CA Clarity™ PPM

Change Impact and Upgrade Guide - On Premise

Release 14.1.00

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Chapter 1: The Upgrade Process

This section contains the following topics:

Overview of the CA Clarity PPM Release 14.1 Upgrade Process

This guide provides insight on planning the CA Clarity PPM upgrade and helps you determine the upgrade options that best suit your business needs. Use this guide to plan your training and rollout efforts.

Full information for the current release and summary information for previous releases is provided. To see the complete *Change Impact and Upgrade Guide* for a specific 13.x release, see the documentation for that release.

This guide covers:

- The system preparation before upgrading

- An overview of the upgrade process

- The post-upgrade tasks

- Features and enhancements for the current and previous releases and the upgrade actions that they require.

Important! If you are upgrading from an earlier release, review the chapters for the updates in Release 14.1 and the 13.x releases.

Evaluate Before You Install or Upgrade

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. You can also run it manually. 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.

The following procedure explains how to run the Installation Checker manually.

Follow these steps:

1. Extract the CA Clarity PPM installer to the CA Clarity PPM application server.

2. Open a command prompt and navigate to the checkinstall directory located in the directory to which you extracted the installer.

3. Invoke the checkinstall command:

   UNIX:
   ```
   sh checkinstall.sh
   ```
   Windows:
   ```
   checkinstall.bat
   ```

   Note: You are asked for the Operator Username and Operator Email. This information refers to the user who is upgrading or installing and the email of the user. This information is stored as a record in the installation log.

4. Verify the results.

   The results contain any warnings and errors and also indicate any customizations you have made. Review the customizations and make adjustments for the upgrade as necessary.

Make Third-Party Jar Files Accessible to the Installer

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. The jar files are shipped separately from the CA Clarity PPM image in the installation media. The Release 14.1 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 installation media containing third-party libraries .jar file. For Release 14.1, the .jar file is named *thirdparty.libs.14.1.0.jar*.

Upgrade Action: Retrieve the *thirdparty.libs.14.1.0.jar* file from the installation media. 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.

Review the Upgrade Tips

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

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 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 database size increases and affects performance.

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

  Note: For Release 14.1, 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 before the 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: *service remove all*.

- Verify that no files or folders in the installation folder are in use anywhere.

- See "Known Issues for 14.1" for conditions that can affect the success of your upgrade. Take any required corrective actions.

Post Upgrade

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

  The files are zipped into an archive that has a timestamp-encoded name (for example, checkinstall-results_2014-08-17_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 must always run for Release 14.1.

- 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. Adjustments may be necessary 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 section named "Upgrade Considerations for Release 13.1."

- GEL Tag Restrictions: Release 13.1 gave the ability to restrict certain GEL tags in an environment. For more information, see the section named "Upgrade Considerations for Release 13.1."

- 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 must register any other attributes (stock or custom) that you want to display.

- Remove the *Resource - Edit Financial* access right.

- The product supports Microsoft Project 2010 and 2013. If you upgrade and use one of these versions, update your Microsoft Project Desktop to ensure that data populates appropriately in Microsoft Project. Set the scheduling option to Automatic when you want to open the schedule in Microsoft Project.

- 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
```

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 that are used by the upgrade.

You can override the default memory settings that are provided in Release 14.1 . 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 the upgrade are:

- defaultScriptMaxMem=1024m

- defaultScriptPermGenMem=128m

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

- defaultScriptMaxMem=2560m

- defaultScriptPermGenMem=512m

Upgrade to CA Clarity PPM Release 14.1

Follow 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 Oracle WebLogic.

    ■   Dropped support for Oracle Solaris.

    ■   Dropped support for HP-UX.

    ■   IBM WebSphere is supported only for IBM AIX.

    ■   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 currently use this version, we recommend upgrading your database to MS SQL server 2008, MS SQL server 2008 R2, or MS SQL Server 2012 before upgrading to this release.

    ■   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.

    Important! 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 the product in the *Installation Guide*.

    Some important changes include:

    ■   The installation for an upgrade prompts you for the current and a target CA Clarity PPM folder. You can indicate the same folder or different folders. If you specify the same folder for both, the existing folder is renamed. Then, Release 14.1 is installed into an empty folder with the target folder name.

    ■   If you are installing on a different server, review the information about setting up the application server 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."

7. Install or upgrade CABI Release 3.3 SP2 (BusinessObjects) and complete the following steps:

a. If you are installing CABI for the first time, review the CA Clarity PPM installation requirements. If you are upgrading, install CABI 3.3 SP2.

   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 "Reports" section for information about legacy stock reports and reactivate any necessary existing stock reports.

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.

   ■ Review the *Installation Guide* for information about installing add-ins.

   ■ 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 the PMO Accelerator.

   ■ Review the *System: Clarity Content* add-in for upgrade-ready content. To accept the new Release 14.1 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 or the partition.

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

   Here are some tips to help you review the views:

   ■   The Last Version column identifies changes to stock views in Release 14.1.

   ■   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 14.1 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=14.1 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 your custom portlets work, correct any invalid NSQL queries.

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

    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. In Studio, go to the NSQL tab for the imported query and 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_2014-08-17_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 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 14.1:

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 that is available from CA Clarity System Administration.

3. Create a full backup of the database and runtime file system.

   Note: For more information, see the section named "Basic Upgrade Process."

4. Proceed with the upgrade to Release 14.1.

Database Backup Image for New Installations

If you install Release 14.1 as a new installation, import the Release 14.1 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*.

MS SQL Server Database Compatibility Level

Release 14.1 supports database compatibility levels for SQL Server 2008 (100) and SQL Server 2012 (110). A new installation of Release 14.1 on SQL Server 2008 has the correct compatibility level of 100. If you are using SQL Server 2012 for Release 14.1, 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.

To identify the compatibility level, use the following query:

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

Upgrade Action: None

Oracle Database Only: PRJ_BLB_SLICES Table

The ID, UNIT, LAST_UPDATED_DATE and LAST_UPDATED_BY columns in the PRJ_BLB_SLICES table have been dropped for the 14.1 release. If you are using Oracle, the table is replicated before the columns are dropped. The replication requires you to verify that the tablespace that PRJ_BLB_SLICES occupies is large enough to accommodate the temporary size increase.

Upgrade Action:

To determine if the tablespace can deal with this condition, have your database administrator (as sysdba) run the following query. Change the schema owner (**bold**) to the owner of the CA Clarity PPM schema:

```
select SLC.owner, SLC.table_name, SLC.TABLESPACE_NAME, SLC.MB MB_NEEDED,
TBSPC.MB_FREE MB_FREE, SIZING.MAX_MB, SIZING.MB_USED,
EXT.AUTOEXTENSIBLE
FROM
(select owner, table_name, NVL(round((num_rows*avg_row_len)/(1024*1024)),0) MB,
TABLESPACE_NAME
from all_tables
where owner = 'CLARITY'
and table_name = 'PRJ_BLB_SLICES') SLC
INNER JOIN (select df.tablespace_name,
    (df.totalspace - tu.totalusedspace) "MB_FREE"
    from
    (select tablespace_name,
    round(sum(bytes) / 1048576) TotalSpace
    from dba_data_files
    group by tablespace_name) df,
    (select round(sum(bytes)/(1024*1024)) totalusedspace, tablespace_name
    from dba_segments
    group by tablespace_name) tu
where df.tablespace_name = tu.tablespace_name) TBSPC ON (SLC.TABLESPACE_NAME =
TBSPC.TABLESPACE_NAME)
INNER JOIN (select distinct(autoextensible), tablespace_name from dba_data_files)
EXT on (slc.tablespace_name = ext.tablespace_name)
INNER JOIN (select tablespace_name
        , count(*) as no_of_data_files
        , sum(MAXBYTES)/(1024*1024)*count(*) as MAX_MB
        , sum(user_bytes)/(1024*1024) MB_USED
        , round((sum(user_bytes)/(1024*1024))/(sum(MAXBYTES)/(1024*1024))*100,2)
PERCENT_USED
from dba_data_files
group by tablespace_name) SIZING ON (SLC.TABLESPACE_NAME = SIZING.TABLESPACE_NAME)
```

The following example shows the kind of results that the query returns:

OWNER	TABLE_NAME	TABLESPACE_NAME	MB_NEEDED	MB_FREE	MAX_MB	MB_USED	AUTO-EXTENSIBLE
CLARITY	PRJ_BLB_SLICES	USERS_LARGE	1306	5020	90000	15997	YES

If AUTOEXTENSIBLE is YES:

The tablespace for PRJ_BLB_SLICES can grow automatically up to the MAX_MB value. Ensure that the MAX_MB value is higher than the MB_NEEDED + MB_USED.

If AUTOEXTENSIBLE is NO:

Ensure that the MB_NEEDED value is less than MB_FREE. If the MB_NEEDED value is not lower, the database administrator can allocate or extend extra data files to the tablespace under the TABLESPACE_NAME column.

We recommend increasing the tablespace at least 20 percent more than is needed. The increase helps to ensure that the tablespace can accommodate standard data growth and the temporary replication.

Filestore and Search Index Location Changes

Two significant changes to the 13.x and 14.1 upgrade process directly affect the filestore feature. The changes require you to act during the upgrade process to ensure that the filestore feature operates correctly after the upgrade.

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

You can determine if your 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 and 14.1 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 use case. 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.

CA Business Intelligence (CABI) Release 3.3 Service Pack 2

This release of CA Clarity PPM uses CABI Release 3.3 Service Pack 2 for reports.

If you do not have CABI installed or if you have an older version, complete two steps. First, download and install CABI 3.3. Then, download and install Service Pack 2.

If you already have a CABI Release 3.3 installation, you only download and install Service Pack 2 (just perform Step 2 in the following procedure).

Follow these steps:

1. Download and install CABI Release 3.3 by completing these steps:

    Note: This step is for new customers or upgrading customers with an older version of CABI.

    a. Log in to the CA Clarity PPM support page on CA Support Online.

    b. In the Quick Access section, click Download Center.

    c. In the Select a Product field, select the product for which you are licensed (for example, CA Clarity PPM Core License).

d. In the *Please narrow your search results for "Products" below* section, select the appropriate release number.

e. Click Go.

f. Click the Download link next to the appropriate CA Business Intelligence 3.3 download for your installation.

g. Select the appropriate download method to complete the download request.

h. Install CABI Release 3.3.

2. Download and Install Service Pack 2 on the CABI Release 3.3 installation.

a. Download the CABI Release 3.3 Service Pack 2 and the Release Notes from the CA FTP site:

Windows:

ftp://ftp.ca.com/caproducts/CABI/CABI-3.x/boeXIR3_SP7/Windows/

Note: Download both the zip file and the *CABI 3.3 SP2 Release Notes*.

Linux:

ftp://ftp.ca.com/caproducts/CABI/CABI-3.x/boeXIR3_SP7/Linux/

b. Follow the instructions in the *CABI 3.3 SP2 Release Notes* to install Service Pack 2 on the CABI Release 3.3 instance.

CABI Services Recommended Settings

We recommend the following adjustments to your CABI setup for use with Release 13.2 and greater releases. Make the adjustments from the Central Management Console (CMC):

- 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 CA Clarity PPM does not use:

- DesktopIntelligenceCacheServer

- DesktopIntelligenceJobServer

- DesktopIntelligenceProcessingServer

- EventsServer

- ListOfValuesJobServer

- MultiDimensionalAnalysisServiceServer

- PMMMeticsServer

- PMMRepositoryServer

- PMMRulesServer

- PreditiveAnalysisServer (Available only for non-Windows environments)

- ProgramJobServer

- SetsProfileServer

- SetsQueryServer

XcelsIus Designer 2008 Service Pack 6 Updated with Fix Pack 3

This release supports Xcelsius Designer 2008 Service Pack 6 Fix Pack 3. You can download the software from the Software Downloads page for installation.

To navigate to the Software Downloads page, from the Home menu, click Account Settings, then click Software Downloads.

The download file is named *SAP BusinessObjects Xcelsius 2008.* The download contains two separate files, one for Xcelsius Designer 2008 SP6 and one for Fix Pack 3 (FP3).

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

Upgrade Actions:

- If you plan to install Xcelsius Designer 2008 SP6, download the file from the Software Downloads page. After you install Xcelsius Designer 2008 SP6, apply FP3.

- If you have Xcelsius Designer 2008 SP6 installed already, download the file from the Software Downloads page and apply FP3.

  Note: For more information about installing Xcelsius, see the *CA Clarity-Xcelsius Implementation Guide*.

- To continue to use your older design definition files, back up the files and regenerate new .swf files using Xcelsius 2008 SP6 FP3. Xcelsius Designer definition files that were created before Release 13.2 are overwritten during the upgrade. Retest your interactive portlets after the upgrade to verify that they work with this release.

Reports

All reporting content for CA Clarity PPM is delivered in the Clarity Solution Pack.

Upgrade Action For CA Clarity PPM Versions Earlier than Release 13.2: As of Release 13.2, 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 Data Administration, click Reports and Jobs.

2. Filter for Inactive Reports.

3. Activate the reports that you want to continue to use with Release 14.1.

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

Post-Upgrade Action: We recommend installing the Clarity Solution Pack, which delivers the Release 14.1 compatible reporting content. For more about the Clarity Solution Pack, see CA Support Online.

Upgrade Reports from a Release Earlier than Release 12.1

This topic explains how to upgrade 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 14.1 universes are installed.

■ If you previously purchased the GSE Universes from CA Services, these universes are not overwritten by the Release 14.1 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 "Reports."

  Manually reschedule the scheduled reports. The scheduled reports that were configured before the upgrade to Release 14.1 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 Reports 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.

Release 14.1 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 14.1 universes are installed.

- If you previously purchased the GSE Universes from CA Services, these universes are not overwritten by the Release 14.1 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 "Reports."

  Manually reschedule the scheduled reports. The scheduled reports that were configured before the upgrade to Release 14.1 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 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.

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

The CA Clarity PPM Universes have been updated to reflect database schema changes in Release 14.1.

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

Upgrade Action: Import the BIAR files as part of your Clarity 14.1 upgrade process.

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 that are located in the installer root directory (at the same level as the 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>
```

Chapter 2: Release 14.1 Updates

This section contains the following topics:

Supported Upgrade Paths for Release 14.1

Before you start the upgrade, we recommend that you read the the section named "The Upgrade Process."

If you have any of the following releases installed on the base level with no patches, you can directly upgrade to CA Clarity PPM Release 14.1:

- 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

- CA Clarity PPM Version 13.0 or Service Packs

- CA Clarity PPM Release 13.1

- CA Clarity PPM Release 13.2

- CA Clarity PPM Release 13.3

Follow the upgrade path mentioned in the following table, only if you have installed any patches on the base versions:

Patch Levels	Upgrade Path
If any patch level is installed on the base version 12.1.0 (i.e. 12.1.0.1 - 12.1.0.8)	Installation of 12.1.0.8 is required before the upgrade to Release 14.1.

Patch Levels	Upgrade Path
If any patch level is installed on the base version 12.1.1 (that is, 12.1.1.1 - 12.1.1.10)	Installation of 12.1.1.10 is recommended before the upgrade to Release 14.1.
If any patch level is installed on the base version 12.1.2 (that is, 12.1.2.1 - 12.1.2.3)	Installation of 12.1.2.3 is recommended before the upgrade to Release 14.1.
If any patch level is installed on the base version 12.1.3 (that is, 12.1.3.1 - 12.1.3.6)	Installation of 12.1.3.6 is recommended before the upgrade to Release 14.1.
If any patch level is installed on the base version 13.0.1 (that is, 13.0.1.1 - 13.0.1.7)	Installation of 13.0.1.7 is required before the upgrade to Release 14.1.
If any patch level is installed on the base version 13.1.0 (that is, 13.1.0.1 - 13.1.0.5)	Installation of 13.1.0.9 is recommended before the upgrade to Release 14.1.
If any patch level is installed on the base version 13.2.0 (that is, 13.2.0.1 - 13.2.0.4)	Installation of 13.2.0.8 is recommended before the upgrade to Release 14.1.
If any patch level is installed on the base version 13.3.0 (that is, 13.3.0.1 - 13.3.0.7)	Installation of 13.3.0.7 is recommended before the upgrade to Release 14.1.

For example:

■ If you have CA Clarity PPM SP 12.1.3, you can directly upgrade to Release 14.1.

■ If you have CA Clarity PPM 12.1.0.2, then you have to apply CA Clarity PPM 12.1.0.8 first to upgrade to Release 14.1.

■ If you have CA Clarity PPM 12.1.3.4, then it is recommended that you apply CA Clarity PPM 12.1.3.6 first to upgrade to Release 14.1.

■ If you have CA Clarity PPM 12.1.3.6, you can directly upgrade to Release 14.1.

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 14.1. Issues could result if you try to upgrade to Release 14.1 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 14.1 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 14.1.

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 14.1. Although the interim upgrade is not a requirement, it simplifies the troubleshooting and restart process if an upgrade step fails.

The Release 14.1 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	■ Service Pack 12.1.1 ■ Version 13.0 ■ Release 13.1 ■ Release 13.2 ■ Release 13.3 ■ Release 14.1
Service Pack 12.1.1, 12.1.2, or 12.1.3	■ Version 13.0 ■ Release 13.1 ■ Release 13.2 ■ Release 13.3 ■ Release 14.1
Version 13.0 or Service Pack 13.0.x	■ Release 13.1 ■ Release 13.2 ■ Release 13.3 ■ Release 14.1
Release 13.1	■ Release 13.2 ■ Release 13.3 ■ Release 14.1
Release 13.2	■ Release 13.3 ■ Release 14.1
Release 13.3	■ Release 14.1

Upgrade Considerations for Release 14.1

This section provides information about installation and upgrade changes for Release 14.1.

Add-ins Compatibilities

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

■ If you are upgrading from Version 13.0, 13.1, 13.2, or 13.3 to Release 14.1, the following add-ins are upgraded:

    – PMO Accelerator

    – Clarity Solution Pack (CSP)

    – CA Clarity Agile

■ If you are upgrading from any version before Version 13.0 to Release 14.1, upgrade all installed add-ins.

■ Starting with Version 13.3, a new installation process is required for add-ins, accelerators, and connectors.

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

The following table shows the accelerator and connector releases that are compatible with Release 14.1.

Accelerator or Connector	New Installation 14.1	Upgrade from 12.*x* to 14.1	Upgrade from 13.*x* to 14.1
PMO Accelerator	14.1.0	14.1.0	14.1.0
Clarity Solution Pack (CSP)	14.1.0	14.1.0	14.1.0
Earned Value Manager	2.0.2	2.0.2	2.0.2
Accelerator for PRINCE2	2.0.2	2.0.2	2.0.2
Accelerator for the PMBOK	2.0.2	2.0.2	2.0.2
Accelerator for New Product Development	2.0.3	2.0.3	2.0.3
PPM Essentials Accelerator	2.0.2	2.0.2	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	2.0.2	2.0.2	2.0.2
Connector for Microsoft SharePoint 2013	3.0.0	3.0.0	3.0.0

Accelerator or Connector	New Installation 14.1	Upgrade from 12.*x* to 14.1	Upgrade from 13.*x* to 14.1
Service Connect	2.0.0	2.0.0	2.0.0
Catalyst Connector	2.5.0	2.5.0	2.5.0
CA Clarity Agile	14.1.0	14.1.0	14.1.0
VersionOne Connector	14.1.0	14.1.0	14.1.0

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-ins Compatibilities" if you are required to install a new version of your existing add-ins, accelerators, or connectors.

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.

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

- Service Connect

CA Clarity PPM provides a specific Java Runtime Environment (JRE) for the following clients.

- Open Workbench

- Connector for Microsoft SharePoint

The JRE is copied to the hard drive in the installation directory on the end-user workstation. The JRE is used specifically for the clients and is independent of the JRE used for the Windows workstation.

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 on workstations that have the software clients for which CA Clarity PPM does not provide the JRE.

J2EE Installations

For an upgrade on an installation that uses *generic* as the vendor type, update the DataDirect JDBC driver .jar files in your third-party application server environment. The version for these files has changed in this release.

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

Internet Explorer 11

If you are using Internet Explorer 11 with CA Clarity PPM, the browser is automatically set to run in the Internet Explorer 10 compatibility mode for the CA Clarity PPM session. The setting is for the CA Clarity PPM session only and does not affect any other Internet Explorer 11 browser activity.

Known Issues for Release 14.1

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 the current release.

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 are required to correct the data issue before resuming the upgrade process. An upgrade check script runs and alerts you that this problem exists.

To identify possible data issues before you start the upgrade, run the following query:

```
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 the current release.

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 TRANSCLASS 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 that the information is 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. We recommend that you run the Checkinstall utility and review the reports that it generates before starting. To reduce the possibility of a failure, correct any errors that the Checkinstall reports indicate.

If your upgrade fails, review the logs and the Checkinstall post-installation reports to determine the reason for the failure. Then, restore the working preupgrade version and database, correct the failure, and restart the upgrade.

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 does 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 the 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 Guide*.

Upgrade Stops if OBS Unit Names Have Special Characters

Some special characters in OBS unit names, department names, or location names are automatically replaced with hyphens (-) during the preinstallation check before an upgrade.

The following special characters are replaced:

■   Slash (/)

■   Colon (:)

■   Double quote (")

■   Less than (<)

■   Greater than (>)

If you do not want hyphens placed in names with special characters, update the names before you begin the upgrade process. You can also manually replace the hyphens with the special characters after the upgrade is done.

You can run the following query to identify the OBS names that contain special characters. 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 determine whether to update them.

For MSSQL:

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

Automatic Update to Curly Brackets in 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 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\13.3.0\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';`

Update Operation For Some Project Object Attributes Does Not Appear in the Audit Trail

In some instances, when auditing is enabled for specific attributes on the Project object, only the insert operation is reported in the audit trail. The update operation does not show for the attributes. The affected attributes include:

■ Budgeted Capital Cost

■ Planned Capital Cost

■ Budgeted Operating Cost

■ Planned Operating Cost

WebSphere Deployment Does Not Show Database Information in CA Clarity System Administration

During a Generic J2EE installation, the nsa.ear file installs CA Clarity System Administration. Once you start CA Clarity System Administration, you can see the database information after you specify your database credentials. However, if you are installing on WebSphere, the database information is not available. Neither the Install History page or the Installation Overview page in CA Clarity System Administration shows the database as installed, even though it is.

This behavior does not affect your ability to complete the installation and use the application.

Upgrade Action: To get details of the database, run the query CMN_INSTALL_HISTORY.

Generic J2EE Upgrade Produces an Error If the J2EE.home Property Is Not Set

An error is received during an upgrade for a Generic J2EE application server (IBM WebSphere). Because the vendor is generic, the prompt for the J2EE home directory does not appear and the j2ee.home property is not set. Without a j2ee.home setting, an error occurs in the installation process.

Upgrade Action:

Set the following values in the <installer>/install.properties file:

- j2ee.home=<any value>
- j2ee.vendor=generic

An Upgrade With a Non-RAC Database Results in a Disconnect Between the Application Server and the Database (13.3)

If you are upgrading to Release 13.2, 13.3, or 14.1 with a non-RAC database, the network between the application server and the database disconnects during the upgrade. You see the following error:

```
FATAL 2013-07-17 13:14:46,376 [main] union.persistence Failed to initialize Context
properties
7/17/13 1:14 PM (admin)              java.sql.SQLNonTransientConnectionException:
[CA Clarity][Oracle JDBC Driver]Connection reset
7/17/13 1:14 PM (admin)       at com.ca.clarity.jdbc.oraclebase.ddcg.b(Unknown Source)
7/17/13 1:14 PM (admin)       at com.ca.clarity.jdbc.oraclebase.ddcg.a(Unknown Source)
7/17/13 1:14 PM (admin)       at com.ca.clarity.jdbc.oraclebase.ddcf.b(Unknown Source)
7/17/13 1:14 PM (admin)       at com.ca.clarity.jdbc.oraclebase.ddcf.a(Unknown Source)
7/17/13 1:14 PM (admin)       at com.ca.clarity.jdbc.oraclebase.ddcf.a(Unknown Source)
7/17/13 1:14 PM (admin)       at com.ca.clarity.jdbc.oracle.net8.dd g.b(Unknown Source)
```

Upgrade Action:

Before you start the upgrade, complete the following steps:

1. Open CA Clarity System Administration, and click Servers in the left pane.

2. Click the name of the application server.

3. Click the Database subtab.

4. In the Internal Connection: Niku section, select the Specify URL check box.

    The JDBC text box appears.

5. Add the following tags to the JDBC URL:
    ConnectionRetryCount=400;ConnectionRetryDelay=3

6. Click Save.

Google Chrome Version 30.0.1599.66 m Issues

The following CA Clarity PPM issues occur for users who are using this particular version of Chrome (Version 30.0.1599.66 m):

■   The Recent Pages (History) drop-down that lets you navigate back to previously viewed pages does not work.

■   Export to Excel and Export to PowerPoint do not work at the portlet level.

■   Export to Excel does not work on a list page.

These issues do not appear in other browsers and have been found only in this version of Chrome.

Gantt Printing Issue with Chrome Browser

If you use a Chrome browser, the following issues can occur when you print a Gantt chart:

- Some rows have extra space after the row.

- Some lines break across pages, presenting part of the line on two pages.

- The Gantt schedule lines do not appear correctly.

This issue does not occur in Internet Explorer or Firefox.

Using the Value -1 to Disable the New XOG Governor Limit Does Not Work Correctly for XOG Write

Setting the Maximum XML Node Limit value to -1 in CA Clarity System Administration disables the XOG Governor limit. Currently, entering this value causes XOG write operations to throw the following error:
XOG-9060: The system cannot import this instance with the current configuration. Increase the 'Maximum XML Nodes' value in the CSA and try again.

Workaround: Set the Maximum XML Node Limit to 10^15.

Rate Matrix Extraction Job's Scheduled Instances and Job Logs Deleted

During an upgrade from a 12.x release to a 13.0 or higher release, the Rate Matrix Extraction job's scheduled instances and job logs are deleted.

Upgrade action: Reschedule the Rate Matrix Extraction job.

Microsoft Project 2013: Do Not Install Service Pack 1

Service Pack 1 for Microsoft Project 2013 has a known issue that affects how it works with CA Clarity PPM. The following behavior results when the service pack is installed:

- Baselined projects cannot be opened with Microsoft Project 2013. The Visual Basics run-time error '91' is received.

- All the actuals are zeroed out when you launch a project from CA Clarity PPM to Microsoft Project 2013.

For more information, see the following Knowledge Base articles on CA Support Online: TEC610737, TEC615024.

Upgrade Action: Do not apply Service Pack 1 to Microsoft Project 2013. If you have applied this service pack, roll back to Microsoft Project 2013 without any service packs.

Add-in Enhancements

VersionOne Connector

The CA Clarity PPM VersionOne Connector provides project managers visibility into agile projects and eliminates dual-time entry. Managers can track Clarity projects effectively, along with the allocated cost, resources, and time. Portfolio managers can do top-down planning with increased project transparency.

Note: For information about installing this connector, see the *Installation Guide*.

Upgrade Action: None

Administration

Added Security for Webroot Folder Data

Before this release, storing an HTML page in the webroot folder could make the contents of that folder vulnerable to someone without proper credentials. For example, if you store index.html in the webroot folder, an unauthorized person could gain access to CAPA information without logging in. All the user needs is the server and port number: http://*<servername>*:*<portnumber>*/niku/index.html.

To resolve this issue, a new servlet filter (ClarityContentFilter) was introduced. The filter is registered in the following file: *<installfolder>*/tomcat-app-deploy/conf/web.xml. This servlet prevents users from accessing a page, image, script, or any other file without logging in to the product.

Note the following points about ClarityContentFilter:

- You can exclude webroot files from the filter using a ClarityContentFilter parameter named allowedList. This parameter allows some items to be excluded from the filter. If you want the webroot folder to be excluded, you can append it to the allowedList parameter separated from other items by a comma. Redeploy the app service when you change the allowedList parameter.

- You can disable the filter by adding the following value to the Java VM parameters of the app server:

  -DdisableContentFilter=true.

Upgrade Action: None

Apache Tomcat Log Analysis

The following jobs have been added to create and manage data that you can use to analyze performance in an Apache Tomcat environment. You can add custom portlets, queries, or externally available content to provide details regarding system performance. Although the job runs for application servers other than Tomcat, no data is created.

- Tomcat Access Log Import/Analyze Job

    This job imports and analyzes Tomcat access log files from the local CA Clarity PPM environment (all app services). The job stores and summarizes the data in the following designated tables:

    - LOG_DETAILS

    - LOG_SUMMARY

    - LOG_FILES

    - LOG_REPORTDEFS

- Delete Log Analysis Data Job

    This job removes the analysis-related data that is stored in CA Clarity PPM. The criteria for removing the data is the LOG_DATE on each of the log analysis tables.

    The job is scheduled to run automatically at 1:00 A.M. each day.

Upgrade Action: None

Character Limit for Audited Multi-Valued Lookups Increased

Before Release 13.2.0.1, ODF_AUD_VALUE_FCT returned a value of type Varchar2. With the release of 13.2.0.1, the returned value type was changed to CLOB. This change increases the number of characters that are allowed for auditing multivalued lookups from 4,000 to an unlimited number of characters.

Upgrade Action: Update any reports or portlets that use ODF_AUD_VALUE_FCT.

Limit the Number of Rows for Export to Excel

System administrators can limit the maximum number of rows that can be exported to Excel. A new field in Clarity System Administration provides a safeguard against the export of unlimited or large amounts of data which can affect system performance.

An individual user with the appropriate access rights can control the number of rows that are exported to Excel using a setting in CA Clarity PPM. However, the setting in CA Clarity PPM does not override the setting in Clarity System Administration. From CA Clarity PPM, the number of rows that are exported is managed by entering a value in the *Maximum rows for Export to Excel* field. The field is available from Administration, General Settings, System Options. Previously, if no value was entered in the field, an unlimited number of rows could be exported to Excel.

Note: If you are a new customer, the default setting for the number of rows that can be exported is 25,000.

Upgrade Action: Place a practical limit on the number of rows of Excel data that can be exported.

1.   Log in to Clarity System Administration.

2.   Click Servers in the left pane, and click the name of the server.

3.   On the Properties tab, click the Application subtab.

4.   Enter a value in the *Maximum rows for Export to Excel* field and click Save.

5.   To place the changes in effect, restart the services.

Remove Session IDs from Log Files

As a security measure, you can configure CA Clarity PPM to prevent session ID values from appearing in your log files. To prevent these values from appearing, edit the logger.xml file. Replace the log pattern (%u:%s:%a) with the pattern (%U:%a).

The following examples show the results of using both log patterns in the logger.xml file.

Example: (%u:%s:%a)

This line of code shows how the pattern to display the session ID value appears in the logger.xml file.

```
<param name="ConversionPattern" value="%-5p %d{ISO8601} [%t] %c{2} (%u:%s:%a)
%m\r\n"/>
```

This pattern produces records in a log file with the session ID value. The following record from the app-ca.log that shows the session ID value (bolded):

DEBUG 2014-08-18 19:52:02,949 [http-bio-80-exec-3] odf.view
(clarity:admin:**5077018__8DF3B2A0-F398-4A4B-BC35-E9A012065CE0**:npt.overview
) Adding view FILTER_VIEW_LOADER::USER:NIKU.ROOT to transient cache

Example: (%U:%a)

This line of code shows how the pattern to prevent the session ID value appears in the logger.xml file.

```
<param name="ConversionPattern" value="%-5p %d{ISO8601} [%t] %c{2} (%U:%a)
%m\r\n"/>
```

This pattern produces a record in a log file without the session ID value. The following example is a record from the app-ca-service.log that shows no session ID value.

DEBUG 2014-08-18 19:52:02,494 [http-bio-80-exec-3] in.service
(admin:npt.overview)

CA Clarity PPM supports additional logging patterns if the layout is set to NikuLayout in the logger.xml for an appender.

Pattern Option	Purpose
u	Creates the user ID with the tenant ID in the log.
	Example: (%u) creates the output (clarity:admin) in the log.
U	Creates the user ID in the log.
	Example: (%U) creates the output (admin) in the log.

Pattern Option	Purpose
s	Creates the session ID in the log. Example: (%s) creates the output (5077018__8DF3B2A0-F398-4A4B-BC35-E9A012065CE0) in the log.
a	Creates the action ID in the log. Example: (%a) creates the output (npt.overview) in the log.

Note: For more information about log4j version 1.2 supported patterns, see the API documentation for Class PatternLayout at https://logging.apache.org.

Set Options for Cross-Site Scripting (XSS) Vulnerability

Cross-Site Scripting (XSS) attacks insert malicious scripts into otherwise trusted web sites. A cross-site scripting attacker uses a web application to send malicious code, generally in the form of a browser side script, to an end user. These attacks succeed when a web application uses input from a user in the output it generates without validating or encoding the input.

You can set options to validate user input. With input validation, CA Clarity PPM compares the user input to a set of commonly used XSS string patterns. If any part of the user input matches one of the common patterns, CA Clarity PPM restricts the XSS string in the user input. The product restricts the XSS string by placing escape characters before and after the string.

The escape characters are visible to the end user. The characters instruct the browser to ignore any script or HTML tag that is attached to the user input. This output encoding ensures that the user input is treated as text and not active content that can be executed. This action helps ensure user input that is returned to the browser is safe from XSS.

Set Up User Input Validation

The XSS options let you manage the escaping of user input values in the application, URL attributes, and site links. You can also add extra patterns to be escaped.

Important! The XSS detection is turned on by default; however, site links and URL attributes are exempted from this detection. To turn on XSS detection for site links and URL attributes, modify the options that are described in the following section.

To change the setting for any option, you execute database SQL statements.

Follow these steps:

1. Access the CMN_OPTION_VALUES database table.

2. Update the table entry for the particular option. For information about each option, see the option descriptions.

3. Flush the cache.

Cross-Site Scripting Options

The following options apply to user input validation.

RESTRICT.APP.XSS (XSS Restriction Option)

Restricts the XSS string in the user input when the string matches a pattern in the CMN.XSS.PATTERNS option. This system option applies to the entire application, except the URL attributes and site links. You can set restrictions for URL attributes and site links through separate options.

Values: True (restrictions are on), False (restrictions are off)

Default: True

Note: The HtmlPortlet content is not restricted (escaped). The HTML portlets execute any script in HTML content, which is the expected behavior.

To change the RESTRICT.APP.XSS option, update the CMN_OPTION_VALUES database table using the following SQL statement:

```
update cmn_option_values set value='false|true' where option_id = (select id from cmn_options where option_code=' RESTRICT.APP.XSS')
```

RESTRICT.URL.ATTR.XSS (URL Attribute Value Option)

Restricts the URL attribute value (that you created with Studio) when the value matches a pattern in the CMN.XSS.PATTERNS option.

Values: True (restrictions are on), False (restrictions are off)

Default: False

To change the RESTRICT.URL.ATTR.XSS option, update the CMN_OPTION_VALUES database table using the following SQL statement:

```
update cmn_option_values set value='false|true' where option_id = (select id from cmn_options where option_code=' RESTRICT.URL.ATTR.XSS')
```

RESTRICT.SITE.LINKS.XSS (Site Links Option)

Restricts the site links entry value when the value matches a pattern in the CMN.XSS.PATTERNS option.

Values: True (restrictions are on), False (restrictions are off)

Default: False

To change the RESTRICT.SITE.LINKS.XSS option, update the CMN_OPTION_VALUES database table using the following SQL statement:

```
update cmn_option_values set value='false|true' where option_id = (select id from cmn_options where option_code=' RESTRICT.SITE.LINKS.XSS')
```

CMN.XSS.PATTERNS (Common XSS Patterns Option)

Defines the string patterns that are commonly used for XSS. You can modify this option to add more string patterns.

To add patterns, access the CMN_OPTION_VALUES database table and include the new patterns in the CMN.XSS.PATTERNS option.

String patterns =

</script>

<script(.*?)>

<script>(.*?)</script>

alert(.*?)

eval\\((.*?)\\)

expression\\((.*?)\\)

javascript:

onerror(.*?)=

onload(.*?)=

src[\r\n]*=[\r\n]*\\\"(.*?)\\\"

src[\r\n]*=[\r\n]*\\\'(.*?)\\\'

Example: Adding a new pattern

The following example statements add the new pattern *onfocus* to the CMN.XSS.PATTERNS option:

Oracle:

```
CMN_OPTION_VALUES_INS_SP('CMN.XSS.PATTERNS','true','true','onfocus(.*?)=',1);
```

MSSQL:

```
EXEC CMN_OPTION_VALUES_INS_SP
'CMN.XSS.PATTERNS','true','true','onfocus(.*?)=',1
```

Upgrade Action: None

Action Item Localization

You can translate action item names and descriptions that are associated with processes. The advantage is that recipients see the action item in the language set for them.

For example, as the process creator, you translate an action item into all CA Clarity PPM supported languages. When the process is executed, the user working in CA Clarity PPM in French sees the action item in French. The user working in CA Clarity PPM in Turkish sees the action item in that language. This change improves the user experience because the action item is seen in the appropriate language.

You can translate an action item by using the translation icon that appears next to the Action Item Name field. The icon appears after the page for the action item is saved. Clicking the icon opens a dialog that lets you specify different language translations for the Action Item Name and Description fields.

Note: The Action Item translation icon is intended as an administrative tool and appears only for action items that are related to processes. The icon is not available to action item operations that end users perform from the Home menu.

Upgrade Action: None

Financial Management

Ignore Non-Labor Resources and Roles on Auto Population

A new option provides a way manually to forecast and preserve planned units, cost, and revenue for non-labor resources. The new option, *Ignore Non-Labor Resources/Roles in Cost Plan Population,* is available on the System Options page.

When this option is selected, team allocation or assignment ETC from non-labor resources and roles is skipped during the autopopulation of a cost plan. For example, Populate from Investment Team. When the option is unselected, cost plan population functions as it has in previous releases. In this case, all data for an investment is included in the cost plan. The option is unselected by default.

Note: This option setting affects any autopopulation action that is run against a new or existing cost plan. Ensure that you understand whether your business needs require non-labor resources and roles for autopopulation.

To navigate to the option, open the Administration menu, and from General Settings, click System Options. The option is located in the section named Other.

Here are some facts and tips on using this enhancement:

- We recommend setting the option once and setting up a business procedure for your users to follow. Do not reset this option frequently. Changing the setting can lead to data discrepancy.

- An unplanned row from a non-labor resource is included in a cost plan because the process is actual-driven. An unplanned row is one that shows actuals but no planned units or cost. This situation occurs when actuals are posted before a planned row has been added to the cost plan either manually or through cost plan population. The application has worked this way in the past, and selecting the option does not change this behavior.

- No existing cost plan row for a non-labor resource added manually is deleted on cost plan repopulation. However, if cost plan population added a row previously, the row is deleted during cost plan repopulation. The application has worked this way in the past, and selecting the option does not change this behavior.

Best Practice: We recommend creating new cost plans to start manually forecasting non-labor resources once the option is selected. This course is more prudent than repopulating existing plans because you cannot determine how a row was originally inserted into a cost plan.

Upgrade Action: None

Length of Money Fields

The value entered in any money field (including custom money fields) is limited to 18 digits. Any value you enter after the 18th digit changes to a zero.

Upgrade Action: None

Change in the Resource Browse Field for Rate Matrix

Before this release, you could select a role or a resource as a value for the Resource field in a rate matrix. The Resource field browse incorrectly showed both resources and roles as selection options. The browse has been corrected to show only resources for the Resource field.

To add financially enabled roles to a rate matrix, use the Resource Role field.

You cannot import a role in the resource code field through the XML Open Gateway (XOG). If the XOG input XML file contains roles in the resource code field, the following error is thrown: REVMGR-20299: Role in Resource code.

Correct any matrix rows with a role in the Resource field. Incorrect matrix rows cause an error when you try to create a cost plan in an investment using roles and resources. In this case, the following error is thrown: REVMGR-20728:Rates and Costs are both missing for one or more roles/resources.

Upgrade Action: Manually update incorrect rate matrix rows.

1. To discover any roles that have been assigned to a rate matrix incorrectly, run the checkinstall script.

    The checkinstall script logs any rate matrix rows that have an incorrect role assignment in the Resource field. The following format for the error is given in the log file: Rate Matrix Name, From Date, To Date, and Role.

2. Open the rate matrix in CA Clarity PPM and manually update the Resource field with the correct resource value.

Open Workbench

Cell Text Wrapping

If you enter text in Open Workbench table cells and the text is larger than the cell width, the text now wraps. This enhancement ensures that the text that you enter from Open Workbench is always visible completely.

Note: This feature is not available when a project is opened from Clarity into Open Workbench.

Upgrade Action: None

Estimate to Complete (ETC) Auto-Calculation

In previous releases, when you assigned a resource to a task in Open Workbench, the ETC was not automatically calculated. With this release, you can configure Open Workbench to calculate ETC automatically. A new field named *Auto Calculate ETC* has been added to Open Workbench. The automatic calculation applies to all resource assignments that you perform in Open Workbench. You can view and manage these automatically calculated ETC values in both CA Clarity PPM and Open Workbench.

By default, the Auto Calculate ETC check box is not selected. To make this option available, you are required to select it.

Note: For more information about the Auto Calculate ETC option, see the *Open Workbench User Guide*.

Upgrade Action: None

Project Management

New Microsoft Project Driver

A new Microsoft Project Interface driver (XML-based) is available for you to select during the installation of the Microsoft Project Interface. You can also select the existing legacy driver, which is COM-based. The two driver versions are available for both 32-bit and 64-bit environments.

If you install Microsoft Project Interface from the CA Clarity PPM user interface, a wizard guides you through the installation for both driver versions.

Upgrade Action: None

Studio

Studio Content Management

You can collect specific CA Clarity PPM content in a content package. Content packages help you identify, assemble, export, and deploy content between development, test, and production systems. A content package also lets you distribute to external third parties. Recipients can import the content as an add-in in their environments and can use the content. For example, you can develop a series of pages, portlets, and queries and can offer them to internal users and external customers.

When you export a content package, the application creates .jar files. The XML Open Gateway (XOG) allows you to migrate these package files to other environments. As a developer, you can design content items, package them for export, and then import them in to another environment.

You can also import Studio content packages that were developed internally or by third parties. Studio content packages extend the functionality of the application.

Note: For more information about Studio content management and the required access rights, see the *Studio Developer Guide*.

Upgrade Action: None

User Interface

Smart Sections

If you have multiple sections on a page with numerous fields on some sections, you can now manage sections easier. In this release, the section header bar acts as a switch to expand or collapse the section. The section header bar also helps you identify the sections with required fields or errors that occur upon saving.

The following changes improve the way page sections operate:

- To open or close all sections on a page, double-click any section header bar.

- To open or close a single section, click the section header bar for the section.

- The header bars for any sections that contain errors when you save are highlighted with a red border.

   If all sections are collapsed, the first highlighted section is expanded for you to make corrections. To make corrections in any remaining highlighted sections, click the section header bar to open the section.

- Any sections that contain required fields display the Required icon on the header bar. If the section contains empty required fields, the icon displays brightly. If all required fields are completed, the icon displays in a dimmed format. This display lets you scan the sections even in the collapsed state to identify which ones contain required fields that need completing.

Note: When you close a page, the status of the sections is saved. The next time that you open the page in the same browser, it appears as you left it. If you change browsers, the status of the sections is not saved and the standard presentation of sections (all open) appears.

The following pages or page components do not have to smart sections:

- The properties page for a report or job.

- The System Options page. To see this page, open the Administration menu, and from General Settings, click System Options.

- Time-scaled value sections. Although time-scaled values resemble sections, they are not true sections and are not included in these changes.

Upgrade Action: None

Change to Page Menu Behavior

The following changes improve the way menus on pages operate:

- A tab menu now displays when you mouse over the tab. Previously, you clicked the down arrow to see a tab menu. The menu closes automatically when the cursor moves off the menu.

- Other menus (for example, Actions, Scenario, or Open in Scheduler) open when you mouse over the menu name. In this case, the menu stays open until you click in an area outside the menu.

Upgrade Action: None

Data Model Changes

Added Tables

The following tables were added for this release:

- CMS_CONTENT_ADDIN_ITEMS
- CMS_CONTENT_ADDINS
- CMS_CONTENT_ITEMS
- CMS_CONTENT_PACKAGES
- CMS_CONTENT_TYPES
- LOG_DETAILS
- LOG_FILES
- LOG_REPORTDEFS
- LOG_SESSIONS
- LOG_SUMMARY

Updated Tables

The following tables were updated for this release.

CAL_ACTION_ITEM_ASSIGNEES

Added columns:

AI_DESCRIPTION

AI_SUBJECT

CMN_INSTALL_HISTORY

Updated column:

INSTALL_ID

CMN_NOTES

Updated column:

SUBJECT

CMN_NOTIFICATIONS

Added column:

IS_ADMIN_VISIBLE

PRASSIGNMENT

Added column:

ODF_SS_ACTCOST_CURVE

Added index:

PRASSIGNMENT_GN1

PRDEPENDENCY

Added column:

PRLAGFORMAT

RPT_CALENDAR

Added columns:

CREATED_DATE

LAST_UPDATED_DATE

RPT_INV_HIERARCHY

Added columns:

CREATED_DATE

INV_HIERARCHIES_ID

RSM_SKILLS

Updated column:

SKILL_NAME

Dropped Tables

No tables were dropped in this release.

XML Open Gateway (XOG) Changes

Changes to the writeFile GEL tag

The behavior of the GEL tag *writeFile* has been changed when the tag is used with the *line* tag. With this release, each call to the line tag writes the line to the specified output file. This change prevents potential out of memory issues when you run the GEL script. You can override the new behavior by specifying bulkWrite="true" on the writeFile tag.

Note: For writeFile examples, see the *XML Open Gateway Developer Guide*.

The following example shows the writeFile GEL tag.

```
<f:writeFile
    fileName="projectData.txt" <!-- filename is required -->
    delimiter="&#x9;" <!-- If not specified this is set to a comma (',')
    writeBulk="false" <!-- write one line at a time to the output file. This is the
default behavior. If it is desired to have the result written at the end of the request
set      writeBulk="true" -->
    maxFileSize="1g"  <!-- the maximum file size allowed when bulkWrite="false". 1G
is the default; valid examples are 1024k, 250 m, 2g. -->
    >
  <gel:forEach select="myQuery" var="row">
      <f:line>
        <f:column value="${row.ID}"/>
        <f:column value="${row.NAME}"/>
      </f:line>
  </gel:forEach>
  </f:writeFile>
```

Upgrade Action: None

XML Open Gateway Output File is Not Indented

Starting with Release 13.3, the XOG client output is unformatted without line breaks or indentation. You can use third-party software to convert the output to a more readable, user-friendly format.

Upgrade Action: None

Chapter 3: Release 13.3 Updates

This section contains the following topics:

Supported Upgrade Paths for Release 13.3

If you have any of the following releases installed on the base level with no patches, you can directly upgrade to CA Clarity PPM Release 13.3:

- 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

- CA Clarity PPM Version 13.0 or Service Packs

- CA Clarity PPM Release 13.1

- CA Clarity PPM Release 13.2

Follow the upgrade path mentioned in the following table, only if you have installed any patches on the base versions:

Patch Levels	Upgrade Path
If any patch level is installed on the base version 12.1.0 (i.e. 12.1.0.1 - 12.1.0.8)	Installation of 12.1.0.8 is required before the upgrade to Release 13.3.
If any patch level is installed on the base version 12.1.1 (i.e. 12.1.1.1 - 12.1.1.10)	Installation of 12.1.1.10 is recommended before the upgrade to Release 13.3.

Patch Levels	Upgrade Path
If any patch level is installed on the base version 12.1.2 (i.e. 12.1.2.1 - 12.1.2.3)	Installation of 12.1.2.3 is recommended before the upgrade to Release 13.3.
If any patch level is installed on the base version 12.1.3 (i.e. 12.1.3.1 - 12.1.3.6)	Installation of 12.1.3.6 is recommended before the upgrade to Release 13.3.
If any patch level is installed on the base version 13.0.1 (i.e. 13.0.1.1 - 13.0.1.7)	Installation of 13.0.1.7 is required before the upgrade to Release 13.3.
If any patch level is installed on the base version 13.1.0 (i.e. 13.1.0.1 - 13.1.0.5)	Installation of 13.1.0.5 is recommended before the upgrade to Release 13.3.
If any patch level is installed on the base version 13.2.0 (i.e. 13.2.0.1 - 13.2.0.4)	Installation of 13.2.0.4 is recommended before the upgrade to Release 13.3.

For example:

- If you have CA Clarity PPM SP 12.1.3, you can directly upgrade to Release 13.3.

- If you have CA Clarity PPM 12.1.0.2, then you have to apply CA Clarity PPM 12.1.0.8 first to upgrade to Release 13.3.

- If you have CA Clarity PPM 12.1.3.4, then it is recommended that you apply CA Clarity PPM 12.1.3.6 first to upgrade to Release 13.3.

- If you have CA Clarity PPM 12.1.3.6, you can directly upgrade to Release 13.3.

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 13.3. Issues could result if you try to upgrade to Release 13.3 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 13.3 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 13.3.

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 13.3. Although the interim upgrade is not a requirement, it simplifies the troubleshooting and restart process if an upgrade step fails.

The Release 13.3 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	■ Service Pack 12.1.1 ■ Version 13.0 ■ Release 13.1 ■ Release 13.2 ■ Release 13.3
Service Pack 12.1.1, 12.1.2, or 12.1.3	■ Version 13.0 ■ Release 13.1 ■ Release 13.2 ■ Release 13.3
Version 13.0 or Service Pack 13.0.x	■ Release 13.1 ■ Release 13.2 ■ Release 13.3
Release 13.1	■ Release 13.2 ■ Release 13.3
Release 13.2	■ Release 13.3

Upgrade Considerations for Release 13.3

This section provides information about installation and upgrade changes for Release 13.3.

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. The jar files are shipped separately from the CA Clarity PPM image in the installation media. The Release 13.3 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 installation media containing third-party libraries .jar file. For Release 13.3, the .jar file is named *thirdparty.libs.13.3.0.jar*.

Upgrade Action: Retrieve the *thirdparty.libs.13.3.0.jar* file from the installation media. 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

For an upgrade on an installation that uses *generic* as the vendor type, update the DataDirect JDBC driver .jar files in your third-party application server environment. The version for these files has changed in this release.

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

Oracle DB National Character Set Is Supported

CA Clarity PPM supports the following character sets:

- DB character sets: UTF8 and AL32UTF8

- National DB character sets: UTF8 and AL16UTF16

Consider 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 advantages and disadvantages of using different character sets. CA Clarity PPM works with UTF8 and AL16UTF16 National character sets.

Upgrade Action: None

Add-ins Compatibilities

This section describes important information about upgrading installed add-ins, accelerators, and connectors for Release 13.3.

■ The Microsoft SharePoint Connector Release 3.0.0 is new. If you have the Connector for Microsoft SharePoint Release 2.0.2 or earlier installed, you cannot upgrade the existing connector.

Note: For information about installing this connector, see the *Microsoft SharePoint Connector Guide*.

■ If you are upgrading from Version 13.0, 13.1, or 13.2, to Release 13.3, the following add-ins are upgraded:

– PMO Accelerator

– Clarity Solution Pack (CSP)

– CA Clarity Agile

■ If you are upgrading from any version before Version 13.0 to Release 13.3, upgrade all installed add-ins.

■ A new installation process is required 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 13.3.

Accelerator or Connector	New Installation 13.3	Upgrade from 12.*x* to 13.3	Upgrade from 13.*x* to 13.3
PMO Accelerator	3.3.0	3.3.0	3.3.0
Clarity Solution Pack (CSP)	3.3.0	3.3.0	3.3.0
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

Accelerator or Connector	New Installation 13.3	Upgrade from 12.x to 13.3	Upgrade from 13.x to 13.3
Connector for CA Unicenter Asset Portfolio Management 11.3.4	2.0.2	2.0.2	2.0.2
Connector for Microsoft SharePoint 2013	3.0.0	3.0.0	3.0.0
Service Connect	2.0.0	2.0.0	2.0.0
Catalyst Connector	2.5.0	2.5.0	2.5.0
CA Clarity Agile	13.2 or 13.3	13.2 or 13.3	13.2 or 13.3

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-ins Compatibilities" if you are required to install a new version of your existing add-ins, accelerators, or connectors.

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.

Known Issues for Release 13.3

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 the current release.

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 are required to correct the data issue before resuming the upgrade process. An upgrade check script runs and alerts you that this problem exists.

To identify possible data issues before you start the upgrade, run the following query:

```
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 the current release.

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 TRANSCLASS 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 that the information is 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. We recommend that you run the Checkinstall utility and review the reports that it generates before starting. To reduce the possibility of a failure, correct any errors that the Checkinstall reports indicate.

If your upgrade fails, review the logs and the Checkinstall post-installation reports to determine the reason for the failure. Then, restore the working preupgrade version and database, correct the failure, and restart the upgrade.

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 does 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 the 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 Guide*.

Upgrade Stops if OBS Unit Names Have Special Characters

Some special characters in OBS unit names, department names, or location names are automatically replaced with hyphens (-) during the preinstallation check before an upgrade.

The following special characters are replaced:

■ Slash (/)

■ Colon (:)

■ Double quote (")

■ Less than (<)

■ Greater than (>)

If you do not want hyphens placed in names with special characters, update the names before you begin the upgrade process. You can also manually replace the hyphens with the special characters after the upgrade is done.

You can run the following query to identify the OBS names that contain special characters. 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 determine whether to update them.

For MSSQL:

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

Automatic Update to Curly Brackets in 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 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\13.3.0\component\postupgrade\POSTUPGRADE_57954_MSSQL_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';
   ```

Update Operation For Some Project Object Attributes Does Not Appear in the Audit Trail

In some instances, when auditing is enabled for specific attributes on the Project object, only the insert operation is reported in the audit trail. The update operation does not show for the attributes. The affected attributes include:

- Budgeted Capital Cost

- Planned Capital Cost

- Budgeted Operating Cost

- Planned Operating Cost

WebSphere Deployment Does Not Show Database Information in CA Clarity System Administration

During a Generic J2EE installation, the nsa.ear file installs CA Clarity System Administration. Once you start CA Clarity System Administration, you can see the database information after you specify your database credentials. However, if you are installing on WebSphere, the database information is not available. Neither the Install History page or the Installation Overview page in CA Clarity System Administration shows the database as installed, even though it is.

This behavior does not affect your ability to complete the installation and use the application.

Upgrade Action: To get details of the database, run the query CMN_INSTALL_HISTORY.

Generic J2EE Upgrade Produces an Error If the J2EE.home Property Is Not Set

An error is received during an upgrade for a Generic J2EE application server (IBM WebSphere or Oracle WebLogic). Because the vendor is generic, the prompt for the J2EE home directory does not appear and the j2ee.home property is not set. Without a j2ee.home setting, an error occurs in the installation process.

Upgrade Action:

Set the following values in the <installer>/install.properties file:

- j2ee.home=<any value>
- j2ee.vendor=generic

An Upgrade With a Non-RAC Database Results in a Disconnect Between the Application Server and the Database (13.3)

If you are upgrading to Release 13.2 or 13.3 with a non-RAC database, the network between the application server and the database disconnects during the upgrade. You see the following error:

```
FATAL 2013-07-17 13:14:46,376 [main] union.persistence Failed to initialize Context
properties
7/17/13 1:14 PM (admin)              java.sql.SQLNonTransientConnectionException:
[CA Clarity][Oracle JDBC Driver]Connection reset
7/17/13 1:14 PM (admin)       at com.ca.clarity.jdbc.oraclebase.ddcg.b(Unknown Source)
7/17/13 1:14 PM (admin)       at com.ca.clarity.jdbc.oraclebase.ddcg.a(Unknown Source)
7/17/13 1:14 PM (admin)       at com.ca.clarity.jdbc.oraclebase.ddcf.b(Unknown Source)
7/17/13 1:14 PM (admin)       at com.ca.clarity.jdbc.oraclebase.ddcf.a(Unknown Source)
7/17/13 1:14 PM (admin)       at com.ca.clarity.jdbc.oraclebase.ddcf.a(Unknown Source)
7/17/13 1:14 PM (admin)       at com.ca.clarity.jdbc.oracle.net8.dd g.b(Unknown Source)
```

Upgrade Action:

Before you start the upgrade, complete the following steps:

1. Open CA Clarity System Administration, and click Servers in the left pane.

2. Click the name of the application server.

3. Click the Database subtab.

4. In the Internal Connection: Niku section, select the Specify URL check box.

    The JDBC text box appears.

5. Add the following tags to the JDBC URL:
    ConnectionRetryCount=400;ConnectionRetryDelay=3

6. Click Save.

Google Chrome Version 30.0.1599.66 m Issues

The following CA Clarity PPM issues occur for users who are using this particular version of Chrome (Version 30.0.1599.66 m):

■   The Recent Pages (History) drop-down that lets you navigate back to previously viewed pages does not work.

■   Export to Excel and Export to PowerPoint do not work at the portlet level.

■   Export to Excel does not work on a list page.

These issues do not appear in other browsers and have been found only in this version of Chrome.

Gantt Printing Issue with Chrome Browser

If you use a Chrome browser, the following issues can occur when you print a Gantt chart:

- Some rows have extra space after the row.

- Some lines break across pages, presenting part of the line on two pages.

- The Gantt schedule lines do not appear correctly.

This issue does not occur in Internet Explorer or Firefox.

Using the Value -1 to Disable the New XOG Governor Limit Does Not Work Correctly for XOG Write

Setting the Maximum XML Node Limit value to -1 in CA Clarity System Administration disables the XOG Governor limit. Currently, entering this value causes XOG write operations to throw the following error:

XOG-9060: The system cannot import this instance with the current configuration.
Increase the 'Maximum XML Nodes' value in the CSA and try again.

Workaround: Set the Maximum XML Node Limit to 10^15.

Add-in Enhancements

CA Microsoft Project Interface Changes

The following Release 13.3 changes were made for the Microsoft Project Interface:

Resource Leveling

The CA Microsoft Project Interface supports the Microsoft Project Resource Leveling feature. If you do resource leveling in Microsoft Project and save the project into CA Clarity PPM, the resource leveling information is kept in the CA Clarity PPM database. The next time that you open the project in Microsoft Project from CA Clarity PPM, the resource leveling information that you entered is available.

Note: See the Microsoft Project documentation for more information about resource leveling.

Performance Tuning

The Microsoft Project Interface was tuned to improve performance in the following areas:

- Exporting a project from CA Clarity PPM to Microsoft Project

- Importing a project from Microsoft Project to CA Clarity PPM

Smaller projects show performance improvements for the import and export actions. Projects that have large time-scaled value data such as Assignment Actuals and ETC, or Baseline Cost and Usage Curve may not show the expected improvement.

Java Runtime Environment Is Provided

CA Clarity PPM provides a specific Java Runtime Environment (JRE) for use by Microsoft Project. The JRE is copied to the hard drive in the Microsoft Project Interface installation directory on the end-user workstation. The JRE is used for the Microsoft Project Interface integration and is independent of the JRE used for the Windows workstation.

The Microsoft Project Interface uses only the internal JRE version that is provided which we certify to be compatible. This approach eliminates issues that arise when the workstation Windows installation of the JRE is not the correct version or the JRE is missing. An IT department no longer has to update a JRE version when deploying the Microsoft Project Interface.

Silent Installation Support

In this release, the Microsoft Project Interface can be installed silently without any user intervention.

In previous releases, when you ran the Microsoft Project add-in setup, the Windows operating system displayed a message that the publisher could not be verified. You were then asked if you wanted to install the customization.

This message is no longer displayed. You receive a confirmation message after the add-in is successfully installed. The Microsoft Project Interface add-in setup closes the installer window automatically.

Connector for Microsoft SharePoint Changes

The Microsoft SharePoint Connector Release 3.0.0 is new. If you have the Connector for Microsoft SharePoint Release 2.0.2 or earlier installed, you cannot upgrade the existing connector. You are required to install the new Release 3.0.0 connector. The existing connector was based on SharePoint 2010, and the new Release 3.0.0 connector is based on SharePoint 2013.

Administration

License Type Names Have Changed

When the License Information portlets were first introduced in Release 12.1, the License Type Names were defined as:

- Managers
- Team Members
- Enterprise Visibility Option

Effective with Release 13.2 Generic Patch 4 and Release 13.3, the labels for the License Type names are changing. The functionality and use remain the same.

Old Name	New Name	Functionality
Managers	Full	Users have the full use of product functionality.
Team Members	Restricted	Users have specified limited use of product functionality.
Enterprise Visibility Option	View Only	Users can view information but cannot create or edit information except for ideas and incidents.

One extra user type is available for customers who own CA Clarity Agile. Vision Timesheet users have the right to enter time through the CA Clarity PPM and Agile Vision integration. All users are named, not concurrent. Only active users are counted as licensed users.

To see the new user types, open the Administration menu, and under Organization and Access, click License Information.

Upgrade Action: None

Process Monitor

A process monitor has been added to CA Clarity PPM. The monitor ensures certain process types that are known to cause systemic problems are identified and put on hold automatically to prevent a system interruption. A message displays on the process validation page for processes that are flagged as problematic by the process engine.

Upgrade Action: None

Changes to the Global Audit Trail Page

The Global Audit Trail page was updated for this release. This page is available in the Data Administration section of the Administration menu. The updates do not affect the instance audit trail pages available to users.

The following updates were made:

- The Date Range fields now default to the following range:
  - The start date is seven days before the current date.
  - The end date is the current date.
- The Date Range default values appear when the following actions occur:
  - The Global Audit Trail page is opened.
  - An administrator tries to filter without entering any filter values.
  - The selection in the Object field is changed.
- The Show All button was removed from the page.

Upgrade Action: None

Demand Management

Financially Enabled Ideas

This release includes financially enabled ideas. The changes include:

- The ability to create cost plans, benefit plans, and budget plans for an idea.
- A Financial Plans tab for any idea that you open in CA Clarity PPM. This tab provides access to cost plans, benefit plans, and budget plans for the idea.
- New access rights for the following Idea pages: Financial (subpage), Cost Plan, Benefit Plan, and Budget Plan.
- A new check box named *Copy Financial Plan and Properties* on the conversion page for an idea. The conversion page lets you convert an idea into an investment. The check box lets you copy the financial data from an idea to a target investment.
- New views for the Idea Cost Plan object which make the Actual attributes unavailable to add to the view.
- New views added for the Idea Benefit Plan Detail object which make the Actual attributes unavailable to add to the view.

- The configuration of workflow processes on idea cost plans.

The following limitations exist for a financial plan on an idea:

- Actuals using transactions are not possible.

- Only a manually created cost plan (plan of record) can be converted to a target investment. A cost plan that you create using the methods *Populated from Investment Team* or *Task Assignment* is not converted.

- A budget plan will not be converted to a target investment.

- A workflow system action is not available to convert an idea financial plan to a target investment. An idea financial plan can only be converted through the user interface.

Upgrade Action: None

Documentation Changes

The CA Clarity PPM documentation has been improved with these changes to help you find information faster.

- **CA Answer Bar**. Quickly find the CA Clarity PPM information you need using the CA Answer Bar (https://enable.ca.com/answers/us/CA-Clarity-PPM). Find the latest "how to" scenario content, discover great insights from CA Support, and more. You'll spend less time searching and more time focused on getting your job done. Technical content is available for CA Clarity PPM 13.0 and above.

- **CA Clarity PPM Cookbook**. Select CA Clarity PPM technical content is available on the mobile device platform Flipboard. Watch this video and use the cookbook today. Happy flipping!

    - To add the CA Clarity PPM Cookbook to your RSS feed folder, add this URL: http://cookbooks.ca.com/cacppm/?feed=rss2

    - To view the CA Clarity PPM Cookbook in your browser, rather than the mobile app, access this URL: https://flipboard.com/section/ca-clarity-ppm-cookbook-bgk99n

- **Online Help Bookshelf**. To help simplify and improve how you find content, the bookshelf available from the product only includes the product documentation. Additional information such as release notes, green books, KB articles, social media, and so forth is available in the On Premise and On Demand bookshelves on CA Support Online.

- **New Portfolio Management Scenarios Guide**. Provides "how to" scenario content the Portfolio Manager needs.

■ **New Portlet Reference Guide**. Provides a list and details for all out-of-the-box portlets and PMO Accelerator portlets.

■ **Accelerator, Add-in, and Connector Guides**. To help improve how you find content, the release notes for the accelerators, add-ins, and connectors are now found in their associated product guide.

■ **Basics User Guide and Personalizing CA Clarity User Guide**. To help improve how you find content, the content in the *Personalizing CA Clarity User Guide* is now found in the *Basics User Guide*.

■ **Access Rights Reference Guide**. To help improve how you find content, the access rights for all the guides are now found in the *Access Rights Reference Guide*. They are no longer included in the individual guides.

■ **XML Open Gateway Developer Guide**. The element syntax *IsComplete* and *completed* were recognized as deprecated forms and are replaced by *complete*. For example, when true, the optional *complete* element for the OBSAssocs element indicates that any OBS associations represent a complete replacement as a set. When the value is false, the operation inserts and/or updates any existing OBS associations. Sample content including sample .xsd files may continue to show the old forms. The documentation reflects this recognition of a single standard in topics that include the *complete* element with the following note:

Note: *Complete* replaces deprecated forms *completed* and *IsComplete*.

Financial Management

Inactive Resources in Cost Plan Population

Starting with Release 13.3. information for both active and inactive resources appears in cost plan detail and is used for the rate calculation. The values for resource attributes are pulled for the rate calculation regardless of the active status if the attributes are specified in the resource profile.

For example, if the transaction class is defined for a resource, the resource transaction class appears in the cost plan. The transaction class is used to pull the rate from the rate matrix. Setting the resource to inactive on the general properties page or the financial properties page does not change this behavior.

If a resource has no defined transaction class but the resource has project allocation, ETC, or actuals, the rate is pulled from the rate matrix. The active status does not change this behavior.

Upgrade Action: None

Open Workbench

Java Runtime Environment for Open Workbench

Starting with Release 13.3, CA Clarity PPM provides a specific Java Runtime Environment (JRE) for use by Open Workbench (OWB). The JRE is copied to the hard drive in the OWB installation directory on the end-user workstation. The JRE is used specifically for OWB and is independent of the JRE used for the Windows workstation.

OWB uses only the internal JRE version that is provided which we certify to be compatible. This approach eliminates issues that arise when the workstation Windows installation of the JRE is not the correct version or the JRE is missing. An IT department no longer has to update a JRE version when deploying OWB.

Portfolio Management

Portfolio Maximums for Investments, Roles, and Attributes

To ensure better performance and usability, the following limits apply to the maximum number of investments, roles, and attributes that you can include in a portfolio:

- Investment attributes: 700

- Investments: 250

- Roles: 25

Upgrade Action: None

Aggregation Rows Added to the Portfolio Waterlines View

The Portfolio Waterlines view has been enhanced to display the aggregated time-varying totals for selected constraints. The time-varying values for the individual investments can also be displayed overlaying the Gantt bars for a selected constraint.

Upgrade Action: None

Project Management

Gantt View Can Be Printed

You can now print a Gantt view. The Printable View icon on the Gantt chart displays a read-only view of the tasks you want to print in a new window. You can view a maximum of 300 tasks at a time. The page height automatically fits the tasks, and the page width automatically fits the column and period configuration.

Before you print the Gantt view, select the background colors and images option in the browser menu.

Browser	Action to Take
Internet Explorer, Firefox	Use the Page Setup option in the browser menu.
Google Chrome	Use the Print option in the browser menu.

Note: Use the Alt key to enable the browser menu for Internet Explorer and Firefox.

Upgrade Action: None

Task Duration on the Gantt View Is Editable

In previous releases, the task Duration on the Gantt view was automatically calculated. The duration was based on the task Start Date and Finish Date on saving. Starting this release, you can edit the task duration on the Gantt view and can see the changes interactively.

However, you cannot edit the task duration in the following cases:

- When a task is a Milestone or Summary Task.

- Timesheet is already submitted for that period.

The following table shows the interactive changes that you see when you edit the task attributes on the Gantt view:

Field Edited	Result
Task Duration	The task Finish Date and the Gantt bar change.
Task Finish Date	The task Duration changes.
Task Start Date	The task Finish Date changes, but the task Duration does not.

Note: For more information about editing the Task Duration field, see the *Project Management User Guide*.

Upgrade Action: None

User Interface

CA Clarity PPM Login Page Can Be Rebranded

You can use the UI theme CSS to customize the appearance of the login page. For example, set a custom logo for an organization or set a message for all users to view when they log in. A sample system maintenance message appears as follows:

```
The system will be unavailable from Sun April 15 at 11:30 pm until Mon April 16
at 3:30 am.
```
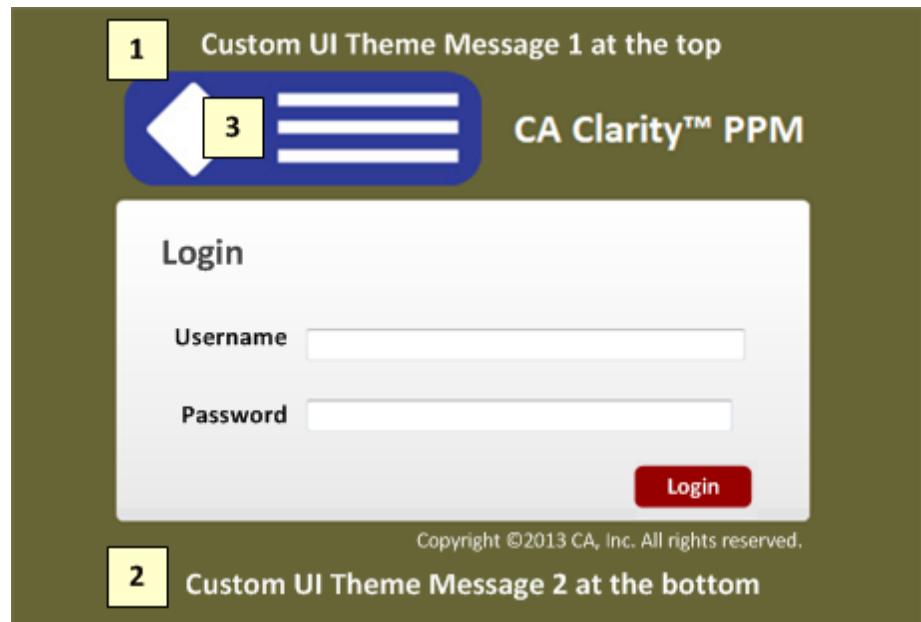

1. Login Page Top Message

You can add a service announcement or custom message at the top of the login page.

2. Login Page Bottom Message

You can add a service announcement or custom message at the bottom of the login page.

3. Login Page Logo

You can insert a custom logo on the login page.

Note: See the *Studio Developer Guide* for more information.

Upgrade Action: None

Bubble Chart Improvement

Starting with Release 13.3, the bubbles in a bubble chart are translucent. This change allows smaller bubbles that appear behind larger bubbles to be viewed. Previously, smaller bubbles were not visible when hidden because the bubbles appeared as solid objects in the chart.

Upgrade Action: None

Drop-down List with More Than 20 Values

A drop-down list that exceeds 20 values for a field changes from a drop-down list to a browse lookup. The browse lookup is easier to use when the list of values is long.

Upgrade Action: None

Export Level for Excel and PowerPoint Has Changed

Before this release, an export to Excel or PowerPoint exported portlet information for all tabs for a selected page. With Release 13.3, only information that is on the selected tab is exported. Exporting the portlet information for a tab is the default behavior.

This behavior is governed by the system-level option ENABLE_PAGE_LEVEL_EXPORT. The value of this option is *false* by default, which means the information from the current active tab is exported. If the value of this flag is set to *true*, information from the portlets of all page tabs are exported.

Upgrade Action: To put the new value into effect, flush the server cache.

To check the value of this option, use the following SQL:
```
SELECT cov.value FROM cmn_option_values cov, cmn_options cos
WHERE cos.option_code = 'ENABLE_PAGE_LEVEL_EXPORT' AND cov.id = cos.id
```

Chart Y-Axis Field Option Change

The Y-Axis unit of measure for the Major Unit Increment field is *days* when the Y-Axis for a chart represents date data.

XML Open Gateway (XOG) Changes

XOG Governor Limit

When you import or export a large number of instances through XOG, you may encounter Out of Memory (OOM) or time-out exceptions. To handle these issues, you can now configure the Maximum XML Nodes option available under the Application tab in the CSA. The Maximum XML Nodes is referred as nodes limit in the document. The default value for the Maximum XML Nodes is 150,000 for both the On-Demand and On-Premise environments.

Before this release, for a XOG read request, the entire requested information was sent in a single response which resulted in the OOM or time-out exceptions. Starting this release, the server processes the instances until the node limit is reached. After processing the response is sent back to the client in chunks using pagination. A new read request should be sent to the server with the appropriate information using pagination for the next set of instances. The number of the processed instances for a read request is updated in the skip element of the XOG output.

When you import instances, the server processes 20 instances per iteration. If the node limit is reached even before the 20 instances are loaded, the server processes only those instances that have loaded until that point for the current iteration. The remaining instances are considered automatically for the next iteration.

Note: For more information about setting the XOG Governor limit, see the *XML Open Gateway Developer's Guide*.

Upgrade Action: None

Data Model Changes

Added Tables

The following table was added for this release: CMN_GEL_TAGS.

Note: See the *Technical Reference Guide* for information about this table.

Updated Tables

The following list of tables indicates what changed in this release:

CMN_AUDITS

Dropped column:

CLASS_CODE

Added index:

CMN_AUDITS_N6

CMN_SEC_USERS

Added column:

SALT

PRJ_BLB_SLICES

Dropped columns:

ID

CREATED_BY

LAST_UPDATED_BY

LAST_UPDATED_DATE

UNIT

PRTASK

Added columns:

PRMSPWBSLEVEL

PRMSPWBSSEQUENCE

Dropped Tables

No tables were dropped in this release.

Chapter 4: Release 13.2 Updates

This section contains the following topics:

Supported Upgrade Paths for Release 13.2

Before you start the upgrade, we recommend that you read the Basic Upgrade Process 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	■ 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	■ Version 13.0 ■ Release 13.1 ■ Release 13.2
Version 13.0 or Service Pack 13.0.x	■ Release 13.1 ■ Release 13.2
Release 13.1 or Service Pack 13.1.x	■ Release 13.2

Upgrade Considerations for Release 13.2

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

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

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" for details.

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

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.

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 or Connector	New Installation 13.2	Upgrade from 12.x to 13.2	Upgrade from 13.x to 13.2
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" 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."

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.

Known Issues for Release 13.2

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 TRANSCLASS 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 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 '%&amp;' + '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 '%&amp;' || '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 '%&amp;' + '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 '%&amp;' || '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';
   ```

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*.

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*.

Financial Management

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	projfinproperties 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.	
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*.

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.

Open Workbench

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

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
Project - Edit Financial - All	*Project - Edit*
Project - Enable Financial	*Project - Edit Financial*

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

Portfolio Management

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."

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 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.serviceRoiITM)

- 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 *pinned* 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 *general* 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.

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.*

User Interface

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

Action	Keyboard Combination
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
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

XML Open Gateway Changes

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.

Data Model Changes

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

Chapter 5: Release 13.1 Updates

This section contains the following topics:

Supported Upgrade Paths for Release 13.1

Before you start the upgrade, we recommend that you read the Basic Upgrade Process topic.

If you have any of the following releases installed, you can upgrade to CA Clarity PPM Release 13.1:

- 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 12.1.1.7

    - 12.1.2.1 through 12.1.2.3

    - 12.1.3.1 through 12.1.3.3

- CA Clarity PPM Version 13.0 or Service Packs

    Supported patch levels:

    - 13.0.1.1 through 13.0.1.2

Important! Customers on a CA Clarity PPM patch level not listed in the preceding list should take caution when attempting an upgrade to Release 13.1 as there may be issues. 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 may also find more information by visiting the CA Clarity PPM User Communities.

Upgrade Considerations for Release 13.1

This section provides information about installation and upgrade changes since Version 13.0.

New Installer

The new Release 13.1 installer includes the following components:

- Service Pack 12.1.1 installer
- Version 13.0 installer

The Release 13.1 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	■ Service Pack 12.1.1 ■ Version 13.0 ■ Release 13.1
Service Pack 12.1.1 or a later service pack of 12.1	■ Version 13.0 ■ Release 13.1
Version 13.0 or Service Pack 13.0.1	■ Version 13.1

Installation Checker

A new installation checker is available to assess an installation or upgrade before you start. Although the tool runs automatically at the start of the installation or upgrade, you can run it as a standalone utility. The results are saved in a file named results.htm.

Note: On Solaris 10 systems, you may 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 Version 13.1 installation prerequisites, you can safely ignore this message.

Upgrade Action: None. For more information about the Installation Checker, see the *Installation Guide.*

Additional Upgrade Steps (Niku 6.x, Clarity 7.x, CA Clarity 8.x)

Important! If you are upgrading to Release 13.1 and have had an older product version (Niku 6.x, Clarity 7.x, or CA Clarity 8.x) installed, additional steps are required for a successful installation.

Complete these steps if one of the following conditions apply:

- You are currently using one of the listed products.

- You previously had one of the listed products installed.

Upgrade Action: Complete the following steps.

1. Upgrade to CA Clarity PPM Version 13.0.

2. Before you upgrade to either Release 13.1 (or 13.0.1.x), copy the caches.xml file from the following source folder to the appropriate target folder:

   UNIX/Linux

   Source Folder: $NIKU_HOME/.setup/templates/config

   Target Folder: $NIKU_HOME/config

   Windows

   Source Folder: %NIKU_HOME%\.setup\templates\config

   Target Folder: %NIKU_HOME%\config

3. Complete the upgrade to Release 13.1 as documented.

Java Runtime Environment Removed From Download Software Link

The Java Runtime Environment (JRE) is no longer available from the Software Downloads link.

Upgrade Action: 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 to direct users to download the JRE version 7 from www.java.com.

Users can download the latest update of version 7 that is available. The latest version is what www.java.com offers by default. Eventually, when Java 8 is released, it will become the download default on the website. At that point, remind your users to download version 7, not version 8.

Post Installation Step to Remove the Resource - Edit Financial 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:

■ Removes the *Resource - Edit Financial* access right from all current resource managers.

■ Clears 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 to replace 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.xml
   —apply
   ```
   UNIX:
   ```
   ./dbpatch -install -file
   ../upgrade/ppm/schema/postupgrade/RevokeResEditFinRightFromResourceMgrs.xml
   —apply
   ```

New System Log File Default Limits

The default behavior for service system logging has changed. Before this release, the size of the system logs for CA Clarity PPM services (for example, the app-system.log) grew continuously unless manual intervention occurred.

As of this release, the default behavior is to restrict the log file size for all service system log files to 5 MB and to keep five rolling logs (for example, app-system.log, app-system.log.1, and so on).

Upgrade Actions: None. The default settings are automatic.

You can change the default settings, to customize the size and number of log files.

Follow these steps:

1. Log in to Clarity System Administration.

2. Open Home, and click Servers.

3. Click the Properties icon for the server to edit log information.

4. Click the Logs tab.

5. Click the Edit Configuration subtab.

6. In the System Logging section, complete the following fields:

    Maximum number of system logs (per service)

    Indicates the number of files to keep for each service. Changing this value requires restarting the services. The default value is five.

    Maximum size of each system log

    Indicates the size of the system log files for each service in megabytes. Changing this value requires restarting the services. The default value is 5 MB.

7. Save the changes.

8. Restart the affected services.

Commands for GEL Tag Restrictions

Use the following commands to control GEL tag restriction:

admin general restrict-gel-tags

Sets the value of the gelTagRestriction property to *on*.

admin general allow-gel-tags

Sets the value of the gelTagRestriction property to *off*.

The property gelTagRestriction is referenced to determine if gel tags are restricted. The property is on the system element. It is an optional element.

Use the values *on* or *off* to set GEL tag restrictions for the environment. Specifying any value other than *off* enables GEL tag restriction. GEL tag restrictions are off by default.

Examples

Properties.xml file with no GEL tag restriction:
```
<system online="true" multiCurrency="false" licenseTypes="old"
singleTenantMode="true"/>
```

or

```
<system online="true" multiCurrency="false" licenseTypes="old"
singleTenantMode="true" gelTagRestriction="off"/>
```

Properties.xml file with GEL tags restricted:
```
<system online="true" multiCurrency="false" licenseTypes="old"
singleTenantMode="false" gelTagRestriction="on"/>
```

Upgrade Action: None

New Languages Supported in the User Interface

The product user interface supports the following new languages:

- Korean

- Simplified Chinese

- Traditional Chinese

Upgrade Action: None

Add-ins Compatibilities

The following list shows the add-ins to upgrade for Release 13.1:

- If you are upgrading from Version 13.0 to Release 13.1, the following add-ins are upgraded:

  – PMO Accelerator

  – Earned Value Manager

  – Connector for CA Unicenter Asset Portfolio Management

  – Connector for CA Unicenter Service Desk and CA Software Change Manager for Distributed

  Note: If you plan to use one of the languages added for Release 13.1 (Korean, Simplified Chinese, or Traditional Chinese), upgrade all installed add-ins.

- If you are upgrading from any version before Version 13.0 to Release 13.1, upgrade all installed add-ins.

The following table shows the accelerator and connector releases that are required for Version 13.0, Service Pack 13.0.1, and Release 13.1.

Accelerator or Connector	13.0 and 13.0.1	New 13.1 Installation	Upgrade from 12.x to 13.1	Upgrade from 13.0 or 13.0.1 to 13.1
PMO Accelerator	3.0	3.1	3.1	3.1
Earned Value Manager	2.0	2.0.01	2.0.01	2.0.01
Accelerator for PRINCE2	2.0	2.0.01	2.0.01	2.0 or 2.0.01
Accelerator for the PMBOK	2.0	2.0.01	2.0.01	2.0 or 2.0.01
Accelerator for New Product Development	2.0	2.0.01	2.0.01	2.0 or 2.0.01
PPM Essentials Accelerator	2.0	2.0.01	2.0.01	2.0 or 2.0.01
BRM Accelerator	3.0	3.0.01	3.0.01	3.0 or 3.0.01
Connector for CA Unicenter Service Desk & CA Software Change Manager™ for Distributed	2.0	2.0.01	2.0.01	2.0.01
Connector for CA Unicenter Asset Portfolio Management	2.0	2.0.01	2.0.01	2.0.01
Connector for Microsoft SharePoint	2.0	2.0.01	2.0.01	2.0 or 2.0.01
Service Connect	2.0	2.0	2.0	2.0
Catalyst Connector	2.5	2.5	2.5	2.5
Agile Vision Enterprise	Winter 2012	Summer 2012	Summer 2012	Summer 2012
Product Vision	Winter 2012	Summer 2012	Summer 2012	Summer 2012

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.

Known Issues for Release 13.1

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 13.1.

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 13.1.

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 TRANSCLASS 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 to Release 13.1 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.

nsa.ear File Not Generated During Installation

If you select Generic for the J2EE vendor during a new Version 13.1 installation, the installation script overrides your selection and sets the value to Tomcat. As a result, an exception appears in the install.log file, and the nsa.ear J2EE archive is not produced.

Complete these steps to correct this issue after installation:

1. Ignore the exception in the install.log file.

2. In the properties.xml file, change the value of the vendor attribute to *generic* in the applicationServer element.

3. Execute the following command in the install.dir/bin directory:
   ```
   admin package nsa
   ```
   This command produces the nsa.ear file that the installation program normally produces.

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 Guide*.

Administration

Time-Scaled Value Link Exports to Excel

Excel has a 64-KB limit on the number of links that are exported to a worksheet. If you have configured links within your time-scaled value (TSV) cells, you can reach the limit. An Export to Excel operation does not complete successfully when the limit is reached.

A new option named *Enable TSV links for Export to Excel* provides a way to control how TSV links are exported. The option is selected by default so that all TSV links are exported.

If the option is not selected, TSV links are exported only up to the limit. When the limit is reached, the operation continues to export TSV values but without additional links.

Upgrade Action: (Optional) Clear the option to ensure the operation to export does not stop when the limit for links is reached.

Follow these steps:

1. Open Administration and from General Settings, click System Options.

2. In the Other section, clear the Enable TSV links for Export to Excel check box.

3. Save your changes.

Financial Management

Financially-Enabled Roles

The Financially-Enabled Roles feature provides the following functionality:

- Assignment of Transaction Class and Resource Class financial attributes to roles. This action lets you generate cost plans that include this combination of grouping attributes.

- Generation of cost plans based on the following attributes:
  - Role and Location
  - Role and Department

  You can use these attributes when the team member is a role and the Staff OBS Unit attribute on the team record contains either a department or a location.

- Ability to separately secure the Financial Properties subpage for both resources and roles.

New Access Right

Before this release, resource managers were automatically granted access to the Financial Properties subpage of the resources they managed. The automatic granting of a right is named an *autoright*. The Financially Enabled Roles feature replaced the autoright with an explicit access right that can be granted or revoked for any resource manager. This access right is named *Resource – Edit Financial*.

To maintain consistency with existing functionality, the upgrade to Release 13.1 replaces the autoright with an instance-level access *Resource – Edit Financial* access right. This access right is granted to all resource managers for the resources they manage. The upgrade also sets the new Financial option *Grant Resource – Edit Financial instance right to resource manager* to True. With the option set to True, resource managers are automatically granted the new access right.

Upgrade Actions: None, if you want to preserve existing functionality.

You can remove the new *Resource – Edit Financial* access right from resource managers (granted during upgrade) and can prevent future resource managers from receiving this right. To remove the right, run a special post-upgrade script that is provided with this release.

Note: For more information, see the section named "Post Installation Step to Remove the Resource - Edit Financial Access Right".

You can always manually grant or revoke the access right, regardless of the setting of the Financial option.

Role Financial Properties

You can enter values for Transaction Class and Resource Class on a role. When the team member or task assignee is a role, these values are used on cost plans and passed to the rate matrix.

Note: A new section has been added to the Role XOG schema to accommodate Transaction Class and Resource class for a role. The following code sample shows how the new section appears:

```
<FinancialInformation>
        <SupplementalInformation active="1" resourceClass="fmGrade3"
transactionClass="fm_Labor"/>
</FinancialInformation>
```

Upgrade Action: (Optional) Populate the new Role Financial properties subpage, and enter Resource Class and Transaction Class values.

Staff OBS Unit Field

The Staff OBS Unit field on the team record is evaluated when the team member or task assignee is a role. If the field contains a department or location, that value is used on cost plans. Then the value is passed to the rate matrix for deeper granularity in financial planning. If the field contains an OBS value that is not a department or location, there is no change in the functionality.

Upgrade Action: None

Baseline

Baseline was modified to include the following items:

- Roles financial attributes
- The Department or Location value in the Staff OBS Unit field when the team member is a role

This change was done to improve the accuracy of the baseline figures.

Upgrade Action: None

Budget Merge or Replace Option

When you submit a cost plan for budget approval, you can replace the existing budget with the cost plan being submitted.

The following options are available:

Merge Option

Select this option only when the structure (grouping attributes and fiscal time period) of the cost plan is identical to the approved budget.

Replace Option

Replaces the currently approved budget. This option lets you do the following actions:

- Remove unwanted rows from the budget when the structure is the same
- Replace the structure (grouping attributes or fiscal time period) with different values

You can select this option whether the structure is the same or different.

The Budget XOG schema has been updated to support the option to replace current budgets. The Budget Plan XOG includes the following new required fields:

- forceReplace

- sourceCostPlanCode

Note: The Budget Plan XOG schema is not backwards compatible with the Version 13.0 schema because the new required fields were added.

Upgrade Action: None

Resource Management

Enhancements to Resource Planning Tabs and Portlets

The tabs and out-of-the-box portlets under the Resource Planning menu option have changed. For a summary of the functional changes, see the *Release Notes.*

For new installations, the new Resource Planning page layout is automatically available.

If you are upgrading, additional steps are necessary after the upgrade to finalize the installation of the changes. During the upgrade, the changed portlet page layout, the portlets, and the Resource Planning Group are installed into an upgrade ready state. If you previously modified the out-of-the-box configurations of the portlet page, the existing portlets, or both, you can make one of the following choices:

- Do nothing. You can continue to use the old Resource Planning portlet page and tabs with your existing portlets.

- Manually add the new portlets onto your existing Resource Planning tab set.

- Complete the upgrade of the new content by applying the new portlet page and all of the updated portlets, the Resource Planning Group, and the Menu Manager.

Upgrade Actions: (Optional) Apply the new portlet page and updated portlets (the last option in the preceding list).

Follow these steps:

1. Log in as an Administrator user with appropriate access rights to install and upgrade CA Clarity PPM portlets and portlet pages.

2. Apply the changes for the new tabs and portlets by completing the following actions:

   a. Open Administration, and from Studio, click Add-Ins.

   b. Click System: Clarity content.

    c.   Review the list of items with an Upgrade Ready status and clear the checkmark for any line items that you do not want upgraded.

    d.   Click Apply.

        This action replaces the current configurations with the new content for each selected item.

    e.   Review the confirmation page and click Yes.

3.   Refresh the Home menu definition by completing the following steps:

    a.   Open Administration, and from Studio, click Menu Manager.

    b.   Click Application Menu.

    c.   Click Resource Management in the menu hierarchy list.

    d.   Click Save and Return.

        This action accepts the menu order.

   Note: Instruct all users with access rights to Resource Planning in the Home menu to click the Refresh icon located in the Home menu. This action updates the Home menu to reflect the newly upgraded menu.

4.   Complete the adjustment of the portlets and tabs by complete the following steps:

    a.   Open Administration, and from Studio, click Portlet Pages.

    b.   Open the Resource Planning portlet page.

    c.   Click Tabs.

        As part of the upgrade, the following existing out-of-the-box portlets appear on new tabs:

        ■   Unfilled Requirements portlet is now on the Unfilled Allocations tab. This portlet also remains on the Allocations tabs, the preupgrade location.

        ■   Booking Status portlet is now on the Bookings tab. This portlet also remains on the Allocations tabs, the preupgrade location.

        ■   OBS Resource Allocation portlet is now on the Organizational Demand tab. This portlet also remains on the Capacity tab, the preupgrade location.

    d.   Decide which tab the portlets are to appear on and remove the portlets from one of the tabs.

       Note: To remove a portlet, click a tab name, then click the Content tab to add or remove portlets.

5.   (Optional) The menu entry for Resource Planning continues to default to the Workloads tab, which is now in the center of the tabs. If you prefer to start on the first tab when you select Resource Planning from the Home menu, complete the following steps:

a. Open Administration, and from Studio, click Menu Manager.

b. Click Application Menu.

c. Click Resource Management in the menu hierarchy list.

    The properties page appears.

d. In the Page Name field, select Capacity.

e. Save your changes.

User Interface

New Fixed Headers

This release includes a new fixed header for list pages. When you are scrolling in a long list or grid, the header remains visible as you scroll. The header is available in both the user and administration areas of the user interface. The fixed header is also available in pop-up pages, and it works when there are multiple grid portlets on a portlet page.

This feature is not available for Internet Explorer 8.

Upgrade Action: None

High Contrast UI Theme

A new UI theme named High Contrast is available for resources who need additional contrast when viewing the user interface. When the High Contrast Color Mode field is selected on the resource properties page, the new High Contrast UI theme is applied for the resource. Previously the Black and White UI theme was applied when the field was selected.

Upgrade Action: None

Data Model Changes

Database Table Changes

The following tables have fields that were updated, added, or removed. Update custom queries or reports that use these fields.

Note: CLASS_CODE is no longer used. The CLASS_CODE column has been removed from all tables where it appeared before this release. For information about all changes to the database tables since the last release, see the *Technical Reference Guide*.

Table	Column
BIZ_COM_PERIODS	**Removed:** ■ P_QUARTER ■ PERIOD
FIN_PLANS	**Added**: ■ SOURCE_COST_PLAN_ID ■ BUDGET_SUBMIT_OPTION
NAMEOPTIONS	**Added**: ■ RES_FIN_EDIT_RIGHT_AUTO
NBI_DIM_FISCAL_TIME	**Updated:** ■ PERIOD_KEY ■ QUARTER_KEY ■ TIME_KEY
PAC_MNT_RESOURCES	**Updated**: ■ RESOURCE_CLASS ■ TRANSCLASS

Chapter 6: Version 13.0 Updates

This section contains the following topics:

Supported Upgrade Paths for Version 13.0

The supported upgrade paths for CA Clarity PPM v13 include:

- CA Clarity PPM 8.1 or any 8.1 fix pack or service pack

- CA Clarity PPM 12.0 or any 12.0 service pack

- CA Clarity PPM 12.1

  Note: Customers on 12.1.0.5849 should be patched with v12.1.0.4a before upgrading.

- CA Clarity PPM 12.1.1

Important! Customers on CA Clarity PPM 12.1.2 or higher should not upgrade to v13. For best results, wait for a supported upgrade path to a post-v13 service pack.

Upgrade Considerations for Version 13.0

New Installer

The new v13.0 installer includes two components: the v12.1.1 installer and the v13.0 upgrade program.

The installer takes the following actions automatically:

- If your current CA Clarity PPM version is earlier than v12.1.1, the new installer runs the 12.1.1 upgrade automatically before running the 13.0 upgrade process.

- If your current version is v12.1.1, the new installer goes directly to the 13.0 upgrade process.

Database Template Image for New Installations

If you install CA Clarity PPM v13.0 as a fresh (new) install, import the CA Clarity PPM 13.0 database template image before you install. CA Clarity PPM now uses a backup-based database deployment mechanism.   Instead of building the database at installation time, CA Clarity PPM provides a prebuilt, fully-populated database backup *base image* on the installation DVD. The base image contains everything that a new CA Clarity PPM installation requires.

The DVD contains the following:

- Microsoft SQL Server base image, compatible with all supported SQL Server versions.

- Oracle base image, compatible with all supported Oracle versions.

For information on importing a database template image, see the *Installation Guide*.

New Log File Names

Log file names have changed. Previously, log files had the name format *-niku.log* (for example, bg-niku.log). This format has been changed to *-ca.log* (for example, bg-ca.log).

Dropped Languages

The following languages are not available for CA Clarity PPM v13:

- Korean

- Simplified Chinese

- Traditional Chinese

During an upgrade, existing users of these languages are reset to use English.

Upgrade Action: None

Known Issues for Version 13.0

Duplicate Cost Plan Code Error

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 same code, but you cannot have two cost plans with code MasterPlan2011 for the same investment. The unique database constraint for this rule was added in v13.0.

Due to concurrency issues, there may be a data issue in previous versions. In the case where 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.

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.

CA recommends that you review all such records and rename the codes for duplicate records. Leave all other data intact. 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

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.

The *not null* database constraint for columns RESOURCE_CLASS and TRANSCLASS in table PAC_MNT_RESOURCES was added in v13.0. If you are upgrading from a previous version of CA Clarity PPM, it is possible the information may be missing.

CA recommends 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 issues with the PAC_MNT_RESOURCES table data. CA recommends 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. (CLRT-21964)

Resume Capability During Upgrade

The ability to resume during an upgrade is not supported in this CA Clarity PPM version. It will be supported in a future release. If your upgrade to v13.0 fails, review the logs to determine the reason for the failure, restore your working pre-upgrade version and database, correct the failure, and restart the upgrade.

What's New for the Report Server and Reports

This release of CA Clarity PPM supports CABI 3.2 and BusinessObjects Reporting Server. See the Compatibilities appendix in the *Release Notes* for a complete list of supported CABI 3.2 configurations.

The following changes were made to reports:

- The following stock reports were removed due to functionality that is no longer offered in CA Clarity PPM:

    - Pre-Billing Report

    - Invoice Register Report

    - Customer Invoice Report

- CA Clarity PPM v13 does not support Actuate. Any stock CA Clarity PPM report definitions for Actuate under Reports and Jobs will be deleted during the upgrade.

- A new Investments Financial universe has been added to this release: *CA PPM Investment Financials v13*.

- The existing *CA PPM Investments Financial* universe was modified to provide backward compatibility with custom reports written for previous versions.

- The following change was made to shared reports starting with CA Clarity PPM v12.1:

    - The report can be viewed in PDF format only. A shared report does not use the BusinessObjects report viewer.

Changes to Existing CA PPM Universes

The following changes were made to the existing CA PPM Investment Financials universe to support the v13.0 database schema:

- Added derived tables to the universe to mirror the Group By and Sub-Group By in the Financial Plans for Cost and Budget.

```
SELECT l.pk_id cost_plan_id,
        MAX(CASE WHEN l.seq = 0 THEN
                    CASE WHEN value = 'charge_code_id' THEN 'LOOKUP_CHARGE_CODES'
                        WHEN value = 'role_id' THEN 'SCH_BROWSE_ROLE'
                        WHEN value = 'transaction_class_id' THEN
'FIN_TRANSCLASSES'
                        WHEN value = 'lov1_id' THEN 'FIN_BROWSE_USER_LOV1'
                        WHEN value = 'lov2_id' THEN 'FIN_BROWSE_USER_LOV2'
                        ELSE NULL END
                ELSE NULL END) AS plan_by_1_code,
        MAX(CASE WHEN l.seq = 0 THEN ln.name ELSE NULL END) AS plan_by_1_name,
        MAX(CASE WHEN l.seq = 1 THEN
                    CASE WHEN value = 'charge_code_id' THEN 'LOOKUP_CHARGE_CODES'
                        WHEN value = 'role_id' THEN 'SCH_BROWSE_ROLE'
                        WHEN value = 'transaction_class_id' THEN
'FIN_TRANSCLASSES'
                        WHEN value = 'lov1_id' THEN 'FIN_BROWSE_USER_LOV1'
                        WHEN value = 'lov2_id' THEN 'FIN_BROWSE_USER_LOV2'
                        ELSE NULL END
                ELSE NULL END) AS plan_by_2_code,
        MAX(CASE WHEN l.seq = 1 THEN ln.name ELSE NULL END) AS plan_by_2_name
FROM   odf_multi_valued_lookups l
        LEFT OUTER JOIN cmn_lookups_v ln ON l.value = ln.lookup_code
                                        AND ln.lookup_type =
'LOOKUP_FIN_GROUPING_ATTRIBUTES_CAPTIONS'
                                        AND ln.language_code =
@Prompt('param_language','A',,mono,free,,{'en'}
WHERE  l.attribute = 'grouping_attributes'
AND    l.seq IN (0,1)
GROUP BY l.pk_id
```

- Changed the links in the Investment Financials Universe for budget plan details and cost plan details. The previous fields were different from the new v13 fields:

v12.x Field	v13.0 Field
Fin_cost_plan_details.transclass_id	Fin_cost_plan_details.transaction_class_id
Fin_cost_plan_details.prRole_id	Fin_cost_plan_details.role_id
Fin_cost_plan_details.prChargeCode_ID	Fin_cost_plan_details.charge_code_id

The Legacy Universe has been updated to remove references to fields that have been changed or are no longer in the Clarity data schema. See the section named "Data Model Changes" for a list of changed and deprecated fields.

Upgrade Considerations

Review the details in the *Installation Guide* for complete information about installing and upgrading the BusinessObjects server. Use this section as a guideline to plan your upgrade. The following installation and upgrade use cases are covered:

- Upgrade from a version earlier than v12.1 to v13

- Upgrade from v12.1 or v12.1.1 to v13.0

- New Installation of v13.0

Upgrade actions:

- If you customized or changed any out-of-the-box reports, make a backup copy of the modified reports. Place the copies in a separate custom folder under the Public Folders/CA Reports/CA Clarity directory. The out-of-the-box reports are overwritten when the new v13.0 reports are installed.

- If you used any Clarity universe objects, create a custom universe and link it to the Clarity universe. The Clarity universe is overwritten when the new v13.0 universes are installed.

Upgrade from a Version Earlier than v12.1

BusinessObject report instances created in a version earlier than v12.1 can be viewed only as a PDF file after the upgrade.

Upgrade Actions:

Preupgrade:

■ Upgrade to CABI 3.2. Refer to the v12.1 CABI 3.2 upgrade instructions in the Clarity 12.1 *Change Impact and Upgrade Guide* and the *Installation Guide*.

■ If you modified any out-of-the-box reports, move the modified reports to a custom report folder on the BusinessObjects server before installing the v13 reports.

Upgrade:

■ Run the Import Wizard to import the two BIAR files specific to your database type (Oracle or MSSQL). The out-of-the-box 12.0.6 reports are overwritten during the upgrade. If you previously purchased the GSE Universes from CA Services, these universes are not overwritten by the v13 out-of-the-box universes.

Post-Upgrade:

■ Update any user and security configurations required to support CABI 3.2 and trusted authentication integration with CA Clarity PPM. See the *Installation Guide* for details.

■ Reset the BusinessObjects InfoView passwords for all preupgrade users who need to log in to InfoView and run reports.

■ Use BusinessObjects Central Administration to reset passwords for multiple users

■ Manually restart scheduled reports. Scheduled reports configured before the upgrade to 13.0 will 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 cannot run or open a report unless a BusinessObjects account is created explicitly for the user.

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

Upgrade from v12.1 or v12.1.1

If you previously purchased the GSE Universes from CA Services, these universes are not overwritten by the v13.0 out-of-the-box universes.

There are no new user or security configurations; v13.0 uses the same CABI 3.2 requirements and trusted authentication integration with CA Clarity PPM as v12.1 and v12.1.1.

Upgrade Actions:

Pre-Upgrade:

- If you are not already using CABI 3.2, upgrade to CABI 3.2.   See Clarity *Installation* guide for details.

- If you modified any out-of-the-box reports, move the modified reports to a custom report folder on the BusinessObjects server before installing the v13 reports.

Upgrade

- Run Import Wizard to install the two BIAR files specific to your database type (Oracle or MSSQL).

Post-Upgrade

- Manually restart scheduled reports. Scheduled reports configured before the upgrade to 13.0 will 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 cannot run or open a report unless a BusinessObject account is created explicitly for the user.

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

New Installation of v13.0

The following actions indicate what to do to get reports up and running for a new installation.

For complete information about installing CABI 3.2 and setting up reports, see the *Installation Guide*.

Installation Actions:

Preparing for installation:

■ Install CABI 3.2 on the BusinessObjects server.

Installation:

■ Run the Import Wizard to install the two BIAR files specific to your database type (Oracle or MSSQL).

Post Installation

■ Update any user and security configurations required to support CABI 3.2 and trusted authentication integration with CA Clarity PPM. See the *Installation Guide* for details.

■ 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 cannot run or open a report unless a BusinessObject account is created explicitly for the user.

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

Administration

Auto-Suggest Lookups and Multivalued Lookups in Lists

Auto-suggest displays possible selection values to a user based on keyboard input. The following lookup changes occurred for this release:

■ Auto-suggest is turned on for all lookups by default, but it can be turned off by opening the lookup and clicking the Auto-Suggest tab, then clearing the Auto Suggest Enabled check box.

Auto-suggest for OBS lookups cannot be turned off.

■ Dependent Lookups are not auto-suggest enabled.

■ Multivalued lookups can be configured to work within lists and grids.

Lookups were configured as pull-down lookups in v12.1.1 because it provided easier and quicker access in assigning values. Consider configuring these lookups as browse lookups because auto-suggest makes the assignment of the lookup value easier. In addition to ease of use, browse lookups have a performance benefit because the values do not have to be retrieved up-front, which makes pages render faster.

Upgrade action: (Optional) Review pages that have *query* lookups to see if you want to display additional attribute information in the auto-suggest display to help the user.

New User Group and Access Rights

Greater access control is provided for the Account Settings, Organizer, and Projects pages. You can control who sees the links in the Home menu and navigates to the pages for these features. A user must be granted the explicit right to see each of these features.

In previous releases, the rights to see the pages were granted by default. To allow existing customers who wish to continue to provide these rights to users as a whole, a new out-of-the-box user group named *Basic group for user access* is available with this release. The new user group provides the new access rights.

For Upgrading Customers

All users are assigned to the group, and the new access rights are assigned to preserve existing functionality. You can remove the rights from the group if you wish, or you can add additional rights. The following table lists the new access rights assigned to the group for upgrading customers.

New Access Right	Description
Account Settings - Navigate	Makes the Account Settings link available in the Home menu so that a user can navigate to the Account Settings page.
Organizer - Access	Makes the Organizer link available in the Home menu so that the user can open the Organizer page and view the Action Items and Notifications portlets.
Projects - Navigate	Makes the Projects link available in the Home menu so that a user can navigate to the Projects list page and open projects.

For New Customers

All users are assigned to the group by default, but no access rights are assigned. This gives a new customer the option of adding the rights that are needed. You can modify the group's access rights as needed.

Upgrade action: None

Configurable Notifications

Configurable notifications that allow administrators to add attribute information and any additional text information to a CA Clarity PPM notification are new for this release. The following changes are new:

■ Subject and message body of the notifications can be configured by users.

■ If you are changing a Studio object notification template, you can add Studio links to the notification that allow you to go directly to the project properties or change request instance.

Tips:

■ Look at your most frequently used notifications and modify the notification template with attribute information that will provide better context for your end-users.

■ You can rebrand the HTML email template that is sent for email notifications.

■ Add attribute context information to the notification subject line so users can quickly assess the notification.

■ For a process definition, you can configure a notification template for action items. The notification template can be changed even when the process definition is in an active state. The system picks up the latest notification template changes on the next step that sends out action items.

■ Notification templates can be migrated between systems using the XML Open Gateway. This removes the necessity of manually reconfiguring your notifications.

■ You must localize any changes made to the standard notification templates provided with CA Clarity PPM.

Upgrade action: None

XDM Forms

The creation of XDM forms is not supported in this release. If you are upgrading, you can continue to use existing XDM forms, but you cannot modify existing forms or create new ones. XDM forms are not available for new customers.

Upgrade action: Make any needed changes to XDM forms before you upgrade. You cannot make XDM changes after the upgrade.

New Accessibility Options

The following accessibility options for users with visual disabilities have been added:

Screen Reader Optimized UI

Determines whether the user interface is optimized so that features are better recognized by a screen reader. Select this check box for any visually impaired user who is using a screen reader.

High Contrast Color Mode

Determines whether a specific UI theme to assist color-deficient users is used. If selected, the user sees the Black and White UI theme.

See the *Administration Guide* for more information on these new options.

Upgrade action: None

Rooms and Equipment, Events, and Event Calendar Removed

All existing entries for the following will be deleted and will not be accessible after the upgrade to this release:

- Rooms and Equipment. This functionality allowed you to book rooms and equipment (for example, laptops and projectors) as resources.

- Events. This functionality let you create a meeting or other special occasions and invite multiple resources to attend.

- Event Calendar. This calendar showed milestones such as meetings or appointments to which you were invited.

Upgrade action: None

Auto-Numbering Link Removed from the Data Administration Menu

The Auto-Numbering link is no longer located in the Data Administration menu available from the Administration menu. To manage auto-numbering, use the functionality available in Studio.

See the *Studio Developer's Guide* for more information.

Upgrade action: None

Project Management

New Gantt Page

The Work Breakdown Structure (WBS) page has changed. The previous WBS page has been removed and replaced with a new Gantt editor page. There are functional differences between the previous WBS page and the v13 Gantt editor. The new Gantt editor includes drag-and-drop, inline insert, toolbar, and full hierarchy support.

Navigation to the new Gantt editor page has changed:

- The Gantt button on the Task List page has been removed.

- The Gantt editor opens in its own browser window.

- New Studio links have been provided to the Gantt editor. Note the following that occurs during an upgrade:
    - Fields configured to link to the previous WBS page are removed from the configuration for the list or portlet. If the field is a custom-added virtual field, redefine the field and select the new link to the new Gantt editor.
    - Fields configured to link to the previous pop-up graphical Gantt chart are replaced by a link to the new Gantt editor.

See the *Project Management User Guide* for more information about the new Gantt page.

Preupgrade action: Review your Studio configurations to identify lists and grid portlets that contain links to the WBS page. The upgrade removes these fields from the list or portlet.

Upgrade action:

- If you configured the WBS view in your previous release, reapply your Studio and end-user configurations to the new Gantt page.

- If you previously configured lists or grid portlets with fields that linked to the WBS page, redefine the fields and add a link to the new Gantt editor.

Miscellaneous Project Management Changes

The following changes have been made in Project Management:

- You now have the option to assign non-project team members directly to tasks.

- When you filter the *Resource Planning: Capacity - Role Capacity* portlet, rows that have no results within the filter criteria are filtered out. This means that empty rows are hidden.

- A project baseline is no longer required to calculate project and task costs.

- You can now view and edit time-varying ETC on task assignments.

Upgrade action: If you previously configured the Role Capacity portlet, you must manually apply the portlet to get the new filter options. See the "Installation and Upgrade" chapter for more information.

New Project Attribute

A new attribute named Assignment Pool has been added to the Project object. The attribute is a required field, so it is added to the Project Create page automatically at the top of the page. You can configure the page and move the new attribute to the position on the page you want.

Upgrade action: (Optional) Adjust the default position of the Assignment Pool attribute on the Project Create page.

Follow these steps:

1. Open Administration, and from Studio, click Objects.

   The objects list appears.

2. Enter Project in the Object Name field and click Filter.

3. Click Project in the list that appears.

   Properties for the Project object appear.

4. Click Views.

5. In the Project Properties row, click *Layout: Create*.

   The layout for the create page appears.

6. Click the Properties and Layout icon for the General section.

   Properties for the General section appear.

7. In the Layout section, highlight Assignment Pool in the Selected column list and move it to the position you want using the arrow keys.

8. Save your changes.

Project Management XML Open Gateway (XOG) Changes

Project XOG: Billing-related attributes billToCompanyCode, billingProjectCode, billExpenses and batchCycle have been deprecated from the Project XOG. These values will be ignored during xog-in.

The billingType attribute only supports types Standard('S') and Internal('I').

Types Contract('P') and Retainer ('R') cannot be used in this release.

Upgrade actions: None

Financial Management

Multiple Grouping Attributes in Cost Plan

The Group By and Sub-Group By fields have been replaced by a multivalued lookup field named *Grouping Attributes*. A cost plan now has ten available grouping attributes instead of five. You can plan by all ten attributes instead of two. For more information on grouping attributes, see the *Financial Management Guide*.

The attributes plan_type_code and sub_plan_type for the object *costplan* have been removed.

Upgrade actions:

- Update custom portlets to remove any reference to the deprecated attributes.

- Financial planning views will be refreshed during the upgrade. All customizations will need to be updated after the upgrade is complete.

- PLAN_DETAIL_1_KEY and PLAN_DETAIL_2_KEY columns have been dropped from table FIN_COST_PLAN_DETAILS. Any custom reference to these columns must be handled prior to the upgrade process.

Process Enabled Cost Plans

Cost plans are processed-enabled in this release. You can create processes on financial plans.

Upgrade action: None

Improvements Using the Resource Plan

The following Financial Management improvements have been made using Resource Planning:

- Getting cost or rate from the rate matrix

  You can create or populate a plan from assignments or allocations the way it is done in CA Clarity PPM v12. Changes have been made to rate calculations to get better and more accurate rates.

- Null grouping attributes

  You can create a plan detail with a null grouping attribute using a resource plan. This enhancement removes some restrictions such as requiring a team member to be financially enabled or assigned a role.

- Insta-slice

  This feature is turned off for the Populate from Resource Plan feature. Time slices are created when the time slice job runs.

Upgrade action: None

Simple Budget Changes

The following changes were made to the Simple Budget for this release:

- Three new fields were added to the Financial Metrics section of the simple budget:
  - IRR (Internal Rate of Return)
  - MIRR (Modified Internal Rate of Return)
  - Planned Payback Period (in months)
- Four new fields were added to the Financial Metrics Options section:
  - Investment Rate
  - Initial Investment
  - Use System Rate for Total Cost of Capital
  - Use System Reinvestment Rate

■ The following Simple Budget forecast fields were removed:

   – Forecasted Benefit

   – Forecasted Benefit Finish

   – Forecasted Benefit Start

   – Forecasted Breakeven

   – Forecasted Cost

   – Forecasted Cost Finish

   – Forecasted Cost Start

   – Forecasted NPV

   – Forecasted ROI

■ The following fields were renamed:

   – Forecast equals Budget is now *Budget equals Planned Values.*

   – Calculate NPV is now *Calculate Financial Metrics*.

See the *Financial Management User Guide* for more information.

The Simple Budget page will be refreshed during the upgrade if it was not customized.

Upgrade action:

■ If any of the user-defined process uses deprecated simple budget forecast attributes, the process definition is invalidated. Update the process definition to remove references to the deprecated attributes.

■ If any custom portlets use simple budget forecast attributes, update the portlets to remove references to the deprecated attributes.

■ If the investment budget view was customized prior to this release, new IRR/MIRR attributes will not display on an investment's budget page out-of-the-box. Reconfigure the investment budget view in Studio to add the new IRR/MIRR attributes.

   If the investment budget view was not customized, it is refreshed during the upgrade and the new out-of-the-box attributes are visible.

Entity Plan Defaults

Entity plan defaults have been updated to support multiple grouping attributes.

Entity plan detail defaults functionality is not available with this release.

Upgrade action: None

System Currency

System currency setup is required before you can complete the following actions:

- Access the following pages:
  - Project Financial Properties
  - Project Simple Budget
- Import an entity using the XML Open Gateway

Upgrade action: None

External Billing Removed

All existing External Billing will be deleted and will not be accessible after the upgrade to this release.

Upgrade action: Any open billing cycles should be processed before you upgrade.

Self View and Aggregate View Removed

In previous versions, CA Clarity PPM supported four plan detail views: Self, flat, aggregate, and billing.

CA Clarity PPM v13.0 supports two:

- Flat (Investment Currency View)
- Billing (Billing Currency View)

Note: In plan detail views, the nongrouping fields are hidden in this release. In CA Clarity PPM v12, the Group By and Sub-Group By columns are always visible, even if only one *group by* attribute is used.

Upgrade action: None

Test Rate Matrix Removed

The Test Rate Matrix feature and the Test Matrix button have been removed and will not be accessible after the upgrade to this release.

Upgrade action: None

Changes to Financial Management Links

The following changes have been made to links in Financial Management:

- Administrative Methods - Removed

- Tax Authorities - Removed

- Define Matrix - Renamed to *Cost Plus Codes*

Upgrade action: None

Financial XML Open Gateway (XOG) Changes

- Cost plan details imported through the XML Open Gateway must have start and end dates that match a valid fiscal period. For CA Clarity PPM v12 matching a fiscal period was not required. The following script segments show the differences between CA Clarity PPM v12 and v13.0.

  v12 cost plan detail:
  ```
  <PlanData cost="700.0" end_date="2011-01-31"
            revenue="750.0" start_date="2011-01-16" units="7.0"/>
  ```

  v13.0
  ```
  <Cost>
        <segment finish="2008-01-31T00:00:00" start="2008-01-01T00:00:00"
  value="100.0"/>
  </Cost>
  ```

- Fiscal period is now included in the XML script for importing entities.

- Financial planning XML Open Gateway scripts are not backward compatible.

- Company XOG: Attribute batchcycle has been deprecated. The attribute value will be ignored during xog-in.

- Entity XOG: The attributes defaultBatchCycle and defaultRemitToLocation have been removed and cannot be used as part of an entity xog-in.

- Project/Investment XOG: The forecastEqualsBudget and calculatePresentValueInfo attributes have been deprecated from the Investment XOG. These values will be ignored during xog-in.

  Use the attributes setBudgetValuesEqualToPlannedValues and calculateFinancialMetrics instead. For details about new simple budget attributes, see the *XML Open Gateway Developer Guide*.

- Investment simple budget forecast attributes have been deprecated and values for these attributes will be ignored during xog-in.

Upgrade action: None

Studio

UI Themes

UI themes developed and used in CA Clarity PPM v12.1.1 cannot be used in this release. You must recreate any custom UI themes used for your application.

Changes to UI themes:

- The UI theme administration was previously located in Clarity System Administration (CSA), and the information was stored in the file system. Starting with this release, the administration is handled in Studio, and UI theme information is stored in the database.

- You can migrate a UI theme from one system to another using the XML Open Gateway.

- UI themes use the CSS3 standard.

- Custom logo images are no longer stored on the file system. Base64 encoding is now used to convert a logo to ASCII string format.

- CA Clarity PPM On Demand customers can now rebrand a CA Clarity PPM application using Studio.

Upgrade action: If you have a custom UI theme, you must recreate it using the new UI Themes functionality. If you have a UI theme associated with a partition, you must reconfigure the partition setup for this release. To save time and effort, copy one of the default UI themes and modify the CSS information it contains.

See the *Studio Developer's Guide* for more information.

Object Actions

Object Actions allow you to configure functionality where and when it is needed. This full functionality was not available in CA Clarity PPM v12.1.1.

See the *Studio Developer's Guide* for more information.

Button operations and links that are infrequently used in some areas in the application have been moved under the Actions pull-down menu. If you don't see a button or page link that was present in CA Clarity PPM v13, check the Actions pull-down menu to see if the operation exists there.

If you have areas in the application that require you to navigate to other locations to collect information, you can use an object action to navigate and retrieve the information. Object actions allow you to navigate for the information you need without losing the context of your current location.

Upgrade action: None

Custom Fiscal Time-scaled Values

Fiscal time-scaled values (TSVs) are available with this release. Instead of operating on the standard yearly calendar, fiscal TSVs are based on the fiscal calendar.

You can configure TSV displays based on a specific date for the *Start Date* attribute property.

Upgrade action: None

Correcting the CA Clarity PPM URL for HTML and Xcelsius Portlets

For this release, the CA Clarity PPM URL has changed. Any URLs in custom HTML or Xcelsius portlets will not work optimally.

Upgrade action: Search for and replace the portion of the URL where the syntax has changed.

- To update relative URLs, search for "niku/app?action=" and replace it with "#action:".

- To update absolute URLs, search for "app?action=" and replace it with "nu#action:".

- To complete the update for Xcelsius portlets, generate new .swf files in Xcelsius and use the .swf files to update the interactive portlets in CA Clarity PPM.

Charts

Charts for this release have the following changes:

- All charts are HTML5.

- SVG charts have been removed.

- Zooming is available.

- Some charts have animation.

- The Area chart type is available.

The out-of-the-box chart colors have changed for this release. If you are using the Color Consistency feature, document your current colors so that you can change the color in the new release, if needed. You can recreate your colors in this release using the custom color palette under System Options.

The charting engine for this release is different than previous releases. As a result, the x-axis and y-axis scales and certain chart display areas might not be an exact replica of the old charts. However, the representation of data within the new charts will be correct.

A few of the charts have chart properties available in prior releases that are not available in this release. See upgrade documentation for details.

Upgrade action: (optional) Document your current colors before you upgrade if you are using the Color Consistency feature. You can use the information to update the colors in this release to your previous settings.

HTML Portlet Changes

The HTML portlet configuration page has been improved. The text entry area now has color-coded syntax and indentation.

Tips for HTML portlets:

- Avoid document.write in javascript.

- Do not reload the current page, such as setting window.location.href in javascript. CA Clarity PPM is a single page ajax-style application. Reloading the page is not optimal and can result in loss of application state data.

- Many CSS style names have changed. If you are currently using v12.*x* CSS style names, those can be incompatible.

Upgrade actions:

- Check CSS style names in custom HTML portlets to verify the style names are current and update where necessary.

- Verify all URL-related logic in javascript is correct for any custom HTML portlets. See the section named "Correcting the CA Clarity PPM URL for HTML and Xcelsius Portlets."

Tab Changes

Your ability to customize tabs has been enhanced. To customized tabs, you can:

■   Change the labels, including the labels of stock tabs provided with CA Clarity PPM.

■   Hide tabs by setting "Active=FALSE".

■   Rearrange tabs on a portlet page.

■   Create dashboard tabs for the Project portlet pages.

Upgrade action: None

Export to PowerPoint or Excel with Internet Explorer 9

The Export to Excel or Export to PowerPoint can receive an error message if you are using IE 9. To stop the error message from appearing and successfully export, you must change a setting in IE 9.

Upgrade action: Clear the *Do not save encrypted pages to disk* check box in the IE 9 Security settings in Internet Options.

Follow these steps:

1.   Open Internet Explorer 9.

2.   From the Tools menu, click Internet Options.

     The Internet Options dialog appears.

3.   Click the Advanced tab.

4.   In the Settings section, scroll down to the Security settings.

5.   Clear the *Do not save encrypted pages to disk* check box.

6.   Click OK.

New Xcelsius Stock Dashboards

Best Practice: Always make copies of stock Xcelsius dashboards, visualization files and queries before applying customizations. Customize the copied version. CA provides periodic updates to the stock dashboards that overwrites any changes you make to the stock dashboards.

The following table lists the Xcelsius stock dashboards provided with this release.

Studio Name	File Name	Description
Portfolio	xid.prt.portInvDash	Portfolio Investment Analysis - Analyze the impact to your Portfolio by adding and removing investments from the dashboard. Suggested use: Add a new tab with this portlet to the Portfolio Default Page Layout.
Project Status	xid.prt.prjsts	Project Status - Analyze important metrics at a glance for a specific project. Suggested use: Put on a project dashboard on a Project Page Layout.
Investment Overview	xid.prt.prjstsDash	Investment Overview - Using filter criteria, build a list of investments to view and analyze important metrics. Suggested use: Add a new tab with this portlet to the Overview page layout.
Resource Planning	xid.prt.resPlanDash	Resource Planning using Capacity and Demand by Role - view the capacity and demand by role, and analyze impact on capacity and demand by increasing or decreasing capacity using FTE or Hours. Suggested use: Add a new tab with this portlet to the Resource Planning portlet page layout

User Interface

New Menu Bar and General Navigation

Navigation for CA Clarity PPM contains the following changes:

- New navigation menu bar

  The CA Clarity PPM main menu has moved from its traditional place as a left navigation pane to a new overhead fly-out menu. This provides more workspace for the application. The menu contains the same selections and selection placements found in CA Clarity PPM v12.1.1.

  Menu names are now Home (the user menu), Administration (administrator's menu), and Favorites.

  Hotkeys for the menu system are: Ctrl+Alt+h (Home), Ctrl+Alt+a (Administration), Ctrl+Alt+f (Favorites).

- Favorites

  This new menu is similar to browser Favorites. It allows a user to create and store links to specific pages for easy access.

- History

  The history button preserves a record of recent pages visited. You can open the list of pages from the button and return to any listed.

- Back Button

  This button returns you to pages visited one a time in reverse order.

Upgrade action: None

CAPA Learn Link

The Learn link for CAPA (CA Productivity Accelerator) in the upper right corner of the browser is dynamic. If the CAPA settings are not defined in Clarity System Administration (CSA), the Learn link does not display.

Upgrade action: (Required for CAPA) Define the settings for CAPA in Clarity System Administration. For information on how to set up CAPA, see the documentation provided by CAPA when that feature is purchased.

Buttons

The buttons that appear on the majority of CA Clarity PPM pages have been standardized. The following table shows the new and old button names.

New CA Clarity PPM v13 Buttons	Old CA Clarity PPM v12.1.1 Buttons
Save	Save
Save and Return	Submit
Return	Cancel

There are exceptions to the new button change, and *Submit* is sometimes used where it is more appropriate (for example, Reports and Jobs).

Upgrade action: None

Inline Editing for Grids and Lists

The Actions menu that allowed you to select Edit Mode or Display Mode has been removed. To edit a cell in a list or grid, you click in the cell. If the cell can be edited, it activates so that you can edit. As changes are made, a red flag appears in the cell's upper left corner to indicate the changes have not yet been saved. You can move from one cell to the next, editing as needed before you save.

You can also toggle between display and edit by pressing the Enter key.

Upgrade action: None

Display as Pop-up Attribute

The *Display as Pop-up* check box option within grids and list for the Link field setting has changed. In CA Clarity PPM v12.1.1, the option displayed a new browser window over the old window when the link was clicked. For CA Clarity PPM v13, a modal navigational pop-up displays over the original browser window.

Upgrade action: None

Font Settings

The Font Settings options under Account Settings has been removed. To control the size of the font on a page, use Ctrl+ and Ctrl-.

Upgrade action: None

Architecture

Architecture Changes

The following table shows the architecture changes for this release.

Component	Changes to Supported Software Versions
Server Operating System	■ CA provides support only for upgrading customers with pre-existing installations on Solaris and HP-UX; dropped 32-bit operating systems ■ Added support for SUSE Enterprise Linux 11 ■ Added support for RHEL 6.0
Server DB	■ Added Microsoft SQL Server 2008 R2 ■ Dropped support for Microsoft SQL Server 2005
Server Java Runtime	■ Dropped 32-bit support
Application Server	■ Dropped 32-bit support
Report Server	■ Added support for CA Business Intelligence r3.2 ■ Dropped support for CA Business Intelligence r3 ■ Dropped support for Actuate
Client browser	■ Added Firefox 4.0 through 8.0 ■ Added IE 9.0 ■ Dropped support for IE7 and IE6
Client applications	■ Support Crystal Reports Designer 2008 SP3 or higher (instead of any service pack) ■ Dropped support for Microsoft Project 2000, 2002 and 2003
SharePoint Server	■ Added SharePoint Server 2010 ■ Dropped support for SharePoint Server 2007

Memory Requirements

The move to a 64-bit Java Runtime brings with it the following memory setting recommendations for the CA Clarity PPM application service:

- Heap Space: 2048 megabytes (-Xmx2048m)

- Permanent Generation (Sun JVMs only): 192 megabytes (-XX:MaxPermSize=192m)

The memory settings are checked each time an application service is deployed. If the settings are below the recommended values, they are adjusted automatically. You can override the automatic adjustment by adding the following property to the JVM parameters for a given service: -DforceMemorySettings.

Each environment has unique resource requirements, so the default settings might not be correct in every case. Refer to the *Administration Guide* for more information on this topic.

Upgrade Action: None. The memory settings are adjusted automatically if they are below the recommended values.

Data Model Changes

Database Table Changes

The following tables had deprecated fields that were updated, added, or removed. If you have custom queries or reports that use the fields, they need to be updated.

Table	Column
APMASTER	**Added** ■ CREATED_DATE ■ CREATED_BY ■ LAST_UPDATED_DATE ■ LAST_UPDATED_BY
CBK_GL_ALOCATION_DETAIL	■ OVERHEAD_ENTITY_ID

Table	Column
CLNTCLASS	**Added**
	■ CREATED_DATE
	■ CREATED_BY
	■ LAST_UPDATED_DATE
	■ LAST_UPDATED_BY

Table	Column
FIN_COST_PLAN_DETAILS	**Updated** ■ SOURCE (Updated) **Added** ■ TRANSACTION_CLASS_ID ROLE_ID ■ CHARGE_CODE_ID ■ INPUT_TYPE_CODE_ID ■ LOCATION_ID ■ RESOURCE_ID ■ RESOURCE_CLASS_ID ■ DEPARTMENT_ID **Deleted** ■ PLAN_DETAIL_1_KEY ■ PLAN_DETAIL_2_KEY ■ TRANSCLASS_ID ■ PRROLE_ID ■ PRCHARGECODE_ID ■ AGG_UNITS ■ AGG_COST ■ AGG_REVENUE ■ AGG_UNITS_ACTUAL ■ AGG_COST_ACTUAL ■ AGG_REVENUE_ACTUAL ■ AGG_TOTAL_COST ■ AGG_TOTAL_UNITS ■ AGG_TOTAL_REVENUE ■ AGG_TOTAL_COST_ACTUAL ■ AGG_TOTAL_UNITS_ACTUAL ■ AGG_TOTAL_REVENUE_ACTUAL

Table	Column
FIN_FINANCIALS	**Added**
	■ IS_SYS_VAL_FOR_TCC
	■ TOTAL_COST_OF_CAPITAL
	■ IS_SYS_VAL_FOR_RR
	■ REINVESTMENT_RATE
	■ INITIAL_INVESTMENT
	■ BUDGET_IRR
	■ BUDGET_MIRR
	■ BUDGET_PAYBACK_PERIOD
	■ FORECAST_IRR
	■ FORECAST_MIRR
	■ FORECAST_PAYBACK_PERIOD
	■ PLANNED_IRR
	■ PLANNED_MIRR
	■ PLANNED_PAYBACK_PERIOD
INV_INVESTMENTS	**Added**
	■ TARGET_MANAGER_ID
	■ ASSGN_POOL
INV_Projects	**Deleted**
	■ Prbasestart
	■ Prbasefinish
	■ prbasetime
PAC_MNT_RESOURCES	**Added**
	■ CREATED_DATE
	■ CREATED_BY
	■ LAST_UPDATED_DATE
	■ LAST_UPDATED_BY

Table	Column
PMA_AGGR_VALUES	**Added**
	■ INITIAL_INVESTMENT
	■ PLANNED_IRR
	■ PLANNED_MIRR
	■ PLANNED_PAYBACK_PERIOD
	■ PLANNED_BREAKEVEN
	■ BUDGET_IRR
	■ BUDGET_MIRR
	■ BUDGET_PAYBACK_PERIOD
	■ BUDGET_BREAKEVEN
	■ FORECAST_IRR
	■ FORECAST_MIRR
	■ FORECAST_PAYBACK_PERIOD
	■ FORECAST_BREAKEVEN
PRAssignment	**Deleted**
	■ Prbasepattern
	■ Prbasesum
	■ Prbasemax
PROJCLASS	**Added**
	■ CREATED_DATE
	■ CREATED_BY
	■ LAST_UPDATED_DATE
	■ LAST_UPDATED_BY

Table	Column
PRTask	**Deleted**
	■ Prbasestart
	■ Prbasefinish
	■ Prbaseduration
	■ Prbaseisfixed
	■ Prbasetime
WIPCLASS	**Added**
	■ CREATED_DATE
	■ CREATED_BY
	■ LAST_UPDATED_DATE
	■ LAST_UPDATED_BY

Upgrade action:

- Identify custom queries or reports that use any of the fields that were removed. The references must be updated to use the correct database fields.

- All baseline information is stored in:
  - PRJ_Baselines (primary revisions)
  - PRJ_Baseline_Details (baseline detail records for each revision)

  For example:

  You can get the current baseline revision by joining the baseline_id from the investment to the PRJ_Baselines table.

  You can get baseline details by joining PRJ_Baseline_details.baseline_id to PRJ_Baselines.id, selecting object type (for example, TASK) and the object ID (for example, PRTask.prid).