

IBM TRIRIGA Application Suite
Version 11 Release 3

IBM TRIRIGA
Version 11 Release 3

IBM TRIRIGA Application Platform
Version 4 Release 3

Release Notes



Note

Before using this information and the product it supports, read the information in “Notices” on page 39.

This edition applies to version 11, release 3 of IBM® TRIRIGA® Application Suite; version 11, release 3 of IBM TRIRIGA; and version 4, release 3 of IBM TRIRIGA Application Platform and to all subsequent releases and modifications until otherwise indicated in new editions.

© **Copyright International Business Machines Corporation 2022. All rights reserved.**

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

Contents

RELEASE NOTES	5
What's New in This Release	6
IBM TRIRIGA APPLICATION SUITE 11.3 ENHANCEMENTS	8
IBM TRIRIGA 11.3 Enhancements	8
IBM TRIRIGA Application Platform 4.3 Enhancements.....	9
IBM TRIRIGA CAD Integrator/Publisher 13.3 Enhancements	11
IBM TRIRIGA Connector for BIM 4.3 Enhancements.....	11
prant Installation and Upgrade Information	12
IBM TRIRIGA Supported Versions and IBM TRIRIGA Application Platform Compatibility Matrix.....	16
IBM TRIRIGA Application Object Migration Packages	17
IBM TRIRIGA APPLICATION SUITE 11.3 IMPORTANT INFORMATION, KNOWN LIMITATIONS, AND CHANGES	18
IBM TRIRIGA 11.3.....	18
Important Information.....	18
Known Limitations	19
IBM TRIRIGA 11.3 Changes.....	22
IBM TRIRIGA 11.3 Patch Helper Workflows.....	28
IBM TRIRIGA Application Platform 4.3	28
Important Information.....	29
Known Limitations	29
IBM TRIRIGA Application Platform 4.3 Changes	31
IBM TRIRIGA Application Platform 4.3 Properties Files.....	35
IBM TRIRIGA CAD Integrator/Publisher 13.3	35
Important Information.....	35
Known Limitations	35

IBM TRIRIGA CAD Integrator/Publisher 13.3 Changes	36
IBM TRIRIGA CAD Integrator/Publisher 13.3 Properties Files.....	36
IBM TRIRIGA Connector for BIM 4.3	36
Important Information.....	36
Known Limitations	36
IBM TRIRIGA Connector for BIM 4.3 Changes	37
RELATED DOCUMENTATION	38
SUPPORT.....	38
NOTICES	39
Privacy Policy Considerations.....	40
Trademarks	40

Release Notes

Welcome to the October 2022 release of IBM® TRIRIGA® 11.3 Application Suite, IBM TRIRIGA, IBM TRIRIGA Application Platform 4.3, IBM TRIRIGA CAD Integrator/Publisher 13.3, and IBM TRIRIGA Connector for BIM 4.3.

This release includes the following installation options:

- For TRIRIGA Application Suite (TAS) customers, a new installation of TAS is deployed from within Red Hat OpenShift by using the IBM TRIRIGA Application Suite operator.
- For TAS customers, the TRIRIGA Application Platform can be upgraded from within Red Hat OpenShift by using the IBM TRIRIGA Application Suite operator.
- For non-TAS customers, a new installation of IBM TRIRIGA Application Platform 4.3 and IBM TRIRIGA Applications 11.3 by using the TRIRIGA installer.
- For non-TAS customers, an IBM TRIRIGA Application Platform-only upgrade installation from 3.0.x or later to IBM TRIRIGA Application Platform 4.3 using the TRIRIGA installer.

The IBM TRIRIGA Applications can be incrementally upgraded to 11.3 Applications after the platform upgrade is completed. For more information about specific scenarios, view the [Upgrading](#) information on IBM Documentation for IBM TRIRIGA Application Platform 4.3.



Note – The IBM TRIRIGA wiki information, formerly located on developerWorks, is migrated to the [IBM Docs for IBM TRIRIGA Application Platform 3.8](#). As this wiki content is gradually converted and merged into ongoing releases of the 4.x platform and 11.x application content, you can access this link to 3.8.

For more information, see the [IBM TRIRIGA Release Information](#) page on IBM Support.

These release notes include the following:

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

In addition to this document, this release includes the following files, available from the [Release Notes](#) page on IBM Support:

- The enhancements, important information, known limitations, changes, and property file changes for this release are included in spreadsheet form in an XLS file. You can use the column filters to view only the information you need.
- A separate version of the release notes that is specific to Lease Accounting includes documentation of Lease-related new functions. This document also compiles the release notes related to Lease Accounting from version 10.5.3 to the present.



Warning – CUSTOMERS SHOULD CONSULT WITH THEIR ACCOUNTING ADVISORS AND IMPLEMENTATION PARTNERS TO DETERMINE WHAT IMPACT, IF ANY, MAY RESULT FROM THE CHANGES IN THIS RELEASE/FIX PACK/OM PACKAGE. THIS RELEASE/FIX PACK/OM PACKAGE MAY CONTAIN CHANGES TO CERTAIN CALCULATION MODELS WHICH MAY AFFECT PREVIOUSLY PUBLISHED FINANCIAL RECORDS AND HOW FUTURE RECORDS ARE CALCULATED.

What's New in This Release

With IBM TRIRIGA Application Suite 11.3, IBM TRIRIGA Portfolio Data Manager 11.3, IBM TRIRIGA Application Platform 4.3, IBM TRIRIGA CAD Integrator/Publisher 13.3, and IBM TRIRIGA Connector for BIM 4.3, IBM TRIRIGA continues to add valuable functionality, fix defects, and reduce the effort necessary for new and existing customers to implement our products.

Starting with this release, TRIRIGA Application Suite, TRIRIGA Portfolio Data Manager, TRIRIGA Application Platform, TRIRIGA CAD Integrator/Publisher, and TRIRIGA Connector for BIM are now released as a Continuous-Delivery (CD) offering with regular update packages. For additional information about the CD support lifecycle policy for TRIRIGA Application Suite, see the [Supported Versions for IBM TRIRIGA Products](#) website.

IBM TRIRIGA Application Suite (TAS) 11.3 is an integrated workplace management system that enables access to a full set of real estate and facilities applications, with flexibility to start with any real estate or facilities discipline and expand into other areas. TAS offers:

- Increased visibility into underperforming facilities, resources, and process
- Improved control of facility occupancy and operating costs
- Engaging workplace services for building occupants
- Automated activities that are designed to increase efficiency and organizational effectiveness of real estate, facility management, and environmental sustainability functions within mid-sized and large-sized commercial and public enterprises

New in TRIRIGA Application Suite 11.3

- This release of TRIRIGA Application Suite includes the following connectors, delivered through IBM App Connect, which is included with TRIRIGA Application Suite licensing in a restricted-use capacity:
 - Connector for Maximo Application Suite delivers bidirectional synchronization of portfolio data, including people, places, and assets for consistent operations; near real-time service request and work order routing for coordinated operations; and near real-time project task to work order synchronizations to enable streamlined operations.
 - Connector for Envizi facilitates synchronization of space data from TRIRIGA to Envizi to enable energy usage calculations across enterprise facility portfolios with advanced analytics by location, by area, and by occupant.
- This release of TRIRIGA Application Suite also includes the updates provided in the stand-alone delivery of IBM TRIRIGA Portfolio Data Manager 11.3, IBM TRIRIGA Application Platform 4.3, and IBM TRIRIGA CAD Integrator/Publisher 13.3.

For additional information on the TRIRIGA Application Suite, see [IBM Documentation](#).

New in TRIRIGA Portfolio Data Manager 11.3

- New functionality supports the key provisions, accounting treatment, and disclosure reporting requirements of GASB 96 for subscription-based information technology arrangements (SBITAs) for state or local government users in the US. The new functionality covers terminology, lease classification, determining and reassessing lease term, transitioning existing SBITAs, initial recognition and subsequent accounting, remeasurements and reassessments, impairments, index adjustments, terminations and expirations, and disclosure reporting.
- With a governmental user, TRIRIGA enables the lease accountant to apply the required accounting treatment in TRIRIGA:
 - At the commencement of the subscription term, the government user recognizes a subscription liability and an intangible right-to-use asset (subscription asset). The subscription liability is measured at the present value of payments that are expected to be made during the subscription term.

- Subscription payments result in the reduction of the subscription liability and recognition of interest expense.
- The subscription asset is measured as the sum of the initial measurement of the subscription liability, initial implementation costs, and subscription payments made prior to commencement, subtracting any SBITA vendor incentives received from the SBITA vendor at the commencement of the subscription term.
- The subscription asset is amortized over the shorter of the subscription term or the useful life of the underlying IT assets.
- The subscription asset is adjusted by the same amount as the corresponding subscription liability when that liability is remeasured. However, if that change reduces the carrying value of the subscription asset to zero, any remaining amount is reported as a gain in the resource flows statement.
- In regard to transitioning to GASB 96, TRIRIGA enables the lease accountant to recognize and measure the assets and liabilities resulting from SBITAs by using the facts and circumstances that existed at the beginning of the fiscal year in which this Statement was implemented. If applied to earlier fiscal years, those assets and liabilities can be recognized and measured by using the facts and circumstances that existed at the beginning of the earliest fiscal year restated. This is the same transition requirement used in Statement 87, Leases as amended.
- If restatement for prior fiscal years is not practicable, the cumulative effect, if any, of applying GASB 96 should be reported as a restatement of beginning net position (or fund balance or fund net position, as applicable) for the earliest fiscal year restated.
- In regard to disclosure reporting for GASB 96, TRIRIGA enables a government to disclose descriptive information about its SBITAs other than short-term SBITAs, such as the amount of the subscription asset, accumulated amortization, other payments not included in the measurement of a subscription liability, principal and interest requirements for the subscription liability, and other essential information.
 - TRIRIGA Reserve enhances reservable room provisioning with new Microsoft Exchange PowerShell script processing that enables administrators to supply custom PowerShell script templates containing parameters that can be replaced with TRIRIGA record values.
 - Minor enhancements and fixes.

New in TRIRIGA Application Platform 4.3

1. Minor enhancements and fixes

New in TRIRIGA CAD Integrator/Publisher 13.3

- Minor enhancements and fixes

IBM TRIRIGA Application Suite 11.3 Enhancements

The following enhancements apply to IBM TRIRIGA Application Suite 11.3 unless otherwise noted.

IBM TRIRIGA 11.3 Enhancements

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

Area of Impact	Description
Exchange Integration	A new functionality—Exchange Integration Manager—for generation of PowerShell scripts to manage reservable room integration with Exchange is added to the Foundation app. It provides full control of the structure of the PowerShell scripts by using user-provided templates. It creates PowerShell scripts that can be used when TRIRIGA is integrated with more than one Exchange server. (Tri-84083)
Facilities Projects	In a Program Record, for each Funding Request created for Facility Project type, the "Total Funding" column is computed and displayed in the Project section inside the Program record. The total fund will also be visible on the Facility Project record > General Tab > Summary section. (Tri-82878)
Graphics	The layers combo box with active label style has now been added to the Attributes tab. Selecting a label style will display labels on the drawing. (Tri-82654)
Graphics	The Drawing Manager in Dynamic Space Planning will now have the Layers tab. Selecting or clearing the layer check box shows or hides it. (Tri-82652)
Graphics	The Drawing Manager in Dynamic Space Planning will now support the Dark theme. (Tri-83143)
Lease - Asset and Real Estate	<p>You can now create the Lease Summary Balance records in bulk through Data Integrator by using:</p> <ul style="list-style-type: none"> Module = triFinancial Business Object = triLeaseSummaryBalance Import Type = Add Action = triCreateDraft File Type = Tab Delimited <p>Before you import data, you must fill the required information in the attached Excel file from Offline Content, triLeaseSummaryBalance. After completing the file, save it as a Tab Delimited Text file.</p> <p>Note: If the information is for Asset Lease records, update the Excel file, cell Z2 to %%triContract:triAssetLease%%.</p> <p>Next, import the filled Excel file in TRIRIGA Data Integrator. After the import is</p>

Area of Impact	Description
	<p>done, the patchhelper workflow (triPatchHelper - triCalculate - 11.3 - Update Currency Conversion Rates on Lease) must be executed to validate and update some currency fields on the lease. To run the patchhelper, use the "UpdateFXRate" string.</p> <p>Also, if the Data Utility is used to create lease summary balance record and activate the LSB, the currency fields on the lease will be validated and updated. (Tri-82518)</p>

IBM TRIRIGA Application Platform 4.3 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
Administrator Console	A new query called "Q42 Portals with Auto Refresh" is added to the audit query xml files at TRIRIGA_INSTALL_FOLDER/userfiles/xml. When imported and run in the TRIRIGA Admin Console database query tool, the query returns all portals and their corresponding portal sections that have the "Auto Refresh" check box selected. (Tri-83778)
Globalization	The "One moment please" loading message is now translated to all corresponding languages. (Tri-77656)
Infrastructure	All the IBM TRIRIGA Application Suite routes are annotated with a default timeout of 600 seconds (600s). You can override this value by using the optional attribute spec.rt.timeout of the custom resource and a string with the structure <timeout_value><time_unit>, where <timeout_value> is any non-zero unsigned integer number and the supported <time_unit> are microseconds (us), milliseconds (ms), seconds (s), minutes (m), hours (h), or days (d). (Tri-85046)
Navigation	Resolved an issue related to the alignment of the Help, About, and User Profile icons in the navigation header. (Tri-82983)
OAuth	Changes to the OAuth profile now take effect immediately. It is no longer necessary to wait for the existing tokens to expire. (Tri-83011)
Operator	<p>Starting with version 11.3, TRIRIGA Application Suite has been enabled for you to create additional dedicated TRIRIGA Workflow Agents by using the optional wfagents property of the spec of the TRIRIGA CR.</p> <pre> apiVersion: tririga.ibm.com/v1 kind: Tririga metadata: name: my-tririga namespace: ibm-tas spec: ... </pre>

Area of Impact	Description
	<pre> wfagents: - name: dwfa1 members: - class: user name: myUserName1 - class: user name: myUserName2 - class: group name: myGroupName1 - class: group name: myGroupName2 - name: dwfa2 members: - class: user name: myUserName3 - name: dwfa3 members: - class: group name: myGroupName3 ... </pre> <p>Each item in the spec.wfagents array represents a dedicated workflow agent. The spec.wfagents[i].name string is the name of the dedicated workflow agent and the spec.wfagents[i].members array is the list of users and groups to which the workflow agent is dedicated. Set the spec.wfagents[i].members[j].class property equal to user if the item represents a user. If the item represents a group, set the spec.wfagents[i].members[j].class property equal to group. In both cases, the spec.wfagents[i].members[j].name property is the name of the user or of the group. If the spec.wfagents array is present, it cannot be empty, that is, at least one item must be defined. Also, the members array of each one of the included items cannot be empty, that is, at least one user or group must be assigned to the dedicated workflow agent.</p> <p>Each spec.wfagents[i].name must have a unique name and must be part of the dedicated WFAgent POD.</p> <p>Best Practices:</p> <ul style="list-style-type: none"> - Restrict a user to only a single WFAgent. Sharing users across multiple WFAgents is not recommended because all workflows should be executed by one process. - Usage of groups is possible but not recommended. Make sure that all users are added to the group before creating a dedicated Workflow Agent. If new users are added to the group, the WFAgent POD must be restarted to pick up new changes. (Tri-76176)
Portals	<p>If a portal that is used as a “my profile” home page is deleted and an inline application navigation item with the same name exists, the navigation item will be used as the home page. (Tri-82990)</p>
Reserve	<p>TRIRIGA can now simultaneously integrate with multiple exchange servers. Room resources might exist on any integrated exchange server. Servers are added to</p>

Area of Impact	Description
	TRIRIGA by creating an OAuth profile by granting access to the server and specifying the email domain to be handled by the server. (Tri-79762)
Reserve	A new tab for the Reserve SMTP agent is added to the Admin Console. Some settings from TRIRIGAWEB.properties are moved to the new Admin Console tab. The EXCHANGE_DOMAIN and TRIRIGA_RESERVE_SUB_DOMAIN properties were overloaded. Their use by the Reserve SMTP agent is moved to the new Admin Console tab. Their use by Exchange PowerShell script generation is moved to the new Exchange Integration Manager app. The deprecated Exchange Resource Admin still uses the values from the TRIRIGAWEB.properties file. (Tri-82519)
Reserve	Pagination is now displayed on the header for foundation reserve queries. "Check More" and "Back" links are displayed where applicable. Also, values for Total, Checked, and Available queries are displayed. The maximum value available in the Show drop-down list is 100. Limitations on the results returned that existed in the previous platform releases are now removed. (Tri-78171)
Workplace Services Perceptive App	The UX Availability tree grid view now supports pagination. The TRIRIGA web property, AVAILABILITY_SECTION_ROW_LIMIT, is now removed to remove any limitation on the number of rows in Availability sections. Also, the row heights in the UX Availability tree grid view is increased on initial load to show the radio button in the single select column. In the previous releases, the radio button was not displayed until the single select column was selected to increase the row height. (Tri-82324)

IBM TRIRIGA CAD Integrator/Publisher 13.3 Enhancements

No enhancements concerning IBM TRIRIGA CAD Integrator/Publisher are added for this release. For enhancements related to previous releases, see the [Release Notes](#) page on IBM Support.

IBM TRIRIGA Connector for BIM 4.3 Enhancements

The following enhancement to the IBM TRIRIGA Connector for BIM is in this release:

Area of Impact	Description
Connector for BIM	You can now select triID as a field to sync while building a parameter mapping for Space ID, and you can also update it. (Tri-83446)
Connector for BIM	Now, specifications are not automatically loaded when you open the Families form and select the specification type on the "Add New" tab. You must explicitly load specifications by expanding the Specifications table header. In addition, you can choose to not load retired specifications by clearing the Load Retired check box. (Requires Platform 4.3). (Tri-78130)

Important Installation and Upgrade Information

Pre-10.3.0 requires modification scripts

If you are upgrading from a pre-10.3.0 version of the application and have not previously done so, apply the SQL script to update the system fields with sub-attribute type of CreatedDateTime to CreatedDateTime (Number) and ModifiedDateTime to ModifiedDateTime (Number). Scripts for Oracle and Microsoft SQL Server are located on the upgrade disk in the \Scripts folder. Instructions are within the scripts.

You can apply the script regardless of the platform version, but you **MUST** apply the script before upgrading the Application.

For Oracle, run SetVarcharColsToNumeric_ORCL.sql.

There are two scripts for MSSQL, SetVarcharColsToNumeric_MSSS.sql and SetVarcharColsToNumeric_MSSS_Publish_BO.sql. Run SetVarcharColsToNumeric_MSSS.sql first. When it completes, run SetVarcharColsToNumeric_MSSS_Publish_BO.sql.

Do not delete OM packages for pre-10.5.0 application upgrades

If you imported pre-10.5.0 application upgrade packages into an environment on platform version 3.5.0 or 3.5.0.1, please do not delete the packages from the Object Migration tool. Additionally, do not delete the notifications related to the import of these packages.

Object Label cleanup will run the first time the AppServer is started on platform version 3.5.2 and higher to ensure that the Root object label is applied appropriately to modules, business objects, forms, queries, and workflows. Packages and notifications are used for tracking purposes to clean object labels for modules, business objects, forms, queries, and workflows that are incorrectly given the In Progress or ObjectLabelInProgress object label when you did not modify them.

If notifications related to the imports have been deleted, the object label cleanup will still run, but any in progress labels given to an object by a manual modification will be changed to the Root object label, if the manual change happened on the same day as the pre-10.5.0 application upgrade on platform version 3.5.0 or 3.5.0.1, and by the same user who applied the upgrade.

If application upgrade packages have been deleted from the Object Migration tool, the object label cleanup will not be able to ensure that the Root object label is applied appropriately to objects imported by those deleted packages.

Pre-10.4.0 localization changes require republish of business objects

If version 3.5.x or higher is your first version of TRIRIGA Application Platform, please disregard this release note. If you are upgrading from 3.4.x/10.4.x please read this release note. If you upgraded the platform to 3.4.x but did not also upgrade the application to 10.4.x, many business objects must be republished to support localization changes.

You can do one of the two options. Make sure you do either option **BEFORE** the installation of TRIRIGA Application Platform 3.5.0 or higher.

NEVER do either option after upgrading to 3.5.0 or higher.

Option 1: To republish all the business objects, you can follow the instructions given in the Publish_all_BOs_For_localization_MSSS.sql or Publish_all_BOs_For_localization_ORCL.sql scripts, which are found in the scripts directory of the Application Upgrade disk. You use the ORCL script for DB2.

Option 2: You can choose to manually republish the business objects. The following business objects, listed with business object name first and module name in parentheses, need to be republished:

Classification (Classification)
Cost Code Container (triCostCode)
Data Utilities (Data Utilities)
Document Container (Document)
Geography (Geography)
Group (Group)
Group Member (Group)
Holidays (System)
Location (Location)
Organization (Organization)
Permission Line Item (triPeople)
Polylining Standard (Polylining Standard)
Project Group Container (Group)
ROOT (Document)
triAnalyticEvent (triAnalyticEvent)
triAnalyticItem (triAnalyticItem)
triAnalyticProcess (triAnalyticProcess)
triAnalyticRule (triAnalyticRule)
triApplicationSettings (triSetup)
triApproval (triRouting)
triApprovalRule (triSetup)
triAssetEvent (triAnalyticEvent)
triAssetLink (triAsset)
triBidResponse (triProposal)
triBuildingSystem (triBuildingSystem)
triBuildingSystemLink (triBuildingSystem)
triCatalog (triCatalog)
triCatalogLink (triCatalog)
triCiApplicationDefinition (triCiApplicationManager)
triCiAssociatedObject (triCiApplicationManager)
triCiHierarchyNode (triCiHierarchyNode)
triContactRole (triIntermediate)
triContract (triContract)

triContractLink (triContract)
triCostCode (triCostCode)
triCostItemLink (triCostItem)
triCTQAssessment (triIntermediate)
triDataAttributeItemIntermediate (triIntermediate)
triDesignLink (triDesign)
triEnergyRatingErrorLog (triLog)
triEnergyStarValidationItem (triIntermediate)
triExternalMailServer (System)
triGeographyLink (Geography)
triInspectionLink (triInspection)
triInventoryLocation (triInventoryLocation)
triInventoryLocationLink (triInventoryLocation)
triItemLink (triItem)
triKeySecurity (triKeySecurity)
triLeaseAbstract (triContract)
triLeaseAbstractAction (triActionForm)
triLocationEnergySpace (triIntermediate)
triLocationLink (Location)
triNotificationDetails (triRouting)
triOSCREUtil (Data Utilities)
triPeopleLink (triPeople)
triPermitLink (triPermit)
triPlan (triPlanning)
triPlannedSpace (Location)
triPlanning (triPlanning)
triPlanningConflictItem (triPlanningItem)
triPlanningEnvironment (triPlanning)
triPlanningPeriodItem (triPlanningItem)
triPlanningScopeItem (triPlanningItem)
triProductsAndServicesLink (triProductsAndServices)
triProjectCalcItem (triCalculationItem)
triProjectLink (triProject)
triProjectReport (triProgressReport)
triProjectUpdater (triActionForm)

triREContractLocations (triIntermediate)
triRequest (triRequest)
triRequestLink (triRequest)
triReservationGroup (triSetup)
triResource (triIntermediate)
triRetailCompany (triIntermediate)
triReview (triActionForm)
triReviewer (triIntermediate)
triScheduleTask (triTask)
triSpaceForecastItem (triPlanningItem)
triSpaceForecastSurvey (triPlanning)
triSpacePlan (triPlanning)
triSpaceScenario (triPlanning)
triSpecificationLink (triSpecification)
triSurveyQuestionResponse (triIntermediate)
triTaskLink (triTask)
triTaskResourceAllocation (triTaskAllocation)
Working Hours (System)
(Tri-128841, Tri-128369)

Java Development Kit

See information specific to Windows and Linux below.

Restriction: GNU OpenJDK is not supported and will not work with IBM TRIRIGA and the IBM TRIRIGA Application Platform installation program. The OpenJDK package should be completely uninstalled from the server.

Windows:

The IBM TRIRIGA installer for Windows runs on an internally bundled JVM (IBM JDK 8). The IBM TRIRIGA installer for Windows also allows you to install this bundled JVM on your local machine to use with the TRIRIGA runtime.

Linux:

The Java Development Kit (JDK) must be installed before you run the IBM TRIRIGA Application Platform installer. The JDK must be installed before you run the IBM TRIRIGA application. This can be downloaded at <https://developer.ibm.com/javasdk/downloads/sdk8/> and is licensed and appropriate for production use on Linux and AIX. Java must be running during an IBM TRIRIGA Application Platform installation. You must set the JAVA_HOME environment variable to the path of the JDK before you start the IBM TRIRIGA Application Platform installation program.

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.

IMPORTANT NOTICES: IBM no longer supports IBM Tivoli Directory Integrator. Migrate your TDI assemblies to a supported technology, such as Pentaho. As of version 3.7.0, the IBM TRIRIGA Application Platform no longer ships with or supports TDI assemblies.

As communicated in the IBM TRIRIGA Application Platform 3.7.0 Compatibility Matrix, IBM does not support Oracle WebLogic with IBM TRIRIGA Application Platform version 3.7.0 and later. Please see the Compatibility Matrix for the full listing of compatible products and versions.

IBM TRIRIGA Application Object Migration Packages

TRIRIGA delivers application object migration packages:

1. Incremental Package: Each application release is a separate file name TRIRIGA_.zip. The latest incremental package is for IBM TRIRIGA 11.3.
2. For 11.3 application release, another object migration package, TRIRIGA_11_3_SetupData_202210071800.zip, contains modified or new sets of journal entry event setup templates, journal entry setup templates and their input calculations. Each of the journal entry event setup template and journal entry setup template has the Template Version as 11.3. They will be created newly in your system.

For Lease Accounting Customers upgrading from 11.2/11.3 to 11.5:

Customers upgrading (from version 11.2/11.3 to 11.5) for the first time must import the Pre-Process OM package by completing the following steps. Do not create any lease payments until the following steps are completed.

1. Import the Pre-Process OM package, TRIRIGA_11_4_Lease_Pre_Process_202302150930v2.zip and run patch helper string “11.4LeasePreProcess”. This patch helper will copy the values of the fields under the Expected Payment section to the Temp Expected Payment section of the Payment Line Item.



Note – A newer version of the patch helper workflows with improved performance is now available. To get the object migration package “TRIRIGA_11_4_1_Lease_Pre_Process_202406041430.zip”, contact IBM TRIRIGA customer support. This is not applicable if step 1 was completed with the original object migration package.

2. Verify whether the Temp Expected Payment section has field values populated correctly.
3. Import **TRIRIGA_11_5_CumulativeAfter_11_2_202307051000.zip** OM package. 11.5 patch helper will automatically execute 11.3, 11.4, and 11.5 patch helpers. If 11.3 and 11.4 patch helpers already ran, then those will not be executed again.
4. This step requires a database administrator to create an index on **TRIPLERECORDIDTX**, **TRIPAYMENTBREAKDOWN TYP**, **SYS_PROJECTID**, **SYS_GUIDID**, **SYS_OBJECTID**, and **TRIRETROACTIVEBL** in ascending order for the **T_TRIPAYMENTBREAKDOWN ITEMS** table.
5. Apply patch helper string “11.4LeasePostProcess”. This patch helper will create Payment Breakdown Items for each Payment Line Item using the values from the Temp Expected Payment section (This section can be found in System tab). This is a one-time process.



Note – If you don't perform this step, the amounts on the payments will be wiped out. A newer version of the patch helper workflows with improved performance is now available. To get the object migration package “TRIRIGA_11_4_1_LAIFP00_202406031530.zip”, contact IBM TRIRIGA customer support. This is not applicable if the post-upgrade process was completed with the original object migration package.

6. Import the TRIRIGA_11_5_CumuAfter_11_2_SetupData_202307051000.zip OM package. After importing the package, apply patch helper string “11.5RetireOldJE”.

IBM TRIRIGA Application Suite 11.3 Important Information, Known Limitations, and Changes

The following important information, known limitations, and changes apply to IBM TRIRIGA Application Suite 11.3 unless otherwise noted.

IBM TRIRIGA 11.3

This release includes important information, known limitations, and changes to IBM TRIRIGA.

Important Information

The following item is important information concerning IBM TRIRIGA that is newly added for this release. For Important Information related to previous releases, see the [Release Notes](#) page on IBM Support.

Area of Impact	Description
Reserve Perceptive App	If you create a meeting by using the TRIRIGA Reserve Perceptive app, do not use the "all-day" option especially when Reserve is integrated with Microsoft Exchange. Microsoft Exchange treats "all-day" meetings as floating meetings with variable start and end times that are based on the user's time zone. In general, TRIRIGA treats "all-day" meetings as 24-hour meetings based on the organizer's time zone. However, it is not a best practice to reserve shared resource for 24-hour increments. (Tri-82537)
Reserve Perceptive App	When you create a series of reservations without resolving exceptions for unavailable occurrences, the declined tag for those unresolved exception occurrences will not be displayed. However, the declined tag will be displayed after you refresh the page. (Tri-81733)
Reserve Perceptive App	When you update the catering order for a series of reservations, it overrides catering orders of the exception occurrences of the series. If you want to add or modify catering orders for any of the occurrences, you must update the catering items of that occurrence. (Tri-83336)
Reserve Perceptive App	If you create a workspace reservation for a room that has a room usage fee associated with it, the reservation cost summary will not be displayed in the Reserve Perceptive app. It will be displayed in the email notification that you receive after reserving the room. (Tri-81477)
Reserve Perceptive App	When you update multiple room reservations by removing one or more rooms, the removed rooms will be displayed as crossed out. However, the removed rooms will not be displayed after you refresh the page. (Tri-82113)

Area of Impact	Description
Reserve Perceptive App	Like the Foundation app, when you create a series of reservations for a room without resolving exceptions, the unresolved instance do not display the status as declined immediately after being created. It will take some time to process the instances. Refreshing the Reserve Perceptive app after the instances are processed will display the room status correctly. (Tri-81742)
Workplace Services Perceptive App	In the new Reserve Perceptive App, you can release a room before checking in. However, this enhancement is not available in the Workplace Services Perceptive App (WPS) portal. Clicking on the reservation in the WPS portal will open the reservation in the new Reserve Perceptive App where you can access this feature. (Tri-78878)

Known Limitations

The following items are known limitations concerning IBM TRIRIGA that are newly added for this release. For Known Limitations related to previous releases, see the [Release Notes](#) page on IBM Support.

Area of Impact	Description
Reserve	In the Reserve Perceptive app, after creating a series with a resolved exception, only the resolved room gets included in the exceptional instance. But in the Foundation app, after creating a series with a resolved exception, two rooms get included in the resolved exception instance displaying as declined and accepted rooms. (Tri-84607)
Reserve	The new Microsoft Outlook desktop client version does not show TRIRIGA Room Reservation Outlook add-in when in read-only mode. Users must edit the event to see the add-in. (Tri-79689)
Reserve Perceptive App	When users update online meeting info for reservations that are already created, attendees will not receive the updated info. (Tri-82440)
Reserve Perceptive App	When you create a series reservation with an exception from the Reserve Perceptive app and then try to resolve it from Outlook by clicking the "Remove room" button in the Room Search add-in, the room is not fully eliminated from the Location field. The workaround is to manually remove the room by clicking the cross (x) icon next to the room in the Location field. You can then add another available room for that day. (Tri-84224)
Reserve Perceptive App	Equipment orders for series exceptions are not displayed in the Room Reservation Perceptive App. To view the orders in the Foundation app, go to Requests > Manage Reservations > My Calendar and open the reservation. (Tri-84714)

Area of Impact	Description
Reserve Perceptive App	For the non-exchange reservations created from Reserve Perceptive app, the description added to the reservation is not displayed in the mail notifications for both organizer and attendees. However, the added description still exists in the Foundation app for the organizer. To view the description, go to Requests > Manage Reservations > My Calendar and then Open the reservation. (Tri-82047)
Reserve Perceptive App	If you add TRIRIGA rooms in Outlook, the agenda or event details page of the Reserve Perceptive app might not immediately display the rooms due to processing workflows. As a workaround, use the Refresh icon on the Agenda page to display the rooms. (Tri-81033)
Reserve Perceptive App	For all-day events (single/recurrence) created by using the Foundation app, no error notification is displayed after you click "Sync with Exchange" in the Reserve Perceptive app. However, the room calendar shows as Tentative for all-day reservations. It is recommended to avoid all-day reservation, instead use actual date and time to create reservations. (Tri-81257)
Reserve Perceptive App	While creating a room reservation, if the reservation time intersects two dates, then the "View available time" button is disabled while choosing date and time. (Tri-79588).
Reserve Perceptive App	<p>When a TRIRIGA reservation is created in any way that does not involve the Room Reservation Perceptive app or the Room Search add-in for Microsoft Outlook, TRIRIGA sends an email notification to the reservation owner with an attached .ics calendar event invitation that represents the reservation in TRIRIGA. This invitation initially shows as "Tentative" in the user's Outlook Calendar until the user chooses to "Accept" or "Decline" the invitation.</p> <p>From the Perceptive app, the user can see the reservation from TRIRIGA and has the option to sync this reservation with Microsoft Exchange by selecting "Sync with Exchange", which displays a similar entry in the user's Outlook Calendar for that reservation.</p> <p>At this point, the reservation owner sees two different Outlook Calendar entries for the same event: (1) one "Tentative" entry from the .ics invitation that the owner did not create in Exchange, and (2) one "Busy" entry that the owner created in Exchange from the Perceptive app. The reservation owner should "Decline" the .ics invitation. This does not affect the other entry. (Tri-82997)</p>
Reserve Perceptive App	When a reservation has booked a room where check-in is required and auto-cancellation is enabled and then replaces it with a room where check-in is not required and auto-cancellation is not enabled, it will still show an expiration countdown. This is a longstanding issue that is also found in the Foundation app. (Tri-75831)
Reserve Perceptive App	If you add catering items from separate menus, Purchase Orders will be generated by the system for each menu's vendor. The app only displays the ID of the first Purchase Order generated. This will be fixed in a future release. However,

Area of Impact	Description
	you can view the Purchase Orders generated by using the Foundation Reserve app. (Tri-83558)
Reserve Perceptive App	You cannot open the catering order on the Review page. To view the catering order details, click Edit and view the details on the Edit page. Alternatively, you can complete the reservation creation, open the reservation from agenda, and view the catering details on the Event details page of the reservation. (Tri-82514)
Reserve Perceptive App	In the React-based Reservation perceptible app, due to a third-party limitation, the tooltip of the List icon may overlap and obscure that of the Floor Plan icon. (Tri-69433)
Reserve Perceptive App	For delegate user's recurring reservation, the added online meeting and additional location information will not be displayed for the exception occurrences in the Reserve Perceptive app. However, the information still exists for the exception occurrences in Microsoft Exchange (Outlook). (Tri-81042)
Reserve Perceptive App	When you add catering items with a different currency to the catering order, the order total will directly add up the costs of the items. It will not convert the different currency to the default currency. It is recommended to add catering items with the default currency. (Tri-82489)
Reserve Perceptive App	When a reservation where check-in is required and auto-cancellation is enabled has an end time 12 am or later, checking for one day will not update the other day(s), but you are checked into the reservation. Use the Refresh icon on the Agenda page to update the view. (Tri-79590)
Reserve Room Search Add-in for Microsoft Outlook	Strict security settings in Google Chrome and Microsoft Edge browsers might prevent integration from working properly. In a future version of the product, configuration parameters will be added to TAS to enable the functionality. (Tri-81242)
Stacking Perceptive App	In the Stacking Perceptive app, when you drag-and-drop a stack bar in the stacking chart, horizontal scrolling might not be triggered when the bar is dragged to either end of the stacking chart. You can trigger it by dragging the bar to the left or right arrow area of the horizontal scroll bar. (Tri-58767)
Stacking Perceptive Apps	Users with read-only access to the Stacking Perceptive app cannot save any changes to the stack plan on the server. Users can create a new stack plan on their local machine. Also, users can drag and drop organization allocation bars but cannot save the newly created or revised stack plan. The Restore button restores a user's local copy of the stack plan from the server. (Tri-57491, Tri-57408)
Work Task Perceptive App	After downloading a document attached to an asset from a work task in the perceptible Work Task Management app, if the user returns to the Home page by clicking the Home button and opens the work task again, the page freezes. The workaround is to use the Back button of the browser instead of the Home button in the app. (Tri-75101)

Area of Impact	Description
Work Task Perceptive App	In the Work Task Perceptive app, after a task is created, the browser must be refreshed to display the updated status of the task. (Tri-81782)

IBM TRIRIGA 11.3 Changes

The following changes to IBM TRIRIGA are in this release:

Area of Change	Description
Approvals	Users belonging to the "Resolved When No Reports To Route To" group in the Approval record now have access to actions in the Approval form after they accept the Approval record. (Tri-75886-IJ39462)
Approvals	The "Resolved When No Reports To Route To" field in the Approval record is now populated correctly from an Approval template if it is available. (Tri-83704)
Approvals	<p>You can now add approval rules with the same sequence and person to different Approval Templates.</p> <p>If the name of the Approval Template changes, the new name is updated on all the associated approval rules after you click "Save".</p> <p>In the Approval Rule section, if you click "Remove", the selected approval rules will be removed. If you click "Save", all the removed approval rules will be deleted permanently. (Tri-84410)</p>
Capital Project Tasks	The "Modified By" field on the System tab of a Project and Task record will now be correctly updated if you click "Complete". (Tri-83565-IJ41853)
Contracts	<p>The following changes are implemented in the Import Contract section of the Standard Contract Change Order record:</p> <ol style="list-style-type: none"> 1. When the second Contract is added after adding the first Contract, the Contract Line items of the first Contract get disassociated after clicking 'Save' or 'Save & Close'. 2. Along with the first Contract, when the second Contract is added, if the Standard Contract Change Order record doesn't show associations of the two contracts, only the second contract will be associated. <p>(Tri-84318-IJ42732)</p>
Geography	When a name change is saved in a geography record, the system will update the Hierarchy Path and Reporting section on all descendent geographies with the new name. Buildings associated to the geography will also be updated with the new geography name. (Tri-83321-IJ41726)
Lease - Asset	When you add a clause by using the "Find Template" action, the "Section Category" field is now correctly populated. (Tri-82155)

Area of Change	Description
Lease - Asset and Real Estate	When you create a Purchase Option through the Option wizard, the "Purchase Price Effective Date" field is now populated on the created Purchase Option record. (Tri - 83975)
Lease - Asset and Real Estate	<p>For a GAAP Real Estate Lease or Asset Lease, the "NPV of Rent Obligation as % of FMV" field in the FASB Treatment and GAAP Classification sections is now mapped to the lease history.</p> <p>For an IFRS lease with Local Reporting Real Estate Lease, the "NPV of Rent Obligation as % of FMV" field in the GAAP Classification section is now mapped to the lease history. (Tri - 84459)</p>
Lease - Asset and Real Estate	When a non-rent payment schedule is adjusted, accounting schedules are no longer recalculated. (Tri-81485-IJ40339)
Lease - Asset and Real Estate	When a contract administrator performs a non-lease accounting amendment, removing a scheduled Rent payment with "Include in Amortization" check box selected in the clause, the payment schedule is no longer removed, and an attention message is displayed. (Tri - 81137)
Lease - Asset and Real Estate	The JE Setup templates named "Record Finance Lease - FX Adjustment of Gross Asset - Negative Asset Value" and "842 - Adoption Finance Lease - Accumulated Depreciation" have been updated. The templates will now display correct values in Journal Entries from the Finance Schedule. (Tri-84309)
Lease - Asset and Real Estate	<p>When you perform Accounting Revise > Data Revise on a lease that has the Accounting Start Date after the current date, only Accounting Cost Center, Asset Class, and Organization fields are editable. The other fields and sections are now read-only.</p> <p>Also, when you close the lease record form by clicking the Close (X) button, only Accounting Cost Center, Asset Class, and Organization fields are editable. The other fields and sections remain read-only. (Tri - 83749)</p>
Lease - Asset and Real Estate	<p>When you update a payment schedule, you can now make the following modifications:</p> <ol style="list-style-type: none"> 1. Update existing tax rates. 2. Add new tax rates. (Tri-80330-IJ39055)
Lease - Asset and Real Estate	Contract Currency values are available in Journal Entry DTO records. (Tri-81762)
Lease - Asset and Real Estate	On the Weighted Average Remaining Lease Term and Discount Rate report and Weighted Average Remaining Lease Term and Discount Rate for Local Reporting report, the Lease Liability Weight, Remaining Lease Payments

Area of Change	Description
	Weight, Weighted Average Term, and Weighted Average Rate columns no longer show scientific notation formatted values. (Tri-81372)
Lease - Asset and Real Estate	On an Operating lease, if you modify the lease after it has been impaired, the Accrued Liability now comes down to 0. (Tri - 82525)
Lease - Asset and Real Estate	While making amendments to the Payment Line Item records, the Tax Breakdown section has been made read-only. (Tri-81461)
Lease - Asset and Real Estate	While issuing an index adjustment on a clause that has minimum percent, the Expected Amount on Payment Line Items are calculated correctly. (Tri-82776-IJ41203)
Lease - Asset and Real Estate	In Lease, the Accumulated Gain/Loss column in Accounting Schedules will be calculated correctly for multiple impairments. (Tri-82140)
Lease - Asset and Real Estate	The Negative Asset field in the Contract Attribute form is now cleared when the accounting schedule is re-calculated more than once. This happens only when the Local Reporting Schedule check box is not selected for a lease. (Tri - 81390)
Lease - Asset and Real Estate	The History tab of a Real Estate and Asset Lease displays Created Time of Current and Previous Amendments. (Tri-83335-IJ41672)
Lease - Asset and Real Estate	When a lease with multiple recurring payment schedules is created, the "PostPayScheGen" workflow is now processed only once. (Tri-82527)
Lease - Asset and Real Estate	<p>The Association filter now correctly maps to several queries that are part of navigation items belonging to the Contract Management module. This will result in the real set of records being displayed to the end users on their home page or various other lease-related portals.</p> <p>Some of the navigation examples are as follows: Home > RE Contract Payables > Overdue Payments Home > Asset Lease Payables > Overdue Payments for Asset Lease Contract >Leases > Asset Leases > My AP Asset Leases Contract >Leases > Asset Leases > My AR Asset Leases</p> (Tri-82062)
Lease - Asset and Real Estate	The existing Likely Term Option cannot be removed directly from the Option section of a contract. If you try to remove the option directly, a validation message will be displayed. You must clear the Likely Term Option section on the "Clauses, Options & Terms" tab and then remove it from the Option section. (Tri - 84013)
Lease - Asset and Real Estate	When the Rent Component Assumption section is updated for Contractual Factors, Journal Entries are generated. (Tri-82150-IJ40690)

Area of Change	Description
Lease - Asset and Real Estate	For the short-term schedules, the sum of the "Variable Payment (Index Only)" column data will be displayed at the bottom of the schedules. (Tri - 82244)
Lease - Asset and Real Estate	A Patch Helper is provided to fix Accounting start date on leases with Non-Lease Accounting Amendment. (Tri-83658-IJ42042)
Lease - Asset and Real Estate	If a Contact Administrator performs 'Non-Lease-Accounting Amendment' on leases, users will not be able to remove Index Adjustment Clauses. (Tri - 82238)
Lease - Asset and Real Estate	Through the Option wizard, a Contract Administrator can now see the Next Option link after the first option is created. The form is no longer read-only. (Tri - 83856)
Lease - Asset and Real Estate	After Index Adjustment on GASB leases, the Short Term field value and the Finance Schedule on the Accounting tab are displayed correctly. (Tri - 82382)
Lease - Asset and Real Estate	When a lease is terminated at the end of the month or terminated partially, Gain/Loss and Accumulated Gain/Loss is populated in Accounting Schedules. (Tri-78616-IJ40017)
Lease - Asset and Real Estate	An attention message is now displayed if users don't populate the required Contact Roles. (Tri-81989)
Lease - Asset and Real Estate	Users can no longer create a JE Event Setup Template, JE Setup Template, JE Event Setup, or JE Setup record with the same value combinations in the Details section. (Tri-83705)
Lease - Asset and Real Estate	The JE Setup Template named "Record Finance Lease - Lease Liability and Adjust Asset" will display the correct Asset value from Finance Schedule. (Tri-84015)
Lease - Asset and Real Estate	In Lease, the "Activate" action will not be displayed to Lease Accountant users when Contract Administrator users performs Non-Lease Accounting Amendments. (Tri - 82241)
Lease - Asset and Real Estate	When a Purchase option with the Purchase Price and the Likely Purchase Execute with an Accounting End Date is reasonably certain and then set to unreasonably certain and later again set to reasonably certain, the Current NPV is now calculated correctly. (Tri - 83901)
Lease - Asset and Real Estate	Contract Manager users can now create Asset Invoice records. (Tri - 82711)
Lease - Asset and Real Estate	For an IFRS lease with the Dismantle Cost entered on the initial lease activation, the Asset Adjustment on the Schedule Summary is no longer populated with the Dismantle Cost amount.

Area of Change	Description
	For an GAAP lease with Local reporting and with the Dismantle Cost entered on the initial lease activation, the Local Asset Adjustment on the Amortization Summary is no longer populated with the Dismantle Cost amount. (Tri-82283)
Lease - Asset and Real Estate Lease-SBITA	When you click "Activate", the Journal Entry Event Setup records will now be validated if the status of the record is "Revision In Progress" to check whether duplicate records are present in the system. (Tri-84395)
Lease - Asset and Real Estate Lease-SBITA	<p>In case the Likely Term End Date field is blank in Lease, it will be updated by using one of the following scenarios:</p> <ol style="list-style-type: none"> 1. If there is no likely option, then the Likely Term End Date will be updated from the Lease Expiration Date. 2. If there is a likely option, then the Likely Term End Date will be updated from the option's Likely Term End Date. 3. If there is a likely option type other than 'Renewal', 'Termination', 'Fiscal Funding or Cancellation Option', and the Modification Effective Date is blank, then the Likely Term End Date will be updated from the Accounting End Date. (Tri-81911-IJ40474)
Lease - Asset and Real Estate Lease-SBITA	On changing the Process Type, Process Journal Entries now retrieve leases correctly. (Tri-80236-IJ39115)
Lease-SBITA	For a GASB lease, the Fiscal Funding and Cancellation option that is created by using the Option Wizard is now displayed for users to select as reasonably certain. (Tri - 81206)
Portals	The "Refresh Time" for portal sections that have auto-refresh enabled by default has been changed to 2520 seconds. The list of portals include: sysActionItems, sysNotifications, sysLastVisited, Query - triRequest - My Request History, and triQuery - triRequest - Active Requests Associated to Current user. (83779)
Projects	The dynamic "Country" list in the Quality Assurance Plan form now displays only the values belonging to the triCountry object. (Tri-82785)
Real Estate Project	On the RE Project Lease form, the Payment schedules are now generating correctly and Cash Flow Line Item records are now getting associated with the RE Project Lease. (Tri-82900-IJ41210)
Requests	On completion of a Work Task, the corresponding Service Request is also marked as completed, irrespective of whether the task is associated with the Facilities project. (Tri-80934-IJ39610)
Requests	For the Facility Project Type, "Budget" and "Actuals" columns in the Project section of the Program record are computed and the values are displayed.

Area of Change	Description
	These field values are computed from the Accounting section of the Budget tab of the Facility Project. (Tri-83284-IJ41960)
Requests	On a Service Request record raised for a specific building, you are allowed to select any floor associated to the selected building. You can try mapping different floors multiple times without clearing the existing floor from the field. (Tri-81343-IJ39947)
Reserve	When you create a reservation for a "Requestable" room, the resource owner will get an approval notification to approve/reject the reservation. The notification content will describe the reservation details such as start date, start time, end time, and the recurrence pattern. For a series reservation, the resource owner gets the approval notification only once after creating the reservation. (Tri-83022-IJ41530)
Reserve	When your primary location in myprofile is changed, your default location in the Outlook Room Search Add-in also changes. (Tri-77938-IJ37490)
Reserve	On updating the Title/Name of an entire reservation series, the updated Title/Name is reflected in all the occurrences of the series and in the exception reservation occurrence, if any. (Tri-78698)
Reserve	Both "Requested By" and "Requested For" users can cancel Private/Concierge Reservations in the Foundation Room Reservation application. (Tri-82117)
Reserve Perceptive App	The Date Picker in the Reserve Perceptive app will highlight the selected date in dark blue color. (Tri-83123-IJ41957)
Reserve Perceptive App	The Date and Time values in the attention message that is displayed on the Resource Downtime record are now displayed correctly as per the logged in user's time zone. (Tri-80585)
Reserve Perceptive App	On the reservation details page, the room status indicator such as 'Approval pending' is showing to reflect the status of the room. (Tri-82189)
Reserve Perceptive App	Creating a reservation that ends at midnight (12 am) will display the room you reserved on the event details and edit page and the room will be reserved and the time will be blocked for that reservation timing. (Tri-79586)
Spaces	On uploading the space/subspace records within a floor by using Revit/CAD integrator, the subspace records are associated to the floor and correctly displayed under Floor record > Area Measurement > All Spaces section. (Tri-81417-IJ40887)

IBM TRIRIGA 11.3 Patch Helper Workflows

Patch helper workflows correct the record data in your IBM TRIRIGA application. A patch helper workflow can revise and update, bring new data records for a release, and recalculate records. The patch helper makes necessary changes to your IBM TRIRIGA database. You apply the patch helper workflows for a release after you install or upgrade to that release. Wait for one patch helper workflow to complete before you begin the next. Some patch helper workflows can take a long time to complete.

Note: Many of the patch helpers included in this release have already been included in earlier fix packs, as shown in the patch helper name. When you run the main 11.3 patch helper workflow, it determines which of the other patch helper workflows have already been applied and does not re-run any that are already applied to your system.

The following patch helper workflows are in this release:

Name	Description
triPatchHelper - Synchronous - 11.3 - Main Patch Helper	The 11.3 patch helper workflows will be triggered automatically after the 11.3 OM package is finished importing.
triPatchHelper - triCalculate - 11.3 - Application Data - App Version	This patch helper updates the application version record with the upgraded date if an application version exists, otherwise, it creates an application version record.
triPatchHelper - triCalculate - 11.3 - Update Accounting Start Date on Contract	Fixes issue related to incorrect Accounting start date after Non- lease accounting amendment.
triPatchHelper - triCalculate - 11.3 - Update Approval Template on Approval Requirement	This workflow updates Approval Template name on existing Approval Requirement records to fix correct locator value.
triPatchHelper - triCalculate - 11.3 - Update Currency Conversion Rates on Lease	This workflow used to update currency conversion rates on lease from Lease Summary Balance record created through bulk create Lease Summary Balance utility for existing leases. To execute this patch helper, special string needs to be used "UpdateFXRate"
triPatchHelper - triCalculate - 11.3 - Update Journal Entry Setup	This workflow updates Journal Entry Setup records with correct default values and on change workflows.
triPatchHelper - triCalculate - 11.3 - Update Likely Term End Date on Contract	This workflow updates likely end date on active leases when the field is blank.
triPatchHelper - triCalculate - 11.3 - Update Name On Approval Rules	This workflow fixes the published name of approval rule records. The formula of name is changed.

IBM TRIRIGA Application Platform 4.3

This release includes important information, known limitations, changes, and property file changes to the IBM TRIRIGA Application Platform.

Important Information

The following items are important information concerning the IBM TRIRIGA Application Platform that is newly added for this release. For Important Information related to previous releases, see the [Release Notes](#) page on IBM Support.

Area of Impact	Description
Connector for BIM	Resolved an issue where Revit Connector failed to create locations in TRIRIGA. The issue was fixed by making an OSLC change in version 4.1. (Tri-75162-IJ34832)
Queries	Find search queries require a user selection even if there is only one query result. This is the intended behavior to prevent users from having an unattended selection automatically occurring. (Tri-83777)
Reserve	When you use TRIRIGA Reserve, it is not recommended to use the "all-day" option especially when Reserve is integrated with Microsoft Exchange. Microsoft Exchange treats "all-day" meetings as floating meetings with variable start and end times that are based on user's time zone. In general, TRIRIGA treats "all-day" meetings as 24-hour meetings based on organizer's time zone. However, it is not a best practice to reserve shared resource for 24-hour increments. (Tri-83270)
Responsiveness	Resolved an issue where the screen greyed out when its width is reduced below the medium breakpoint after the side navigation is pinned by using the hamburger icon. (Tri-82371)

Known Limitations

The following items are known limitations concerning the IBM TRIRIGA Application Platform and are newly added for this release. For Known Limitations related to previous releases, see the [Release Notes](#) page on IBM Support.

Area of Impact	Description
Administrator Console	If you delete previously added workflow agent (WFAgent) pods in the operator from YAML, the changes are not reflected on the Agents page. You will have to remove them manually from the Administrator Console for the changes to reflect on the Agents page. (Tri-81534)
Installation	For performance optimization of DB2 on Websphere Liberty, jdbcCollection="NULLIDR1" must be added to properties.db2.jcc in server.xml. (Tri-8596)
Navigation	Resolved an issue where the TRIRIGAWEB.properties setting SSO_SINGLE_SIGN_OUT_REDIRECT_URL was not working. (Tri-74208-IJ34600)
Navigation	When you click the MasterFormat link on the TRIRIGA login page, a browser privacy error might occur. (Tri-85124)

Area of Impact	Description
Operator	In TRIRIGA YAML, if you add two workflow agents (wfacents) with the same name to restrict two different users, only one user is restricted in the Administrator Console. (Tri-84573)
Portals	After entering a page value in the availability tree grid paginator, the paginator buttons might at times appear grayed out (unavailable) even though they are still functional. This is a third-party limitation with the availability tree grid. (Tri-83809)
Portals	Based on IBM design guidelines, query headers will always be displayed in portal sections. It is a known limitation that the Show query header option in the portal builder has no effect on the portal section. This option will be removed in a future release. (Tri-82988)
Portals	Due to a third-party limitation with Availability Tree Grid views, the page number on the pagination tool bar may not be accurately detailed when scrolling to previous results on the grid by using the pagination scroll bar. (Tri-82467)
Portals	On the availability tree grid, the pagination count might not be accurately displayed if you use the tree grid vertical scrollbar to scroll through the availability results. This is a third-party limitation. (Tri- 82797)
Record Runtime	For queries run in the enhanced query rendering grid, if you open a column context menu and click the candy box (nine-dots) menu icon to hide or show columns and then filter for a column name and click the corresponding checkbox, the context menu will close, and the hide/show action will not be performed. (Tri-83161)
Reporting	If you convert your database to use Module-Level Associations, several BIRT reports must be updated to use the module-level tables instead of IBS_SPEC_ASSIGNMENTS. (Tri-66627)
Reporting	If you convert your database to use Module-Level Associations, several BIRT reports must be updated to use the module-level tables instead of IBS_SPEC_ASSIGNMENTS. (Tri-66627)
Reporting	Pagination for reports that run with the enhanced query grids might not immediately honor the result size setting in Report Manager until the report is refreshed. (Tri-85176)
Reserve	Cross-server Reservations are not supported in Microsoft Outlook. (Tri-84307)
Reserve	Location details are not displayed in the mail invite for reservation that is created from the Reserve Perceptive app for Non-Exchange setup. (Tri-82409)
Reserve	For an all-day reservation (single/recurrence) created from Microsoft Outlook, the room calendar shows as free. However, all-day events from Outlook are reaching TRIRIGA successfully.

Area of Impact	Description
	<p>For an all-day reservation (single/recurrence) created from TRIRIGA, the room calendar shows as free. After synching the calendar with Microsoft Exchange from the Reserve Perceptive app, the room calendar shows as Tentative. However, the room is still reserved, the time is blocked, and Outlook user's calendar shows the event properly for both cases.</p> <p>It is recommended to use actual date and time to create reservations, instead of using all-day reservation. (Tri-84485)</p>
Reserve	The Microsoft Exchange Web Services (EWS) API is no longer supported for communication between IBM TRIRIGA and Microsoft 365 or Exchange Server (on-premises). Only the Microsoft Graph API is supported. Customers who use EWS must migrate to the Graph API. For requirements on using the Microsoft API, see Microsoft documentation.
Reserve Perceptive App	When you reserve a room by using TRIRIGA Reserve, do not use the "all day" option, especially, when TRIRIGA Reserve is integrated with Microsoft Exchange. Microsoft Exchange "all day" meetings are floating meetings with variable start and end time values that are based on user's time zone. In general, TRIRIGA treats "all day" meetings as 24-hour meetings based on organizer's time zone. However, it is not a best practice to reserve shared resource for 24-hour increments. (Tri-83147)
Reserve Perceptive App	Calculations pertaining to duration fields with "Month" or "Year" values are returning incorrect values. (Tri-83264)
Single Sign-on	If you use the SSO_SINGLE_SIGN_OUT_REDIRECT_URL web property, it must be populated with a valid URL. (Tri-85005)

IBM TRIRIGA Application Platform 4.3 Changes

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

Area of Change	Description
Administrator Console	With the introduction of pagination on the Availability tree grid, the following property in TRIRIGAWEB.properties is no longer used: AVAILABILITY_SECTION_ROW_LIMIT. (Tri-82991; Tri-78172)
CAD Integrator	No red mark is present when you select or clear the check boxes for layers. Showing and hiding layers works as expected. (Tri-71108-IJ31005)
Capital Project Reserve Perceptive App	The Availability section in the Room Reservation Perceptive app displays the Availability chart as per the search criteria without any time difference. (Tri-70207-IJ29915)
Document Management	For all languages, the Localizable SmartObject fields (locators) are now updating properly. (Tri-74697-IJ34792)

Area of Change	Description
Document Management	Large size photos in JPG format can be fully viewed without over scrolling when attached to a work task. (Tri-81393-IJ41005)
Document Management	In TRIRIGA Application, you can now see the content of published documents in the CMIS-enabled environment. (Tri-81741-IJ41219)
Exchange Integration	The Microsoft Exchange subscription process is updated to conform to Microsoft's current calling convention. (Tri-83107)
Globalization	The System Message that populates when characters entered are more than the defined length is now translated to all languages. (Tri-74508-IJ33458)
Integration Object	Any invalid API request will return HTTP 404 response and will not cause StackOverflowException. (Tri-75080-IJ34683)
Lease - Asset and Real Estate	"From Date" (Start Date) and "To Date" (End Date) fields under "Payment Schedules" now update correctly. (Tri - 82756)
Licensing	TRIRIGA Admin Console License pages for TAS are updated to properly handle an entitlement file with perpetual licenses. An exception will no longer be thrown from either the "Licenses" or "Licenses for Application Suite" pages if the TRIRIGA entitlement file indicates perpetual products. (Tri-83053-IJ41349)
Locations	The screen reader (NVDA/JAWS) now displays the correct number of rows, records, and columns of the table on the Locations Hierarchy page. (Tri-68745-IJ29420)
Login page legal info	Resolved an issue where the MasterFormat link on the TRIRIGA login page was not formatted correctly and was not opening successfully in a new tab. (Tri-83115)
Login page legal info	Resolved an issue where the copyright information link on the TRIRIGA login page was not opening in a new tab. (Tri-82987)
Object label	Business Objects that are modified by Platform during upgrade, which is not done via an automatic Object Migration upgrade package, will indicate "Platform Modified" in the "Detail" column of the Business Object's revision list for that revision. The previous revision's Object Label will remain for that revision unless the previous Object Label is an IBM-TAP owned Object Label. In that case, the latest version of the IBM-TAP Object Label will be applied. (Tri-79424)
Offline Forms	The IncomingMailAgent BO will now support OAuth2 Authentication. (Tri-72299-IJ31190)
OSLC	Resolved an issue related to OSLC date formatting. Formatting OslcString to Date and Date to OslcString is now thread safe. (Tri-77496-IJ37029)

Area of Change	Description
Other - Include in Closing Comments Real Estate Abstract	The confirm changes pop-up dialog is not displayed if you don't make any changes to the editable query section inside a tab. (Tri-82701)
Portals	Resolved an issue on the Foundation app Availability tree grid where the parent scroll bar was jumping to the top of the container on certain clicks within the tree grid. (Tri-82796)
Portals	If you zoom in the browser to 200% or above, horizontal scroll bar is now displayed under the Reminders section, Contracts section, and Performance Metrics section enabling you to view the entire content in these sections. (Tri-77082-IJ36211)
Portals	"Home – Application Administrator Portal" is no longer available in the Portal list under Project Switch Manager in new TRIRIGA installs. (Tri-83771)
Portals	Resolved an issue where selected records in a query section were not being recognized by query actions running external reports such as BIRT. (Tri-82976)
Portals Reservations Security	Google Web Toolkit (GWT) has been upgraded. (Tri-62091)
Record Runtime	TRIRIGA will no longer accept date or datetime values with year greater than 9999. (Tri-82590)
Record Runtime	The Onchange workflow will now trigger only once when you press the ENTER key to select a record from the list when the list count is 1. (Tri-82381)
Record Runtime	After you create a job scheduler record, in "Admin Console > Workflow events > Future actions > Next 20 Future Actions to Post", the Post Date column will display the date and time that you entered in the Event Start Date field while creating the record. (Tri-71937-IJ32572)
Record Runtime	You can now scroll through all the records when each record is expanded in the section that consists of a query of type 'hierarchy'. (Tri-82309-IJ41304)
Report Scheduler	Saving and clearing of date values for the Adhoc Recurrence type in the Report Scheduler will work as expected. (Tri-84492)
Reporting	Resolved an issue where the user was unable to choose a file when editing the Attach File Format Task Properties in workflow builder. Previously, the "OK" and "Cancel" buttons were not displayed on the header of the Document Picker window and so users were not able to finalize their file selection. (Tri-76837-IJ35761)

Area of Change	Description
Reporting	In the system reports, the 'Where used' tab now works correctly after a BO with a name that has an underscore was created in the triIntegration module. (Tri-78573-IJ38038)
Reporting	In Report Manager, the Display Type drop-down list will now trigger the report type selection when the value changes. In the earlier release, users were required to press Enter on their keyboard to trigger the selection. This change is consistent with the updates to keyboard interaction on drop-down lists in other areas of the platform. (Tri-81889)
Reporting	While filtering query results by entering a number in a formula field, the results will be filtered based on the rounded number instead of exact value in the database. (Tri-72157-IJ31779)
Reserve	Set Working Hours now works correctly when the Microsoft Graph API is used. (Tri-83180)
Reserve	Color contrast of the header part of the 'Last Visited' section on the home page now meets WCAG 2 AA contrast ratio thresholds. (Tri-81377-IJ40337)
Reserve	Use of refresh token on OAuth login is no longer supported. (Tri-83269)
Reserve	On updating the Title/Name of an entire reservation series, the updated Title/Name is reflected in all the occurrences of the series and also in the exception reservation occurrence, if any. (Tri-78698)
Reserve Perceptive App	Reserve availability queries now load successfully when the result exceeds the maximum number of records to return. (Tri-82864)
Reserve Perceptive App	Resolved an issue where on searching for an instance of a recurring meeting, under certain circumstances, the next meeting was returned instead of the search target. (Tri-83402)
Reserve Perceptive App	For the all-day reservations (single/recurrence) created from Reserve UX app and Microsoft Outlook, room accepted mails are coming properly and events are reaching TRIRIGA successfully. (Tri-83151)
Security	Spring-expression, spring-core, and spring-beans have been upgraded. (Tri - 81899)
Security	Updated jdom to jdom2-2.0.6.1. (Tri-75129)
Security	Security improvements are added to the reports page. (Tri-82298)
Security	Platform has been upgraded to the latest available version of the Spring framework. (Tri - 81900)

Area of Change	Description
Security	Upgraded spring-ws to 3.1.3. Also, upgraded axioms-api and axioms-impl to 1.4.0. (Tri-81901)
Security	The TinyMCE unit test link (debug/test link) will not be displayed if you do not log in to TRIRIGA Application. (Tri-82343-IJ41532)
Security	The Gson library has been upgraded. (Tri-81897)
Security	Changed the default value of the SYNCHRONIZE_ACTIVATE_USER property in TRIRIGAWEB.properties to "Yes". This setting prevents a race condition by avoiding multiprocessing, which could otherwise cause some user activations to fail during bulk activation. As a result, activation might take more time. (Tri-79107)
Security	Platform has been upgraded to the latest available version of the Spring framework. (Tri-80721)
Security	The jsoup library has been upgraded to version 1.15.2. (Tri-78298)
Security	The Spring framework has been upgraded to the latest version. (Tri-81023)
User Profile Card	Resolved an accessibility issue where the ARIA role on the User Profile menu was not correctly set to menu. (Tri-77198-IJ37114)
Workflow	When two or more duplicate users or groups are added in the YAML file, the duplicate entries of users and groups are removed. (Tri-84519)

IBM TRIRIGA Application Platform 4.3 Properties Files

The TRIRIGAWEB.properties file did not change in this release. For more information, go to IBM TRIRIGA Application Platform 4.3 documentation and select *Installing IBM TRIRIGA Application Platform>Configuring the platform>Properties files*.

IBM TRIRIGA CAD Integrator/Publisher 13.3

This release includes important information, known limitations, and changes to IBM TRIRIGA CAD Integrator/Publisher.

Important Information

No additional important information concerning IBM TRIRIGA CAD Integrator/Publisher is added for this release. For important information related to previous releases, see the [Release Notes](#) page on IBM Support.

Known Limitations

The following known limitations concerning IBM TRIRIGA CAD Integrator/Publisher are found in this release. For known limitations related to previous releases, see the [Release Notes](#) page on IBM Support.

Area of Impact	Description
CAD Integrator	When a drawing is attached from the MicroStation, the font size of the labels displayed on the Graphics tab is larger. This is being optimized to display properly. (Tri-81845-IJ40905)
CAD Integrator	There is a login issue when you log in to a TLS-enabled application with CAD Integrator. Ensure that no proxy is enabled if you get an error while logging in. (Tri-71388-IJ36922)
CAD Integrator	CAD Integrator does not provide audits for triFloor business objects. This will be supported in future releases. (Tri-72170-IJ32342)
CAD Integrator	Hatch Patterns other than ANSI31 are now able to render in CAD Integrator. Update the hatch pattern of a particular drawing and run the report again as a workaround. (Tri-71929-IJ31806)

IBM TRIRIGA CAD Integrator/Publisher 13.3 Changes

No changes concerning IBM TRIRIGA CAD Integrator/Publisher are added for this release.

IBM TRIRIGA CAD Integrator/Publisher 13.3 Properties Files

The ci.properties file did not change in this release.

IBM TRIRIGA Connector for BIM 4.3

This release includes a change to IBM TRIRIGA Connector for BIM.

Note that only one version of the TRIRIGA Connector for BIM can be installed on one workstation, even if you are using more than one version of Revit. The BIM Connector installer can perform a new install, or it will override any previous version of the BIM Connector that had previously been installed. When the BIM Connector installer runs, it detects the versions of Revit that are installed on the workstation. If you have ever installed BIM Connector as an add-in to that version of Revit, it will be overridden by the new install.

Important Information

No new important information concerning IBM TRIRIGA Connector for BIM is found in this release. For important information related to previous releases, see the [Release Notes](#) page on IBM Support.

Known Limitations

No new known limitations concerning IBM TRIRIGA Connector for BIM are found in this release. For known limitations related to previous releases, see the [Release Notes](#) page on IBM Support.

IBM TRIRIGA Connector for BIM 4.3 Changes

The following change to IBM TRIRIGA Connector for BIM is in this release:

Area of Impact	Description
Connector for BIM	Improved the resiliency of parameter mapping. (Tri-82857-IJ41322)
Connector for BIM	When a Revit model does not use an area plan for space area, the space area is not correctly set from the Revit room area. (Tri-81310)

Related Documentation

You will find the documentation for this release in IBM Documentation. Documentation for the IBM TRIRIGA Application Suite is at <https://www.ibm.com/docs/en/tas>. The IBM TRIRIGA documentation is located at <https://www.ibm.com/docs/en/tririga> and IBM TRIRIGA Application Platform documentation is located at <https://www.ibm.com/docs/en/tap>. The documentation is available online in topics or as downloadable PDF files.

Additional documentation, previously available in the IBM TRIRIGA wiki, is available in the IBM TRIRIGA Application Platform 3.8 Knowledge Center under “Additional documentation” in the table of contents. For more information, see the [IBM TRIRIGA Release Information](#) page on IBM Support.

Support

IBM Support provides assistance with product defects, answering FAQs, and performing rediscovery. View the IBM 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.

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.

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