

IBM TRIRIGA Application Platform
Version 3 Release 5.3.9

Readme



Note

Before using this information and the product it supports, read the information in “Notices” on page 22.

This edition applies to version 3, release 5, modification 3.9 of IBM TRIRIGA Application Platform and to all subsequent releases and modifications until otherwise indicated in new editions.

© Copyright International Business Machines Corporation 2020. All rights reserved.

US Government Users Restricted Rights - Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

README FILE FOR IBM TRIRIGA APPLICATION PLATFORM 3.5.3.9 FIX PACK	2
What's New in This Release	2
Enhancements.....	3
Prerequisites and Supported Products.....	4
IBM TRIRIGA Supported Versions and IBM TRIRIGA Application Platform Compatibility Matrix.....	4
Installing the IBM TRIRIGA Application Platform 3.5.3.9 Fix Pack	5
Important Information	6
Known Limitations.....	8
Changes	10
Properties Files	19
RELATED DOCUMENTATION	21
SUPPORT	21
NOTICES.....	22
Privacy Policy Considerations.....	23
Trademarks	23

Readme File for IBM TRIRIGA Application Platform 3.5.3.9 Fix Pack

This fix pack updates the IBM® TRIRIGA® Application Platform product.

These release notes include the following:

- An overview of enhancements and changes
- A list of important information
- A list of known limitations
- Many of the descriptions include an internal reference number (Tri-nnnnnn, IJnnnnn, IVnnnnn, and/or RFE-nnnnnn)



Note - The IBM TRIRIGA wiki information, formerly located on DeveloperWorks, is migrated to the [IBM TRIRIGA Application Platform 3.5.3 Knowledge Center](#). For more information, see the [IBM TRIRIGA Release Information](#) page on IBM Support.

What's New in This Release

IBM TRIRIGA Application Platform 3.5.3.9 continues to add valuable functionality, fix defects, and reduce the effort necessary for new and existing customers to implement our products.

IBM TRIRIGA Application Platform 3.5.3.9 includes the following highlights.

- Enhanced query and report rendering technology enhances user experience for hierarchy and summary reports.
- Centralized Single Sign-On (SSO) support simplifies SSO configuration and enables SSO authentication support for client add-ins and plug-ins using corporate SAML or OAuth authentication mechanisms.
- Performance logging enhancements provide ability to set millisecond thresholds for which entries are logged.
- Support for Microsoft Exchange Modern Authentication enables secure authentication for Exchange Online environments.
- TRIRIGA Reporting add-on delivers user experience refinements, expanded administrative capabilities, and more granular security access controls.

Enhancements

The following enhancements to the IBM TRIRIGA Application Platform are in this release in addition to the enhancements described above:

Area of Impact	Description
Look and Feel	IBM TRIRIGA Application Platform version 3.5.3.9 has a new look and feel that is included with a clean install. To update the look and feel during an upgrade, follow the instructions at https://github.com/IBM/tri-carbon-style-pack . (Tri-64181, Tri-62194)
Reporting	Using the enhanced report renderer, reports with Group By columns that are rendered through the enhanced query grid now have expand and collapse buttons for each grouping on group columns. A grouping row toggle appears in the action bar. When selected, a grouping row appears above the report header, with which users can add and remove group columns. (Tri-62334)
Reporting	The Excel file downloaded from query export to Excel functionality now displays images stored in query result image fields. The supported image types are TIFF, BMP, PNG, JPG, JPEG, and GIF. The path to the image is stored in the Excel spreadsheet cell, but the text is hidden. During the download process, an attempt is made to display images not in these formats. If a failure occurs, a warning is logged and the remainder of the Excel spreadsheet continues to download. For any failed image, the image path is displayed in the Excel spreadsheet cell and the text is not hidden. (Tri-62913)
Reporting	Using the enhanced report renderer, summary reports now render the same as reports with Group By columns when displayed through the enhanced query grid. They now have expand and collapse buttons for each grouping on group columns. A grouping row toggle appears in the action bar. When selected, a grouping row appears above the report header, with which users can add and remove group columns. (Tri-62947)
Reporting	Using the enhanced report renderer, hierarchy queries that are not editable now render through the enhanced query grid. (Tri-63418)
Reporting	Audit queries in the Administrator Console have been updated to version 4 and now include a query to find ALL queries with Reverse Associations filters. (Tri-65899)
Reservations	The triOAuthClientSecret field of the triMSOAuth business object is now encrypted in the database. (Tri-64430)
Security	The USER_CREDENTIALS table was removed from the system. The T_MYPROFILE table is now used for all authentication and authorization processing. (Tri-62261)
Security	The TRIRIGA Application Platform now supports service initiated SSO using SAML or OpenID Connect. (Tri-64280)

Prerequisites and Supported Products

To install this fix pack, you must have any 3.5.3.x version of IBM TRIRIGA Application Platform installed.

IBM TRIRIGA Supported Versions and IBM TRIRIGA Application Platform Compatibility Matrix

The *IBM TRIRIGA Supported Versions* lists information related to IBM TRIRIGA's supported products and platform and relays information about end-of-life plans for such software. The *IBM TRIRIGA Application Platform Compatibility Matrix* lists supported operating systems, databases, and related details for and about the IBM TRIRIGA Application Platform and relays information about end-of-life plans for such software. The *IBM TRIRIGA Supported Versions* and the *IBM TRIRIGA Application Platform Compatibility Matrix* may change over time. The *IBM TRIRIGA Supported Versions* and the *IBM TRIRIGA Application Platform Compatibility Matrix* can be found on IBM Support at <https://www.ibm.com/support/pages/node/1283650>.

IMPORTANT NOTICES: Effective April 30, 2019, IBM no longer supports IBM Tivoli Directory Integrator. Migrate your TDI assemblies to a supported technology, such as Pentaho. As of version 3.5.3.9, the IBM TRIRIGA Application Platform no longer ships with or supports TDI assemblies.

As communicated in the IBM TRIRIGA Application Platform 3.5.3.9 Compatibility Matrix, IBM does not support Oracle WebLogic with IBM TRIRIGA Application Platform version 3.5.3.9 and later. Please see the Compatibility Matrix for the full listing of compatible products and versions.

Installing the IBM TRIRIGA Application Platform 3.5.3.9 Fix Pack

To install the TRIRIGA Application Platform 3.5.3.9 fix pack, refer to the following general instructions.

Procedure

1. Ensure that no database configuration changes are pending and there are no entries in the WF_EVENT or EF_QUEUE tables. You can check the status of these tables by running the following SQL statements: `select count(*) from WF_EVENT` and `select count(*) from EF_QUEUE`.
2. For IBM WebSphere® Application Server Liberty Core profile, stop all application servers before continuing the installation.
3. For IBM WebSphere Application Server, confirm that this server is started and stop all other application servers.
4. Take a backup of the database and the existing TRIRIGA install directory for each server. If necessary, you can use the backups to revert the system.
5. Download the 3.5.3-TIV-TAP-FP009 file.
6. Extract the file. You can extract the fix pack file into any directory.
7. Run one of following patch executable files: `fixpack_tririga_v3.5.3.9_Windows.exe`, `fixpack_tririga_v3.5.3.9_Linux.bin`, or `fixpack_tririga_v3.5.3.9_AIX.bin`.
8. In the Introduction pane, select **Next** or **Enter**.
9. In the license agreement, accept the terms and select **Next** or **Enter**.
10. Choose the directory where IBM TRIRIGA is installed. For example, the following directories:
`c:\ibm\tririga\` or `/opt/ibm/tririga/`.
11. Review the information and select **Next** or **Enter**.
12. The fix pack process patches the WAR file and runs any platform database fix pack scripts.



Note - In the patch folder for the 3.5.3.9 fix pack, when the fix pack installer backs up the `ibm-tririga.war` file, the backup `.war` file appears as the `ibs-tririga.war.bak` file.

13. For WebSphere Application Server Liberty Core profile, the WAR file deploys and the cache directories are removed. You must restart Liberty.
14. For WebSphere Application Server, the WAR file redeploys and starts automatically. If it fails, you need to manually redeploy the WAR file. The WAR file is located in one of the following root TRIRIGA install directories: `c:\ibm\tririga\ibm-tririga.war` or `/opt/ibm/tririga/ibm-tririga.war`. Refer to IBM's instructions for deploying a `.war` application.

What to Do Next

After the fix pack install completes, check the platform release in the IBM TRIRIGA Administrator Console. Verify that the fix pack you just installed is listed.

Important Information

The following items are important information concerning this release:

Area of Impact	Description
Reporting	<p>Added documentation clarifying the purpose of the Random Result Count. This option in the Report Manager is for use with workflows only, and is not meant to be used for record runtime or for exporting reports.</p> <p>In the <i>Application Building for the IBM TRIRIGA Application Platform 3</i> user guide:</p> <p>The following note is added in the Query task section.</p> <p>Note: The random result count may remove sorting and may or may not return the same results in the subset from run to run. This feature is to limit the number of records returned in the Query task.</p> <p>In the <i>IBM TRIRIGA Application Platform 3 Reporting User Guide</i>:</p> <p>The following note is added in the Creating Reports section about the Random Result Count section.</p> <p>Note: The value in Random Result Set limits the number of records the query returns if this query is used in a workflow. The random result count may remove sorting and may or may not return the same results in the subset from run to run. This feature is to limit the number of records returned in the Query task. This random result set should not be expected to work with other features of reporting, for example it will not be adhered to when exporting to Excel.</p> <p>(Tri-61327-IJ20921)</p>
Security	<p>Effective April 2020, Microsoft will continue to disable Basic Authentication for newly created tenants by default. Starting October 2020, Microsoft will begin to disable Basic Authentication in tenants that have no recorded usage. However, Microsoft decided to postpone the disabling of Basic Authentication with Microsoft 365/Exchange Online services for those tenants still actively using it until the second half of 2021. As an alternative, Microsoft will support the OAuth open standard to connect to Exchange Online services.</p> <p>https://techcommunity.microsoft.com/t5/exchange-team-blog/basic-authentication-and-exchange-online-april-2020-update/ba-p/1275508</p>
Security	<p>There was a change on Traditional WAS 9.0.0.11 and Liberty 19.0.0.4 that added a new configuration property named <i>trustedSensitiveHeaderOrigin</i>, as described in https://www.ibm.com/support/pages/potential-websphere-application-server-problems-when-deployed-behind-websphere-aware-proxy-server</p> <p>On WebSphere Liberty, <i>trustedSensitiveHeaderOrigin</i> is configured as an <i>HttpDispatcher</i> custom property, and on traditional WebSphere the property is configured as an HTTP channel custom property. This property has a default value of "none", which means that a subset of WebSphere-specific HTTP headers will not be trusted from any host.</p> <p>The property also accepts value a of "*" (all), or a comma-separated list of IP addresses. For a secure deployment in which proxy servers are used, the</p>

Area of Impact	Description
	<p><i>trustedSensitiveHeaderOrigin</i> property should be configured with a comma-separated list of IP addresses corresponding to those of any WebSphere-aware proxy servers in front of the WebSphere server.</p> <p>Alternatively, to enable the original insecure behavior, set <i>trustedSensitiveHeaderOrigin</i>="", which will direct the WebSphere server to trust all headers sent from any host or proxy. This value must only be used for testing, or if the WebSphere server is isolated from external connections.</p> <p><i>For Liberty servers add this line to the server.xml:</i></p> <pre><httpDispatcher trustedSensitiveHeaderOrigin="<TRUSTED_PROXY_IP_ADDRESS>"/></pre> <p><i>replace <TRUSTED_PROXY_IP_ADDRESS> by the IP of the web server machine where the WebSphere Plugin is installed.</i></p> <p>Reference: https://www.ibm.com/support/knowledgecenter/SSEQTP_liberty/com.ibm.websphere.liberty.autogen.base.doc/ae/rwlp_config_httpDispatcher.html</p> <p><i>For Traditional WAS set trustedSensitiveHeaderOrigin as a custom property of HTTP channel:</i></p> <p>Reference: https://www.ibm.com/support/knowledgecenter/en/SSAW57_9.0.5/com.ibm.w.ebsphere.nd.multiplatform.doc/ae/rrun_chain_httpcustom.html#trustedSensitiveHeaderOrigin</p> <p>(Tri-65334-IJ24173)</p>
Upgrade	<p>IBM TRIRIGA Application Platform version 3.5.3.9 has a new look and feel that is included with a clean install. To update the look and feel during an upgrade, follow the instructions at https://github.com/IBM/tri-carbon-style-pack. (Tri-64181, Tri-62194)</p>

Known Limitations

The following items are known limitations are in this release:

Area of Impact	Description
Administrator Console	Deep Clean does not delete obsolete records when using Microsoft SQL Server. (Tri-66453)
Administrator Console	The Platform Maintenance Scheduler - TRI_REORGCHK_TABLE_AND_INDEX on DB2 may fail in certain environments with an SqlDataException. Contact IBM Support for a workaround. (Tri-66524)
Installation	A clean installation of IBM TRIRIGA Application Platform version 3.5.3.9 on a Windows environment may result in an error on the server startup log related to nothing.txt could not be read or has zero length, not uploading. Check the file's permissions, or if it is zero length, delete it. It is safe to ignore this error. (Tri-66732)
Reporting	For Group By type reports displayed in the enhanced report renderer grid view, the actual group value columns appear deselected in the column context selection menu that is available all on column headers in the query results. By default, actual group value columns are hidden in favor of displaying the expand/collapse group column in the query results. If you want to see the actual group value column in the query results, you can select the column from the column selection context menu. The expand/collapse group column does not support aggregations or filters. If the group column is a sum column, then the actual group value column displays along with the expand/collapse group column so the sum values and aggregations can be viewed. If the query has a runtime filter on the group column, you need to select the actual group value column from the column selection context menu in order to see the filter. (Tri-64426)
Reporting	For reports that have a user-defined column width specified on a group column, the specified column width may not take effect on the group column but instead affect the adjoining column when rendered through the enhanced report renderer query grid. (Tri-66609)
Reporting	Hierarchy queries displayed through the enhanced report renderer grid view may not get sized correctly if they have a group report as a child. Extra whitespace might be seen on the child query. (Tri-66121)
Reporting	If a large number of query actions are defined in certain scenarios on a maximized portal section that is rendering a query with the enhanced report renderer query grid view, the overflow menu may not display all the actions. (Tri-66167)
Reporting	In some scenarios where a column label is too large in the enhanced report renderer query grid view, the far-right column context menu may appear clipped. Users can see the entire the context menu by dragging the column size larger. (Tri-66166)
Reporting	On some pop-up queries, such as locator pop-ups that display with the enhanced query rendering grid, an unnecessary horizontal scroll bar may display. (Tri-66387)

Area of Impact	Description
Reporting	On some query sections displaying the enhanced report renderer query grid, if no data is in the results, the no data to display text may overlap the query header. (Tri-66391)
Reporting	Some pop-up dialogs, such as "Find" lookup dialogs that render with the enhanced report renderer query grid, may appear to have their footer cropped off if launched from a smaller form. The dialog can be dragged up to make the footer visible by clicking and dragging in the white border of the dialog. After you drag the dialog to the appropriate position, you may need to double-click in the white border to release dragging mode. (Tri-66477)
Reporting	User-defined column widths defined in a prompt before query report that is rendered with the enhanced report renderer may not be honored after the display is refreshed. Initially, the custom column size shows, but after a refresh, the customized sizing may be replaced by sizing that maximizes the data displayed in the grid. (Tri-66608)
Reporting	When pie charts are displayed in TRIRIGA components with limited space, such as portal sections and navigation items, the chart labels are hidden. You should rely on pie chart tooltips for the chart details when the labels are hidden. This addresses a limitation with AnyChart that results in labels being overlapped or chopped off. Chart legends may also have display issues in smaller components. You can turn off the legend display by using the Display Legend checkbox in the Options tab of the report. (Tri-61781-IJ21008)
Reservations	If a recurring reservation is initiated through a UX or Foundation application, the space selected on the recurring reservation will be on hold for that reservation for the duration selected on Meeting Space Hold Time Duration field under the Reservation Settings tab of the Application Settings record. If another user is trying to create a recurring reservation for the same space and time through Outlook without using the TRIRIGA Reserve Add-In, it does not recognize the hold times of the space initiated from UX or classic application. The reservation being created through Outlook without using the TRIRIGA Reserve Add-In will overwrite the other one and will be accepted and the reservation initiated through UX or Foundation will be cancelled even if the space is on hold. (Tri-59427)
System Setup	In Oracle, you may notice invalid objects in the Administrator Console. Recompile the noted invalid objects in an SQL tool. For example, if the warning shows DM_APPEND is invalid, run the following in SQL Developer (or like tool). <pre>ALTER PROCEDURE DM_APPEND COMPILE;</pre> If the invalid object is a package body <pre>ALTER PACKAGE PKG_ERROR_LOG compile body;</pre> (Tri-65361)
Unit of Measure	Number fields that do not have the Use Custom UOM Precision and Mask property selected do not correctly use the display mask to handle precision. This can have unexpected results on a value's precision, and it also can give the appearance of inconsistent value rounding when compared with other fields that do not have the Use Custom UOM Precision and Mask property selected. Until this issue is resolved, the workaround is to select the Use Custom UOM Precision and Mask property and set the desired display mask. (Tri-65647-IJ25123)

Changes

The following changes to the IBM TRIRIGA Application Platform are in this release:

Area of Change	Description
Administrator Console	In a new TRIRIGA install, in the System Info object, in the Date Field Processing Options section, the fields by default are set to FALSE (not checked). This is the recommended setting for each field unless your business processes require the fields to be set to use the foundation behavior. (Tri-63884)
Administrator Console	In the Database Info page, Database Admin Tasks section, the Deep Cleanup process now removes invalid L_ table entries and invalid referenced smart section rows. (Tri-66321)
Administrator Console	In the Database Info page, Database Admin Tasks section, the new Truncate Workflow Instances link enables you to truncate (or clear out) instances. It clears out all instance tables except for currently running workflows, workflows waiting for a user response, or suspended workflows. Only use this link on a quiet system. Using it on an active system may result in deadlocks and potential data loss. (Tri-55688)
Administrator Console	In the Must Gather Tool page, the EcuRep Email field is no longer disabled when SSO=Y. Now the EcuRep Email field is enabled when SSO=Y or SSO=N. (Tri-64428-IJ23762)
Administrator Console	In the Workflows Executing section, stopping a running instance now works as expected. (Tri-63831-IJ23016)
Administrator Console	New metrics were added to the system metrics log and to the Performance Monitor page, Key Metrics section. The metrics show the total number of actual workflows started, completed, and failed, and the total number of steps processed. Now, along with the initiating/spawning workflow event counts, the actual workflows executed from those events and the total number of steps executed by the running application/process server are recorded to the log. These new metrics are different from other workflow counts previously recorded in the system metrics log. Those metrics were renamed WF Event Count and WF Event Throughput. The WF Event correlates to a state change action or a trigger action in a workflow. The action puts an event in the queue, and it is possible for many workflows to be executed by that one event. (Tri-55544)
Administrator Console	On the Performance Monitor page, Performance Monitoring section, the Speed Throughput Test was updated to use the IBS_SPEC table as a reference instead of the IBS_SPEC_ASSIGNMENTS table. (Tri-55574, Tri-65537)
Administrator Console	On the Users Logged In page, in the Locked User Accounts section, for each Connector for Business Applications user the user count shown now includes unsuccessful attempts. The count of unsuccessful attempts is also updated in the database. (Tri-61651-IJ21163, Tri-65935)
Administrator Console	The fix pack installer now updates the Build Number tab, Patch History section in the Administrator Console when using Microsoft SQL Server. (Tri-64272)

Area of Change	Description
Administrator Console	The vmstat.jsp page was removed from the Performance Monitor object. This page was used to show the CPU info from Unix systems via the vmstat command. However, since the vast majority of performance issues are due to database and SQL inefficiencies, the jsp provided no value. Newer and better tools can be used to see actual CPU usage on the application servers. (Tri-52816)
Administrator Console	Users no longer see error messages when using the Performance Monitor from the Administrator Console. (Tri-62132-IJ22457)
Bookmarks	Bookmarks are no longer corrupted when you try to create a bookmark with an existing bookmark name. A warning displays and you can create a new bookmark with a different name. (Tri-62245-IJ21437)
Compatibility	IBM WebSphere Application Server Liberty profile 20.0.0.2 is supported and bundled with TRIRIGA. This is the recommended application server to use as a best practice in any environment. (Tri-64491)
Compatibility	Oracle WebLogic Server is no longer supported. (Tri-64492)
Compatibility	The ENERGY STAR Portfolio Manager version is upgraded from 13.0 to 14. (Tri-64920)
Compatibility	The TRIRIGA Application Platform now supports Microsoft SQL Server 2019. (Tri-64490)
Compatibility	The TRIRIGA Application Platform now supports Mozilla Firefox version 77.0. (Tri-64680)
Connector for Business Applications	BusinessConnect API call getTargetRecords no longer fails on a DB2 database. (Tri-57571)
Connector for Business Applications	The Connector for Business Applications operations runNamedQueryMultiBo, runNamedQueryMultiBoLocalized, and runNamedQueryMultiBoContinue now provide a raw value property in the response that contains unformatted values where applicable. (Tri-61867-IJ21762)
Connector for Business Applications	You can now use the saveRecord API to create a triPeople record as described in the <i>IBM TRIRIGA Connector for Business Applications</i> user guide. (Tri-62933-IJ23763)
Data Modeler	In the Association Properties section, when you select the Is Parent Of association, you no longer see an error message and the correct value in the Associate Business Object field is mapped. (Tri-62858-IJ21929)
Form Builder	In the Form Builder, modifying section actions in a query section or a smart section, no longer triggers an error for a possible XSS threat. (Tri-66947)
GIS	TRIRIGA's Esri solution now supports ArcGIS API for JavaScript 4.15. Esri made significant API changes in this release, which may affect any custom widgets written for the ArcGIS API for JavaScript version 3.x and earlier. Note that not all TRIRIGA Sample Esri Widgets were upgraded to ArcGIS API for JavaScript 4.15. Only the Sample Print widget, the Sample Editor widget, and the Sample Geocoder widget were upgraded. The code for the Sample Drive

Area of Change	Description
	<p>Time widget, the Sample Service Area, and the Sample Overview Map widgets was commented out for reference purposes. The code for those widgets is not supported in the ArcGIS API for JavaScript 4.15.</p> <p>Note, the Sample Editor Widget no longer contains the Show All Features checkbox. (Tri-55986)</p>
Globalization	For many languages, the Gantt translation property files now load correctly and contain translations for the currently supported version of TreeGrid. (Tri-62895)
Graphics	In the Layer Configuration menu, turning off specific layers works as intended and the graphic does not display the turned-off layers during rendering. (Tri-57950-IJ14961)
Installation	The installer now validates the context path. The context path must either contain a / or a / followed by a single word. (Tri-57346)
Installation	<p>The TRIRIGA Application Platform installer is updated to InstallAnywhere version 2018 SP1, which adds installer support for Windows Server 2019. See the InstallAnywhere 2018 SP1 release notes for more details regarding supported operating systems at https://helpnet.flexerasoftware.com/installanywhere2018sp1/rn/IAReleaseNotes_en.htm. (Tri-55669)</p>
Integration Object	When you export data into a flat/XML/JSON file, if the Align UOM checkbox is selected, UOM values display next to the UOM fields. (Tri-62067-IJ22019)
Lease - Asset and Real Estate	A duration calculation between a start date and an end date now handles Daylight Saving Time (DST) dates correctly. An example of this calculation is when working with a lease. The lease term is a duration that is calculated between the Commencement Date and the Base Lease Expiration Date. Previously, the resulting duration would be incorrect by one hour due to miscalculating DST. Now the duration of a lease is calculated correctly. (Tri-61235-IJ20917)
Lease - Asset and Real Estate	The TRIRIGA date picker selects correct dates in Brazilian time zones now that Brazil no longer has Daylight Saving Time. (Tri-62288-IJ23389)
Licensing	A user with a Request Central license can now provide clarification comments in the approval process. (Tri-61960-IJ21250)
Licensing	All licenses now have at least Read access to the licensed triGraphic module Business Objects. (Tri-62976-IJ21696)
Licensing	License files deployed by the TRIRIGA installer are now readable in non-US-English languages. (Tri-64749)
Licensing	<p>The following licenses now have Read access to triSetup > triNews business object (Tools > System Setup > General > News):</p> <ul style="list-style-type: none"> IBM Facilities and Real Estate Management on Cloud Approvals and Reporting IBM Facilities and Real Estate Management on Cloud Field Services Concurrent IBM Facilities and Real Estate Management on Cloud Field Services Authorized IBM TRIRIGA Field Services Concurrent IBM TRIRIGA Field Services Authorized. (Tri-62254)

Area of Change	Description
Licensing	Users with the new Wipro TRIRIGA HSE Enterprise License have access to the Wipro Health, Safety, and Environment (HSE) application. (Tri-63489)
Object Migration	Messages in the server.log that did not provide useful information no longer appear during an application upgrade import. (Tri-54613)
Object Migration	Only ZIP files can be imported via Object Migration. (Tri-64338)
Object Migration	When you copy a package, the values in the workflow property are now copied correctly. (Tri-60112)
Offline	The font of the offline form date field now matches the rest of the template. (Tri-62783-IJ22847)
Outgoing Mail	Bid request email notifications are now sent to all email addresses in the External Mail CC section of the notification record. (Tri-63025-IJ23390)
Outlook	Since multiple licenses now provide access to the triReservation module, warnings in the outlook.log file about not having a license are now more generic. (Tri-61727)
Outlook	When in debug mode, authentication error messages no longer appear in the outlook.log file when the user has authenticated. (Tri-57652)
Outlook Reservations	In the Reservation Outlook add-in, Food Order/Equipment Order menus are displayed correctly when you add a Food Order/Equipment Order to a room reservation. (Tri-60626)
Performance	Performance Analyzer logging no longer causes an error if an object label is not available. (Tri-62142-IJ22452)
Performance	<p>When there are a large number of records in a hierarchy, a smaller set of statements is used to build the tree in the background when a large change has occurred. In addition, a new property in TRIRIGAWEB.properties can be used for a Comma delimited list of tree types to exclude from hierarchy cache events.</p> <p>The property is EXCLUDED_TREE_HIERARCHY_CACHE_TYPES</p> <p>This will prevent hierarchy types from being synchronized across servers. For example, EXCLUDED_TREE_HIERARCHY_CACHE_TYPES=triCostCode (Tri-65710-IJ24801)</p>
Portals	The URL in a portal section can now be changed. (Tri-63455-IJ22909)
Portals	When a portal section displays the result of a locator field, all of the records are now displayed and records are no longer hidden by the portal section border. (Tri-65086-IJ24716)
Projects	TRIRIGA Gantt implementation now assumes the default calendar of the project when interfacing with the JavaScript Gantt library. If the task calendar is not the project calendar it will be part of the row data sent to the Gantt library. This will significantly improve loading and performance especially on projects where the project calendar is the same as the task calendar. (Tri-58755-IJ16991)

Area of Change	Description
Reporting	A context menu now displays when you right-click an enhanced report renderer query rendering grid. The context menu contains a Copy menu item. If you select this menu item, the system copies to your clipboard the value of the cell that currently has focus. For query results that have radio buttons, this feature can copy the selected row to your clipboard. For query results that have checkboxes, this feature can copy all selected rows to your clipboard. (Tri-65961)
Reporting	A metric report now displays accurate data when you switch from one show by value, to a different show by value, and then back to the original show by value. (Tri-63812-IJ23388)
Reporting	A query defined with a system filter with a filter token, such as \$\$PARENT to filter off of a record reference field such as a locator field, now returns results if the operator of the filter is something other than EQUALS or NOT_EQUALS. (Tri-64719)
Reporting	A report being saved in the Report Manager can have special characters in field names. The Report Manager will correctly display the field in the columns view. (Tri-59968-IJ17587)
Reporting	During enhanced report rendering, if the containing window is maximized before the query fully loads, the grid is now correctly sized for the maximized window. (Tri-66131)
Reporting	Filters that were not responding in certain situations now respond to user input for reports run through the enhanced report renderer query grid. (Tri-66244-IJ25039)
Reporting	When running enhanced report renderer hierarchy queries that have the 'Suppress headers and align columns' feature selected in the report design, the enhanced movable column feature is not supported. Additionally, if the column field names in the child query do not match up with the column field names of the parent query, the results can be unpredictable. (Tri-64669)
Reporting	For non-US English-language users, master detail actions no longer display the word "null". (Tri-64154-IJ23593)
Reporting	For queries designed with group columns, the enhanced report renderer query rendering grids display the group columns before non-group columns and in the order specified by the group section in the report design. This behavior is regardless of how those same columns are ordered in the Display Columns section of the report design. (Tri-66024)
Reporting	Hierarchy queries displayed through enhanced report rendering grids do not support column pinning. (Tri-65982)
Reporting	In previous versions of the enhanced report renderer, action buttons were above and below the report renderer. The lower action button bar was removed, and action buttons now only appear at the top of the report. (Tri-63153)

Area of Change	Description
Reporting	In previous versions of the enhanced report renderer, record links in report results were underlined to indicate that the user had permission to access the record. Now, the first column of each row that a user can drill into is highlighted in blue. Note that if the first column for a row has no data, then no blue highlight will appear, yet the user will still be able to drill into the row. (Tri-63122)
Reporting	In previous versions of the enhanced report renderer, report action buttons stacked vertically if there was not enough horizontal space to render all of them. Now you will see an overflow menu that renders a vertical menu with all available actions when there is not enough space to display all of the actions on one row. (Tri-63644)
Reporting	In previous versions of the enhanced report renderer, the current date displayed when you ran a report from the Report Manager. This feature was removed from the enhanced report renderer runtime. Excel exports continue to display the date of the export. (Tri-63159)
Reporting	In the enhanced report renderer grid, linked query sections on forms, such as graphic query sections, now correctly load. (Tri-63863-IJ22653)
Reporting	In the enhanced report renderer query grids, filter values no longer disappear after you scroll the grid horizontally. (Tri-65303-IJ24252)
Reporting	In the enhanced report rendering grid, portal sections that display queries no longer display checkboxes if the query has no actions. (Tri-66164)
Reporting	In the enhanced report renderer, column headers now contain a context menu that appears when you mouse over the right side of the header. The context menu provides the option to perform column operations such as pinning columns. (Tri-64424)
Reporting	In the enhanced report renderer, copied and duplicate filters now appear in the Show More Filters section. (Tri-64310-IJ23223)
Reporting	In the enhanced report renderer, In and Not In filters no longer produce zero results or cause JavaScript errors. Now, any use of the single quote uri encoding %27 within a filter on the Enhanced Report Renderer resolves to a single quote. (Tri-64298-IJ23764)
Reporting	In the enhanced report renderer, reports no longer fail with a system error if the report does not contain columns. (Tri-65502)
Reporting	<p>In the enhanced report renderer, when you right-click a group report or a summary report, you expose an Export to Excel context menu. When you download the report to Excel, the result matches the grouping and columns displayed on the screen.</p> <p>The download icon supported for group and summary reports in the previous platform version is still exposed, and the resulting Excel is in the grouped format of the previous release. Since summary reports now render in a grouped format, the downloaded Excel displays the grouped data and not just the data for the group header rows. (Tri-64296)</p>

Area of Change	Description
Reporting	In the Location hierarchy, if the user has read-only access, the Cut option no longer appears. (Tri-64291-IJ23185)
Reporting	On the enhanced report rendering grid, for queries with group columns, the precision for group total values of non-currency number fields now matches the precision for the underlying individual cell values for the same field. (Tri-65839)
Reporting	Report column filters no longer fail if the filter label in the report template contains special characters. (Tri-65299-IJ24450)
Reporting	Several color style changes were made to support the updated report design. You can manage these new colors by using the Style Manager import export process. (Tri-64069)
Reporting	Several enhanced report renderer features that only displayed in US English now are globalized. (Tri-62285)
Reporting	The Add to Bookmarks button in the Enhanced Report Renderer is now an icon button that displays a star icon. (Tri-63221)
Reporting	The Close button in the report renderer is now an icon button that displays an X. (Tri-63222)
Reporting	The enhanced report renderer pagination bar now displays on a single row. (Tri-63120)
Reporting	The enhanced report renderer was updated to support formatted data display for dynamic string fields when the format field is one of the following field types: date, date time, time, or duration. (Tri-59712-IJ17544)
Reporting	The Track History feature now works as expected with reports that are run on the enhanced report renderer. (Tri-63353)
Reporting	When a Boolean field is used as a user filter, the user must enter either TRUE or FALSE (case insensitive). This applies to users of all languages supported by TRIRIGA. (Tri-64583-IJ24312)
Reporting	When a query is rendered, null date fields now display as an empty string. (Tri-63897-IJ22874)
Reporting	When a user tries to save a report that has the same name, same module, same business object, and same form as a system report, the system blocks that action and alerts the user that "a report with the name already exists". (Tri-63282-IJ22255)
Reporting	When designing a metric report, the only allowed operators are displayed in the drop-down selector. Such operator options are dependent on the field type and might vary from field to field. (Tri-62819-IJ21691)
Reporting	When you copy a hierarchy report, the copy now has the correct associated query in the General tab, Options tab. (Tri-63708-IJ23227)

Area of Change	Description
Reporting	When you export a report of type Chart as a JPG or PNG file, the image is complete and does not have truncated data. (Tri-64586-IJ24251)
Reservations	In all browsers except Safari, the reservation calendar event pop-up now displays aligned with the record that was selected. (Tri-63947-IJ22927)
Security	A GET request that caused a stack trace now responds with an error message. (Tri-65718)
Security	A POST request that caused a stack trace now responds with an error message. (Tri-65719)
Security	Apache CXF is updated to version 3.2.13. (Tri-65321)
Security	TRIRIGA Reserve now supports OAuth for Microsoft 365/Exchange Online services. (Tri-58806)
Security	When a user has groups with different access permissions for the Report Manager, the user now receives the highest access. (Tri-62831-IJ21584)
Stacking	In the Stacking applet, the stacking section and all of its dependencies are removed from TRIRIGA. If an existing form includes a stacking section, a message displays that indicates the section is no longer supported. This is for foundation forms and stacking sections, NOT to be confused with the UX Stacking app. (Tri-58166)
Style Manager	In the Style Manager, you can now modify the font size of State Transition Action buttons and the Section Action buttons. (Tri-64362-IJ23584)
Style Manager	The Style Manager style import now runs without error for clean installs. (Tri-62755)
Unit of Measure	You can now create a Unit of Measure value record with the UOM abbreviation field containing more than 10 characters. (Tri-60647-IJ22681)
UX Framework	The documentation for the Office 365 UX components is now available on the UX component's documentation page (/p/web/doc?polymerVersion=3). (Tri-64385)
UX Framework	The Polymer 3 version of the triblock-app-layout component now renders the home button when the home button is added after the triblock-app-layout is attached. (Tri-62229)
UX Framework	The triplat-ds UX component has a new method named queryMetadata. This method returns the query metadata for a query data source. See the UX component documentation for more information. (Tri-63740)
UX Framework	The UX component triplat-number-input now considers the currency symbol in the allowed pattern if the UOM is defined and there is a currency symbol. As a result, in the UX Work Task app, you can now back space to edit the Cost Per Unit field for materials after you input a value by pressing the Enter key. (Tri-64308)

Area of Change	Description
UX Service Request App	In the UX Service Request app, if you select a room in the floor plan and submit a request and then immediately make a second request using the same floor plan, the floor plan does not lock up and the rooms on the floor plan remains selectable. (Tri-63712-IJ22930)
Workflow	If a record ID contains more than 10 digits, it can now be used to update metadata fields such as UPDATED_BY or CREATED_BY without causing an SQL exception. (Tri-55265-IJ10952)
Workflow	The description of the Workflow Future Agent was updated in the <i>IBM TRIRIGA Tuning</i> article and the <i>IBM TRIRIGA Application Platform 3 Installation and Implementation Guide</i> . The text now indicates that the Workflow Future Agent is a lightweight agent that processes actions from a workflow that have set up to trigger at a future date, it should always be turned on, and it is used by many applications including, but not limited to, BIM, Job Scheduling, Reserve and Lease. (Tri-61865-IJ20959)
Workflow	The new MilliSecondsFromDuration system formula that can be called from an extended formula returns the accurate milliseconds for a duration. (Tri-62149-IJ22014)

Properties Files

The following changes can be made to the TRIRIGAWEB.properties file. For more information, go to the IBM TRIRIGA Application Platform 3 Knowledge Center and select *Installing IBM TRIRIGA Application Platform>Configuring the platform>Properties files*.

Area of Change	Description
EXCLUDED_TREE_HIERARCHY_CACHE_TYPES	<p>When there are a large number of records in a hierarchy, a smaller set of statements is used to build the tree in the background when a large change has occurred. The new EXCLUDED_TREE_HIERARCHY_CACHE_TYPES property in TRIRIGAWEB.properties can be used for a Comma delimited list of tree types to exclude from hierarchy cache events.</p> <p>This property prevents hierarchy types from being synchronized across servers. For example:</p> <p>EXCLUDED_TREE_HIERARCHY_CACHE_TYPES=triCostCode (Tri-65710-IJ24801)</p>
PERFORMANCE_LOGGING_THRESHOLD	<p>Performance logging now only logs state transition, SQL, report, and extended formula operations that are longer than X, where X is defined by the PERFORMANCE_LOGGING_THRESHOLD property in the TRIRIGAWEB.properties file. The default value is 100 milliseconds. If the property is invalid or missing, performance logging logs everything. (Tri-56739)</p>
WF_INSTANCE_SAVE_24HR_THRESHOLD	<p>The new WF_INSTANCE_SAVE_24HR_THRESHOLD property in the TRIRIGAWEB.properties file indicates when the platform should stop saving workflow instances.</p> <p>When workflow instances are saved, the platform stops saving if the number of saved instances exceeds a certain threshold. Administrators can use this feature to set an upper bound for how many workflow instances are saved in a 24-hour period. This setting prevents the Platform Maintenance Scheduler (Cleanup Agent) from being impacted by excessive workflow instance data.</p> <p>The default value is 1000. To override the default value, set WF_INSTANCE_SAVE_24HR_THRESHOLD=#### where #### is a positive integer, and restart the server. This must be set on each server in the environment. Do not set this value to a number larger than 10000 or the Platform Maintenance Scheduler (Cleanup Agent) might take a long time to remove the debugging records.</p> <p>Default value = 1000 Maximum value = 10000</p> <p>WARNING: The point of saving workflow instances is to debug workflows in development mode. It is not to be used for auditing or debugging in production. Saving large numbers of workflow instances has severe performance, storage, and</p>

Area of Change	Description
	cleanup issues, as you would expect with collecting such a large volume of metadata. (Tri-64195-IJ23090)

Related Documentation

You will find the documentation for this release in the IBM TRIRIGA 10 Knowledge Center at http://www.ibm.com/support/knowledgecenter/SSFZ3_10.5.3/com.ibm.tri.doc/product_landing.html and in the IBM TRIRIGA Application Platform 3 Knowledge Center at http://www.ibm.com/support/knowledgecenter/SSHEB3_3.5.3/com.ibm.tap.doc/product_landing.html. The documentation can be found in online IBM Knowledge Center topics, or in PDF files, or both.

Additional documentation, previously available in the IBM TRIRIGA wiki, is available in the IBM TRIRIGA Application Platform 3.5.3 Knowledge Center. For more information, see the [IBM TRIRIGA Release Information](#) page on IBM 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.

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.

19-21, Nihonbashi-Hakozakicho, Chuo-ku
Tokyo 103-8510, 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.

Licenseses 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
224A/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.

Privacy Policy Considerations

IBM Software products, including software as service solutions, (“Software Offerings”) may use cookies or other technologies to collect product usage information, to help improve the end user experience, to tailor interactions with the end user or for other purposes. In many cases no personally identifiable information is collected by the Software Offerings. Some of our Software Offerings can help enable you to collect personally identifiable information. If this Software Offering uses cookies to collect personally identifiable information, specific information about this offering’s use of cookies is set forth below.

This Software Offering does not use cookies or other technologies to collect personally identifiable information.

If the configurations deployed for this Software Offering provide you as customer the ability to collect personally identifiable information from end users via cookies and other technologies, you should seek your own legal advice about any laws applicable to such data collection, including any requirements for notice and consent.

For more information about the use of various technologies, including cookies, for these purposes, see IBM’s Privacy Policy at www.ibm.com/privacy and IBM’s Online Privacy Statement at <http://www.ibm.com/privacy/details/us/en> in the section entitled “Cookies, Web Beacons and Other Technologies.”

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](http://www.ibm.com/legal/copytrade.shtml)” at www.ibm.com/legal/copytrade.shtml