

CA Clarity™ PPM

Change Impact and Upgrade Guide - On Premise

Release 13.2.00



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Contents

Chapter 1: About this Guide	9
Chapter 2: Installation and Upgrade	11
Upgrading to 13.2.....	11
Installation Checker.....	11
MS SQL Server Database Compatibility Level	12
Upgrade suggestion for Niku 6.x, Clarity 7.x, and CA Clarity 8.x	12
Java 7.....	12
Third-Party Jar Files.....	13
J2EE Installations.....	13
Clarity System Administration (CSA) Changes.....	14
Oracle DB National Character Set Is Supported	14
Oracle 11g Template Is No Longer Available	14
Datamart Extraction Job Performance Improvements for Oracle	15
Filestore and Search Index Location Changes	15
CSRF Strategies for Release 13.2.....	19
New Logging Category and Appender for CSRF Exceptions	20
Add-ins Compatibilities	20
New Add-in Installation.....	22
Add-ins Affected by Portfolio Removal	22
CA Clarity PPM Solution Pack Compatibility	22
Release 13.2 Reports.....	23
Preserving Your File Directory Customizations	28
Upgrading Large Data Sets	29
Database Backup Image for New Installations.....	30
Supported Upgrade Paths	30
Basic Upgrade Process	32
Upgrade Tips	35
Known Issues.....	38
Duplicate Cost Plan Code Error	38
Missing Data for Resource Financials.....	39
Upgrade Fails if the Default Language for the Admin User Is Not English	40
Resume Capability During the Upgrade	40
Potential Infinite URL Redirect Issue.....	40
Export Icons in Resource Planning Tabs Not Functioning	41
Missing General Action Menu After Upgrade	41
Upgrade Stops if OBS Unit Names Have Special Characters	42

Automatic Update to OBS Names During Upgrade.....	43
Report Instance Export from the Report Library	44
Orphan Records in Table CMN_SEC_ASSGND_OBJ_PERM for MSSQL Users	44
CA Clarity PPM Upgrade and Oracle Enterprise Table Compression	44
 Chapter 3: Administration	 47
Configurable Organizational Breakdown Structure (OBS)	47
 Chapter 4: Add-in Enhancements	 49
Auto-recalculation Feature in Microsoft Project (MSP) Connector	49
PMO Accelerator and Clarity Solution Pack	49
 Chapter 5: Financial Management	 51
Capital and Operating Expenses.....	51
Update Investments Created Before Release 13.2 to Display Capital and Operating Expenses.....	53
 Chapter 6: Mobile Time Manager	 55
 Chapter 7: Open Workbench	 57
Date Attribute	57
User Interface Improvements	58
Dependency Deletion.....	58
Draggable Margins in the Print Preview.....	59
Cost Type Attribute	59
 Chapter 8: Portfolio Management	 61
New Portfolio Feature	61
Portfolio Pages	62
Portfolio Access Rights	63
Attribute Registry for the Portfolio Investment Object	64
Removal of the Old Portfolio Feature	65
Backup of Removed Portfolio Tables	72
 Chapter 9: Resource Management	 75
Capacity Overview Portlet.....	75

Chapter 10: User Interface	77
New Keyboard Shortcuts.....	77
Keyboard Shortcuts for Time-Scaled Values	77
Time-Scaled Value Edits	78
New Group-by Feature for Charts.....	78
New Icon for Exports That Are In Progress	79
Bubble Chart Export Limited to 255 Data Series	80
Row Limit Governor for NSQL Queries.....	80
Chapter 11: XML Open Gateway Changes	81
New XOG Setting to Preserve OBS When Installing an Add-in.....	81
Invalid Partition Codes in Imports.....	81
Chapter 12: Data Model Changes	83
Added Tables.....	83
Updated Tables	84
Dropped Tables	88

Chapter 1: About this Guide

This guide provides the following information:

- System preparation before upgrading
- Overview of the upgrade process
- Post-upgrade tasks
- Features and enhancements for this release and upgrade actions that are required for them

Important! If you are upgrading from a release earlier than Version 13.1, carefully review the *Change Impact and Upgrade Guide* for the 13.0 and 13.1 releases. If you are upgrading from Version 13.1 to this release, review this guide before upgrading. This guide provides insight on planning the upgrade and helps you determine the upgrade options that best suit your business needs. Use this guide to plan your training and rollout efforts.

Look for recent updates to this guide before upgrading. The most recent edition of this guide and all CA Clarity PPM documentation are available from the CA Clarity PPM bookshelf. The bookshelf is available on the Documentation page of [CA Support Online](#).

Chapter 2: Installation and Upgrade

This section contains the following topics:

[Upgrading to 13.2](#) (see page 11)

[Supported Upgrade Paths](#) (see page 30)

[Basic Upgrade Process](#) (see page 32)

[Upgrade Tips](#) (see page 35)

[Known Issues](#) (see page 38)

Upgrading to 13.2

This section provides information about installation and upgrade changes for Release 13.2.

Installation Checker

The Installation Checker (checkinstall) utility assesses an installation or an upgrade. The utility runs automatically at the start of an installation or upgrade and at the end of an upgrade attempt. However, you can run it as a standalone utility. The utility produces a report results file, precheck-results.html, in the <install-root>/checkinstall/check-logs directory.

Upgrade Action: For best results, run the Installation Checker before starting the full installation and upgrade process. Carefully evaluate and resolve warnings before proceeding. For more information about the Installation Checker, see the *Installation Guide*.

Note: On Solaris 10 systems, you can receive the following message:

Warning: Could not verify 64-bit architecture. Ensure this machine is 64-bit and that it is running 64-bit Java.

If the target system is fully compliant with the Release 13.2 installation prerequisites, you can safely ignore this message.

MS SQL Server Database Compatibility Level

Release 13.2 supports database compatibility levels for SQL Server 2008 (100) and SQL Server 2012 (110). A new installation of Release 13.2 on SQL Server 2008 will have the correct compatibility level of 100. If you are using SQL Server 2012 for Release 13.2, set the compatibility level to 110 from SQL Server Management Studio or use the following command:

```
EXEC SP_DBCMPTLEVEL <database>, 110
```

Note: SQL Server 2005 compatibility level (90) has been removed and is no longer supported.

Upgrade Action: Set the database compatibility level after the upgrade is complete. You can set the compatibility level using SQL Server Management Studio or one of the following commands:

SQL Server 2008:

```
EXEC SP_DBCMPTLEVEL <database>, 100
```

SQL Server 2012:

```
EXEC SP_DBCMPTLEVEL <database>, 110
```

To identify the compatibility level, use the following query:

```
SELECT NAME DATABASENAME ,COMPATIBILITY_LEVEL COMPATIBILITYLEVEL FROM  
SYS.DATABASES
```

Upgrade suggestion for Niku 6.x, Clarity 7.x, and CA Clarity 8.x

As a best practice, we recommend the following steps for customers on older versions of this product who are upgrading to Release 13.2:

1. Upgrade to CA Clarity PPM 12.1.1, 12.1.2 or 12.1.3 first.
2. Verify that the upgrade is successful and run the CSA Health Report.
3. Create a full backup of the database and runtime file system.
For more information, see [Basic Upgrade Process](#) (see page 32).
4. Proceed with the upgrade to 13.2.

Java 7

This release uses Java 7. In addition to the CA Clarity PPM server, the following software clients also require Java 7:

- XML Open Gateway (XOG) client
- Open Workbench

- Connector for Microsoft SharePoint
- Service Connect

Note: For an upgrade from a 13.x version, the server installer prompts for the path of JDK 1.7.

Important! The Java Runtime Environment (JRE) is updated frequently with fixes for security issues, including issues that are unknown at the time CA Clarity PPM is released. To ensure that you have the latest fixes, we recommend that you download the most recent version 7 JDK from the Oracle website.

Upgrade Action: Install Java 7.

Third-Party Jar Files

Because of licensing restrictions for some third-party library .jar files (currently the jgroups-all.jar and the xinclude.jar), changes were made in how the .jar files ship. Starting with Release 13.2, the jars are shipped on a separate DVD from the CA Clarity PPM image DVD. The Release 13.2 install.jar image does not contain the .jar files mentioned. Any install packages for a previous version included in the install.jar also exclude the .jar files. For each release of CA Clarity PPM, the .jar files are bundled into a folder on the DVD containing third-party libraries .jar file. For Release 13.2, the .jar file is named *thirdparty.libs.13.2.0.jar*.

Upgrade Action: Retrieve the *thirdparty.libs.13.2.0.jar* file from its DVD. Place the .jar file in a location in your file system so that it is accessible to the installer.

Tip: To keep the installer from prompting you for the .jar file location, place the .jar file in the installation root directory. If you place the .jar file in another directory, the installer prompts you for the file location.

J2EE Installations

If you are upgrading a CA Clarity PPM installation that uses *generic* as the vendor type, update the DataDirect JDBC driver .jar files in your third-party application server environments. The version for these files has changed in Release 13.2.

Upgrade Action: Update your DataDirect JDBC driver .jar files. For more information, see the *Installation Guide*.

Clarity System Administration (CSA) Changes

The following functionality is no longer available in CSA:

- A new database image import. We recommend that a database administrator perform this import.
- The ability to perform an upgrade.

A *Database* link still appears, but clicking the link results in database status information only.

XDM installation and application packaging are still available.

Upgrade Action: None

Oracle DB National Character Set Is Supported

Release 13.2 supports the Oracle DB national character set AL16UTF16.

CA Clarity PPM supports the following character sets:

- DB character sets: UTF8 and AL32UTF8
- National DB character sets: UTF8 and AL16UTF16

Keep in mind the following points when using national DB character sets:

- Asian data is more compact in the AL16UTF16 character set than in UTF8. As a result, you can save disk space and have less disk I/O when most of the multilingual data in your database is Asian.
- We recommend using the UTF8 character set for European data. In this case, data in the UTF8 character set is more compact than in AL16UTF16.

See the Oracle documentation for the pros and cons of using different character sets. CA Clarity PPM works with UTF8 and AL16UTF16 National character sets.

Upgrade Action: None

Oracle 11g Template Is No Longer Available

The Oracle 11g template is no longer available on the CA Clarity PPM DVD image. For information about setting up a database instance for the best performance, see the *Installation Guide*.

The Oracle database backup that is provided with CA Clarity PPM contains the complete schema for a fresh installation of the product. The schema in the backup is named NIKU. The tablespaces are:

- INDX_LARGE
- INDX_SMALL
- USERS_LARGE
- USERS_SMALL

If you want to remap the schema or tablespaces, use the Oracle Datapump options. For information about database import operations and Datapump options, see the Oracle website.

Upgrade Action: None

Datamart Extraction Job Performance Improvements for Oracle

For Release 13.2, changes were made to the Datamart Extraction job. The result of the changes is improved performance for an Oracle full refresh of the Datamart. The job has been optimized to run faster in Oracle. The job does a full refresh of the Datamart tables every time it runs. We recommend running the Datamart Extraction job after the upgrade is complete and during off-peak hours.

Note: No changes were made for Microsoft SQL.

Upgrade Action for Oracle Customers: None. During the upgrade, the Datamart tables are truncated automatically. You do not need to truncate the tables manually before upgrading.

Upgrade Action for Microsoft SQL Customers: Continue to follow the best practice for clearing the Datamart Extraction tables before you upgrade. See the section that is named "[Upgrade Tips](#) (see page 35)" for details.

Filestore and Search Index Location Changes

Two significant changes to the 13.x upgrade process directly affect the filestore feature. The changes require you to act during the upgrade process for Release 13.2 to ensure that the filestore feature operates correctly after the upgrade.

Note: The actions are necessary if your files are not stored in the database. If the files are stored in the database, no action is required.

You can determine if files are stored in the database using the Clarity System Administration (CSA) application. Log in to the application and navigate to the Documents and Search link under the Properties tab, then review the Store Files in Database property.

Important! If the database is not the filestore repository, action is required. Failure to follow the recommended steps can lead to permanent loss of the filestore contents.

The following changes were made to the upgrade process in Version 13:

- The upgrade process always installs to an empty destination folder. During the upgrade, files and folders that exist in the target installation folder are moved to a new location before the new files are installed. If the filestore folder is located in the runtime folder, it is moved with the other content (not recommended). If the filestore is located outside the runtime folder (the recommended configuration), the filestore location is not moved or copied from the backup location.
- The filestore and search index folder structures were altered to accommodate architectural changes in Version 13. This change requires action for all Version 13 upgrades, whether the filestore was located in the installation folder or not.

Your action depends on the following factors:

- Where the filestore was before the upgrade
- The target installation folder that is selected during the upgrade

The correction must be made immediately after the upgrade completes, before any files are added to the filestore. Any files added to the filestore before the correction is made must be manually preserved using the following steps:

1. Use CA Clarity PPM to retrieve the newly checked-in documents and save them to a temporary location on the file system.
2. Perform the steps for the appropriate use case (A, B, or C) presented in the following Upgrade Action.
3. To check the saved documents back into the CA Clarity PPM filestore, use CA Clarity PPM.
4. Execute the following commands from the <runtime>/bin folder:
`'admin search recreate-index-files'`
`'admin search recreate-index-data'`

Upgrade Action: Complete the filestore and search index correction procedure.

Before you start, create a backup of the filestore so that recovery is possible in the event of an unexpected problem. Your document store could be used before this procedure can be completed. If so, the newly included documents must be added back to the filestore after you complete the correction procedure.

The following use cases illustrate the actions to take. To determine the correct course of action, use the filestore location and target installation folder.

Use Case A

- Filestore location: The filestore was located in the CA Clarity PPM runtime folder before the upgrade.
- Target installation folder: The existing (preupgrade) CA Clarity PPM runtime folder was selected as the target installation folder.

Before the upgrade process ran, the file or index folder was in the <runtime> folder. The upgrade process moved the file or folder to a folder named <runtime>_prev based on the chosen upgrade or installation option. The move resulted in the file or index folder being located in the <runtime>_prev folder. The file or index folder must be moved from the <runtime>_prev folder to another location because any subsequent upgrade attempt deletes this folder.

Perform these steps for this use case:

1. If before the upgrade the filestore location was <runtime>/filestore, copy or move the folders under <runtime>_prev/filestore to a new path:
 <new directory>/filestore/clarity

Where <new directory> is located outside of the upgrade resulting <runtime> directory. Having the location outside of the runtime folder follows best practices. Placing the folder outside the CA Clarity PPM installation directory also ensures that this process is not repeated when CA Clarity PPM is upgraded.

Log in to the CSA application, navigate to the Documents and Search link under the Properties tab, and update the Filestore Directory location. For example, if the filestore path is <old clarity install directory>/filestore, modify the path to <new directory>/filestore.

Note: Do not append 'clarity' to the path in the CSA. The CA Clarity PPM architecture adds this update internally.

2. If before the upgrade the search index directory location was <runtime>/searchindex, copy or move the folders under <runtime>_prev/searchindex to a new path:
 <new directory>/ searchindex /clarity

Where <new directory> is located outside of the upgrade resulting <runtime> directory. Having the location outside of the runtime folder follows best practices.

Log in to the CSA application and navigate to the Documents and Search link under the Properties tab and update the Index Directory location. For example, if the filestore path is <old clarity install directory>/searchindex, modify the path to <new directory>/searchindex.

Note: Do not append 'clarity' to the path in the CSA. The CA Clarity PPM architecture adds this update internally.

3. Execute the following command from the <runtime>/bin folder:
 'admin search recreate-index-files'
 'admin search recreate-index-data'

Use Case B

- Filestore location: The filestore was located in the runtime folder before the upgrade.
- Target installation folder: A new, empty folder was selected as the target install folder.

Before the upgrade process ran, the file or index folder was located in the <runtime> folder. The upgrade process produced a different folder named <new runtime>. This process was based on the upgrade or installation option to select a different folder for the upgrade result than the current one. This choice has resulted in the file or index folder being located in the <runtime> folder.

Perform these steps for this use case:

1. If before the upgrade the filestore location was <runtime>/filestore, copy or move the folders under <runtime>/filestore to a new path:
 <new directory>/filestore/clarity

Where <new directory> is located outside of the upgrade resulting <runtime> directory. Having the location outside of the runtime folder follows best practices. Locating the folder outside the installation directory ensures that this process is not repeated in the future when CA Clarity PPM is upgraded.

Log in to the CSA application and navigate to the Documents and Search link under the Properties tab and update the Filestore Directory location. For example, if the filestore path is <old clarity install directory>/filestore, modify the path to <new directory>/filestore.

Note: Do not append 'clarity' to the path in the CSA. The CA Clarity PPM architecture adds this update internally.

2. If before the upgrade the search index directory location was <runtime>/searchindex, copy or move the folders under <runtime>/searchindex to a new path:
 <new directory>/ searchindex /clarity

Where <new directory> is located outside the upgrade resulting <runtime> directory. Having the location outside the runtime folder follows best practices.

Log in to the CSA application, navigate to the Documents and Search link under the Properties tab, and update the Index Directory location. For example, if the filestore path is <old clarity install directory>/searchindex, modify the path to <new directory>/searchindex.

Note: Do not append 'clarity' to the path in the CSA. The CA Clarity PPM architecture adds this update internally.

3. Execute the following command from the <runtime>/bin folder:
`'admin search recreate-index-files'`
`'admin search recreate-index-data'`

Use Case C

- Filestore location: The filestore was located outside the runtime folder before the upgrade.
- Target installation folder: The target installation folder is not relevant to this scenario. These steps must be performed for all upgrades with an external filestore.

The file or index folder is not located in the <runtime> folder.

Perform these steps for this use case:

1. If the previous filestore folder path is now located in <some folder>/filestore, copy or move the folders under <some folder>/filestore to a new path:
`<some folder>/filestore/clarity`
2. If the previous search index folder path is now located in <some folder>/searchindex, copy or move the folders under <some folder>/seachindex to a new path:
`<some folder>/seachindex/clarity`
3. Execute the following command from the <runtime>/bin folder:
`'admin search recreate-index-files'`
`'admin search recreate-index-data'`

No modification to the Filestore Directory or Index Directory properties is needed. You can view these properties from the Properties tab, Documents and Search subtab in the CSA application.

Note: Do not append 'clarity' to the path in the CSA. The CA Clarity PPM architecture adds this update internally.

CSRF Strategies for Release 13.2

CA has introduced a new, configurable set of CSRF strategies for Release 13.2. The allowed configurations are:

none

This configuration does not generate CSRF tokens or validate requests. This configuration is the default setting for on-premise installations. This configuration is recommended if CA Clarity PPM is behind your corporate firewall. Customers that upgrade receive this setting automatically.

request

This configuration implements the same strategy that is used in Release 13.1. This strategy generates a new token for each request and validates against a limited size cache in the user session. Due to the possibility of cache exhaustion, this strategy can lead to false-positive validation errors. These errors are especially true for users who work with multiple tabs open in CA Clarity PPM.

session

This configuration generates a single token for the user session and uses the token for validation. This configuration is the recommended strategy for on-demand SaaS and hosted installations. The configuration is also recommended for on-premise customer installations where CA Clarity PPM is outside the corporate firewall.

Upgrade Action: The setting is automatically set to none. No further action is required.

To change the shipped setting, see the following Technical Bulletin: TEC567263

New Logging Category and Appender for CSRF Exceptions

Release 13.2 provides a new logging category (*security.violation.csrf*) and appender for cross-site request forgery (CSRF) exceptions. The exceptions are written to a log file named <service>-security-violations.log.

The category is set to a level of *warn* by default. Exceptions that are false-positive due to a session timeout are logged at the info level and do not appear in the log.

Upgrade Action: None

Add-ins Compatibilities

The following section describes important information about upgrading installed add-ins, accelerators, and connectors for Release 13.2.

- If you are upgrading from Version 13.0 or Release 13.1 to Release 13.2, the following add-ins are upgraded:
 - PMO Accelerator
 - Clarity Solution Pack (CSP)
 - Accelerator for New Product Development (NPD)
 - Connector for Microsoft SharePoint
 - PPM Essentials Accelerator (PPME)
 - Business Relationship Manager (BRM)
 - CA Clarity Agile

- If you are upgrading from any version before Version 13.0 to Release 13.2, upgrade all installed add-ins.
- A new installation process is available for add-ins, accelerators, connectors.

Note: For more information, see the *Installation Guide*.

The following table shows the accelerator and connector releases that are compatible with Release 13.2.

Accelerator or Connector	New Installation 13.2	Upgrade from 12.x to 13.2	Upgrade from 13.x to 13.2
PMO Accelerator	3.2.00	3.2.0	3.2.0
Clarity Solution Pack (CSP)	3.2.0	3.2.0	3.2.0
Earned Value Manager	2.0.1	2.0.1	2.0.1
Accelerator for PRINCE2	2.0.1	2.0.1	2.0.0 or 2.0.1
Accelerator for the PMBOK	2.0.1	2.0.1	2.0.0 or 2.0.1
Accelerator for New Product Development	2.0.2	2.0.2	2.0.2
PPM Essentials Accelerator	2.0.2	2.0.2	2.0.0, 2.0.1, or 2.0.2
BRM Accelerator	3.0.2	3.0.2	3.0.2
Connector for CA Unicenter Service Desk 12.7 & CA Software Change Manager™ 12.1.0.3	2.0.1	2.0.1	2.0.1
Connector for CA Unicenter Asset Portfolio Management 11.3.4	2.0.1	2.0.1	2.0.1
Connector for Microsoft SharePoint 2010	2.0.2	2.0.2	2.0.0, 2.0.1, or 2.0.2
Service Connect	2.0.0	2.0.0	2.0.0
Catalyst Connector	2.5.0 or 3.3.0	2.5.0 or 3.3.0	2.5.0 or 3.3.0
CA Clarity Agile	Spring 2013	Spring 2013	Spring 2013

New Add-in Installation

Add-ins, accelerators, and connectors are now included with CA Clarity PPM. You do not have to download the add-in separately and extract the .jar file.

Note: For more information about the new add-in installation process, see the *Installation Guide*.

Upgrade Action: See the table in the section named "[Add-in Compatibilities](#) (see page 20)" if you are required to install a new version of your existing add-ins, accelerators, or connectors.

Add-ins Affected by Portfolio Removal

The removal of old Portfolio features affected the following add-ins:

- BRM Accelerator
- New Product Development (NPD)
- PMO Accelerator

All three add-ins had portfolio-related portlets that were removed. For BRM Accelerator and NPD, the pages that displayed the portlets were left in place. The pages were left to accommodate customers who placed custom portlets or other valid portlets on the pages. If no custom or other portlets are present, the pages appear blank.

For the PMO Accelerator, the pages that contained portfolio-related portlets were removed. For the list of portlets and other features that were removed from CA Clarity PPM, see the section named "[Removal of the Old Portfolio Feature](#) (see page 65)."

Upgrade Action: If you use BRM Accelerator or NPD, review your Studio portlet pages and delete any that are empty.

CA Clarity PPM Solution Pack Compatibility

Before you install the CA Clarity PPM Solution Pack add-in, verify that the compatible versions of CA Clarity PPM and the PMO Accelerator are installed. The CA Clarity PPM Solution Pack installation fails if you do not install the compatible version of the PMO Accelerator add-in before installing the solution pack.

Important! Review the certified and supported versions chart in the CA Clarity PPM Solution Pack Release Notes to determine if an upgrade of CA Clarity PPM and the PMO Accelerator is required, or optional. For complete information, see the [CA Clarity PPM Solution Pack Index page](#) on CA Support Online.

Release 13.2 Reports

Starting with Release 13.2, all reporting content for CA Clarity PPM is delivered in the Clarity Solution Pack.

Upgrade Action For All Prior Clarity Versions: Legacy stock report definitions in Studio are inactivated during the upgrade process. The report definitions are converted from *system-restricted* status to *user-defined* to give you full control over the definitions. The existing reports in your Report Library become hidden because the report definitions have been deactivated. You can use the legacy stock reports and can see related instances in the Report Library by following these steps:

1. Open Administration, and from Studio, click Reports and Jobs.
2. Filter for Inactive Reports.
3. Activate the reports that you want to continue to use with Release 13.2.

Note: CA is no longer providing support for these reports. Activating a report is done with the understanding that you are responsible for all changes to maintain compatibility with Release 13.2 and releases beyond.

Post-Upgrade Action: We recommend installing the Clarity Solution Pack, which delivers the Release 13.2 compatible reporting content.

Xcelsius Designer 2008 SP6

Xcelsius Designer definition files created before Release 13.2 are overwritten during the upgrade. To continue to use your older design definition files, back up the files and regenerate new .swf files using Xcelsius 2008 SP6. Retest your interactive portlets after the upgrade to ensure they work with this release.

The Xcelsius Designer 2008 SP6 contains CRSF fixes for .swf files generated from the Xcelsius Designer client.

Post-Upgrade Action: If you created custom Xcelsius Dashboards, we recommend that you regenerate the .swf files for your dashboards using the Xcelsius Designer 2008 SP6 client.

Update Business Objects Reports Table Job

The *Update Business Objects Reports Table* job has been updated. The following list shows the parameters that were added, removed, or changed.

New parameter

Update Resource Skills Index. This parameter extracts resource skills and proficiencies.

Removed parameters

Update Portfolio Content. This parameter was removed as part of the old Portfolio feature removal.

Week Starting Day. This parameter was obsolete. All reports now use the *First Day of Work Week* parameter as defined in settings that are located by navigating to Administration, Project Management, Settings.

Changed parameters

Update Universe Calendar is now Update Reporting Calendar.

Update Program Hierarchy is now Update Investment Hierarchy. This parameter extracts investment hierarchies and the allocation percentages.

CA Clarity PPM Universes

The following CA Clarity PPM Legacy BIAR files are no longer provided with the product:

- CA_Clarity_Legacy_MSSQL.BIAR
- CA_Clarity_Legacy_Oracle.BIAR

Upgrade Action: None

The CA Clarity PPM Universes have been updated to reflect database schema changes in Release 13.2. The Portfolio Class has been removed from the Investments Universe. The new Cost Type attribute and the Capital Cost and Operating Cost amounts have been added.

Note: See the *Business Objects Universe Developer Guide* for details.

Upgrade Action: Import the BIAR file as part of your Clarity 13.2 upgrade process.

Access Right to View My Reports

To see the My Reports portlet, users must have the following access right:

Report - Access

Allows a user access to the reports pages. This access right is dependent upon one of the following access rights being granted to a user:

- The *Reports - Run - All* access right
- Instance level access rights such as *Report - Run*, *Report - View Output*, or *Report - Edit Properties*

CA Business Intelligence (CABI) Services Adjustments for this Release

We recommend the following adjustments to your CABI setup for this release. Make the adjustments from the BusinessObjects Central Management Server (CMS):

- **WebIntelligenceProcessingServer**
 - Maximum Connections: Change from 50 to 25.
 - Memory Maximum Threshold (MB): Change from 1800 to 1700.
 - Clone an extra service.
- **ReportApplicationServer**
 - Max Concurrent Report Jobs: Change from 75 to 50.
 - Clone an extra service.
- **AdaptiveJobServer (specific to WEBI)**
 - Clone an extra service.
- **CrystalReportsJobServer**
 - Clone an extra service.
- **Stop and disable the following services that are not used by CA Clarity PPM:**
 - DesktopIntelligenceCacheServer
 - DesktopIntelligenceJobServer
 - DesktopIntelligenceProcessingServer
 - EventsServer
 - ListOfValuesJobServer
 - MultiDimensionalAnalysisServiceServer
 - PMMMetricsServer
 - PMMRepositoryServer
 - PMMRulesServer
 - PredictiveAnalysisServer (Available only for non-Windows environments)
 - ProgramJobServer
 - SetsProfileServer
 - SetsQueryServer

Upgrade from a Release Earlier than Release 12.1

This topic explains the upgrade actions to take for reports if you have a CA Clarity PPM version earlier than Release 12.1.

Note: BusinessObjects report instances that are created in a version earlier than Release 12.1 can be viewed only as a PDF file after the upgrade.

Upgrade Actions:

Preupgrade:

- Upgrade to CABI Release 3.3.

Note: For more information about how to upgrade, see the *Installation Guide*.

- If you used any CA Clarity PPM universe objects, create a custom universe and link it to the CA Clarity PPM universe. The CA Clarity PPM universe is overwritten when the new Release 13.2 universes are installed.
- If you previously purchased the GSE Universes from CA Services, these universes are not overwritten by the Release 13.2 out-of-the-box universes.
- If you modified any out-of-the-box reports, move the modified reports to a custom report folder on the BusinessObjects server.

Upgrade:

- Follow the instructions in the *Installation Guide*.

Post-Upgrade:

- If you decide to continue using the old reports, see the instructions about reactivating legacy stock report definitions in the topic "[Release 13.2 Reports](#) (see page 23)."

Manually reschedule the scheduled reports. The scheduled reports that were configured before the upgrade to Release 13.2 do not automatically run after the upgrade.

- Update any user and security configurations that are required to support CABI Release 3.3 and trusted authentication integration with CA Clarity PPM.

Note: For more information, see the *Installation Guide*.

- Reset the BusinessObjects InfoView passwords for all preupgrade users who must log in to InfoView and run reports.
- To reset passwords for multiple users, use BusinessObjects Central Administration.

- If LDAP is not configured, synchronize the user lists in BusinessObjects and CA Clarity PPM by running the *Create Business Objects Users* job. If the job is not run, a CA Clarity PPM user must have a BusinessObjects account created to run or open a report.

The job creates a user in BusinessObjects for every user in CA Clarity PPM. The user that is created in BusinessObjects is given an encrypted password. To log in to the BusinessObjects server using the assigned password, the user ID and password must be reset under BusinessObjects Administration.

Upgrade from a 12.x Release or Service Pack

This topic explains the upgrade actions to take for reports if you have a CA Clarity PPM version older than Release 12.1.

There are no new user or security configurations; Release 13.2 uses the same CABI requirements and trusted authentication integration with CA Clarity PPM as Release 12.1 and Service Pack 12.1.1.

Upgrade Actions:

Preupgrade:

- If you are not already using CABI Release 3.3, upgrade to this release.
Note: For more information, see the *Installation Guide*.
- If you used any CA Clarity PPM universe objects, create a custom universe and link it to the CA Clarity PPM universe. The CA Clarity PPM universe is overwritten when the new Release 13.2 universes are installed.
- If you previously purchased the GSE Universes from CA Services, these universes are not overwritten by the Release 13.2 out-of-the-box universes
- If you modified any out-of-the-box reports, move the modified reports to a custom report folder on the BusinessObjects server.

Upgrade:

- Follow instructions in the *Installation Guide*.

Post-Upgrade:

- If you decide to continue using the old reports, see the instructions about reactivating legacy stock report definitions in the topic "[Release 13.2 Reports](#) (see page 23)."

Manually reschedule the scheduled reports. Scheduled reports that were configured before the upgrade to Release 13.2 do not automatically run after the upgrade.

- If LDAP is not configured, synchronize the user lists in BusinessObjects and CA Clarity PPM by running the *Create Business Objects Users* job. If the job is not run, a CA Clarity PPM user must have a BusinessObjects account created to run or open a report.

The job creates a user in BusinessObjects for every user in CA Clarity PPM. The user created in BusinessObjects is given an encrypted password. To log in to the BusinessObjects server using the assigned password, the user ID and password must be reset under BusinessObjects Administration.

Preserving Your File Directory Customizations

During the upgrade, you are prompted for the target installation directory. New preupgrade and postupgrade steps let you copy files to and from the CA Clarity PPM directory using ant-based scripting. Use ant scripts to automate preserving and restoring customization in the CA Clarity PPM directories.

Templates are provided in release-specific upgrade folders located in the installer root directory (at the same level as install.bat file). The templates are: *preprocess-upgrade.xml* and *postprocess-upgrade.xml*.

Example of preprocess-upgrade.xml script

```
<project name="content" default="upgrade" basedir=".">
  <target name="upgrade">
    <echo>Preserving customer specified files prior to upgrade from install.dir =
    ${install.dir}</echo>
    <if fileexists="${install.dir}" not="true">
      <fail>Install dir not specified = ${install.dir}</fail>
    </if>
    <delete dir="upgrade_temp"/>
    <mkdir dir="upgrade_temp" />
    <!-- Uncomment the copy below and list the files to be included for preservation
    -->
    <copy todir="upgrade_temp">
      <fileset dir="${install.dir}" >
        <include name="myfiles/my*.*/>
        <include name="abb/*01.jar"/>
        <include name="a*01.jar"/>
      </fileset>
    </copy>
  </target>
</project>
```

Example of postprocess-upgrade.xml script

```

<project name="content" default="upgrade" basedir=".">
  <target name="upgrade">
    <echo>Restoring customer specified files after upgrade to install.dir =
    ${install.target.dir}</echo>
    <if fileexists="${install.target.dir}" not="true">
      <fail>Install dir not specified = ${install.target.dir}</fail>
    </if>
    <!-- Uncomment the copy task below and list the files to be restored that were
    preserved in
    the preprocess-upgrade.xml script.-->
    <copy todir="${install.target.dir}">
      <fileset dir="upgrade_temp" >
        <include name="myfiles/my*.*"/>
        <include name="abb/*01.jar"/>
        <include name="a*01.jar"/>
      </fileset>
    </copy>
  </target>
</project>

```

Upgrading Large Data Sets

If your CA Clarity PPM upgrade processes a large volume of data, we recommend that you override the default memory settings used by the upgrade.

You can override the default memory settings provided in Release 13.2. Create a file named *memory.properties* and place it in the install/config directory. Set the desired memory values in that file.

The default values that are used during upgrade are:

- defaultScriptMaxMem=1024m
- defaultScriptPermGenMem=128m

Here are some sample settings in the *memory.properties* file:

- defaultScriptMaxMem=2560m
- defaultScriptPermGenMem=512m

Database Backup Image for New Installations

If you install Release 13.2 as a new installation, import the Release 13.2 database backup image before you start the installation. CA Clarity PPM now uses a backup-based database deployment mechanism. Instead of building the database at installation time, the product provides a prebuilt, fully populated database backup *base image* on the installation media. The base image contains everything that a new CA Clarity PPM installation requires.

The installation media contains the following images:

- The Microsoft SQL Server base image, compatible with all supported SQL Server versions. Remember to set the database compatibility level to 110 if you are using SQL Server 2012.
- The Oracle base image, compatible with all supported Oracle versions.

Note: For information about importing a database template image, see the *Installation Guide*.

Supported Upgrade Paths

Before you start the upgrade, we recommend that you read the [Basic Upgrade Process](#) (see page 32) process.

If you have any of the following releases installed, you can upgrade to CA Clarity PPM Release 13.2:

- CA Clarity PPM Release 8.1 or Service Pack or Fix Pack 8.1.x
- CA Clarity PPM Version 12.0 or Service Pack 12.0.x
- CA Clarity PPM Release 12.1 or Service Packs

Supported patch levels:

- 12.1.0.1 through 12.1.0.8
- 12.1.1.1 through 12.1.1.10
- 12.1.2.1 through 12.1.2.3
- 12.1.3.1 through 12.1.3.6

- CA Clarity PPM Version 13.0 or Service Packs

Supported patch levels:

- 13.0.1.1 through 13.0.1.7

- CA Clarity PPM Version 13.1 or Service Packs

Supported patch levels:

- 13.1.0.1 through 13.1.0.5

Important! If you are on a CA Clarity PPM patch level that is not included in the preceding list, take care when attempting an upgrade to Release 13.2. Issues could result if you try to upgrade to Release 13.2 from a patch level that is not supported. For best results, wait for a supported upgrade path to a later release or patch. To find out more, contact CA Support or your CA Services representative. You can also find more information by visiting the CA Clarity PPM User Communities.

The Release 13.2 installer can upgrade your data set from a variety of older releases. The installer detects how many incremental upgrade paths are required to bring your current installation up to Release 13.2.

Note: If you are running a version earlier than Release 12.1.1, consider upgrading to 12.1.1, 12.1.2 or 12.1.3 before you upgrade to Release 13.2. Although the interim upgrade is not a requirement, it simplifies the troubleshooting and re-start process if an upgrade step fails.

The Release 13.2 installer runs the upgrade processes shown in the following table.

Version, Release, or Service Pack Currently Installed	Upgrade Processes
Earlier than Service Pack 12.1.1	<ul style="list-style-type: none"> ■ Service Pack 12.1.1 ■ Version 13.0 ■ Release 13.1 ■ Release 13.2
Service Pack 12.1.1, 12.1.2, or 12.1.3	<ul style="list-style-type: none"> ■ Version 13.0 ■ Release 13.1 ■ Release 13.2
Version 13.0 or Service Pack 13.0.x	<ul style="list-style-type: none"> ■ Release 13.1 ■ Release 13.2
Release 13.1 or Service Pack 13.1.x	<ul style="list-style-type: none"> ■ Release 13.2

Basic Upgrade Process

To upgrade to Release 13.2, complete these steps.

1. Install the prerequisite third-party software.

Review the "Compatibilities" appendix in the release notes for the supporting operating environment information. The following important changes are included:

- Dropped support for 32-bit third-party vendor applications.
- The Java runtime must be a supported 64-bit version.
- Dropped support for Microsoft SQL Server 2005. If you use Microsoft SQL Server 2005 currently, we recommend upgrading your database to MS SQL server 2008 or 2008 R2 before upgrading to Release 13.2.
- Dropped Actuate as a supported reporting solution.

2. Create a full backup of your database, file systems, and customizations (if applicable).

Best Practice: To keep sequences in line, take a *cold* backup.

3. Remove customer-added database triggers, stored procedures, indexes, views, and constraints before upgrading.

Due to the database schema changes for this release, most custom triggers, indexes, and constraints can cause the upgrade to fail. We recommend removing, not disabling, customer-added triggers.

4. Review the steps for installing and upgrading in the *Installation Guide*.

Some important changes include:

- The installation for an upgrade prompts you for the current CA Clarity PPM folder and a target CA Clarity PPM folder. You can indicate the same folder or different folders for these prompts. If you specify the same folder for both prompts, the existing folder is renamed. Then, Release 13.2 is installed into an empty folder with the target folder name.
- If you are installing on a different server, review the Server Database Software topic in the *Installation Guide*.

5. Install or upgrade using the steps in the *Installation Guide*.

6. Complete the following post-installation steps:

- a. Verify that all installation steps completed successfully by reviewing the post upgrade report that the installer generates.
- b. Review the Clarity System Administration server admin.log and install.log for errors.
- c. Reapply any database and file system customizations.

- d. If you have custom Xcelsius dashboards, see "Correcting the CA Clarity PPM URL for HTML and Xcelsius Portlets" in the Version 13.0 *Change Impact and Upgrade Guide*.
7. Install or upgrade CABI Release 3.3 (BusinessObjects) and complete the following steps:
 - a. If you are installing CABI for the first time, review the CA Clarity PPM requirements.

Note: For more information, see the *Installation Guide*.
 - b. If you are upgrading from a version earlier than Release 12.1, reset the passwords of your BusinessObjects report users.

Resetting is necessary for all preupgrade users who must log in to Infoview and run reports. You can also set up BusinessObjects trusted authentication between BusinessObjects and CA Clarity PPM, which provides the LDAP integration with BusinessObjects and CA Clarity PPM.
 - c. Import the universes.
 - d. Review the section named "[Release 13.2 Reports](#) (see page 23)" for information on legacy stock reports and reactivate any existing stock reports that are desired.
 - e. Manually restart the scheduled reports.

Note: Any scheduled reports that were configured before the upgrade to this release do not automatically run after the upgrade.
8. Install your current add-ins and connectors if an upgrade is desired.

Notes:

- Review "How to Install Add-ins" in the *Installation Guide*.
- Back up your CA Clarity PPM installation before installing each add-in so that you can restore the application if necessary.
- Apply the Upgrade Ready content for those items that you are actively using.

Important! Consider the configurations that you have made to items before applying them. Applying modified items overwrites your configurations.

Best Practice: If you modified stock CA Clarity PPM content, copy the modified content before upgrading. Then, apply the new incoming stock CA Clarity PPM content, and retrofit the modifications to the new content.

- Read the PMO Accelerator Release Notes for important information about what has changed for PMO Accelerator.
- Review the *System: Clarity Content* add-in for upgrade ready content (for example, the Role Capacity portlet). To accept the new Release 13.2 upgraded content, apply the changes.

9. Review the Studio views and system content and manually upgrade as needed.

The upgrade preserves all preexisting Studio view configurations. If an existing view has configurations or if the object for the view is partitioned, the system does not automatically upgrade the view and/or the partition.

To determine which views were not automatically upgraded, use the Studio Views list page.

Some tips on reviewing the views:

- The Last Version column identifies changes to stock views in Release 13.2.
- If a view was automatically upgraded as part of the upgrade process, a checkmark appears in the Upgraded column. No further action is required.
- If a view that changed in Release 13.2 was not upgraded due to pre-existing configurations, decide whether to apply the changed view.

Look for views with the following column information:

Last Version column=13.2 and the Upgraded column= unchecked.

10. Verify your NSQL queries.

During the upgrade, the NSQL validator script automatically verifies NSQL queries. Results are written to the admin.log. This log contains the following information:

- Query name
- Query ID
- Content Source
- Query ID from CMN_NSQL_QUERIES of the query that failed validation

This release contains database schema changes. To ensure that portlets work, correct any invalid NSQL queries.

Note: For information about the database schema changes, see the chapter "Data Model Changes."

Upgrade Action:

If the query can be changed in Studio, complete these steps:

- a. Go to the NSQL tab for each failing query.
- b. Click the Preview button.
- c. Review the errors.
- d. Repair the broken query constructs or fields.
- e. Click the Preview button.
- f. Confirm that the NSQL query is valid.

If the query is in use by active portlets and cannot be edited in Studio, complete these steps:

- g. User the XML Open Gateway (XOG) to export the failing query.
- h. Correct the broken query constructs or fields.
- i. Use XOG to import the corrected query.
- j. Click the Preview button.
- k. Confirm that the NSQL query is valid.

11. Save the Upgrade Check Install Results Package.

The upgrade process produces a zipped file that contains all of the artifacts that were created during the upgrade. Review the contents and save the zip package for future reference.

The files are zipped into an archive that has a timestamp-encoded name (for example, checkinstall-results_2013-04-17_16-48-31.zip). This file is located in the checkinstall/check-logs directory, and if possible, the file is copied into the <target runtime dir>/logs/checkinstall directory.

Upgrade Tips

Read the following preupgrade and postupgrade tips to ensure that your upgrade to this release works as planned.

Preupgrade

- You must have the standard base calendar available in your CA Clarity PPM application before you upgrade. If you deleted the shipped calendar named *Standard*, create it before upgrading. Contact CA Support if your CA Clarity PPM instance is missing the Standard base calendar.

- Process all "In progress" transactions into WIP.

Verify the following conditions:

- imp_transactionimport and ppa_transcontrol are clear.
- WIP adjustments are approved.

Review and fix all invalid transactions.

- Review Time Slices.

Verify that the table is slicing out only the data that is required. If extra data is getting sliced, the effort adds to database size and the effort affects performance.

- Clear the Datamart and recreate the data post-upgrade to improve the processing time of the upgrade.

Note: For Release 13.2, the Datamart is automatically cleared for Oracle.

Use *NBI_Clean_Datamart_sp* to clear the Datamart. The script does not clear the following tables:

- The configuration table (NBI_CFG%)
- Time facts tables that contain historical information (*NBI_PM_PT_FACTS* and *NBI_FM_PT_FACTS*)

After the upgrade, run the following jobs to repopulate the Datamart tables:

- Datamart Extraction job
 - Datamart Rollup job
- Complete and put all processes on hold.
 - Remove or delete process history, notifications, jobs, or logs. Look for items that you do not need to retain.
 - Pause all scheduled jobs. Take special note of the *Time Slicing* job. Pause it before stopping the CA Clarity PPM services prior to upgrade.
 - To verify that all components are installed and functioning before and after the upgrade, run the CSA Health Report.
 - Remove all CA Clarity PPM services before running the upgrade using the following command: *niku remove all*.
 - Verify that no files or folders in the installation folder are in use anywhere.
 - See [Known Issues](#) (see page 38) for conditions that can affect the success of your upgrade. Take corrective actions where they are required.

Post Upgrade

- Review the post upgrade report that the checkinstall utility in the installer generates.

The files are zipped into an archive that has a timestamp-encoded name (for example, *checkinstall-results_2013-04-17_16-48-31.zip*). This file is located in the *checkinstall/check-logs* directory, and if possible, the file is copied into the <target runtime dir>/logs/checkinstall directory.

- Verify the performance metrics. During the upgrade, performance metrics are collected and the following files are written to the Logs folder:
 - ScriptMetrics.xml
 - Bootstrap.xml

The files contain the following information:

- A list of all upgrade scripts executed
- The row count of every table that is processed by preupgrade and postupgrade processing
- The execution time and results for each script or object

- Verify that Beacon is running to manage services and view logs.

Note: Beacon is required to be running always for Release 13.2.

- Ask your functional experts to review your upgraded test system side-by-side with a working preupgrade system.

Tip: Use dual monitors for side-by-side comparison.

- Review the *app-ca.log* after the functional experts have used the test environment and look for new errors.
- Review any customizations: Customer-added database triggers, custom indexes and constraints, any file system changes, and custom interfaces. Review anything that did not come out-of-the-box with CA Clarity PPM. Adjustments can be required for customizations to work with this release.
- Review the system log file sizes. The log file size for all service system log files is set to 5 MB and to keep five rolling logs (for example, *app-system.log*, *app-system.log.1*). For more information, see the Release 13.1 *Change Impact and Upgrade Guide*.
- Gel Tag Restrictions: Release 13.1 gave the ability to restrict certain Gel tags in an environment. For more information, see the Release 13.1 *Change Impact and Upgrade Guide*.
- The Java Runtime Environment (JRE) is no longer available from the Clarity Software Downloads link. Review the supporting documentation and training materials you provide to your users. Wherever these materials direct users to download the JRE from within CA Clarity PPM, update the reference. Direct your users to download the JRE (Version 7) from www.java.com.
- Register any Portfolio Investment attributes that you want to display in portfolio pages. Although the required attributes display by default, you are required to register any other attributes (stock or custom) that you want to display.
- Remove the *Resource - Edit Financial* access right.

If your company policy does not allow resource managers access to the Financial Properties subpage for the resources they manage, you can remove that capability.

Run a post installation script to perform the following actions:

- Remove the *Resource - Edit Financial* access right from all current resource managers.
- Clear the setting for the financial option that automatically grants the access right to new resource managers.

Note: To maintain existing behavior, this right is granted during the upgrade. This right replaces the automatic right that was removed as part of the Financially Enabled Roles feature.

Upgrade Action: (Optional) Run the script to remove the access right.

Follow these steps:

1. At the command line on the CA Clarity PPM server, change to the <clarity_home>/bin directory.

The directory contains the dbpatch script.

2. Run the following command:

Windows:

```
dbpatch -install -file  
../upgrade/ppm/schema/postupgrade/RevokeResEditFinRightFromResourceMgrs.x  
ml -apply
```

UNIX:

```
./dbpatch -install -file  
../upgrade/ppm/schema/postupgrade/RevokeResEditFinRightFromResourceMgrs.x  
ml -apply
```

Known Issues

This section provides known issues for CA Clarity PPM.

Duplicate Cost Plan Code Error

This issue applies *only* to upgrades from a 12.x release to Release 13.2.

The duplication of a plan code within a financial plan can cause the upgrade process to fail. The plan code for each plan type within the investment must be unique. For example, you can have a cost plan with the code *MasterPlan2011* and a budget plan with the same code. However, you cannot have two cost plans with code *MasterPlan2011* for the same investment. The unique database constraint for this rule was added in Version 13.0.

Due to concurrency issues, there can be a data issue in previous versions. When a duplicate plan type code exists within a single financial plan, the upgrade process fails with an appropriate error message. You must correct the data issue before resuming the upgrade process. An upgrade check script runs and alerts you that this problem exists.

Run the following query to identify possible data issues before you start the upgrade:

```
SELECT p1.id, p1.code, p1.name
FROM fin_plans p1, fin_plans p2
WHERE p1.id != p2.id
AND p1.object_id = p2.object_id
AND p1.code = p2.code
AND p1.plan_type_code = p2.plan_type_code
```

If this query returns any rows, it indicates issues with fin_plans table data.

We recommend that you rename the codes for duplicate records. Do not change the other data. A sample query is available to fix the data issues. Because this known issue deals with financial information, review the query carefully before deciding to use it. The following query appends *<internalid>* to the duplicate plan code.

```
<!-- Oracle -->
UPDATE fin_plans
SET code = code || '_' || to_Char(id)
WHERE id IN
    ( SELECT p1.id
      FROM fin_plans p1, fin_plans p2
      WHERE p1.id != p2.id
        AND p1.object_id = p2.object_id
        AND p1.code = p2.code
        AND p1.plan_type_code = p2.plan_type_code
    )

<!-- Mssql -->
UPDATE fin_plans
SET code = code + '_' + CAST(id AS VARCHAR)
WHERE id IN ( SELECT p1.id
              FROM fin_plans p1, fin_plans p2
              WHERE p1.id != p2.id
                AND p1.object_id = p2.object_id
                AND p1.code = p2.code
                AND p1.plan_type_code = p2.plan_type_code
            )
```

Missing Data for Resource Financials

This issue applies *only* to upgrades from a 12.x release to Release 13.2.

If the Resource Class or Transaction Class fields are null for Resource financials, the upgrade process fails. The data must be corrected before you resume the upgrade process. An upgrade check script runs and alerts you that this problem exists.

The *not null* database constraint for the RESOURCE_CLASS and TRANSCCLASS columns in the PAC_MNT_RESOURCES table was added in Version 13.0. If you are upgrading from a previous version of CA Clarity PPM, it is possible the information may be missing.

We recommend running the following query to identify records with this data issue before starting the upgrade.

```
Select * from pac_mnt_resources where RESOURCE_CLASS is null OR transclass is null
```

If this query returns any rows, it indicates that there are issues with the PAC_MNT_RESOURCES table data. We recommend reviewing all returned records and updating the records with valid transaction class and resource class values.

Upgrade Fails if the Default Language for the Admin User Is Not English

A portion of the upgrade relies on the English locale when it is importing content using the XML Open Gateway. This import fails if the default language of the admin user is not set to English. The workaround is to set the admin user language to English.

Resume Capability During the Upgrade

This release does not support the ability to resume during an upgrade. If your upgrade fails, review the logs to determine the reason for the failure, restore the working pre-upgrade version and database, correct the failure, and restart the upgrade.

Potential Infinite URL Redirect Issue

Potential infinite URL redirect issues can arise when you run CA Clarity PPM in SSL mode. To avoid these issues, we recommend entering the same host name in the following locations:

- The URL to access the application (`https://<hostname>:<ssl_port>/niku/nu`)
- The HTTPS Entry URL field in the Application subtab under the Properties tab in Clarity System Administration

Complete these steps if you see the infinite URL redirect issue while operating in SSL mode:

1. Stop the product.
2. Review the HTTPS Entry URL field in CSA.
3. Correct the entry if needed and restart the application service.

Export Icons in Resource Planning Tabs Not Functioning

Export to Excel and Export to PowerPoint icons on a Resource Planning tab give an error when you click them.

Note: This issue applies only to WebSphere application servers.

As a workaround, use the Export to Excel and Export to PowerPoint links available from the Options icon in the individual portlets on the tabs.

Missing General Action Menu After Upgrade

In some cases, the General Action menu may not appear after an upgrade. This issue occurs on the Project object when the following conditions are present:

- In the edit properties view (Layout>Edit), a display condition is defined on the General subpage.
- The General object actions menu for the view is not customized.

You can correct the issue before the upgrade, or you can upgrade and then correct the issue in the new upgraded product.

To correct the issue before the upgrade:

Remove the display conditions on the General subpage before the upgrade and redefine the display conditions after the upgrade.

Note: If the preupgrade server is on Version 13.0 or a later service pack, you can handle the issue in a different manner. Before you start the upgrade, edit the General Action menu. Move any action that is listed there from the Available Actions list to the Selected Actions list and save. After the upgrade is complete, you can remove any unwanted actions.

To correct the issue after the upgrade:

1. Create an action menu with following details:
 - Menu Name: General
 - Menu Code: general
 - Description: General

2. Move the following out-of-the-box actions from the Available Actions to the Selected Actions list:

- Add to My Projects
- Copy Project from Template
- Remove from My Projects
- Go to Links Page
- Go to Notes Page

Note: For more information about creating an action menu, see the *Studio Developer's Guide*.

Upgrade Stops if OBS Unit Names Have Special Characters

If the OBS unit names, department names, or location names include special characters, the upgrade to Release 13.2 stops during the pre-installation checker step. This case applies to an upgrade to Release 13.2 from any previous release.

The following special characters cannot be used in OBS unit names, department names, or location names:

- Slash (/)
- Colon (:))
- Double quote (")
- Less than (<)
- Greater than (>)

We recommend running the following query to identify the OBS names with the special characters before starting the upgrade. If the query returns any rows, OBS names with special characters are present in the PRJ_OBS_UNITS table. We recommend that you review all returned OBS unit, department, or location names and update them with valid names.

For MSSQL:

```
SELECT * FROM PRJ_OBS_UNITS
WHERE NAME LIKE '%/%' OR
      NAME LIKE '%:%' OR
      NAME LIKE '%["]%' OR
      lower(NAME) LIKE '%&' + 'quot;%' OR
      lower(NAME) LIKE '%&' + 'gt;%' OR
      lower(NAME) LIKE '%&' + 'lt;%' OR
      NAME LIKE '%<%' OR
      NAME LIKE '%>%'
```

For Oracle:

```
SELECT * FROM PRJ_OBS_UNITS
      WHERE NAME LIKE '%/%' OR
             NAME LIKE '%:~%' OR
             NAME LIKE '%~%' OR
             lower(NAME) LIKE '%&' || 'quot;%' OR
             lower(NAME) LIKE '%&' || 'gt;%' OR
             lower(NAME) LIKE '%&' || 'lt;%' OR
             NAME LIKE '%<%' OR
             NAME LIKE '%>%'
```

To review the use of special characters in the filter expressions (power filters), we also recommend using the following query. Update any OBS names the query returns with the appropriate valid names.

For MSSQL:

```
SELECT * FROM ODF_FILTER_EXPRESSIONS exprs, prj_obs_units units
WHERE exprs.expression like '%'+cast(units.id as nvarchar)+'%'+units.name+'%'
      and (units.name LIKE '%/%' OR
            units.name LIKE '%:~%' OR
            units.name LIKE '%~%' OR
            lower(units.name) LIKE '%&' + 'quot;%' OR
            lower(units.name) LIKE '%&' + 'gt;%' OR
            lower(units.name) LIKE '%&' + 'lt;%' OR
            units.name LIKE '%<%' OR
            units.name LIKE '%>%' )
```

For Oracle:

```
SELECT * FROM ODF_FILTER_EXPRESSIONS exprs, prj_obs_units units
WHERE exprs.expression like '%'||units.id||'%' ||units.name||'%'
      and (units.name LIKE '%/%' OR
            units.name LIKE '%:~%' OR
            units.name LIKE '%~%' OR
            lower(units.name) LIKE '%&' || 'quot;%' OR
            lower(units.name) LIKE '%&' || 'gt;%' OR
            lower(units.name) LIKE '%&' || 'lt;%' OR
            units.name LIKE '%<%' OR
            units.name LIKE '%>%' )
```

Automatic Update to OBS Names During Upgrade

If an OBS name contains a left curly bracket ({) or a right curly bracket (}), left or right parentheses replace the characters during the upgrade.

Example: The OBS name External{Department} becomes External(Department) after the upgrade.

Report Instance Export from the Report Library

You cannot export report instances from the report library when the BusinessObjects server is configured with CA Clarity PPM installed on a Windows 2012 server. BusinessObjects Enterprise 3.1 SP5 is not supported for Windows 2012.

Note: Installing the BusinessObjects server on a supported configuration does not avoid this issue. The .jar files that are used for the CA Clarity PPM integration are not compatible with Windows 2012.

Orphan Records in Table CMN_SEC_ASSGND_OBJ_PERM for MSSQL Users

A recent change prevents the creation of orphan records in the table CMN_SEC_ASSGND_OBJ_PERM. However, for MSSQL users, pre-existing orphan records can sometimes remain. You can search for orphan records and can remove them from the table after the upgrade to Release 13.2 is complete.

To verify that orphan records exist in the table, run the following query:

```
select COUNT(*) from (select object_instance_id from cmn_sec_assgnd_obj_perm p
    where p.object_ID = 50680 and object_instance_id not in
    (select ID from BPM_RUN_PROCESSES)) q
```

The number value that the query returns indicates the number of orphan records.

To clean up orphan records, invoke the following upgrade script from <clarity_install_dir>/bin using dbpatch:

POSTUPGRADE_57954_MSSQL_DEL_PROC_INST_ASSGND_OBJ_PERM.xml

Use the following command:

```
dbpatch -install -file
<CLARITY_INSTALL_DIR>\upgrade\13.2.0\component\postupgrade\POSTUPGRADE_57954_MSSQ
L_DEL_PROC_INST_ASSGND_OBJ_PERM.xml -apply
```

Note: The length of time the query runs is dependent on the number of orphan records to be deleted.

CA Clarity PPM Upgrade and Oracle Enterprise Table Compression

If you are using the Oracle Enterprise Edition compression feature, disable the compression feature before starting the CA Clarity PPM upgrade. If the compression feature is enabled, the upgrade fails with the following Oracle database error:

[CA Clarity][Oracle JDBC Driver][Oracle]ORA-39726: unsupported add/drop column operation on compressed tables

The following procedure explains how to get ready for the upgrade by disabling compression. Once the procedure is complete, you can proceed with the upgrade. When the upgrade has successfully completed, you can compress the tables again.

To prepare for the upgrade, complete the following steps:

1. Identify compressed tables by executing the following query:

```
SELECT TABLE_NAME, COMPRESSION FROM USER_TABLES WHERE COMPRESSION='ENABLED';
```
2. Disable compression. Run the output of this query. Keep this list handy, so that these tables can be compressed again after the upgrade.

```
SELECT 'ALTER TABLE ' || TABLE_NAME || ' MOVE NOCOMPRESS;' FROM USER_TABLES WHERE COMPRESSION='ENABLED';
```
3. Rebuild the unusable indexes. Run the output of this query:

```
SELECT 'ALTER INDEX ' || INDEX_NAME || ' REBUILD;' FROM USER_INDEXES WHERE STATUS='UNUSABLE';
```


Chapter 3: Administration

Configurable Organizational Breakdown Structure (OBS)

The Configurable OBS feature lets a CA Clarity PPM administrator configure an OBS like other CA Clarity PPM attributes. Here are some examples of how the CA Clarity PPM administrator can configure the OBS attributes:

- Make the OBS field mandatory.
- Make the OBS field read-only.
- Set the OBS field so that the value is entered only once.
- Set the default value for the OBS field.
- Set the override default value for the OBS field.
- Hide the OBS field.
- Change the label for the OBS field.
- Move the OBS section to another subpage or a secured subpage.
- Rename the OBS section.
- Delete the OBS section.
- Move the OBS fields out of the OBS section to any other section.
- Configure the OBS attributes on the list page.
- Use inline editing.
- Enable audit trail for the OBS attributes.
- Use auto-suggest for the OBS fields.
- Use language translation for the OBS fields.
- Use an OBS field in the system or manual action of a process definition.

When an object is associated with an OBS, the following actions happen:

- The associated object appears as a hyperlink under the Associated Objects section on the OBS Properties page.
- For a non-financial OBS, an attribute with the OBS name and *OBS - Lookup Data Type* is created on the associated Object Attribute page.

- For a financial OBS, an attribute named *Department OBS* of *OBS Entity - Lookup* Data Type is created on the associated Object Attribute page. The *Department OBS* attribute is created only on the first association of an object with the financial Department OBS. As a result, you have only one Department OBS attribute in the attributes list of the associated object.
- These Data Types are reserved only for the OBS attributes and are not available for the custom attribute creation. However no attribute is created when you associate an object with the Location OBS.

The following tables provide you the details of the OBS attributes that are created after the association.

Financial OBS				
OBS Name	Object Name	Attribute Name	Attribute ID	Data Type
CA Dept	Project ¹⁾	Department OBS	odf_obs_fin_dept	OBS Entity - Lookup
CA Loc	Project	N/A	N/A	N/A
Non-financial OBS				
OBS Name	Object Name	Attribute Name	Attribute ID	Data Type
Resource Pool	Project	Resource Pool ²⁾	odf_<first four valid characters of the OBS_ID>_<#code of the OBS ID>	OBS - Lookup

Notes:

- ¹⁾Can be any except the following objects:
 - Financial OBS: Company, Incident Category, Job/Report, Page, Portfolio, Portlet, Process Definition, Release, Release Plan, and Requirement.
 - Non-financial OBS: Incident Category, Job/Report, Page, Portlet, and Process Definition.
- ²⁾By default, the OBS name, and the attribute name are the same when an object is associated with a non-financial OBS.

For more information about the configurable OBS, see the *Administration Guide*.

Chapter 4: Add-in Enhancements

Auto-recalculation Feature in Microsoft Project (MSP) Connector

In Microsoft Project (MSP), the whole project is recalculated after being opened in CA Clarity PPM only if the Calculation Mode for a schedule is set to On.

In previous releases, when you exported a project from CA Clarity PPM to MSP, the End Date and Dependency fields change. These fields are recalculated and updated for some tasks. The update occurs even though the Calculation Mode is set to Manual in MSP.

Starting with this release, you can export a project from CA Clarity PPM to MSP without updating the End Date and Dependency date fields. To prevent these fields from updating, complete the following tasks:

- Set the Calculation Mode for the schedule to Off in MSP.
- Set the Loading Pattern for all tasks in a project to Uniform in CA Clarity PPM.

You can update the end date of a task that is assigned to a resource with a termination date earlier than the task end date. The following table illustrates how task end dates are updated in these cases.

Resource Termination Date	Update to the Task Finish Date
Before the task start date	The task finish date is set to the task start date. The task is changed to a milestone task.
After the task start date but before the task finish date	The task finish date is set as the resource termination date.

In both the cases, the task end date is set according to the resource termination date.

PMO Accelerator and Clarity Solution Pack

For enhancement information on these CA Clarity PPM products, see the *PMO Accelerator Release Notes* and the *Clarity Solution Pack Release Notes*.

Chapter 5: Financial Management

This section contains the following topics:

[Capital and Operating Expenses](#) (see page 51)

[Update Investments Created Before Release 13.2 to Display Capital and Operating Expenses](#) (see page 53)

Capital and Operating Expenses

You can show operating and capital costs separately on the simple budget page and in a detailed financial plan. You can enter the cost information in the following ways:

- For a high-level estimate, enter the sums for these expenses directly on the investment budget page.
- For a more detailed view of cost type information, set up an investment financial plan that collects operating and capital expenses. You can collect detailed cost information from tasks or team allocation.

The following table shows the changes for this new feature.

New Attributes Added	Page or Area	Object	Default Value	User Interface Behavior	XML Open Gateway	Security
Cost Type	Investment financial properties	projfinproper ties npiofinancial properties	Operating	The attribute is required on the investment financial properties page. In Release 13.2 the attribute is visible on the financial properties view even if the view is customized.	The attribute is not required in the XOG. It is added as part of the investment general properties.	

New Attributes Added	Page or Area	Object	Default Value	User Interface Behavior	XML Open Gateway	Security
Cost Type	Task	task	None	In Release 13.2, the attribute is not visible by default. It must be configured to display.	The attribute is added as part of task in the Investment XOG.	This attribute is editable only if financial access rights are granted. Although you can edit this attribute in Open Workbench and Microsoft Project, you must have financial access rights to save the edits to CA Clarity PPM.
Capitalization Percent	Team	team	None	The attribute is not visible by default. It must be configured to display.	The attribute is added as part of team in the Investment XOG.	This attribute is editable only if financial access rights are granted.

New Attributes Added	Page or Area	Object	Default Value	User Interface Behavior	XML Open Gateway	Security
Planned Capital Cost Planned Operating Cost Budget Capital Cost Budget Operating Cost Planned Capital % Planned Operating % Budget Capital % Budget Operating %	Simple budget	financials	N/A	The attributes are not visible by default. They must be configured to display.	The following fields are not part of the XOG: Planned Capital % Planned Operating % Budget Capital % Budget Operating % The remaining fields will be added with investment general properties. The following existing fields become read only: Planned Cost Total Budget Cost Total	

Update Investments Created Before Release 13.2 to Display Capital and Operating Expenses

After you upgrade to this release, you can update investments that were created before Release 13.2 to show capital and operating expenses. Updating your investments is optional and depends on your business needs. Update only if you want to display capital and operating expenses separately in financial plans.

The following jobs automate the task of adding the Capital and Operating cost type to investments:

Enable Capitalization

This job sets the Cost Type attribute to Operating or Capital on the investments, tasks, and transactions that you select for the update. You select and map investment charge codes to either Operating cost type or Capital cost type. When the job runs, the cost type that is mapped to the charge code is applied to the investment and its tasks and transactions. This job also updates the capitalization percent on the investment team records if you enter a Capitalization Percent value in the job parameters.

Copy Cost Type Plan of Record Charge Code with Cost Type

This job creates a copy of an investment plan of record and adds Cost Type to the list of existing grouping attributes. To make an investment eligible for this job, you are required to run the *Enable Capitalization* job successfully on the investment first.

If you do not run the jobs, you see the following results:

- All existing investments have a cost type of Operating.
- All records in the PPA_WIP table have a cost type of Operating.

Upgrade Action: (Optional) Run the jobs in the order that is listed to update investments that were created before Release 13.2.

If you are processing investments with large amounts of data, limit the number of investments for a job run. When all of your investments have been successfully processed to show capital and operating expenses, we recommend deactivating the jobs.

Note: For more information about the jobs, see the *Administration Guide*.

Chapter 6: Mobile Time Manager

The CA Clarity Mobile Time Manager lets you submit timesheets and approve timesheets from a mobile smartphone. The Mobile Time Manager feature lets you:

- Submit a timesheet
 - Populate timesheet items from the previous timesheet period.
 - Return a timesheet that was previously submitted.
- Approve a timesheet
 - Complete bulk timesheet approvals or returns.
 - Send a reminder to resources who have not submitted their timesheets.
 - Complete ad-hoc and action item timesheet approvals.

Upgrade Action: None.

Note:

- To allow the workflow timesheet action item approvals from the Mobile Time Manager, update the workflow process definition to configure *Approve* and *Return* in the manual action item step.
- A user requires the global access right *Mobile - Access* to view data from a CA Clarity PPM instance using the Mobile Time Manager.

Chapter 7: Open Workbench

For any new features and enhancements in OWB, refer to the *OWB Release Notes*.

This section contains the following topics:

[Date Attribute](#) (see page 57)

[User Interface Improvements](#) (see page 58)

[Dependency Deletion](#) (see page 58)

[Draggable Margins in the Print Preview](#) (see page 59)

[Cost Type Attribute](#) (see page 59)

Date Attribute

Starting with this release, you can use the Date and Time option in the Formatting Options to configure the Date attribute. This option is applicable only for the Date attribute and is cleared by default. When you configure the Date attribute, the configuration can be persisted into the View data just as other options.

The Date and Time option is supported in the following languages:

- French
- German
- Japanese
- Portuguese

Note: The Open Workbench Date format configuration is independent of, and does not affect, the CA Clarity PPM view configuration. The configuration persists only on the client side and cannot be saved back to CA Clarity PPM. If you configure the Date attribute to appear as Date and Time in CA Clarity PPM, the configuration exists only in the application and it does not affect Open Workbench. By default, the Date attribute appears as Date in Open Workbench, unless you have configured that attribute to appear as Date and Time.

Upgrade Action: None

User Interface Improvements

This release includes the following user interface enhancements to make it grid-based:

- **Auto-resizing of columns**

Double-clicking the column separator in the head of a grid view resizes the column width. The column to the left of the separator automatically resizes so you can see the full content. If the content is wider than the available space, the columns resize so that the fields fill the available space, but leave room for other columns.

- **Auto-resizing of panels**

Double-clicking the panel separator moves the separator to fit the panel to the left of the separator so that the full panel is visible. If the panel is wider than the screen, the separator moves, pushing the panels to the right off the screen.

- **Correct scaling of scroll bars to content**

Before this release, the scroll bars did not tell you how much content is in the view and in which position the display is located in the view. Starting with this release, the size of the scroll bars reflects the portion of the screen that is visible in relation to the total content. If the content of the panel is two screens high, the vertical scroll bar handle occupies half of the available scroll bar height. This allows you to see how much content is in the panel and you can also determine the exact position of the display.

- **Removal of scroll bars when not necessary**

Before this release, the grid scroll bars were available even if there was no scrollable content. Starting with this release, the scroll bars disappear when no scrollable content is present, allowing for a larger display of data.

Upgrade Action: None

Dependency Deletion

The Dependency Deletion feature lets you remove unwanted dependencies. The feature is divided into the following parts:

- **Dependency Selection**

When you hover over a dependency line in the Gantt chart, the cursor changes to crosshair.

- **Edit or Delete the Dependency**

Double-clicking the dependency line opens the Task Properties window with the Dependencies tab selected and the successor task highlighted. You can edit or delete the highlighted task.

Upgrade Action: None

Draggable Margins in the Print Preview

You can turn on and off the appearance of separation lines using the Show margins check box in the ribbon menu. The separation lines appear between two display elements, for example, between the page header and the page content. Use these separators to change the delimiters and page area for each element.

Upgrade Action: None

Cost Type Attribute

Starting with this release, the Cost Type attribute is added as part of a task and a project in the investment XOG. You can edit the Cost Type attribute and save it back to CA Clarity PPM only if you have the following access rights:

Global Rights	Instance Rights
<i>Project - Edit Financial - All</i>	<i>Project - Edit</i>
<i>Project - Enable Financial</i>	<i>Project - Edit Financial</i>

Without these access rights, you can only edit the attribute, but you cannot save it back to CA Clarity PPM.

Note:

- You can edit and save the Cost Type attribute for all projects and tasks when you have at least one of these Global rights.
- You can edit and save the Cost Type attribute for specified projects and tasks when you have at least one of these Instance rights.
- For master or subproject structure, instance rights cannot be inherited from the master project to a subproject.

Upgrade Action: None

Chapter 8: Portfolio Management

This section contains the following topics:

[New Portfolio Feature](#) (see page 61)

[Portfolio Pages](#) (see page 62)

[Portfolio Access Rights](#) (see page 63)

[Attribute Registry for the Portfolio Investment Object](#) (see page 64)

[Removal of the Old Portfolio Feature](#) (see page 65)

[Backup of Removed Portfolio Tables](#) (see page 72)

New Portfolio Feature

The Portfolio functionality was rewritten for Release 13.2. Some of the highlights include the following features:

- The ability to plan portfolios by cost types (capital or operating).
- The ability to plan constraints (cost or resource) by specific period.
- The ability to create portfolio investment ranking rules.
- The ability to rank investments manually.
- Drag and drop capabilities for investment start and end dates and investment rankings.
- The addition of a *sync* job to synchronize the investment information with portfolios manually, or at specified time intervals. This ability lets portlet-based portfolios gather the portfolio information more efficiently from one central area.
- A portfolio dataprovider created with a consistent naming convention.
- A job that is aligned to each portfolio can be configured to update the portfolio investment information at user-defined intervals, or on a manual basis.

The old portfolio feature was removed from the user interface. The new portfolio feature has new data providers and new database tables and columns. Queries, both stock and custom, that worked with previous releases do not work with Release 13.2.

Some old portfolio information is preserved in backup tables during the upgrade. For more information, see the section that is named "[Backup of Removed Portfolio Tables](#) (see page 72)."

Upgrade Action: (Optional) Use the new Portfolio feature to create new portfolios using the user interface.

Portfolio Pages

The following descriptions outline the features that are found on each Portfolio page.

Portfolio Properties Page

- Inclusion of the cost type (operating or capital) for use for portfolio planning purposes.
- Ability to select a portfolio manager (one or many) from a list of resources.
- Ability to select a portfolio stakeholder (one or many) from a list of resources.
- Ability to set portfolio synchronization time periods.
- Display of the portfolios last sync date and time.
- Ability to set portfolio effort measurement units (for resources or roles) to either hours or full-time equivalents (FTE's).

Portfolio Contents Editor Page

- Ability to include specific investments by rules or investment criteria.
- Ability to add specific investments to the portfolio manually.
- Ability to add the relationship between parent and child portfolios.

Investment Page

- Ability to view and change selected plan information relating to investments.
- Ability to change, by period, the selected plan investment cost information.

Targets Page

- Ability to distribute targeted costs (operating and expense) by period to be used as a constraint for portfolio planning purposes.
- Ability to distribute targeted benefits by period to be used as a constraint for portfolio planning purposes.
- Ability to distribute targeted role effort by period to be used as a constraint for portfolio planning purposes.
- Ability to filter and repopulate the role capacity information by different parameters.
- Ability to scale the role information higher or lower.

Plan Page

- Ability to distribute targeted costs (operating and expense) by period to be used as a constraint for portfolio planning purposes.
- Ability to distribute targeted benefits by period to be used as a constraint for portfolio planning purposes.

Waterline Page

- Ability to rank investments by constraint and other information characteristics.
- Ability to change and run ranking rules against investments.
- Ability to modify an investment ranking manually using drag-and-drop functionality.
- Ability to change *what-if* and investments start and end date by dragging and dropping on an investment timeline.
- A *waterline* to allow the analysis of investment information against portfolio plan constraints.
- Ability to drag-and-drop the waterline manually.
- An indicator (gauge) of portfolio constraints in the relationship to investment information that is above and below the waterline.
- Ability to change the timescale of information for the investment.

Portfolio Access Rights

Users require the new Portfolio access rights after the upgrade. Without the assignment of the new Portfolio access rights, users cannot see the Portfolio menu links after logging in to the application. The system administrator must manually assign users rights. No automatic assignment of new rights for users who had the old Portfolio rights is available.

Upgrade Action: Assign access rights for the new Portfolio feature to the users who require them.

The following access rights are required to work with portfolios:

Portfolio - Create

Allows a user to create Portfolios.

Includes: *Portfolio - Navigate* right to navigate to the portfolio pages.

Type: Instance

Portfolio - Navigate

Lets a user access the portfolio pages.

Type: Instance

Portfolio - Edit All

Lets a user edit all Portfolios.

Type: Global

Portfolio - Edit Access Rights - All

Lets a user edit the access rights for all portfolios. This access right does not include the *Portfolio - Navigate* or *Portfolio - View* rights.

Type: Global

Portfolio - View Access Rights - All

Lets a user view the access rights for all portfolios. This access right does not include the *Portfolio - Navigate* or *Portfolio - View* rights.

Type: Global

Portfolio - View All

Lets a user view all portfolios.

Type: Global

Portfolio - XOG Access

Lets a user import and export portfolio instances using the XML Open Gateway interface.

Type: Instance

You can select a user as a Manager or a Stakeholder on a portfolio's properties page. Being selected as a Manager or Stakeholder automatically a user the following rights to the portfolio:

- Manager. This user can edit information in the portfolio.
- Stakeholder. This user can only view information in the portfolio.

No access rights apply to the investments and plans that are contained in a portfolio. If you have rights to view or edit a portfolio, you can view or edit all investments and plans in the portfolio.

Attribute Registry for the Portfolio Investment Object

The required Portfolio Investment object attributes are displayed by default in your new portfolio pages and views. However, you must register any other Portfolio Investment attributes (stock or custom) that you want to display. You can locate the attribute registry by opening the Portfolio Investment object in Studio and clicking Attribute Registry.

Note: If you make changes in the attribute registry, remember to sync your changes by running the *Synchronize portfolio investments* job. The job refreshes the investments in the portfolio pages with information from actual investments.

For information about using the attribute registry, see the *Studio Developer's Guide*.

Removal of the Old Portfolio Feature

The old Portfolio feature has been removed from the product and a new Portfolio Management feature has been added. If your home page was an old Portfolio page or tab, your home page is no longer in the product. In this case, your home page in Release 13.2 reverts to the system default home page.

Upgrade Action: If your home page was an old Portfolio page or tab, log in to CA Clarity PPM and select a new home page.

Portlets from the old Portfolio feature have been deleted, but the pages that contained the portlets remain. The pages were left in place to accommodate customers who customized the pages by adding other valid portlets. Pages with no custom portlets are still visible, but they are empty.

Upgrade Action: Review your Studio portlet pages and delete any that are empty.

During the upgrade, customer-defined objects that include references to the old Portfolio feature are deleted. An audit of deleted objects is written to the upgrade-ca.log file.

Upgrade Action: Review the upgrade-ca.log file for a list of items that are deleted during the upgrade. The deleted items that are logged include:

- Customer-defined and stock objects
- Subobjects
- Pages
- Tabs
- Menu items
- Portlets
- NSQL scripts
- Favorites
- Security rights and groups
- Lookups
- Attributes that are based on deleted lookups
- Database tables, views, triggers, procedures, packages, and functions
- Processes

The following information for the old Portfolio feature was removed from Release 13.2:

- The Portfolio object and any user-defined custom subobjects

- Groups:
 - PortfolioUsers
 - PortfolioManager
 - PortfolioAccess
- Access rights (Instance, OBS, and Global):
 - *Portfolio - Create*
 - *Portfolio - Edit*
 - *Portfolio - Edit Access Rights*
 - *Portfolio - Edit Access Rights - All*
 - *Portfolio - Edit - All*
 - *Portfolio - Manager (Auto)*
 - *Portfolio - Navigate -*
 - *Portfolio - Create Scenarios*
 - *Portfolio - View Scenarios*
 - *Portfolio - View*
 - *Portfolio -View - All*
 - *Portfolio - XOG Access*
- Menu items:
 - The old Portfolios menu option from the Portfolio Management section of the Home menu. This menu item was replaced for the new Portfolios feature.
 - Custom menu items that reference the old Portfolio feature
 - Favorites that reference the old Portfolio feature
- Stock Portlet Pages and Tabs:
 - Portfolio Default Layout
 - PMO Portfolio Layout
 - Products Dashboard (NPD)
 - Projects Dashboard (NPD)
 - Idea Dashboard (NPD)
- Lookups: Portfolio out-of-the box and custom dynamic lookups (static lookups remain)

- NSQL Queries. Any custom NSQL queries that reference affected database tables or database views were removed.

The following out-of-the-box NSQL queries were removed:

- Benefits by Goal
 - Planned Costs Monthly
 - Life-cycle Funnel
 - Budget and Forecast by Goal - v13
 - Portfolio Financials Aggregation - v13
 - Portfolio Investment Goals - v13
 - Portfolio Investment Listing - v13
 - Portfolio Investments Scorecard - v13
 - Portfolio Benefits and Costs
 - Portfolio Benefits By Goal
 - Portfolio Listing
 - Resource Capacity and Demand
 - Role Capacity and Demand
 - Capital vs Expense By Period
 - Capital vs Expense Budget and Forecast
 - Key Performance Indicators
 - Cost and Effort Performance
 - Brand Portfolios
 - Portfolio Revenue and Cost
 - Role Capacity and Demand[Plan of Record]
 - Role Capacity and Demand [Scenario]
 - Stage Gate Review
 - Portfolio Listing
 - Portfolio Revenue and Cost per Year
- Portlets. Custom portlets that use information from the Portfolio object were removed. Portlets that use information from out-of-the-box data providers or NSQL queries that reference affected database tables or database views were removed.
 - Investments (id: Investments)
 - Financials (id: Financials)

- Balance (id: Balance)
- Investments (id: cop.prt.pflInvestments)
- Financials (id: cop.prt.pflFinancials)
- Balance (id: cop.prt.pflBalance)
- Gantt (id: Gantt)
- Life-cycle Funnel (id: Life-cycle Funnel)
- Planned Cost/Benefit (id: Cost/Benefit)
- Planned Costs (id: Budgeted Costs)
- Portfolio Planned ROI/Alignment Zones (id: ROI/Alignment Zones)
- Benefits by Goal (id: Benefits by Goal)
- Risk/Reward Quadrants (id: Risk/Reward Quadrants)
- Efficient Frontier (id: efficientFrontier)
- Portfolio (id: xid_prt_portInvDash)
- Prioritized List Chart
- Resource Demand on Investments [--Base Scenario--] (id: cop.pflPrioritizationResourceBase)
- Resource Demand on Investments [--Compare To Scenario--] (id: cop.pflPrioritizationResourceCompare)
- Prioritization of Investments [--Compare To Scenario--] (id: cop.pflPrioritizationInvestmentCompare)
- Prioritization of Investments [--Base Scenario--] (id: cop.pflPrioritizationInvestmentBase)
- Investment Gantt (id: cop.portfolioGanttResource)
- Portfolio Role Capacity and Demand (id: cop.pflRoleCapAlloc)
- Resource Capacity and Allocation (id: cop.pflResCapAlloc)
- Resource Allocation (id: cop.pflResAlloc)
- Capital vs Expense Variance by Period (id: cop.prt.pflFinCapExVarByPeriod)
- Capital vs Expense Budget and Forecast (id: cop.prt.pflFinCapExBdgtFrcst)
- Capital vs Expense by Period (id: cop.prt.pflFinCapExByPeriod)
- Key Performance Indicators (id: cop.portfolioPerformIndicator)
- Cost and Effort Performance (id: cop.portfolioFinPerformance)
- Portfolio Idea Vault (id: npd.prt.portIdeaVault)

- Prioritized Scored List of Projects (id: npd.prt.prioritizedScoreListofProjects)
- Competitive Comparison [Plan of Record] (id: npd.prt.CompetitiveComparisonPR)
- Role Capacity and Demand [Compare to Scenario] (id: npd.prt.portRoleCapDemandScen)
- Role Capacity and Demand [Plan of Record] (id: npd.prt.portRoleCapDemand)
- Product Financials (id: npd.prt.portInvFinancials)
- Product Market Growth (id: npd.prt.ProductMarketGrowth)
- Product Market Growth (plan of record) (id: npd.prt.ProductMarketGrowthplanofrecord)
- Product Financials (plan of record) (id: npd.prt.ProdFinancialsPlanofrecord)
- Ranking of Projects (id: npd.prt.portPrjRanking)
- Resource Demand on Projects (id: npd.prt.portResDemand)
- Projects (id: npd.prt.portfolioInvestments)
- Competitive Comparison [Competitors] (id: npd.prt.prodCompetitiveComparison)
- Stage Gate Review (id: npd.prt.portStageGateReview)
- Portfolio Benefits and Costs (id: cop.portfolioBenefitsCosts)
- Portfolio Investment Benefits by Goal (id: cop.portfolioInvestmentBenefitsByGoal)
- My Portfolios (id: cop.myPortfolios)
- Portfolio Revenue and Cost per Year (id: npd.prt.portfolioRevAndCostperYear)
- Brand Portfolios (id: npd.prt.brandPortfolios)
- Portfolio Revenue and Cost (id: npd.prt.RevAndCost)
- Master Portfolios (id: npd.prt.masterPortfolios)
- Projects In Development (id: npd.prt.productsInDevelopment)
- Scenario Toolbar (filter portlet)
- Service Portfolio (id: bup.servPortfolioITM)
- Service ROI (id: bup.serviceRoITM)
- Service ROI (id: bup.provServiceROI)
- Portfolio Budget Status (id: bup.budgetStatusITM)
- Portfolio Budget Summary (id: bup.budgetSummaryITM)
- Cost Analysis (id: bup.providerServiceCostAnalysis)
- Cost Analysis (id: bup.serviceCostAnalysis)

- Data Providers:
 - Portfolio: All Investment Types (type: System)
 - Portfolio: Applications only (type: System)
 - Portfolio: Assets only (type: System)
 - Portfolio: Products only (type: System)
 - Portfolio: Projects only (type: System)
 - Portfolio: Services only (type: System)
 - Portfolio Financials Aggregation - v13 (type: Query)
 - Portfolio Investment Goals - v13 (type: Query)
 - Portfolio Investment Listing - v13 (type: Query)
 - Portfolio Investments Scorecard - v13 (type: Query)
 - Portfolio Listing (type: Query)
 - Portfolio Revenue and Cost (type: Query)
 - Portfolio Revenue and Cost per Year (type: Query)
 - Portfolios (type: System)
 - Brand Portfolios (type: Query)
 - InvestmentCostDataProvider (type: System)
 - ServiceRoiDataProvider (type: System)
- Database Objects (stock items only)
 - Tables:
 - PMA_PORTFOLIOS
 - PMA_PORTFOLIO_CONTENTS
 - PMA_PORTFOLIO_ROLES
 - PMA_EF_CANDIDATES
 - PMA_EF_INVESTMENTS
 - PMA_PINNED_INVESTMENTS
 - PMA_PRTFLIO_INCL_CTNT_TYPES
 - PMA_AGGR_VALUES
 - PMA_AGGR_KEYS

- PMA_AGGR_VALUES_VALIDITY
- RPT_PORTFOLIO_CONTENT
- PMA_FINANCIAL_VALUES
- PMA_PRIORITY_CHART_CONF
- Sequences (Oracle only)
 - PMA_PORTFOLIOS_S1
 - PMA_PORTFOLIO_CONTENTS_S1
 - PMA_PORTFOLIO_ROLES_S1
 - PMA_AGGR_VALUES_S1
 - PMA_PINNED_INVESTMENTS_S1
 - PMA_PRTFLIO_INCL_CTNT_TYPES_S1
 - PMA_AGGR_KEYS_S1
 - PMA_PRIORITY_CHART_CONF_S1
- Views
 - COP_FIN_ACT_PERIOD_CAPEX_V
 - COP_FIN_PERIOD_CAPEX_V
 - COP_FIN_PLAN_PERIOD_CAPEX_V
 - COP_PORTFOLIO_CNTS_BASE_V
 - COP_PORTFOLIO_CONTENTS_V
 - COP_PORTFOLIO_SCENARIO_V
 - XID_PORTFOLIO_CONTENTS_V
 - NPD_PORTFOLIO_CONTENTS_V
- Triggers
 - CAP_SCENARIO_MEMBERS_IUD_TRG1
 - CAP_SCENARIO_MEMBERS_U_TRG2
 - FIN_FINANCIALS_U_TRG1
 - FIN_FINANCIALS_U_TRG2
 - FIN_FINANCIALS_U_TRG3
 - INV_HIERARCHIES_IUD_TRG1
 - INV_INVESTMENTS_U_TRG1
 - PMA_PORTFOLIOS_U_TRG1

- PORTFOLIO_ID column on CAP_SCENARIOS table
- Procedure RPT_PORTFOLIO_CONTENT_SP and Package RPT_CAPACITYPKG
- Functions:
 - PMA_CALC_PV_COST_FOR_INV
 - PMA_CALC_PRESENT_VALUE
 - PMA_TRUNC_MONTH_FCT
- Processes:
 - Communicate Scenario (Any copies made by the customer are left in place.)
- Add-ins (Portfolio-related content specified in the list):
 - PMO: New and upgrading customers.
 - NPD: New and upgrading customers.
 - BRM. New and upgrading customers.

Backup of Removed Portfolio Tables

After you upgrade to release 13.2, old portfolio information is not available in the general user interface. During the upgrade, information is backed up and maintained in tables within the CA Clarity PPM relational database management system.

The names of the backup tables are in the following format: XBKP_<ORIGINAL_TABLE_NAME>. In the XBKP table name prefix, BKP indicates a backup table. The X causes the table name to display at the bottom of the table list when viewed from a database client.

In common tables like ODF_FILTER_EXPRESSIONS, only records that are portfolio-related are backed up, not all records. The following table lists the names of backup tables and a description of the data they hold.

Backup Table	Description of Table Data
XBKP_PMA_PORTFOLIOS	Portfolio instances.
XBKP_PMA_PRTFLIO_INCL_CTNT_TYP	Investment types a portfolio contains (for example, projects or applications).
XBKP_ODF_FILTER_EXPRESSIONS	Power filters for the investment types a portfolio contains.
XBKP_PMA_PORTFOLIO_CONTENTS	Investments that a portfolio contains.
XBKP_PMA_PORTFOLIO_ROLES	Roles a portfolio contains.

Backup Table	Description of Table Data
XBKP_PMA_PINNED_INVESTMENTS	Investments that are <i>pinned</i> to a portfolio.
XBKP_PMA_EF_CANDIDATES	Efficient frontier candidate investments a portfolio contains
XBKP_PMA_EF_INVESTMENTS	Efficient frontier investments a portfolio contains.
XBKP_CAP_SCENARIOS	Scenario instances of a portfolio only (not other <i>general</i> scenario instances).
XBKP_CAP_SCENARIO_MEMBERS	Investments contained in a portfolio scenario.
XBKP_PMA_SCENARIO_CONSTRAINTS	Constraints posed on a portfolio scenario.
XBKP_PMA_SCENARIO_OPT_PARAMS	Optimization parameters defined on a portfolio scenario.

Chapter 9: Resource Management

Capacity Overview Portlet

The Capacity Overview portlet provides a high-level summary of the capacity, demand, remaining capacity, and the actual hours provided by any given unit in the organization from a Resource OBS hierarchical view. This page provides information both in an aggregated and detailed form using portlets. You can view the aggregated information on the Capacity Overview portlet and the detailed information in the following drill-down portlets:

- **Staff Allocation Overview portlet**

Displays the resources for the selected OBS unit, their primary role, and their allocation over the same time periods that appear on the Capacity Planning Overview page.

- **Unfilled Roles portlet**

Displays the unfilled role requests for the OBS unit, the investments that are requesting roles, and allocation information for the role requests.

- **Investment Demand portlet**

Displays the investments that are associated with the OBS unit, the investment manager, start and finish dates for the investment, and the allocation of resources from the selected OBS.

Note: For more information about the Capacity Overview portlet, see the *Resource Management User Guide*.

Chapter 10: User Interface

This section contains the following topics:

[New Keyboard Shortcuts](#) (see page 77)

[Keyboard Shortcuts for Time-Scaled Values](#) (see page 77)

[Time-Scaled Value Edits](#) (see page 78)

[New Group-by Feature for Charts](#) (see page 78)

[New Icon for Exports That Are In Progress](#) (see page 79)

[Bubble Chart Export Limited to 255 Data Series](#) (see page 80)

[Row Limit Governor for NSQL Queries](#) (see page 80)

New Keyboard Shortcuts

The following keyboard shortcuts for lists are added in Release 13.2.

Action	Keyboard Combination
Move to the end of a row Note: If the action is on a TSV row, repeat the keyboard combination to leave the TSV section.	Ctrl+Right Arrow
Move to the beginning of a row	Ctrl+Left Arrow
Page up or down	Ctrl+Alt+Up Arrow Ctrl+Alt+Down Arrow
Move to the top or bottom of a list Note: If the action is in the TSV section of a list, repeat the keyboard combination to leave the TSV section.	Ctrl+Up Arrow Ctrl+Down Arrow

Upgrade Action: None

Keyboard Shortcuts for Time-Scaled Values

The following keyboard shortcuts for TSVs are added in Release 13.2.

Action	Key Combination
Select a TSV row	Shift+Ctrl+Right Arrow
Select a TSV column	Shift+Ctrl+Down Arrow

Action	Key Combination
Select a single cell to the left or right of the current cell	Shift+Right Arrow Shift+Left Arrow
Select a single row above or below the current cell	Shift+Up Arrow Shift+Down Arrow
Copy a TSV cell	Ctrl+c
Paste a TSV cell	Ctrl+v
Cut a TSV cell	Ctrl+x
Undo a cut, copy, or paste operation	Ctrl+z

Upgrade Action: None

Time-Scaled Value Edits

You can edit time-scaled values and scroll to different time periods in the grid. The edits you make are preserved even if they scroll offscreen. The edits persist until you save them or dismiss them without saving.

Upgrade Action: None

New Group-by Feature for Charts

The Group-by feature lets you narrow a chart result set based on an attribute that groups the results to provide a better display. The grouping feature is available for object data providers and portfolio system data providers. For example, for a column chart that shows Planned Costs by Project, the readability of the chart depends on the number of projects. Showing 500 projects along the X-axis or Y-axis does not provide a readable chart that scales to the amount of data available. If you group the column chart data by OBS, the chart result set is smaller and more readable.

The grouping feature uses the following chart property fields to control how the results are grouped and aggregated:

Group By Column

Defines the dimension attribute that controls how the chart results are grouped. For example, you can group data by attributes such as OBS, Stage, or Priority.

Group By Function

Defines the aggregation function that is applied to the chart metric. For example, for a column chart of Projects by Planned Costs, you can group by OBS and select *Planned Cost* as the chart metric. When the Group By column groups the results of the projects by OBS, the planned costs are aggregated based on the Group By Function selection. You can select the aggregation method for the chart metric using one of the following functions: Sum, Average, Count, Minimum, or Maximum.

Note: If you select a date value in the Group By field, you can only select a function of Maximum or Minimum for this field.

The following grouping type attributes (dimensions) are available:

- String
- Number
- Calculated
- Formula
- Boolean
- Lookup
- Virtual

You can use the Group-by feature for the following chart types:

- Bar
- Column
- Pie
- Line
- Area
- Funnel

Upgrade Action: None

New Icon for Exports That Are In Progress

A new loading icon displays when you export information to Excel or PowerPoint. Only one export at a time is allowed. While the icon is present, the export is in progress and you cannot request another export. When the export is complete and the icon is no longer present, you can request another export.

Bubble Chart Export Limited to 255 Data Series

When a bubble chart export exceeds 255 data series, an alert is sent and no file is downloaded. Excel and PowerPoint do not support charts with more than 255 data series.

Row Limit Governor for NSQL Queries

To reduce the chance of an NSQL query using too much of server resources, a row limit governor has been established for grid portlets, chart portlets, and cases where XOG query tags are used. The governor restricts the number of rows that are processed to 50,000. The row limit is applied in the following cases:

- Scenario 1: A portlet is running a single dimension NSQL data provider, and the portlet has an aggregation row defined.
- Scenario 2: A portlet is running a multidimensional NSQL data provider.

When the system detects Scenario 1, the product displays a warning message when the row limit governor has been exceeded. The results up to the row limit (including the aggregation row total) are processed. You can enter filter criteria to display the specific rows you want. This action reduces the number of rows in the result.

When the system detects Scenario 2, the product displays a warning message when the row limit governor has been exceeded. For this scenario, the system does not display any results or aggregation row totals. Because of the nature of multidimensional NSQL queries, the correct result set or aggregation row cannot be determined.

A system administrator can change the row limit value to a smaller number (in this example, 25,000) with the following SQL:

Oracle:

```
CMN_OPTION_VALUES_UPD_SP('MAX_FETCH_LIMIT', NULL, NULL, '25000', 1);
```

MSSQL:

```
exec CMN_OPTION_VALUES_UPD_SP 'MAX_FETCH_LIMIT', NULL, NULL, '25000', 1
```

Note: Because a higher row limit can degrade the performance and health of the CA Clarity PPM server, we do not recommend increasing the row limit.

Upgrade Action: None

Chapter 11: XML Open Gateway Changes

This section contains the following topics:

[New XOG Setting to Preserve OBS When Installing an Add-in](#) (see page 81)

[Invalid Partition Codes in Imports](#) (see page 81)

New XOG Setting to Preserve OBS When Installing an Add-in

A new flag named *complete* has been added. When the flag value is set to *preserveOBS*, it prevents the deletion of the OBS section of property views during an add-in installation. The flag default value is *false*. If both of the following items are true, the flag is required:

- The add-in that you are installing updates the property view of an object that can be associated with an OBS.
- The version in the XML file is 13.2 (<Header action="write" externalSource="NIKU" objectType="contentPack" version="13.2.0"/>).

If the XOG version is from a release earlier than Release 13.2, the OBS section is not deleted.

Upgrade Action: None

Invalid Partition Codes in Imports

Release 13.2 changes how invalid partition codes are handled when data is being imported into the XOG. Invalid partition codes now cause the following actions to occur:

- The instance record is saved with a warning indicating that the `partition_code` attribute has an invalid value.
- The created instance is assigned to the user's default partition. The default is specified in Account Settings.
- The auto numbered ID value is generated from the scheme of the user's default partition.

Before this release, when an object instance with an invalid partition code was imported, the following actions occurred:

- The instance record was saved with a warning indicating that the `partition_code` attribute had an invalid value.

- The created instance record contained the invalid partition code value.
- The auto numbered ID value was generated from the system partition (NIKU.ROOT) scheme.

Chapter 12: Data Model Changes

This section contains the following topics:

[Added Tables](#) (see page 83)

[Updated Tables](#) (see page 84)

[Dropped Tables](#) (see page 88)

Added Tables

The following list shows tables added for Release 13.2.00.

Note: Added tables with the identifier XBPK are not included in the list. These tables are backup tables for the Portfolio feature removed for this release.

- CMN_INSTANCE_RANK
- CMN_RANK_CONTEXTS
- PFM_APPLICATIONS
- PFM_APPLICATIONS_PLAN
- PFM_ASSETS
- PFM_ASSETS_PLAN
- PFM_ATTR_REGISTRY
- PFM_BASELINE_DETAILS
- PFM_CA_FINANCIALS
- PFM_CA_NPIOFINPROPERTIES
- PFM_CLOB_CURVES
- PFM_CONTENT_FILTERS
- PFM_EV_HISTORY
- PFM_FINANCIALS
- PFM_FLAT_HIERARCHIES
- PFM_HIERARCHIES
- PFM_IDEAS
- PFM_IDEAS_PLAN
- PFM_INVESTMENTS

- PFM_INVESTMENTS_PLAN
- PFM_MNT_PROJECTS
- PFM_OTHERS
- PFM_OTHERS_PLAN
- PFM_PINNED_INVESTMENTS
- PFM_PLANS
- PFM_PORTFOLIOS
- PFM_PRODUCTS
- PFM_PRODUCTS_PLAN
- PFM_PROJECTS
- PFM_PROJECTS_PLAN
- PFM_ROLE_CAPACITY
- PFM_ROLE_DEMAND
- PFM_ROLE_DEMAND_PLAN
- PFM_SERVICES
- PFM_SERVICES_PLAN
- PFM_USER_SELECTED_PLAN
- PFM_WEIGHTING_ATTRS
- PFM_WEIGHTING_OPTS
- RPT_INV_HIERARCHY
- RPT_RES_SKILLS_FLAT
- RPT_RES_SKILLS_INDEX

Updated Tables

The following list of tables indicates what changed in the update:

CAP_SCENARIOS

Dropped column:

PORTFOLIO_ID

Dropped index:

CAP_SCENARIOS_N2

CMN_AUDITS

Added columns:

CLASS_CODE

TRANSACTION_ID

Updated column:

ATTRIBUTE_CODE

CMN_AUDITS_TSV

Updated column:

ATTRIBUTE_CODE

CMN_GG_ITEMS

Added column:

GROUP_BY_FUNCTION

CMN_GRAPHS

Added columns:

GROUPBY_COL_CODE

DEFAULT_GROUP_BY_FUNCTION

CMN_GRIDS

Added columns:

SNAP_TO_WATERLINE

OBJECT_INSTANCE_ID

Updated index:

CMN_GRIDS_U1

FIN_COST_PLAN_DETAILS

Added column:

COST_TYPE_ID

Updated index:

FIN_COST_PLAN_DETAILS_U1

FIN_FINANCIALS

Added columns:

BUDGET_ACTUAL_BENEFIT
BUDGET_ACTUAL_BENEFIT_TOTAL
BUDGET_COST_CAPITAL
BUDGET_COST_OPERATING
BUDGET_CST_CAPITAL_TOTAL
BUDGET_CST_OPERATING_TOTAL
ODF_SS_BUDGET_ACTUAL_BENEFIT
ODF_SS_BUDGET_COST_CAP
ODF_SS_BUDGET_COST_OP
ODF_SS_PLAN_ACTUAL_BENEFIT
ODF_SS_PLAN_COST_CAP
ODF_SS_PLAN_COST_OP
PLANNED_ACTUAL_BENEFIT
PLANNED_ACTUAL_BENEFIT_TOTAL
PLANNED_COST_CAPITAL
PLANNED_COST_OPERATING
PLANNED_CST_CAPITAL_TOTAL
PLANNED_CST_OPERATING_TOTAL

Added indexes:

FIN_FINANCIALS_GN1
FIN_FINANCIALS_GN2
FIN_FINANCIALS_GN3
FIN_FINANCIALS_GN4
FIN_FINANCIALS_GN5
FIN_FINANCIALS_GN6

ODF_AUDITED_ATTRIBUTES

Updated column:

ATTRIBUTE_CODE

PAC_MNT_PROJECTS

Added column:

COST_TYPE

PPA_TRANSCONTROL

Added column:

COST_TYPE

PPA_TRANSWIPADJUST

Added column:

COST_TYPE

PPA_WIP

Added column:

COST_TYPE

PRTASK

Added column:

COST_TYPE

Added index:

PRTASK_N6

PRTEAM

Added column:

CAPITAL_PERCENTAGE

Added index:

PRTEAM_N3

PRTIMEENTRY

Added column:

ODF_SS_ACTUALS

Added index:

PRTIMEENTRY_GN1

TEMP_IMP_VALIDATE_TRANSIMPORT

Added column:

COST_TYPE

Dropped Tables

The following tables were dropped for Release 13.2.00:

- PMA_AGGR_KEYS
- PMA_AGGR_VALUES
- PMA_AGGR_VALUES_VALIDITY
- PMA_EF_CANDIDATES
- PMA_EF_INVESTMENTS
- PMA_FINANCIAL_VALUES
- PMA_PINNED_INVESTMENTS
- PMA_PORTFOLIO_CONTENTS
- PMA_PORTFOLIO_ROLES
- PMA_PORTFOLIOS
- PMA_PRIORITY_CHART_CONF
- PMA_PRTFLIO_INCL_CTNT_TYPES
- RPT_PORTFOLIO_CONTENT