if you know the record ID(s), you can use the utility in the Data Import page.

Tip: To find IDs for details, see Using Detail Type IDs.

1. Choose **Admin > Import > Export**.

2. In the Export File utility, choose the export type and specify the ID(s) to export in the **ID** field. This can be a single ID or a comma-delimited list.

   Depending on the record type, you will need to enter either the entity display ID (i.e., the record number that is visible in XFRACAS) or the database ID (obtained from the database table).

Export Type	ID to Enter
Address (i.e., location)	Database ID
Company	Database ID
Failure analysis	Entity display ID
Incident	Entity display ID
Issue	Database ID of the list issue type
Master BOM	Part ID
Problem	Entity display ID
Project	Entity display ID
System	HID

Unit Commissioning (i.e., CSI)	Entity display ID
User	Database ID

3. Click **Export**.

XML and XLST Templates

XFRACAS provides an XML document type definition (DTD) for each type of record you can import or export. These are installed in the "DTD" folder on the web server (e.g., C:\inetpub\wwwroot\XFRACAS\ DTD). For descriptions of the XML elements and attributes, see XFRACAS XML Import Business Logic (*.pdf).

You also have the option to import some record types from Excel.

IMPORTANT: In order to use Excel templates, the web server must be configured to recognize the *.xlsx file type. For details, please consult the Implementation Guide (*.pdf).

DIU Service

The XFRACAS Data Import Utility (DIU) is a Windows service that must run on the web server in order to do the following:

- Process files in the import queue, based on the schedule specified on the Data Import page.
- Trigger e-mail notifications based on calendar date (e.g., E-mail - Incident Action Due Date, etc.).

For instructions to start the DIU service, consult the Implementation Guide (*.pdf).

The current status of the DIU service will be displayed at the top of the Data Import page. This page also displays a log of actions performed by the service (**DIU Log**).

IMPORTANT: If you have a load balanced environment with multiple web servers, the DIU service should run on only one of the servers.

Web Service

If you have some basic programming knowledge, you can use the XFRACAS web service in your own custom application to insert XML files into the import queue, along with other related functions.

Tip: The Web Service topic in the XFRACAS Admin help file enables you to download a sample application that demonstrates the basic process for using the web service.

USING THE SERVICE

On the web server, IIS must be configured with **HTTP Activation** enabled for the .NET Framework. See the Implementation Guide (*.pdf).

The following functions are available. For parameters and code examples, see XFRACAS XML Import Business Logic (*.pdf) and the sample application.

- **importxml** - Inserts an XML file (which may contain data for one or multiple records) into the XFRACAS import queue. This is equivalent to clicking **Add** on the XFRACAS Data Import page. It uploads an XML byte array and returns a UUID that identifies the file that was added to the queue (the import record id).

  Note: The maximum size for files that can be inserted into the queue by the web service is set via the XFRACAS Admin utility on the web server (on the Settings page of the XFRACAS Configuration File window).

- **importstatus** - Retrieves the status of a previous **importxml** request. Information about the import includes the status. A status of 1 indicates an Error, 2 indicates the import is in the Inbox, 3 indicates the data has been Processed. Optionally, the error and import logs can be included in the response.
- **processimports** - Starts the import process, which attempts to process all files in the import queue for all entities. This is equivalent to clicking **Process** on the Data Import page. To view the processing status of the files, check the **Processed** and **Error** logs on the website or pass the integer result from this method to the **importstatus** method's **id** parameter.
- **importmetrics** - Inserts up to 3 time/usage values reported on a particular date for a particular serialized system. This is equivalent to clicking **Update System Hours** in the customer support record for a serialized system. (See Time Metric Calculations.)
- **entities** - Returns an array of the entities that are accessible to the user the application is running as. The entity id (eid) is a required parameter for other functions.
- **issueid** - Returns the IssueTypeID for a specific option in a lookup list, given the name of the list and either the description or code for the option. This can be used when creating new XML files. For example, in incident records, the "Incident State" and "Incident State Closed"

lookup lists contain the valid options for the <status> element in the XML file. (See Managing Lists.)

- **issues** - Returns a list of options for a specific lookup list, given at least the name of the list.
- **parts** - Returns a list of parts that contain a specified part name and/or part number. If the sn parameter is set, it searches for a serialized part.
- **incident** - Returns a limited set of data about a specific Incident.
- **logexc** - Writes exception information to the XFRACAS diagnostics log. The body of the request must contain a VB Exception object serialized as JSON (see the example application for a demonstration). (See Diagnostics Log.)
- **logmsg** - Writes a message to the XFRACAS diagnostics log.

Import or Sync from XFMEA

If your organization uses ReliaSoft XFMEA, RCM++ or RBI for FMEAs or Reliability Centered Maintenance analysis, you can import or synchronize data for parts and failure modes that you are tracking in XFRACAS.

To use this feature, you must have the "Manage Templates" and "RS Desktop - Read Failure Mode Data" permissions in XFRACAS. It also requires a user account for ReliaSoft desktop applications with the same domain\username as the XFRACAS account and access to at least one desktop project that has FMEA/RCM data.

When a template part in XFRACAS is "associated" with an item in the desktop applications, you will be able to synchronize the following:

- Part Name
- Part Number and Version (if enabled and populated in the desktop project)
- Item Category (if the XFRACAS entity uses this type of detail field for template parts)
- Failure Modes and Root Causes

Note: The desktop applications provide similar options for users with the required permissions. (See Import or Sync from XFRACAS in the XFMEA/RCM++/RBI documentation.) In both XFRACAS and the desktop applications, the import and sync features modify data only in the application that you are using. For example, if you want to copy the latest data from XFMEA into XFRACAS, use the commands in XFRACAS. Alternatively, to copy recent changes from XFRACAS into XFMEA, use the commands in XFMEA.

XFMEA IMPORT

To create a new XFRACAS template by importing items from the desktop application, choose **System > Template > XFMEA Import**.

In the **XFMEA Import** dialog box, select the desktop analysis **Project** you want to import from and a **System** within that project. (This can be any desktop project you have permission to edit that contains a system hierarchy defined in XFMEA, RCM++ or RBI.)

If you want to create Failure Modes and Root Causes for the new template parts based on FMEAs performed in the desktop application, select **Import failure modes with template**.

SYNC WITH XFMEA

When you are editing an XFRACAS template that has parts "associated" with items in the desktop applications, you can choose to update the XFRACAS data to reflect changes that have been made in the desktop applications. To do this, select the part and choose **System > Part > Sync with XFMEA**.

In the XFMEA Sync window, use the check boxes to specify what you want to update:

- The properties of the currently selected part
- The failure modes and root causes associated with the currently selected part
- The subcomponents of the currently selected part
- The failure modes and root causes associated with the subcomponents

This will update records that are already "associated" and import new records if applicable. It will not affect any template parts and failure modes/causes that exist only in XFRACAS and are not "associated" with records in the desktop analysis.

REMOVE XFMEA ASSOCIATION

When you are editing an XFRACAS template that has parts "associated" with items in the desktop applications, you can choose to remove the association for a single part or for all parts in a branch of the hierarchy. To do this, select the part and choose **System > Part > Remove XFMEA Association**.

In the XFMEA Association window, uses the check boxes to specify which part(s) to update:

- The selected part
- All subcomponents of the currently selected part

PART NUMBER NOT REQUIRED IN DESKTOP APPLICATIONS

In ReliaSoft desktop applications, the part number and version properties can be enabled or disabled in each analysis project, and they are not required to be entered for each item.

In XFRACAS, a part number must be entered for each template part. When users report incidents for a serialized system, they must enter a valid combination of serial number and part number.

Therefore, if you will be importing desktop items into XFRACAS, we recommend to make sure the **Part Number** field is enabled for the desktop analysis project(s) and populated for each item prior to importing or synchronizing in XFRACAS.

USING THE ITEM CATEGORY FIELD

In ReliaSoft desktop applications, the **Item Category** provides a way to find, filter and group analysis data. When an organization defines item categories based on system hierarchies defined in XFMEA, RCM++ or RBI, users can apply an appropriate category for the desktop analyses, diagrams and resources that are associated with each item. (See Import or Sync from XFRACAS in the XFMEA/RCM++/RBI documentation.)

In XFRACAS, a special type of "Item Category" detail field provides the same list of item categories that is available in desktop applications. If this field is enabled in the entity for template parts, the categories assigned via desktop applications will be imported and synchronized for template parts in XFRACAS. Likewise, if you edit or create new template parts in XFRACAS that will later be imported or synchronized into the desktop analysis, you can use this field to assign the appropriate category.

Additional Tools

Diagnostics Log

Use the Diagnostics page to view warnings and errors that have occurred for your XFRACAS implementation. This information may be needed when you contact technical support. Permissions required to access this page: Access Admin Tab and Manage Diagnostics Page.

To open the page, choose **Admin > Tools > Diagnostics**.

EXPORTING TO EXCEL

To export the log to an Excel file, choose **Admin > Diagnostics > Excel**.

DELETING ENTRIES

To remove one or more entries from the log, select the check box for the row(s) and choose **Admin > Diagnostics > Delete**.

Resource Editor

Use the Resource Editor page to manage text labels that appears throughout the XFRACAS user interface. Permissions required to access this page: Access Admin Tab and Manage Resource Editor.

To open the page, choose **Admin > Tools > Resource Editor**.

If your implementation has more than one entity, the text resources can be configured separately for each, but the same settings may be used in multiple entities. The drop-down list at the top of the page determines which entity's text resources you are currently managing.

FINDING RESOURCES

To find specific text resources, choose **Admin > Resource Editor > Find**.

In the Find utility, you can search by any of the following:

- **Start ID** and **End ID** - specifies a range of resources based on their numerical identifiers. If you specify only a Start ID, all resources from that ID on will be displayed. If you specify only an End ID, all resources up to and including that ID will be displayed.
- **Default Text** - the labels that are shipped with XFRACAS.
- **Display Text** - custom labels, if any, that have been configured to meet your particular needs.

> ***Tip:*** If you type an underscore (_) in this field, the search will return all text resources that have custom labels.

- **Location** - the user interface page or utility where the resources are used.
- **Language** - the translation language.

Click **Find** to view all of the text resources that match the specified criteria.

EDITING RESOURCES

In the table of resources returned by the Find utility, click **Edit**  in the row for the text you wish to modify.

In the Edit Resource window, clear the **Use Default** check box and enter your preferred label in the **Display Text** field. If applicable, select the **Entities** where the custom label will be used.

REPLACING RESOURCES

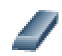
To find and replace all occurrences of a text string, choose **Admin > Resource Editor > Replace**.

In the Find and Replace Utility, specify the text you want to replace and click **Preview** to view all possible replacements that match the specified criteria.

In the table of possible replacements, you can clear the check boxes for any text labels you wish to leave unchanged. When you are ready to proceed, choose **Admin > Resource Editor > Save**.

RESTORING DEFAULTS

To return all resources in the current entity to the default text, choose **Admin > Resource Editor > Default All**.



CREATING AN UPDATE SCRIPT

If you need to implement the same text changes in another database, choose **Admin > Resource Editor > Update Script**.

In the Update Script utility, use the **Begin Date** and **End Date** fields to specify a time period (e.g., include only changes made in the past month). Click **OK** to download a *.txt file that contains SQL statements that will implement the same changes in another database.

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(b) **Paid Up Licence**:

(i) Duration – this Licence shall continue for a period of 25 years from the Delivery Date unless terminated in accordance with any provision of clause 10 below or any other clause of this Licence Agreement.

(ii) Conversion - this Licence may be converted to a CDS (this may include CRS and CDRS which are specific variations of CDS and collectively known as CDS) Licence, upon application to either the Licensor or the Authorised Reseller (if you have purchased the Software Products from an Authorised Reseller), and payment of an additional fee to the Licensor or the Authorised Reseller,(as applicable) which shall be additional to the fees paid or payable in respect of any maintenance and support services provided by either by the Licensor or the Authorised Reseller (if you have purchased the Software Products from an Authorised Reseller), You may reverse this conversion to the same terms as agreed in the Paid Up Licence at the anniversary of the conversion by giving the Licensor 90 days written notice prior to the anniversary of the Delivery Date, such notice not to expire before the anniversary of the Delivery Date.

(c) **CDS/CRS/CDRS Licence**:

(i) Access – subject to the terms and conditions of this Licence Agreement, you may access any of the Software Products in the Quotation at any one time and in any combination up to the number of subscriptions granting you access to the Software Products for simultaneous use by you and purchased by you pursuant to this Agreement ('Access Credits'). In the event the number of Access Credits reaches the number of Access Credits duly paid for by you ('Access Limit'), you may add additional Access Credits (or, alternatively, at any time during the Term) which shall be charged in accordance with either the Licensor's prices or the Authorised Reseller's prices (if you have purchased the Software Products from an Authorised Reseller) Such increase in Access Credits shall apply to the following 12 month period, unless you give the Licensor or the Authorised Reseller (as applicable) written notice at least 90 days in advance of the expiry of the Initial Period, that you do not wish to sustain such increase in Access Credits. You may opt to reduce the number of Access Credits with

90 days written notice in advance of the 12 month period following from the anniversary of the Delivery Date, provided that the total number of Access Credits does not fall below the minimum threshold set by the Licensor or the Authorised Reseller (as applicable) or below the initial number of Access Credits calculated at the time of conversion of any Paid Up Licence.

(ii) Duration - this Licence shall continue for the Initial Period and, provided that you have paid for the applicable Access Credits, from year to year thereafter unless terminated in accordance with any provision of clause 10 below or any other clause of this Licence Agreement;

(iii) Reporting – in order to serve our customers better, the Licensor needs to be able to understand how its customers use the CDS system. As a condition of your continued access to the system, you are asked to provide to the Licensor on a quarterly basis, the CDS log file. You will be provided with easy-to-follow instructions on how to do this.

(iv) Termination – you must give the Licensor 90 days written notice in advance of the expiry of the Initial Period of your intention to discontinue the CDS Licence, such notice not to expire before the anniversary of the Delivery Date, and you must have submitted all reports required of you in clause 2.1(c)(iii) above. Failure to provide such notice and reports will mean that the license shall automatically continue on the same terms until terminated in accordance with this clause.

2.2 As an end user licensee of the Software Products, you may, subject to the following conditions and any conditions specified in the Quotation:

(a) use and copy the Software Products only for use on any computer system that is detailed in the release notes of the respective Software Product and which is licenced, leased and/or controlled by you (the Corporate Licensee) or any member of your corporate group, which expression includes the Corporate Licensee's majority-owned subsidiaries, any parent company having a majority-owned interest in the Corporate Licensee, and such parent's majority-owned subsidiaries;

(b) load the Software Products into and use it only on computers at the locations specified in the Quotation and which are under your control; and

(c) copy the Software Products only for back-up and archival purposes and make up to three copies of the Documentation, provided that the original and each copy is kept in your possession and that your installation and use of the Software Products does not exceed any restrictions contained in the Quotation.

3. Demonstration Licence

3.1 If the Licensor has provided you with the Software Products free of charge for evaluation purposes, this clause 3 shall apply to your use of the Software Products.

3.2 You may use the Software Product on a computer solely for the purposes of evaluating the Software Product.

3.3 The Software Product is provided to you free of charge and on an “AS IS” basis, without any technical support or warranty of any kind from us including, without limitation, a warranty of satisfactory quality, fitness for purpose and non-infringement.

3.4 This Licence shall continue for a period of 30 days from the Delivery Date unless terminated in accordance with any provision of clause 10 below or any other applicable clause of this Licence Agreement or until such Licence is converted into an Annual Licence, Paid Up Licence or CDS Licence, if earlier.

3.5 As part of the Licensor's testing and evaluation of the Software Products, you shall share with the Licensor the input and views received and any reports and analysis produced promptly upon receipt of such feedback.

3.6 Clauses 4, 5.1(a), 6.1(b), 6.1(f), 8.1, 8.2, 8.5, 10.1(a) of this Licence Agreement shall not apply to a Demonstration Licence.

4. Delivery and Risk

4.1 The Software Products shall consist of one copy of the object code of the Software Products on machine-readable form only, on the disk, dongle or other media on which the Software Product is delivered as described in the Quotation (the "Media"). Risk in the Media shall pass to you on delivery. If any part of the Media shall thereafter be lost, damaged or destroyed, you must contact either the Licensor or the Authorised Reseller from whom you have purchased the Software Products who will arrange for a repair or replacement of such Media at a cost (if any) determined by the Licensor or the Authorised Reseller (as applicable).

5. Licence Restrictions

5.1 You may not nor permit others to:

(a) transfer the Software Products from one location to another, without the express written consent of the Licensor and provided such transfers do not exceed two in any twelve month period. It will be a condition of the grant of any such consent that the Software Products held on hard drives at the current location must be erased and you must enter into a new licence agreement with the Licensor before a Software Products licence key is provided to you. The administration charge (currently US $1,500) will be payable by you in respect of such transfer.; This charge is only applicable to end user licensees who do not have a support and maintenance services agreement with the Licensor or Authorised Reseller;

(b) exceed the number of concurrent users specified in the Quotation, if any;

(c) sub-licence, sell, assign, rent, pledge, lease, transfer or otherwise dispose of the Software Products, on a temporary or permanent basis, without the prior written consent of the Licensor,

(d) translate, reverse engineer, decompile, disassemble, modify or create derivative works based on the Software Products except as permitted by law;

(e) make copies of the Software Products, in whole or part, except for back-up or archival purposes as permitted in this Licence Agreement;

(f) use any back-up copy of the Software Products for any purpose other than to replace the original copy in the event that it is destroyed or becomes defective;

(g) copy the Documentation (except as provided by this Licence Agreement);

(h) adapt, modify, delete or translate the Documentation in any way for any purpose whatsoever;

(i) vary, delete or obscure any notices of proprietary rights or any product identification or restrictions on or in the Software Products.

6. Open Source

Notwithstanding the foregoing provisions, You acknowledge that certain components of the Software Product may be covered by so-called open source software licenses ("Open Source Components"), which means any software licenses approved as open source licenses by the Open Source Initiative or any substantially similar licenses, including without limitation any license that, as a condition of distribution of the software licensed under such license, requires that the distributor make the software available in source code format. To the extent required by the licenses covering Open Source Components, the terms of such licenses will apply to such Open Source Components in lieu of the terms of this Agreement. To the extent the terms of the licenses applicable to Open Source Components prohibit any of the restriction in this License Agreement with respect to such Open Source Components, such restrictions will not apply to such Open Source Components. To the extent the terms of the licenses applicable to Open Source Components require Licensor to make an offer to provide source code or related information in connection with the Software Product, such offer is hereby made. Any request for source code or related information should be directed only to Customer Support, HBM United Kingdom Limited, AMP Technology Centre, Brunel Way, Catcliffe, Rotherham, South Yorkshire, S60 5WG, United Kingdom. You acknowledge receipt of notices for the Open Source Components for the initial delivery of the Software Product.

7. Undertakings

7.1 You undertake:

(a) to ensure that, prior to use of the Software Products by your employees or agents, all such parties are notified of this Licence and the terms of this Licence Agreement and that any such use as aforesaid is in accordance with the terms of this Licence Agreement;

(b) to replace the current version of the Software Product with any updated or upgraded version or new release provided by the Licensor or the Authorised Reseller (if applicable) under the terms of this Licence Agreement immediately on receipt of such version or release;

(c) to use the Software Products only as described in the Documentation and subject to the restrictions as set out in clause 5 (Licence Restrictions above);

(d) to reproduce and include the Licensor's copyright notice (or such other party's copyright notice as specified on the Software Products) on all and any copies of the Software Products, including any partial copies of the Software Products as permitted to be made under the terms of this Licence Agreement;

(e) to hold all drawings, specifications, data (including object and source codes), Software Products listings and all other information relating to the Software Products confidential and not at any time, during this Licence or after its expiry, disclose the same, whether directly or indirectly, to any third party without the Licensor's consent and

(f) to effect and maintain adequate security measures to safeguard the Software Product from access or use by any unauthorised person and indemnify the Licensor for losses flowing from your failure to do so.

8. Intellectual Property Rights

8.1 You acknowledge that all intellectual property rights in the Software Product and the Documentation throughout the world belong to the Licensor, that rights in the Software Product are licensed (not sold) to you, and that you have no rights in, or to, the Software Product or the Documentation other than the right to use them in accordance with the terms of this Licence Agreement.

8.2 You acknowledge that you have no right to have access to the Software Product in source code form or in unlocked coding or with comments.

8.3 The integrity of this Software Product is protected by technical protection measures ("TPM") so that the intellectual property rights, including copyright, in the software of the Licensor are not misappropriated. You must not attempt in any way to remove or circumvent any such TPM, nor to apply, manufacture for sale, hire, import, distribute, sell, nor let, offer, advertise or expose for sale or hire, nor have in your possession for private or commercial purposes, any means whose sole intended purpose is to facilitate the unauthorised removal or circumvention of such TPM.

9. Limited Warranty

9.1 Subject to the limitations and exclusions of liability below and providing the Software is used in accordance with the Documentation and on an operating system or computer for which it was designed, the Licensor warrants that (a) the Media on which the Software Products is furnished will be free from material defects under normal use for a period of 90 days from the date of delivery (the "Warranty Period"); and that (b) during the Warranty Period, the Software Product will, when properly used, perform substantially in accordance with the functions described in the Documentation; and (c) that the Documentation correctly describes the operation of the Software Product in all material respects.

9.2 If, within the Warranty Period, you notify the Licensor in writing of any defect or fault in the Software Product in consequence of which it fails to perform substantially in accordance with the Documentation, and such defect or fault does not result from you having amended the Software Product or used it in contravention of the terms of this Licence Agreement, the Licensor will, at its sole option, i) repair or replace the Software Product, provided that you make available all information that may be necessary to assist the Licensor in resolving the defect or fault, including sufficient information to enable the Licensor to recreate the defect or fault, or ii) terminate this Licence Agreement immediately by notice in writing to you and the Licensor will refund or if the Software Products have been purchased from an Authorised Reseller will procure that the Authorised Reseller shall refund; any of the fees paid as at the date of termination (less a reasonable sum in respect of your use of the Software Product to the date of termination) on return of the Software Product and all copies thereof. The Licensor's obligation under this clause 8.2 is subject to your compliance with clause 6.1(b).

9.3 You acknowledge that the Software Product has not been developed to meet your individual requirements and that it is therefore your responsibility to ensure that the facilities and functions of the Software Product as described in the Documentation meet your requirements.

9.4 You acknowledge that the Software Product may not be free of bugs or errors and you agree that the existence of any minor errors shall not constitute a breach of this Licence Agreement.

9.5 The Licensor shall not be liable under the said warranty above if the Software Product fails to operate in accordance with the said warranty as a result of any modification, variation or addition to the Software Products not performed by the Licensor or caused by any abuse, corruption or incorrect use of the Software Products, including use of the Software Products with equipment or other software which is incompatible.

9.6 All other conditions, warranties or other terms which might have effect or be implied or incorporated into this Licence Agreement or any collateral contract, whether by statute, common law or otherwise, are hereby excluded, including, without limitation, the implied conditions, warranties or other terms as to satisfactory quality, fitness for purpose or the use of reasonable skill and care.

10. Exclusion of Liability

10.1 Nothing in this Licence Agreement shall limit or exclude the liability of either party for death or personal injury resulting from negligence, for fraud or for fraudulent misrepresentation.

10.2 Subject to clause 9.1, the Licensor shall have no liability for any losses or damages which may be suffered by you (or any person claiming under or through you), whether the same are suffered directly or indirectly or are immediate or consequential, and whether the same arise in contract, tort (including negligence) or otherwise howsoever, which fall within any of the following:

(a) loss of income;

(b) loss of business profits or contracts;

(c) business interruption;

(d) loss of the use of money or anticipated savings;

(e) loss of information;

(f) loss of opportunity, goodwill or reputation;

(g) loss of, damage to or corruption of data; or

(h) any indirect or consequential loss or damage of any kind howsoever arising and whether caused by tort (including negligence), breach of contract or otherwise;

provided that this clause 9.2 shall not prevent claims for loss of or damage to your tangible property that fall within the terms of clause 8 or a claim for a refund of the licence fees paid to the Licensor or the Authorised Reseller (as applicable) for the licence of the Software Products.

10.3 Subject to clause 9.1 and clause 9.2, the Licensor's maximum aggregate liability under or in connection with this Licence Agreement, or any collateral contract, whether in contract, tort (including negligence) or otherwise, shall be limited to a sum equal to the fees paid by you to the Licensor or the Authorised Reseller (as applicable) for the licence of the Software Products.

10.4 Subject to clause 9.1, clause 9.2 and clause 9.3, the Licensor's liability for infringement of third party intellectual property rights shall be limited to breaches of third party rights subsisting in the UK and USA.

10.5 This Licence Agreement sets out the full extent of the Licensor's obligations and liabilities in respect of the supply of the Software and Documentation. In particular, there are no conditions, warranties, representations or other terms, express or implied, that are binding on the Licensor except as specifically stated in this Licence Agreement. Any condition, warranty, representation or other term concerning the supply of the Software and Documentation which might otherwise be implied into, or incorporated in, this Licence Agreement, or any collateral contract, whether by statute, common law or otherwise, is hereby excluded to the fullest extent permitted by law.

11. Term and Termination

11.1 This Licence Agreement is effective for the period referred to clause 2.1 or until otherwise terminated in accordance with that clause. The Licensor may terminate this Licence Agreement immediately by written notice to you if:

(a) save in respect of a Paid Up Licence, if you purchase the Software Products directly from the Licensor, you fail to pay any renewal or other fees due by you to the Licensor in respect of this Licence Agreement;

(b) you fail to comply with any provisions of this Licence Agreement;

(c) you commit a material or persistent breach of this Licence Agreement which you fail to remedy (if remediable) within 14 days after the service on you of written notice requiring you to do so; or

(d) a petition for a bankruptcy order to be made against you has been presented to the court; or

(e) where you, as the Corporate Licensee, become insolvent or unable to pay its (the company's) debts, enters into liquidation, whether voluntary or compulsory (other than for reasons of bona fide amalgamation or reconstruction), passes a resolution for its winding-up, has a receiver or administrator manager, trustee, liquidator or similar officer appointed over the whole or any part of its assets, makes any composition or arrangement with its creditors or takes or suffers any similar action in consequence of its debt, or becomes unable to pay its debts or ceases to trade.

11.2 In the event of termination in accordance with clause 10.1 you must immediately pay to the Licensor any sums due to the Licensor under the Licence Agreement and (at the Licensor's sole option) you must return, destroy or delete all copies of the Software Products from all storage media in your control and, in the case of destruction, certify to us that you have done so.

12. Export

12.1 You will comply with all applicable laws, rules, and regulations governing export of goods and information, including the laws of the countries in which the Software Products was created. In particular, you will not export or re-export, directly or indirectly, separately or as a part of a system, the Software Products or other information relating thereto to any country for which an export licence or other approval is required, without first obtaining such licence or other approval.

13. General

13.1 You agree that the Licensor shall have the right, after supplying undertakings as to confidentiality, to audit any computer system on which the Software Products are installed in order to verify compliance with this Licence Agreement.

13.2 You agree that the Licensor may use your company name in Licensor's customer lists and other promotional materials describing your company as a customer or user of Licensor's software or services, as applicable, unless it receives written notice from you objecting to such use.

13.3 This Licence Agreement, its subject matter or its formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with English law and submitted to the non-exclusive jurisdiction of the English courts.

13.4 This Licence Agreement constitutes the complete and exclusive statement of the agreement between the Licensor and you with respect to the subject matter of this Licence and supersedes all proposals, representations, understandings and prior agreements, whether oral or written, and all other communications between us relating to that subject matter except for those expressly referred to in this Licence Agreement.

13.5 Any clause in this Licence Agreement that is found to be invalid or unenforceable shall be deemed deleted and the remainder of this Licence Agreement shall not be affected by that deletion.

13.6 Failure or neglect by either party to exercise any of its rights or remedies under this Licence Agreement will not be construed as a waiver of that party's rights nor in any way affect the validity of the whole or part of this Licence Agreement nor prejudice that party's right to take subsequent action.

13.7 This Licence Agreement is personal to you and you may not assign, transfer, sub-contract or otherwise part with this Licence or any right or obligation under it without the Licensor's prior written consent.