TRIRIGA Applications
Version 9.7.1

TRIRIGA Application Platform
Version 2.7.2.6

*Release Notes*

IBM.

**Note**
Before using this information and the product it supports, read the information in "Notices" on page 107.

# Contents

# Release Notes

Welcome to the December 2011 release of TRIRIGA® Applications 9.7.1 and TRIRIGA Application Platform 2.7.2.6. This release includes a full installation of the platform and applications and a platform-only upgrade installation from 2.5.x or higher to TRIRIGA Application Platform 2.7.2.6. If upgrading from an 8.x version of TRIRIGA, you must upgrade to version 2.5.x first. If upgrading from a 2.1.9.x version of TRIRIGA, you must upgrade to version 2.7.1 first. After the 2.7.1 install is complete, start the application server to finish the upgrade. After the 2.7.1 application has fully started, you can then perform the 2.7.2.6 upgrade.

IBM® TRIRIGA delivers application Object Migration packages using two different methodologies:

- Incremental Package – Each application release is a separate file.

- Cumulative Package – The entire suite of TRIRIGA Applications through the current release is in one file. Cumulative packages offer a substantial time savings for customers upgrading across several releases. This release includes a cumulative package for 9.7.1.

See IBM TRIRIGA Application Object Migration Packages for more information.

These release notes include the following:

- An overview of enhancements and changes

- A list of known limitations

- A list of documentation changes in this release

- Contact details for IBM Support

Many of the descriptions include an internal reference number (Tri-nnnnn).

> **Note** – To request access to IBM TRIRIGA software releases prior to IBM TRIRIGA 10.2 and IBM TRIRIGA Application Platform 3.2, submit a ticket through the IBM Software Support site at www.ibm.com/support.

## What's New in This Release

This release corrects a number of platform defects. For details, please refer to the TRIRIGA Application Platform 2.7.2.6 Changes section and to the TRIRIGA CAD Integrator 2010, Version 1 Changes section.

## Important Installation and Upgrade Information

Please review the *TRIRIGA Application Platform Installation and Implementation Guide* for this release before installing. Note the following in particular:

- All upgrades should be staged in a test environment and thoroughly reviewed before upgrading any production environment.

- Perform a database backup before upgrading any environment.

- When you perform a platform upgrade, make sure there are no application servers running or other active connections to the database. If there are connections to the database other than the installer, the installer may fail.

- After you perform a platform upgrade, only start one application server. Do not bring up any other application servers until the upgrade to the first one is complete. Often upgrades are completed during the initial startup of an application server and there may be conflicts if two application servers are started in parallel.

# TRIRIGA Applications 9.7

This chapter includes the important information and known limitations for TRIRIGA Applications 9.7. Subsequent sections detail enhancements and changes for each TRIRIGA Applications 9.7 version, with the most current version listed first.

## Important Information and Known Limitations

Important information and known limitations concerning the TRIRIGA Applications for this release include the following:

| Area of Impact | Description |
| --- | --- |
| Application Settings Record Data | Due to the design of the publish name of several Application Setting Business Objects, delivery of the records for these objects via Object Migration results in duplicate entries. To avoid creating duplicate entries, the 9.7.1 cumulative package does not include the data records for these objects. If you have any difficulty with your application related to Contact Role Setup, Notification Content, or Notification Requirement data, you can either create the required data records in your application or contact the IBM TRIRIGA team at IBM Software Support for assistance. (Tri-27662) |
| Application Upgrade Packages | Another option for application upgrading is now available. TRIRIGA delivers application Object Migration packages using two different methodologies:<br><br>Incremental – Each application package is a separate file<br><br>Cumulative – The entire suite of TRIRIGA Applications through the current release is in one file. Cumulative packages offer a substantial time savings for customers upgrading across several releases.<br><br>Please see "IBM TRIRIGA Application Object Migration Packages" for more information. |
| Checklist Manager | To retire a Checklist Category record or a Checklist Item record from a Checklist when the Retire action is not visible, first select Save to reveal the Retire action, then select Retire. (Tri-17643, Tri-17645) |
| Checklist Template | The LEED for Commercial Interiors Checklist Template and the LEED for Existing Buildings: Operations & Maintenance Checklist Template are delivered in the 9.6.1 release along with the proper Checklist Category Template records and Checklist Item Template records. No further action is required for new installations of 9.6.1.<br><br>However, the associations between these records are not performed during the upgrade to 9.6.1. The `triPatchHelper – triCalculate – 9.6.1 – Checklist_Data – LEED EB and NC Checklist Associate Records No GUI Change` workflow performs this operation (associations). This optional workflow can be triggered using the Patch Helper record with the name `9.6.1_Checklist_Data_Patch`. (Tri-21399) |

| Area of Impact | Description |
|---|---|
| Classification Manager | The TRIRIGA 9.5 (WPM) Application upgrade introduced three new GUIs for the Fiscal Period (`triFiscalPeriods`) business object. However, there was no process to convert any preexisting Classification data to this new structure. The `triPatchHelper – triCalculate – 9.6.2 – Retro Fiscal Period Record GUIs (from Fiscal Period to Fiscal Year/Quarter/Month)` Patch Helper workflow performs this operation. This optional workflow can be triggered using a Patch Helper record with the name `9.6.2.FP`. (Tri-21386) |
| Clause Type | Starting with 9.6.1, TRIRIGA uses the new Clause Category field to drive the show/hide logic on the Clause GUI. The Clause Type no longer performs this function. The Clause Category field is in the Clause Type classification. The values of the Clause Category field are: Allowance, Commission, Co-Tenancy, Covenant, Indices, Insurance, Other, Parking, Pass Through, Percentage Rent, Rent, Responsibilities, Security Deposit, and Tax. |

☒ **Attention – The Clause Category values are system defined. Do not change the as-delivered values.**

One of the benefits of the Clause Category is how it simplifies adding new Clause Types. When you add additional Clause Type values in the Classification Manager and select a Clause Category, the clause shows/hides the appropriate sections based on the Clause Category. You do not have to build or adjust the workflow switch condition checks.

The structure of the Clause Type data in the Classification Manager hierarchy also has changed. Now values are grouped together under root nodes (folders) that are aligned with how clauses are abstracted on the Lease Abstract.

Section Category is another new field in Clause Type. Section Category is a field used for sorting/filtering query sections throughout the Lease Abstract. This field is user definable. Its initial values are similar to the Clause Category with additional values for the Other Clause type.

Each Clause Type shipped with 9.6.1 includes a Clause Category set by default. You need to update your existing Clause Types with a Clause Category. Do so after upgrading to 9.6.1 via the 9.6.1 object migration package and before running the 9.6.1 patch helper. There are two methods to accomplish this update:

Method 1:

Manually update your installation's Clause Type records in the Classification Manager. Specifically, open each record in the Classification Manager and set the Clause Category and Section Category.

You may change Clause Section Category values in the Classification Manager as it does not drive any system workflow logic. The same is not true of the Clause Category – do not change its values.

After both the Clause Category and Section Category are set on a Clause Type record, use the Update Clause Category action to set the new Clause

| Area of Impact | Description |
|---|---|
| | Category on all clauses in the system using that particular Clause Type. This also updates the Section Category. Also, you can reposition your company's Clause Types in the Classification Manager hierarchy structure so they are available in the Lease Abstract.<br><br>Method 2:<br><br>Use the Data Integrator file shipped with 9.6.1 to bulk update the Clause Category and Section Category on Clause Type records. This file contains the previous as-delivered Clause Type record and default Clause Category and Section Category values.<br><br>You will need to add and remove rows from this file to align it with your company's Clause Type values before importing with Data Integrator.<br><br>Importing the Data Integrator file does not update the Classification Manager hierarchy. Do this manually from the Classification Manager.<br><br>It is important to import the Data Integrator file before running the 9.6.1 patch helper since the patch helper uses the Clause Category set on the Clause type to call the update Clause Category / Section Category logic on the clause instance data in the system.<br><br>The following example shows the first few rows of the Clause Type/Clause Category Data Integrator file, which is named `Pre961_RetroClause_ClauseType_Data.txt` and is found on TRIRIGA's installation Disk 2.<br><br>```<br>triNameTX        Parent  triClauseCategoryLI     triClauseSectionCategoryCL<br>Acceptance of Premises  \Classifications\Clause Type\Real Estate Lease Clause Type<br>Acquisition     \Classifications\Clause Type\Real Estate Lease Clause Type<br>Admin Fee       \Classifications\Clause Type\Real Estate Lease Clause Type<br>Advance Rent    \Classifications\Clause Type\Real Estate Lease Clause Type<br>Air Conditioning        \Classifications\Clause Type\Real Estate Lease Clause Type<br>Alterations     \Classifications\Clause Type\Real Estate Lease Clause Type<br>Amendments      \Classifications\Clause Type\Real Estate Lease Clause Type<br>Annual Cap      \Classifications\Clause Type\Real Estate Lease Clause Type<br>Appraisal       \Classifications\Clause Type\Real Estate Lease Clause Type<br>Assignment      \Classifications\Clause Type\Real Estate Lease Clause Type<br>Audit   \Classifications\Clause Type\Real Estate Lease Clause Type<br>Base Year       \Classifications\Clause Type\Real Estate Lease Clause Type<br>Basement        \Classifications\Clause Type\Real Estate Lease Clause Type<br>Basement Rent   \Classifications\Clause Type\Real Estate Lease Clause Type<br>```<br><br>For information about how to use Data Integrator, see the Data Integrator chapter in *Application Building for the TRIRIGA Application Platform: Data Management*.<br><br>After your Clause Type data is updated with the Clause Category and Section Category, run the 9.6.1 patch helper. In addition to other general 9.6.1 patch helper processes that run, it updates the instance data in all Clause Types in your system with the Clause Category and Section Category. |
| Data Modeler | Prior to 9.6.1, releases were shipped with unpublished business objects. Starting with 9.6.1, business objects ship published. (Tri-18571) |
| Document Management | In 9.1.1 installations and older, some documents in Document Management do not have their Record ID field set. If these are used in conjunction with the Notification engine, the tokens will not get replaced for a tokenized report. If |

| Area of Impact | Description |
|---|---|
| | you are experiencing this issue, please contact the IBM TRIRIGA team at IBM Software Support for a script to set the Record ID field. |
| Environmental Manager | The Base UOM field becomes blank when an Energy Type is selected in an Energy Log, Travel Log, Emission Log, Waste Log, or Water Log. Choose a value for the Base UOM before proceeding to fill out the rest of the log. TRIRIGA plans to address this issue in a future release. |
| Externally Generated Lease Abstract Records | The Lease ID of a Lease Abstract record must be unique. The system rejects any imported Lease Abstract record with a Lease ID matching a Lease Abstract record already in the database. |
| Federal | The Federal XML Report is created with a custom task specifically designed for that purpose. Do not use that task, the XML, or the XLST for any other purpose. Any such use is not supported and may cause undesirable results. |
| Goal Type and Threshold Records | The TRIRIGA Strategic Facility Planning release includes new Goal Type and Threshold record data that is used in SFP. You can access these records from the Application Setup Manager, as described in the *TRIRIGA 9 Strategic Facility Planning User Guide*. The records include default data for Target Value and Ranges respectively. Review and change the records as needed to match your company's business plan and evaluation criteria. |
| Manager | Upon completion of running the object migration import package that includes the SFP Planning Manager and the Move Manager, please execute the following SQL scripts located in the directory `/userfiles/upgrades`. This will ensure that delivered image icons are appropriately mapped to the imported managers:<br><br>Oracle database:<br><br>1. `MANAGER_ICON_move_oracle.sql`<br>2. `MANAGER_ICON_planning_oracle.sql`<br><br>MSSQL database:<br><br>1. `MANAGER_ICON_move_sqlserver.sql`<br>2. `MANAGER_ICON_planning_sqlserver.sql` (Tri-26918) |
| Object Migration | The Object Migration package for 9.1.3 security groups has row level security root values of \organizations and \geography. If your company row level security root values are different or if you have implemented row level security beyond the root, you need to modify these settings after import. |
| OSCRE | The OSCRE integration process (export/import) is designed for implementation between disparate systems. Attempts to Export and Import data from/to the same system will not produce the expected results. |
| OSCRE | To support the Lease Abstract OSCRE integration, a set of Notification Requirement records are pre-packaged with the 9.6.1 release. These Notification Requirements are used by the Application Notification engine to send a System Notification/Email to users when the status of a record changes. Due to the way the status of the Lease Abstract records is kept in sync (between customer and third-party systems) during the OSCRE |

| Area of Impact | Description |
|---|---|
| | integration process, there may be times when the system over-notifies these status changes. To better manage this, the following Notification Requirement records can be retired:  For customer systems: Accepted, Rejected, and Clarification Requested. For third-party systems: Clarification Provided. (Tri-20209) |
| Portfolio Plans, Sub Plans, Space Plans | After check boxes for plan goals, objectives, and risks are checked and saved, they cannot be saved as unchecked on a subsequent save. This is important to note if the selection is being used for the Remove action, in which case the user should first uncheck the line items they do not wish to remove. (Tri-26042, Tri-20643). |
| Project Manager | Delivered approval rules for Capital Projects may not work with all customer-specific configurations. You should review the delivered approval rules and either modify them for your configuration or retire them. |
| Real Estate Contract Manager | In some installations the `triContract` / `triRealEstateContract` object has an issue with the published name. If your object throws a `java.lang.IndexOutOfBoundsException: Index: 6, Size: 6` error message, please contact the IBM TRIRIGA team at IBM Software Support for a retro script to resolve this data issue. |
| Real Estate Contract Manager | Proposed Real Estate Lease is no longer used in the Transaction Management to Real Estate Lease process. The business object will remain in the product but will no longer be in the Real Estate Contract manager. It has been replaced by the Lease Abstract in the Transaction Management to Real Estate Lease process. |
| Real Estate Lease | The Adjust Payments action appears on the Payments Schedules sub-tab on Revise action of an Active RE Lease. If you close and then open the RE Lease, the Adjust Payments action disappears. You can make it reappear by activating and revising the RE Lease again. This is a known issue addressed in an included OM package. |
| Real Estate Lease | The Adjust Payments action does not update the Payment Line Items. The Adjust Payments action disappears when the Lease is closed and opened again. Workflow does not appear to be triggered. This is a known issue that is addressed in an included OM package. |
| Report Manager | Starting with 9.7.0, the Cost Type field on Cost Code records is a required field. The four cost code GUIs modified to make this a required field are `triLocationCostCode`, `triOrganizationCostCode`, `triProjectCostCode`, and `triServiceCostCode`.<br><br>Update the values you have in the Cost Type field on your cost codes. If you have "null" stored in Cost Type, it will cause the following error, "Please contact your system administrator. The FTB control reported this error while trying to draw itself: There was an error in the database or the query definition."  If you get this error, first make sure that all cost codes have their Cost Type field populated. Then clear the Capital Project Fact table so it is completely empty and re-run the Capital Project ETL job item to re-populate the fact table. (Tri-26562) |

| Area of Impact | Description |
| --- | --- |
| Report Manager | Users need to Restore Defaults on any metrics previously using the Project Group Classification filter and drill path since these have been replaced by Program Name from the new Program business object. After that, the Metric drill path and filter will correctly show the appropriate values. (Tri-22758) |
| Task Manager | As Late As Possible, Finish No Earlier Than, and Finish No Later Than constraints are not supported by the Gantt. They have been removed from the constraint options on the Advanced tab of Tasks. In addition, the workflow that sets the Finish No Earlier Than constraint when the planned end date changed now sets a Start No Earlier Than constraint using the Planned Start date. |
| WPM / TREES® / SFP | If you use WPM, TREES, or SFP and you have upgraded your TRIRIGA application to 9.7.1, please run your Fact Table metrics capture jobs soon after completing your upgrade. If you see "Error inserting/updating row" messages in the server.log, please contact the IBM TRIRIGA team at IBM Software Support. |
| Year 2038 | In TRIRIGA some data/time fields will be impacted by the year 2038 problem; some dates far into the future may have issues. For more information, please see http://en.wikipedia.org/wiki/Year_2038_problem. |

# TRIRIGA 9.7.1 Enhancements

The enhancements to TRIRIGA Applications for this release include the following:

| Area of Impact | Description |
| --- | --- |
| Application Setup Manager | On TRIRIGA Application Settings, moved the Integration Settings section from the General tab to a new Integration Settings tab. The Integration Settings tab also contains the Energy Rating Settings section. (Tri-27440) |
| Classification Manager | Classifications with 50+ records now have searchable queries. (Tri-25943) |
| ENERGY STAR | The new TRIRIGA ENERGY STAR Connector provides an interface between TRIRIGA and EPA ENERGY STAR's Automated Benchmarking System and incorporates metrics displaying building, structure, and retail location EPA ENERGY STAR ratings. |
| Move Manager | There is a new section action on the Move Designer for Bulk Updates. It supports bulk updating of Proposed Move Dates. (Tri-27295) |

| Area of Impact | Description |
|---|---|
| Move Manager | When creating Move Line Items (MLIs) for SFP move items, the user opens an action form from the SFP section within Move Designer. This action form allows the user to create Move Line Items for the selected Planning Move Item in the Scenario. After the user creates the MLIs, a query section appears to show the user the MLIs that the system just created. This query section has been enhanced to add an additional field that is editable: Proposed Move Date. A user now can enter a Proposed Move Date for these MLIs and click the Save action on the query section to save the new date. In addition, the user also will have the ability to enter a Proposed Move Date in the action form so that all newly created MLIs will have that Proposed Move Date. (Tri-27297) |
| Strategic Facility Planning | Space Management enhancements allow for allocation of space occupancy independent of space chargebacks. Occupancy can be established without the need for people (associated to spaces). Using Strategic Facility Planning (SFP), planners now forecast and plan space needs based on space occupancy organizations. For more information, please see the *TRIRIGA 9 Strategic Facility Planning User Guide.* (Tri-27334, Tri-27385) |

# TRIRIGA 9.7.1 Changes

The major changes to TRIRIGA Applications for this release include the following:

| Area of Change | Description |
|---|---|
| Application Setup Manager | Changed manager actions to query actions for CTQ Dynamic Lists, ETL Job Item, Job Group, and Threshold. (Tri-14150) |
| Application Setup Manager | Copy action on Planning Period Template creates a copy of the record. (Tri-26605) |
| Application Setup Manager | Fixed a typo in the TRIRIGA Application Settings record, Service Management Setup tab. (Tri-24773) |
| Application Setup Manager | Fixed a typo in User Message `triApproval013`, "triApproval - Route to Reports To Error On Resolution of Reviewers". (Tri-12838) |
| Application Setup Manager | Fixed multiple issues with the Lease Abstract Offline Form. 1) Co-Tenancy - Rent Reduced By (Percent) now maps. 2) Options now map. 3) Responsibilities - Responsible Type removed from "clause" part of form. It is already in the Responsibility Service multi-record section of the form. 4) Lease Contacts now map. 5) Hid the Reference Data and Object Mapping tabs. (Tri-26853) |
| Application Setup Manager | Planning Period Config is the new name for the Planning Period Template. (Tri-25975) |

| Area of Change | Description |
|---|---|
| Application Setup Manager | Rearranged actions on Goal Type records per TRIRIGA standards. (Tri-26968) |
| Application Setup Manager | Removed invalid non-working days from the Default Calendar record. (Tri-23576) |
| Application Setup Manager | Removed the Show More Filters runtime filter 'Notification Subject' in List view for Offline Content. (Tri-26742) |
| Application Setup Manager | Responsible Organization and Resource Organization flags now are mapped from the Service Contract to the Service Matrix records when using the Service Management Setup Wizard to generate service matrix records. (Tri-25388) |
| Application Setup Manager | The Add action on the Job Scheduler List view opens a Job Scheduler record instead of displaying a drop-down list. (Tri-27437) |
| Application Setup Manager | The Date Created field on the Service Contract is now populated with today's date when using the Create Contract popup. (Tri-25391) |
| Application Setup Manager | The Headcount and Non-Headcount popups on the Forecast Standard now are identical. (Tri-26994) |
| Application Setup Manager | Updated field labels and tab descriptions in the Planning Settings tab of TRIRIGA Application Settings. (Tri-26741) |
| Application Setup Manager | Use the Patch Helper workflow `triPatchHelper - triCalculate - 9.7.1 - Retro DEFAULT Planning Period Configs` to fix previously-released default Planning Period Templates so they contain correct Period details. (Tri-27041) |
| Asset Manager | Associated locator queries to GUI locator fields that previously did not have a locator query. (Tri-26811) |
| Asset Manager | In Point of Sale Equipment, the sub-query for Retired records now returns data. (Tri-26832) |
| Asset Manager | Moved the Notes & Documents tab to be between the Notifications tab and the System tab for the Security Equipment and Point of Sale Equipment GUIs, making them consistent with the other Asset Manager GUIs. (Tri-27322) |
| Asset Manager | Relocated the Contacts tab on the Work Area Outlets GUI to be consistent with other Asset Manager GUIs. (Tri-27325) |
| Carbon Footprint Calculator | Link Record and Link Business Object now correctly map when creating a Carbon Log from a My Company record. (Tri-25508) |
| Classification Manager | Added a searchable query to the Find action on the Entitlements tab of the Roles > Contact Roles classification. (Tri-26561) |
| Classification Manager | Corrected the typo in the Classification Notes on the Emission Source GUI. (Tri-23599) |

| Area of Change | Description |
| --- | --- |
| Classification Manager | Fixed the typo in the Specification Class "Telecom Otulet". (Tri-27315) |
| Classification Manager | In Classification Manager, the Classifications that displayed `tri` in the label next to the value in the tree now properly display the Label of the Classification. For example, PM Reading Class, PM Type, Reservation Class. (Tri-19734) |
| Classification Manager | Resized the Description field on the CTQ Scoring and Contract Type business objects in the Classification Manager to 1000 characters.<br><br>The Copy action on the CTQ Scoring and Contract Type business objects in the Classification Manager creates a copy with the same hierarchy path as the original. Since the workflow performing the copy action is asynchronous, the newly copied record's hierarchy path is not set immediately. To see the copy's hierarchy path, wait a few seconds and refresh the List view. (Tri-21354) |
| Classification Manager | The Find actions on the GUI sections listed in Appendix B now have an associated query. (Tri-26815) |
| Classification Manager | The Life Expectancy field on the Building Class now has a time UOM. (Tri-27265) |
| Classification Manager | The Space Class Current classification now defaults to the Default Space Standard field from its parent record in the classification hierarchy. (Tri-26120) |
| Classification Manager | The `triPatchHelper - triCalculate - 9.7 Update SetUp - Classification Manager - Building Class - Currency Field` patch helper updates the default value for the Currency field on Building Class records. (Tri-26911) |
| Condition Assessment Manager | All line items show when add cost estimate line items using a template. (Tri-23795) |
| Contact Center Manager | In the Contact Center Person Centric view, if the Requested By field and Requested For field are populated, the External Contact created using the Pencil icon next to the Requested By field now overwrites the Requested By field and does not overwrite the Requested For field. If the Requested By and Requested For fields are empty, the External Contact created using the Pencil icon next to the Requested By field now populates both fields. (Tri-23268, Tri-27318) |
| Contact Center Manager | Material Order Tasks now are filtered out of both sub-queries on the Tasks sub-tab in the Location Centric Contact Center view of the Contact Center form. (Tri-13004) |
| Contact Center Manager | Request History sub-tab sub-queries return records in appropriate statuses for Requests associated to the Requested Location. (Tri-12751) |
| Contract Manager | The size of the Description field on a Service Agreement has been increased to 1000 characters. (Tri-12809) |

| Area of Change | Description |
|---|---|
| Environmental Manager | Rearranged the Save and Save & Close actions on the Energy, Emission, Water, Waste, and Travel Logs. (Tri-27533) |
| GUI Builder | Deleted the queries listed in Appendix A. (Tri-26585) |
| Inventory Manager | Corrected a typographical error in the Ship To Address on the Primary Location General tab. (Tri-22794) |
| Inventory Manager | Corrected the labels for Inventory Locations and Service Assignment Class in the Inventory Manager. (Tri-27308) |
| Key Security Manager | Corrected spelling errors in manager queries and sub-queries. (Tri-1848) |
| Key Security Manager | Fixed Specialty Key typos. (Tri-27459) |
| Location Manager | Corrected typos in the Installation/Sub-Installation Identifier section header on the Federal tab of the Structure and Land GUIs. (Tri-25238) |
| Location Manager | Modified the Copy action workflow to copy the Related Documents from the original record to the copy of the record and to not copy the Comments. (Tri-23139) |
| Location Manager | No longer display multiple area overlay allocations where there should be only one per organization on the Allocations tab of the Floor. (Tri-24724) |
| Location Manager | Standardized the size of the Description field on all Location objects in the Data Modeler to 1000 characters. (Tri-16645) |
| Location Manager | The Area Units field in Space records with Prorated Area now inherits the default UOM set in the user's profile. (Tri-26940) |
| Location Manager | The data in the Outgrant field in the Real Property Status section of the Federal tab of a Structure is no longer displayed in bold font. (Tri-27313) |
| Location Manager | The Find action on the Accounting Organizations section of Building, Retail Location, and Structure records now returns My Company, Division, and Departments in the first query and no longer has sub-queries. (Tri-25423) |
| Move Manager | Corrected issue on Move Request Line Item where a Person's Primary Location (the From Location) was not being populated whenever the Person Section was populated by typing in the Person's Name (smart find) instead of using the section's Find action. (Tri-27376) |
| Move Manager | Fixed issue on Move Services Request where a Move Request Line Item was always being created for the Person referenced in the Requested For section whenever Move Type was either Group Move or Small Move. A Move Request Line Item for the Requested For person should only occur for these Move Types whenever the Include Requested For in the Move field is explicitly checked by the user, not implicitly (i.e., in the background) as was being done prior to the fix. (Tri-27430) |

| Area of Change | Description |
|---|---|
| Move Manager | The section actions on the Move Planner, Move Project Planner tab, Move Project Tasks section now work correctly. (Tri-27211) |
| Object Migration | Fixed an issue preventing UOM Values from being imported. (Tri-27406) |
| Object Migration | Resolved an Object Migration issue where the import of UOM Types and UOM Values were updating with the UOM Type code from the package and not using the UOM Type sequencing mechanism on the target environment. (Tri-27630) |
| Organization Manager | The Linked Record and Linked Business Object now are set when creating Travel Log, Energy Log, Emission Log, Waste Log, or Water Log records from the My Company. (Tri-25449) |
| Payment Manager | Removed the Reports tab on the Process Tenant Invoice form since there are no reports for this object. (Tri-21262) |
| Payment Manager | `triPurchaseOrder - Find - Active Purchase Orders` no longer filters out Completed purchase orders. It now displays both Issued and Completed purchase orders. (Tri-26281) |
| Planning Manager | Added Building Name to the query section of the RE Action Requests sub-tab of the Metrics tab of Space Scenario. (Tri-26514) |
| Planning Manager | Added runtime filters for the Default Threshold and Goal UOM columns in the Goals & Objectives tab of a Portfolio Plan. (Tri-27099) |
| Planning Manager | Added the Leased/Owned metric query as a sub-tab on the Analysis tab of a Space Scenario. (Tri-26661) |
| Planning Manager | Added the Occupancy Rate metric query as a sub-tab on the Metrics tab of a Portfolio Plan. (Tri-26662) |
| Planning Manager | An Objective that is manually added to a Space Plan (which propagates to Space Scenarios) no longer defaults a score on the Status Quo scenario for the propagated Objective. (Tri-27273) |
| Planning Manager | Changed the Revise and Unretire actions on Planning Environment to correctly show/hide the Clear action on the Planning Data tab/section. If Space Plans are referencing the Planning Environment, the Clear action is hidden; otherwise the Clear action is visible. (Tri-27181) |
| Planning Manager | Changes to the Carbon Units and/or Energy Units fields in a Portfolio Plan now auto-populate correctly to sub-plans. (Tri-27159) |
| Planning Manager | Check boxes on Plan Goals and Objectives in the Goals & Objectives tab of Space Plans now properly uncheck when saved. (Tri-26043) <br><br> Check boxes on Portfolio Plans for Objectives and Risks now properly uncheck when saved. (Tri-26042) |

| Area of Change | Description |
| --- | --- |
| Planning Manager | Contact Role, Comment, and Approval dependent records are read-only when the Portfolio Plan record is Active. (Tri-26555) |
| Planning Manager | Corrected a typo in the Update Forecast Data label on the Update Forecast Data GUI. (Tri-26906) |
| Planning Manager | Corrected the Space Forecast Survey locator query runtime filter. (Tri-27360) |
| Planning Manager | Data now displays in the Detail section on the General tab of a Data Capture log record in a Planning Environment, Planning Data tab, Data Capture Log section. (Tri-27236) |
| Planning Manager | Fixed an issue were the Retire of a Portfolio Plan did not retire its sub-plans and space plans when triggered from the Revision in Progress state. (Tri-27060) |
| Planning Manager | Fixed propagation in the Objective and Risks workflows to allow for the Category to be properly mapped rather than being reset to the default Customer category each time. (Tri-26878) |
| Planning Manager | From the Add action in the Space Plan List view, the Portfolio Plan look up prompt Sub Queries Find Unanchored Portfolio Plans and Find All Parent Portfolio Plans now return the correct records. (Tri-27727) |
| Planning Manager | In the Portfolio Plans manager, select the Portfolio Plans - Review In Progress sub-query. Portfolio Plans now is available in the Sub Queries drop-down. Also, the Portfolio Plans - Review in Progress sub-query now retrieves the correct records. (Tri-26743) |
| Planning Manager | In the Space Plans manager query, records in Approved and Revision In Progress status have been filtered out of the result list since Delete of Space Plans in Approved and Revision In Progress is not allowed. (Tri-27145) |
| Planning Manager | Minor changes on the Space Scenario GUI such as Description field length increased to 1000 characters, position of Save and Save & Close actions reversed, and position of Currency and Area Units reversed. (Tri-26094) |
| Planning Manager | On a Portfolio Plan, when an Objective or Risk is removed, the system properly removes it from the Space Plan(s) and recalculates the rollup Category total that displays on the Scenario Evaluation grid. (Tri-27369) |
| Planning Manager | On the Portfolio Plan, Sub Portfolio Plans sub-tab, selecting and deleting a Space Plan now deletes/removes the Space Plan as expected. (Tri-26788) |
| Planning Manager | Renamed the Measure Type field on Space Class and Space Planning Data records to Planning Measure Type. (Tri-25973) |
| Planning Manager | Resolved an issue in SFP Objectives and Risks functionality where the Scenario Evaluation comparison grid score values and sequence were not updated for propagated Objectives and Risks. (Tri-27213) |

| Area of Change | Description |
| --- | --- |
| Planning Manager | Should a user attempt to remove the Status Quo scenario from a Space Plan, the system now displays a message advising that the Status Quo scenario cannot be removed. (Tri-27030) |
| Planning Manager | The Admin group now has access to the Audit Actions tab on Space Plans. (Tri-27118) |
| Planning Manager | The default manager query for Space Forecast Surveys no longer displays Retired surveys. (Tri-27131) |
| Planning Manager | The phrase 'Planning Environment' is no longer truncated on the Contact Role GUI of a Planning Environment. (Tri-26865) |
| Planning Manager | The Reports tab no longer shows in the Planning Manager GUIs. (Tri-25858) |
| Planning Manager | The system now displays an appropriate user message when a user selects the Complete action on a Space Plan. (Tri-27444) |
| Planning Manager | The system now displays confirmation messages when the user Applies or Resets Growth / Reduction or Demand Driver Factors. (Tri-26995) |
| Planning Manager | Various minor fixes in the functional area of SFP's Objectives and Risks were made to present labels and values in drop-downs, such as the Risk Importance classification. Also, added fields to query sections to make more consistent. (Tri-27119) |
| Portal Section Manager | The Key Metrics title bar on the WPM metrics portal section now displays correctly in the TRIRIGA Performance Management - Real Estate Executive - Graphic and TRIRIGA Performance Management - Real Estate Portfolio Manager - Graphic portals. (Tri-27707) |
| Portal Section Manager | The title of the My Forecast Survey section of the SFP portals has been changed. It is now either, "My Forecast Survey - My Forecast Surveys" or "My Forecast Survey - All Forecast Surveys". (Tri-27110) |
| Portals | Corrected the TRIRIGA Performance Management (US Govt) - Program Manager portal to display the Program Budget metric instead of the Contract Execution Crystal report. (Tri-23149) |
| Project Manager | Duplicate Project Tasks no longer are created from the Project Template specified on the Bulk Create process initiated from a Program. (Tri-27382) |
| Project Manager | In a Capital Project, removing a child project from its parent project or program now removes the parent to child association. (Tri-23676) |
| Project Manager | On the Capital Project, fixed the Checklist and Checklist Item Find queries to retrieve records correctly and associate the selected records back to the section. (Tri-27699) |
| Project Manager | Removed the Copy action on a Funding Transfer that was visible after the user clicked the Issue action. (Tri-23560) |

| Area of Change | Description |
| --- | --- |
| Project Manager | The Status column now is the last column in Program Manager queries. (Tri-23596) |
| Project Manager | The Task ID field on a Work Task correctly maps with the record's Control Number. (Tri-27169) |
| Project Manager | Updated the security settings for TRIRIGA Project Executive and TRIRIGA Project Manager. These groups now have access to Add, Find, and Remove actions in child projects sections on both Capital Project and Facilities Project GUIs. (Tri-26861) |
| Project Manager | When Transferring Funds from a Sub-Program, the Transfer Fund Action Form correctly prepopulates the Funding Available fields from the Parent Program. (Tri-26959) |
| Real Estate Contract Manager | In Real Estate portals, the Quick Add has Lease Abstract instead of Proposed Real Estate Lease. And queries displaying Proposed Real Estate Lease records were replaced with queries displaying Lease Abstract records. (Tri-22887) |
| Real Estate Contract Manager | On the Guarantor section of the General tab of a Lease Abstract, the Create New Organization action now populates the Guarantor Organization Lookup field. (Tri-26381) |
| Real Estate Contract Manager | Previously the Find query on the Options section of a Lease Abstract's clause did not retrieve results. Now the Options that are created/saved on the Lease Abstract are retrieved and selectable on the Clause's Find Options. (Tri-26798) |
| Real Estate Contract Manager | The Reactivate action is no longer available for voided payment schedules on a real estate lease. (Tri-26973) |
| Real Estate Contract Manager | Updated the Real Estate Lease-Cost Allocation Setup Item descriptive / instructional text. (Tri-26402) |
| Real Estate Project Manager | Corrected a typographical error in the Search icon lookup for Spend Category on the Close-Out tab of an RE Project Disposition record. (Tri-27622) |
| Real Estate Project Manager | RE Project Lease Manager no longer has duplicate actions. (Tri-17651) |
| Report Manager | Space Level Allocations manager query has been corrected to replace a duplicate sub-query with the correct sub-query. (Tri-27201) |
| Report Manager | The Building Equipment report triAsset - Asset records of Asset Inventory and Assignments Equipment Listing no longer causes a stack trace. (Tri-24265) |
| Request Manager | Added the hierarchy path to the display columns in the Find query for a Disposition Request. (Tri-26831) |
| Request Manager | For Find Random Recipients on the General Evaluation Request form, the option 50 previously appeared to retrieve more than 50 records when pressed multiple times. (Tri-27640) |

| Area of Change | Description |
| --- | --- |
| Request Manager | On the Design Change Request GUI, Design Change Options tab, Planned Spaces, List view query section, changed the action label from DeAssociate to Remove. On the Planned Space GUI, General tab, Space query section, changed the action label from DeAssociate to Remove. (Tri-27209) |
| Request Manager | The Funding Request GUI now reflects the total Objective rating score in the Estimated Cost and Rating Score section located on the General tab. The Objectives query section located in the multi-tab section at the bottom of the General tab now displays the sum of the Objective Rating Scores. (Tri-23595) |
| Request Manager | The Planned Work Request in the Work List and Quick Add sections has been replaced with Funding Request, for the TRIRIGA Performance Management - Environmental Manager/Planner Portal. (Tri-23796) |
| Request Manager | When creating a Move Request, the Move Type now defaults to Individual Move. (Tri-27152) |
| Request Manager | When escalating a request, the workflow `triApproval - triEscalate - Escalate Reviewers` now runs in asynchronous mode. This resolves the error message that occurred on the User Action workflow task. Approval occurs after an escalation as originally intended for requests. (Tri-23740) |
| Security Manager | Changed security so that a Facilities Manager can no longer send a Space Forecast Survey. (Tri-27103) |
| Security Manager | Move Planner and Move Manager security groups now have access to the Find and Remove actions for Manage Move Locations and Manage Move Geographies sections on the Employee and Consultant GUIs. (Tri-27497) |
| Security Manager | The TRIRIGA Facility Manager security group now has Read, Update, Create, and Delete permission for Space Plans. (Tri-27105) |
| Task Manager | Corrected Task Invoice calculations on a Work Task. (Tri-25310) |
| Task Manager | The Maintenance Technician now can add and remove work analysis data from the Technician Task tab. (Tri-27155) |
| Task Manager | The Primary Work Location on the Maintenance Technician's Work Task tab now displays, and the Parts Find action displays the correct results. (Tri-27672) |
| Template Manager | Corrected a typographical error in the Survey Question Type List. (Tri-27639) |
| Template Manager | Corrected the runtime filters in Data Attribute Item Template. (Tri-23492) |
| Template Manager | Fixed typos in the sub-query names for the Reserve Work Task Template. (Tri-17070) |
| Template Manager | On the Resources tab of the Inspection Task Template, the DeAssociate action has been relabeled Remove and the Fnd action has been corrected to Find. (Tri-13393) |

| Area of Change | Description |
|---|---|
| Template Manager | The 9.7.1 cumulative package and the 9.6.1 incremental package contain all necessary Checklist data for the LEEDS checklist implementation. A patch helper workflow makes all the necessary associations for the checklist data. To execute this patch helper workflow, import the 9.6.1_Checklist_Data_Patch patch helper Data Integrator file (this is the start condition for that Work flow). (Tri-21895) |
| Template Manager | The Copy action on a RE Transaction Plan Template now makes a copy in Template status. (Tri-27274) |
| Template Manager | The Portfolio Manager Evaluation Templates - Retired sub-query now returns only Status = Retired records. (Tri-23495) |
| Template Manager | The Reports tab no longer displays on Data Attribute Item Template records. (Tri-16455) |
| Utility Bill Invoice | On the Utility Invoice line item, the system populates the Energy Source field on the Details section when the Energy Type field changes; at the same time the Energy Source field is made read-only. (Tri-25792) |
| Workflow | Escalated approvals without a Reports To now are assigned to the System Admin account. The `triApproval - triEscalate - Escalate Reviewers` workflow now is asynchronous. Users still click Escalate on the approval GUI. (Tri-20705) |
| Workflow | The following workflows have been retired:<br><br>▪ `triSpace - triSave - Updates Space and Allocations`<br><br>▪ `triSpace - triSaveAndClose - Updates Space and Allocations`<br><br>▪ `triSpace - On Change - Update Space Allocations upon Name change`<br><br>▪ `triPeople - Associate - triSpace sets Occupancy Status`<br><br>▪ `triPeople - De-Associate - triSpace sets Occupancy Status` |

# TRIRIGA 9.7.0 Enhancements

The TRIRIGA Strategic Facility Planning (TRIRIGA SFP) product delivers advanced facilities planning capabilities to accelerate understanding of core business demands, simplify complex planning analysis, and streamline implementation of facilities plans. TRIRIGA SFP helps facility planners increase the effectiveness of all types of facilities planning - strategic, master, and tactical - through advanced performance analytics, visual scenario modeling, and an automated workflow engine. To help organizations deliver effective strategies, TRIRIGA SFP delivers unique features that reveal gaps between business demands and space availability; analyze, rank, and recommend best fit facilities planning scenarios; and automate manual and time-consuming processes.

TRIRIGA SFP provides a portfolio planning framework, business unit forecasts, and predefined performance metrics to streamline the understanding of business demands and impacts on facility

performance over time. The TRIRIGA SFP framework delivers a flexible planning hierarchy for facility planners to cascade top-down business objectives and performance goals from global through local plans. Automated data utilities populate the portfolio plans with aggregated space use information from within the plan's scope to provide planners with an accurate understanding of current business demands.

Space forecast surveys accelerate the data gathering of future business space needs with automated workflows that route forecast surveys to business unit managers and client relationship managers. Predefined performance scorecards evaluate business unit demands and facility performance characteristics to identify underperforming facilities.

Visual supply/demand modeling delivers interactive planning features that allow facility planners to match availability of space (supply) to forecasted business unit space needs (demand) across a planning time horizon.

Advanced stack planning provides interactive planning controls that allow facility planners to model business unit allocations within planning scenarios for a given planning period.

TRIRIGA SFP's comprehensive planning scorecard provides side-by-side comparison of the costs, space utilization, financial returns, and risks associated with each space planning scenario to facilitate selecting the best strategic plans.

Automated workflows transition details captured within strategic plans into actionable implementation plans. SFP planning data integrates with TRIRIGA's core Integrated Workplace Management Systems (IWMS) applications to streamline move planning, project management, and real estate actions.

In addition to the features and functionality described above, the enhancements to TRIRIGA Applications for this release include the following:

| Area of Impact | Description |
|---|---|
| TRIRIGA Strategic Facility Planning | Delivers advanced planning focused on facilities space forecasting, space and move planning. |
| Move Planning | Enhancements include a simpler self-service move request process, an improved move design tool, and improved efficiency in the identification and execution of move projects. |
| Spend Plan | TRIRIGA Projects 9.7 Spend Plans provide the capability to forecast project cash flow by period and re-forecast cash flow based on critical path schedule updates, and offer additional forecasting and variance analysis using earned value calculations. |
| Maintenance Technician Work Task Tab | A new tab targeted for technicians, consolidating existing Work Task functions used by technicians in one place. |
| GIS | ESRI GIS ArcWeb Server replaces ESRI GIS ArcWeb Services as the underlying technology enabling TRIRIGA's mapping capabilities. |

# TRIRIGA 9.7.0 Changes

The major changes to TRIRIGA Applications for this release include the following:

| Area of Change | Description |
|---|---|
| Application Setup Manager | The system no longer displays an extraneous message when a user enters the Service Management Setup Wizard from a Service Agreement or Blanket Purchase Order and clicks the Create Service Matrix tab. (Tri-23720) |
| Application Setup Manager | When entering the Service Management Setup Wizard from a Blanket Purchase Order or Service Agreement, the Modify Service Matrix tab is pre-populated with the selected Service Matrix records from the Contract. (Tri-23721) |
| Carbon Footprint Calculator | Added a filter to the following workflows to filter by the calendar period: `triEnvCarbonLog - Synchronous - Calculate Travel Carbon Footprint For Org` and `triEnvCarbonLog - Synchronous - Calculate Waste Carbon Footprint for Org`. Corrected an issue in the calculation of the UOM for the travel portion of the carbon footprint calculation. (Tri-24154) |
| Carbon Footprint Calculator | The Energy Log now has an editable Base UOM field, with both list type and value drop-downs. Now the UOM maps correctly if the Energy Type changes. (Tri-23642) |
| Classification Manager | A name change in a Classification Cost Index name now reflects in the associated Cost Index Value name. (Tri-23539) |
| Contact Center Manager | Replaced the Move Request GUI with the Move Services GUI that supports the new 9.7.0 move features. (Tri-26953) |
| Contact Center Manager | When the user selects Next Call, the General section is no longer read-only. (Tri-26709) |
| Facility Assessment | The Component Renewals sub-tab now shows a running total of Component Renewals in the Component Renewals Amount column. Also, if a user opens one of the Component Renewal records and selects an opportunity in the Detail Items section, the Planned Action Year matches the Component Renewal Year. (Tri-23678) |
| Gantt | Modified the Resource Manager GUI Schedule tab so that the Organization and Assignment sections are viewable and useable on lower screen resolutions. (Tri-22027) |
| Inventory Manager | Inventory cycle count adjustments now take decimal fractions. The system does not round the values. (Tri-24026) |
| Inventory Manager | The Inventory Count Item Formula field now calculates correctly. (Tri-24963) |
| Job Manager | Added a new RE Implementation Plan ETL for Microsoft SQL Server database users. For an MSS user there is a new Job Schedule record. (Tri-23852) |

| Area of Change | Description |
| --- | --- |
| Lease Abstract | In a Lease Abstract, on the OPEX/CAM tab, the Services Included sub-tab, the wizard now pre-populates the Proportionate Share values based on fields from the General tab, Location Summary section. If the value of Proportionate Share (contractual) is zero, the wizard uses the value of Proportionate Share (calculated). If the value of Proportionate Share (contractual) is other than zero, the wizard uses that value. (Tri-22891) |
| Location Manager | Updated the Environmental Log GUIs to allow the Base UOM to be editable. This allows properly setting the UOM on the fields, especially when switching the UOM type. (Tri-23055) |
| Meter Data / Incoming Log Data | After the Energy Log offline form is imported, a workflow now fires to hide or show the appropriate Scope 1 or Scope 2 fields and set the proper UOM. (Tri-23702) |
| Meter Data / Incoming Log Data | Updated the Waste offline form to correct an issue when rows were inserted into the form. (Tri-23640) |
| Organization Manager | The Copy action on an Organization (Department, External Company, and Workgroup) now copies the Provider Type field. (Tri-26384) |
| Organizations | The Copy action on Organization government records now copies the contact detail information from the original record. (Tri-23534) |
| Planning Manager | Added a new Location object, `triPlannedSpace`, that can have CAD labels. Use `triPlannedSpace` to create CAD Labels that can be transported via Object Migration, much like can be done with `triSpace` objects. (Tri-25601) |
| Planning Manager | The Visual Queries on the Move Planner GUI only work correctly if they are invoked from a Move Planner record that has been saved. The user has to open an existing Move Planner record from the Planning Manager, as opposed to clicking Add or using the Quick Add from the Move Planner's portal, in order for the Visual Queries to function. (Tri-26930) |
| Project Manager | Fixed issue with filters on query `triContactRole - Filter - Associated to current user as Program Manager` that prevented the My Programs and Project hierarchical grid query from rendering data. (Tri-23511) |
| Project Manager | The Opportunity Analysis action on the Facility Assessment Manager now points to the new Funding Analysis GUI. Also, the Quick Add menu on Environmental portals now has the new Funding Analysis menu item in place of the Opportunity Analysis menu item. (Tri-23604) |
| Query and Reporting | Tooltip text in queries displays the field label instead of the field name. (Tri-26093) |

| Area of Change | Description |
|---|---|
| Real Estate Contract Manager | If there is a cost code in the Accounting Cost Center field on the Accounting section of a Lease Abstract's General tab, the system populates the Account Cost Center field into payment schedules and makes the child cost codes available on payment schedules for Cash Cost Code, Accrual Cost Code, and Expense Cost Code. This applies to all tabs in the record that contain payment schedules (e.g., Rent, OPEX/CAM). (Tri-24316) |
| Request Manager | A new Inspection Request's Request Class field now maps to the Inspection Request classification. (Tri-26372) |
| Request Manager | Opportunity costs now roll up to the Funding Request. (Tri-26638) |
| Request Manager | The Move With smart section on a Move Request Line Item record has been phased out in this release and replaced with the Parent Item locator field. The parent/child relationship between move line items now shows in a hierarchical grid. Although the Move With smart section still exists on the Move Line Item business object, it has been removed from the GUI and you should discontinue its use. (Tri-25707) |
| Security Manager | Updated the security groups to include the enhancements in TRIRIGA 9.7. (Tri-26337) |
| Site Style Manager | The standard color for ALL Attention sections now is yellow (#FFCC33).

NOTE: For the object migration release package, the new color will be reflected in the GUIs contained within the package. However, there may be some overlap between 9.6.2, where GUIs in 9.6.2 were configured as Red (previous standard), and if those same GUIs were not included in 9.7, the red color will not be updated. Run the SQL Script (`STYLE_SHEET_updates_trees_oracle.sql`, `STYLE_SHEET_updates_trees_sqlserver.sql`) provided in the `userfiles/upgrades` folder before or after loading the package to make sure all GUIs are updated. (Tri-23477) |
| Survey Manager | When completing a task that was created from a request, the associated request class must have a survey template associated to it in order for a survey to be sent out. Prior to this, workflows were sending a default survey template. (Tri-23092) |
| Task Manager | To improve performance, the user is prompted to provide filter information when using the Work Task, Resource tab, Add People action. (Tri-26037) |
| TREES® Metrics | Added the following four missing ETL Record Data to the object migration package: `Record Data_triJobItem_EnergyLogFact-Clear`, `Record Data_triJobItem_EnergyLogFact`, `Record Data_triJobItem_WasteLogFact-Clear`, and `Record Data_triJobItem_WasteLogFact`. (Tri-23641) |

# TRIRIGA Application Platform 2.7

This chapter includes the important information and known limitations for TRIRIGA Application Platform 2.7. Subsequent sections detail enhancements, changes, and properties files changes for each TRIRIGA Application Platform 2.7 version, with the most current version listed first.
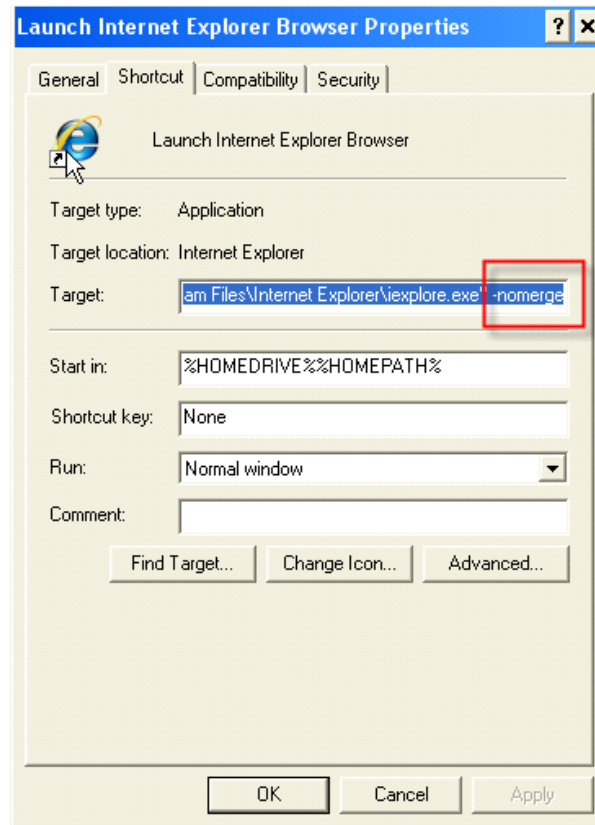
## Important Information and Known Limitations

Important information and known limitations concerning the TRIRIGA Application Platform for this release include the following:

| Area of Impact | Description |
|---|---|
| Brava! | Page 65 of the *Brava! Client/Brava! Server/Net-It Enterprise Installation and User Guide* on TRIRIGA's installation Disk 3 in the `Brava` folder is very important if you wish to use Microsoft Word documents; it shows the nine steps to publish Word documents.<br><br>If you are using Brava! to view or publish Microsoft Office documents, be aware there are known memory leaks that cause the Brava! Server to become unstable over time. Please refer to section 3.4.5 in the *Brava! Client/Brava! Server/Net-It Enterprise Installation and User Guide* on TRIRIGA installation Disk 3 for steps to restart the server on a periodic basis. |
| Classification Manager | Microsoft SQL Server 2000 and 2005 only allow a maximum of 256 tables in a query. Because of this restriction, a module can only have a maximum of 256 stand alone and embedded business objects. This restriction does not apply to MSS 2008 or to Oracle. (Tri-27220) |
| DataConnect | If you are planning to use DataConnect, there are some application objects that are needed. If your application release is prior to 9.6, you must apply the `triDataConnectJob` object migration package. If your application release is 9.6 or later, the objects in `triDataConnectJob` are already in your application. If you are upgrading to the 2.7.2 platform with any application release, apply `triDataConnectJobLog`. If you have to apply both because of your application release, apply `triDataConnectJob` first, then apply `triDataConnectJobLog`. The object migration packages are available in the installation directory `\userfiles\upgrades` or on Disk 2, the Application Upgrade disk.<br><br>To take advantage of DataConnect's new reporting functionality, apply the `triDataConnectJobLog` object migration package as described above. If you have existing DataConnect Job objects with which you wish to use reporting, add a query section to your `DataConnectJob` object GUI that references the `triDataConnectJobLog - log entries` query located in the `triLog` module. (Tri-28141) |
| Excel | According to the following Microsoft website http://technet.microsoft.com/en-us/library/cc178954.aspx, the OWC library that TRIRIGA uses for Excel sections is not available in Office 2007. That |

| Area of Impact | Description |
| --- | --- |
| | article has a link to where you can download the OWC library and install it as a separate component. If you upgrade Office 2003 or Office 2000 to Office 2007, the OWC library is available. If you have a clean install of Office 2007, the library is missing and will need to be installed for Excel sections to work. |
| GUI Builder | When a GUI is copied and the source business object is different from the target business object, fields that exist in the source business object's GUI, but not in the target business object, may copy into the target new GUI. To prevent this, add the fields to the target business object in advance, before the GUI is copied. If the fields were not added to the target business object prior to the GUI being copied, the section can be deleted and added again to the GUI if there are issues with the section after the copy. The impact of these copied fields is limited to the newly copied GUI and there is no impact on the record data. (Tri-28456) |
| Installation and Upgrade Information | If upgrading from an 8.x version of TRIRIGA, you must upgrade to version 2.5.x first. If upgrading from a 2.1.9.x version of TRIRIGA, you must upgrade to version 2.7.1 first. After the 2.7.1 install is complete, start the application server to finish the upgrade. After the 2.7.1 application has fully started, you can then perform the 2.7.2 upgrade. (Tri-22296) |
| Installation Directory Name | If you use WPM, TREES, TRIRIGA's OSCRE features, or ETL Job Items, the name of your TRIRIGA installation directory cannot contain spaces. These applications use Pentaho to run ETLs. Pentaho is a third-party application that has a startup issue when the installation directory name has a space in it. For more information, see the Pentaho issue database for PDI 2689 at http://jira.pentaho.com/browse/PDI-2689. |
| Installer | **Attention – Contact the IBM TRIRIGA team at IBM Software Support before following the procedure below.** |

Starting with the 2.7.2 TRIRIGA Application Platform release the number of future scheduled events created for a given event was increased to correct the method that computes overlapping duration for shadowing (see Tri-25306 in the 2.7.2 Release Notes). Beginning with the 2.7.2.4 TRIRIGA Application Platform release, if you wish to alter the default values that determine the number of scheduled events for no-end-date events, before performing the upgrade, please follow these directions:

- With the old system still running, login to the Administrator Console and disable the Scheduler and Cleanup Agent by clearing out the Hostname column and saving the settings. Repeat for each server (i.e., Application and Process servers).

- Shut down all TRIRIGA servers.

- Perform the Platform upgrade by running the installer, following the directions in the *TRIRIGA Application Platform Installation and Implementation Guide*.

- Start the Application server. Login to the Administrator Console. Select the Scheduler Manager.

- Change the recurrence values for the no-end-date scheduled event types as desired. The pre-2.7.2 values are as follows:  Daily: 100, Weekly: 50,

| Area of Impact | Description |
| --- | --- |
| | Monthly: 12, Yearly: 2 |
| | ▪ Save the values. |
| | ▪ Start the Process server (if applicable). Set up the agents as per your environment's configuration. Start the servers. (Tri-33273) |
| Installer | In 2.7.2, TRIRIGA added a new Jar file to the WebLogic install. The `joda-time-1.4.jar` must be placed in the classpath with the other TRIRIGA libraries in order for TRIRIGA to work properly. (Tri-27909) |
| Installer | The 2.7.0 TRIRIGA Application Platform, like prior releases, integrates to SAP BusinessObjects' Crystal product for its complex reporting needs. For the 2.7.0 release, TRIRIGA certified the SAP Crystal Reports Server Embedded 2008 release, also commonly referred to as Crystal Report Application Server (RAS) 2008, and requires it for Crystal report execution. The Crystal XI R2 Embedded version is not compatible with the 2.7.0 release and any customers currently using Crystal RAS 9 or Crystal XI R2 Embedded must upgrade to SAP Crystal Reports Server Embedded 2008. SAP Crystal Reports Server Embedded 2008 (RAS) has been certified and can be used with the 2.7.0 release. Also, SAP BusinessObjects Enterprise (BOE) XI 3.1 has been certified for the 2.7.1 release and can be used.

You will find SAP Crystal Reports Server Embedded 2008 on DVD 5 of the release and SAP BusinessObjects Enterprise (BOE) XI 3.1 on DVD 6 of the release.

Please contact the IBM TRIRIGA team at IBM Software Support to exchange your existing RAS XI keycode for SAP Crystal Reports Server Embedded 2008.

Please see the *TRIRIGA Application Platform Installation and Implementation Guide* and the *TRIRIGA Application Platform Reporting User Guide* for more information. (Tri-21435, Tri-23647) |
| Internet Explorer | Using TRIRIGA over an extended period of time can cause the memory required by Internet Explorer to increase to the point that IE slows down and becomes unresponsive. To prevent this condition, users should close all of their browser windows from time to time. Later versions of Internet Explorer manage memory more efficiently. |
| Internet Explorer 8 | If you want to be able to login to multiple sessions from the same machine using IE 8.0, you need to disable session sharing. Below are two methods to do this:

Method 1:

Modify the IE shortcut to include the –nomerge flag, which specifies that the session is not shared between separate browser windows.

To do this, right click on the shortcut and select Properties:

In the Properties window, select the Shortcut tab and modify the Target text box by adding the –nomerge switch. |

| Area of Impact | Description |
|---|---|



Click OK.

Now all IE windows that are opened using that shortcut are opened in a new session.

Method 2:

Each time a new IE window is opened when another IE window is already open, a user can open it in a new session by navigating to File > New Session.

| Area of Impact | Description |
|---|---|
| Internet Explorer 8 | Internet Explorer 8 includes a "Preserve Favorites website data" option. This property is selected (on) by default in IE 8. This property retains temporary Internet files from sites that are in your Favorites even if you have set the flag to delete all temporary files. Users should clear this property. If left on and a user's TRIRIGA server is in their Favorites, the cache is not cleared, which can cause js, jsp, and style sheet issues after an upgrade. If you want to clear your cache, uncheck the "Preserve Favorites website data" option. |
| Microsoft SQL Server | Microsoft SQL Server has a row size limit of 8060 bytes. On MSS2005 and MSS2008, there is an overflow mechanism that transparently enables a row to logically exceed 8060 bytes while physically overflowing some of the extra data into a separate part of the database. More information about the 8060 byte limit can be found at the following link: |

| Area of Impact | Description |
|---|---|
| | http://msdn2.microsoft.com/en-us/library/ms186981.aspx. |
| Object Migration | If an association in a GUI is not in the target environment's Association Types list, the association is blank after the Import. |
| Object Migration | You should re-export packages generated with versions of Object Migration prior to 2.6.0 in order to take advantage of the significant enhancements made to the Object Migration tool. |
| Query Section | Having the same select association type on multiple query sections in the same GUI may result in an undesired select behavior as those sections are sharing the same select associated records. Instead, use a different select association type for each query section to properly maintain each select association. (Tri-23771, Tri-23850) |
| Record Runtime | When a user running Internet Explorer 8 with "Smart Screen Filters" turned ON tries to load more than 1000 records on a manager page, IE8 verifies the response it is getting back and, since the response is too large, IE8 crashes. To avoid this circumstance, turn off the "Smart Screen Filters". For more information refer to http://www.microsoft.com/security/filters/smartscreen.aspx  (Tri-27698) |
| Single Sign-On | If you are using SSO through IIS, you must have the Basic authentication option selected in order for CAD Integrator to login properly. You can use any other combination of authentication options (Basic, Digest, and Windows Integrated), provided that both Digest and Windows Integrated are not selected at the same time. (Tri-21349) |
| TRIRIGA BusinessConnect | With TRIRIGA Application Platform 2.6, the definition for the Field integration `dto` object changed. Due to this, using stubs from an older version of the WSDL can cause a `java.lang.NoSuchMethod` error. This commonly occurs when an existing interface is run that calls the TRIRIGA BusinessConnect methods `getGUIs`, `getHierarchyMetadata`, `getHierarchyMetadataByModuleId`, or `getObjectTypeByName`. If you are upgrading to 2.6.x or higher from a previous platform version, update your stubs with the latest WSDL definition to avoid this issue. (Tri-25637). |
| TRIRIGA Java Applets | For the TRIRIGA Java Applets to load, the Java Virtual Machine on the client side has to be started. The initial loading of the viewer can take time and the Internet Explorer window should not be closed while the JVM is loading.<br><br>The following components are impacted:<br><br>■ SVG Viewer<br>■ Brava!<br>■ Gantt<br>■ Stacking<br>■ Expression Editor<br>■ Document Upload<br>■ Availability Sections (Tri-22232) |
| TRIRIGA SVG Viewer | Do not use the TRIRIGA SVG Viewer for design-time work. It is not supported for working on very large workflows. Instead, use the Adobe SVG Viewer Plug- |

| Area of Impact | Description |
|---|---|
| | In for design-time work. (Tri-20731) |
| Where Used | When searching for items to display in a Where Used tab or section, the system does not include the following references for business object fields:<br><br>    ▪ Workflow Populate File task (binary fields to/from)<br>    ▪ Workflow Distill File task (binary field from)<br>    ▪ DataConnect Staging Tables / Staging Table Keys<br>    ▪ DataConnect Used By / Smart Section Lookup Keys |
| Year 2038 | In TRIRIGA some data/time fields will be impacted by the year 2038 problem; some dates far into the future may have issues. For more information, please see http://en.wikipedia.org/wiki/Year_2038_problem. |

# TRIRIGA Application Platform 2.7.2.6 Changes

The major changes to the TRIRIGA Application Platform for this release include the following:

| Area of Change | Description |
|---|---|
| Agents | Resolved an issue that allowed two workflow agents to be started on the same server at the same time. (Tri-34960) |
| System Manager | Changed the sequence of the end of session cleanup to avoid a thread deadlock condition when logging out. (Tri-34615) |

# TRIRIGA Application Platform 2.7.2.6 Properties Files

The properties files did not change with this release.

# TRIRIGA Application Platform 2.7.2.5 Changes

The major changes to the TRIRIGA Application Platform for this release include the following:

| Area of Change | Description |
|---|---|
| Administrator Console | Updated the error report e-mail address in the Administrator Console to `tsupport@us.ibm.com`. (Tri-33548) |
| Agents | The PM scheduler now honors the skip month options when generating monthly scheduled events. (Tri-33571) |
| Scheduling Engine | When you map a Date type field into an Event start field, the platform scheduler by default reads that field as being in the user's time zone. If you want the platform to use the system's time zone instead of the user's time zone, you need to specify that as outlined below.<br><br>The TRIRIGA Application Platform has been enhanced to allow a time zone to |

| Area of Change | Description |
| --- | --- |

be set in the Event object so it can be used in the processing of date values. When a user inputs a date value, the platform stores it in the server's time zone. However, when the scheduler processes the date value, it assumes the date value is in the user's time zone. To resolve this issue for scenarios that require the scheduler to use the server's time zone, the scheduler now processes a date value in the time zone that is specified in the `triTimeZoneId` field of the Event object.

To take advantage of this platform change, you need to update the application to include the new `triTimeZoneId` field so the scheduler will know from which time zone to process a date field. Note that if the field is not included and a value is set, the scheduler will continue to assume the value is in the user's time zone.

The following example shows how an issue identified in the TRIRIGA 9.7 Real Estate application could be addressed by implementing this new date processing. To resolve an issue when date processing may cause incorrect due dates in payment line items created when a payment schedule for a RE lease is activated requires one change to a business object in the Data Modeler and one change to a workflow in the Workflow Builder. After you make these changes, the updated scheduler will have the correct values to calculate and generate the correct start date and end date of the scheduled events.

**Attention – Do not attempt the following unless you are a TRIRIGA Certified Application Developer and thoroughly understand the instructions and the effect on your implementation. If you are not comfortable making these changes in your implementation, please contact the IBM TRIRIGA team at IBM Software Support.**

Step 1: In the Data Modeler, edit the Event system object found in the Mail module. Add a new text field named `triTimeZoneId`, as illustrated below:



Field List                                                                      X

| | | | |
| --- | --- | --- | --- |
| | triMayBL | May | Boolean |
| | triNovemberBL | November | Boolean |
| | triOctoberBL | October | Boolean |
| | triOffsetDateDurationDU | OffsetDate Duration (for Shadowing) | Duration |
| | triRecordStateSY | Record State | System Read Only |
| | triRecurrenceDailyOptionsLI | Daily Recurrence Options | List |
| | triRecurrenceEndOptionsLI | End Recurrence Options | List |
| | triRecurrenceMonthlyOptionsLI | Monthly Recurrence Options | List |
| | triRecurrenceYearlyOptionsLI | Yearly Recurrence Options | List |
| | triSeptemberBL | September | Boolean |
| | triTimeZoneId | TimeZone Id | Text |
| | triUserMessageFlagTX | ! | Text |
| | triUserMessageTX | Attention! | Text |
| | WeeklyFriday | Friday | Boolean |

| Area of Change | Description |
|---|---|



The runtime values of the `triTimeZoneId` field can be the following:

- blank or `null` - the scheduler assumes the input is in the user's time zone.

- `USER` - the values are in the user's time zone.

- `SYSTEM` - the values are in the server's time zone.

- any valid time zone ID from the Java TimeZone class. Note: The values stored in the Time Zones classification are valid Java time zone ids.

Step 2:  In the Workflow Editor, modify the following workflow to set the `triTimeZoneId` field to `SYSTEM`.

*Module*: `triPayment`

*Business Object*: `triPaymentSchedule`

*Workflow*: `triPaymentSchedule – Synchronous – Pre-Create Event`

The illustration below shows the Workflow Editor after the change has been made:

| Area of Change | Description |
|---|---|



(Tri-33476, Tri-33478)

# TRIRIGA Application Platform 2.7.2.5 Properties Files

The properties files did not change with this release.

# TRIRIGA Application Platform 2.7.2.4 Changes

The major changes to the TRIRIGA Application Platform for this release include the following:

| Area of Change | Description |
| --- | --- |
| Administrator Console | The new Scheduler Manager managed object allows you to reset the number of future Scheduled Event records created for events with no end date. The default values in the Scheduler Manager page are as follows:  Daily: 100, Weekly: 100, Monthly: 50, Yearly: 10. (Tri-33211)<br><br>❌ **Attention – Contact the IBM TRIRIGA team at IBM Software Support before using the Scheduler Manager.** |
| Application Server | SSO now supports the `getUserPrincipal` call without throwing an error. Customers that cannot use other methods of SSO can configure this in the `SSO_USER_PRINCIPAL` property in `TRIRIGAWEB.properties`. (Tri-33307) |
| Installer | ❌ **Attention – Contact the IBM TRIRIGA team at IBM Software Support before following the procedure below.**<br><br>Starting with the 2.7.2 TRIRIGA Application Platform release the number of future scheduled events created for a given event was increased to correct the method that computes overlapping duration for shadowing (see Tri-25306 in the 2.7.2 Release Notes). Beginning with the 2.7.2.4 TRIRIGA Application Platform release, if you wish to alter the default values that determine the number of scheduled events for no-end-date events, before performing the upgrade, please follow these directions:<br><br>1. With the old system still running, login to the Administrator Console and disable the Scheduler and Cleanup Agent by clearing out the Hostname column and saving the settings. Repeat for each server (i.e., Application and Process servers).<br><br>2. Shut down all TRIRIGA servers.<br><br>3. Perform the Platform upgrade by running the installer, following the directions in the *TRIRIGA Application Platform Installation and Implementation Guide*.<br><br>4. Start the Application server. Login to the Administrator Console. Select the Scheduler Manager.<br><br>5. Change the recurrence values for the no-end-date scheduled event types as desired. The pre-2.7.2 values are as follows:  Daily: 100, Weekly: 50, Monthly: 12, Yearly: 2<br><br>6. Save the values.<br><br>7. Start the Process server (if applicable). Set up the agents as per your environment's configuration. Start the servers. (Tri-33273) |
| Installer | TRIRIGA now supports Oracle JRE 1.6.0_23, JRE 1.6.0_24, JRE 1.6.0_25, and JRE 1.6.0_26. (Tri-32613) |

| Area of Change | Description |
| --- | --- |
| Security | Corrected an issue with open cursors for SESSION_HISTORY. The database cursor now closes properly. (Tri-33251) |

# TRIRIGA Application Platform 2.7.2.4 Properties Files

The properties files did not change with this release.

# TRIRIGA Application Platform 2.7.2.3 Changes

The major changes to the TRIRIGA Application Platform for this release include the following:

| Area of Change | Description |
| --- | --- |
| Agents | The Extended Formula Agent now recognizes query field filters for fields in Live Link sections. Now, when a record is added or removed from the referenced Live Link section, the Extended Formula that uses that query will be recalculated. Please clear the Extended Formula Cache from the Administrator Console after upgrading to 2.7.2.3. (Tri-32442) |
| Document Management | Resolved a Document Manager issue when using JRE 1.6.0_23 that prevented the links to upload a document from appearing. (Tri-32436) |
| Document Management | TRIRIGA applets have been signed with the most current VeriSign key. (Tri-32434) |
| Location Manager | Attaching the Gross or Measured Gross Area in CAD Integrator now triggers extended formulas to recalculate for each field. (Tri-32438) |
| Record Runtime | Note fields now save modified data when a different field triggers an on change workflow. (Tri-32439) |
| Security | Resolved an XSS vulnerability during the login process. (Tri-32403) |

# TRIRIGA Application Platform 2.7.2.3 Properties Files

The properties files did not change with this release.

# TRIRIGA Application Platform 2.7.2.2 Changes

The major changes to the TRIRIGA Application Platform for this release include the following:

| Area of Change | Description |
|---|---|
| License and Security | Users with only a TRIRIGA Employee Self Service license now can access notifications from the notification link in a notification e-mail. (Tri-30110) |
| Query and Reporting | To improve performance, you can disable the Java Data Source feature when a Query report is used in bulk report mode. To configure a single query report to NOT to use Java Data Source (Streaming) option, put the following tag in the Report comments `::DISABLE_JAVA_DATA_SOURCE::`. (Tri-31668) |
| Query and Reporting | When using a command table as the data source for a dynamic parameter field in a Crystal report in conjunction with TririgaQueryXML, you must disable the Java data source for the report. To configure a single query report to NOT to use Java Data Source (Streaming) option, put the following tag in the Report comments `::DISABLE_JAVA_DATA_SOURCE::`. (Tri-30799) |
| Record Runtime | Resolved fetching external images within the application and additionally fetching page content (either HTTPS or HTTP) in a manner that is consistent with the URL used to invoke the environment. (Tri-31564) |
| Scheduling Engine | Resolved an issue causing an event scheduled with a Yearly recurrence pattern with the start date of the event in the last week of the month to generate scheduled events offset by 1 month. (Tri-31661) |
| Scheduling Engine | The system now generates the first event for events scheduled with a Yearly recurrence pattern with the start date of the event and the first event falling on the same day. (Tri-31689) |
| TRIRIGA BusinessConnect | BusinessConnect now uses business object-level transitions, which includes hidden actions, to determine if a user has edit access to a record being modified. (Tri-31726) |
| TRIRIGA BusinessConnect | Resolved a BusinessConnect issue preventing large documents greater than 1 MB from correctly uploading with `uploadFrom`. (Tri-31728) |
| Workflow Manager | Attaching a PDF generated from a Crystal form report in a workflow no longer results in a PDF with labels and no data. (Tri-31737) |

# TRIRIGA Application Platform 2.7.2.2 Properties Files

The following property in the `TRIRIGAWEB.properties` file changed with this release:

| Area of Change | Description |
|---|---|
| SESSION_HISTORY_TRACKING | SESSION_HISTORY_TRACKING controls what gets logged to the SESSION_HISTORY table when the system authenticates a user. The three values are as follows:<br><br>• ALL: All user sessions are logged to the SESSION_HISTORY table. This is the default behavior.<br><br>• WEB_USER: User sessions from TRIRIGA BusinessConnect are not logged to the SESSION_HISTORY table.<br><br>• NONE: No user sessions are logged to the SESSION_HISTORY table. (Tri-31738) |

# TRIRIGA Application Platform 2.7.2.1 Changes

The major changes to the TRIRIGA Application Platform for this release include the following:

| Area of Change | Description |
|---|---|
| Application Server | Resolved a number of cross-site scripting vulnerabilities. (Tri-28674, Tri-28675, Tri-28676, Tri-28677) |
| CAD Integrator | If you are using SSO, launching TRIRIGA from within CAD Integrator now uses the SSO login instead of the user name entered with TRI_LOGIN. (Tri-28806) |
| CAD Integrator | If you perform a CI Login with SSO, it no longer switches to API 1 mode. If you enter one user name in the CI login dialog and a second user name in the SSO/IIS login, it now refuses to log in and returns you to the CI Login.<br><br>If you switch back to TRIRIGA BusinessConnect mode, the CI Login ignores the first login and logs in as the SSO/IIS domain login. CAD Integrator reports you to be logged in as first user name; however, it performs all commands and creates all records as the second user name (the SSO/IIS login). (Tri-29292) |
| Formula Engine | Improved the internal calculations for NPV and IIR to reduce the time required to perform these calculations. (Tri-29101) |
| Object Migration | Resolved an issue causing GUIs with Graphics sections to fail on import. (Tri-29103) |
| Object Migration | The import process now imports a workflow that already exists on the target environment in a corrupt or invalid state. (Tri-29254) |
| Query and Reporting | An exported summary report now shows group by data instead of the detail data. (Tri-28765) |
| Scheduling Engine | Corrected the method that computes overlapping duration for shadowing. (Tri-25306) |

| Area of Change | Description |
| --- | --- |
| Workflow | Modify Records tasks and Create Record tasks now work properly when executed from a workflow suspended on a 2.6.x platform and resumed on a 2.7.x platform. (Tri-29229) |
| Workflow | When the user that originally initiated a workflow has been removed from the system, workflows that were suspended by an Approval task, User Action task, or from the Administrator Console now run using the user that completed the task. (Tri-29102) |

# TRIRIGA Application Platform 2.7.2.1 Properties Files

The following property in the `TRIRIGAWEB.properties` file changed with this release:

| Area of Change | Description |
| --- | --- |
| `CLEANUP_TIME` | The system no longer uses the `CLEANUP_TIME` property. The Cleanup Agent now runs automatically instead of using the `CLEANUP_TIME` property to wake up periodically to see if it should run. (Tri-29227) |

# TRIRIGA Application Platform 2.7.2 Enhancements

With the TRIRIGA Application Platform 2.7.2 release, TRIRIGA continues to add valuable functionality, fix defects, and reduce the effort necessary for new and existing customers to implement our products. Here are a few of the highlights from this release:

**TRIRIGA Reporting Enhancements**

The TRIRIGA Report Manager now includes "OR" support. This gives TRIRIGA Application Builders additional filter options when creating reports, queries and charts and reduces the need to create Crystal Reports when these types of filters are required.

**TRIRIGA GUI Builder Enhancements**

The TRIRIGA GUI Builder now allows Application Builders to copy tabs and sections as well as the ability to insert a row in a GUI for placement of additional items. A 'where used' feature also has been added that provides the builder with an impact assessment tool to carefully manage change. You also can see where a GUI is used so the impacts of changes to a GUI will be completely understood.

**TRIRIGA DataConnect Enhancements**

TRIRIGA DataConnect now supports the option to handle 'upserts', inserting records where new or updating records if they already exist. DataConnect also has been enhanced to directly update single smart sections, work with temporary data, and provide expanded logging capabilities. The logging used with DataConnect has been enhanced.

**TRIRIGA BusinessConnect Enhancements**

TRIRIGA BusinessConnect now supports retrieval of data from multi-BO queries.

**Updated Rich Text Editor**

TRIRIGA Rich Text fields have an updated editor. The new editor allows users to apply formatting to text and add images in line within the text. Rich Text fields are used within TRIRIGA's own help engine, so this means that creating customer-specific help content now can include images of the process!

**Where Used**

The new Where Used functionality in the Data Modeler, GUI Builder, Workflow Builder, and Report Manager shows references across metadata types much more completely than ever before.  With Where Used, you can see where a GUI is used in workflow, query, managers, and more, and can see where a query is used in a workflow, other queries, portals, managers, GUI sections, and more.

The enhancements to the TRIRIGA Application Platform for this release include the following:

| Area of Change | Description |
| --- | --- |
| Administrator Console | ▪ Added a link in the Cache Manager page that clears all caches (not including a full hierarchy rebuild) across all active servers. Please note that this is an asynchronous event that gets queued and may take up to a minute to process on each server. (Tri-26162)<br><br>▪ The DataConnect page now shows both the TRIRIGA and database field names for staging table fields. (Tri-26978)<br><br>▪ The User Manager page displays the IP address of users logged into the server. (Tri-19566) |
| Application Server | The installer no longer supports upgrades from 2.1.x. Please upgrade to 2.7.1 before upgrading to this version. (Tri-27703, Tri-27249) |
| DataConnect | ▪ DataConnect now has built in support to insert and update records that have smart sections. (Tri-18995)<br><br>▪ DataConnect now logs failures on the DataConnect Job object. (Tri-27416)<br><br>▪ DataConnect now supports Insert, Update, and Upsert actions. Upsert will insert a new record if the record does not exist, otherwise if the record exists, DataConnect will update the record. (Tri-19981)<br><br>▪ DataConnect now supports temporary data and the use of the Get Temp Record and Save Permanent Record workflow tasks. DataConnect can work on permanent data or session data to allow for greater flexibility in integration workflows. (Tri-19037) |

| Area of Change | Description |
| --- | --- |
| GUI Builder | ▪ The TRIRIGA GUI Builder now allows application builders to copy tabs and sections as well as the ability to insert a row in a GUI for placement of additional items.<br><br>▪ Use the new Load Graphic When Section Loads property in Graphic sections to indicate whether or not the graphic in the section loads when the GUI renders.<br><br>▪ If the property is not checked, the graphic does not display and the actions on the section bar include the Show Graphic action. When a user clicks Show Graphic, the section expands, the graphic loads, and the Hide Graphic action displays on the section bar.<br><br>▪ If the property is checked, the graphic displays when the GUI renders. (Tri-26149) |
| Installer | ▪ The installer now works with Windows 2008 Server. (Tri-28003)<br><br>▪ TRIRIGA now supports a new Oracle JDBC driver. If you are upgrading WebLogic or WebSphere, be sure to use the new ojdbc5.jar and delete the ojdbc14.jar. You will need to modify parameters and class paths, as described in the *TRIRIGA Application Platform Installation and Implementation Guide*. (Tri-26533)<br><br>▪ A new property controls the size of the buffer in the Oracle JDBC driver. The installer automatically adds this setting to the JBoss startup script; however, you must add the property to the startup script for WebLogic and for WebSphere. The setting to add is:<br>`-Doracle.jdbc.maxCachedBufferSize=1` |
| Object Migration | When a document that is checked out is imported through object migration, the system updates and checks in the document. (Tri-11943) |
| OR | The TRIRIGA Report Manager now includes "OR" support. This gives TRIRIGA application builders additional filter options when creating reports, queries, and charts and reduces the need to create Crystal Reports when these types of filters are required.<br><br>The change does not affect any `$$RUNTIME$$` filters. The tab in the Report Manager used to create query filters now has two sections: User Filters and System Filters. System Filters allows grouping of separate filter clauses with parentheses and joining separate filter clauses with ORs, and introduces a NOT unary operator that can be used with AND and OR to create more robust queries. For further information, see the *TRIRIGA Application Platform Reporting User Guide*. (Tri-26161) |

| Area of Change | Description |
|---|---|
| Query and Reporting | ▪ A new property, Result Size, has been added to Report Manager. Result Size provides the ability to set a default result size to be used when a report is run, no matter where it is run from (including query sections). The default value for this drop-down is empty, in which case the platform will decide the result size in the same manner it has previous to this property. (Tri-26128)<br><br>▪ Added Does Not Contain and Does Not Contain - Case Sensitive filter operators to queries. When applied, these operators produce a negative match on the query result set. These filters are available only for text-based fields (for example, Text, Classification, and List) and are available as a smart search filter option when specified as a runtime filter in a query. (Tri-26160)<br><br>▪ The Filter Columns tab of the Report Manager supports the concept of user filters (the value is supplied by the user) and system filters (the filtering is done before the data displays to the user). In addition to the AND operator, system filters include OR, AND NOT, and OR NOT operators. System filters may be grouped such that the filters in each group are applied as a unit before joining their result with the rest of the filters; a defined group may have sub-groups. See the *TRIRIGA Application Platform Reporting User Guide* for details. |
| Security | ▪ If a user does not have access to the underlying record, they will not be able to open a record in a smart section. (Tri-27182)<br><br>▪ If a user does not have access to a locator's underlying record, the locator name is not a hyperlink. This prevents the user from opening the locator's referring record. (Tri-27183)<br><br>▪ If a user does not have access to a record's GUI, that record does not display with links in a query section. (Tri-26134) |
| TRIRIGA BusinessConnect | ▪ TRIRIGA BusinessConnect now supports retrieval of data from multi-BO queries. For more information, see TRIRIGA BusinessConnect Technical Specification.<br><br>▪ General section names are no longer required in `runDynamicQuery`. In the `displayFields` and the `associatedDisplayFields` part of the request, if a section name is not specified or is not recognized, that section is treated as the top level section for the primary business object or the associated business object respectively. (Tri-26169) |
| User Experience | TRIRIGA Rich Text fields have an updated editor. The new editor allows users to apply formatting to text and add images in line within the text. Rich Text fields are used within TRIRIGA's own help engine, so this means that creating customer-specific help content can now include images of the process. (Tri-21982) |

| Area of Change | Description |
| --- | --- |
| Where Used | The new Where Used functionality in the Data Modeler, GUI Builder, Workflow Builder, and Report Manager shows references across metadata types much more completely than ever before.  With Where Used, you can see where a GUI is used in workflow, query, managers, and more, and can see where a query is used in a workflow, other queries, portals, managers, GUI sections, and more. For more information, see *Application Building for the TRIRIGA Application Platform* and *TRIRIGA Application Platform Reporting User Guide*. (Tri-27594) |
| Workflow | Create Record tasks and Modify Records tasks now have Transaction properties that can be used to enable transactions. Within a Create Record or Modify Records task, the Transaction parameter determines how a business object record is created. Find more information in *Application Building for the TRIRIGA Application Platform*. (Tri-27424) |

# TRIRIGA Application Platform 2.7.2 Changes

The major changes to the TRIRIGA Application Platform for this release include the following:

| Area of Change | Description |
| --- | --- |
| Administrator Console | Double quotes no longer cause issues while editing property files in the Administrator Console. Information in the value field displays correctly if a double quote is used. (Tri-28056) |
| Administrator Console | HTML characters, such as `<br>`, now display properly in the Administrator Console System Manager when set in one of the properties files for one of the properties. (Tri-12935) |
| Administrator Console | Java Manager now correctly returns the `JAVA_OPTIONS` variable passed to the JVM at startup. (Tri-12164) |
| Administrator Console | Refresh timeout now can be modified on the DataConnect Administration Job page. (Tri-20199) |
| Administrator Console | Selecting a Cleanup link in the Administrator Console creates an INFO message in the `server.log` instead of an ERROR message. (Tri-16018) |
| Administrator Console | The Administrator Console's left menu now displays items in alphabetical order, with the exception of the last two links. The last two links are designed to be the last items in the list. (Tri-23201) |
| Administrator Console | The Cleanup Agent will correctly process the Cleanup Schedule for commands set to run on a specific day of the week. (Tri-23679) |
| Administrator Console | The Java Manager page no longer shows erroneous negative results for the Java use of CPU (%) value. On some operating systems, the % of CPU currently used cannot be determined, so on those operating systems, the row is hidden. (Tri-11029) |

| Area of Change | Description |
| --- | --- |
| Administrator Console | The last two links in the Administrator Console no longer show html formatting when hovering the mouse over them. (Tri-23201) |
| Administrator Console | The TRIRIGA Administrator Console now warns system administrators if their UNIX/Linux servers are operating with an invalid DISPLAY environment variable. TRIRIGA requires XWindows to operate properly. This new test allows administrators to verify the XWindows DISPLAY is set up correctly. (Tri-12315) |
| Administrator Console | Trailing spaces in Brava settings in TRIRIGAWEB.properties no longer cause issues when loading the Brava applet. (Tri-23814) |
| Administrator Console | Upgrades from 8i platform are no longer supported. The Post Conversion Cleanup Utility that was used in 8.4.x platform upgrades has been removed from the Administrator Console. (Tri-20499) |
| Agent Manager | As part of the Cleanup Agent's normal process, the hierarchy caches get cleared and some are rebuilt. Modified the agent so this event occurs across all servers that are active when the Cleanup Agent runs. (Tri-27034) |
| Agents | Resolved a Cleanup Agent issue, where a dependent associated record was not being properly cleaned and deleted if its parent associated record was already deleted. Cleanup Agent now appropriately handles this situation. Note that Cleanup Agent needs to run twice for the entire deletion to complete. On Cleanup Agent's first run, all dependent associated records whose parents have been deleted are detected. On the second run of Cleanup Agent the actual deletion of these records takes place. (Tri-27613) |
| Agents | Resolved an issue where the Workflow Agent would fail to start if the `WF_AGENT_USER_SETTING` table had a value of `0` in the `agent_id` column. (Tri-27753) |
| Agents | Resolved an issue with the Cleanup Agent that prevented it from running a second time if the agent or server had not been restarted. (Tri-28163) |
| Application Server | Fixed an issue causing an exception when a user logged in through SSO. (Tri-28096) |
| Application Server | Resolved an issue that prevented log files from being downloaded through the Administrator Console when using Internet Explorer and HTTPS. (Tri-28384) |
| Application Server | Saving a record that contains a Note field from within a workflow no longer causes a deadlock. (Tri-27752) |
| Application Server | The `EXCLUDE_CHARACTERS` property in `TRIRIGAWEB.properties` can contain a single quote and/or a double quote. (Tri-25985) |

| Area of Change | Description |
|---|---|
| Application Server | TRIRIGA updated the Oracle JDBC driver to version 11.2.0.1. A new property controls the size of the buffer in the driver. The installer automatically adds this setting to the JBoss startup script; however, you must add the property to the startup script for WebLogic and for WebSphere. The setting to add is: `-Doracle.jdbc.maxCachedBufferSize=18` For more information, see the *TRIRIGA Application Platform Installation and Implementation Guide*. (Tri-28317) |
| Application Setup Manager | Updated field labels and tab descriptions in the Planning Settings tab of TRIRIGA Application Settings. (Tri-26741) |
| Currency Conversion | Changed the label on the Save action when adding a new Currency Conversion to "ok". (Tri-2236) |
| Currency Conversion | In the currency conversion dialog, when a conversion rate was entered that included text data, was not a number, or contained commas, the conversion rate defaulted to 1.0. An error message is now displayed, allowing correction of the invalid value. (Tri-2408, Tri-6293) |
| Currency Conversion Manager | The system displays a confirmation box before deleting a currency conversion rate. (Tri-6291) |
| Data Integrator | A warning message now appears when a user tries to export a header file when no display columns are selected. At least one column must be selected in order to export. (Tri-2656) |
| Data Integrator | Added more information to the error message posted when creating an association fails during data load. (Tri-20184) |
| Data Integrator | Changed the label of the Save action in "Step 1 Select File to Import" to Upload File to reflect what it actually does. (Tri-12523) |
| Data Integrator | Removed the Close button from Data Integrator. (Tri-3795) |
| Data Integrator | Selecting Create Header and Exporting the header now results in a file that has the proper extension (.xls). (Tri-11670) |
| Data Integrator | The Display fields in the Create Header section now are in alphabetical order. (Tri-12455) |
| Data Integrator | The Hours label now displays when the user selects Batch Upload. (Tri-7631) |
| Data Modeler | A Label Only field no longer has a Required flag property. (Tri-6458) |
| Data Modeler | Added a mouseover tooltip ("Show Fields") to identify the blue square that appears in the Association List next to a section association. (Tri-12473) |
| Data Modeler | Added names to the Name delimiter characters in BO Mapping name mapping. (Tri-12457) |

| Area of Change | Description |
|---|---|
| Data Modeler | BO Publish no longer fails when a single-record smart section is added to a business object and the association name for that section contains a hyphen. (Tri-19649) |
| Data Modeler | Business object names in the Data Modeler's Object Browser now display alphabetically (ignoring case). This is consistent with the ordering in the GUI Builder. (Tri-6995) |
| Data Modeler | Clicking the collapse the page icon no longer causes a JavaScript error. (Tri-11413) |
| Data Modeler | Fixed an issue in the business object Field List's Find action preventing error messages from being displayed to the user when the user accepts multiple fields and any of the fields are saved. (Tri-27252) |
| Data Modeler | In (Locator) Field Properties > Edit Mapping link, the fields in the displayed window are now sorted. (Tri-4114) |
| Data Modeler | In Field Properties, a user now can set the Storage Precision property to 0. (Tri-12456) |
| Data Modeler | In the Module page, entering the Module Name and pressing the Enter key no longer causes an error message. (Tri-6372) |
| Data Modeler | In Tools > BO State Transition, when creating/opening a new business object without a state family, the initial state's default label is "null" instead of "Start". (Tri-12458) |
| Data Modeler | Removed the Object Browser button from the Data Modeler's View menu. Since the Object Browser is always in view on the left and self-minimizes, this button no longer served a purpose. (Tri-6961) |
| Data Modeler | Removed the Row Span property for Discussion Thread sections in the Data Modeler since it no longer used. (Tri-18633) |
| Data Modeler | The Delete action on a business object's Field List does not allow the user to delete fields that make up the Publish Name of the business object. (Tri-3611) |
| Data Modeler | The `triTemplate` module name now shows in the Data Modeler Module properties. (Tri-19591) |
| Data Modeler | When a user changes the publish name of a business object, the system now requests confirmation of the change. Be aware that a change to the publish name might result in two records with same record name. (Tri-421) |
| Data Modeler | When adding a new List field to an object, the Field Details window now shows the Module and List properties as required. (Tri-18500) |
| Data Modeler | When creating a section from an association that only allows one record (single smart section), the Field List no longer includes a Sum column. (Tri-980) |

| Area of Change | Description |
|---|---|
| DataConnect | DataConnect's UOM processing now handles base Currency fields on the staging table as UOM Managed fields, which eliminates errors at DataConnect runtime. This also resolves an issue caused when a Number field's Source UOM was null. (Tri-27893) |
| DataConnect | Existing DataConnect Staging Tables (tables beginning with S_) that do not contain the DC_PROJECT column will contain the DC_PROJECT column after upgrade. The DC_PROJECT column allows for project containment for the incoming records. (Tri-27770) |
| DataConnect | If you are planning to use DataConnect, there are some application objects that are needed. If your application release is prior to 9.6, you must apply the triDataConnectJob object migration package. If your application release is 9.6 or later, the objects in triDataConnectJob are already in your application. If you are upgrading to the 2.7.2 platform with any application release, apply triDataConnectJobLog. If you have to apply both because of your application release, apply triDataConnectJob first, then apply triDataConnectJobLog. The object migration packages are available in the installation directory \userfiles\upgrades or on Disk 2, the Application Upgrade disk.<br><br>To take advantage of DataConnect's new reporting functionality, apply the triDataConnectJobLog object migration package as described above. If you have existing DataConnect Job objects with which you wish to use reporting, add a query section to your DataConnectJob object GUI that references the triDataConnectJobLog - log entries query located in the triLog module. (Tri-28141) |
| DataConnect | The DataConnect task in the Workflow Builder now sorts the initial states available to choose. The null state is listed first. (Tri-26979) |
| Document Management | Fixed an issue in an SQL database environment preventing a user from uploading a document using object attachment upload window within a project context when the project name was very long. (Tri-23556) |
| Document Management | Icons for some file types no longer show broken images. (Tri-12161) |
| Document Management | Publication records in Document Manager no longer show " " in the number column when the number value for that record is blank. (Tri-11527) |
| Document Manager | Corrected a font size inconsistency with retired documents so the font is the same size as other items listed in a document folder. (Tri-22391) |
| Document Manager | If the database runs out of space while uploading a document and space is not set as autoextend, the user sees a SQL error with the MID number. (Tri-23921) |
| Document Manager | The Document Management tree now refreshes after a folder or document is deleted. The deleted folder is removed from the tree and the content counter updates correctly. (Tri-8587) |

| Area of Change | Description |
|---|---|
| Document Manager | The Document Manager now displays an alert message if the user has not selected a document. Also, the Document Manager displays confirmation messages before deleting or moving items. (Tri-2440) |
| Document Manager | The folder tree count now updates when a document is deleted. (Tri-6085) |
| Document Manager | The propagation of folder permissions on large folder structures was running into a transaction timeout after five minutes. TRIRIGA minimized the transaction length during this process, which allows more time for longer running folder permission propagations. (Tri-24174) |
| Document Manager | When a user clicks Delete without selecting an item, the page no longer returns a screen with the word "false". (Tri-7055) |
| Formula Engine | Resolved a Formula Engine issue where UOM Values were not being correctly calculated when the UOM Value name was shared by multiple UOM Types. An example of this is the UOM Value "each". The UOM Value "each" is shared by both the UOM Type "Area" and the UOM Type "Quantity". (Tri-27626) |
| Gantt | JRE 6 update 18 can be used to open Java Web Start Gantt (Open Gantt in New Window). (Tri-27597) |
| Gantt | Netronic fixed an error causing milestones to not show dates correctly and end dates before the start dates. (Tri-18951) |
| GIS | To take advantage of the following updates, apply the `ArcGIS_Connector.zip` object migration package from the install directory `\userfiles\upgrades`.<br><br>▪ To display an image in the bubble marker for ArcGIS maps you must include an Image field in your query results as a column labeled "Image". The column will not display in the table section but will render in the bubble marker. If the query being used is a metric query, the system uses the Image field for the Location and you do not need to include it in the query results. (Tri-27503)<br><br>▪ To use a TRIRIGA query to have ArcGIS maps display any item onto the map, you must geotag your item and include a field labeled "Latitude" and a field labeled "Longitude". The Flex Viewer looks for these two values to know where to place the bubble marker for your item. To specify the query to use, pass the query name as a query string parameter in the external link. For example, if you have a query called `My GeoTagged Locations`, when setting up a tab or portal to display the ArcGIS map as an external link, specify `/html/en/default/rest/ArcGIS?queryname=My GeoTagged Locations`. (Tri-27504) |

| Area of Change | Description |
|---|---|
| Graphics | If your application server is on UNIX (Solaris, AIX, HPUX) and you utilize the DWF Server using Microsoft's Services for UNIX, you need to make sure the "User Name Mapping on local computer" is configured properly. There should be a mapping for the Windows user used to run the DWF Service mapped over to the UNIX user configured to run TRIRIGA. When sharing out the DWF directory on Windows, the mapping will insure the DWF service and UNIX account have the correct permissions to read and write the dwf files for Visual Query and graphic sections. (Tri-28370) |
| Graphics | Runtime filters applied to a query section now are persisted across the record's session. When a user navigates to a different tab and goes back to the tab where the query section is located, the previously applied runtime filters on that query section are applied automatically. (Tri-25635) |
| Graphics | Selected spaces in a graphic section now are returned in a workflow Retrieve Records task even if the associated query section is not visible. (Tri-23754) |
| GUI Builder | Clicking the section from a hierarchy tree inside a GUI and adding a field to a GUI no longer causes an error. (Tri-28146) |
| GUI Builder | Collapsing the left navigation frame in the GUI Builder no longer causes a JavaScript error. (Tri-11411) |
| GUI Builder | Fixed an issue that caused newly added GUI fields in the GUI Builder to default the Data Style Class but not the Label Style Class. Now both default properly. (Tri-5015) |
| GUI Builder | In preview mode, the GUI Builder displays "Report Section" instead of loading the report. (Tri-28024) |
| GUI Builder | The "Smart Query" section type is now labeled "Group By". (Tri-27307) |
| GUI Builder | The label of the list popped up from the locator query selector in the GUI Builder for a locator field now changes when the list filter selection changes. (Tri-17896) |
| GUI Builder | When the system encounters invalid data in a Stacking section, it now logs information about the problem instead of a null pointer exception. (Tri-28255) |
| Hierarchy Structures | Enhancements to the hierarchy tree cache ensure the structures stay current while concurrent users modify a hierarchy. (Tri-27033) |
| Installer | (Solaris only) When the Installer is started, the following message is reported: `Warning: Cannot convert string "-monotype-arial-regular-r-normal-- *-140-*-*-p-*-iso8859-1" to type FontStruct.` No action is required. The Installer will use a default font. (Tri-28039) |
| Installer | Installer technology has been upgraded to the latest version, allowing it to run on 64 bit operating systems. (Tri-27310, Tri-27912) |

| Area of Change | Description |
| --- | --- |
| Installer | The installer failed to complete when custom statistics were added to columns on SQL Server. The installer may try to drop columns not used any longer by the platform. It now drops the statistics and the columns so the installer can complete successfully. (Tri-28013) |
| Installer | The screen that allows the user to define the sizes and locations of Oracle dbf files now appears during a new Oracle database console installation when the user requested that the tablespaces be created. (Tri-21952) |
| Installer | When doing an upgrade installation, the value in the old installation directory no longer overwrites the DATA_WAREHOUSE property. (Tri-28101) |
| Installer | When installing on WebLogic, the screen that displays the classpath string with which to start WebLogic did not display the libraries necessary to create the data sources in the WebLogic instance so that the application can connect to the database. These libraries now appear if installing database or server and database and display the path to the mssqlserver.jar if installing on MSSQL and ojdbc5.jar if installing on Oracle. (Tri-28059) |
| Label Manager | Classification fields will be translated to the correct user language when viewed. (Tri-27216) |
| Label Manager | The headings in the calendar display correctly to users when the System language is set in the Language Manger in the Administrator Console to a value other than en_US (US English). (Tri-27301) |
| Label Manager | To import special characters such as é, û, è, ç, Ä properly, the files that contain label translation have to be saved with UTF-8 encoding. (Tri-27602) |
| License Manager | Resolved a JavaScript error that occurred in License Manager when clicking the arrow that collapses/expands the left frame. (Tri-11412) |
| License Manager | The License Manager prompts for confirmation before deleting a user. It also displays an alert message if no user is selected to be deleted. (Tri-6989) |
| Licenses | The system now correctly picks up IP-specific licenses on Linux or Unix servers with two or more network cards with different IP addresses. (Tri-8491) |
| Licensing | A Technology Metric license is no longer required for a user to see the result of a metric query in a GUI. (Tri-27417) |
| Licensing | If a user does not have group create access or license access, GUIs no longer appear in custom portal Quick Add menus. The system now only displays user-creatable GUIs. (Tri-27005) |
| Licensing | In some cases a query was displayed in a manager when the GUIs the query ran against had either group or license security, but not both. Now platform security correctly restricts access to queries defined in such a way. (Tri-27157) |
| List Manager | A master list can no longer be deleted without first deleting the dependent list. (Tri-19447) |

| Area of Change | Description |
|---|---|
| List Manager | Dependent lists that are three levels deep now load correct values when the parent list has duplicate values. (Tri-16408) |
| List Manager | List Name value is mandatory when creating a new list. (Tri-6998) |
| List Manager | Resolved an issue that leaked prepared statements on a query for List values. (Tri-28222) |
| List Manager | The List Manager now displays a confirmation dialog box before deleting a list. (Tri-6997) |
| Manager | Corrected an issue that prevented accessible hierarchies from being displayed when viewed in a manager if the definition for the navigator group they are contained in only contained hierarchies. (Tri-27198) |
| Manager | It is no longer required to clear the Object MetaData Cache in order for a user to view the correct accessible managers and manager navigator objects after one of the following:<br><br>• A delete of a manager GUI.<br>• A change to group security settings for the user.<br>• A deletion or an addition of a manager.<br>• A change to the navigator objects inside the manager.<br>• A deletion of a query that is present in some manager.<br>• A change to the query business objects/GUIs/modules for a query that is present in some manager.<br>• A change to the User Access section for a query that is present in some manager. (Tri-26986) |
| Object Migration | Fixed a SQL error that prevented a business object from publishing correctly when a field on the business object was being altered (changed size for example) and the corresponding database column for that field had something defined on it by the customer that caused it to fail the alter. (Tri-10305) |
| Object Migration | If the module or business object of a DataConnect task is not included in the object migration package and does not exist in the target environment, a warning message displays in the object migration log. When an imported workflow contains a DataConnect task that does not have a module or a business object, the system puts an error in the log notifying the user that there is no module or business object for the DataConnect task. (Tri-27859) |
| Object Migration | Importing a non-existing child record in a hierarchy does not change the root of the hierarchy. (Tri-27234) |
| Object Migration | Resolved an object migration issue where the description on the source package was overwritten on the target environment with the package name. The package description now is correctly set on the target environment. Note that if the source package does not have a description, the target environment continues to display the package name as the description. (Tri-10025) |

| Area of Change | Description |
|---|---|
| Object Migration | The Comparison Report includes comparisons of the Table Sequence field for multi-record smart sections. (Tri-27206) |
| Offline | If using Offline via Microsoft Exchange 2007, be sure to configure `Plain text logon (Basic authentication)` in Microsoft Exchange > Server Configuration > Client Access > IMAP4 Properties > Authentication tab. (Tri-28109, Tri-21841) |
| Portal | Fixed an issue preventing the Quick Add link on a portal from displaying the correct GUIs. (Tri-28125) |
| Portal | Removed the non-functional "Add" link from the Project picker query dialog; projects should only be created via the Project Manager. (Tri-26945) |
| Portal | The `ArcGis.zip` resource file in Administration > System Manager > ClassLoader > ArcGIS is packaged incorrectly. `ArcGis.zip` contains the html and flash files used to render the GUI portion of GIS maps. When unzipped, the files are in `/userfiles/ArcGis/ArcGis`. For maps to render correctly, you must copy the files to `/userfiles/ArcGis`. (Tri-28018) |
| Portal | When first visiting TRIRIGA, users no longer see the following message, "This website wants to run the following add-on 'Windows Media Player 6.4'". (Tri-27855) |
| Portal Graph Section | Resolved an issue where a View Source query produced slightly inaccurate results when a Group By field was displayed to the right of sum field(s). Now the View Source query is accurate regardless of where the Group By field is displayed. (Tri-22149) |
| Portal Manager | Resolved an issue with bulk user activation that caused groups to become corrupt when workflows activated the individual users. Now, when you are doing bulk user activation, you must have only one process server running the Workflow Agent to ensure accuracy of the user group data. (Tri-28133) |
| Portal Menu | Images in portal menu drop-downs now are clickable, like the text in the drop-down. (Tri-12521) |
| Portal Menu Manager | The Portal Menu Manager page now automatically selects the first menu item when the page is opened. This fixes some JavaScript errors, as well as removing the possibility of losing menu items by moving them to the center form before selecting a menu. (Tri-614) |
| Portal Section Manager | Setting a Portal Section header weight to Italic now properly applies the italicized style to the header text. (Tri-3304) |
| Query and Reporting | A Crystal report copied in Report Manager now retains the Queued flag setting. (Tri-27858) |
| Query and Reporting | A multi-business object report now aligns columns properly when more than one row is associated with the primary business object. (Tri-26546) |

| Area of Change | Description |
|---|---|
| Query and Reporting | A report or Excel export with a masked Password field no longer reveals the actual value of the Password field. (Tri-23105) |
| Query and Reporting | Aggregated Duration fields or Time fields now format correctly on query reports. (Tri-16244) |
| Query and Reporting | An action name and label can contain most special characters. Special characters that pose a security threat are validated and the system now properly notifies the user. (Tri-21997) |
| Query and Reporting | Any runtime filter with an IN or NOT IN operator now validates for proper input on it during runtime of the query. If a user enters an improperly formatted string, the system warns the user that an IN or NOT IN filter value only accepts a comma separated list of values enclosed in single quotes. (Tri-22108, Tri-27645) |
| Query and Reporting | Changed the default user to the System user for Crystal Reports run as Scheduled events. (Tri-27467) |
| Query and Reporting | Clicking a left or right arrow in the Report Manager's Order By / Sum Columns tab when a field is not selected no longer causes a JavaScript error. (Tri-22113) |
| Query and Reporting | Fixed an issue that caused display column data and filter data to be erased if one of the Report Label fields in one of the rows of the Report Manager's Display Columns tab or Filter Columns tab was blank. A warning message now displays informing the user that a blank label is not allowed and the user will not be able to leave the field unless a valid value is filled in. (Tri-27358) |
| Query and Reporting | Fixed an issue where a system Find with an attached query that uses an association filter and $$PARENT$$ references was not correctly persisting temporary data. Now, if a user cannot save a newly created record, the system Find will still correctly filter on a smart section (or any field) that has been updated on the parent window. (Tri-27390) |
| Query and Reporting | In the Report Manager > Report Template > Where Used tab, when the user clicks the Status filter, the label on the pop up field has correct spelling. (Tri-22645) |
| Query and Reporting | In the Report Manager, changed the vertical alignment of the Order By / Sum Columns tab to be the same as the other tabs. (Tri-25406) |
| Query and Reporting | Metadata number formatting takes precedence over UOM formatting when displaying Number fields in query reports. Number formatting is not impacted by any setting done at the GUI level. (Tri-26135) |
| Query and Reporting | Multiple Crystal Reports can be run one after another without freezing Internet Explorer. (Tri-27696) |
| Query and Reporting | Portal query sections now apply the display mask to numeric data types. (Tri-28130) |

| Area of Change | Description |
|---|---|
| Query and Reporting | Pressing the Enter key while focused on the date picker window no longer causes an error. (Tri-27271) |
| Query and Reporting | Query engine now takes the following input formats for a Time field:<br><br>  ▪ a numerical value for the time in milliseconds.<br>  ▪ a string in hh:mm:ss: format. (Tri-27256) |
| Query and Reporting | Query security logging is now a single line WARN instead of an ERROR with a stack trace. (Tri-28097) |
| Query and Reporting | Read only number fields are right justified in an editable query. (Tri-28113) |
| Query and Reporting | Resolved a Crystal issue that could occur when a Crystal sub-report is represented by multiple query sections. This caused a SQL error when the user viewed the report. An example scenario where this issue occurred was with the standard Work Task report. The `triWorkTask` business object has multiple GUIs each with a Query Section named `triResources`. For the different GUIs, the `triResources` query section points to different queries. Having these different query definitions on like-named query sections was the root cause of the defect. (Tri-27485) |
| Query and Reporting | Resolved a Crystal Reports issue where the User Id of the person who ran a queued report was not appearing on the report when it was viewed. This was specific to reports that contained the `$$USERID$$` filter. (Tri-27762) |
| Query and Reporting | Resolved an issue causing workflows to appear twice in the Where Used tab of a report. (Tri-22642) |
| Query and Reporting | Resolved an issue with the Project picker when single quotes and/or double quotes in the Project name caused "Unteriminated string constant" error messages. (Tri-8066) |
| Query and Reporting | The tooltips display correctly in the Security Access section of the Report Manager. (Tri-14523) |
| Query and Reporting | When a hierarchical query has editable child queries, the editable child queries display as non-editable. (Tri-27837) |
| Record Runtime | A blank Internet Explorer error dialog message no longer appears after closing a window that was opened from a previously closed window. (Tri-27342) |
| Record Runtime | A country, location, or organization with an apostrophe in the name can be deleted from the hierarchy. (Tri-28267) |
| Record Runtime | A portal with an apostrophe in the name can be opened. (Tri-28328) |
| Record Runtime | An Extended Formula with a query token in the active project scope now calculates correctly when invoked from an asynchronous workflow. (Tri-27149) |

| Area of Change | Description |
|---|---|
| Record Runtime | Autocomplete now enforces security when presenting data to the user. (Tri-24385) |
| Record Runtime | Changed the zoom icons in Stacking sections to be more reflective of their actual function and to make the area and detail zoom icon sets easier to distinguish. Also changed the tooltips to be more explicit. (Tri-26477) |
| Record Runtime | Clearing a locator field when the page has not fully loaded starts the onChange workflow and no longer causes an error. (Tri-27150) |
| Record Runtime | Converting number values that contain commas after changing a non-currency UOM in a GUI no longer causes a conversion error. (Tri-28069) |
| Record Runtime | Corrected an issue causing a `RECENT_OBJECTS` table error. (Tri-27275) |
| Record Runtime | Date field labels that contain apostrophes no longer bypass the date validation function. Now dates that are entered manually instead of through the date picker are validated, saved, and retain their values in state transitions. (Tri-28099) |
| Record Runtime | Date fields with default values that subtract time from the current day now calculate properly. (Tri-28206) |
| Record Runtime | Fixed an issue causing state transitions to change their display order after some state actions. (Tri-27232) |
| Record Runtime | Fixed an issue preventing some reports from displaying the report label specified in the report template when the report label contained white space. (Tri-21545) |
| Record Runtime | Group By section renders the last row properly when only one record is in the row. (Tri-27553) |
| Record Runtime | If a locator field references a smart object that does not exist (caused by some bad data), the system writes an error in the server log and treats the locator field as having no linked record. (Tri-28287) |
| Record Runtime | If a record is referenced in a smart section and transitioned into a null state using a state action, the system now shows a warning that the record cannot be transitioned. (Tri-23422) |
| Record Runtime | If the record page is opened from the manager List view's record link and closed with the window X button before the page finishes loading, the record page can be opened again through its record link in the same manager List view. (Tri-27094) |
| Record Runtime | Modify Metadata task now sets the Query Section Single Select property at runtime. (Tri-27270) |
| Record Runtime | MSSQL stores 0 numeric values as 0E-12 in the database, which was causing problems in Excel section calculations. Now the system automatically converts exponential zero to 0 during processing. (Tri-27324) |

| Area of Change | Description |
|---|---|
| Record Runtime | Note fields in form reports apply HTML formatting instead of displaying HTML tags. (Tri-27963) |
| Record Runtime | Section totals now calculate properly when a user opens a record and changes a value while in the popup window instead of changing the value within the multi- record smart section display. (Tri-27186) |
| Record Runtime | The platform is now showing display masks correctly.<br><br>Some older objects may have a display mask set that will now be applied. To see an example, in the Data Modeler, open Mail > PMEvent and view the properties in the Number fields on that object. Observe a UOM List of Length, Default UOM of angstroms, and a Display Mask of #.##.  Change the UOM List to blank and Display Mask to # to resolve the issue. (Tri-28290) |
| Record Runtime | The system retains the zero following a decimal point in a Number field when a user tabs out. (Tri-27299) |
| Record Runtime | The text font of multi-row text fields in a query section is now the same as the other fields. (Tri-27294) |
| Record Runtime | Values in fields that are hidden on a record's form now are parsed through an HTML filter to avoid exposure to XSS. (Tri-27222) |
| Record Runtime | When a user changes their Date Format from their My Profile, they do not have to log out and log back in for the system to use the new format. (Tri-28245) |
| Report Manager | Boolean values show TRUE or FALSE in Excel when using Group By. (Tri-27710) |
| Report Manager | Duration fields are exported to Excel in a readable format rather than in the form of milliseconds. (Tri-25183) |
| Report Manager | Hierarchical queries apply translation to child queries. (Tri-27767) |
| Report Manager | In Report Template, changed the label of "Number" to "ID". To be consistent with the rest of the product, changed the "Number" column of all reports that listed queries to "ID" as well. This includes: The Report Manager query list, the Report Template itself, and the Add Sub Report Action; Manager Builder > Query tab > Unlisted Reports and the Filter Icon query; the Show Report Details on (e.g.) People Manager; and the Query Finder locator field (e.g., GUI Builder > Add Query Section). (Tri-12468) |
| Report Manager | On the Report Builder main page, the tabs and the action panel will not display until the page has loaded completely. (Tri-27867) |
| Report Manager | You will not be able to create a new report if the report name already exists. If you have existing reports with duplicate names, change the names of the reports so each name is unique. (Tri-27231) |

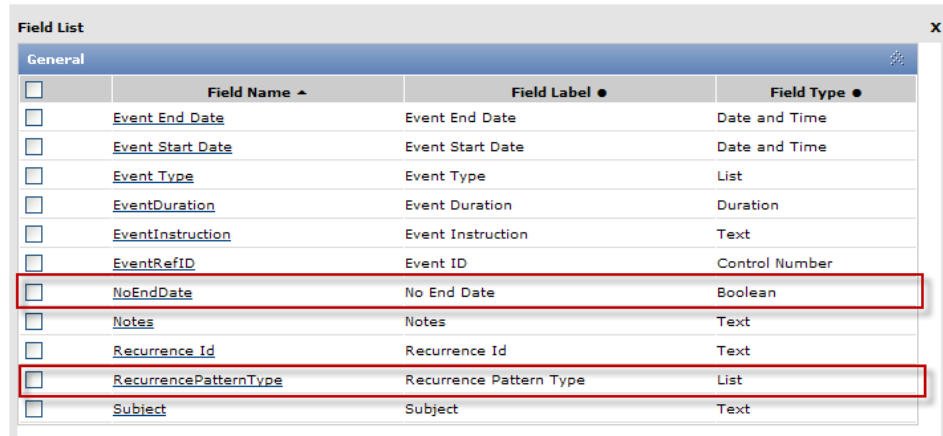| Area of Change | Description |
|---|---|
| Scheduling Engine | If you are using an early version of TRIRIGA 8i, two fields must be present on the Event business object for the Cleanup Agent to operate properly. The fields are `NoEndDate` and `RecurrencePatternType`.

The fields may already exist in the Data Modeler. Use the Find action to add them to the Event business object. If they do not exist, first check to see if the `recurrence_pattern_type` List exists in the List Manager under the Mail module. There should be a minimum of four entries: DAILY, WEEKLY, MONTHLY, and YEARLY. After that list is complete, revise the Event business object and add the fields.

Field Name:  `NoEndDate`
Field Label:  No End Date
Field Type:  Boolean

Field Name:  `RecurrencePatternType`
Field Label:  Recurrence Pattern Type
Field Type:  List (Tri-28258)

After complete, the fields will appear as follows: |

**Field List**                                                                    x

**General**

| | Field Name ▲ | Field Label ● | Field Type ● |
|---|---|---|---|
| ☐ | Event End Date | Event End Date | Date and Time |
| ☐ | Event Start Date | Event Start Date | Date and Time |
| ☐ | Event Type | Event Type | List |
| ☐ | EventDuration | Event Duration | Duration |
| ☐ | EventInstruction | Event Instruction | Text |
| ☐ | EventRefID | Event ID | Control Number |
| ☐ | NoEndDate | No End Date | Boolean |
| ☐ | Notes | Notes | Text |
| ☐ | Recurrence Id | Recurrence Id | Text |
| ☐ | RecurrencePatternType | Recurrence Pattern Type | List |
| ☐ | Subject | Subject | Text |

| Area of Change | Description |
|---|---|
| Scheduling Engine | The Cleanup Agent now checks scheduled events to ensure they are all valid, tied to a recurrence record, and have completed on time. The Cleanup Agent also checks no-end-date scheduled events for the correct number of events to be generated. If any are missing, it fills in the gaps.

Scheduler cleanup tasks can be disabled in `TRIRIGAWEB.properties` via the `CLEANUP_AGENT_SCHEDULER_TASKS` property. This may be required for very early versions of the 8i application that do not have all the required fields, workflows, and data in place to properly determine the linkage between Events, Scheduled Events, and Recurrence records.

The `CLEANUP_AGENT_SCHEDULED_EVENT_COMPLETE_DAYS` property controls the number of days a started scheduled event waits before being be transitioned to Completed state. (Tri-18209, Tri-28340) |

| Area of Change | Description |
|---|---|
| Scheduling Engine | The platform table `TASK_RECURRENCE` now will be cleaned by the Cleanup Agent. (Tri-11104) |
| Scheduling Engine | The Scheduling Agent now shuts down when requested. (Tri-26781) |
| Scheduling Engine | The Scheduling Agent's performance has improved dramatically. Agents now start much closer to the actual start time defined in the Event and Scheduled Event parameters. (Tri-26781) |
| Scheduling Engine | When scheduling an event, the time zone is no longer reset if two or more people in different time zones schedule at the same time. (Tri-27473) |
| Security | Fixed an issue that caused security access for system application objects to not be migrated. (Tri-28243) |
| Security | If a user does not have access to the underlying record in a multi-record section, the image is disabled. (Tri-27965) |
| Security | If a user has full access to the Cost Code module, this user can create records in the cost code hierarchy. (Tri-27523) |
| Security | The page no longer causes an error if a user does not belong to any group and the user's portal contains a Quick Add List section. (Tri-27865) |
| Stacking Applet | Closing a Stacking page before the server has completed building the data for it no longer causes an error to be logged. (Tri-28098) |
| State Family Manager | Removed the Cancel button from the State Family Manager. (Tri-2376) |
| State Family Manager | The system now prompts for confirmation before deleting a State Family Manager record. (Tri-520) |
| System Manager | The Modify Metadata workflow task now correctly overrides the Tab Information and Instruction fields on a GUI tab. (Tri-27241) |
| TRIRIGA BusinessConnect | Changed the Hierarchy Tree cache to make it thread safe. Concurrent Modification exceptions should no longer occur when adding a child record to a parent record through workflow. (Tri-28213) |
| TRIRIGA BusinessConnect | For some customers, an import statement for the `errors.ws.tririga.com` namespace may be necessary. If the WSDL import indicates errors related to the `errors.ws.tririga.com` namespace, then add the following import statement to the WSDL in the schema section that has the target namespace: `http://ws.tririga.com`<br><br>This section already contains other import statements. Place this import at the bottom of the list. (Tri-27418) |
| TRIRIGA BusinessConnect | Resolved a BusinessConnect issue where the "WWW-Authenticate" header was not part of the `HttpResponse` if authentication failed with "401 Unauthorized" status. (Tri-27570) |

| Area of Change | Description |
|---|---|
| TRIRIGA BusinessConnect | Resolved a TRIRIGA BusinessConnect issue where the `start` argument was being ignored in both the `runNamedQuery` and `runDynamicQuery` methods. The `start` argument has a base of 1. Any value entered for the `start` argument of less than 1 resolves to 1. Please note that the value entered for the `maximumResultCount` argument cannot exceed the Max Integer Value of 2147483647, minus the `start` value. For example, if the `start` argument is 3, then the `maximumResultCount` argument cannot exceed 2147483644. Since the `start` argument has a base of 1, the value for the `maximumResultCount` argument cannot exceed 2147483646. (Tri-27243) |
| TRIRIGA BusinessConnect | Resolved a TRIRIGA BusinessConnect issue with the `getGui` method. When a `recordId` of -1 and a valid `GuiId` were passed into `getGui`, the `guiRootClassificationId` and `guiRootClassificationName` values in the response were incorrect. The response incorrectly contained the `rootClassification` value from the business object and not the GUI. The fix makes this consistent with the GUI Designer in that the `guiRootClassificationName` and `guiRootClassificationId` only will contain values if it is a `guiRootClassification` field, and in this scenario always will contain the correct `guiRootClassificationId` and `guiRootClassification` values. These elements never will contain the `rootClassification` values from the business object. Included in this fix, `getGui`'s response now also contains a value for the `rootClassificationId` element, where previously no value was contained in the response. (Tri-27346) |
| TRIRIGA BusinessConnect | `runDynamicQuery` now looks up the associated business object display columns for the associated business object. Previously it was looking up the primary display columns, which lead to metadata-related exceptions in some circumstances. (Tri-26278) |
| TRIRIGA BusinessConnect | The `runDynamicQuery` method no longer ignores passed in GUI IDs to which the query should be restricted. (Tri-27384) |
| TRIRIGA BusinessConnect | The `saveRecord` method now sets values to mapped fields when a locator field value is added or modified. (Tri-14069) |
| TRIRIGA BusinessConnect | The `triggerActions` method now validates against business object state transitions and not GUI state transitions. (Tri-27261) |
| TRIRIGA BusinessConnect | When using an empty `actionName` with no record id specified in a `saveRecord` request, the response now gives an `InvalidArgumentException` with an informative message rather than a `NullPointerException`. (Tri-21658) |
| Usability | The Help business object supports multiple languages. (Tri-12074) |
| Workflow | Added caching to the workflow queue. (Tri-25240) |
| Workflow | Filtering a query using an empty static filter now works for both Microsoft SQL Server and Oracle. (Tri-27014) |

| Area of Change | Description |
| --- | --- |
| Workflow | The links in the Data Search window used to specify a "from" record now work properly. (Tri-16816) |
| Workflow | The ordering of the list of modules in the Workflow Builder now matches the ordering used in the Data Modeler. (Tri-17957) |
| Workflow | You no longer will be able to add an Approval, User Action, or DataConnect task to a synchronous workflow. At publish time, the workflow is checked to make sure the tasks are supported by the workflow type. (Tri-17352) |

# TRIRIGA Application Platform 2.7.2 Properties Files

The following properties in the `TRIRIGAWEB.properties` file changed with this release:

| Area of Change | Description |
| --- | --- |
| CLEANUP_AGENT_SCHEDULED_EVENT_COMPLETE_DAYS | The system transitions scheduled events that have not completed in this many days to a completed state. The default value is `7` (1 week). (Tri-18209, Tri-28340) |
| CLEANUP_AGENT_SCHEDULER_TASKS | If set to `Y`, the scheduler cleanup tasks execute. The default value is `Y`. (Tri-18209, Tri-28340) |
| USERNAME_CASE_SENSITIVE | The platform can be configured to allow for case insensitive logins. Setting `USERNAME_CASE_SENSITIVE=N` will cause logins to be authenticated in a case insensitive fashion. (Tri-28129) |

# TRIRIGA Application Platform 2.7.1.1 Changes

The major changes to the TRIRIGA Application Platform for this release include the following:

| Area of Change | Description |
| --- | --- |
| Record Runtime | Fixed an issue causing an error when cancelling the creation of a record. (Tri-23816) |
| Security | If a user has full access to a hierarchy manager, the user now can create records in the hierarchy.  (Tri-28076) |

| Area of Change | Description |
| --- | --- |
| TRIRIGA BusinessConnect | Resolved an issue with the `getGui` method. When a `recordId` of -1 and a valid `GuiId` were passed into `getGui`, the `guiRootClassificationId` and `guiRootClassificationName` values in the response were incorrect. The response incorrectly contained the `rootClassification` value from the business object and not the GUI. The fix makes this consistent with the GUI Designer in that the `guiRootClassificationName` and `guiRootClassificationId` only will contain values if it is a `guiRootClassification` field, and in this scenario always will contain the correct `guiRootClassificationId` and `guiRootClassification` values. These elements never will contain the `rootClassification` values from the business object. Included in this fix, `getGui`'s response now also contains a value for `rootClassificationId` element, where previously no value was contained in the response. (Tri-28086) |
| TRIRIGA BusinessConnect | `runDynamicQuery` now looks up the associated business object display columns for the associated business object. Previously it was looking up the primary display columns, which lead to metadata related exceptions in some circumstances. (Tri-28078) |
| TRIRIGA BusinessConnect | The "WWW-Authenticate" header now is part of the `HttpResponse` if authentication fails with "401 Unauthorized" status. (Tri-28084) |

# TRIRIGA Application Platform 2.7.1.1 Properties Files

The properties files did not change with this release.

# TRIRIGA Application Platform 2.7.1 Changes

The major changes to the TRIRIGA Application Platform for this release include the following:

| Area of Change | Description |
| --- | --- |
| Formula Engine | When using Microsoft SQL Server, changing an extended formula or something it relied on no longer causes a SQL error when the Extended Formula Graph cache updates. (Tri-27490) |
| Gantt | Java Web Start (Open Gantt in New Window) can be accessed when outside the network where the Application Server is located and there is a Web Server in front of the Application Server. (Tri-27627) |
| Gantt | JRE 6 update 18 can be used to open Java Web Start Gantt (Open Gantt in New Window). (Tri-27597) |

| Area of Change | Description |
| --- | --- |
| GIS | To display an image in the bubble marker for ArcGIS maps you must include an image field in your query results as a column labeled, "Image". The column will not display in the table section, but will render in the bubble marker. If the query being used is a metric query, the system uses the Image field for the Location and you do not need to include it in the query results. (Tri-27503) |
| GIS | To use a TRIRIGA query to have ArcGIS maps display any item onto the map, you must geotag your item and be sure to include two fields labeled, "Latitude" and "Longitude". The Flex Viewer will look for these two values to know where to place the bubble marker for your item. To specify the query to use, pass the query name as a query string parameter in the external link. For example, if you have a query called, "My GeoTagged Locations", when setting up a tab or portal to display the ArcGIS map as an external link, you would specify, "/html/en/default/rest/ArcGIS?queryname=My GeoTagged Locations". (Tri-27504) |
| Installer | Users can upgrade to 2.7.1 even if the same GUI is used with two different managers and the same manager actions. (Tri-27253) |
| Manager Builder | Accessible hierarchies now display when viewed in a manager when the definition for the navigator group they are contained in only contains hierarchies. (Tri-27239) |
| Managers | Resolved an issue causing extra GUIs to appear in managers after an upgrade to 2.7.0. (Tri-27259) |
| Object Migration | Fixed an issue preventing UOM values from being imported. (Tri-27406) |
| Object Migration | Managers now export when they have special characters in their labels. (Tri-27410) |
| Object Migration | Resolved an Object Migration issue where the import of UOM Types and UOM Values were updating with the UOM Type code from the package and not using the UOM Type sequencing mechanism on the target environment. (Tri-27630) |
| Query and Reporting | Fixed an issue where child rows of a hierarchical query set to suppress headers would not expand when the expand '+' icon was selected and the child query contained columns from certain data types such as Control Number. (Tri-27428) |
| Query and Reporting | Multiple Crystal Reports can be run one after another without freezing Internet Explorer. (Tri-27696) |

| Area of Change | Description |
|---|---|
| Query and Reporting | Resolved a Crystal issue that could occur when a Crystal sub-report is represented by multiple query sections. This caused a SQL error when the user viewed the report.<br><br>An example scenario where this issue occurred was with the standard Work Task report. The `triWorkTask` business object has multiple GUIs each with a Query Section named `triResources`. For the different GUIs, the `triResources` query section points to different queries. Having these different query definitions on like-named query sections was the root cause of the defect. (Tri-27485) |
| Query and Reporting | Resolved an issue where queries failed to honor runtime filter values when run from a custom portlet. (Tri-27221) |
| Query and Reporting | Resolved an issue where the user context was not available while running a Crystal report. This caused any `$$USERID$$` variables to resolve incorrectly in the underlying query. (Tri-27706) |
| Query and Reporting | TRIRIGA's WebLogic installation now includes `xercesImpl-2.9.1.jar`. During installation, the path to this file has been included in the existing classpath string that the person doing the installation uses to copy and paste to the front of WebLogic's classpath. Note that the location of this jar file is `[TRIRIGA Install Home]/tools/lib/xercesImpl-2.9.1.jar`. (Tri-27711) |
| Record Runtime | Values in fields that are hidden on a record's form now are parsed through an HTML filter to avoid exposure to XSS. (Tri-27222) |
| TRIRIGA BusinessConnect | Resolved a TRIRIGA BusinessConnect issue where the `start` argument was being ignored in both the `runNamedQuery` and `runDynamicQuery` methods. The `start` argument has a base of 1. Any value entered in for the `start` argument of less than 1 resolves to 1. Please note that the value entered for the `maximumResultCount` argument cannot exceed the Max Integer Value of 2147483647, minus the start value. For example, if the `start` argument is 3, then the `maximumResultCount` argument cannot exceed 2147483644. Since the `start` argument has a base of 1, the value for the `maximumResultCount` argument cannot exceed 2147483646. (Tri-27243) |

| Area of Change | Description |
|---|---|
| TRIRIGA BusinessConnect | Resolved a TRIRIGA BusinessConnect issue with the `getGui` method. When a `recordId` of -1 and a valid `GuiId` were passed into `getGui`, the `guiRootClassificationId` and `guiRootClassificationName` values in the response were incorrect. The response incorrectly contained the `rootClassification` value from the business object and not the GUI. The fix makes this consistent with the GUI Designer in that the `guiRootClassificationName` and `guiRootClassificationId` only will contain values if it is a `guiRootClassification` field, and in this scenario always will contain the correct `guiRootClassificationId` and `guiRootClassification` values. These elements never will contain the `rootClassification` values from the business object.<br><br>Included in this fix, `getGui`'s response now also contains a value for `rootClassificationId` element, where previously no value was contained in the response. (Tri-27346) |
| TRIRIGA Graphics Editor | TRIRIGA announces an end of life for TRIRIGA Graphics Editor in a future release. Please see the *TRIRIGA Support Matrix for 2.7.1* for additional details. To request this *TRIRIGA Support Matrix*, submit a ticket through the IBM Software Support site at [www.ibm.com/support](www.ibm.com/support). |
| Workflow | Filtering a query using an empty static filter now works for both Microsoft SQL Server and Oracle. (Tri-27014) |

# TRIRIGA Application Platform 2.7.1 Properties Files

The properties files did not change with this release.

# TRIRIGA Application Platform 2.7.0 Enhancements

TRIRIGA Application Platform 2.7.0 brings a new look to the managers, grid sorting, new features to support TRIRIGA Strategic Facility Planning, reporting improvements, new agent architecture and administration, enhanced number precision and masking, and certification of Internet Explorer 8, Windows Vista, AutoCAD 2010, and WebLogic 11. Defect fixes span the entire TRIRIGA Application Platform.

## New GUI Controls

The new GUI controls include group by sections, comparison sections, and stacking sections.



**Example of Group By Section**

## Scenario Evaluation

| | Plan Goals | Status Quo Value | Status Quo Delta | Scenario B - Restack Orgs to Haskell/Exec - Expire Leases Value | Scenario B Delta | Scenario C - Remove Underutilized Sites - Sign new Lease for Expansion Value | Scenario C Delta |
|---|---|---|---|---|---|---|---|
| Objectives | 9 | 3.4 | 5.6 | 5 | 4 | 9 | 0 |
| Risks | 0 | 10.9 | -10.9 | 7.7 | -7.7 | 3.9 | -3.9 |
| A. Business Impact – revenue and service level | 0 | 9 | -9 | 6 | -6 | 3 | -3 |
| B. Business Impact – excessive business productivity loss | 0 | 9 | -9 | 6 | -6 | 3 | -3 |
| C. Schedule – Late implementation | 0 | 9 | -9 | 9 | -9 | 3 | -3 |
| E. Quality – meet workplace standards | 0 | 6 | -6 | 6 | -6 | 3 | -3 |
| Environmental | 0 | 3 | -3 | 3 | -3 | 3 | -3 |
| Financial | $0 | $3,149,541 | -3,149,541 | $3,693,354 | -3,693,354 | $3,170,331 | -3,170,331 |
| Operational | 0 | 0 | 0 | 10 | -10 | 7 | -7 |
| Portfolio | $0 | $4 | -4 | $4 | -4 | $4 | -4 |
| Comment | | Will not meet business objective and high risk of revenue impacts | | | | Recommended alternative. Best meets business objectives | |

**Example of Comparison Section**

---

File   Edit   View

100.0     100.0

Organizations
Space Classes
Buildings

14800 Trinity Drive ... | 2711 N. Haskell Aven... | 3000 Executive Parkw... | 3750 W. Royal Lane - ...

14800 Trinity Drive - Dallas TX
MZB
B02
B01
40

14800 Trinity Drive ... | 2711 N. Haskell Aven... | 3000 Executive Parkw... | 3750 W. Royal Lane - ...

14800 Trinity Drive - Dallas TX
MZB
B02
B01
40

Selections | Over Allocations | Changes | Delta | Properties | Results

| Organization | Space Class | Building | Floor | Quantity | Area | Partial |
|---|---|---|---|---|---|---|

**Example of Stacking Section**

## New Report Type

The new line/bar combo report is used in SFP to show supply vs. demand.
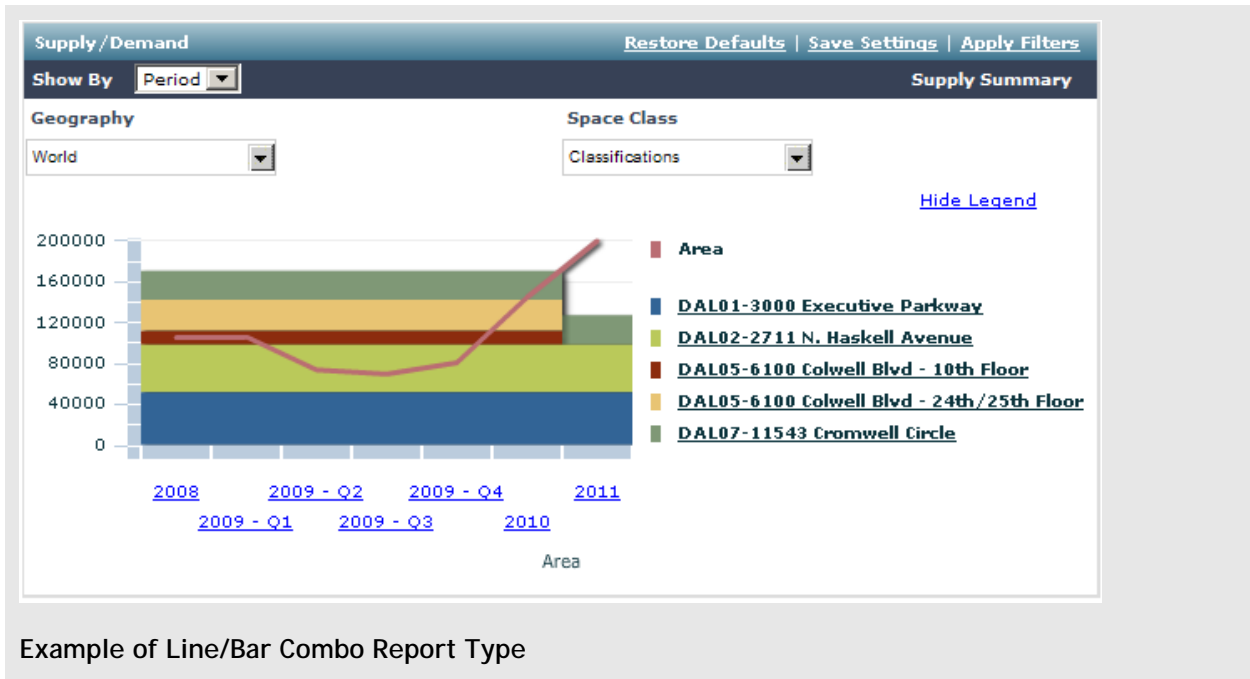


Example of Line/Bar Combo Report Type

## Managers

Managers have a new look that reduces pop ups, provides panel resizing enhancements, and supports navigation label configuration.

**Example of Manager**

The manager has two main regions, Navigator and Master/Detail, as shown below.
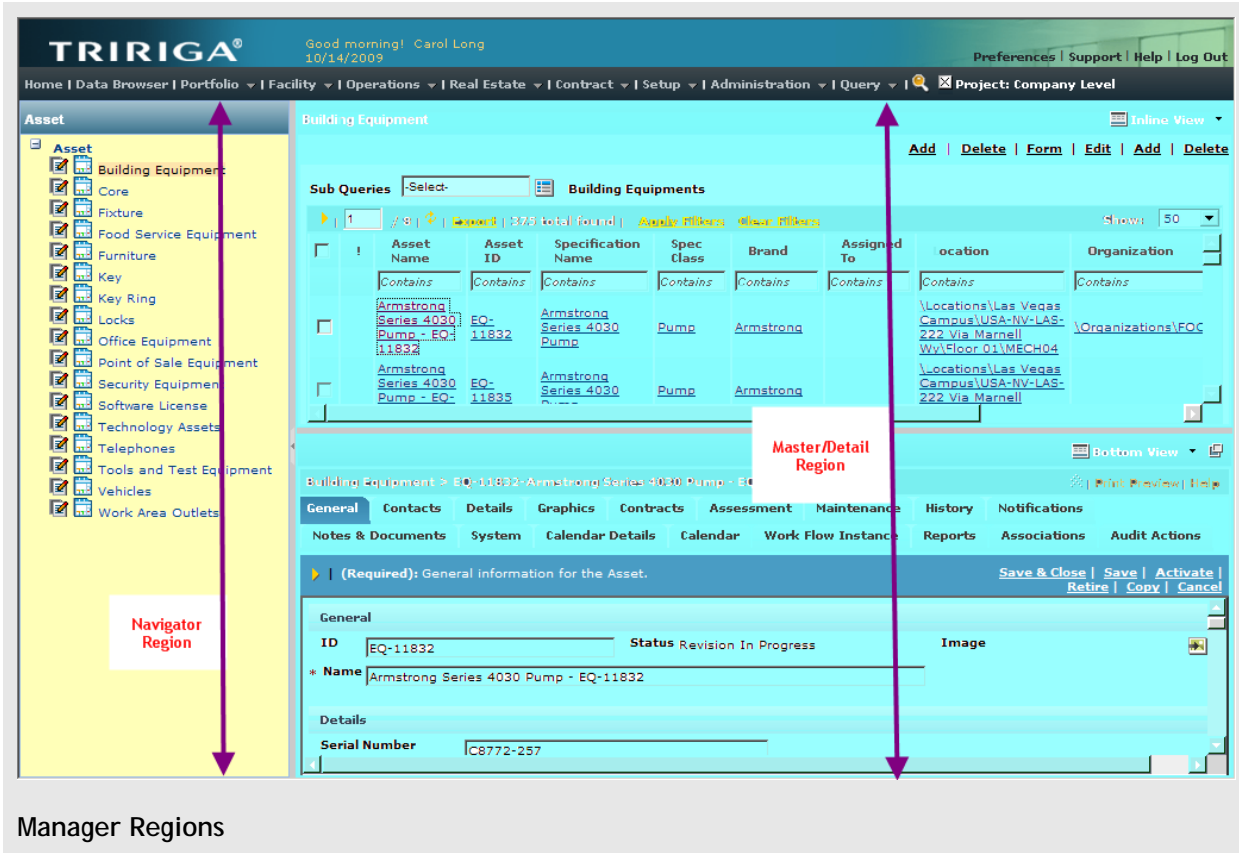
**Manager Regions**

The Navigator region lies on the left side of the manager. This region contains panels or views of data that help guide or navigate users to their targeted tasks or data. The Navigator panel drives the content to the right side of the manager, the Master/Detail region. At least one panel is visible in this region.

The Master/Detail region lies on the right side of the manager. This region contains at most two panels, a List View on the top and a Details View on the bottom. Depending on the application, the Master and/or the Details panels may be shown or hidden. At least one panel is visible in this region.

There is a one-click collapse/expand arrow on the splitter bar between the two regions. Other panels can be resized by clicking and dragging the bar between the panels. The platform increases or decreases the neighboring panel(s) to fill up the entire manager container, giving the user control of the dimensions of the content they are viewing.

For more information, please see *Application Building for the TRIRIGA Application Platform*.

## Grid Sort

GUI sections sort with one click on the heading.

Grid Sort

## Print Preview

Clicking Print Preview on a record produces a printable image of all information on all tabs.

Print Preview

In addition to the features and functionality described above, the enhancements to TRIRIGA Application Platform for this release include the following:

| Area of Impact | Description |
| --- | --- |
| Administrator Console | A new option called "Run Workflows Triggered By Scheduled Events As" has been added to the Workflow Agent Manager page in the administrator console. This is defaulted to a non-existent user id of "Default User" to maintain backwards compatibility with current applications. Changing this option allows workflows that are triggered by scheduled events to run with a user in the system, so that any custom TRIRIGA BusinessConnect tasks can use that user to authenticate. Prior to this change, workflows that contained custom BusinessConnect tasks and were triggered by scheduled events would fail because there was no valid user to authenticate with. (Tri-23779) |
| Administrator Console | A new report in the Administrator Console's Metadata Analysis page runs all Crystal Reports and generates a report on any errors that occur. (Tri-26931) |
| Administrator Console | Added information to the Admin Summary page in the Administrator Console showing the name of the Crystal Report server as it is specified in the `TRIRIGACRYSTAL.properties` file. It also now shows the listening port for the internal Crystal Request Server. (Tri-25239) |

| Area of Impact | Description |
|---|---|
| Agents | Extended Formulas now support multi-hop Query and Association tokens. For a detailed explanation on this feature, refer to *Application Building for the TRIRIGA Application Platform: Calculations*. (Tri-19743) |
| Associations | A new Cascade Read-Only property is available for dependent association definitions. When this flag is set, any matching parent record associations to the dependent child records cause those children to inherit their parent record's GUI state if the GUI state is read-only. This was previously done with workflows and caused performance problems. Replace any workflows written to cascade parent record read-only GUI states to associated children with the use of this property. (Tri-21314) |
| Data Modeler | A precreate workflow can be set for an embedded business object. Previously precreate workflows only were available for stand-alone business objects. (Tri-22280) |
| Financial Tokens | Enhanced the Financial Rollup posting/refreshing process so multiple records can be associated to a particular Cost Code via the "Rollup Associated Object" association. (Tri-25435) |
| Gantt | Locator fields now can be used for dependencies, which allows the Gantt to display, create, update, and delete dependencies for records that are not `triTask` module-related records. (Tri-25370) |
| Graphics | Section actions now can be added to a graphic section. (Tri-23772) |
| Graphics | The current DWF graphic displayed in a graphic section and its CAD label and visual query currently applied now are persisted across the user's session on a GUI of a record. When the tab is refreshed these states are saved in the session per graphic section. If there are two graphic sections on a page and both are displaying the same graphic, each graphic has its own CAD label saved in the session. For a graphic section with multiple graphics, the last run visual query is applied to any of the graphics contained in that graphic section. If the user toggles from one graphic to another in that graphic section, the same visual query runs automatically upon display of the graphic. (Tri-24662) |
| Graphics | The current SVG graphic displayed in a graphic section and its zoom ratio, pan position, and CAD label currently applied now persist across the user's session on a GUI of a record. When tab is refreshed these states are saved in the session per graphic section. If there are two graphic sections in a page and both are displaying the same graphic, each graphic has its own last zoom ratio, pan position, and CAD label saved in the session. When the GUI of a record is first loaded, it renders the default zoom ratio, pan position, and CAD label of the graphic section. Moreover, this is applicable to an SVG graphic in a graphic section that is standalone or associated to a query section. (Tri-23846) |

| Area of Impact | Description |
|---|---|
| Graphics | The Selection Filter Query property of a Graphic section is no longer supported. When a graphic section is associated to a query section, the only items that can be selected from the graphic section are those assigned items that are derived from the query results. Unassigned items that are records outside of the query result set are no longer selectable, and the Selected Unassigned color will not be applied to those items. The system disregards the selection filter query previously defined in the existing graphic sections. The selectable items are no longer highlighted with thicker border line. (Tri-23838) |
| Installer | Cache refresh is no longer needed on application upgrades. The browser cache expires every 15 minutes. The system keeps track of the build number of the resources currently cached in the browser and does not resend resource files. (Tri-21562) |
| Installer | TRIRIGA Application Platform now supports WebLogic 11. (Tri-25453) |
| Installer | TRIRIGA has tested Adobe SVG Viewer v3.0.3 and found that TRIRIGA applications using this version of the Adobe SVG Viewer work correctly in a Windows Vista + Internet Explorer 8 environment. Because Adobe is discontinuing support for its SVG Viewer, TRIRIGA cannot guarantee that it will continue to work correctly as Microsoft updates Internet Explorer or that Adobe SVG Viewer v3.0.3 will work under Windows 7 or other future Windows releases. (Tri-15737) |
| List Manager | Dynamic lists now display alphabetically (case-insensitive) in the List Manager and in list type field drop-downs in records. (Tri-14996) |
| List Manager | Translation support has been added for lists. A non-US English language user now can see the translated values in any list, and English values for those list values that do not have a translation. The US English user also can type in a match string in a list value field and hit tab to match the value against the list. The value will be matched against an English value if there is no translation for that value in the database and non-US English values otherwise. (Tri-18655) |
| Manager | The system shows the Display link in a hierarchical manager only when there are multiple associated hierarchical queries defined in the Manager Builder, in which case the user sees all associated hierarchical queries. The tabs from a record are not shown in Display menu; instead the user can take advantage of the new "sticky" tab behavior in the Inline view of a record. In the Inline view, as the user selects different records, the system remembers which tab the user was viewing on the prior record and displays the newly selected record on that tab. (Tri-26497) |
| Metric Reports | Boolean fields can be selected as runtime or static filters in metric queries. (Tri-25675) |
| Query and Reporting | Locator fields are now supported in Editable Queries. (Tri-9800) |

| Area of Impact | Description |
| --- | --- |
| Query and Reporting | New enhancements to the TRIRIGA Application Platform's Crystal integration have been introduced, namely:<br><br>▪ Print Preview - Provides a printer friendly page of the GUI providing an alternative to building Form Reports with Crystal.<br><br>▪ Multi-BO Support in ADO XML - A new ADO XML v2 format now supports Queries that have more than one Associated Business Object to be used in Crystal.<br><br>▪ Java Data Source - A new Data Source mechanism that allows the Platform to stream data across to the Crystal RAS server.<br><br>▪ Java Reporting Component (JRC) -  The JRC is also known as Crystal Reports for Eclipse. This is a self-contained set of reporting libraries that runs inside a TRIRIGA application server. For reports run using the JRC, the report is executed and rendered without making any calls out to the report server, either RAS or BOE. Because of the JRC architecture, it can execute and render reports faster than the traditional report server. It is, however, best suited for smaller data sets. Larger data sets are still best suited to be run on a dedicated report server.<br><br>By default, all form reports are run using through JRC. Given their typical structure of having multiple sub-reports and small data sets, form reports run using JRC typically render much faster than they would have on RAS or BOE. There are some differences in the JRC and RAS behaviors which are outlined in the JRC release notes: http://www.sdn.sap.com/irj/boc/crystalreports-java?rid=/library/uuid/c0c813d1-cec4-2b10-1780-e9b26e85bbc8. If, for whatever reason, a particular report should be run via the report server (RAS or BOE) as opposed to JRC, a report can be configured to use the report server by putting the `::DISABLE_CRYSTAL_EMBEDDED_ENGINE::` tag in the Report comments. (Tri-23712) |
| Query and Reporting | Text displayed in a text field in an editable query did not wrap when the number of characters became large. To resolve this, TRIRIGA enabled multi-row text fields. Now, if a text field's Row Span property is greater than 1, the system uses a multi-row text field to display the field in an editable query. The field's Row Span property also determines the multi-row text field's height. This property applies to this field across all records displayed in the query. (Tri-19968) |
| Record Runtime | A query section retains the previously-selected sub-query after the page is refreshed due to locator field value change, field onChange event, workflow execution, and or similar event. The currently executed query is persisted across the user's current session of the record page. The main query is run by default when the record page is first opened. When a query section is associated to a graphic section, the graphic section is updated with the last executed sub-query results when the tab is refreshed. (Tri-23756) |

| Area of Impact | Description |
| --- | --- |
| TRIRIGA BusinessConnect | Duration formatted strings now can be used as the field value in a TRIRIGA BusinessConnect or TRIRIGA API 1 save request. Duration formatted strings also can be used as a constant field map value in a workflow. As an example of a duration formatted string, `3y7M6w3d5h33m42s` is 3 years, 7 months, 6 weeks, 3 days, 5 hours, 33 minutes and 42 seconds. (Tri-13079) |
| Workflow | Added an Associated To operator to the filters available on a Query task. The Associated To filter acts the same as if an association filter were added in the Report Builder. (Tri-23931) |

# TRIRIGA Application Platform 2.7.0 Changes

The major changes to TRIRIGA Application Platform for this release include the following:

| Area of Change | Description |
| --- | --- |
| Administrator Console | Fixed an issue with WebSphere where `CustomLogCategories.xml` was not loading when trying to view it from the Platform Logging tab of the Administrator Console. The change requires a new JNDI entry to be added to the WebSphere installation, which is documented in the *TRIRIGA Application Platform Installation and Implementation Guide*. (Tri-22500) |
| Administrator Console | Resolved an issue that would sometimes cause the Cleanup Agent to run twice when set to specifically run at a certain hour. For example, if set to run at 2 am, it would sometimes also run again at 3 am. Now it will run once at the hour specified in `TRIRIGAWEB.properties`. (Tri-15531) |
| Administrator Console | Resolved issues with agent status display and the starting and stopping of agents on WebSphere application servers. (Tri-12259) |
| Agents | Enhanced the Record Data Cleanup Agent to improve performance, prevent deadlock issues, and provide a more efficient interrupt process. (Tri-9968, Tri-13420, Tri-20284, Tri-20833, Tri-23577) |
| Agents | Fixed a Document Management issue where deleted documents were not being correctly cleaned by the Cleanup Agent. (Tri-25556) |
| Agents | Forwarding the notification e-mail no longer distorts the links. (Tri-25242) |
| Agents | If an IMAP main server fails to respond to a connection and retrieve request, the current attempt will time out and another attempt will be initiated after a delay. (Tri-22755) |
| Agents | The Extended Formula Agent ignores a recalculation if it already has been processed for a particular batch of changes in the Extended Formula Queue. This is an indication that it is part of a circular formula reference. (Tri-25577) |

| Area of Change | Description |
|---|---|
| Application Server | Approvals in TRIRIGA 9 applications that used the 8.4 approval mechanism were causing a database exception because the process was trying to make a null association to the approval history smart section. This has been resolved. (Tri-24104) |
| Application Server | Improved performance when inserting association data into the TRIRIGA database. (Tri-25404) |
| Application Server | Only HTTP methods Post and Get are accepted by the Web server. This prevents the use of unsafe methods (Put, delete, Head, Options and Trace) and increases the security of the Web application, preventing potential attacks. (Tri-25946) |
| Application Server | Resolved an issue where users in environments with multiple application servers at times could not access Work task records, requiring caches to be cleared. (Tri-25745) |
| Application Server | The JBoss server packaged with the application has been upgraded to version 4.2.1. (Tri-23650) |
| Application Server | When a user logged out and logged back in they saw a message that the user name was already active. This has been resolved. (Tri-25549) |
| Application Server | When locator fields and classification fields are cleared, the `objectID` of the referenced object is set to null. Previously the value was set to 0. Now the `objectID` of the referenced object is consistent when the record is initially created and a value was never set and when the record is cleared. (Tri-17040) |
| Availability Section | The Availability section date value now honors the date format in the user's My Profile record for hourly format. (Tri-9857) |
| Brava! | Brava! 5.4 on Vista: If Brava! documents fail to render, it is possible the Brava! DLLs need to be reloaded on the client machine. On the client machine, remove all contents in the directory: `C:\Users\USER_NAME\BEJ5.4.0.5` and attempt to open documents via Brava! again. (Tri-26386) |
| Cache Manager | Improved error handling in the process that keeps hierarchy tree caches current in environments with more than one application server. (Tri-25874) |
| CAD Labels | Resolved an issue where the platform CAD labels were not correctly displaying data when two label lines referred to the same object by a different association. For example, one line to `triPeople` using Primary Location For, and another line to `triPeople` using Secondary Location For. (Tri-23762) |
| Data Integrator | The Data Integrator page displays based on a user's security access for that module. (Tri-14155) |
| Data Modeler | A module name containing special characters displays properly in the List Manager drop-down list. (Tri-10097) |

| Area of Change | Description |
|---|---|
| Data Modeler | Fixed an issue causing records to fail to save when the spec name contains special Chinese characters. (Tri-23758) |
| Data Modeler | Revising a business object now refreshes the field list frame so that the fields become editable. (Tri-11416) |
| Data Modeler | The URL field when launched was prefixing the `http://` protocol to the value if it did not already contain `http://` or `https://`. Modified this check to also accept values of `file://` and `ftp://`. This will allow, for example, access of network file paths by using a value such as `file://my/network/path`. If none of the previously mentioned protocols (`http://`, `https://`, `file://`, `ftp://`) exist in the value, then `http://` will be prefixed when launched as the default protocol. (Tri-14552) |
| Data Warehouse | TRIRIGA announces an end of life for Data Warehouse in a future release. Please see the *TRIRIGA Support Matrix for 2.7* for additional details. To request this *TRIRIGA Support Matrix*, submit a ticket through the IBM Software Support site at [www.ibm.com/support](www.ibm.com/support). |
| Document Management | Resolved an issue preventing Chinese characters from showing in the Document Manager Upload and Download MultiFile applets. (Tri-23737) |
| Document Management | The Brava download button now displays only if the user has a permission level of View or higher for the document being viewed. (Tri-16102) |
| Document Manager | When a document record is closed the document tree no longer resets to the top level folder. (Tri-3254) |
| Extended Formula Engine | Extended formula processing now recalculates affected formulas when a record is deleted. (Tri-25518) |
| Extended Formula Engine | If an object's base business object is not named the same as the module, and the object is used in an extended query token, and the query is not directed at a business object, an extended formula with a query token now calculates correctly. (Tri-21488) |
| Extended Formula Engine | Resolved an issue where the Extended Formula Agent would not accurately calculate Query Tokens that relied on queries with sub-queries. (Tri-23605) |
| Extended Formula Engine | Text and List fields are available from the extended formula field picker in Data Modeler. (Tri-16452) |
| Extended Formula Engine | When a very large number that has more than 20 digits to the left of the decimal is entered into a number field, the value is not changed. (Tri-24937) |
| Extended Formulas | Resolved issue where a record state change would not cause recalculation of an affected extended formula. With the enhancements to extended formulas in this release, field filters on a query will not be honored by the extended formula system, meaning that a change to the field value triggers recalculation of the extended formula on the associated record. Please see *Application Building for the TRIRIGA Application Platform: Calculations* for more information. (Tri-23506) |

| Area of Change | Description |
|---|---|
| Financial Tokens | Financial Rollup fields with a hierarchy field specified use that solely as the rollup criteria on the `BUDGET_CODES.CODE_REF_ID` column. Prior behavior had that hierarchy record used in conjunction with the `OBJECT_ID` and `OBJECT_REF_ID` columns from the `BUDGET_TRANSACTION` table. (Tri-24094) |
| Financial Tokens | Fixed an issue where Start Date and End Date values set in the Financial Token were not taken into consideration when rolling up the Financial Rollup field value. (Tri-26288) |
| Financial Tokens | Updating Budget Token values was resulting in an error and not saving the changes. This issue has been fixed. (Tri-25700) |
| Financial Tokens | When a financial token uses the system date, a financial transaction posted on the end date is included in the rollup. (Tri-25859) |
| Financial Tokens | When modifications are made to financial tokens, the metadata cache no longer needs to be refreshed. (Tri-20905) |
| Gantt | The dates in the Gantt now display using the Date Time format from the user's My Profile record. The timescale in the hourly view displays using the Date Format. For the daily, weekly view only the month and year display and for the monthly view only the year. (Tri-22572) |
| Gantt | The Gantt loads even if the start date is not set and the calculation direction is from end. The Gantt will perform better (load faster) if the start date and end date are set. For example, if calculating from start (then the start date is set) also set the end date to an approximate date that will be close to the actual end date. (Tri-26600) |
| Gantt | The Gantt now takes into account the case of entity changed events firing before entity created events, which was previously causing newly created tasks to be both created and updated in the server-side save. (Tri-25184) |
| Gantt | When the calculated end or calculated start is changed after saving the Gantt, the value is persisted so that on a tab refresh or after a workflow executes that refreshes the pages those values are maintained. (Tri-25356) |
| Graphics | A graphic section that is associated to query section now renders the first item in the context list when a record is first opened. (Tri-25551) |
| Graphics | A graphic section/query section link is now supported properly when two different graphic sections are linked to two different query sections and both are displayed in the same GUI. (Tri-24230) |
| Graphics | An SVG graphic now renders completely when it is larger than the first graphic displayed in the graphic section. (Tri-25552) |
| Graphics | DWF Server and SVG now work in a consistent manner. Unhighlighted items now are non-selectable in DWFs. Hyperlinks are still functional for all spaces, highlighted or unhighlighted. (Tri-25268) |

| Area of Change | Description |
|---|---|
| Graphics | Graphic section assigned items now match the query section query results when a filter is applied to an associated business object field in the query section. (Tri-26245) |
| Graphics | Graphics section now is refreshed and updated when the data in the associated query section changes. (Tri-23742, Tri-24657) |
| Graphics | Single-select is now in-sync for associated query and graphic sections when more than one graphic section is associated to the query section and one is visible through a Modify Metadata task of a workflow. (Tri-23847) |
| Graphics | Single-select query sections now display and persist a newly selected item even when the previously selected item was not in the first page of the query result. The system removes the select association of the previously selected item so that a Retrieve Records task in a workflow event will have only one select associated record retrieved. A Retrieve Records task in a workflow now correctly gets the current select associated record from the query section after a user selects a new item without switching tabs. (Tri-23771, Tri-23850) |
| Graphics | The full CAD label list is now displayed in a graphic section when the Floor graphic has an area overlay attached. (Tri-26004) |
| GUI Builder | Fixed an issue that changed property values when the user clicked the Apply before the section or field property page loaded completely. (Tri-20338) |
| GUI Builder | It is now a requirement to specify a query when creating a query section in the GUI Builder. (Tri-25629) |
| GUI Builder | Selecting a query for the query section no longer deletes the name and label of the section, if specified. (Tri-25360) |
| GUI Builder | The Display Default action works in conjunction with the include/exclude actions defined in the business object's state transition family. It may happen that a transition marks an action as included so that action is still displayed even if that action has the Default Display not checked in the GUI Builder. Similarly, if a transition sets an action as excluded, that action will not be displayed even if in the GUI Builder it is set as Default Display. (Tri-12292) |
| GUI Builder | The GUI Builder now has a Description field for each GUI. This allows a developer to include comments for the GUI. (Tri-23778) |
| Hierarchy Structures | Fixed an issue that occurred during object migration of hierarchy roots. When importing a hierarchy using object migration when a hierarchy root already exists in that module but was renamed to a different name, the object migration creates the new record and changes all existing manager hierarchies to point to the new root. This caused consistency issues because the hierarchy was looking for the original root and not the new root created by object migration. Object migration now checks for the existence of a root record for a specific module before migrating a new hierarchy root into that module. If the root already exists, it will be updated instead of a new record being created. (Tri-25602) |

| Area of Change | Description |
|---|---|
| Installer | A command line installation on Microsoft SQL Server now properly sets to MS SQL when setting a previous installation directory. (Tri-22610) |
| Installer | During an installation the TRIRIGA database, upgrade scripts may alter any custom defined STATISTICS on Microsoft SQL Server databases. The TRIRIGA installer cannot alter any table columns that have defined STATISTICS on them, so it drops them and attempts to recreate them after the alter. However, the TRIRIGA installer's recreation method is imprecise due to Microsoft SQL Server limitations. If you have defined any custom STATISTICS against your database tables, please validate that they are correct after any upgrade. (Tri-26010) |
| Installer | In Unix system command line installs, if the installer is forced to extract to the current directory because the temporary directory is full, it will not perform a JVM search properly. There are 2 workarounds to this issue: 1.) Press 1 and then Enter on the JVM selection screen, and manually type in the path to your JVM java.exe executable. 2.) Before launching the installer, set the IATEMPDIR environment variable to a directory with enough space, for example `export IATEMPDIR=/home/tririga`. This is a known issue with InstallAnywhere. (Tri-26703) |
| Installer | Removed extraneous "Script not found" error messages from the `ant.log` on platform upgrades. These errors were normal and did not interfere with the upgrade; however, they were confusing and caused undue alarm for users. (Tri-21976) |
| Installer | Support for Opta as the MSSQL JDBC driver has been removed. The screens to configure Opta when installing on MSSQL have been removed. (Tri-23874) |
| Installer | The installer defaults to the previously set context root on upgrade installations and to `/` on new installations. (Tri-22609) |
| Installer | The installer now explicitly states that only Java 1.5 is supported to run the installer. It displays a warning if the user selects an invalid Java version. The user will not be able to continue installation with a Java version other than 1.5. (Tri-23864) |
| Installer | The WebSphere script that created data sources automatically has been removed from the installer. Along with this change, the `installWebSphere.sh, installWebSphere.bat, InstallTririga.py` files have been removed from the WebSphere folder in a new WebSphere installation as well as the folder itself. The following properties in `build.properties` have been removed: `websphere.cell, websphere.node, websphere.server,` and `websphere.wsadmin`. The page in the installer that asks for this information has been removed. (Tri-11401) |
| Installer | WebSphere is configured to compile all JSP using JDK 1.5. (Tri-25786, Tri-25799) |
| Installer | When installing in a WebLogic environment, the installer prompts the user to select between WebLogic 10 and WebLogic 11g. (Tri-25956, Tri-25695) |

| Area of Change | Description |
|---|---|
| Label Manager | A user with a language different than English can see any report with labels translated in his/her own language. (Tri-23891) |
| Label Manager | If a user with a language different from English publishes a business object, he will see the notification message internationalized in the notification section on the main portal. (Tri-22385, Tri-25371) |
| Label Manager | Label Manager displays values correctly for the selected secondary language. (Tri-25501) |
| Label Manager | Language drop-down is no longer incorrectly translated in the Label Manager. (Tri-20552) |
| Label Manager | Tab tooltips and Tab information are translated correctly through the export/import functionality. (Tri-25876) |
| Label Manager | The following are translatable:<br><br>• System actions  (Tri-21646)<br>• Flexible menu definitions from the portal  (Tri-26584)<br>• Manager actions  (Tri-25802)<br>• Metric chart headings and error messages  (Tri-26637)<br>• Performance Managers  (Tri-26650)<br>• Smart section labels and vertical section labels  (Tri-25491)<br>• Audit Actions page  (Tri-21553)<br>• My Calendar page  (Tri-16284)<br>• The yearly view, the monthly view, the quarterly view, and the weekly view from the Calendar tab of a person or a building  (Tri-16284)<br>• The portal's Preferences label  (Tri-14581)<br>• The query header (For queries that do not have a header, the query name displays and is translatable)  (Tri-25348)<br>• The query header on the page that displays the Crystal filters. (Tri-21550)<br>• The query list in a portal's flexible menu  (Tri-26586)<br>• Application action GUI fields  (Tri-22443) |
| Label Manager | The Label Manager Import uses batches. If there is an issue with the row in a batch, it is logged in the feedback window and the row is removed from the batch so that the batch will import successfully. (Tri-23664) |
| Label Manager | The report window that displays the results of a language import in the Label Manager now sorts errors to the top, followed by warnings, and then by information messages. (Tri-23665) |
| Label Manager | The Scheduling Gantt, whether displayed by the "Open Gantt In New Window" or "Show Gantt Chart" actions, now supports internationalization via the Label Manager. (Tri-22382) |

| Area of Change | Description |
|---|---|
| Label Manager | The translation of dates now is done based on the locale defined for each TRIRIGA language. A new Language Manager page in the Administrator Console allows an admin user to map each language defined in TRIRIGA to a locale. A locale is a string defined as: two letter language code _ (underscore) two letter country code (e.g., `en_US` - for American English, `en_GB` for British English). The resource bundle for a specific language must exist for the translation to happen. For example: TRIRIGA German Language is mapped to the `de_DE` locale. But if the resource bundle for the German language is not installed on the JRE, then the system displays values in English. Otherwise the values will be shown in German. (Tri-21552) |
| Label Manager | Translated tab names no longer display showing Unicode characters. (Tri-25781) |
| Licensing | A Real Estate license now includes access to Specifications. (Tri-25909) |
| Licensing | Users in the Admin Group are subject to the same license checks as other users. If a user does not have a license that allows viewing a record, the platform displays a message indicating that access is not allowed. (Tri-23806) |
| Manager Builder | Functionality has changed in report lists viewed through any manager. The Name column now shows the Header/Title field from the Report Builder instead of the report name. Since the Header/Title property in the Report Builder is optional, if this field is blank the system uses the report name. (Tri-8816) |
| Metric Reports | In metric charts with a large number of items in the legend, scrollbars appear around the legend instead of scrollbars around the entire chart. (Tri-25442) |
| Metric Reports | Tabular sub-reports based on a query without a locator field are now handled correctly. (Tri-23732) |
| My Calendar | In the My Calendar page, clicking the Hierarchy action in the Location Calendar section displays the spaces as a hierarchy. Clicking the Search action displays the spaces in a query format. (Tri-25459) |
| Object Migration | A workflow that calls another workflow with parameters now can be imported with object migration. (Tri-25673) |
| Object Migration | Fixed an issue that prevented the scrollbar from showing when accessing the Object Migration Manager page from a portal toolbar icon. (Tri-25228) |
| Object Migration | Fixed an issue where special characters such as & in section names were causing object migration export to fail. (Tri-21780) |
| Object Migration | Fixed an object migration issue when importing and exporting reports with multi-business object functionality. If `All` is selected on the report for associated business objects in the source environment, the target environment correctly selects `All` for the associated business objects on the imported report. Note that imports done on XML from a prior release do not select `All` but instead highlight each individual business object. (Tri-25247) |

| Area of Change | Description |
| --- | --- |
| Object Migration | Fixed an object migration issue where import packages containing portals with invalid portal sections were not failing during validation. (Tri-22208) |
| Object Migration | Fixed an object migration issue where new Security Groups were not importing correctly, due to an invalid column reference on the `T_GROUPMEMBER` table. (Tri-21842) |
| Object Migration | If workflow fails to publish (for example, because it is calling another workflow that is in the Retired state) it does not cause the object migration to fail. (Tri-25521) |
| Object Migration | Importing a document that already exists as a published document on the target environment now updates that document. (Tri-22799) |
| Object Migration | Object migration can import/export record data for two records with the same name and same module but different business objects. (Tri-25963) |
| Object Migration | Resolved an issue causing the 9.6.2.1 cumulative object migration package to fail to import on MSS2005. (Tri-23883) |
| Object Migration | Resolved an object migration issue causing portal section Quick Add links to not import correctly. (Tri-21401) |
| Object Migration | Resolved an object migration issue where files with an extension of .xls were not being correctly imported. This mainly affected the viewing of Offlining forms, in that they were not being correctly displayed when opening a record. (Tri-21334) |
| Object Migration | Tab labels, information, and instructions are translatable through the Label Manager and export/import. Multi Tab sections and fields within them also are translatable. (Tri-12388) |
| Performance | Improved performance of record-saving in the event that a query is used repeatedly across many extended formulas in that record's business object. In some cases, this can significantly reduce the number of complex queries run against the database during the save of a record. (Tri-23592) |
| Performance | The platform builds a hierarchy tree once when requested by multiple users simultaneously instead of multiple times. (Tri-26991) |
| Portal | Concurrent requests to access documents from Document Management no longer result in some of the requests failing. This was most visible when loading a portal where multiple portal sections had Crystal Reports. In this case, concurrent requests would be made to access the reports from the Document Management system. (Tri-24950, Tri-25680) |
| Portal | Improved the error message displayed when a user tries to log into TRIRIGA when the system has somehow lost connection. The new message is, "Database connection has been lost. Please contact your system administrator." (Tri-26072) |
| Portal | Improved the performance of accessing the Help page. (Tri-25571) |

| Area of Change | Description |
|---|---|
| Portal | Object migration now can be opened from a user's My Favorites section on the portal. (Tri-21903) |
| Portal | The Last Visited portal section now displays the last visited records that the user has opened. (Tri-24697) |
| Portal | The Portal Menu Bar cannot be scrolled. (Tri-21853) |
| Portal | Tooltips for date fields in query portal sections display the formatted date and not the system date. (Tri-23773) |
| Portal | When expanding a portal section that contains a Crystal query report, the new window now has scrollbars. (Tri-21927) |
| Portal Manager | A manager has GUIs and hierarchies. If the user does not have access to the GUIs in the manager, the manager is considered inaccessible regardless of whether or not the user has access to the hierarchies in that manager. If a manager has no GUIs and only hierarchies, the manager is considered accessible if the user has access to any of the hierarchies. (Tri-21560) |
| Portal Manager | Resolved an issue that allowed a user to remove a system error message from the Label Manager. (Tri-15250) |
| Query and Reporting | A hierarchical grid where the top-level query has query actions should no longer display the child columns shifted to the right. (Tri-25254) |
| Query and Reporting | Crystal Reports now runs correctly from TRIRIGA applications running on a physical machine that has VMware installations running on it as well. (Tri-26398) |
| Query and Reporting | Date, Date and Time, and Time fields were displayed as pure numbers in Summary reports. They now format correctly and display in the user's Date, and Date and Time formats. The Time fields display in h:m:s format. (Tri-26233) |
| Query and Reporting | Enhanced Crystal runtime filters so a user can enter $$ variables at runtime. This is similar to the existing support for this type of entry for runtime filters on a query section. (Tri-25514) |
| Query and Reporting | Entries in a URL field should include the protocol (i.e., `http`, `ftp`, `https`, `file`). If the protocol is missing, the system will use `http`. For example, if a URL field contains www.tririga.com, the URL that will be opened will be http://www.tririga.com. (Tri-23588) |
| Query and Reporting | Filters now are correctly applied to a Crystal report that spans multiple pages. Resolved an issue where only the first page returned filtered results and succeeding pages returned all results. (Tri-23739) |
| Query and Reporting | Hierarchical queries with column alignment set will render correctly in situations where the result set may contain records with similar IDs one after another. (Tri-25460) |

| Area of Change | Description |
|---|---|
| Query and Reporting | If an alpha character is entered in a numeric field runtime filter, that filter will be ignored. If a numeric value is entered, then the filter is applied. (Tri-21763) |
| Query and Reporting | In a query with associated business objects, the $$RUNTIME$$ filters now display properly when defined against associated business object fields even if no filter is defined against the primary business object. (Tri-24086) |
| Query and Reporting | In the GUI Builder, clicking the Apply action before the section or field property page loads no longer changes the property values. (Tri-25359) |
| Query and Reporting | On a graph, clicking on the graph area will open the Source. Right clicking the Context Menu's View Source option also opens the source. (Tri-21559) |
| Query and Reporting | Query sorting uses the database ORDER BY clause for sorting. This means that null values are not considered as 0 even though the display mask for a null number field value is 0. (Tri-25589) |
| Query and Reporting | Resolved an issue allowing a record to show up in queries after the record had been deleted. (Tri-25331) |
| Query and Reporting | Resolved an issue causing the classification selector in editable queries to appear beyond the display area when there were only a few items in the editable query. (Tri-25848) |
| Query and Reporting | Resolved an issue where financial rollup fields did not show currency formatting in queries. (Tri-8726) |
| Query and Reporting | Selections in the Group By section of the Order By / Sum Columns tab in the Report Manager are ignored in hierarchical queries. (Tri-23442) |
| Query and Reporting | Setting the column width in the Display Columns tab in a Report now retains the value set. (Tri-23693) |
| Query and Reporting | Sometimes when editing data using editable queries small scrollbars would appear near the top. This was because of the initial position of one of the layers in the queries. This has been resolved and the scrollbars will not appear when editing data. (Tri-25967) |
| Query and Reporting | Sorting on text fields uses the database's ORDER BY clause to sort, so for text fields with number values in them the sort order will appear to be wrong even though it is actually correct. If you want to have number values sorted correctly, use a number field. (Tri-25591) |
| Query and Reporting | Special characters are correctly displayed in Excel spreadsheets exported from a graph report. Additionally, number field values in the Excel report do not have extra space which makes them usable for number manipulations. (Tri-20170) |
| Query and Reporting | Sum total formatting is applied when a Group By is specified in a Query. (Tri-23130) |

| Area of Change | Description |
|---|---|
| Query and Reporting | Summary Reports no longer displaying a large white space at the top. (Tri-25449) |
| Query and Reporting | The primary associated business object indicator has been changed from a red asterisk to a purple square in order to avoid confusion with the required field indicator. (Tri-23623) |
| Query and Reporting | The query field filter against `$$USERID::SectionName::FieldName$$` is now working. (Tri-21491) |
| Query and Reporting | The sort order for queries for text fields is not case sensitive. (Tri-25590) |
| Query and Reporting | Tooltip text in queries displays the field label instead of the field name. (Tri-26093) |
| Query and Reporting | Two of the Metric Chart default colors have been changed to be darker so that chart items display more clearly. (Tri-25353) |
| Query and Reporting | Updated the way Crystal report connections to the RAS Server are closed to ensure that the closure does not occur so early that filtering capabilities are affected. (Tri-23845) |
| Query and Reporting | Viewing a report that returns more than 30000 rows no longer causes an error. (Tri-25372) |
| Query and Reporting | When executing Summary Reports that do not contain a Group By, an error message is shown informing the user that a Group By Field needs to be added. (Tri-22152) |
| Query and Reporting | When the user clicks the Select icon of a dependent list when the parent list is not editable, the system displays options based on the parent list's value. (Tri-26114) |
| Query Manager | Non-numeric text fields in an editable query section no longer blend into the table cell border. (Tri-20804) |
| Record Runtime | A query section now renders in a GUI when its query is against a module that does not have a base business object. (Tri-25323) |
| Record Runtime | Added the Temp Select Association property for GUI query sections. When selected, the query selection association is temporary; when not selected, the query selection association is permanent. (Tri-21594) |
| Record Runtime | An issue has been resolved where smart section select associations were not being made when the section action created a popup GUI. (Tri-23787) |
| Record Runtime | Auditing now detects changes to the smart section associations. Associations added or deleted are appearing in the audit log. (Tri-21669) |
| Record Runtime | Clearing a locator field when the page has not fully loaded starts the onChange workflow and no longer causes an error. (Tri-27150) |

| Area of Change | Description |
| --- | --- |
| Record Runtime | Fixed a JavaScript error when loading the Association tab in a record. (Tri-25223) |
| Record Runtime | In queries, columns of editable number fields did not align properly if each number field used a different UOM. Now, editable number fields are aligned to the left and the value inside the number field remains aligned to the right. Alignment of read-only number fields did not change; they continue to be aligned to the right. (Tri-26027) |
| Record Runtime | Queries containing a summary/total row do not have the show results size feature enabled on the navigation bar. (Tri-26774) |
| Record Runtime | Resolved an issue that caused the record state action to become disabled when clicking it right after tabbing out on a locator field with an onChange workflow attached to it. This generally happened in high network latency situations. (Tri-23848) |
| Record Runtime | Resolved an issue that could occur during number conversion when an 'Edit UOM List' UOM is used as the UOM source for a number field. (Tri-27035) |
| Record Runtime | Resolved an issue where clicking the Clear action on a smart section would not remove all data associated with the section. At times this caused multiple rows to appear in a query that was joined to display that smart section data. (Tri-23885) |
| Record Runtime | Resolved an issue where newly modified data on a record was not being taken into account when a query for a locator field was being run. (Tri-22241) |
| Record Runtime | Resolved issue where a sub-query drop-down layer was overlapped by another frame having a drop-down menu. (Tri-26582) |
| Record Runtime | Security enhancement that restricted access to a project record when the user did not have project security permissions for that project and USE_PROJECT_SECURITY was enabled has been backed out. This resolves an issue that when a non-admin user attempted to create a new project when using project security, the system threw an error and locked the user out of a record he was trying to create. (Tri-23686) |
| Record Runtime | The Populate File workflow task correctly maps geography, duration, and time fields in a mapped offline Excel document. Duration fields display in the following format: x Year(s) y Month(s) z Week(s) t Day(s) u Hour(s) v Minute(s) w Second(s). Time fields display in the following format: u Hour(s) v Minute(s) w Second(s). A geography field shows the path to the field instead of the ID of the geography. (Tri-23371) |
| Record Runtime | The Populate File workflow task now correctly displays Note field values in a mapped offline Excel document. (Tri-23387) |
| Record Runtime | When editing data in an editable query, any actions that cause the section to refresh save the changes to the session before refreshing. This prevents edits from being lost between refreshes. (Tri-22272) |

| Area of Change | Description |
| --- | --- |
| Record Runtime | When tabbing through fields if you select a value for a list field, the focus remains on the field list. (Tri-21984) |
| Record Runtime | When the Prefix property is used as the label for a field in a GUI instead of the Label property, the label now is translated. (Tri-22467) |
| Reserve | Updated the style of the Complete action that occurs during a reservation to match standard section action buttons. This helps the visibility of the button when using the green TRIRIGA skin. (Tri-21591) |
| Scheduler | Tasks created with PM Schedule now have the end date of the task after the start date. (Tri-26680) |
| Security | A user was given inappropriate access when a record was at the root Organization or Geography. Now the user has the appropriate access. For example, if a user had two groups, one granting read-only access at the root Geography level and the other group granting edit access at a lower-level Geography, the record rendered as editable. The record should be read-only. (Tri-23776) |
| Security | A user was given inappropriate access when all security groups specified access for a particular GUI component. Now the user has the appropriate access. For example, if a user was in two groups and both groups specified that a tab had no access. The tab incorrectly rendered as accessible if either of the groups had higher access at the GUI or module level. The tab should be inaccessible. (Tri-23775, Tri-23879) |
| Security | An instance when GUI access was set to No Access and tab and section access allowed access erroneously provided GUI access to users in the security group. Now GUI is not displayed to users. (Tri-23898) |
| Security | If a user belongs to more than one security group, the group with higher access takes precedence when the system decides which GUIs to display in the manager. (Tri-23877) |
| Security | License security is now applied to manager query navigator objects, queries that appear in the manager's navigation panel. If a query has group security defined, the query is accessible if any module or business object that the query runs against is license accessible. If a query does not have group security defined, the query is accessible: (1) if any GUI is both group and license accessible, or (2) if any module on the query does not have defined business objects or GUIs that the query runs against that are both group and license accessible. (Tri-25966) |
| Security | Module level security application access will not be created at the time of module creation. Data is loaded when the user clicks the module level in the security group by reading the application access for all the GUIs in the module. (Tri-22607) |
| Security | Resolved an issue allowing unauthorized access to uploaded files. (Tri-14154) |

| Area of Change | Description |
|---|---|
| Security | The actions available to a user on the hierarchy tree are based on the access level of the user for the selected node in the hierarchy. (Tri-22157) |
| Security | When an unauthorized user tries to add comments to a `triProject` record in draft state in an environment where Project Security is enforced, the user now sees a message that he does not have access to the record. (Tri-25275) |
| Site Style Manager | The Site Style Manager now has the ability to view the GIF-based banner configuration introduced in the TRIRIGA Real Estate Environmental Sustainability (TREES) release, including the ability to set the background color of the greeting. (Tri-24774) |
| Site Style Manager | The Site Style Manager page no longer shifts an item when the user clicks it. (Tri-10159) |
| Style Sheet Editor | After a style name and style type are created, they cannot be changed. (Tri-25513) |
| System Manager | When creating Offline forms, be sure to always create and save the forms in .xls format and ensure no format warnings exist. Offlining does not support the .xlsx format. Forms created in the .xlsx format, and later changed to .xls may not retain certain format elements such as color, font, text decoration, and the like. (Tri-25350) |
| TRIRIGA BusinessConnect | A saveRecord request with an associative filter using over a thousand records no longer returns occasional null values for the associative data. (Tri-22394) |
| TRIRIGA BusinessConnect | In some instances code generated from the BusinessConnect WSDL file also was generating Exception classes from the core java.* packages. Modified the WSDL to contain the classes to the `com.tririga.ws` package. (Tri-26442) |
| TRIRIGA BusinessConnect | When a saveRecord request is made with a batch of records that have varying GUI types, BusinessConnect no longer changes the GUIs of the existing records to a single GUI. (Tri-26702) |
| TRIRIGA BusinessConnect | When uploading content attachments via BusinessConnect's Upload method, the TRIRIGA server's temporary file directory will be populated with a cached file if the uploaded content is greater than 100K. This directory should be manually monitored and cleaned. You can identify the cached file by the following format: `attXXXXXtmp`, for example `att23434234tmp`. This is due to an XFire limitation: XFIRE-723. See the following XFire link for more information: http://jira.codehaus.org/browse/XFIRE-723. (Tri-25955) |
| TRIRIGA DataConnect | DataConnect no longer updates the state of an object during an update. In the past DataConnect updated the state to the initialState set in the DataConnect task. (Tri-25897) |
| TRIRIGA SOAP API 1 | TRIRIGA announces an end of life for TRIRIGA SOAP API 1 in a future release. Please see the *TRIRIGA Support Matrix for 2.7* for additional details. To request this *TRIRIGA Support Matrix*, submit a ticket through the IBM Software Support site at www.ibm.com/support. |

| Area of Change | Description |
|---|---|
| Windows Vista Certification | When loading any workflow designer, an error may occur warning that the publisher could not be verified in a Vista environment. This is safe to ignore the first time; press OK to continue to the workflow designer. (Tri-25528) |
| Workflow | Added a new workflow status of "Not Responding". If a running workflow has not updated its status in five minutes, it will be marked as Not Responding. This can happen when a WF Agent dies while running a workflow or when a long running workflow takes more than five minutes for a particular step. (Tri-23857) |
| Workflow | If a workflow event is queued for a record, and before the workflow for the event is executed the record is deleted, the workflow will not be executed and the status will be set to Skipped. Previously the results were unpredictable. (Tri-24235) |
| Workflow | The `com.tririga.architecture.web.process.gantt.workflow.CopyProject` Custom task was assuming that the predecessor and successor tasks for dependencies were associated to the project passed into the task. Now an error will be logged if this is the case but processing will not fail. (Tri-25218) |
| Workflow | The workflow Retrieve task now properly handles a filter condition that used `$$TODAY$$`, `$$THISWEEK$$`, or `$$THISMONTH$$`. (Tri-11409) |
| Workflow | When opening a workflow instance you should no longer receive JavaScript errors. (Tri-23429) |
| Workflow | When server issues like a network outage occurred and the workflow agent was running on a single host, workflows sometimes would be stuck and never finish. With this release, when the workflow agent is restarted it resets any stuck entries so that they can be picked back up by the agent for processing. Each unstuck entry is a new instance of the workflow and tasks that were executed in the previous workflow will run again. (Tri-22717) |
| Workflow | When using the Attach Format File task to attach a document to a Notification, documents that are not supported form report formats would not attach properly (a Word document or image file, for example). The Attach Format File task now checks if the file type supplied is a supported format, and if not, it attaches the file as-is (note that this does not work if Embed File is checked). The supported report formats are HTML documents and RPT files. (Tri-15512) |
| Workflow | When viewing a published workflow template, it is no longer possible to select a new file in an Attach Format File task or to select a new query in a Query task. These select links are now disabled when in a published state. (Tri-23107) |

# TRIRIGA Application Platform 2.7.0 Properties Files

The following properties in the `TRIRIGAWEB.properties` file changed with this release:

| Area of Change | Description |
|---|---|
| AGENTS_NOT_ALLOWED | A comma-delimited list of agents not allowed to run on this server. A blank value allows any agent to be started on this server but does not start any agent automatically.<br><br>**Tip** - Manage agent settings for this server and all other TRIRIGA servers on the Agent Manager page of the Administrator Console. See the *TRIRIGA Application Platform Administrator Console User Guide* for more information. |
| INSTANCE_ID | Overrides the default machine ID. Leave blank if you are running a single instance per physical machine. When two or more TRIRIGA servers are running on the same physical machine, INSTANCE_ID must be unique for independent agent management. When present, INSTANCE_ID must be a number less than 10000. |
| INSTANCE_NAME | Overrides the default machine name. Leave blank if you are running a single instance per physical machine. When two or more TRIRIGA servers are running on the same physical machine, INSTANCE_NAME must be unique for independent agent management. When present, INSTANCE_NAME can be any alphanumeric value. |
| Property Deletions | The WFAgent, DataImportAgent, WFNotificationAgent, SchedulerAgent, ObjectMigrationAgent, ObjectPublishAgent, CleanupAgent, WarehouseAgent, FormulaRecalcAgent, CrystalQueueAgent, IncomingMainAgent, ExtendedFormulaAgent, DataWarehouseQueueAgent, and DataConnectAgent properties no longer appear (replaced by AGENTS_NOT_ALLOWED). |
| SMARTQUERY_RESULT_SIZE _LIMIT | The maximum number of query results that can be used in a smart query section. This sets a threshold so a query's results do not get so large that the query section is unable to render. The default value is 500. |

The following properties in the `TRIRIGACRYSTAL.properties` file changed with this release:

| Area of Change | Description |
|---|---|
| `CRYSTAL_MEMORY_USAGE_L IMIT` | The maximum percentage of available server memory that can be used while assembling a Crystal Report's query results. If this percentage is exceeded, the query errors out due to insufficient memory. If this is caused by an interactive Crystal report, the user sees the following message: "Error Occurred. There are not enough resources available to run the report at this time. - [MID-xxxxx]", where xxxxx is the message ID of the log entry in the server log.<br><br>Before the report actually fails, the platform attempts to reclaim unused memory by doing a garbage collection. A garbage collection has the potential to momentarily show other activity on the system. Any attempt to reclaim unused memory will have an INFO-level log entry in the server log.<br><br>If you see a "There are not enough resources available to run the report" error for a query, it is likely that the query was the cause of the error; however, it also is possible that other concurrent processes could have consumed memory while the query was assembling its results.<br><br>Valid values are between `0` and `100`. Values of `0` and `100` essentially disable any limit being enforced; you should not use either value because a single query initiated by a single user could run the server out of memory.<br><br>An empty value or an invalid value is treated as a default value.<br><br>Valid values are `0 - 100` and blank. The default value is `35`. |
| `CRYSTAL_REQUEST_SERVER _PORT` | A Crystal Request Server resides within the TRIRIGA Application Server. When present, this property specifies the listening port on the TRIRIGA server that handles Crystal RAS Query Requests. If no port is specified, the system selects an available port. |
| `DrillDownTabs` | If set to true, drill down tabs are displayed. The default value is `true.` |
| `ParameterPanelToggle` | If set to true, the parameter panel toggle button is displayed. |
| Property Deletions | The CrystalVersion, OwnForm, BooleanSearch, BooleanSearchButton, BottomToolbar, DisplayHeader, GroupTree, HelpButton, PageNumbers, ViewList, PageTreeRatio, and PageLogoLocation properties no longer appear. |
| `ToolPanelWidth` | The width of the tool panel in the units specified in ToolPanelWidthUnit. The default value is `200.` |
| `ToolPanelWidthUnit` | The unit of measure for the tool panel width. The default value is `pixel.` |

| Area of Change | Description |
| --- | --- |
| TRIRIGAIBS_ODBC | Any Crystal report that runs direct SQL against a TRIRIGA database must have a data source named TRIRIGAIBS. This refers to an ODBC entry that resides on the Crystal RAS server. |
| | A single RAS server can service any number of TRIRIGA database servers. This can be useful in a development or quality assurance environment. |
| | The TRIRIGAIBS_ODBC property configures which ODBC entry on the Crystal RAS server the reports will use. Begin by creating ODBC entries on the RAS server, one for each database hosting a TRIRIGA instance to be supported by the RAS server. In the TRIRIGA application server, configure the TRIRIGAIBS_ODBC property to indicate which ODBC entry should be used for reports run from that server. At runtime, the TRIRIGAIBS data source is replaced in the report with the name of the ODBC entry specified in the TRIRIGAIBS_ODBC property. |
| | If a value is specified in the TRIRIGAIBS_ODBC property, the TRIRIGAIBS value in a Crystal report will be replaced with that value. If the property is left blank, the TRIRIGAIBS data source will remain in the report. |

# TRIRIGA CAD Integrator/Publisher 2010 and DWF Server 2010

This chapter includes the important information and known limitations for TRIRIGA CAD Integrator / Publisher 2010 and DWF Server 2010. Sections detail enhancements and changes for each TRIRIGA CAD Integrator / Publisher 2010 and DWF Server 2010 version, with the most current version listed first.

## Important Information and Known Limitations

Important information and known limitations concerning TRIRIGA CAD Integrator include the following:

| Area of Change | Description |
|---|---|
| AutoCAD Design Review 2010 | Customers using Microsoft Internet Explorer 6.0 may experience intermittent error messages when using AutoCAD Design Review 2010. Upgrading to IE 7.0 resolves this issue. (Tri-21810). |
| DWF Server | DWF Server does not support rendering CAD labels on attached entities that were drawn using AutoCAD's "2D Polyline" element. The 2D polyline entities need to be updated to the LWPOLYLINE standard in order for CAD labels to process properly.<br><br>Follow these steps to resolve this issue:<br>1) Open the problem drawing in AutoCAD.<br>2) Type Convert in the command line.<br>3) Enter P for polyline.<br>4) Enter ALL to process all polylines; it should return a message with the number of 2D polyline objects that were converted.<br>5) Republish the drawing. (Tri-26912) |
| Installation | If you have MicroStation V8i and MicroStation XM running in one computer, there is a limitation in that you can start only one version of CIMS by clicking the `CiMsStart.exe`. Following are the steps to run CIMS if two versions of MicroStation are running in one computer:<br><br>1) Install CAD Integrator in two different folders, corresponding to the two versions of MicroStation. `CiMsStart` will run whichever version you install last.<br><br>2) In the version which `CiMsStart` does not run, open MicroStation and navigate to the Utilities->MDL Applications command. Browse to the `CIMS.ma` file in the CAD Integrator install directory corresponding to the current MicroStation version. The CAD Integrator application now will be loaded and active. (Tri-27931) |
| Installation | In order to run CAD Integrator on Windows 7, the user has to be the "owner" and have "full control" of the ci folder after installation.<br><br>Note that in order to do this you will need Administrator rights. Typically the |

| Area of Change | Description |
|---|---|

following steps are done by an IT department after installing CAD Integrator.

Right click the ci folder. Select Properties. On the Properties window, click the Security tab. Then click Advanced. In the Advanced Security Setting window, select the Owner tab. Here you need to choose either yourself, or (preferably) a group in which you are a member. Ideally, an IT department would have a "CAD User" group defined and use this group.
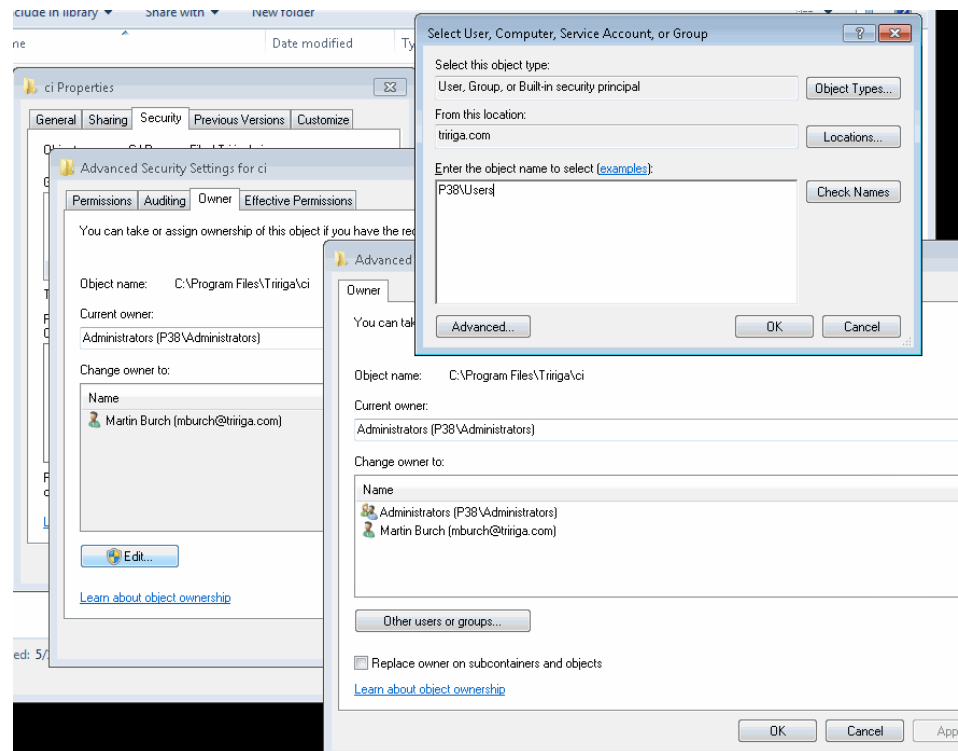


The screenshot above demonstrates how to assign the "Users" group, of which you are a member, as the owner. In this example, this group is not listed in the "Change owner to:" query, click Edit. In this example, this group is not on the list, so click "Other users or groups". In the pop up query, find the group you want. Enter the name of the group and click OK.

| Area of Change | Description |
|---|---|
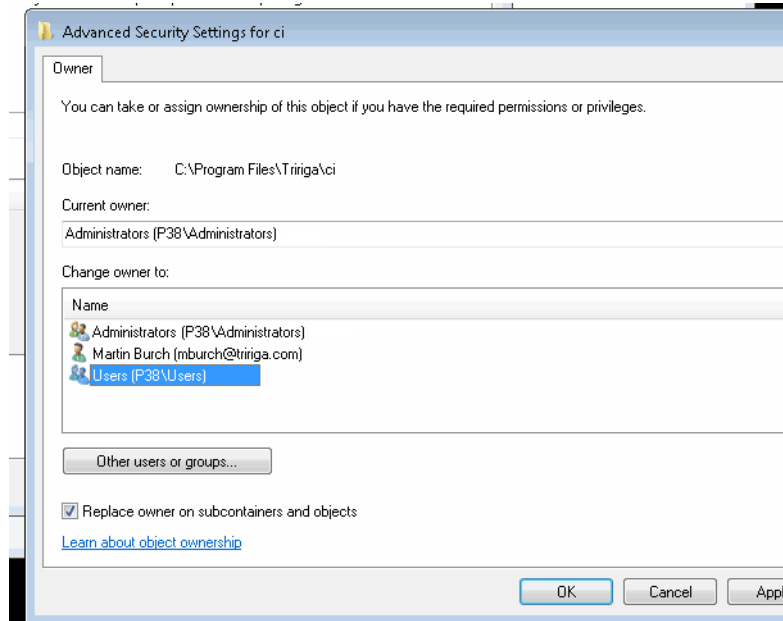


In the Advanced Security Settings for ci window, select your group, check the "Replace owner on subcontainers and objects" box, and click OK or Apply. Windows will inform you that you will need to close the Properties windows in order to modify permissions. Close all the windows.
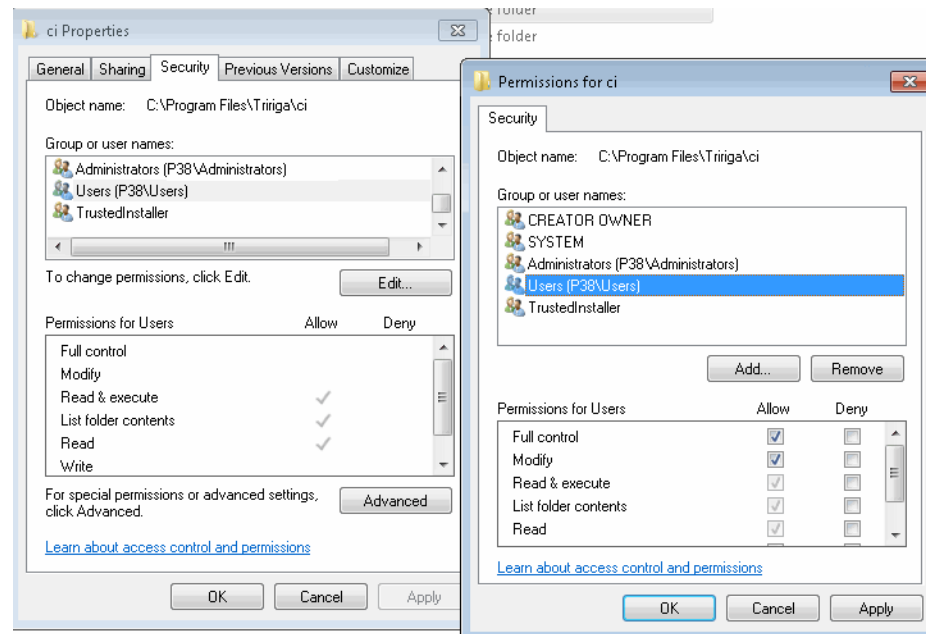


Right click on the ci folder, select Properties. In the Properties window, select the group you set as owner previously. Click Edit. Make sure your group has full control of this folder. Click OK or Apply. Close the windows.

When you open AutoCAD 2010, you should have no problems reading the .cui

| Area of Change | Description |
| --- | --- |
| | file.<br><br>Alternatively, you could have set yourself as the owner and given yourself permissions--just follow a similar process.<br><br>It does not seem to have an effect if the .cui file is read-only. What is important is that the user of CAD Integrator has "Ownership" AND "has full control" of the ci folder. (Tri-28174) |
| Installation | The CAD Integrator installer for AutoCAD 2008 and prior occasionally fails to correctly install CAD Integrator. If this happens, install CAD Integrator manually, as described in the "Troubleshooting CAD Integrator Configuration" section of the *TRIRIGA 9 CAD Integrator for AutoCAD User Guide*. (Tri-21538) |
| Publish | DWF will not publish under a Publish on Close scenario. On July 4, 2006, Autodesk determined that this is an AutoCAD issue. TRIRIGA submitted a change request with Autodesk. |

# TRIRIGA CAD Integrator 2010, Version 1 Changes

The major changes to TRIRIGA CAD Integrator for this release include the following:

| Area of Change | Description |
| --- | --- |
| People | The Insert Person command now prompts the user to sync the drawing before it is run. (Tri-36051, build 7.0.3.00) |
| Publish | CAD Integrator failed to correctly publish SVG drawings when a published layer included the character '#'. These drawings now publish correctly. (Tri-24028, build 7.0.0.00) |
| Publish | CAD Integrator now correctly publishes to SVG certain drawings that previously did not complete. (Tri-32447, build 7.0.2.00) |
| Publish | Some drawings in which block references did not publish in SVG now publish correctly. Select the Keep AutoCAD layers option in the publish form for block references to publish. (Tri-27479, build 7.0.0.00) |
| Publish | Some drawings in which XREFs did not publish in SVG now publish correctly. (Tri-21880, Tri-22354, Tri-22623, build 7.0.0.00) |
| Space Allocation | Improved the filtering of data requested from the server when refreshing the list of allocations in the Space Allocation dialog.  This can improve performance on environments with a large number of organizations. (Tri-35993, build 7.0.3.00) |
| Space Allocation | Resolved an issue that prevented CAD Integrator from assigning a space allocation to two organizations in which one organization name was included in the other, such as "Global Finance" and "Finance". (Tri-36076, build 7.0.3.00) |

# IBM TRIRIGA Application Object Migration Packages

IBM TRIRIGA delivers application object migration packages using two different methodologies:

- Incremental Package: Each application release is a separate file named `TRIRIGA_<version>.zip`.

- Cumulative Package: The entire suite of TRIRIGA Applications is in one file named `TRIRIGA_<version>_Cumulative.zip`. Cumulative packages save substantial time for customers upgrading across several releases. This release includes a cumulative package is for 9.7.1.

> **Note** – To request access to IBM TRIRIGA software releases prior to IBM TRIRIGA 10.2 and IBM TRIRIGA Application Platform 3.2, submit a ticket through the IBM Software Support site at [www.ibm.com/support](www.ibm.com/support).

Use the method that best suits your needs. Incremental package files may be best if you only have to upgrade across one or two releases. The cumulative file may be better when you need to update from an earlier version of the application (more than three releases old). Be aware, however, that the cumulative file is large and will take a long time to download, load, and import. After you have the object migration package file(s) downloaded, follow the rest of the steps in this chapter to accomplish your application update(s).

## Applying the Application Object Migration Package

The 9.7.1 release includes two application packages that include enhancements, fixes, and corrections for the TRIRIGA 9 applications, as described earlier in the [TRIRIGA Applications 9.7](TRIRIGA Applications 9.7) chapter. The two application packages for 9.7.1 are the 9.7.1 incremental package and the 9.7.1 cumulative package. For the 9.7.1 incremental package, depending on your current application version, you may need to apply the 9.0.1, 9.0.2, 9.0.3, 9.0.4, 9.0.5, 9.0.6, 9.1, 9.1.1, 9.1.2, 9.1.3, 9.5.0, 9.5.1, 9.5.1Supp, 9.6.0, 9.6.0_Gantt, 9.6.1, 9.6.2, and 9.7.0 packages before applying the 9.7.1 package. To upgrade to the 9.7.1 application version, you must load each object migration package that is later than your current application version, in order, through to the 9.7.1 object migration package. See the *TRIRIGA 9 1 Release Notes* for information about applying the 9.1 package. Perform each package sequentially, in the order listed above. Wait for one to complete all of the steps below before beginning the next.

The older object migration packages do not need to be imported if you use the 9.7.1 cumulative package.

A second patch helper file is delivered with TRIRIGA 9.7.0. This patch helper file is named `PatchHelper.9.7.FISCALPERIODNAMES.txt` and is used to change the Name fields on the Fiscal Periods Classification. This patch helper will change the name of the Fiscal Periods from "Qq - YYYY" to "YYYY - Qq" or for example from "Q1- 2009" to "2009 - Q1". This name change allows for a more appropriate order of the periods in metric queries.

Please read and follow "Importing Objects" in the *TRIRIGA Application Platform Object Migration User Guide* for a description of how to import application packages.

The following summarizes a few Import features you will find especially helpful:

## Summary

To see all warnings and errors found during validation, click the Summary action on the top of the Object Migration screen. The Package Summary report appears.

The Object Summary at the top of the Package Summary report lists statistics for each Object Type, with the Warnings and Errors hyperlinked to the corresponding summary section further down in the report.

The body of the Package Summary report contains a separate section for each Object Type with warnings and/or errors. Within these sections, you will see the Object Name, Module and Business Object if appropriate for the Object Type, and the corresponding warning or error message(s).

## Comparison

Object Migration offers two comparison methods to find out more information about the differences between uploaded items and existing items in the system. You can compare the entire upload with the Comparison Report action or compare individual items with the Compare action in the Objects panel. The comparison logic is the same for the Comparison Report and an individual Compare, with the main difference being that one compiles the result into a file and the other displays the result in the user interface.

Comparison Report

A Comparison Report compares every object in the uploaded package with objects in the target system. The result is a tab-delimited .txt file.

Each row in the Comparison Report represents one difference or conflict between the uploaded package and the target system. For example, if a Business Object has 10 differences, there will be 10 lines in the Comparison Report, one for each.

Compare

The Compare action looks at just one object and compares what is in the uploaded package to what is in the target system. To compare one of the objects in the upload with its counterpart in the target system, select the object in the Navigation panel. The object displays in the Objects panel. Select an

item in the Objects panel and click Compare.

## Logging

The import process in Object Migration generates informational messages when an object's dependent object names cannot be determined or verified. The message identifies the name of the object that has an issue and lists its invalid references by type and where they have been referenced. These messages are sent to a log file named `ObjectMigration.log`. This file is located in the `log` directory of your TRIRIGA installation, for example at `C:\Tririga\log\ObjectMigration.log`.

The `ObjectMigration.log` is configured in the `log4j.xml` file located in the `config` directory of your TRIRIGA installation, for example at `C:\Tririga\config\log4j.xml`. Be sure to review these settings and edit as desired before performing Object Migration.

Also, it is very important to review the `ObjectMigration.log` after each Object Migration event.

> **Note** – To help resolve any circular dependencies/references, the system automatically imports the package two times. After each pass, the system refreshes the system cache.

# Import Patch Helper Record

Whether you use the cumulative Object Migration package or a set of version-specific Object Migration packages, you must run the Patch Helper for each application version between your current application version and 9.7.0, including 9.7.0. Use the steps below to import the patch helper file for each of the versions, in order of the version number. The Patch Helper record triggers workflows to fix the items listed below.

- Adds User Message records
- Adds Application Version record

### How To Import the Patch Helper Record

**Step 1** From the destination system, select Data Integrator from the *Administration* menu.

**Step 2** Select the following values:

*Module*: `triHelper`
*Business Object*: `triPatchHelper`
*GUI*: triPatchHelper
Import Type: `Add`
*Action*: triCalculate

**Step 3** Click **Browse**.

**Step 4** The system displays a file selection window.

**Step 5** Select the Import file from a local disk.

**Step 6** Click Upload File.

**How To Import the Patch Helper Record**

The system displays a window indicating the file is processing.

**Step 7**  Click **OK**.

When the import process is complete, you will receive a notification in your Home portal.

# TRIRIGA Support Matrix

The *TRIRIGA Support Matrix* lists supported operating systems, databases, and related details for and about the TRIRIGA Application Platform and relays information about end-of-life plans for such software. The *TRIRIGA Support Matrix* may change over time. To request the *TRIRIGA Support Matrix* for 2.7.2.x, submit a ticket through the IBM Software Support site at www.ibm.com/support.

# Related Documentation

To request access to TRIRIGA documentation for releases prior to IBM TRIRIGA 10.2 and IBM TRIRIGA Application Platform 3.2, submit a ticket through the IBM Software Support site at www.ibm.com/support.

# Support

IBM Software Support provides assistance with product defects, answering FAQs, and performing rediscovery. View the IBM Software Support site at www.ibm.com/support.

# APPENDIX A

Deleted the following queries:  (Tri-26585)

| MODULE NAME | GUI NAME | GUI TAB NAME | GUI SECTION NAME | SOURCE NAME |
|---|---|---|---|---|
| triActionForm | tirAssetLeaseTemplatePopUp | triGeneral | triAssetLeaseTemplate | triAssetLeaseTemplate - Find |
| triActionForm | triAssetOffline | triGeneral | triAsset | AF - AST Assets |
| triActionForm | triCloseServiceOrders | triGeneral | triServiceOrdersToClose | triServiceOrder - Console - Close AF - Selected Service Orders |
| triActionForm | triDuplicateRequests | triGeneral | triDuplicateRequests | CC Duplicate Requests |
| triActionForm | triInventoryMaterialTransaction | triGeneral | triInventoryTransactions | triInventoryManagerTransaction - triInventoryMaterialTransaction - Display Query in Action Form |
| triActionForm | triNotificationRequirementsForm | triGeneral | triNotificationRequirements | ND Notification Requirement List |
| triActionForm | triPWServiceManagerEditServiceAgreement | triGeneral | triServiceGeographyQuery | triGeography - PW Service Geography -Display - PW Service Manager |
| triActionForm | triSendNotice | triGeneral | triPeopleAssignTo | triPeople - Console AF - Selected Team Members |
| triBudget | triBudget | triGeneral | triCostCodeAmountItems | PM Cost Code Amount Items List |
| triCatalog | triCatalog | triCustomers | triOrganizationCustomers | CTLG Customers |
| triCatalog | triCatalog | triCustomers | triRoleEntitlements | Entitlement Roles |
| triCatalog | triCatalog | triGeneral | triContactRoleCatalogManager | Vendor Details |
| triCatalog | triCatalog | triProducts | triProducts | Products |
| triContract | triContract | triLine Items | triPurchaseOrderChangeOrder | triPurchaseOrderChangeOrder - For Purchase Order |
| triContract | triProposedAmendment | triHistory | triAmendments | triRealEstateContract - List of all Proposed Amendment records in the state of history |
| triIssue | triIssue | triGeneral | triContactRole | PM Contact Role List |
| triIssue | triResolutionOption | triImpact | triPeopleTeam | triPeople - People Team |
| triItem | triFoodServiceLineItem | triAdministration | triServiceOrder | triServiceOrder - Service Orders - Location Reservation Quer |

| MODULE NAME | GUI NAME | GUI TAB NAME | GUI SECTION NAME | SOURCE NAME |
|---|---|---|---|---|
| triNotificationAction | triContractNotificationAssetLease | triGeneral | triOptions | RE Options List |
| triPermit | triPermitApplication | triResponse | triSupplementalDesignDocuments | triSupplementalDesignDocumentAmin - Supplemental Design Document List for Permit Application |

# APPENDIX B

The Find actions on the following GUI sections now have an associated query. (Tri-26815)

| MODULE NAME | GUI NAME | GUI TAB NAME | GUI SECTION NAME | QUERY |
|---|---|---|---|---|
| Classification | triRequestClass | triGeneral | triPriority | triMaintenancePriority - Display - All Priorities |
| Classification | triRoles | triEntitlements | triEntitlements | triSpecification - Find - Contact Roles Entitlements |
| Classification | triTimeCategory | triEntitlements | triEntitlements | triSpecification - Find - Contact Roles Entitlements |
| Data Utilities | Grant Security Access | General | triUsers | triPeople - Filter - People - Not Retired |
| Document | Document | Permissions | Group Permissions | Group - Security Group List |
| Geography | triGeography | triReference | triDocument | Document - Find - All Documents |
| Locator Directions | Locator Directions | General | FromLocation | Location - Find - All Locations with Sub-reports |
| Locator Directions | Locator Directions | General | ToLocation | Location - Find - All Locations with Sub-reports |
| Mail | EmailMessage | EmailMessage | Attachments | Document - Find - All Documents |
| Mail | EmailMessage | EmailMessage | To | triEmployee - Find - subreport with Consultant and External Contact |
| Mail | EmailMessage | EmailMessage | BCC | triEmployee - Find - subreport with Consultant and External Contact |
| Mail | EmailMessage | EmailMessage | ReplyTo | triEmployee - Find - subreport with Consultant and External Contact |
| Mail | EmailMessage | EmailMessage | From | triEmployee - Find - subreport with Consultant and External Contact |
| Mail | EmailMessage | EmailMessage | CC | triEmployee - Find - subreport with Consultant and External Contact |
| Mail | Notification | Description | Notification Documents | Document - Find - All Documents |
| Mail | Notification | Description | External Mail To | triExternalContact - Find - subreport with Consultant and Employee |
| Mail | Notification | Description | External Mail CC | triExternalContact - Find - subreport with Consultant and Employee |
| Mail | Notification | Description | External Mail BCC | triExternalContact - Find - subreport with Consultant and Employee |
| System | Data Upload | General | Data Upload Errors | triDataUploadErrors - triDataUpload - Find |

| MODULE NAME | GUI NAME | GUI TAB NAME | GUI SECTION NAME | QUERY |
|---|---|---|---|---|
| System | FinancialTransaction | General | CostTransactionCodes | triCostCode - triFinancialTransaction - Find |
| System | WorkFlowActionItem | General | Assignees | triPeople - Filter - People - Not Retired |
| triActionForm | triAssetCoreLockUninstall | triGeneral | triReturnedBy | triPeople - Filter - People - Not Retired |
| triActionForm | triAssetOffline | triGeneral | triLocation | Location - Find - All Locations with Sub-reports |
| triActionForm | triAssetPendingReturn | triGeneral | triReturnedBy | triPeople - Filter - People - Not Retired |
| triActionForm | triRequestReceipt | triGeneral | triReceivedBy | triEmployee - Find - subreport with Consultant and External Contact |
| triContract | triAssetLease | triGeneral | AssetLeaseParent | triAssetLease - Find - AssetLease Parent |
| triContract | triOwnedProperty | triLocations | triPrimaryLocation | Location - Find - Active Locations |
| triContract | triOwnedProperty | triService | triOrganizationServiceProvider | Organization - Find - triOwnedProperty - Service Provider |
| triContract | triProposedAmendment | triService | triRequestClass | triRequestClass - Find - triProposedAmendment - triService |
| triContract | triProposedOwnedProperty | triService | triOrganizationServiceProvider | Organization - Find - triProposedOwnedProperty - Service Provider |
| triCostItem | triCostEstimateUnitLineItem | triGeneral | triAssemblyLineItem | triAssembly - Find |
| triCostItem | triCostEstimateUnitLineItem | triGeneral | triUnitPriceLineItem | triUnitPriceLineItem - Find |
| triCostItem | triFoodServicesItem | triGeneral | triCostCodeCommitmentCode | triCostCode - Find |
| triCostItem | triForecastLineItemSummary | triGeneral | triStandardContractContract | triStandardContract - Find - triForecastLineItemSummary |
| triCostItem | triPaymentVoucher | triReference | triDocument | Document - Find - All Documents |
| triCostItem | triRFPResponseLineItem | triGeneral | triRFPLineItem | triRFPLineItem - Find - triRFPResponseLineItem |
| triDailyJournal | triDailyReport | triGeneral | triDailyDetails | triDailyDetails - Find - triDailyReport |
| triGovernment | triGovernment | triReference | triDocument | Cannot Replicate |
| triHelper | triResourceHelper | triGeneral | triResourceInput | triResource - Find Resources - triResourceInput |
| triHelper | triTaskHelper | triGeneral | triTaskInput | triTask - Find - triTaskHelper Input Task |
| triIntermediate | triCTQAssessment | triGeneral | triCTQItem | triCTQItem - Find - triCTQAssessment |
| triIntermediate | triFacilityProjectAccounting | triGeneral | triCostCode | triCostCode - Find |

| MODULE NAME | GUI NAME | GUI TAB NAME | GUI SECTION NAME | QUERY |
|---|---|---|---|---|
| triIntermediate | triPMReadingAsset | triGeneral | triLocation | Location - Find - Query For PMReadingAsset |
| triIntermediate | triPMReadingAsset | triGeneral | triAssets | triAsset - Find - PMReadingAsset |
| triIntermediate | triProjectBudgetChangeCostItem | triGeneral | triCostCode | triCostCode - Find |
| triIntermediate | triProjectBudgetForecastCostItem | triGeneral | triCostCode | triCostCode - Find |
| triIntermediate | triProjectBudgetTransferCostItem | triGeneral | triCostCode | triCostCode - Find |
| triIntermediate | triProjectOriginalBudgetCostItem | triGeneral | triCostCode | triCostCode - Find |
| triIntermediate | triProjectOriginalBudgetTemplateCostItem | triGeneral | triCostCode | triCostCode - Find |
| triIntermediate | triPunchlistIntermediate | triGeneral | triPunchlistTask | triPunchlistTask - Find |
| triIntermediate | triResourceReserve | triGeneral | triLocation | Location - Find - Query For triResourceReserve |
| triIntermediate | triRiskItemIntermediate | triGeneral | triRiskItem | triRiskItem - Find - All |
| triIntermediate | triRouteGroupAsset | triGeneral | triAsset | triAsset - Find - triRouteGroupAsset |
| triIntermediate | triSubmittalIntermediate | triGeneral | triSubmittalTask | triSubmittalTask - Find |
| triInventoryTransaction | triReceivingLineItemLog | triGeneral | triCostCode | triCostCode - Find |
| triInventoryTransaction | triReceivingLineItemLog | triGeneral | triSpecification | triSpecification - Find |
| triInventoryTransaction | triReturnLineItem | triGeneral | triCostCode | triCostCode - Find |
| triItem | triBuildingSystemInspectionItem | triReference | triDocument | Document - Find - All Documents |
| triItem | triBuildingSystemInspectionItem | triGeneral | triAssessmentTask | triConditionalAssessmentWorkTask - Find - BuildingSystemInspectionItem |
| triItem | triFoodServiceLineItem | triGeneral | triTaskReservation | triTask - Find Query |
| triItem | triFoodServiceOrder | triAdministration | triLocationDetails | triSpace -  Find Query - FoodServiceOrder |
| triItem | triFoodServiceOrder | triAdministration | triTaskReservation | triTask - Find Query |
| triItem | triMoveRequestLineItem | triSystem | triRole | triRole - Find - MoveRequestLineItem |
| triLog | triCostAllocation | triGeneral | triCostItem | triCostItem - Find - Cost Allocations |

| MODULE NAME | GUI NAME | GUI TAB NAME | GUI SECTION NAME | QUERY |
| --- | --- | --- | --- | --- |
| triLog | triFCIHistoryAdmin | triGeneral | triLocation | Location - Find - All Locations with Sub-reports |
| triLog | triFCIHistoryBSI | triGeneral | triLocation | Location - Find - All Locations with Sub-reports |
| triLog | triLineItemsLog | triGeneral | triPurchaseOrderPOInformation | triPurchaseOrder - Find - LineItemsLog |
| triLog | triReportToErrorLog | triGeneral | triApprovalList | triApproval - Find Query - ReportToErrorLog |
| triMeterItem | triEnvMeterItemDTO | triGeneral | triCostCode | triCostCode - Find |
| triPayment | triPaymentSchedule | triReference | triDocument | Document - Find - All Documents |
| triPayment | triProcessARReceipts | triReference | triDocument | Document - Find - All Documents |
| triPayment | triProcessPayments | triReference | triDocument | Document - Find - All Documents |
| triProposal | triBidDocument | triGeneral | triRecordedByPerson | triPeople - Filter - People - Not Retired |
| triRequest | triContractChangeRequest | triReference | triDocument | Document - Find - All Documents |
| triSetup | triNotificationRequirement | triGeneral | triGroupsNotified | Group - Find - NotificationRequirement |
| triSpaceAllocation | triAreaLevelAllocation | triGeneral | triContact | triPeople - Filter - People - Not Retired |
| triSpaceAllocation | triLeaseAllocations | triGeneral | triOrganizationBusinessUnit | Organization - Find - triLeaseAllocation |
| triSpaceAllocation | triSpaceAssignments | triGeneral | triPeopleBusinessContact | triPeople - Filter - People - Not Retired |
| triSpaceAllocation | triSpaceLevelAllocation | triReference | triDocument | Document - Find - All Documents |
| triTask | triConditionAssessmentWorkTask | triAdvanced | triProject | triProject - Find Query |
| triTask | triConditionAssessmentWorkTaskTemplate | triAdvanced | triProject | triProject - Find Query |
| triTask | triContractReviewTask | triAdvanced | triProject | triProject - Find Query |
| triTask | triContractReviewTemplate | triAdvanced | triProject | triProject - Find Query |
| triTask | triInspectionTask | triAdvanced | triProject | triProject - Find Query |
| triTask | triInspectionTaskTemplate | triAdvanced | triProject | triProject - Find Query |
| triTask | triInventoryCountWorkTask | triAdvanced | triProject | triProject - Find Query |
| triTask | triInventoryCountWorkTaskTemplate | triAdvanced | triProject | triProject - Find Query |

| MODULE NAME | GUI NAME | GUI TAB NAME | GUI SECTION NAME | QUERY |
|---|---|---|---|---|
| triTask | triInventoryPickWorkTask | triAdvanced | triProject | triProject - Find Query |
| triTask | triInventoryPickWorkTaskTemplate | triAdvanced | triProject | triProject - Find Query |
| triTask | triKeyWorkTask | triAdvanced | triProject | triProject - Find Query |
| triTask | triKeyWorkTaskTemplate | triAdvanced | triProject | triProject - Find Query |
| triTask | triMaterialOrderTask | triReference | triDocument | Document - Find - All Documents |
| triTask | triMaterialOrderTask | triAdvanced | triProject | triProject - Find Query |
| triTask | triPunchlistTask | triAdvanced | triProject | triProject - Find Query |
| triTask | triPunchlistTaskTemplate | triAdvanced | triProject | triProject - Find Query |
| triTask | triReserveAsset | triAdvanced | triProject | triProject - Find Query |
| triTask | triReserveMeetingSpace | triAdvanced | triProject | triProject - Find Query |
| triTask | triReserveVehicle | triAdvanced | triProject | triProject - Find Query |
| triTask | triReserveWorkTask | triGeneral | triFacilitiesProject | triFaciltiiesProject - Find |
| triTask | triReserveWorkTask | triAdvanced | triProject | triProject - Find Query |
| triTask | triReserveWorkTaskTemplate | triAdvanced | triProject | triProject - Find Query |
| triTask | triScheduleTask | triAdvanced | triProject | triProject - Find Query |
| triTask | triSubmittalTask | triAdvanced | triProject | triProject - Find Query |
| triTask | triSubmittalTaskTemplate | triAdvanced | triProject | triProject - Find Query |
| triTask | triTask | triGeneral | triFacilitiesProject | triFaciltiiesProject - Find |
| triTask | triTask | triGeneral | triResponsiblePerson | triPeople - Filter - People - Not Retired |
| triTask | triTask | triAdvanced | triProject | triProject - Find Query |
| triTask | triWorkTask | triAdvanced | triProject | triProject - Find Query |
| triTask | triWorkTaskTemplate | triReference | triDocument | Document - Find - All Documents |
| triTask | triWorkTaskTemplate | triGeneral | triPeopleResponsible | triPeople - Filter - People - Not Retired |

| MODULE NAME | GUI NAME | GUI TAB NAME | GUI SECTION NAME | QUERY |
|---|---|---|---|---|
| triTask | triWorkTaskTemplate | triAdvanced | triProject | triProject - Find Query |

# Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan, Ltd.
1623-14, Shimotsuruma, Yamato-shi
Kanagawa 242-8502 Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
2Z4A/101
11400 Burnet Road
Austin, TX 78758
U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

108

# Trademarks

IBM, the IBM logo, ibm.com, and TRIRIGA are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide.

Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at www.ibm.com/legal/copytrade.shtml.

109