

CA Clarity™ PPM

Connector for CA Unicenter® Service Desk & CA Software Change Manager for Distributed Product Guide

Service Pack 02.0.1



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CA Technologies Product References

This document references the following CA Technologies products:

- AllFusion® Harvest Change Manager (Harvest)
- CA Technologies Clarity™ Project & Portfolio Manager (CA Clarity PPM)
- Unicenter® Service Desk (Service Desk)

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Chapter 1: Connector for CA Unicenter® Service Desk and CA Software Change Manager for Distributed

You will learn about the connection and support between the following products:

- Unicenter Service Desk and CA Clarity PPM
- Unicenter Service Desk, CA Clarity PPM, and AllFusion Harvest Change Manager
- Unicenter Service Desk and AllFusion Harvest Change Manager
- CA Clarity PPM and AllFusion Harvest Change Manager

The primary objective of CA Clarity PPM Connector for CA Unicenter Service Desk and CA Software Change Manager for Distributed (The Connector), which is the connection between Unicenter Service Desk, CA Clarity PPM, and AllFusion Harvest Change Manager, is to allow the three CA Technologies products to be process aware and to interact with each other.

With the connector, you can transfer Service Desk change orders to CA Clarity PPM as tasks on an existing project, incidents, or ideas where they can be costed with effort and charged back to the customer, or transformed into project tasks and projects if necessary. After transferring to CA Clarity PPM, the work can be tracked in Harvest packages and status is communicated back to the Service Desk managers and end-users. Using the connector you will gain greater alignment between teams who are responsible for application maintenance and operations, and your business units. Other benefits of using the connector include:

- Increased productivity, due to tighter integration between teams and reduced duplication/manual data entry
- Faster response time, due to increased operations visibility, and
- Transparency of the end-to-end change process for audit/compliance purposes

Flow Overviews

The connector provides you the ability to integrate Service Desk, CA Clarity PPM, and Harvest. The primary uses of the connector are to manage change orders, new applications, and other maintenance tasks.

How the Change Order Management Flow Works

Service Desk provides a centralized source for change order issues in the following manner:

- Service Desk analysts initiate and approve change orders, and convert them to a task on an existing CA Clarity PPM project.
- CA Clarity PPM provides a centralized source for the management of changes to existing applications, while Harvest provides the mechanism for implementing changes related to software development.
- CA Clarity PPM project managers can create Harvest packages on an existing project in Harvest from CA Clarity PPM change order tasks.

You can also manage change orders that result in software fixes outside of CA Clarity PPM using only Service Desk and Harvest.

In the following three scenarios, you will learn how to manage change orders using a combination of CA products-Service Desk, CA Clarity PPM, and Harvest-as well as how to manage other maintenance work.

Scenario 1—How to Manage Change Orders Using Service Desk, CA Clarity PPM, and Harvest

The following scenario incorporates call or issue management (Service Desk), project (resource or work management (CA Clarity PPM), and software change management (Harvest).

When a Service Desk change order is transitioned to CA Clarity PPM, it is managed as a CA Clarity PPM change order task on an existing project used to model maintenance activities. Service Desk analysts can also transition change orders to Harvest as a new package in a Harvest project where the Harvest manager can manage the new product development.

The following describes the flow of a change order from Service Desk through the default lifecycle in CA Clarity PPM and in Harvest.

In Service Desk:

1. The Service Desk end-user logs and submits a software issue.
2. The Service Desk analyst:
3. Reviews the request and determines whether it should be managed as a possible software problem in CA Clarity PPM.
 - Converts the request to a change order representing the demand for a software fix to be managed in CA Clarity PPM.
 - Creates a CA Clarity PPM change order task on an existing CA Clarity PPM project.

In CA Clarity PPM, the CA Clarity PPM project manager:

1. Considers the resource capacity of the CA Clarity PPM change order task, and schedules the task.
2. Creates the Harvest package.
3. Monitors task activity and progress using CA Clarity PPM.

In Harvest:

1. The Harvest manager reviews the resource assignment for the Harvest package.
2. The assigned resource makes the requested software change and promotes or demotes the software fix through the lifecycle states.
3. When the software change is approved for production, the package is promoted to the production (PROD) lifecycle state.

In CA Clarity PPM, the CA Clarity PPM project manager, marks the task as 100% complete.

In Service Desk, the Service Desk assignee:

1. Updates and closes the Service Desk change order.
2. Notifies the Service Desk end-user.

Scenario 2—How to Manage Change Orders Using Service Desk and CA Clarity PPM

The following scenario ties request/change order management (Service Desk) and resource/work management (CA Clarity PPM). In the following scenario, a Service Desk change order is converted into a CA Clarity PPM change order task on an existing CA Clarity PPM project.

In Service Desk:

1. The Service Desk end-user enters a software request using Service Desk.
2. The Service Desk analyst:
 - Reviews the request and determines its disposition.
 - Converts the request to a change order representing the demand for a software fix to be managed in CA Clarity PPM.
 - Creates a CA Clarity PPM change order task that will be tracked on an existing CA Clarity PPM project.

In CA Clarity PPM, the CA Clarity PPM project manager:

1. Evaluates the resource capacity of the CA Clarity PPM change order task, and schedules the task.
2. Monitors task activity and progress using CA Clarity PPM.
3. Marks the task as 100 percent complete.

In Service Desk, the Service Desk assignee:

1. Updates and closes the Service Desk change order.
2. Notifies the Service Desk end-user.

New Application Management Flow Overviews

Service Desk change orders representing the demand for a new application or product are sent to CA Clarity PPM as ideas. The CA Clarity PPM demand manager then reviews and converts the CA Clarity PPM idea into a new project.

Note: See the *Demand Management User Guide* for more information.

Project tasks are linked to Harvest projects and packages through their association to the Harvest project in CA Clarity PPM. You can manage the new product management process using CA Clarity PPM, and manage the software development activity using Harvest. Real-time progress-percentage complete values and lifecycle state changes-is reported in CA Clarity PPM.

In the following scenarios, you will learn how to manage new applications using a combination of CA Technologies products: Service Desk, CA Clarity PPM, and Harvest.

Scenario 1—How to Manage New Applications Using Service Desk, CA Clarity PPM, and Harvest (IDEAS)

The following scenario ties request/change order management (Service Desk), resource/work management (CA Clarity PPM), and software change management (Harvest). In this scenario, a Service Desk change order is sent to CA Clarity PPM as a CA Clarity PPM idea, which is later converted to a project, and the software work is managed as a package on a Harvest project.

In Service Desk:

1. The Service Desk end user enters and submits a request for a new application or product idea using Service Desk.
2. The Service Desk analyst:
 - Reviews the request and determines its disposition.
 - Converts the request to a change order representing the demand for a new application or product idea to be managed in CA Clarity PPM.
 - Initiates the creation of a CA Clarity PPM idea.
3. The CA Clarity PPM demand manager evaluates the CA Clarity PPM idea and converts it to a project.

In Harvest, the Harvest manager:

1. Creates a new Harvest project.
2. Communicates the Harvest project name to the CA Clarity PPM project manager.

In CA Clarity PPM, the CA Clarity PPM project manager:

1. Creates the Harvest Project in CA Clarity PPM, and uses the Harvest project name that was communicated from the Harvest manager as the name of the Harvest Project in CA Clarity PPM.
2. Defines all tasks and WBS, and identifies the summary level tasks as the CA Clarity PPM feature tasks.
3. Associates the CA Clarity PPM feature tasks to the Harvest Project in CA Clarity PPM.
4. Submits the CA Clarity PPM feature tasks for approval.
5. Creates the Harvest packages from the CA Clarity PPM feature tasks.
6. Monitors task activity and progress using CA Clarity PPM.

In Harvest, the Harvest manager:

1. Creates additional packages associated to the CA Clarity PPM feature task, if needed.
2. Reviews and promotes the packages.

In CA Clarity PPM, the CA Clarity PPM project manager:

1. Marks the tasks as 100% complete when all of the Harvest packages have been promoted to the production lifecycle state.
2. Marks the project as complete.

In Service Desk, the Service Desk assignee:

1. Updates and closes the Service Desk change order.
2. Notifies the Service Desk end-user.

Scenario 2—How to Manage New Applications Using CA Clarity PPM and Harvest

The following scenario ties resource/work management (CA Clarity PPM) with software change management (Harvest). In this scenario, the demand for a new application results in a new CA Clarity PPM project. The CA Clarity PPM project manager associates the project feature tasks with the Harvest project in CA Clarity PPM, which provides the link to the Harvest project in Harvest.

In CA Clarity PPM, the CA Clarity PPM project manager:

1. Creates a new project representing the demand for a new application.
2. Notifies the Harvest manager about the new project and communicates the CA Clarity PPM project ID.

In Harvest, the Harvest manager:

1. Creates a new Harvest project using the *Service Desk Clarity Connector* lifecycle template, and uses the CA Clarity PPM project ID that was communicated from the CA Clarity PPM project manager.
2. Communicates the Harvest project name to the CA Clarity PPM project manager.

In CA Clarity PPM, the CA Clarity PPM project manager:

1. Creates the Harvest Project in CA Clarity PPM, and uses the Harvest project name that was communicated from the Harvest manager as the name of the Harvest project in CA Clarity PPM.
2. Defines all tasks and WBS, and identifies the summary level tasks as the CA Clarity PPM feature tasks.
3. Associates the CA Clarity PPM feature tasks to the Harvest project in CA Clarity PPM.
4. Submits the feature tasks for approval.
5. Creates the Harvest packages.

In Harvest, the Harvest manager:

1. Creates additional packages associated to the CA Clarity PPM feature task, if needed.
2. Reviews and promotes or demotes the packages.

In CA Clarity PPM, the CA Clarity PPM project manager:

1. Monitors task activity and progress using CA Clarity PPM.
2. Schedules (or manually executes) the process to send the status of Harvest packages to Service Desk.
3. Marks the tasks as 100% complete when all of the Harvest packages have been promoted to the production lifecycle state.

4. Marks the project as complete when all of the project tasks are complete.

How Other Maintenance Work is Managed

The following process describes how the need for other maintenance work is managed using Service Desk, CA Clarity PPM, and Harvest. This process ties call or change order management (Service Desk), resource or work management (CA Clarity PPM), and software change management (Harvest).

- The request for a change begins in Service Desk.
- The request results in a Service Desk change order for other maintenance work that is sent to CA Clarity PPM as an incident.
- The CA Clarity PPM change manager manages the CA Clarity PPM incident as a standalone issue, converts it to a task on an existing project, or converts it to a new project.
- The CA Clarity PPM change manager determines the scope of the work and determines if the work will be managed as a stand-alone incident, task on an existing project, or new project.
- If the work is managed as a stand-alone incident or converted to a task on an existing project, there is no automatic association back to the Service Desk change order.
- If the work is converted to a project, the association to the Service Desk change order is maintained.

Installation Prerequisites

You must install all three products, Unicenter Service Desk, CA Clarity PPM, and AllFusion Harvest Change Manager, before you install and configure the connector.

The following product versions are required for the connector:

- Unicenter Service Desk r12.9
- AllFusion Harvest Change Manager r12.1 SP2
- CA Clarity PPM 13.0 or higher, CA Clarity PPM 12.0, CA Clarity 8.1, CA Clarity 8.0, or Clarity 7.5.3_FP01 or higher

Chapter 2: Installing and Configuring the Connector for CA Unicenter® Service Desk and CA Software Change Manager for Distributed with CA Clarity PPM

You can install and configure CA Clarity PPM to support the connector among Service Desk, CA Clarity PPM, and Harvest. You can also set up CA Clarity PPM access rights and maintain CA Clarity PPM. All of the procedures should be done by your CA Clarity PPM administrator.

This section contains the following topics:

[How CA Clarity PPM is Set Up](#) (see page 21)

[How Service Desk is Set Up](#) (see page 42)

[How Harvest is Set Up](#) (see page 53)

[How to Execute CA Clarity PPM Administrative Tasks](#) (see page 57)

How CA Clarity PPM is Set Up

The following section describes how to set up the connector on CA Clarity PPM. You will use CA Clarity System Administration to install the *Connector: Unicenter Service Desk/Harvest* add-in; and you will use CA Clarity PPM to set administrative configurations, such as CA Clarity PPM resource names and IDs.

Note: See the *Installation Guide* for more information.

About Clarity Connector: Unicenter Service Desk/Harvest Add-In

CA Clarity PPM includes optional components named add-ins that extend CA Clarity PPM features. The *Connector: Unicenter Service Desk/Harvest* add-in includes processes, views, objects, tabs, lookups, pages, and portlets that allow CA Clarity PPM to integrate with Service Desk and Harvest. Your CA Clarity PPM administrator must install this add-in during the installation of the connector.

Note: Contact your CA Clarity PPM administrator or see the *Administration Guide* for more information.

CA Clarity PPM Setup Procedures

How you set up the connector depends on the version you have installed. The following table describes how to set up for each release.

Release	Set Up Process
CA Clarity PPM 13.x	Manual Installation
CA Clarity PPM 12.0	Manual Installation
CA Clarity 8.1	Manual installation
CA Clarity 8.0	NSA Tool in Clarity
CA Clarity 7.5.3	NSA Tool in Clarity

If you have the *Connector: Unicenter Service Desk/Harvest* add-in installed on CA Clarity 7.5.3 or 8.0 and you upgrade to CA Clarity PPM or CA Clarity 8.1, you must re-install the add-in.

You must download and install the add-in for CA Clarity PPM or CA Clarity 8.1 manually. This add-in cannot be used with prior versions of CA Clarity.

Setup for CA Clarity PPM 13.x, 12.0, or CA Clarity 8.1

This section describes the steps required to install the add-in so that the content is available to Clarity users. You must complete these steps on your Clarity application server.

The following instruction sets describe how to set up for CA Clarity PPM 13.x and 12.0. The instructions also apply to CA Clarity 8.1, but the following naming differences between versions have occurred:

CA Clarity PPM 13.x, 12.0	CA Clarity 8.1
CA Technologies Clarity System Administration	Niku System Administration
CA Clarity Application service	Niku Application service
CA Clarity Background service	Niku Background service

Setup for CA Clarity PPM releases greater than 13.1

If you are using this add-in with a CA Clarity PPM release greater than Release 13.1, see the Installation Guide for information about installing an add-in.

Setup for CA Clarity 8.1 through CA Clarity PPM Release 13.1

The following process explains how to install an add-in on a Clarity server:

1. Download the add-in.
2. Extract the JAR file to a directory on the application server.
3. Stop the CA Clarity Application (app) and CA Clarity Background (bg) services.
4. Install the add-in.
5. Start the app and bg services.
6. (Existing add-in installations only) Apply the add-in.
7. (Existing add-in installations only) Publish the applied add-in items.

Important! If you are upgrading from a previous version of Clarity to CA Clarity PPM 13.x, 12.0, or CA Clarity 8.1, you must reinstall the add-in. Before reinstalling, make sure that you cancel or delete all active process instances and put process definitions in draft mode.

Download the .iso Image File

All add-ins are .iso image files. The .iso image file includes a .jar file. The .jar file contains the files needed to install the add-in. The installer updates the existing CA Clarity PPM installation with the newly downloaded files.

To download the .iso image file, go to support.ca.com and download the .iso image to your machine or an accessible network location.

Extract the .jar File

Once you can access the .iso image file, extract the .jar file to a temporary directory location on the CA Clarity application server where you will be completing the installation process.

The .jar file includes the following files:

install.sh

The UNIX installation script.

install.bat

The Windows installation script.

install.xml

The Ant installation script.

package

The directory of updated files.

tools

The directory of supporting files.

To extract the .jar file to a temporary directory location

1. Open a command prompt, and issue the following command:

For Windows:

```
jar -xvf <filename>
```

For Unix:

```
jar -xvf <filename>
```

These commands extract the contents of the .jar file to the same location where the .jar file resides.

2. For a UNIX environment, issue the following command:

```
chmod +x install.sh
```

This grants execution privileges for the install script.

Stop the Services

Prior to applying add-ins, you must stop the CA Clarity Application (app) and CA Clarity Background (bg) services. Restart them from CA Clarity System Administration once you have applied the add-in to CA Clarity PPM.

The following sections explain how to stop the services in different server configurations.

Important! Do not stop the CA Clarity System Administration (nsa), the Database (db), the Beacon, and the Reports (reports) services if deployed on the server.

Stop Services Using Apache Tomcat

Do the following to stop the CA Clarity Application (app) service and CA Clarity Background (bg) services in a configuration that uses the Apache Tomcat as your CA Clarity application server.

To stop the services

1. Log in to CA Clarity System Administration.
The Overview page appears.
2. Select All Services from the Home menu.
The All Services page appears.
3. Select the CA Clarity Application (app) and the CA Clarity Background (bg) service check boxes.
4. Click Stop.

Stop Services Using Oracle WebLogic/IBM WebSphere

Do the following to stop the app and bg services in a configuration that uses the Oracle WebLogic or IBM WebSphere as your CA Clarity application server.

To stop the services

1. Log in to CA Clarity System Administration.
The Overview page appears.
2. Select All Services from the Home menu.
The All Services page appears.
3. Select the CA Clarity Application (app) and the CA Clarity Background (bg) check box.
4. Click Stop.
5. Stop CA Clarity System Administration and applications using the application server's administration console.

Note: See the J2EE vendor documentation for more information.

Install the Add-In

The following procedure installs the updates to objects, reports, and the database.

Important! Back up your CA Clarity PPM installation before installing this add-in so that you can restore the application to the prior version if necessary. When you install an add-in, you can overwrite your customized views for out-of-the-box CA Clarity PPM objects, such as projects. If your organization has customized views, carefully consider the install in a test environment before installing this add-in into your production environment. Once you have installed the add-in, you cannot uninstall it.

To install the add-in

1. Open a command prompt window at the directory location where you extracted the .jar files, and issue the following command:

```
install
```

2. Press Enter.

The installation process begins.

3. Follow the on-screen directions to complete the add-in installation.

Start the Services

You must stop the CA Clarity Application (app) and CA Clarity Background (bg) services prior to applying the add-in, and then restart them after applying the add-in. Do this from CA Clarity System Administration.

The following sections explain how to start the services in different server configurations.

Start Services Using Apache Tomcat (Single Server)

Do the following to start the CA Clarity Application (app) and CA Clarity Background (bg) services in a configuration that uses the Apache Tomcat as your CA Clarity application server, where all services are running on a single server.

To start the services

1. Log in to CA Clarity System Administration.

The *Overview* page appears.

2. Select All Services from the Home menu.

The *All Services* page appears.

3. Select the CA Clarity Application (app) and the CA Clarity Background (bg) service check boxes.

4. Click Start.

Start Services Using Apache Tomcat (Multiple Servers)

Do the following to start the CA Clarity Application (app) and CA Clarity Background (bg) services in a configuration that uses the Apache Tomcat as your CA Clarity application server, where all services distribute across multiple servers.

To start the services

1. Log in to CA Clarity System Administration.
The Overview page appears.
2. Click All Services from the Home menu.
The All Services page appears.
3. Shut down any remote app and bg services.
4. Click Distribute All from the Distribution menu.
The Distribute All page appears.
5. Select remote servers and click Distribute. Wait until the distribution is complete.
6. Select All Services from the Home menu.
The All Services page appears.
7. Select the CA Clarity Application (app) and CA Clarity Background (bg) service check boxes, and click Start.

Start Services Using Oracle WebLogic/IBM WebSphere

Do the following to start the CA Clarity Application (app) and CA Clarity Background (bg) services in a configuration that uses Oracle WebLogic or IBM WebSphere as your CA Clarity application server.

To start the services

1. Log in to CA Clarity System Administration.
The *Overview* page appears.
2. Select Install and Upgrade from the Installation menu.
The *Install and Upgrade: Database* page appears.
3. Click Package Application Ear from the content menu.
The *Install and Upgrade: Package EAR* page appears.
4. Click Create Package.
The application creates a package as well as the niku.ear.
5. Deploy the (niku.ear) package using the J2EE application server's administration console.

Apply the Add-In

You can review changes to installed add-in items and review new add-in items using the *Add-In Details* page in Studio. If you have configured views when you install the add-in, these configurations remain and are not overwritten. You can decide which views to apply. If you are upgrading to the current add-in version, use this page to choose which new or modified items you want to apply and apply them. Applying a view overwrites the configuration of the view.

This page lists all of the items that are included with the add-in. The following columns display on this page:

Status

Indicates if the add-in item is applied or not in CA Clarity PPM.

Values:

- Not Installed. New items that are new to this add-in version or that you did not apply from a previous add-in version.
- Upgrade Ready. Modified items that you applied from a previous add-in version and then configured. An update to the item is included in the current add-in version.

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

- Installed. Items that are installed.

Type

Indicates the item type.

Values: Object, Lookup, Tab, Query, Portlet, Page, Custom View, Group, Menu, Project, Process, Role, and Report/Job

ID

Displays the add-in item's code, which becomes the ID of the applied add-in item.

To apply add-in items

1. Log in to CA Clarity PPM, and open the Administration Tool.
The *Administration Home* page appears.
2. Select Add-Ins from the CA Clarity Studio menu.
The *Add-Ins* page appears.

3. Click the name of the add-in from which you want to apply items.

The *Add-In Details* page appears.

4. Review the items in the list and select only those you want to apply.

Note: By default, when you upgrade to the current add-in version, only the items that are new or modified are selected.

5. (Upgrade Only) For all active process instances that have a status of "Upgrade Ready", cancel and delete the process instance, and put the process definition in Draft mode.

Note: See the *CA Clarity PPM Administration Guide* for more information on how to manage processes and process instances.

6. Click Apply.

Note: If a selected item has dependencies on other items, these dependencies are also updated.

A list of updated items displays in the *Confirm Add-In Update or Install* page.

7. Click Yes to update or install the items.

If a user has previously changed an item listed on the *Confirm Add-In Update or Install* page, you must publish the item before the update is displayed for users.

Note: See the *Studio Developer's Guide* for more information on how to publish configured items, such as portlets, pages, and views.

Setup for CA Clarity 8.0 and 7.5.3

For these releases, use the Niku System Administration (NSA) application to install the *Connector: Unicenter Service Desk/Harvest* add-in. The Clarity application is used to set administrative configurations, such as Clarity resource names and IDs.

Note: If you are installing the add-in for the first time on CA Clarity 7.5.3, first install 7.5.3, and then apply the appropriate fix pack (FP01 or higher). The fix pack installation instructions are included in the fix pack's readme file.

If you deployed the add-in prior to applying the 7.5.3_FP01 or higher fix pack, then you will need to re-install the add-in.

Step 1: Log In to CA Clarity System Administration

You must log in to NSA to deploy the *Connector: Unicenter Service Desk/Harvest* add-in.

To log in to NSA

1. Enter the URL for NSA in a web browser.
2. Enter your administrator password.
3. Click Login.

The Overview page appears.

Step 2: Install the Add-In

You must stop the Niku Application (app) service prior to deploying the add-in, and re-start the service after the add-in is deployed. Do this from NSA.

To install the add-in

1. Log in to NSA and stop the Niku Application (app) service:
 - a. Click All Services from the Overview menu.
The *All Services* page appears.
 - b. Next to Niku Application, select the box for this service type and click Stop.
2. Install the *Connector: Unicenter Service Desk/Harvest* add-in from NSA:
 - a. Select Install and Upgrade from the Installation menu.
The *Install and Upgrade: Pre-Upgrade* page appears.
 - b. Select Add-Ins under Installation Tasks from the content menu.
The *Install: Add-Ins* page appears.
 - c. Complete the Connector: Unicenter Service Desk/Harvest field.
By default, this add-in check box is cleared. Select the check box.
 - d. Click Install.
3. Start the Niku Application service:
 - a. Select All Services from the Home menu.
The *All Services* page appears.
 - b. Select the check box for this service type.
 - c. Click Start.

How to Configure the Connector for CA Clarity PPM

The following steps show you how to configure the connector for CA Clarity PPM. You will use the Administration Tool to configure the connector in CA Clarity PPM, such as resource names and IDs.

Step 1: Log In to CA Clarity PPM as the CA Clarity PPM Administrator

You must log in to CA Clarity PPM as the CA Clarity PPM administrator. This resource has the access rights to the Administration Tool, which includes the rights to install and configure the connector.

To log in to CA Clarity PPM as the CA Clarity PPM administrator

1. Enter the URL for CA Clarity PPM in a web browser.
2. Enter your CA Clarity PPM administrator username and password.
3. Open the Administration Tool.

The *Administration Home* page appears.

Step 2: Change the password for the CAIAdmin User

After you have installed the add-in from CA Clarity System Administration, you must change the CAIAdmin user password. The CAIAdmin user is the CA Clarity PPM resource used by the CAI processes included with the *Connector: Unicenter Service Desk/Harvest* add-in, it is not the CA Clarity PPM administrator user.

Note: If you decide to change the password to something other than caiadmin, make sure you use the changed password throughout the connector's configuration and setup.

To change the password for the CA Clarity PPM administrator

1. Open the Administration Tool.

The *Administration Home* page appears.

2. Select Resources from the Organization and Access menu.

The *Resources* page appears.

3. Complete the following fields in the Resource Filter, and click Filter:

First Name

Enter cai.

4. Click the name of the CAIAdmin user.

The *Resource: Properties* page for that resource appears.

5. Complete the following fields:

Password

caiadmin.

Confirm Password

caiadmin.

Force Password

Verify that this check box is cleared.

6. Click Save and Exit.

The *Resources* page appears.

Step 3: Grant Harvest Project Access Rights to CA Clarity PPM Resources

If you are integrating CA Clarity PPM with AllFusion Harvest Change Manager, you must grant Harvest Project global access rights to each CA Clarity PPM resource that will be creating Harvest Projects in CA Clarity PPM. There are four global access rights that you must grant to CA Clarity PPM resources for the resource to view the Harvest Project custom object in CA Clarity PPM, and to create Harvest Projects in CA Clarity PPM.

Note: If the CA Clarity PPM user is not associated to a CA Clarity PPM resource, first create the resource.

Note: Contact your CA Clarity PPM administrator or see the *Administration Guide* for more information.

To grant Harvest Project global access rights to resources

1. Open the Administration Tool.
2. Click Resources from the Organization and Access menu.
The *Resources* page appears.
3. Click the name of the resource to which you want to grant Harvest Project global access rights.
The *Resource: Properties* page appears.
4. From the content menu, under Resource Access Rights, select Global.
The *Resource: Global Access Rights* page appears.
5. Click Add.
The *Select Access Rights* page appears.
6. Filter the global access rights:
 - Enter harvest at Access Right in the Access Right Filter section.
 - Click Filter.
7. Click the Select All icon to select all four access rights in the list, and click Add.
The *Resource: Global Access Rights* page appears.
8. Click Exit.
The *Resources* page appears.

Step 4: Create Harvest Project in CA Clarity PPM

If you are integrating CA Clarity PPM with AllFusion Harvest Change Manager and Unicenter Service Desk, you must do the following:

- Create a Harvest Project in CA Clarity PPM for each Harvest project in Harvest before integrating. The Harvest Project in CA Clarity PPM provides the mapping between CA Clarity PPM and Harvest.
- Create a Harvest Project in CA Clarity PPM for each Unicenter Service Desk project CI that has a Harvest project defined.
Note: If Service Desk was not installed in the ITIL mode, Service Desk users will see assets instead of project CIs.
- After Harvest administrators add projects to AllFusion Harvest Change Manager, you will need to create related/corresponding Harvest Project in CA Clarity PPM.
- After creating the Harvest project in CA Clarity PPM, define the Harvest Project field in the Service Desk project CI.

To create the Harvest Project in CA Clarity PPM

Important! Before creating the Harvest Project in CA Clarity PPM, make sure the Harvest project exists in Harvest. Gather information on the Harvest project-such as the project name, ID, and description-from the Harvest administrator.

1. Open CA Clarity PPM.
2. Click Harvest Project List from the Custom Objects menu.

Note: To see the Custom Objects menu, it may be necessary for you to use the scroll bar to navigate to this area of the main menu.

3. Click New.

The *Create Harvest Project* page appears.

4. Complete the following fields:

Name

Enter the name of the Harvest project. This value must be the same as the name of the associated project in Harvest.

Note: This value is case-sensitive when matched with the Service Desk project CI.

ID

Enter the name of the Harvest project in Harvest. This value must be the same as the name of the associated project in Harvest.

Note: This value is case-sensitive when matched with the Service Desk project CI.

Description

Enter the description for the Harvest Project in CA Clarity PPM.

5. Click Submit.

The Harvest Project List page appears listing the newly created Harvest project.

Step 5: Edit the Grid Execution Language (GEL) Script Parameters for the Processes

Several CA Clarity PPM processes are included with the *Connector: Unicenter Service Desk/Harvest* add-in. These CAI processes are the connection processes included with the connector.

Note: Contact your CA Clarity PPM administrator or see the *Administration Guide* for more information.

You must edit the GEL script parameters for each of the process steps to set the values for user names, passwords, and URLs. Edit the process step scripts, and not the custom script parameters listed on the Custom Script Parameters page. The Custom Script page contains a text box where you can configure the parameters.

Note: After editing the GEL scripts for each of the process steps, you must validate and activate the CAI processes before they can be used.

The Process Steps

The following table lists the process steps for the connector. You must configure the process steps based on the products you have installed for your integrated systems. Use the table to determine which process step you need to configure. After you have made the configurations, validate and activate the CAI process.

Note: You only need to activate the processes associated with the product(s) you have installed and connected.

Process	Step	Configure and Activate CA Clarity PPM - Service Desk only	Configure and Activate CA Clarity PPM - Harvest only	Configure and Activate all
CAI Harvest	Create	No	Yes	Yes
CAI Harvest Status	Update Status	No	Yes	Yes
CAI Project Post Create		Yes	No	Yes
CAI Project Update		Yes	No	Yes
CAI SDCO Task Update		Yes	No	Yes
CAI Service Desk Create		Yes	No	Yes

Process	Step	Configure and Activate CA Clarity PPM - Service Desk only	Configure and Activate CA Clarity PPM - Harvest only	Configure and Activate all
CAI Service Desk Task Create Post		Activate only	No	Activate only
CAI Harvest Status ED		No	No	No

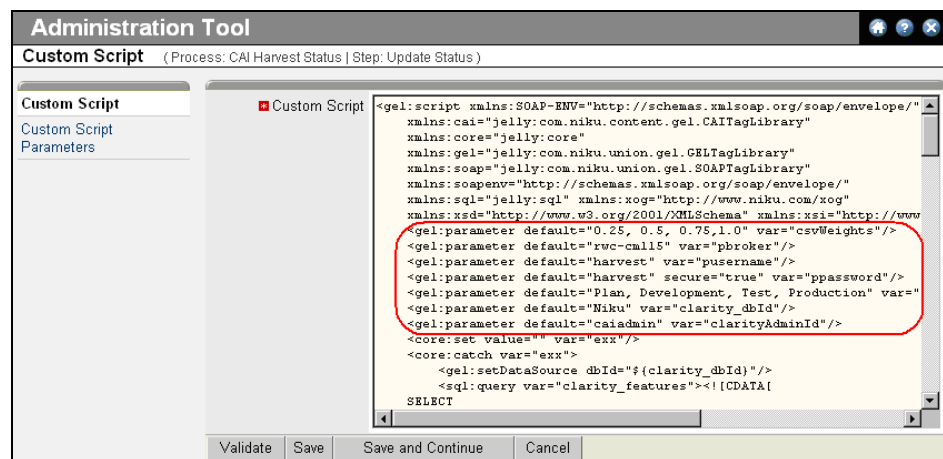
To edit the process step GEL script parameter

1. Open the Administration Tool. This icon is at the top right on the Harvest Project List page.
The *Administration Home* page appears.
2. Select Processes from the Data Administration menu.
The Available Processes page appears.
3. Filter the list to view only the processes related to the connector, the CAI processes.
At Process Name, enter cai, and click Filter.
4. Select the name of the process you want to edit from the list of processes. See the table preceding this procedure to determine which process to edit.

The Process Definition: Properties page appears.

5. Select Steps from the content menu.
The Process Definition: Steps page appears.
6. Click the name of the step you want to edit. See the table to determine which step to edit.
7. Click Edit Custom Script in the Actions section.

The Custom Script page appears. Following is an example of the custom scripts:



8. Replace the default value with the attributes relevant to your integration in the Custom Script text box. See the following tables for variable changes for the process steps.
9. Click Save.
10. Click Validate to verify that the process contains no errors, then click Cancel.
11. Click Cancel to return to the Processes list page.

The following table lists the variables, their default settings and descriptions for the CAI Harvest Feature Create process for Create Harvest Feature step:

Variable Name	Default Setting	Description/Action
pbroker	harvest	Enter the name of the Harvest broker.
pusername	harvest	Enter the name of the Harvest user.
ppassword	harvest	Enter the password of the Harvest user.
pcreatePkgProc	Create RFC	Enter the name of the Harvest process associated to the <i>Service Desk Clarity Connector</i> lifecycle template. Note: The default process is Create RFC. If the name of this process is changed in Harvest, this parameter must be changed to match that new name.
pdevState	Plan	Enter the first default state of the Harvest package. It should be Plan.
clarity_dbld	niku	Enter the CA Clarity PPM data source.
SDURL	http://localhost:8080/axis/services/USD_R11_WebService	Enter your Service Desk server name and port.
SDUserName	ServiceDesk	Enter the name of the Service Desk user. CA recommends entering a Service Desk user other than ServiceDesk, as this user is typically the administrator.
SDPassword	ServiceDesk	Enter your Service Desk password.

Variable Name	Default Setting	Description/Action
locale	en	Enter the locale value of your Service Desk server.

The following table lists the variables and their default settings for CAI Harvest Status process for Update Status step:

Variable Name	Default Setting	Description/Action
clarityAdminId	caiadmin	Enter the username of the CAI administrator.
clarity_dbId	niku	Enter the CA Clarity PPM data source.
csvStates	Plan, Development, Test, Production	Enter all four states.
csvWeights	0.25, 0.5, 0.75, 1.0	Enter the values of the weights associated with the four Harvest lifecycle states that are included with CA Clarity PPM out-of-the-box. The weights you assign to each state are the weights used to calculate the Overall % Complete field.
dateFormat	yyy-MM-dd HH:mm:ss	Enter the format for the date and timestamp. It should be the default.
pbroker	harvest	Enter the name of the Harvest broker.
pusername	harvest	Enter the name of the Harvest user.
ppassword	harvest	Enter the password for the Harvest user.

The following table lists the variables and their default settings for the CAI Project Post Create process for Set SD CO InProgress Status step:

Variable Name	Default Setting	Description/Action
clarity_dbId	niku	Enter the CA Clarity PPM data source.
SDURL	http://localhost:8080/axis/services/USD_R11_WebService	Enter the URL-including the name and port-of the Service Desk server.

Variable Name	Default Setting	Description/Action
SDUserName	ServiceDesk	Enter the name of the Service Desk user. CA recommends entering a Service Desk user other than ServiceDesk, as this user is typically the administrator.
SDPassword	ServiceDesk	Enter the password for the Service Desk user.
locale	en	Enter the locale for the Service Desk server.

The following table lists the variables and their default settings for the CAI Project Update process for Send Project Complete Message step:

Variable Name	Default Setting	Description/Action
clarity_dbId	niku	Enter the CA Clarity PPM data source.
SDURL	http://localhost:8080/axis/services/USD_R11_WebService	Enter the URL-including the name and port-of the Service Desk server.
SDUserName	ServiceDesk	Enter the name of the Service Desk user. CA recommends entering a Service Desk user other than ServiceDesk, as this user is typically the administrator.
SDPassword	ServiceDesk	Enter the password for the Service Desk user.
locale	en	Enter the locale for the Service Desk server.

The following table lists the variables and their default settings for the CAI SDCO Task Update process for Update Service Desk step:

Variable Name	Default Setting	Description/Action
clarity_dbId	niku	Enter the CA Clarity PPM data source.
SDURL	http://localhost:8080/axis/services/USD_R11_WebService	Enter the URL-including the name and port-of the Service Desk server.

Variable Name	Default Setting	Description/Action
SDUserName	ServiceDesk	Enter the name of the Service Desk user. CA recommends entering a Service Desk user other than ServiceDesk, as this user is typically the administrator.
SDPassword	ServiceDesk	Enter the password for the Service Desk user.
Locale	en	Enter the locale for the Service Desk server.

The following table lists the variables and their default settings for the CAI Service Desk Create process for Create Object step:

Variable Name	Default Setting	Description/Action
XOGUsername	caiadmin	Enter the CAI administrator username, or the username of a user with XOG rights.
XOGPassword	caiadmin	Enter the CAI administrator password or the password of a user with XOG rights.
XOGURL	http://localhost:80	Enter the URL-including the name and port-of the CA Clarity PPM server.
clarity_dbld	niku	Enter the CA Clarity PPM data source.
clarity_sd_resource	caiadmin	Enter the ID of the Service Desk user who can create or update an idea, incident, or project.
SDURL	http://localhost:8080/axis/services/USD_R11_WebService	Enter the URL-including the name and port-of the Service Desk server.
sDUserName	ServiceDesk	Enter the name of the Service Desk user. CA recommends entering a Service Desk user other than ServiceDesk, as this user is typically the administrator.
sDPassword	ServiceDesk	Enter the password for the Service Desk server.

Variable Name	Default Setting	Description/Action
locale	en	Enter the locale for the Service Desk server.

Step 6: Validate and Activate the Processes

After you finish editing the GEL script parameters for the processes included with the *Connector: Unicenter Service Desk/Harvest* add-in, you must activate all of the processes for your integrated product except the *CAI Harvest Status ED* process, and not just the ones that you configured.

Before you can start a process, it must be valid and active.

Note: Contact your CA Clarity PPM administrator or see the *Administration Guide* for more information.

To validate a process

1. Select the name of the process you want to validate from the list of processes.
The Process Definition: Properties page appears.
2. Click Validation from the content menu.
The Process Definition: Validation page appears.
3. Select all of the steps and click Validate Process.
Note: If errors display, correct them and validate the process again.
4. Click Process Flow Diagram from the content menu to see a high-level view of the process.
5. Click Properties on the content menu.
The Process Definition: Properties page appears.

To activate a process

1. In the General section of the Process Definition: Properties page, at Mode, select Active.
2. Click Save and Exit.

Step 7: Schedule the CAI Harvest Status Process

After you set up CA Clarity PPM and Harvest, schedule the CAI Harvest Status process to run at regular intervals. You do this by running the *Execute a Process* job in CA Clarity PPM. While running the CAI Harvest status process, if the process fails with error message 'Could not initialize class com.harvest.JCAHarvest' do the following : Copy the jar file JHSDK.jar from the %HARVESTHOME% directory to %CLARITY-HOME%\lib folder and restart the CA Clarity Application (app) and CA Clarity Background (bg) service.

Note: Contact your CA Clarity PPM administrator or see the *Administration Guide* for more information.

How Service Desk is Set Up

This section describes the steps required to integrate CA Clarity PPM with Service Desk. You must complete these steps on your Service Desk application server.

In addition to completing the steps discussed in the following sections, the Service Desk Administrator must complete the steps discussed in the chapter "Installing and Configuring the Connector with Harvest." The steps described in the chapter are needed for integrating Service Desk with both CA Clarity PPM and Harvest.

Download the XOG Client from CA Clarity PPM

For Windows, UNIX servers, and LINUX servers, you must download the CA Technologies Clarity XML Open Gateway (XOG) client from CA Clarity PPM before setting XOG up on the Service Desk application server. You must download the XOG even when Service Desk is installed on the same server as CA Clarity PPM.

XOG is the CA Clarity PPM's Web service interface. Using XOG, you can read and write data objects from CA Clarity PPM. You can also use this interface to import data from external systems in to CA Clarity PPM.

Note: Contact your CA Clarity PPM administrator or see the *Integration Guide* for more information.

To download the XOG client from CA Clarity PPM

1. From the Service Desk application server, log in to CA Clarity PPM as the CA Clarity PPM administrator, and open the Administration Tool.

The *Administration Home* page appears.

2. Click Client Downloads from the General Settings menu.

The *Client Downloads* page appears.

Note: To see the General Settings section, you may need to use the scroll bar to navigate to this area.

3. Click the Download link next to Cross-platform ZIP.

The *File Download* window opens. The cross-platform ZIP file contains the XOG client.

4. Click Save.

The xogclient.zip file is saved to a local folder on the Service Desk application server.

How to Set Up XOG Client on Windows Service Desk Application Servers

The following steps show you how to set up the XML Open Gateway (XOG) when Service Desk is installed on a Windows application server.

Step 1: Extract the ZIP file

After you have downloaded the XOG client from CA Clarity PPM, extract the XOG files on the Windows Service Desk application server. To extract the ZIP file, open any file compression utility and extract the xogclient.zip file to a folder (for e.g., C:\CA Clarity PPM\XOG) on your Windows Service Desk application server.

Step 2: Copy Files to the XOG Client

Release 13.2

After you install the add-in, a new access right is available. The access right lets a user download a set of files from the Software Downloads page. To download the file, the access right *Software Download - CA Clarity Service Desk-Harvest Integration* must be granted. This access right is not present in the system until the add-in has been installed. An upgrading customer can install the access right from the Add-in Administration page.

A user with this right can download the .zip file `cai_xog_client.zip`. This file contains the items that are listed in the following table.

Release 12.0 or 8.1

To set up the add-in on CA Clarity PPM 12.0 or CA Clarity 8.1, copy the files that are shown in the following table to the XOG client. The `<cai add-in>` value in the table represents the location of the extracted *Clarity Connector: Unicenter Service Desk/Harvest* add-in files.

Extracted file	Copy to this location
<code><cai add-in>\package\xogclient\bin*</code>	<code><xogclient>\bin</code>
<code><cai add-in>\package\xogclient\lib\cai-client.jar</code>	<code><xogclient>\lib\</code>

Step 3: Edit the test.properties file

Edit the test.properties file to specify the CA Clarity PPM server name, port number, CAIAdmin user, and password information. This information must be defined for each Service Desk Server that will be connecting to a CA Clarity PPM server instance. The XOG client uses this information to send the Service Desk change order information to the predefined CAIAdmin user on the CA Clarity PPM server.

To edit the test.properties file

1. Using a text editor, open the test.properties file located in the folder containing the extracted XOG files (for e.g., C:\Clarity\XOG\bin\test.properties file).
2. Change the following settings:
 - Set the servername to the CA Clarity PPM server name.
 - Set the port to the CA Clarity PPM server port number.
 - Set the username to caiadmin.
 - Set the password to caiadmin.

Note: If you changed the default caiadmin password to something other than caiadmin, set this value to the new password setting.
3. Save and close the test.properties file.

Step 4: Create the XOG_HOME System Environment Variable

Create a Windows operating system environment variable-XOG_HOME-and define it to point to the home directory of the XOG client. After you have added the new XOG_HOME system environment variable, you must reboot the Service Desk server for it to be registered to the new system environment variable.

To create the XOG_HOME system environment variable

1. Go to Settings, Control Panel, and System.
The System Properties window opens.
2. Select the Advanced tab and click Environment Variables.
The Environment Variables window appears.
3. Click New in the System Variables section of the window.
The New System Variable window appears.
4. Complete the following fields:
 - Enter XOG_HOME as the Variable name.
 - Enter the full path pointing the XOG folder (e.g. C:\Clarity\XOG) as the Variable value.
5. Click OK.
The new variable is saved.
6. Reboot the Service Desk server.

How to Set Up XOG Client on UNIX Service Desk Application Servers

The following steps show how to set up the XML Open Gateway (XOG) on UNIX, Sun Solaris, IBM AIX, and HP-UX Service Desk application servers.

Step 1: Extract the ZIP file

Make sure you download the XOG client from CA Clarity PPM before extracting XOG on the UNIX Service Desk application server.

To extract the ZIP file

1. Login as the root user in UNIX.
2. Create /<path>/Clarity/XOG folder structure.
3. Copy xogclient.zip to /<path>/Clarity/XOG.
4. Unzip the contents to /<path>/Clarity/XOG.
5. Change directory to /<path>/Clarity/XOG/bin.
6. Grant read and execute rights for cai.sh file by executing the following at the command prompt:

```
chmod 555 cai.sh
```

Step 2: Copy Files to the XOG Client

Release 13.2

After you install the add-in, a new access right is available. The access right lets a user download a set of files from the Software Downloads page. To download the file, the access right *Software Download - CA Clarity Service Desk-Harvest Integration* must be granted. This access right is not present in the system until the add-in has been installed. An upgrading customer can install the access right from the Add-in Administration page.

A user with this right can download the .zip file cai_xog_client.zip. This file contains the items that are listed in the following table.

Release 12.0 or 8.1

If you are setting up the add-in on CA Clarity PPM 12.0 or CA Clarity 8.1, copy the files shown in the following table to the XOG client. The <cai add-in> value in the table represents the location of the extracted *Clarity Connector: Unicenter Service Desk/Harvest* add-in files.

Extracted file	Copy to this location
<cai add-in>/package/xogclient/bin/*	<xogclient>/bin
<cai add-in>/package/xogclient/lib/cai-client.jar	<xogclient>/lib/

Step 3: Edit the test.properties file

Edit the test.properties file to specify the CA Clarity PPM server name, port number, CAIAdmin user, and password information. This information needs to be defined for each Service Desk Server that will connect to a CA Clarity PPM server instance. The XOG client uses this information to send the Service Desk change order information to the predefined CAIAdmin user on the CA Clarity PPM server.

To edit the test.properties file

1. Log in as the root user in UNIX.
2. Open the test.properties file located in the folder containing the extracted XOG files.
 - Navigate to the bin folder (for e.g., /<path>/Clarity/XOG/bin).
 - Open test properties file (for e.g., /<path>/Clarity/XOG/bin/test.properties).
3. Change the following settings:
 - Set the servername to the CA Clarity PPM server name.
 - Set the port to the CA Clarity PPM server port number.
 - Set the username to caiadmin.
 - Set the password to caiadmin.

Note: If you changed the default caiadmin password to something other than caiadmin, set this value to your new password setting.

4. Save and close the test.properties file.

Step 4: Create the XOG_HOME System Environment Variable

Create a UNIX operating system environment variable-XOG_HOME-and define it to point to the home directory of the XOG client. After you have added the new XOG_HOME system environment variable, you must restart the Service Desk daemons for it to be registered to the Service Desk application.

To create the XOG_HOME System Environment Variable

1. Log in as the root user in UNIX.
2. As the root user, stop Service Desk daemons. At the command prompt, execute the following command:

```
pdm_halt
```

3. Identify the shell running on UNIX.
 - For Solaris, edit the /etc/profile and the /etc/.login accordingly.
 - For AIX or HPUX, edit the /etc/profile and the /etc/csh.login accordingly.
4. Add the following lines to the beginning of the identified file:

- For /etc/profile:

```
XOG_HOME =/<path>/Clarity/XOG
```

```
export XOG_HOME
```

```
JAVA_HOME=<java installed path up to, but not including, /bin>
```

```
export JAVA_HOME
```

- For /etc/.login or /etc/csh.login:

```
setenv XOG_HOME <path>/Clarity/XOG
```

```
setenv JAVA_HOME <java installed path up to, but not including, /bin>
```

5. If the Service Desk privileged user is running the C or Trusted C shells, add the following line to the /etc/.login:

```
setenv XOG_HOME <path>/Clarity/XOG
```

6. Exit your UNIX session.
7. Log in to UNIX again as the Service Desk privileged user.
8. Verify that the XOG_HOME environment variable and JAVA_HOME are set correctly. At the command prompt, execute the following command:

```
env
```

9. Restart the Service Desk daemons as the Service Desk privileged user. At the command prompt, execute the following command:

```
pdm_init
```

How to Set Up XOG Client on LINUX Service Desk Application Servers

The following steps show you how to set up XOG on LINUX Service Desk application servers. CA Clarity PPM XOG allows you to export data from CA Clarity PPM into external systems (in this case, Service Desk or Harvest) as well as import data from these external systems into CA Clarity PPM.

Step 1: Extract the ZIP file

Make sure you download the XML Open Gateway (XOG) client from CA Clarity PPM before extracting XOG on the LINUX Service Desk application server.

To extract the ZIP file

1. Log in as the root user in LINUX.
2. Create /<path>/Clarity/XOG folder structure.
3. Copy xogclient.zip to /<path>/Clarity/XOG.
4. Unzip the contents to /<path>/Clarity/XOG.
5. Change directory to /<path>/Clarity/XOG/bin.
6. Assign read and execute rights for cai.sh file by executing the following at the command prompt:

```
chmod 555 cai.sh
```

Step 2: Copy Files to the XOG Client

Release 13.2

After you install the add-in, a new access right is available. The access right lets a user download a set of files from the Software Downloads page. To download the file, the access right *Software Download - CA Clarity Service Desk-Harvest Integration* must be granted. This access right is not present in the system until the add-in has been installed. An upgrading customer can install the access right from the Add-in Administration page.

A user with this right can download the .zip file `cai_xog_client.zip`. This file contains the items that are listed in the following table.

Release 12.0 or 8.1

If you are setting up the add-in on CA Clarity PPM 12.0 or CA Clarity 8.1, copy the files shown in the following table to the XOG client. The `<cai add-in>` value in the table represents the location of the extracted *Clarity Connector: Unicenter Service Desk/Harvest* add-in files.

Extracted file	Copy to this location
<code><cai add-in>/package/xogclient/bin/*</code>	<code><xogclient>/bin</code>
<code><cai add-in>/package/xogclient/lib/cai-client.jar</code>	<code><xogclient>/lib/</code>

Step 3: Edit the test.properties file

Edit the test.properties file to specify the CA Clarity PPM server name, port number, CAIAdmin user, and password information. This information needs to be defined for each Service Desk server that will be connecting to a CA Clarity PPM server instance. The XOG client uses this information to send the Service Desk change order information to the predefined CAIAdmin user on the CA Clarity PPM server.

To edit the test.properties file

1. Log in as the root user in LINUX.
2. Open the test.properties file located in the folder containing the extracted XOG files.
3. Navigate to the bin folder (for e.g., /<path>/Clarity/XOG/bin).
4. Open test properties file (for e.g., /<path>/Clarity/XOG/bin/test.properties).
5. Change the following settings:
 - Set the servername to the CA Clarity PPM server name.
 - Set the port to the CA Clarity PPM server port number.
 - Set the username to caiadmin.
 - Set the password to caiadmin.

Note: If you changed the default caiadmin password to something other than caiadmin, set this value to your new password setting.

6. Save and close the test.properties file.

Step 4: Create the XOG_HOME System Environment Variable

Create a LINUX operating system environment variable-XOG_HOME-and define it to point to the home directory of the XOG client. After you have added the new XOG_HOME system environment variable, you must restart the Service Desk daemons for it to be registered to the Service Desk application.

To create the XOG_HOME System Environment Variable

1. Log in as the root user in LINUX.
2. As the root user, stop Service Desk daemons. At the command prompt, execute the following command:

`pdm_halt`
3. Add the following lines to the beginning of /etc/profile:

`XOG_HOME=/<path>/Clarity/XOG;
export XOG_HOME;
JAVA_HOME=<java installed path up to, but not including, /bin>;
export JAVA_HOME;`
4. If the Service Desk privileged user is running the C or Trusted C shells, add the following line to the /etc/.login as well:

`setenv XOG_HOME /<path>/Clarity/XOG`
5. Exit your LINUX session.
6. Log in to LINUX again as the Service Desk privileged user.
7. Verify if XOG_HOME environment variable and JAVA_HOME are set correctly. At the command prompt, execute the following command:

`env`
8. As the Service Desk privileged user, restart the Service Desk daemons by executing the following at the command prompt:

`pdm_init`

How Harvest is Set Up

This section describes the steps required to integrate CA Clarity PPM with Harvest. You must have operating system user skills to install the Harvest server and client (Command Line Utilities). If necessary, consult your Harvest administrator for assistance.

Installation Prerequisites

Before completing the following procedures, make sure you have installed and configured Harvest r7.1 on the Harvest server as described in the *AllFusion Harvest Change Manager r7.1 Installation Guide*.

Important! Before completing the steps in this section, check the Harvest Readme (especially the Installation Considerations section) for any last-minute information that you may need to install and use Harvest successfully.

How to Install and Configure CA Clarity PPM on Windows

The following steps show you how to install and configure the connector when CA Clarity PPM is installed on a Windows server.

Step 1: Create a Harvest Project from Lifecycle Template

Create a Harvest project using the *Service Desk Clarity Connector* lifecycle template on the Harvest-Windows server. This project template provides the necessary forms and processes to integrate Harvest with Service Desk and CA Clarity PPM.

Step 2: Install the Harvest Client

If the CA Clarity PPM and Harvest are installed on different servers, install the Harvest client on the CA Clarity PPM server. The Harvest client software provides the required command line utilities used by the connector.

Note: For detailed information about installing the Harvest client on the CA Clarity PPM server that is running on Windows, see the *Harvest 7.1 Installation Guide*.

Step 3: Verify the PATH Environment Variable

Verify that the following entries are in the PATH environment variable:

- Program Files\CA\AllFusion Harvest Change Manager
- Program Files\CA\Cryptography
- Program Files\CA\PEC\bin or Program Files\CA\SharedComponents\PEC\bin

Note: Some versions of Windows will truncate the PATH value if there are more than 1023 characters in the total length of the PATH variable. If your PATH is too long, you can either move the Harvest-related PATH entries to the front of the PATH or you can use 8.3 file naming notation to shorten the overall length of the PATH variable.

Note: If you modify Windows environment variables, you must reboot the server for the Service Desk service to recognize your changes.

Step 4: Extract the ZIP file and copy files to Forms folder

Extract the CMI_WINDOWS_B7.0.zip file on the CA Clarity PPM application server. Then, copy the following files from the extract folder to the %HARVESTHOME%\FORMS folder (for e.g., C:\Program Files\CA\AllFusion Harvest Change Manager\Forms) on your CA Clarity PPM application server:

- SD-Clarity Connector.htm
- SD-Clarity Connector.hfd
- castylesr1.css
- cssimages folder

Step 5: Make the SD-Clarity Connector form available to Harvest CM Workbench users

Harvest administrators must make the *SD-Clarity Connector* form files available to all Harvest CM Workbench users through email, a shared network location, or some other method. Users can then copy the files to their local folders.

To use the *Service Desk Clarity Connector* lifecycle template and the *Service Desk Clarity Connector Request for Change* form, Harvest CM Workbench users must copy the following files to the Harvest Forms folder on their local computer:

- SD-Clarity Connector.htm
- SD-Clarity Connector.hfd
- castylesr1.css
- cssimages folder

Note: By default, the Harvest Forms folder is C:\Program Files\CA\AllFusion Harvest Change Manager\Forms.

How to Install and Configure CA Clarity PPM on UNIX or LINUX

The following steps tell you how to install and configure the connector when CA Clarity PPM is on a UNIX or LINUX server.

Step 1: Create a Harvest Project from Lifecycle Template

Create a Harvest project using the *Service Desk Clarity Connector* lifecycle template. This project template provides the necessary forms and processes to integrate Harvest with Service Desk and CA Clarity PPM.

For more information on how to create a Harvest project in Harvest, see the chapter “Installing and Configuring the Connector with Harvest.” Select the section for your environment-specific installation and configuration procedures.

Step 2: Install the Harvest Client

If the CA Clarity PPM and Harvest are installed on different servers, install the Harvest command line utilities on the CA Clarity PPM server. The Harvest client software provides the required command line utilities used by the connector.

Note: For detailed information about installing the Harvest client on the CA Clarity PPM server that is running on UNIX or LINUX, see the *Harvest 7.1 Installation Guide*.

Step 3: Set the Harvest Environment Variables

The following environment variables must be set in the .profile file of the user who installed the CA Clarity PPM server:

```
#Set HARVESTHOME environment variable
#Add HARVESTHOME/bin to PATH
HARVESTHOME=/home/harvest/R71GA/harvest
PATH="${HARVESTHOME}"/bin:"${PATH}"

# Update CA shared component path for harvest
#library variable varies depending on OS. For example:LD_LIBRARY_PATH for
Linux/Solaris, and LIBPATH for AIX.
LD_LIBRARY_PATH=$HARVESTHOME/lib:"${LD_LIBRARY_PATH}"

# Update CA shared component path for CAcrypto
LD_LIBRARY_PATH=/home/harvest/R71GA/CAcrypto:"${LD_LIBRARY_PATH}"
CACRYPTINI=/home/harvest/R71GA/CAcrypto/cacrypt.ini

# Update CA shared component path for lic
LD_LIBRARY_PATH=/opt/CA/CAlib:"${LD_LIBRARY_PATH}"

#Set RTHOME
RTHOME=/home/harvest/R71GA/pec
. $RTHOME/bin/rtinit.sh

CLASSPATH=/home/harvest/R71GA/harvest/JHSDK/lib/jhsdk.jar:$CLASSPATH

export HARVESTHOME PATH LD_LIBRARY_PATH CACRYPTINI CLASSPATH
```

Note: The values of all the above environment variables are just examples; your values will vary according to the installation path. Another way to accomplish this task is to add all the above environment variables into file.sh and execute the file.sh command from the .profile file.

Step 4: Register the Harvest Environment Variables

Log out and log in to register the environment variables. If the CA Clarity PPM server is already running, restart the CA Technologies Clarity Application (app) and the CA Technologies Clarity Background (bg) services. Do this from CA Clarity System Administration.

Step 5: Make the SD-Clarity Connector form available to Harvest CM Workbench users

You must make the *SD-Clarity Connector* form files available to all Harvest CM Workbench users through email, a shared network location, or some other method. Users can then copy the files to their local folders.

To use the *Service Desk Clarity Connector* lifecycle template and the *Service Desk Clarity Connector Request for Change* form, Harvest CM Workbench users must copy the following files to the Harvest Forms folder on their local computer:

- SD-Clarity Connector.htm
- SD-Clarity Connector.hfd
- castylesr1.css
- cssimages folder

Note: By default, the Harvest Forms folder is C:\Program Files\CA\AllFusion Harvest Change Manager\Forms.

Additional Setup Considerations

In addition to these Harvest setup procedures, complete the following tasks on Harvest:

- Define a Harvest project using the Harvest Administrator application.
- Create the Harvest project in CA Clarity PPM.

How to Execute CA Clarity PPM Administrative Tasks

Following are the administrative tasks in CA Clarity PPM that you need to complete to integrate CA Clarity PPM with Harvest and Service Desk.

Grant Harvest Project Access Rights to CA Clarity PPM Resources

If you are integrating CA Clarity PPM with AllFusion Harvest Change Manager, you must grant *Harvest Project* global access rights to each CA Clarity PPM resource that will be creating Harvest projects in CA Clarity PPM. There are four global access rights that you must grant to CA Clarity PPM resources for the resource to view the Harvest Project custom object in CA Clarity PPM, and to create Harvest projects in CA Clarity PPM.

You have already granted the necessary access rights for the initial CA Clarity PPM resources. As you add new CA Clarity PPM resources to CA Clarity PPM, you must grant them access rights to the Harvest Project custom object in CA Clarity PPM.

Note: If the CA Clarity PPM user is not associated to a CA Clarity PPM resource, first create the resource.

Note: Contact your CA Clarity PPM administrator or see the *Administration Guide* for more information.

To grant Harvest Project global access rights to resources

1. Enter the URL for CA Clarity PPM in a web browser.
2. Enter your CA Clarity PPM administrator username and password, and click Login.
The Home page appears.
3. Click the Administration Tool icon at the top right.
The *Administration Home* page appears.
4. Click Resources from the Organization and Access menu.
The *Resources* page appears.
5. Click the name of the resource to which you want to grant Harvest Project global access rights to resources.
The *Resource: Properties* page appears.
6. Click Global from the content menu, under Resource Access Rights.
The *Resource: Global Access Rights* page appears.
7. Click Add.
The *Select Access Rights* page appears.
8. Filter for the global access rights to grant to the resource:
 - a. In the Access Right Filter section, at Access Right, enter **harvest**.
 - b. Click Filter.
9. In the list, click the Select All icon to select all four access rights, and click Add.
The *Resource: Global Access Rights* page appears.
10. Click Exit.

Adding Incident Categories to CA Clarity PPM

If you add new change order categories associated with the *Create Clarity Work Request workflow* to Service Desk, you must also add a matching incident category in CA Clarity PPM. The name of the CA Clarity PPM incident category must be the same as the name of the change order category in Service Desk.

Creating CA Clarity PPM incident categories is basic CA Clarity PPM administration functionality.

Note: There is no intended association between CA Clarity PPM incidents and Service Desk incidents.

Note: Contact your CA Clarity PPM administrator or see the *Administration Guide* for more information.

Adding Resources to CA Clarity PPM

As resources are added to Service Desk and Harvest that need to be used by all products in the connector, you must add a matching resource in CA Clarity PPM. The CA Clarity PPM resource identification code (ID) must be the same as the ID of the resource in Service Desk and Harvest.

Note: For each CA Technologies product that you have connected using the connector, the resource and user IDs controlled by each product must use the same values. These values allow the products to correctly pass resource and user information. Consult with CA Technology Services if you require an automated synchronization process for resource and user IDs.

Note: Contact your CA Clarity PPM administrator or see the *Administration Guide* for more information.

About the CA Clarity PPM Process Engine and Job Scheduler

The following CA Clarity PPM add-ins both interface to Unicenter Service Desk as part of their functionality:

- Accelerator: Business Relationship Manager
- Connector: Unicenter Service Desk/Harvest

The interface depends on the CA Clarity PPM process engine and/or job scheduler. If you are using either of the add-ins and CA Clarity PPM is being run as a J2EE packaged application on WebLogic or WebSphere servers, configure both the CA Clarity PPM process engine and the job scheduler to run on the CA Clarity PPM background server.

Chapter 3: Installing and Configuring the Connector for CA Unicenter® Service Desk and CA Software Change Manager for Distributed with Service Desk

You can install and configure Unicenter Service Desk to support the connector among Service Desk, CA Clarity PPM, and Harvest.

This section contains the following topics:

[Notes about the Service Desk ITIL Interface](#) (see page 61)

[Install and Integrate Service Desk with CA Clarity PPM and Harvest](#) (see page 62)

Notes about the Service Desk ITIL Interface

Information Technology Infrastructure Library (ITIL) is a set of best practices for IT Service Management that has been evolving since 1989. It began as a set of processes for use by the UK government to improve IT Service Management, and has been adopted by the industry as a basis for successful IT Service Management. It is gaining worldwide acceptance as the standard for IT Service Management.

Using the configuration utility (pdm_configure.exe), Unicenter Service Desk can be configured with an ITIL interface. Selecting the Use ITIL Methodology checkbox during database initialization will produce an ITIL interface for your Unicenter Service Desk installation.

The ITIL Service Desk interface supports additional data objects not used in the standard out-of-the-box Unicenter Service Desk product. For example, Problem and Incident objects are supported in ITIL, and the term Asset is replaced with the term Configuration Item (CI) in ITIL.

The examples in this document use the ITIL terminology for objects - CI, Problems, and Incidents.

Note: Service Desk incidents are not supported with CA Clarity PPM and Harvest.

Install and Integrate Service Desk with CA Clarity PPM and Harvest

To install and integrate Service Desk with CA Clarity PPM and Harvest, you first install the r11.2 version of Service Desk, and integrate the product with CA Clarity PPM and Harvest.

To install and integrate Service Desk with CA Clarity PPM and Harvest

1. Install the r11.2 version of Service Desk.
2. Apply r11.2 software patches, if applicable.
3. After the installation successfully completes, open a command prompt window and specify the location of the \data directory within the Service Desk installation files. For example, C:\Program Files\CA\Service Desk\data.
4. Issue the following command:

```
pdm_load -f projex.dat
```

Note: To verify that all the data was loaded correctly, review the appendixes "Field Mappings" and "Verifying Service Desk Installation."

Chapter 4: Installing and Configuring the Connector for CA Unicenter® Service Desk and CA Software Change Manager for Distributed with Harvest

You can install and configure AllFusion Harvest Change Manager to support the connector among Service Desk, CA Clarity PPM, and Harvest. You can install the connector on Windows, UNIX, and Linux servers.

Important! All UNIX references refer to both UNIX and Linux, unless noted otherwise.

This section contains the following topics:

[Choose the Section for Your Environment](#) (see page 63)
[How to Install and Configure Harvest and Service Desk on Windows](#) (see page 64)
[How to Install and Configure Harvest and Service Desk on UNIX](#) (see page 68)
[How to Install and Configure Harvest on Windows and Service Desk on UNIX](#) (see page 75)
[How to Install and Configure Harvest on UNIX and Service Desk on Windows](#) (see page 81)
[Create a Key File](#) (see page 87)
[Add Entries to the Key File](#) (see page 88)
[Customize the bso.xml File](#) (see page 89)
[How to Create the Harvest Project from Lifecycle Template](#) (see page 93)
[How to Load the Form in to the Harvest Database](#) (see page 95)
[How the Form is Loaded in to Harweb](#) (see page 98)
[hcrypt, the Harvest Encryption Utility](#) (see page 101)
[hidmgr, the Harvest ID File Manager Utility](#) (see page 103)
[The bso.xml File](#) (see page 105)

Choose the Section for Your Environment

For instructions on how to install the connector, see the section for your environment:

- How to Install and Configure Harvest and Service Desk on Windows
- How to Install and Configure Harvest and Service Desk on UNIX
- How to Install and Configure Harvest on Windows and Service Desk on UNIX
- How to Install and Configure Harvest on UNIX and Service Desk on Windows

How to Install and Configure Harvest and Service Desk on Windows

The following process describes how to install and configure the connector when Harvest and Service Desk are installed on Windows servers.

Each step specifies whether the task applies to the Harvest-Windows server only or to the Service Desk-Windows server only. When a task mentions neither server specifically, the task applies to both servers.

1. Install and configure the connector's files.
2. Create a Harvest Project from Lifecycle Template.
3. Load the *SD-Clarity Connector* form into Harvest.
4. Load the *SD-Clarity Connector* form on each Harvest client.
5. If you are using the Harvest web interface (Harweb), in Harweb, load the *SD-Clarity Connector* form.

Before you start, complete the installation prerequisites for your environment.

Installation Prerequisites

Before you install the connector on Harvest, be sure to complete the following installation prerequisites.

1. Ensure that the following are installed and running:
 - Java SDK (JDK) 1.4.2_04, 1.4.2_05, 1.4.2_06, or 1.4.2_07
 - The Harvest client on the Harvest server
 - The Harvest client and the Service Desk application on the Service Desk server
2. Ensure that following are included in Windows PATH environment variable:
 - AllFusion Harvest Change Manager
 - Cryptography
 - JAVA_HOME\bin
 - PEC\bin

Note: If you modify Windows environment variables, you must reboot the server for the Service Desk service to recognize your changes.

Note: For information about Harvest and Service Desk installation requirements, including third party components, see your Harvest and Service Desk documentation.

Step 1: How to Install and Configure the Files

Note: If Service Desk is on a Windows server separate from the Harvest server, then perform this step on *both* servers.

Perform the following to install and configure the connector's files:

1. Extract the connector's files.
2. Create a Windows system environment variable.
3. Update the CA Change Management Integration Windows PATH environment variable.
4. Delete the hid.dfo file.
5. Using hcrypt, create the connector's key file.

Important! When Harvest and Service Desk are installed on two different Windows servers, ensure that you specify the same name for the connector's key file on *both* servers.

6. Use the hidmgr utility to add entries for Harvest and Service Desk to the connector's key file.
7. Customize the bso.xml file.

Extract the files

Extract the connector's files from the CMI_WINDOWS.zip file to your server program files\CA folder, for example, C:\Program Files\CA).

Create a Windows System Environment Variable

After creating the connector's Windows system environment variable, you must reboot the Service Desk-Windows server for the Service Desk service to recognize your changes.

To create the connector's Windows system environment variable

1. Create a Windows system environment variable named SD_CL_CNCTR_HOME.

Note: For instructions on how to create a Windows system environment variable, see your Windows documentation.

2. Ensure that this variable points to the directory in which you extracted the CMI_WINDOWS.zip file.

For example, if you extracted the CMI_WINDOWS.zip file in C:\Program Files\CA, then the value of SD_CL_CNCTR_HOME is C:\Program Files\CA\CMI.

3. Add %SD_CL_CNCTR_HOME%\bin to the PATH environment variable.

Delete the hid.dfo File

Important! Perform this step every time you re-install or reconfigure CA Change Management Integration.

Search %HARVESTHOME% for the hid.dfo file. If this file exists, delete it.

Key File

Use the hcrypt utility to create the connector's key file. This utility encrypts and decrypts information.

Add Entries to the Key File

Use the hidmgr to add, read, modify, and delete entries in the connector's key file. After you create this key file, add the required entries for Harvest and Service Desk to the file, once for Harvest and once for Service Desk.

Customize the bso.xml File

The bso.xml file is the connector's configuration file. Customize this file for your environment on *both* the Harvest-Windows and Service Desk-Windows servers.

Step 2: Create a Harvest Project from Lifecycle Template

Important! This section applies to the Harvest-Windows server only.

Create a Harvest project using the *Service Desk Clarity Connector* lifecycle template. This project template provides the necessary forms and processes to integrate Harvest with Service Desk and CA Clarity PPM.

Step 3: Load the Form into the Harvest Database

Load the *SD-Clarity Connector* form into the Harvest database and verify that it appears in the list of available forms in the Harvest Administrator application.

Step 4: Make the Form Available to Harvest CM Workbench Users

To use the *Service Desk Clarity Connector* lifecycle template and the *Service Desk Clarity Connector Request for Change* form, Harvest CM Workbench users must copy the following files to the Harvest Forms folder on their local computer:

- SD-Clarity Connector.htm
- SD-Clarity Connector.hfd
- castylesr1.css
- cssimages folder

Note: The Harvest CM Workbench is provided for Harvest clients on Windows servers *only*.

By default, the Harvest Forms folder is C:\Program Files\CA\AllFusion Harvest Change Manager\Forms.

Harvest administrators must make these files available to all Harvest CM Workbench users through email, a shared network location, or some other method. Users can then copy the files to their local folders.

Step 5: Load the Form into Harweb

Important! If your environment uses Harweb, do the following on the Harweb server; otherwise, skip this step.

To use the *Service Desk Clarity Connector* lifecycle template and the *Service Desk Clarity Connector Request for Change* form, you must load the *SD-Clarity Connector* form into Harweb.

How to Install and Configure Harvest and Service Desk on UNIX

The following procedures show you how to install and configure the connector when Harvest and Service Desk are on UNIX servers. This section applies whether Harvest and Service Desk are installed on the same UNIX server or on two different UNIX servers; differences between the two procedures are explained when necessary.

Each step specifies whether the task applies to the Harvest-UNIX server *only* or to the Service Desk-UNIX server *only*. When a task mentions neither server specifically, the task applies to *both* servers.

1. Install and configure the files.
2. Create a Harvest Project from Lifecycle Template.
3. Load the form into the Harvest database.
4. Load the form onto each Harvest client.
5. If you are using the Harvest web interface (Harweb), in Harweb, load the form.

Before you start, complete the installation prerequisites for your environment.

Installation Prerequisites

Before you install the connector on Harvest, be sure to complete the following installation prerequisites.

1. Ensure that the following are installed and running:
 - Java SDK (JDK) 1.4.2_04, 1.4.2_05, 1.4.2_06, or 1.4.2_07
 - The Harvest client on the Harvest server
 - The Harvest client and the Service Desk application on the Service Desk server
 - The bash shell
2. Ensure that JAVA_HOME/bin is included in the PATH.

Note: For information about Harvest and Service Desk installation requirements, including third party components, see your Harvest and Service Desk documentation.

Step 1: How to Install and Configure the Files

Perform the following to install and configure the connector's files:

1. Extract the connector's files.
2. On the Service Desk-UNIX server, update the system profile (/etc/profile).
3. On the Service Desk-UNIX server, set the environment variables.
4. On the Service Desk-UNIX server, restart the Service Desk daemons.
5. On the Harvest-UNIX server, update the user profile (.profile file).
6. On the Harvest-UNIX server, restart the Harvest broker.
7. Delete the hid.dfo file.
8. Use hcrypt to create the connector's key file.
9. Use the hidmgr utility to add entries for Harvest and Service Desk to the key file.
10. Customize the bso.xml file.

Extract the Files

To extract the connector files

1. Extract the connector from the CMI_UNIX.tar file to an accessible location, for example, /home.

The CMI directory is created in that location.
2. Change to the /home directory in the shell. Issue the following at the command prompt:

`chmod -R 755 CMI`

Update the System Profile

Important! If Harvest and Service Desk are installed on the same UNIX server, perform these steps. However, if Harvest and Service Desk are installed on two different UNIX servers, perform these steps on the Service Desk-UNIX server only.

To update the system profile (/etc/profile)

1. Add the following lines to the system profile:

```
SD_CL_CNCTR_HOME=<complete path name of the CMI directory>
Add $SD_CL_CNCTR_HOME/bin to the PATH environment variable
Export PATH, SD_CL_CNCTR_HOME
```

For example, if you installed CMI_UNIX.tar to the /home directory, add the following lines to the system profile:

```
SD_CL_CNCTR_HOME= /home/CMI
PATH="${PATH}":$SD_CL_CNCTR_HOME/bin
export PATH SD_CL_CNCTR_HOME
```

2. If the Service Desk privileged user is running the C or Trusted C shells, make the corresponding changes to /etc/.login as well:

```
setenv SD_CL_CNCTR_HOME <complete path name of the CMI directory>
```

3. Ensure that /etc/profile is executed. If you use su, run /etc/profile explicitly as follows:

```
. /etc/profile
```

Set the Environment Variables

Important! If Harvest and Service Desk are installed on the same UNIX server, perform these steps. However, if Harvest and Service Desk are installed on two different UNIX servers, perform these steps on the Service Desk-UNIX server only.

Set the environment variables that are described in \$SD_CL_CNCTR_HOME/bin/env.sh. For help, see the \$SD_CL_CNCTR_HOME/bin/env_template.sh file.

Restart the Service Desk Daemons

Important! If Harvest and Service Desk are installed on the same UNIX server, perform these steps. However, if Harvest and Service Desk are installed on two different UNIX servers, perform these steps on the Service Desk-UNIX server only.

You must restart the Service Desk daemons for the Service Desk service to recognize your environment variable changes.

To restart the Service Desk daemons on the Service Desk-UNIX server

1. Exit your UNIX session.
2. Log in to UNIX again as the Service Desk privileged user.
3. Verify if `SD_CL_CNCTR_HOME` is set correctly by executing the following at the command prompt:

```
env SD_CL_CNCTR_HOME.
```
4. As the root user, stop the Service Desk daemons by executing the following at the command prompt:

```
pdm_halt
```
5. As the Service Desk privileged user, start the Service Desk daemons by executing the following at the command prompt:

```
pdm_init
```

Update the User Profile

Important! If Harvest and Service Desk are installed on the same UNIX server, perform this step. However, if Harvest and Service Desk are installed on two different UNIX servers, perform these steps on the Harvest-UNIX server only.

To update the user profile (.profile file)

1. Add the following lines to the user profile (.profile file) where the Harvest broker is running:

Note: If Harvest and Service Desk are running on the same server and the Harvest broker is running in root, then skip this step.

```
SD_CL_CNCTR_HOME=<complete path name of the CMI directory>
Add $SD_CL_CNCTR_HOME/bin to the PATH environment variable
Export PATH,SD_CL_CNCTR_HOME
```

For example, if you installed CMI_UNIX.tar to the /home directory, add the following lines to the system profile:

```
SD_CL_CNCTR_HOME= /home/CMI
PATH="${PATH}":$SD_CL_CNCTR_HOME/bin
export PATH SD_CL_CNCTR_HOME
```

2. Ensure that system profile is executed. If you use su, run .profile explicitly as follows:

```
. ~/.profile
```

Restart the Harvest Broker

Important! If Harvest and Service Desk are installed on the same UNIX server, perform this step. However, if Harvest and Service Desk are installed on two different UNIX servers, perform these steps on the Harvest-UNIX server only.

You must restart the Harvest broker for the environment variable changes to be recognized by Harvest.

To restart the Harvest broker on the Harvest-UNIX server

1. Start the command prompt and enter the following command:

```
bkrd -shutdown
```

2. Restart the broker. To do this, execute the following command:

```
bkrd
```

Delete the hid.dfo File

Important! Perform this step every time you re-install or reconfigure CA Change Management Integration.

Search \$HARVESTHOME for the hid.dfo file. If this file exists, delete it.

Key File

Use the hcrypt utility to create the connector's key file. This utility encrypts and decrypts information.

Add Entries to the Key File

Use the hidmgr to add, read, modify, and delete entries in the connector's key file. After creating this key file, add the required entries for Harvest and Service Desk to the file, by following these steps, once for Harvest and once for Service Desk.

Customize the bso.xml File

The bso.xml file is the connector's configuration file. Customize this file for your environment on *both* the Harvest-UNIX and Service Desk-UNIX servers.

Step 2: Create a Harvest Project from Lifecycle Template

Important! Perform this step on the Harvest-UNIX server only.

Create a Harvest project using the *Service Desk Clarity Connector* lifecycle template. This project template provides the necessary forms and processes to integrate Harvest with Service Desk and CA Clarity PPM.

Step 3: Load the Form into the Harvest Database

Important! Perform this step on the Harvest-UNIX server only.

Load the *SD-Clarity Connector* form into the Harvest database and verify that it appears in the list of available forms in the Harvest Administrator application.

Step 4: Make the Form Available to Harvest CM Workbench Users

To use the *Service Desk Clarity Connector* lifecycle template and the *Service Desk Clarity Connector Request for Change* form, Harvest CM Workbench users must copy the following files to the Harvest Forms folder on their local computer:

- SD-Clarity Connector.htm
- SD-Clarity Connector.hfd
- castylesr1.css
- cssimages folder

Note: The Harvest CM Workbench is provided for Harvest clients on Windows servers *only*.

By default, the Harvest Forms folder is C:\Program Files\CA\AllFusion Harvest Change Manager\Forms.

Harvest administrators must make these files available to all Harvest CM Workbench users through email, a shared network location, or some other method. Users can then copy the files to their local folders.

Step 5: Load the Form into Harweb

Important! If your environment uses Harweb, do the following on the Harweb server; otherwise, skip this step.

To use the *Service Desk Clarity Connector* lifecycle template and the *Service Desk Clarity Connector Request for Change* form, you must load the *SD-Clarity Connector* form into Harweb.

How to Install and Configure Harvest on Windows and Service Desk on UNIX

The following procedures show you how to install and configure the connector when Harvest is on a Windows server and Service Desk is on a UNIX server.

Each step specifies whether the task applies to the Harvest-Windows server *only* or to the Service Desk-UNIX server *only*. When a task mentions neither server specifically, the task applies to *both* servers.

1. Install and configure the files.
2. Create a *Harvest Project from Lifecycle Template*.
3. Load the *Service Desk Clarity Connector* form into the Harvest database.
4. Load the *Service Desk Clarity Connector* form on each Harvest client.
5. If you are using the Harvest web interface (Harweb), in Harweb, load the *Service Desk Clarity Connector* form.

Before you start, complete the installation prerequisites for your environment.

Installation Prerequisites

Before you install the connector on Harvest, be sure to complete the following installation prerequisites.

On the Harvest-Windows server

1. Ensure that the following are installed and running:
 - Java SDK (JDK) 1.4.2_04, 1.4.2_05, 1.4.2_06, or 1.4.2_07
 - The Harvest client and Harvest server
2. Ensure that the following are included in the PATH environment variable:
 - AllFusion Harvest Change Manager
 - Cryptography
 - JAVA_HOME\bin
 - PEC\bin

On the Service Desk-UNIX server

1. Ensure that the following are installed and running:
 - Java SDK (JDK) 1.4.2_04, 1.4.2_05, 1.4.2_06, or 1.4.2_07
 - The Harvest client and Service Desk
 - The bash shell
2. Ensure that JAVA_HOME/bin is included in the PATH environment variable.

Note: For information about Harvest and Service Desk installation requirements, including third party components, see your Harvest and Service Desk documentation.

Step 1: How to Install and Configure the Files

Perform the following procedures to install and configure the connector's files:

1. [Extract the connector's files](#) (see page 77).
2. [Create a Windows system environment variable on the Harvest-Windows server](#) (see page 78).
3. [Update the system profile](#) (see page 78).
4. [Set the environment variables](#) (see page 78).
5. [Restart the Service Desk daemons](#) (see page 79).
6. [Delete the hid.dfo file](#) (see page 79).
7. [Create the key file](#) (see page 79).
8. [Add entries to the key file](#) (see page 79).
9. [Customize the bso.xml file](#) (see page 80).

Extract the files

To extract the connector's files on the Harvest-Windows server

Extract the files from the CMI_WINDOWS.zip file to the program files\CA folder on your server. For example, C:\Program Files\CA.

To extract the connector's files on the Service Desk-UNIX server

1. Extract the files from the CMI_UNIX.tar file to an accessible location, for example, /home.

The CMI directory is created in that location.

Change to the /home directory in the shell.

2. At the command prompt, execute the following command:

```
chmod -R 755 CMI
```

Create a Windows System Environment Variable

Important! Perform this step on the Harvest-Windows server only.

To create the connector's Windows system environment variable

1. Create a Windows system environment variable named SD_CL_CNCTR_HOME.

Note: For instructions on how to create a Windows system environment variable, see your Windows documentation.

2. Ensure that this new variable points to the directory in which you extracted the CMI_WINDOWS.zip file.

For example, if you extracted the CMI_WINDOWS.zip file in C:\Program Files\CA, then the value of SD_CL_CNCTR_HOME is C:\Program Files\CA\CMI.

3. Add %SD_CL_CNCTR_HOME%\bin to the PATH environment variable.

Update the System Profile

Important! Perform this step on the Service Desk-UNIX server only.

To update the system profile (/etc/profile)

1. Add the following lines to the system profile:

```
SD_CL_CNCTR_HOME=<complete path name of the CMI directory>
Add $SD_CL_CNCTR_HOME/bin to the PATH environment variable
Export PATH, SD_CL_CNCTR_HOME
```

For example, if you installed CMI_UNIX.tar to the /home directory, add the following lines to the system profile:

```
SD_CL_CNCTR_HOME= /home/CMI
PATH="${PATH}":$SD_CL_CNCTR_HOME/bin
export PATH SD_CL_CNCTR_HOME
```

2. If the Service Desk privileged user is running the C or Trusted C shells, make the corresponding changes to /etc/.login as well:

```
setenv SD_CL_CNCTR_HOME <complete path name of the CMI directory>
```

3. Ensure that /etc/profile is executed. If you use su, run /etc/profile explicitly as follows:

```
. /etc/profile
```

Set the Environment Variables

Important! Perform this step on the Service Desk-UNIX server only.

Set the environment variables that are described in \$SD_CL_CNCTR_HOME/bin/env.sh. For help, see the \$SD_CL_CNCTR_HOME/bin/env_template.sh file.

Restart the Service Desk Daemons

After setting the connector's Windows system environment variable, you must restart the Service Desk daemons for the Service Desk service to recognize the environment variable changes.

Important! Perform this step on the Service Desk-UNIX server only.

To restart the Service Desk daemons on the Service Desk-UNIX server

1. Exit your UNIX session.
2. Log in to UNIX again as the Service Desk privileged user.
3. Verify if SD_CL_CNCTR_HOME is set correctly. At the command prompt, execute the following command:

`env SD_CL_CNCTR_HOME.`
4. As the root user, stop the Service Desk daemons. At the command prompt, execute the following command:

`pdm_halt`
5. As the Service Desk privileged user, start the Service Desk daemons. At the command prompt, execute the following command:

`pdm_init`

Delete the hid.dfo File

Important! Perform this step every time you re-install or reconfigure CA Change Management Integration.

Search the HARVESTHOME directory for the hid.dfo file. If this file exists, delete it.

Create the Key File

Important! You must specify the same name for the key file on both the Harvest and Service Desk servers.

On *both* the Harvest-Windows and Service Desk-UNIX servers, use `hcrypt` to create the connector's key file. This utility encrypts and decrypts information.

Add Entries to the Key File

Use the `hidmgr` to add, read, modify, and delete entries in the connector's key file. On *both* the Harvest and Service Desk servers, after creating this key file, add the required entries for Harvest and Service Desk to the file, once for Harvest and once for Service Desk.

Customize the bso.xml File

The bso.xml file is the CA Change Management Integration configuration file. Customize this file for your environment on *both* the Harvest and Service Desk servers.

Step 2: Create a Harvest Project from Lifecycle Template

Important! Perform this step on the Harvest-Windows server only.

Create a Harvest project using the *Service Desk Clarity Connector* lifecycle template. This project template provides the necessary forms and processes to integrate Harvest with Service Desk and CA Clarity PPM.

Step 3: Load the Form into the Harvest Database

Important! Perform this step on the Harvest-Windows server only.

Load the *SD-Clarity Connector* form into the Harvest database and verify that it appears in the list of available forms in the Harvest Administrator application.

Step 4: Make the Form Available to Harvest CM Workbench Users

To use the *Service Desk Clarity Connector* lifecycle template and the *Service Desk Clarity Connector Request for Change* form, Harvest CM Workbench users must copy the following files to the Harvest Forms folder on their local computer:

- SD-Clarity Connector.htm
- SD-Clarity Connector.hfd
- castylesr1.css
- cssimages folder

Note: The Harvest CM Workbench is provided for Harvest clients on Windows servers *only*.

By default, the Harvest Forms folder is C:\Program Files\CA\AllFusion Harvest Change Manager\Forms.

Harvest administrators must make these files available to all Harvest CM Workbench users through email, a shared network location, or some other method. Users can then copy the files to their local folders.

Step 5: Load the Form into Harweb

Important! If your environment uses Harweb, do the following on the Harweb server; otherwise, skip this step.

To use the *Service Desk Clarity Connector* lifecycle template and the *Service Desk Clarity Connector Request for Change* form, you must load the *SD-Clarity Connector* form into Harweb.

How to Install and Configure Harvest on UNIX and Service Desk on Windows

The following procedures show you how to install and configure the connector when Harvest is on a Windows server and Service Desk is on a UNIX server.

Each step specifies whether the task applies to the Service Desk-Windows server *only* or to the Harvest-UNIX server *only*. When a task mentions neither server specifically, the task applies to *both* servers.

1. Install and configure the connector's files.
2. Create a *Harvest Project from Lifecycle Template*.
3. Load the *Service Desk Clarity Connector* form into the Harvest database.
4. Load the *Service Desk Clarity Connector* form on each Harvest client.
5. If your environment uses the Harvest web interface (Harweb), in Harweb, load the *Service Desk Clarity Connector* form.

Before you start, complete the installation prerequisites for your environment.

Installation Prerequisites

Before you install the connector on Harvest, be sure to complete the installation prerequisites.

On the Service Desk-Windows server

1. Ensure that the following are installed and running on the Service Desk-Windows server:
 - Java SDK (JDK) 1.4.2_04, 1.4.2_05, 1.4.2_06, or 1.4.2_07
 - The Harvest client
 - Service Desk
2. Ensure that following are included in the PATH environment variable on the Service Desk-Windows server:
 - AllFusion Harvest Change Manager
 - Cryptography
 - JAVA_HOME\bin
 - PEC\bin

On the Harvest-UNIX server

1. Ensure that the following are installed and running:
 - Java SDK (JDK) 1.4.2_04, 1.4.2_05, 1.4.2_06, or 1.4.2_07
 - The Harvest server and Harvest client
 - The bash shell
2. Ensure that JAVA_HOME/bin is included in the PATH environment variable.

Note: For information about Harvest and Service Desk installation requirements, including third party components, see your Harvest and Service Desk documentation.

Step 1: How to Install and Configure the Files

Perform the following procedures to install and configure the connector's files:

1. Extract the connector's files.
2. On the Service Desk-Windows server, create a Windows system environment variable.
3. On the Harvest-UNIX server, update the user profile (.profile file).
4. On the Harvest-UNIX server, restart the Harvest broker.
5. Delete the hid.dfo file.
6. Using the hcrypt utility, create the connector's key file.

Important! You must specify the same name for the key file on both the Harvest and Service Desk servers.

7. Use the hidmgr to add entries for Harvest and Service Desk to the key file.
8. Customize the bso.xml file.

Extract the files

To extract the connector's files on the Service Desk-Windows server

Extract the files from the CMI_WINDOWS.zip file to the program files\CA folder on your server, for example, C: \Program Files\CA.

To extract the connector's files on the Harvest-UNIX server

1. Extract the connector's files from the CMI_UNIX.tar file to an accessible location, for example, /home.

The CMI directory is created in that location.

2. Change to the /home directory in the shell.
3. Issue the following at the command prompt:

```
chmod -R 755 CMI
```

Create a Windows System Environment Variable

Important! Perform the following on the Service Desk-Windows server only.

You must reboot the Service Desk-Windows server after you create the connector's Windows system environment variable for the Service Desk service to recognize the changes.

To create the connector's Windows system environment variable

1. Create a Windows system environment variable named SD_CL_CNCTR_HOME.

Note: For instructions on how to create a Windows system environment variable, see your Windows documentation.

2. Ensure that this new variable points to the directory in which you extracted the CMI_WINDOWS.zip file.

For example, if you extracted the CMI_WINDOWS.zip file in C:\Program Files\CA, then the value of SD_CL_CNCTR_HOME is C:\Program Files\CA\CMI.

3. Add %SD_CL_CNCTR_HOME%\bin to the PATH environment variable.

Update the User Profile

Important! Perform the following on the Harvest-UNIX server only.

To update the user profile (.profile file)

1. Add the following lines to the user profile (.profile file) where the Harvest broker is running:

```
SD_CL_CNCTR_HOME=<complete pathname of the CMI directory>
```

```
Add $SD_CL_CNCTR_HOME/bin to the PATH environment variable
```

```
Export PATH,SD_CL_CNCTR_HOME
```

For example, if you installed CMI_UNIX.tar to the /home directory, add the following lines to the system profile:

```
SD_CL_CNCTR_HOME= /home/CMI
```

```
PATH="${PATH}":$SD_CL_CNCTR_HOME/bin
```

```
export PATH SD_CL_CNCTR_HOME
```

2. Ensure that the system profile is executed. If you use su, run .profile explicitly as follows:

```
. ~/.profile
```

Restart the Harvest Broker

Important! Do the following on the Harvest-UNIX server only.

You must restart the Harvest broker for the environment variable changes to be recognized by Harvest.

To restart the Harvest broker on the Harvest-UNIX server

1. Start the command prompt.
2. Execute the following command:
`bkrd -shutdown`
3. Restart the broker. To do this, execute the following command:
`bkrd`

Delete the hid.dfo File

Important! Perform this step every time you re-install or reconfigure CA Change Management Integration.

Search the HARVESTHOME directory for the hid.dfo file. If this file exists, delete it.

Create the Key File

On *both* the Harvest and Service Desk servers, use `hcrypt` to create the connector's key file. This utility encrypts and decrypts information.

Add Entries to the Key File

Use the `hidmgr` to add, read, modify, and delete entries in the connector's key file. After you create this key file, on both the Harvest-UNIX server and the Service Desk-Windows server, add the required entries for Harvest and Service Desk to the file, once for Harvest and once for Service Desk.

Customize the bso.xml File

The `bso.xml` file is the CA Change Management Integration configuration file. Customize this file for your environment on *both* the Harvest and Service Desk servers.

Step 2: Create a Harvest Project from Lifecycle Template

Important! Perform this step on the Harvest-UNIX server only.

Create a Harvest project using the *Service Desk Clarity Connector* lifecycle template. This project template provides the necessary forms and processes to integrate Harvest with Service Desk and CA Clarity PPM.

Step 3: Load the Form into the Harvest Database

Important! Perform this step on the Harvest-UNIX server only.

Load the *SD-Clarity Connector* form into the Harvest database and verify that it appears in the list of available forms in the Harvest Administrator application.

Step 4: Make the Form Available to Harvest CM Workbench Users

To use the *Service Desk Clarity Connector* lifecycle template and the *Service Desk Clarity Connector Request for Change* form, Harvest CM Workbench users must copy the following files to the Harvest Forms folder on their local computer:

- SD-Clarity Connector.htm
- SD-Clarity Connector.hfd
- castylesr1.css
- cssimages folder

Note: The Harvest CM Workbench is provided for Harvest clients on Windows servers *only*.

By default, the Harvest Forms folder is C:\Program Files\CA\AllFusion Harvest Change Manager\Forms.

Harvest administrators must make these files available to all Harvest CM Workbench users through email, a shared network location, or some other method. Users can then copy the files to their local folders.

Step 5: Load the Form into Harweb

Important! If your environment uses Harweb, do the following on the Harweb server; otherwise, skip this step.

To use the *Service Desk Clarity Connector* lifecycle template and the *Service Desk Clarity Connector Request for Change* form, you must load the *SD-Clarity Connector* form into Harweb.

Create a Key File

Use the `hcrypt` utility to create the connector's key file. This utility encrypts and decrypts information.

To create and store the connector's key file

1. Start the command prompt.
2. Execute the following command, specifying the file name of your choice:

```
hcrypt -g -k <complete pathname>
```

Example:

```
hcrypt -g -k sd_cl_cnctr.key
```

3. Copy this key file to the key folder.
 - On UNIX, copy this file to the `$SD_CL_CNCTR_HOME/key` folder.
 - On Windows, copy this file to the `%SD_CL_CNCTR_HOME%\key` folder.

Add Entries to the Key File

Use the hidmgr to add, read, modify, and delete entries in the connector's key file. Add the required entries for Harvest and Service Desk to the file, once for Harvest and once for Service Desk.

To add entries to the connector's key file

1. Start the command prompt.
2. Start the hidmgr. Execute the following command, using the complete path name of the key file you created:

```
hidmgr <key file>
```

Windows Example:

```
hidmgr c:\program files\ca\cmi\key\sd_cl_cnctr.key
```

UNIX Example:

```
hidmgr /home/CMI/key/sd_cl_cnctr.key
```

The hidmgr menu options appear.

3. Select option 1 - Add an entry.
4. Enter the value for each of the following at the utility prompt:
 - Computer name

Important! For Service Desk, specify the computer name in URL format: `http://<computer name>:< port>`; for example, <http://computer55:8080>.
 - Product name (HARVEST or SERVICE DESK)
 - User ID (user name) for this product on the computer name you specified when prompted earlier
 - Password (for this user name)

Note: Record these values so that you can supply them correctly when customizing the bso.xml file.

Customize the bso.xml File

The bso.xml file is the connector's configuration file. To customize this file for your environment, follow these steps on *both* the Harvest and Service Desk servers.

To customize the bso.xml file for your environment

- Using a text editor, open the bso.xml file.
 - On Windows, this file is typically located in the %SD_CL_CNCTR_HOME%\config folder.
 - On UNIX, this file is typically located in the \$SD_CL_CNCTR_HOME/bin directory.
- Under the sti:general element, provide values for the following elements:
- Note:** If the path name contains a space, use ~ symbols. For example, if the path is C:\Program Files\CA\CMI, specify the path as follows:

"C:\PROGRA~1\CA\CMI"

sti:keyfile

Specify the complete path of the connector's key file.

Windows Example:

```
<sti:keyfile>
C:\PROGRA~1\CA\CMI\key\allfusion.key
</sti:keyfile>
```

UNIX Example:

```
<sti:keyfile>
/home/CMI/key/allfusion.key
</sti:keyfile>
```

sti:idmanagerpgm

Specify the complete path of the hidmgr.

On Windows, this file is typically located in the %SD_CL_CNCTR_HOME%\bin folder.

On UNIX, this file is typically located in the \$SD_CL_CNCTR_HOME/bin directory.

Windows Example:

```
<sti:idmanagerpgm>
c:\PROGRA~1\CA\CMI\bin\hidmgr.exe
</sti:idmanagerpgm>
```

UNIX Example:

```
<sti:idmanagerpgm>
/home/CMI/bin/hidmgr
</sti:idmanagerpgm>
```

- **sti:timezone**—specify the time zone of the Service Desk server, relative to GMT.

Example:

If the time zone is GMT+5:30, specify the following:

```
<sti:timezone>GMT+5:30</sti:timezone>
```

sti:dateformat

Specify the date format; the default value is dd/MM/yyyy HH:mm:ss aaa.

The following table contains examples of other date and time formats:

Date and Time Pattern	Example
"yyyy.MM.dd G 'at' HH:mm:ss z"	2001.07.04 AD at 12:08:56 PDT
"EEE, MM dd, ' ' yy"	Wed, Jul 4, '01
"h:mm a"	12:08 PM
"hh 'o' 'clock' a, zzzz"	12 o'clock PM, Pacific Daylight Time
"K:mm a, z"	0:08 PM, PDT
"yyyyy.MMMMM.dd GGG hh:mm aaa"	02001.July.04 AD 12:08 PM
"EEE, d MMM yyyy HH:mm:s Z"	Wed, 4 Jul 2001 1208:56 -0700
"yyMMddHHmmssZ"	010704120856-0700

Example:

```
<sti:dateformat>dd/MM/yyyy HH:mm:ss aaa</sti:dateformat>
```

4. Under the harvest element, provide values for the following elements:

sti:product

Specify the product name. The default is HARVEST. Specify the *same* product name used in the connector's key file for the Harvest broker.

Example:

```
<sti:product>HARVEST</sti:product>
```

sti:state

Specify the initial lifecycle state of the Harvest project.

Example:

```
<sti:state>Plan</sti:state>
```

sti:process

Specify the process name (harvest).

Example:

```
<sti:process>Create RFC</sti:process>
```

sti:user

Specify the harvest user name.

Example:

```
<sti:user>harvest</sti:user>
```

5. Under the uspsd element, provide values for the following elements:

- **sti:product**—Specify the product name; the default is USPSD. Specify the *same* product name used in the connector's key file for Service Desk.

Example:

```
<sti:product>USPSD</sti:product>
```

- **sti:server**—specify the Service Desk server name and port in the following format: *http://server-name:port-number*. Specify the *same* server name used in the connector's key file for Service Desk, including the URL format.

Example:

```
<sti:server> http://localhost:8080 </sti:server>
```

- **sti:wsdl**—specify the URL for the web service description language (wsdl), one of the services used by Service Desk.

Example:

```
<sti:wsdl> http://localhost:8080/axis/services/USD\_R11\_WebService?wsdl
</sti:wsdl>
```

- **sti:osuser**—specify the Service Desk user name. Specify the *same* user name used in the connector's key file for Service Desk.

Example:

```
<sti:osuser>ServiceDesk</sti:osuser>
```

- **sti:chgobj**—specify chg as the chgobj.

Example:

```
<sti:chgobj>chg</sti:chgobj>
```

- **sti:cntobj**—specify cnt as the cntobj.

Example:

```
<sti:cntobj>cnt</sti:cntobj>
```

- **sti:workflowobj**—specify wf as the workflowobj.

Example:

```
<sti:workflowobj>wf</sti:workflowobj>
```

- **sti:chgstatusobj**—specify chgstat as the chgstatusobj.

Example:

```
<sti:chgstatusobj>chgstat</sti:chgstatusobj>
```

- **sti:taskstatusobj**—specify tskstat as the taskstatusobj.

Example:

```
<sti:taskstatusobj>tskstat</sti:taskstatusobj>
```

6. Under the workflow element, provide values for following elements:

- **sti:createpackage**—specify Y (Yes, create package) to create the package, or N (No, do not create package) to not create the package.

Example:

```
<sti:createpackage>Y</sti:createpackage>
```

- **sti:createform**—specify Y (Yes, create form) to create the form, or N (No, do not create form) to not create the form.

Example:

```
<sti:createform>Y</sti:createform>
```

- **sti:packageprefix**—specify the package prefix.

Example:

```
<sti:packageprefix>pck</sti:packageprefix>
```

- **sti:packagesuffix**—specify the package suffix.

Example:

```
<sti:packagesuffix>pck</sti:packagesuffix>
```

7. If you want to change table name/column names in the form sql script file (SD_CL_CONNECTOR_INGRES.sql, SD_CL_CONNECTOR_ORACLE.sql, SD_CL_CONNECTOR_SQLSERVER.sql), then change the HARVESTFORM element in the bso.xml file.

8. If you customize the Harvest project, modify the following elements in the bso.xml file:
 - Specify the initial lifecycle state (of the Harvest project) in the state element under the harvest element.
 - Specify the process name (harvest) in the process element under the harvest element.

Example:

```
<sti:harvest>
  <sti:product>HARVEST</sti:product>
  <sti:state>Plan</sti:state>
  <sti:process>Create RFC</sti:process>
  <sti:user>harvest</sti:user>
</sti:harvest>
```

How to Create the Harvest Project from Lifecycle Template

Create the Harvest project using the *Service Desk Clarity Connector* lifecycle template. This project template provides the necessary forms and processes to integrate Harvest with Service Desk and CA Clarity PPM. You can do this from your Harvest server or from the Harvest client application.

- Establish the association between Harvest and Service Desk by creating a Harvest project.
- As the Service Desk analyst, define the Harvest project in Service Desk by creating a Service Desk project CI and entering the name of this Harvest project in the Harvest Project field.

Create a Harvest Project on Harvest Server on UNIX or Windows

To create the Harvest project from the *Service Desk Clarity Connector lifecycle* template on a Harvest client/server

1. Start the command prompt.
2. Change the directory. Issue the following command:

- For Unix, \$SD_CL_CNCTR_HOME/config
- For Windows, %SD_CL_CNCTR_HOME%\config

3. Execute the following command:

```
himpenv -b [broker name] -usr [harvest user name]  
-pw [harvest password] -f sd_cl_connector.har -oa test.log -wts
```

Example:

```
himpenv -b hqatest5-2003 -usr harvest -pw harvest -f  
sd_cl_connector.har -oa test.log -wts
```

4. Check the log file for a message that himpenv was executed successfully.

Create a Harvest Project on Harvest Client Application

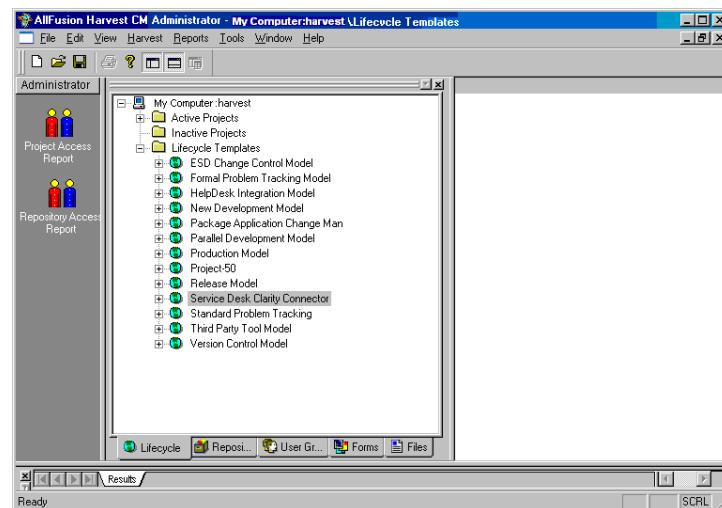
To create the Harvest project from the *Service Desk Clarity Connector lifecycle* template on a Harvest client application

1. Start Harvest and log in to the Harvest Administrator application. In the login dialog, enter your Harvest user name, password, and broker name.

The Harvest Administrator application GUI appears.

2. In the tree under your broker name, click Lifecycle Templates.

All lifecycle templates display as follows:



3. Locate the *Service Desk Clarity Connector* lifecycle template, right-click it, and select Copy To.

The Copy Project dialog appears.

4. Enter the name of the new Harvest project you want to create, and select Active Projects from Copy to combo box.

On the Copy Project dialog, ensure that:

- Active Projects is chosen as the location to which to copy
- Duplicate Access Control is selected
- Create User Group is cleared

5. Click OK.

The new project appears in Active Project list.

How to Load the Form in to the Harvest Database

This section explains how to perform the following on UNIX and Windows platforms:

- Load the *Service Desk Clarity Connector (SD-Clarity Connector) Request for Change* form into the Harvest database.
- Verify that the form appears in the list of available forms in the Harvest Administrator application.

Load and Verify the Form for UNIX

To load the form into the Harvest database on the Harvest-UNIX server

1. Ensure that the Harvest database is running, and connect to it.
2. Start the command prompt.
3. If the Harvest database is running on Oracle, do this step; otherwise skip it.

Run the SD_CL_CONNECTOR_ORACLE.sql script file by entering the following command:

```
sqlplus <harvest db user name>/<harvest db password>@<SID>  
@<file name>
```

Example:

```
sqlplus harvest/harvest@orcl @  
"/opt/CA/CMI/config/SD_CL_CONNECTOR_ORACLE.sql"
```

4. If the Harvest database is running on Ingres, do this step; otherwise skip it.

Run the SD_CL_CONNECTOR_INGRES.sql script file by entering the following command at the command prompt:

```
Sql -u<user> -G<group name> <database name> <'sqlfile'>
```

Example:

If the database user is harvest and the group is harvest, execute the following command:

```
Sql -uharvest -Gharvest_group mdb  
<"/opt/CA/CMI/config/SD_CL_CONNECTOR_INGRES.sql"
```

To verify that the form was loaded into the Harvest database correctly

1. Log in to Harvest Administrator, and connect to the Harvest broker for your UNIX server.
2. Copy the following from the c:\Program Files\CA\CMI\config folder of the connector to the %HARVESTHOME%\FORMS folder of the Harvest client:
 - SD-Clarity Connector.htm
 - SD-Clarity Connector.hfd
 - castylesr1.css
 - cssimages folder
 - Log in to the Harvest Administrator application.
3. Select the Forms tab and verify that the *SD-Clarity Connector* form appears in the list of available forms.

Load and Verify the Form for Windows

To load the form into the Harvest database on the Harvest-Windows server

1. Ensure that the Harvest database is running, and connect to it.
2. Start the command prompt.
3. If the Harvest database is running on Oracle, do this step; otherwise skip it.

Run the SD_CL_CONNECTOR_ORACLE.sql script file by executing the following command at the command prompt:

```
sqlplus <harvest db user name>/<harvest db password>@<SID>  
@<file name>
```

Example:

```
sqlplus harvest/harvest@orcl @  
"C:\Program Files\CA\CMI\config\SD_CL_CONNECTOR_ORACLE.sql"
```

4. If the Harvest database is running on SQL Server and if you are using the *default instance* of SQL Server, do this step; otherwise skip it.

Run the SD_CL_CONNECTOR_SQLSERVER.sql script file by executing the following command at the command prompt:

```
osql -E -d mdb -i <file name> -o output.log
```

Example:

```
osql -E -d mdb -i  
"C:\Program Files\CA\CMI \config\SD_CL_CONNECTOR_SQLSERVER.sql"  
-o output.log
```

To see whether the script executed successfully, check the log file.

Note: The SD_CL_CONNECTOR_SQLSERVER.sql file is located in the %SD_CL_CNCTR_HOME%\config folder.

5. If the Harvest database is running on SQL Server and if you are using the *named instance* of SQL Server, do this step; otherwise skip it.

Execute the following command at the command prompt:

```
osql -E -S <instance name> -d mdb -i <file name> -o output.log
```

Example:

```
osql -E -S computer55 -d mdb -i  
"C:\Program Files\CA\CMI \config\SD_CL_CONNECTOR_SQLSERVER.sql"  
-o output.log
```

6. If the Harvest database is running on Ingres, do this step; otherwise skip it.

Run the SD_CL_CONNECTOR_INGRES.sql script file by entering the following command at the command prompt:

```
Sql -u<user> -G<group name> <database name> <'sqlfile'>
```

Example:

If the database user is harvest and the group is harvest, execute the following command:

```
Sql -uharvest -Gharvest_group mdb <"C:\Program Files\CA\CMI \config\  
SD_CL_CONNECTOR_INGRES.sql"
```

To verify that the form was loaded into the Harvest database correctly

1. Copy the following from the c:\Program Files\CA\CMI\config folder of the connector to the %HARVESTHOME%\FORMS folder of the Harvest client:
 - SD-Clarity Connector.htm
 - SD-Clarity Connector.hfd
 - castylesr1.css
 - cssimages folder
2. Log in to the Harvest Administrator application.
3. Select the Forms tab and verify that the *SD-Clarity Connector* form appears in the list of available forms.

How the Form is Loaded in to Harweb

Important! If your environment uses Harweb, do the following on the Harweb server; otherwise, skip this step.

To use the *Service Desk Clarity Connector* lifecycle template and the *Service Desk Clarity Connector Request for Change* form, you must load the *SD-Clarity Connector* form into Harweb.

To Load the Form for UNIX

To load the form into the Harweb-UNIX server

1. Copy `$SD_CL_CNTR_HOME/config/SD-Clarity_Connector.xml` to `HARWEBHOME/harweb`, the location where Harweb is deployed.

For example, if Harweb is deployed in `/home/Apache Software Foundation/Tomcat 5.5/webapps`, then `HARWEBHOME` is `/home/Apache Software Foundation/Tomcat 5.5/webapps/harweb`.

2. Log in to Harweb Administrator.
3. Click Forms, Custom Forms.

The Generate Form window appears.

4. Complete the following fields on the Generate Form window:

- Form Type—select SD-Clarity Connector.
- Select the At Generate Web Form from XML Template check box.
- Select the Compile From JavaBean check box.

5. Click Execute.

6. Copy the following files from the `$SD_CL_CNTR_HOME/config/` directory on the UNIX server to the `<HARWEBHOME>/harweb` directory on the Harweb server, replacing the existing files that have the same name.

- `SD-Clarity Connector.jsp`
- `SD-Clarity ConnectorDetail.jsp`

7. Restart Tomcat servlet.

To Load the Form for Windows

To load the form into the Harweb-Windows server

1. Copy C:\Program Files\CA\CMI\config\SD-Clarity_Connector.xml to HARWEBHOME\harweb, the location where Harweb is deployed.

For example, if Harweb is deployed in C:\Program Files\Apache Software Foundation\Tomcat 5.5\webapps, then HARWEBHOME is C:\Program Files\Apache Software Foundation\Tomcat 5.5\webapps\harweb.
2. Log in to Harweb Administrator.
3. Click Forms, Custom Forms.

The Generate Form window appears.
4. Complete the following fields:
 - Form Type—select SD-Clarity Connector.
 - Select the At Generate Web Form from XML Template check box.
 - Select the Compile From JavaBean check box.
5. Click Execute.
6. Copy the following files from the C:\Program Files\CA\CMI\config folder to the <HARWEBHOME>\harweb directory on the Harweb-Windows server, replacing the existing files that have the same name.
 - SD-Clarity Connector.jsp
 - SD-Clarity ConnectorDetail.jsp
7. Restart Tomcat servlet.

hccrypt, the Harvest Encryption Utility

Using hccrypt, the Harvest encryption utility, you can create the connector's key file. This utility encrypts and decrypts information.

Instructions for running hccrypt appear in context. This section provides additional details about the utility for your information.

The command syntax is:

```
hccrypt <OPTION> -f <Encrypted File> -i <Input File> -m  
    <Message to Encrypt> -o <Output File> -k <Key File>  
    -p <Encryption Key>
```

Options

-e = Encrypt the file

-d = Decrypt the file

-g = Generate a new key file (Requires the option -k followed by file name)

-h = Help

-v = Display version

-f = Final encrypted file

-i = Input file that needs to be encrypted

-m = One line message to encrypt

-o = File name to write the decrypted value. Works *only* with -d option (Optional)

-k = Encryption key file (Optional)

-p = Encryption key (Optional)

Rules

- You should specify only one option between -m and -i
- You should specify only one option between -d and -e
- You should specify only one option between -k and -p
- If the encrypted file already exists then the new information will be appended to it.
- If you have not specified -o option, then the decrypted message is written to the console.
- If you did not specify an encryption file, then use the default key.

- If you used a non-default encryption key to encrypt the data, then you must use the same key to decrypt it.

Examples:

- Encrypt a file

```
hcrypt -e -f "Encrypted.enc" -i "Input File"
```

- Encrypt a message using the privatekey.key

```
hcrypt -e -f "Encrypted.enc" -m "Hello World" -k "privatekey.key"
```

- Encrypt a message using the passed key

```
hcrypt -e -f "Encrypted.enc" -m "Hello World" -p "My Key"
```

- Decrypt a file

```
hcrypt -d -f "Encrypted.enc"
```

Note: The decrypted message is printed back to the console.

Decrypt a file

```
hcrypt -d -f "Encrypted.enc" -o "Results.txt"
```

Note: The decrypted message is written to Results.txt.

- Generate a new key file

```
hcrypt -g -k "NewKey.key"
```

- Decrypt a message using the passed key

```
hcrypt -d -f "Encrypted.enc" -m "Hello World" -p "My Key"
```

hidmgr, the Harvest ID File Manager Utility

Use the Harvest ID File Manager utility (hidmgr) to add, read, modify, and delete the connector's key file entries. After creating this key file, add the required entries for Harvest and Service Desk to it.

Note: Instructions for running the hidmgr appear in context. This section provides additional details about the utility for your information.

When prompted, enter values for the following:

- Computer name
 - Important!** For Service Desk, specify the computer name in URL format: `http://<computer name>:< port>`; for example, <http://computer55:8080>.
- Product name (HARVEST or SERVICE DESK)
- User ID (user name) for this product on the computer name you specified when prompted earlier
- Password for this user name

The hidmgr utility provides the following options to maintain the connector's key file:

1. Add an entry
2. Remove an entry
3. Update an entry
4. List all computer names
5. Get Password
6. Exit

When you select Options 1 to 5, the utility prompts you to enter required information.

Sample Scenario

When you start the hidmgr, the following screen appears:

```
Harvest ID file manager.
Options to choose from:
1 - Add an entry
2 - Remove an entry
3 - Update an entry
4 - List all machine names
5 - Get Password
6 - Exit
Please select your option:
```

If you select Option 1, hidmgr prompts you to supply the information shown on the following sample screen:

```
Harvest ID file manager.
Options to choose from:
1 - Add an entry
2 - Remove an entry
3 - Update an entry
4 - List all machine names
5 - Get Password
6 - Exit
Please select your option: 1
Please enter the machine name: mdsu01-xp
Please enter the Product Name (Case Sensitive and No Quotes): HARVEST
Please enter the User ID on mdsu01-xp: harvest
Please enter the password for harvest: harvest
```

After you answer the prompts shown, the information that you entered is added to the key file.

View Product Information

To view the product information, select Option 4, as shown on the following screen:

```
C:\service_desk_clarity_connector\key>hidmgr allfusion.key

Harvest ID file manager.
Options to choose from:
1 - Add an entry
2 - Remove an entry
3 - Update an entry
4 - List all machine names
5 - Get Password
6 - Exit
Please select your option: 4
We have the information for the following machines:

Product: HARVEST
-----
Machine ID
yelsu01-xp      harvest
C:\service_desk_clarity_connector\key>_
```

The bso.xml File

The bso.xml file is the connector's configuration file. All scripts read configuration information from this script.

Note: Instructions for configuring bso.xml appear in context. This section provides additional details about the file for your information.

In the bso.xml file, you must specify configuration information in xml format, as follows:

```
<element - name>value of the element </element>
```

The following rules apply:

- Users do *not* change element names.
- Users *must* specify the value of each element.

For example, a sample entry is:

```
<product>HARVEST</product>
```

In this example:

- product is the *element* name: do *not* change element names.
- HARVEST is the *value* of the element; you *must* specify the value of each element.

The structure of the bso.xml file follows:

```
<?xml version="1.0" encoding="UTF-8"?>
<sti:bso xmlns:sti="http://www.ca.com/sti#"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="bso.xsd" >
  <sti:general>
    <sti:keyfile> </sti:keyfile>
    <sti:idmanagerpgm> </sti:idmanagerpgm>
    <sti:timezone> </sti:timezone>
    <sti:dateformat> </sti:dateformat>
  </sti:general>
  <sti:harvest>
    <sti:product> </sti:product>
    <sti:state>Plan</sti:state>
    <sti:process></sti:process>
    <sti:user></sti:user>
  </sti:harvest>
  <sti:uspsd>
    <sti:product> </sti:product>
    <sti:server> </sti:server>
    <sti:wSDL> </sti:wSDL>
    <sti:osuser> </sti:osuser>
  <sti:chgobj>chg</sti:chgobj>
  <sti:cntobj>cnt</sti:cntobj>
  <sti:workflowobj> </sti:workflowobj>
    <sti:chgstatusobj>chgstat</sti:chgstatusobj>
    <sti:taskstatusobj> </sti:taskstatusobj>
  </sti:uspsd>
  <sti:workflow>
    <sti:createpackage>Y</sti:createpackage>
    <sti:createform>Y</sti:createform>
    <sti:packageprefix></sti:packageprefix>
    <sti:packagesuffix></sti:packagesuffix>
  </sti:workflow>
  <sti:harvestform>
    <sti:tablename> </sti:tablename>
    <sti:changeordernumbercolumn> </sti:changeordernumbercolumn>
    <sti:datereportedcolumn> </sti:datereportedcolumn>
    <sti:fixbycolumn> </sti:fixbycolumn>
    <sti:prioritycolumn> </sti:prioritycolumn>
    <sti:descriptioncolumn> </sti:descriptioncolumn>
    <sti:categorycolumn> </sti:categorycolumn>
    <sti:reportedbycolumn> </sti:reportedbycolumn>
    <sti:formprefix></sti:formprefix>
    <sti:formsuffix></sti:formsuffix>
  </sti:harvestform>
</sti:bso>
```

Chapter 5: Service Desk User Tasks (Connector for CA Unicenter® Service Desk and CA Software Change Manager for Distributed)

This section contains the following topics:

[How to Integrate Service Desk to CA Clarity PPM User Tasks](#) (see page 107)

[How Service Desk to Harvest User Tasks are Integrated](#) (see page 113)

How to Integrate Service Desk to CA Clarity PPM User Tasks

This section describes the connection between Service Desk and CA Clarity PPM when Harvest is not also installed.

It describes how to:

- Create CA Clarity PPM change order tasks using Service Desk.
- Create CA Clarity PPM incidents and ideas
- Monitor integration progress using Service Desk Change Order Activity Log.

Create CA Clarity PPM Change Order Tasks

Service Desk analysts use basic Service Desk functionality to manage and evaluate Service Desk change orders. When integrated with CA Clarity PPM, an additional Project field is available on the Service Desk Change Order form.

Service Desk includes predefined change order categories that are associated to predefined workflows. Your Service Desk administrator can define additional categories and workflows using these out-of-the-box components. If a Service Desk change order represents work to be tracked and managed on an existing CA Clarity PPM project, select the appropriate category.

When you create a Service Desk change order task, CA Clarity PPM sends an update to Service Desk. The log comment is entered in Service Desk *Change Order Activity Log List*.

To create a CA Clarity PPM change order task from Service Desk

1. Open Service Desk change order.
2. At Category, select *Project.Maint Clarity Only* from the drop-down.

Note: If you have Harvest connected with CA Clarity PPM and you use Harvest to manage the source code, select *Project.Maint Clarity Harvest*.

3. Complete the required fields listed in the following table:

Field	Description
Order Description	A detailed description of this change order or request. On search windows that display this field, enter the first characters in the field and click Search.
Description	The Order Description from the original Service Desk change order that created the CA Clarity PPM task.
Need By Date	The date and time specified in the Service Desk ticket (e.g., change order) by which you want the ticket closed and resolved.
Project	Service Desk asset or project CI that was set up to point to the project in the external system, like Harvest or CA Clarity PPM. You must define the external project to Service Desk before you can initialize integration with the external project. This Project field is then used in the change order that you create to link it to the project in the external system.

Field	Description
Requester	The name of the person initiating the ticket (record). This person must be a defined contact in Service Desk.
Affected End User	The name of the person affected by the ticket (record). This may be the same person who reported the ticket. This person must be a defined contact in Service Desk.

4. Click Save.
5. Change the *Service Desk change order Evaluate Clarity Task* workflow task status from "Pending" to "Evaluate". The workflow invokes the integration process between Service Desk and CA Clarity PPM, and the CA Clarity PPM change order task is created on an existing CA Clarity PPM project.

Note: The changes you make to workflow tasks do not display until you save the ticket.

6. Click Save.

Create CA Clarity PPM Incidents from Service Desk

Service Desk analysts typically initiate CA Clarity PPM incidents after the change order representing the demand is analyzed and it has been determined that the change order be managed in CA Clarity PPM. The CA Clarity PPM incident can remain as an incident, or the CA Clarity PPM change manager can convert the incident to a project.

To create a CA Clarity PPM incident from Service Desk

1. In Service Desk, with the change order open, click Category.
2. Select the Project.Other Maint Work change order category.
3. Complete the required fields listed in the following table:

Field	Description
Order Description	A detailed description of this change order or request. On search windows that display this field, enter the first characters in the field and click Search.
Category	Shows the type of change order to which this task is associated.
Description	The Order Description from the original Service Desk change order that created the CA Clarity PPM task.

Field	Description
Need By Date	The date and time specified in the Service Desk ticket (e.g., change order) by which you want the ticket closed and resolved.
Requester	The name of the person initiating the ticket (record). This person must be a defined contact in Service Desk.
Affected End User	The name of the person affected by the ticket (record). This may be the same person who reported the ticket. This person must be a defined contact in Service Desk.

4. Click Save.

5. From the Workflow Tasks tab, click the sequence number associated with the *Create Clarity Work Request* workflow.

The Change Workflow Detail window appears.

6. Change the Service Desk change order *Create Clarity Work Request* workflow task status from "Pending" to "Complete".

The workflow invokes the connection between Service Desk and CA Clarity PPM, and the incident is created.

Note: The changes you make to workflow tasks do not display until you save the ticket.

7. Click Save.

Note: See the *Demand Management User Guide* for more information.

Note: For more information about Service Desk workflows, see the *Unicenter Service Desk Administrator Guide* or Service Desk online help.

Create CA Clarity PPM Ideas from Service Desk

Service Desk analysts typically initiate CA Clarity PPM ideas after the change order representing the new application or product idea request is analyzed and is determined that the change order will be managed in CA Clarity PPM. The CA Clarity PPM idea can remain as an idea, or the CA Clarity PPM demand manager can convert the idea to a project.

To create a CA Clarity PPM idea from Service Desk

1. In Service Desk, with the change order open, click Category.
2. Select the Project.New System Development change order category.
3. Complete the required fields listed in the following table:

Field	Description
Order Description	A detailed description of this change order or request. On search windows that display this field, enter the first characters in the field and click Search.
Category	Shows the type of change order to which this task is associated.
Description	The Order Description from the original Service Desk change order that created the CA Clarity PPM task.
Need By Date	The date and time specified in the Service Desk ticket (e.g., change order) by which you want the ticket closed and resolved.
Requester	The name of the person initiating the ticket (record). This person must be a defined contact in Service Desk.
Affected End User	The name of the person affected by the ticket (record). This may be the same person who reported the ticket. This person must be a defined contact in Service Desk.

4. Click Save.
5. From the Workflow Tasks tab, click the sequence number associated with the *Create Clarity Idea* workflow.
The Change Workflow Detail window appears.
6. Change the Service Desk change order *Create Clarity Idea* workflow task status from Pending to Complete.
Note: The changes you make to workflow tasks do not display until you save the ticket.
7. Click Save.

Note: See the *Demand Management User Guide* for more information.

Note: For more information about Service Desk workflows, see the *Unicenter Service Desk Administrator Guide* or Service Desk online help.

Monitor Integration Progress

When you have Service Desk and CA Clarity PPM connected, certain CA Clarity PPM actions trigger an update to be sent from CA Clarity PPM to Service Desk. These updates are logged as comments on the *Service Desk Change Order Activity Log*.

The following is a list of the CA Clarity PPM actions that trigger comments to be logged on Service Desk Change Order Activity Log:

- Converting CA Clarity PPM incidents to project
- Converting CA Clarity PPM ideas to project
- Marking CA Clarity PPM change order tasks as Scheduled
- Creating Harvest packages from CA Clarity PPM change order task
- Canceling CA Clarity PPM change order tasks
- Marking CA Clarity PPM change order tasks as Complete
- Marking CA Clarity PPM projects as Complete

When Service Desk is integrated with Harvest, certain Harvest actions trigger an update to be sent from Harvest to Service Desk. These updates are logged as comments on Service Desk Change Order Activity Log.

In Service Desk, you can view the Change Order Activity Log List from the Activities tab of the Change Order Detail window. For more information about the Activity Log, see the Service Desk online help.

How Service Desk to Harvest User Tasks are Integrated

This section describes the connection between Service Desk and Harvest when CA Clarity PPM is not also installed. It describes how to create Harvest packages from Service Desk change order maintenance requests. You can send Service Desk change orders directly to Harvest as a new package, without requiring CA Clarity PPM.

How the Service Desk and Harvest Connection is Made

You can create a Service Desk change order for software work that needs to be managed in Harvest as a new package. Each change order represents the work required to fix an issue reported by a Service Desk end-user. After the package is created in Harvest, you can monitor its Harvest lifecycle using Service Desk until the work is completed.

The following steps outline this process:

- **Create a Project in Service Desk**—First, you must establish an association between Service Desk and the existing Harvest project. The Service Desk analyst must define the Harvest project in Service Desk by creating a Service Desk project CI.
- **Create a Change Order to Initiate a Harvest Package**—The Service Desk analyst then creates a Service Desk change order for the work that is to be performed, and associates it with the Harvest project that they created.
- **Initiate the Harvest Integration Process**—The Service Desk analyst initiates the connection by setting the change order Create Harvest Package workflow task to Complete. After the connection is initiated and the package is delivered to Harvest, Harvest developers, testers, and managers begin working on the package.
- **Monitor the Harvest Package Lifecycle**—The Service Desk analyst is kept informed of the work performed in Harvest, as the package is promoted from the planning to the development lifecycle state, and to the test lifecycle state.
- **Close the Change Order**—The Service Desk analyst is notified when the package is promoted to the production lifecycle state. This lifecycle state indicates that the package work is complete. The analyst closes the change order in Service Desk.

The Service Desk and Harvest Integration Overview

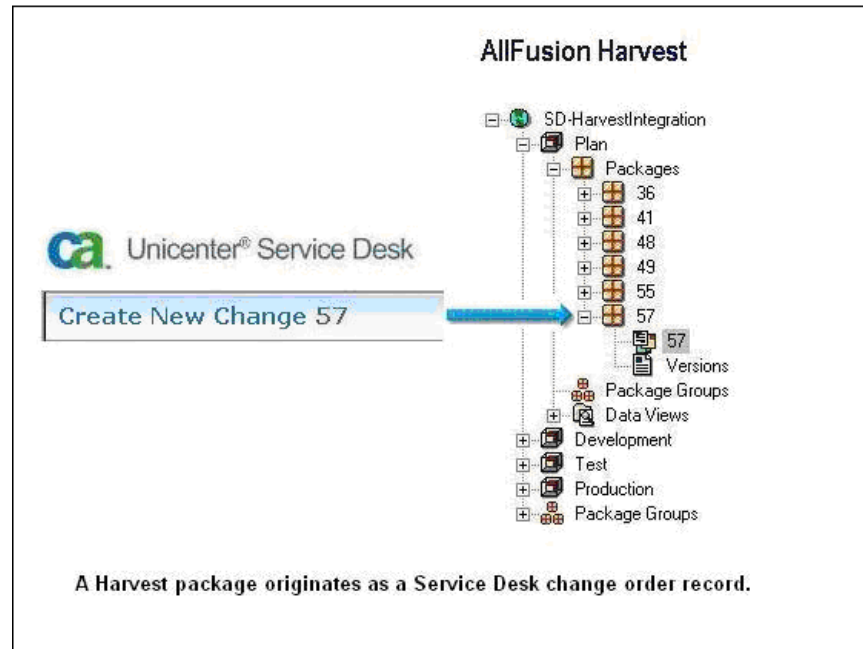
A typical scenario would involve a request ticket, which is logged into Service Desk by an end-user, requiring some work to be performed on a project. This project also happens to be defined in Harvest. The Service Desk analyst, who reviews the incoming request, decides to create a change order to be managed in a Harvest project as a package. Each time a Service Desk analyst initiates the connection process by creating a change order that is associated with a defined Harvest project and appropriate category, Service Desk creates a new package in Harvest. This package is created in the first of the four Harvest lifecycle states—planning—and can be managed by Harvest users.

When you create a package, an Event Occurred comment is entered in the Service Desk *Change Order Activity Log List*, which is visible to Service Desk analysts. The connection process also triggers Service Desk to send additional information about the change order to Harvest, which is used to populate the *Service Desk Clarity Connector Request for Change* form in Harvest. This form is maintained at the package level in Harvest, and it contains Origination information, as well as the original Service Desk change order number that created the package. The default package name assigned in Harvest is the Service Desk change order number that created it. This name can be changed in Harvest by editing the package properties.

A Harvest package, which is a basic unit of work, is stored in Harvest under a Harvest project. There can be multiple packages associated with a project, each representing a work request for the project. The packages created from Service Desk allow Harvest users to become aware of issues originating in Service Desk related to their projects. The package is managed in Harvest as work is being performed, and is promoted through the planning, development, testing, and production lifecycle states by Harvest developers, testers, and managers. The connector also updates the associated Service Desk change order Change Order Activity Log List with the work activities performed in Harvest, such as promoting the package to another lifecycle state. This two-way communication keeps the Service Desk analyst up-to-date on any package events occurring in Harvest which affect the associated change order.

Note: For integration, Service Desk includes default categories and their associated workflow tasks. You should use the Project.Maint Harvest Only change order category when setting up the connection between Service Desk and Harvest.

The following graphic illustrates the creation of a change order in Service Desk and the results in Harvest. In Harvest, notice the change order number and the position of the new package under the planning (PLAN) lifecycle state.



The following sections show you how to create Harvest packages from Service Desk change orders and how to monitor the package lifecycle until it is closed.

Create a Project in Service Desk

Depending on how your Service Desk interface is configured, the project you create will either be an asset or a configuration item (CI). For standard Service Desk, the term asset is used to define components in families such as projects, hardware, software, and so on. If your Service Desk has been configured with an Information Technology Infrastructure Library (ITIL) interface, the term CI is used instead of the term asset. The examples in this document use the ITIL term CI when defining the Harvest project in Service Desk.

Before you can create a Service Desk change order which will initiate and create a package in Harvest, the Service Desk analyst must create a Service Desk project CI. This identifies the Harvest project to Service Desk. This Service Desk project CI must contain the Harvest Project name. The Service Desk project CI object that you create here will be used later in the Project field when you create the Service Desk change order. You need to create this Service Desk project CI once for each unique Harvest project you want to identify to Service Desk.

To create a Service Desk project CI

1. From the Service Desk File menu, select New Configuration Item.

The Create New Configuration Item window opens:

The screenshot shows a web browser window titled "http://marley - Create New Configuration Item - Unicenter Service Desk - Microsoft Internet Expl...". The browser displays the Unicenter Service Desk interface. At the top, there is a header with the Unicenter logo and the text "Unicenter® Service Desk". Below the header, there is a navigation bar with a "Go" button and a "Logged in as: ServiceDesk (Log Out)" link. The main content area is titled "Create New Configuration Item" and contains several input fields and buttons. The buttons are "Continue", "Cancel", "Reset", and "Discovered Assets". The input fields are labeled "Name *", "Class *", "Host Name", "Serial Number", "MAC Address", "Alt CI ID", and "DNS Name". The "Name *" field contains the text "SD-HarvestIntegration". The "Class *" field contains the text "ECM Project". The "Host Name" field contains the text "Host1". The "Serial Number" field contains the text "12345". The "MAC Address" field is empty. The "Alt CI ID" field is empty. The "DNS Name" field is empty. The browser's status bar at the bottom shows "Local intranet".

2. Complete the following fields:

- Name—enter the name of the Service Desk project CI.

Note: It is a good idea to use the Harvest project name as the name of the Service Desk project CI so that Service Desk users can easily identify the relationship between the Service Desk project CI and the Harvest project in Harvest.

- Class—enter **ECM Project**. The Enterprise Change Management (ECM) Project class is a unique class that identifies the Service Desk project CIs that can be used for integration.

3. Enter any other data fields that you require. Make sure to enter some descriptive notes about the project.

4. Click Continue.

The following detail window appears so you can finish creating the Service Desk project CI:

http://marley - SD-HarvestIntegration Create New Configuration Item - Unicenter Service Desk - Microsoft Internet Explorer prov

Unicenter® Service Desk

Logged in as: ServiceDesk (Log Out)

File View Search Window Help

SD-HarvestIntegration Create New Configuration Item

Save Cancel Reset Asset Viewer

Name * Class Family Active? *

SD-HarvestIntegration ECM Project Projects Active

Serial Number Alt CI ID Host Name DNS Name MAC Address

12345

Notes Spelling

This is a Harvest project which is being defined and saved in Service Desk.

5. Location 6. Contacts 7. Organizations 8. Service Contracts 9. Related CI's

10. Incidents 11. Problems 12. Requests 13. Change Orders 14. Issues 15. Impact Analyzer

1. Project 2. Inventory 3. Log 4. Service

Project

Clarity Project Name Clarity Project ID

Harvest Project Harvest Server

SD-HarvestIntegration Server1

Endeavor SYS-SBS-ENV-STG Endeavor Host

Enterprise Workbench Server

5. At the bottom of the window, on the Project tab, enter the name of the Harvest project in Harvest in the Harvest Project field, and the name of the Harvest server in the Harvest Server field.

Note: The Harvest project name *must* match the Harvest project as defined in Harvest using the lifecycle template. If you do not know the name of the Harvest project, contact the Harvest Administrator.

6. Click Save.

The Service Desk project CI is saved and a message appears at the top of the window indicating it is saved.

Create a Change Order to Initiate a Harvest Package

The Service Desk analyst creates a change order to identify the work to be performed. This information is transferred to Harvest in the package created under the associated Harvest project.

To create a change order

1. Select New Change Order from the Service Desk File menu.

The Create New Change window opens.

2. Complete the required fields listed in the following table:

Field	Description
Order Description	A detailed description of this change order or request. On search windows that display this field, enter the first characters in the field and click Search.
Need By Date	The date and time specified in the Service Desk ticket (e.g., change order) by which you want the ticket closed and resolved.
Project	Service Desk asset or project CI that was set up to point to the project in the external system, like Harvest or CA Clarity PPM. You must define the external project to Service Desk before you can initialize integration with the external project. This Project field is then used in the change order that you create to link it to the project in the external system.
Requester	The name of the person initiating the ticket (record). This person must be a defined contact in Service Desk.
Affected End User	The name of the person affected by the ticket (record). This may be the same person who reported the ticket. This person must be a defined contact in Service Desk.
Priority	Shows how much attention a ticket should receive. Your system administrator can modify the default priority codes, so they can vary from one installation to another. In search areas and on windows where you can edit this field, select the value you want to use from the associated drop-down list.

3. Complete any other field information that you may require, such as Order Summary.
4. Click Category to select Project.Maint Harvest Only as the required category. This is the pre-defined category you must use for the Harvest integration. It has three workflow tasks associated with it.
5. Click the search icon beside the project. Select the Service Desk project CI that you previously created. This field identifies the Harvest Project to Service Desk and associates the change order you create with the Harvest project.

http://marley - 57 Update Change - Unicenter Service Desk - Microsoft Internet Explorer provided by Computer Associates Intl.

Unicenter® Service Desk

Logged in as: ServiceDesk (Log Out)

File View Activities Actions Search Window Help

Create New Change S7

Save Cancel Reset Profile Browser

Requester * Affected End User * Category Status Priority *

Administrator Administrator Project.Maint Harvest Only RFC 2

Detail

Created By ServiceDesk

Assignment Group Impact Active?

Need By Date Call Back Date/Time Root Cause Organization Project

04/28/2006 03:48 pm 04/19/2006 03:48 pm <empty> SD-HarvestIntegration

Summary Information

Order Summary Spelling

Need to update logon screen.

Order Description Spelling

The logon screen needs the new logo and graphics.

Open Date Actual Start Date Resolve Date Close Date

04/19/2006 03:52 pm

6. Service Type 7. Incidents / Problems 8. Event Log 9. Costs / Plans 10. Attachments 11. Template

1. Properties 2. Workflow Tasks 3. Config. Items 4. Activities 5. Related Orders

Workflow Tasks

Refresh Workflow Tasks

Changes to Workflow Tasks will not show until the ticket is saved

6. Click Save.
- The change order is created.

Initiate the Harvest Integration Process

By default, Service Desk includes categories have been defined and associated with the appropriate workflow tasks for the Harvest and CA Clarity PPM integration. The change order you created has three pre-defined workflow tasks attached. The following workflow tasks are associated with the Project.Maint Harvest Only category used in the change order:

- 100 Create Harvest Package
- 200 Monitor Harvest Package
- 300 Notify Assignee

Note: You can also create your own categories and workflows if necessary.

Service Desk analysts can view workflow tasks on the Workflow Tasks tab in the change order detail window:

The screenshot shows the Unicenter Service Desk interface. The main window is titled '57 Update Change'. It has a menu bar with 'File', 'View', 'Activities', 'Actions', 'Search', 'Window', and 'Help'. Below the menu bar are buttons for 'Save', 'Cancel', 'Reset', and 'Profile Browser'. The 'Summary Information' section is expanded, showing 'Order Summary' and 'Order Description' tabs. The 'Order Description' tab is active, showing the text 'The logon screen needs a the new logo and graphics.' Below this are fields for 'Open Date', 'Actual Start Date', 'Resolve Date', and 'Close Date'. The 'Workflow Tasks' tab is selected, showing a table of tasks. A red box highlights the table content.

Seq	Task	Description	Assignee	Group	Status	Start Date	Completion Date
100	Create Harvest Package				Pending	04/17/2006 03:51 pm	
200	Monitor Harvest Project				Wait		
300	Notify Assignee				Wait		

Below the table are fields for 'Estimated Completion Date' and 'Actual Completion Date'.

To initiate the Harvest integration process

1. Open the change order record in Service Desk, and click the Workflow Tasks tab.
2. Select the 100 Create Harvest Package workflow by clicking the workflow number.

The Change Workflow Detail window opens.

3. Click Edit.

The Update Change Workflow window opens.

4. Select Complete from the Status field drop-down and click Save.

The Create Harvest Package integration macro is started. The workflow is saved, its status is changed to Complete, and a Harvest package is created.

The screenshot shows the 'Update Change Workflow' window in the Unicenter Service Desk. The window has a title bar with the URL 'http://marley - Update Change Workflow - Unicenter Service Desk - Microsoft Internet Explorer provided by Computer Associat...'. The main content area is divided into several sections:

- Task:** Create Harvest Package
- Configuration Item:** (empty field)
- Actual Start Date:** 04/13/2006 01:32 pm
- Assignee:** (empty field)
- Group:** (empty field)
- Completed By:** (empty field)
- Estimated Duration:** 00:00:00
- Estimated Cost:** 0
- Estimated Completion Date:** (empty field)
- Actual Duration:** 00:00:00
- Actual Cost:** 0
- Actual Completion Date:** (empty field)
- Sequence:** 100
- Status:** Complete (dropdown menu)
- Change#:** 80
- Task Description:** This Workflow task creates a Harvest Package.
- Service Type List:** A table with columns: Name, Status, Start Time, Expiration Time, Delay Remaining. The table is currently empty.

At the bottom of the window, there is a 'Local intranet' icon.

When the package is successfully created, Harvest changes the status of the 200 Monitor Harvest Package workflow to In Progress and logs an Event Occurred comment in the Service Desk Change Order Activity Log List.

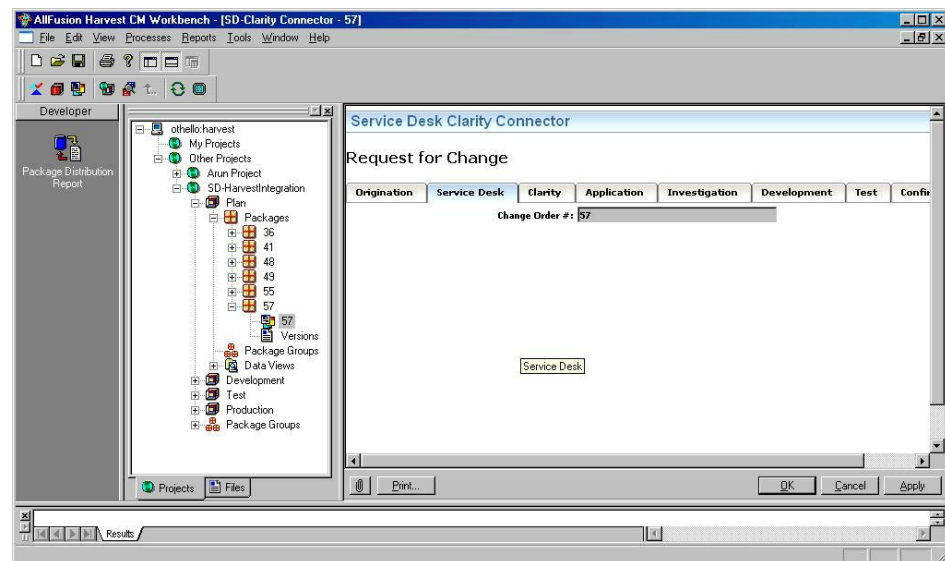
Note: If you do not enter all the required fields in the change order, the status of the Create Harvest Package workflow is set to Failed, and a log comment is entered in the Service Desk *Change Order Activity Log List* detailing the connection failure. To re-initiate the connection, enter the missing required fields and save the change order. Then, change the status of the Create Harvest Package workflow task back to Complete.

Monitor the Harvest Package Lifecycle

After you initiate the Harvest integration and create the Harvest package, the package lifecycle involves the following tasks:

- The Harvest manager is responsible for manually assigning a resource to the package. The Harvest Manager can review the package and promote the package to the development lifecycle state. A log comment is entered in the associated *Service Desk Change Order Activity Log List*.
- The Harvest developer works on the package fixes it and promotes the package to the test lifecycle state. A log comment is entered in the associated Service Desk Change Order Activity Log List.
- The Harvest QA tester tests the package fix and passes the fix. The Harvest Operations Manager promotes the fix to the production lifecycle state. A log comment is entered in the associated Service Desk Change Order Activity Log List, and the status of the 200 Monitor Harvest Package Workflow is set to Complete.

Information from the Service Desk change order that created the package is maintained in Harvest at the package level. For example, you can view the change order number from the *Service Desk Clarity Connector Request for Change* form, as illustrated in the following:



The Origination tab on the *Service Desk Clarity Connector Request for Change* form contains data that was transferred from the Service Desk change order that created the package.

Close the Change Order

In Harvest, when the package is promoted to the production lifecycle state, Service Desk automatically sets the status of the 300 Notify Assignee workflow task to Pending. After the notification is sent back to the Service Desk change order Activity Log List, the status of the workflow is automatically changed to Complete. The Service Desk assignee then updates/closes the change order and notifies the Service Desk end-user.

User Actions and Service Desk Change Order Activity Log List

The following table lists the user actions that trigger comments to be entered in Service Desk Change Order Activity Log List.

User Action	System Action	Activity Log Type
In Service Desk, set the status of the Create Harvest Package workflow task to Complete on a Service Desk change order.	A new package is created in Harvest under the designated project. The default package name is the change order number that initiated it.	An Event Occurred comment is logged in the Change Order Activity Log List.

User Action	System Action	Activity Log Type
A Service Desk Change Order is entered with missing required field information, and the status of the Create Harvest Package workflow task is set to Complete.	A new package is not created in Harvest. The workflow task fails.	An Event Occurred comment is logged in the Change Order Activity Log List indicating that the create package failed.
A Harvest package is promoted or demoted by the Harvest manager.	In Harvest, the package is moved between the plan, development, test, and production lifecycle states.	A log comment is entered in the Change Order Activity Log List. When a package is promoted to the production lifecycle state, a comment is logged, and the status of the Notify Assignee workflow task is set to Complete.

Notes:

- If a Harvest package is deleted, you must manually update Service Desk to change the workflow task. You must also manually close the associated change order.
- If the status of the Create Harvest Package status changes to Failed-for example, due to missing data-you can manually restart the workflow task by changing its status back to Complete.

Harvest package status is tracked in Service Desk and is logged to the originating change order Change Order Activity Log List. In the following example, the list displays the initial change order creation, the Create Harvest Package workflow event, and promotion of the package in Harvest.

The screenshot shows the Unicenter Service Desk interface. The main content area displays the details for change order '57'. The 'Change Order Activity Log List' table is as follows:

Created By / Description	On	Time Spent	Type
sdtest	04/21/2006 03:49 pm	00:00:00	Log Comment
Package is promoted to test by harvest.			
sdtest	04/21/2006 03:25 pm	00:00:00	Log Comment
Package is promoted to development by harvest.			
System_AHD_generated	04/21/2006 03:24 pm	00:00:00	Event Occurred
AHD07425: Invoking integration process for Change Order '57' Workflow Task Sequence '100' Task 'Create Harvest Package' Type 'WORKFLOW'			
Remote Reference 'HARVESTPKG' Clarity Project 'Maintenance Project (SAP)' Clarity Project ID 'BTG01' Harvest Project 'SD-HarvestIntegration' Harvest Server 'Server' Endeavor SYS-SBS-ENV-STG " Endeavor Host " Enterprise Workbench Server "			
sdtest	04/21/2006 03:22 pm	00:01:16	Initial
create a new request/incident/problem/change/issue			

Chapter 6: CA Clarity PPM User Tasks (Connector for CA Unicenter® Service Desk and CA Software Change Manager for Distributed)

This section contains the following topics:

[View Your Task List](#) (see page 127)

[Converting CA Clarity PPM Incidents to Projects](#) (see page 128)

[Converting CA Clarity PPM Ideas to Projects](#) (see page 128)

[Create Harvest Projects in CA Clarity PPM](#) (see page 129)

[About CA Clarity PPM Feature Tasks](#) (see page 130)

[About CA Clarity PPM Change Order Tasks](#) (see page 138)

[Complete CA Clarity PPM Tasks and Projects](#) (see page 145)

View Your Task List

You can view a list of your CA Clarity PPM tasks-standard, feature, and change order-from the Project Tasks: Task List page. To view this page, open the project and select the Tasks tab.

Project Task Types

With the *Connector: Unicenter Service Desk/Harvest* add-in installed, the following three new project task sub-pages are available that provide the reference to their counterparts in Service Desk and in Harvest:

- Task Properties: Standard

This task type does not have any connector components. With the *Connector: Unicenter Service Desk/ Harvest* add-in installed in CA Clarity PPM, standard project tasks become standard task types.

- Task Properties: Change Order Details

- Task Properties: Feature Details

Converting CA Clarity PPM Incidents to Projects

CA Clarity PPM incidents that originate as Service Desk change orders represent the request for maintenance work and contain the details from that change order. To view a list of the fields that are mapped from Service Desk change orders to CA Clarity PPM incidents, see the appendix "Field Mappings."

If the CA Clarity PPM change manager has considered the scope of the new incident and has determined that the incident should be managed as a project, the change manager can convert the incident to a project.

Each time a CA Clarity PPM incident that originated as a Service Desk change order is converted to a project, CA Clarity PPM sends an update to Service Desk. The Log Comment is entered in Service Desk Change Order Activity Log List. The conversion process also triggers CA Clarity PPM to set the Service Desk change order *Monitor Clarity Work Request* workflow task status from "Pending" to "In Progress".

Note: See the *Demand Management User Guide* for more information.

Converting CA Clarity PPM Ideas to Projects

The CA Clarity PPM change manager is responsible for reviewing CA Clarity PPM ideas originating in Service Desk. After the CA Clarity PPM demand manager has considered the scope of the new idea and has determined that the idea should be managed as a CA Clarity PPM project, the change manager can convert the CA Clarity PPM idea to a project.

Each time a CA Clarity PPM idea that originated as a Service Desk change order is converted to a project, an update is sent to Service Desk. The Log Comment is entered in Service Desk Change Order Activity Log List. The conversion process also triggers CA Clarity PPM to set the Service Desk change order *Monitor Clarity Project* workflow task status from "Pending" to "In Progress".

Converting CA Clarity PPM ideas to projects is basic demand management functionality.

Note: See the *Demand Management User Guide* for more information.

Create Harvest Projects in CA Clarity PPM

The Harvest project in CA Clarity PPM provides the mapping between CA Clarity PPM and Harvest, and is used to identify the project in Harvest in CA Clarity PPM feature and change order tasks. You must establish the association between the Harvest project in CA Clarity PPM and the Harvest project in Harvest so that:

- CA Clarity PPM can communicate with AllFusion Harvest Change Manager
- Harvest packages can be created to represent the work in CA Clarity PPM from the CA Clarity PPM task.

Note: You must have the appropriate access rights before you can create Harvest projects in CA Clarity PPM.

Note: Contact your CA Clarity PPM administrator or see the *Administration Guide* for more information.

To create a Harvest project in CA Clarity PPM

1. Log in to CA Clarity PPM.
2. Select Harvest Project List from the Custom Objects menu.

The Harvest Project List page appears.

Note: To see the Custom Objects section, it may be necessary for you to use the scroll bar to navigate to this area of the main menu.

3. Click New.

The Create Harvest Project page appears.

4. Complete the following fields:

- Name—enter the name of the Harvest project in Harvest. This value must be the same as the name of the associated project in Harvest.

Note: This value is case-sensitive when matched with the Service Desk project CI.

- ID—enter the name of the Harvest project in Harvest. This value must be the same as the name of the associated project in Harvest.

Note: This value is case-sensitive when matched with the Service Desk project CI.

- Description—enter the description for the Harvest Project in CA Clarity PPM.

5. Click Submit.

About CA Clarity PPM Feature Tasks

CA Clarity PPM feature tasks are summary tasks on CA Clarity PPM projects that represent work managed in a Harvest package. Feature tasks do not have resource assignments, and therefore they do not get scheduled. Feature tasks have many Harvest packages associated with the task work.

Harvest packages are the separate units of a project where change items are stored, and the associated forms are the formatted electronic screens which function like paper forms.

Note: For more information about using Harvest projects and packages, see the *AllFusion Harvest Change Manager User Guide* and the online help for the Harvest CM Workbench.

Accessing CA Clarity PPM Feature Tasks

You can view and edit the CA Clarity PPM feature task properties from the *Task Properties: Feature Details* page. Use this page to view a summary of the feature task, such as the Harvest states, to associate the feature task to the Harvest Project in CA Clarity PPM, to enter the Harvest ID, and to create a Harvest package.

To view this page, click Feature Details from the content menu.

Task Properties (Project: Software Life Cycle | Task: task 1)

Properties Estimating Associated Risks/Issues

Main Dependencies

Save Submit Cancel [Links][Notes]

General

Feature Details

Details

Harvest Project Task Type **Feature**

Integration Status Component **User Interface**

Priority

Harvest States

Plan	Not Started	Test	Not Started
Planning Pkg Count	0	Test Pkg Count	0
Development	Not Started	Production	Not Started
Development Pkg Count	0	Production Pkg Count	0

Feature Information

Harvest ID Manager

Total Package Count Description

Overall % Complete 0.00% Create Harvest Package ☐

Feature Status **Unapproved**

Save Submit Cancel [Links][Notes]

You can also view CA Clarity PPM feature task information from the project Integration Dashboard.

Use the Integration Feature Dashboard

In CA Clarity PPM, you can view a list of your New System Development project feature tasks from the Feature Tasks portlet on the Integration Dashboard. This portlet displays a list of the feature tasks added to the project. The Integration Dashboard also contains three default views-General, Labor Effort, and Team Utilization-that summarize project data such as project labor and team utilization. These views are also available on the default project Dashboard.

Note: See the *Project Management User Guide* for more information.

The data on the *Integration Dashboard* page is read-only. Dashboard data is drawn from the information you enter in the task and resource assignment fields, and from data submitted in staff member timesheets. This dashboard is automatically updated when new information is added or posted to the project.

To set up the Integration Dashboard for a project

You need to repeat this procedure for each of your New System Development projects.

1. Open the CA Clarity PPM project.

The Project Properties: Main - General page appears.

2. In the General section of the page, select Integration Feature Dashboard as the page layout.
3. Click Save.

The default Dashboard tab of the projects changes to the Integration Dashboard.

To view the project Integration Dashboard

Note: Before you can view the project Integration Dashboard, make sure you set up the page layout of your New System Development project to display the Integration Dashboard. Also, to view the dashboard, you must have Portlet Viewer - All or Portlet - View instance rights.

To view the dashboard, open the CA Clarity PPM project, and select the Integration Dashboard tab.

Create CA Clarity PPM Feature Tasks

To create a CA Clarity PPM feature task

1. Open CA Clarity PPM.
2. Open the project.
3. Define the Work Breakdown Structure (WBS) for your project. Identify which summary tasks will be linked to the Harvest package for tracking purposes.
Note: Creating CA Clarity PPM project tasks is basic project management functionality.
Note: See the *Project Management User Guide* for more information..
4. Click the name of the new project task on the *Project Tasks: Task List* page.
The Task Properties page appears.
5. Click Task Type on the content menu.
The Task Properties: Task Type page appears.
6. Identify the task as a feature task by choosing Feature from the Task Type drop-down.
7. Click Submit.
The task closes and the *Project Tasks: Task List* page appears.
8. Click the name of the new project task.
The Task Properties page appears.
9. Do the following on the *Task Properties: Feature Details* page:
 - Harvest Project—associate the feature task to the Harvest Project in CA Clarity PPM by choosing the name of the project.
 - Harvest ID—enter a unique identifier for the CA Clarity PPM feature task, based on your business needs.
10. Click Submit.

Feature Task Details

The following table describes the fields in the Details and Feature Information sections of the Task Properties: Feature Details page.

Field	Description
Details	
Harvest Project	The name of the Harvest Project in CA Clarity PPM. Select the name of the project from the pull-down.

Field	Description
Integration Status	Displays the integration status between this CA Clarity PPM feature task and the Harvest package. When a valid status is received from Harvest, the status reflects a green checkmark. If the associated Harvest package is deleted, the status reflects a red checkmark.
Task Type	Displays the task type. Use the pull-down to select the task type. Choices are Feature, Change Order, and Standard.
Component	Identifies the task for reporting on areas of an application. Choices are User Interface, Infrastructure, Integration, and Data.
Priority	The priority of this task.
Feature Information	
Total Package Count	The total number of Harvest packages. This field is read-only.
Overall % Complete	Displays the overall percent complete status of the CA Clarity PPM feature task. This field is calculated based on the number of Harvest packages in each Harvest lifecycle state, and based on the weights assigned to each state.
Feature Status	The status of the CA Clarity PPM feature task. This field must be set to Approved before you can create a Harvest package.
Manager	Click the Browse icon to select the name of the feature task manager. In the Browse window, filter the list to find the name of resource managing this CA Clarity PPM feature task.
Description	The description of the CA Clarity PPM feature task.
Create Harvest Package	Select this box to indicate you want a Harvest package created.

Associate CA Clarity PPM Feature Tasks to CA Clarity PPM Harvest Projects

Use the Harvest Project field on the CA Clarity PPM feature task *Task Properties: Feature Details* page to associate the task to the Harvest Project. This field uniquely identifies the association between the CA Clarity PPM feature task and the Harvest Project in CA Clarity PPM.

To associate the CA Clarity PPM feature task to the Harvest Project in CA Clarity PPM

1. Select Projects from the Portfolio Management menu.
The Projects page appears.
2. Click the name of the project.
The *Project Properties: Main - General* page appears.
3. Select the Tasks tab.
The *Project Tasks: Task List* page appears.
4. Click the name of the CA Clarity PPM feature task to which you want to associate to the Harvest Project in CA Clarity PPM.
The Task Properties page appears.
5. Select Feature Details from the content menu.
The Task Properties: Feature Details page appears.
6. At Harvest Project, select the name of the Harvest Project in CA Clarity PPM.

Submit CA Clarity PPM Feature Tasks for Approval

Before you create a Harvest package from a CA Clarity PPM feature task, the CA Clarity PPM feature task Feature Status field must be first set to Approved. This field appears on the CA Clarity PPM feature task Task Properties: Feature Details page. You can either set the status manually or you can set up an automated business approval process to set the status. Provided with the connector are several statuses to facilitate the approval process; only the Approved feature status activates the Create Harvest Package check box and allows you to select it.

If an automated approval process is not used, the CA Clarity PPM project manager can submit the CA Clarity PPM feature task for approval. To do this, on the Task Properties: Feature Details page, select Approved from the Feature Status drop-down of the task, and click Submit.

Note: Contact your CA Clarity PPM administrator or see the *Administration Guide* for more information.

By default, you can select from the following feature statuses in the listed order:

- Unapproved
- Submitted for Approval
- Approved

Note: Select Approved when the CA Clarity PPM feature task has been approved.

Create Harvest Packages from CA Clarity PPM Feature Tasks

After you have determined that your application needs to be developed and managed in Harvest, you can create a Harvest package from the CA Clarity PPM feature task.

Important! Before creating a Harvest package from CA Clarity PPM, make sure you have created and defined the Harvest project and forms in Harvest, the Harvest Project in CA Clarity PPM, and associated the CA Clarity PPM feature task to the Harvest Project in CA Clarity PPM.

To create a Harvest package from a CA Clarity PPM feature task, go to the CA Clarity PPM feature task *Task Properties: Feature Details* page, select the Create Harvest Package box, and click Submit. Once created, this field is locked and you cannot create another Harvest package. In Harvest, the new Harvest package name is the CA Clarity PPM feature task Harvest ID and task ID with a dash (-) between.

How Harvest Package Activity is Monitored from CA Clarity PPM Feature Tasks

The CA Clarity PPM project manager can monitor task progress and activity-including new application or change order maintenance costs-from the project pages, views, and portlets. This is basic project management functionality.

Note: See the *Project Management User Guide* for more information.

The initial state of a Harvest package is plan (PLAN). You can view this state in the Harvest States section of the Task Properties: Feature Details page.

View the CA Clarity PPM Feature Task Overall Percent Complete

You can view the CA Clarity PPM feature task overall percent complete from the Harvest States section of the CA Clarity PPM feature task *Task Properties: Feature Details* page.

Each CA Clarity PPM feature task on a project can be associated to one or more Harvest packages, and each package can be in a different Harvest lifecycle state. The CA Clarity PPM feature task overall percent complete value is automatically calculated based on the weights that were assigned to the CAI Harvest Status process by your CA Clarity PPM administrator. No information is communicated to Service Desk at the task level.

Note: The CAI Harvest Status process collects information from Harvest about the Harvest packages and updates the associated CA Clarity PPM feature task with status information, such as a package state and the package count for each of the four states. Depending on how frequently this process is set up to run, it updates all CA Clarity PPM tasks with links to Harvest packages.

Note: Contact your CA Clarity PPM administrator or see the *Administration Guide* for more information.

The formula used to calculate the overall percent complete status of the CA Clarity PPM feature task is as follows:

- All the task packages are group summed by state.
- The number in each state is multiplied by the percent complete value for that state.
- All the values are summed.
- The sum of all values is divided by the total number of packages of the task.

In a CA Clarity PPM feature task, six packages exist for a feature. Two are in the planning lifecycle state, two are in the development lifecycle state, and two are in the test lifecycle state. The overall percent complete for the CA Clarity PPM feature task is: $(2 * 25 + 2 * 50 + 2 * 75) / 6 = 50$ percent Complete.

Viewing Harvest Package States from CA Clarity PPM

When Harvest packages are linked to CA Clarity PPM feature tasks, data is sent back to CA Clarity PPM and includes:

- Package count for the four states for all packages related to the task
- The total package count for the Harvest packages related to the task

You can view a package lifecycle state and the package count for each of the four states from CA Clarity PPM change order and feature tasks. Use the Harvest States section of the CA Clarity PPM feature task Task Properties: Feature Details page.

Harvest States			
Plan	Not Started 	Test	Not Started 
Planning Pkg Count	0	Test Pkg Count	0
Development	Not Started 	Production	Not Started 
Development Pkg Count	0	Production Pkg Count	0

Note: After a lifecycle state becomes active, its status cannot be set to Completed until a lesser lifecycle state has zero packages.

The following table describes the fields in this section:

Field	Description
Plan	The status of the Harvest package lifecycle state. If this Harvest package has not started, the status displays Not Started with a blue status indicator icon. Other possible states are In Progress (yellow status indicator icon), and Completed (green status indicator icon).
Planning Pkg Count	Displays the package count for the planning state.
Development	The status of the Harvest package lifecycle state. If the Harvest package is still in the plan lifecycle state, the status displays Not Started with a blue status indicator icon. Other possible states are In Progress (yellow status indicator icon), and Completed (green status indicator icon).
Development Pkg Count	Displays the package count for the development lifecycle state.
Test	The status of the Harvest package lifecycle state. If the Harvest package is still in the development lifecycle state, the status displays Not Started with a blue status indicator icon. Other possible states are In Progress (yellow status indicator icon), and Completed (green status indicator icon).

Field	Description
Test Pkg Count	Displays the package count for the test lifecycle state.
Production	The status of the Harvest package lifecycle state. If the Harvest package is still in the test lifecycle state, the status displays Not Started with a blue status indicator icon. Other possible statuses are In Progress (yellow status indicator icon), and Completed (green status indicator icon).
Production Pkg Count	Displays the package count for the production lifecycle state.

Update CA Clarity PPM Feature Task Completion

As Harvest packages progress through the lifecycle, the Harvest manager is responsible for their review and promotion from one lifecycle state to the next. The CA Clarity PPM project manager is responsible for using CA Clarity PPM to track the package progress. As packages progress, the CA Clarity PPM project manager updates the feature task completion.

About CA Clarity PPM Change Order Tasks

CA Clarity PPM change order tasks originate as Service Desk change orders. As the Service Desk analyst transitions the Service Desk change order to CA Clarity PPM, it is converted into a CA Clarity PPM change order task on an existing CA Clarity PPM project. CA Clarity PPM tasks that originate in Service Desk are known as CA Clarity PPM change order tasks. Unlike CA Clarity PPM feature tasks, CA Clarity PPM change order tasks represent a one-to-one relationship between a CA Clarity PPM project task and a Harvest package.

When managing CA Clarity PPM change order tasks, the initial point at which you see the connector is when you view the change order task on an existing CA Clarity PPM project. The project is identified by the project ID specified as a component of the Service Desk project CI.

Note: For more information about Service Desk change orders, see the Unicenter Service Desk documentation.

Accessing CA Clarity PPM Change Order Tasks

You can view and edit CA Clarity PPM change order task details from the Task *Properties: Change Order Details* page. Use this page to view a summary of the change order task, such as the Harvest lifecycle states, to create a Harvest package, and to cancel change order tasks.

To view this page, click Change Order Details from the content menu.

Task Properties (Project: Software Life Cycle | Task: task 2)

Properties

Estimating

Associated Risks/Issues

Main

Dependencies

Save

Submit

Cancel

[Links][Notes]

General

Change Order Details

Details

Harvest Project Task Type

Change Order

 Integration Status Priority

Harvest States

Plan	Not Started	Test	Not Started
Planning Pkg Count	0	Test Pkg Count	0
Development	Not Started	Production	Not Started
Development Pkg Count	0	Production Pkg Count	0

Change Order Information

Harvest ID

Total Package Count

Overall % Complete

Change Order Status

Description

Create Harvest Package

Save

Submit

Cancel

[Links][Notes]

The following table describes the remaining fields in the Details and Change Order Information sections of this page.

Field	Description
Details	
Harvest Project	The name of the Harvest project in CA Clarity PPM. Select the name of the project from the pull-down. Note: If this task was created from Service Desk, this field is read-only.

Field	Description
Integration Status	Displays the integration status between this CA Clarity PPM change order task and the Harvest package. When a valid status is received from Harvest, the status reflects a green checkmark. If the associated Harvest package is deleted, the status reflects a red checkmark.
Task Type	Displays the task type. Use the pull-down to select the task type. Choices are Feature, Change Order, and Standard. See Project Task Types.
Priority	The priority of this task.
Change Order Information	
Harvest ID	The unique identifier for the Harvest package. Note: If this task was created from Service Desk, this field is read-only and contains the Service Desk change order number.
Total Package Count	The total number of Harvest packages. This field is read-only.
Overall % Complete	Displays the CA Clarity PPM change order task overall percent complete, based on the number of Harvest packages in each lifecycle state and based on the weights assigned to each lifecycle state.
Change Order Status	The status of the Service Desk change order. Choices are Evaluate, Scheduled, Cancel, Send to Harvest, In Development, Create Error, Status Error.
Description	The description of the Service Desk change order. This field is read-only. Note: If this task was created from Service Desk, this field is read-only.
Create Harvest Package	Select this box to indicate you want a Harvest package created.

Use the Integration Change Order Dashboard

In CA Clarity PPM, you can view a list of your maintenance project change order tasks from the Change Order Tasks portlet on the Integration Dashboard. This portlet displays a list of the change order tasks added to the project. The Integration Dashboard also contains three default views-General, Labor Effort, and Team Utilization-that summarize project data such as project labor and team utilization. These views are also available on the default project Dashboard.

Note: See the *Project Management User Guide* for more information.

The data on the Integration Dashboard page is read-only. Dashboard data is drawn from the information you enter in the task and resource assignment fields, and from data submitted in staff member timesheets. This dashboard is automatically updated when new information is added or posted to the project.

To set up the Integration Dashboard for a project

You will need to repeat this procedure for each of your maintenance projects.

1. Open the CA Clarity PPM project.

The Project Properties: Main - General page appears.

2. Select Integration Change Order Dashboard as the page layout in the General section of the page.
3. Click Save.

The default Dashboard tab of the project changes to the Integration Dashboard.

To view the project Integration Dashboard

Note: Before you can view the project Integration Dashboard, make sure you set up the page layout of your maintenance project to display the Integration Dashboard. Also, to view the dashboard, you must have Portlet Viewer - All or Portlet - View instance rights.

To view the dashboard, open the CA Clarity PPM project, and select the Integration Dashboard tab.

Associate CA Clarity PPM Change Order Tasks to Harvest Projects in CA Clarity PPM

After creating your Harvest project in CA Clarity PPM, associate your CA Clarity PPM change order task to the Harvest project in CA Clarity PPM. Use the Harvest Project field on the CA Clarity PPM change order task Task Properties: Change Order Details page to associate the task to the Harvest Project. This field uniquely identifies the association between the CA Clarity PPM change order task and the Harvest Project in CA Clarity PPM.

To associate the CA Clarity PPM change order task to the Harvest Project in CA Clarity PPM

1. Select Projects from the Portfolio Management menu.
The Projects page appears.
2. Click the name of the project.
The Project Properties: Main - General page appears.
3. Select the Tasks tab.
The Project Tasks: Task List page appears.
4. Click the name of the change order task to which you want to associate to the Harvest Project in CA Clarity PPM.
The Task Properties page appears.
5. Select Change Order Details from the content menu.
The Task Properties: Change Order Details page appears.
6. Select the name of the Harvest Project in CA Clarity PPM at Harvest Project.

Note: When integrated with Service Desk, this field is preset based on the Service Desk project CI settings, and is read-only.

Evaluating and Scheduling CA Clarity PPM Change Order Tasks

The initial status of CA Clarity PPM change order tasks originating from Service Desk is Evaluate. You can view this status on the Task Properties: Change Order Details page.

During the evaluation period, the CA Clarity PPM project manager can begin to scope the task and evaluate resource capacity by assigning staff, ETC, start and finish dates to the task. Evaluating and scheduling tasks is basic project management functionality.

Note: See the *Project Management User Guide* for more information.

After the task is evaluated, the CA Clarity PPM project manager can change the CA Clarity PPM change order task status from Evaluate to Scheduled. To do this, from the *Task Properties: Change Order Details* page, at Change Order Status, select Scheduled, and click Submit.

When you mark a CA Clarity PPM change order task as Scheduled, CA Clarity PPM sends an update to Service Desk. The Log Comment is entered in Service Desk Change Order Activity Log List and details the name of the task assigned resource, the ETC, the start and finish dates. The scheduling process also triggers CA Clarity PPM to set the Service Desk change order *Evaluate Clarity Task* workflow task status from "Evaluate" to "Complete".

Note: If you have only Service Desk and CA Clarity PPM connected, setting the change order task status to Scheduled triggers CA Clarity PPM to also update the Service Desk change order Notify Assignee workflow task status from Wait to Pending.

If Harvest is integrated with Service Desk and CA Clarity PPM and is being used to manage the change order development, setting the change order task status to Scheduled triggers CA Clarity PPM to also update the Service Desk change order Monitor Harvest Package workflow task status from Wait to Pending.

Create Harvest Package from CA Clarity PPM Change Order Tasks

After you have determined that a CA Clarity PPM change order needs to be developed and managed in Harvest, you can create a Harvest package using CA Clarity PPM.

Important! Before creating a Harvest package from CA Clarity PPM, make sure you have created and defined the Harvest project and forms in Harvest, the Harvest Project in CA Clarity PPM, and associated the CA Clarity PPM feature task to the Harvest Project in CA Clarity PPM.

To create a Harvest package from a CA Clarity PPM change order task, from the Task Properties: Change Order Details page, select the Create Harvest Package check box, and click Submit. Once created, this field is locked and you cannot create another Harvest package using this task. In Harvest, the new Harvest package name is the CA Clarity PPM change order task Harvest ID and task ID with a dash (-) between.

When you create a Harvest package from a CA Clarity PPM change order task, an update is sent to Service Desk. The log comment is entered in Service Desk Change Order Activity Log List. The process also triggers CA Clarity PPM to set the Service Desk change order Monitor Harvest Package workflow task status from Pending to In Progress.

How Harvest Package Activity is Monitored from CA Clarity PPM Change Order Tasks

The CA Clarity PPM project manager can monitor task progress and activity-including new application or change order maintenance costs-from the project pages, views, and portlets. This is basic project management functionality.

Note: See the *Project Management User Guide* for more information.

The initial lifecycle state of a Harvest package is plan (PLAN). You can view this lifecycle state in the Harvest States section of the Task Properties: Change Order Details page.

Note: If you have Service Desk, CA Clarity PPM, and Harvest connected, and you are using Service Desk to create change orders, at each lifecycle state change, Harvest sends an update to Service Desk. The log comment is entered in Service Desk Change Order Activity Log List.

When the packages associated to the CA Clarity PPM change order task are promoted to the production lifecycle state, the CA Clarity PPM project manager manually sets the task % Complete field to 100%. This field change sends an update to Service Desk. The log comment is entered in Service Desk Change Order Activity Log List. The package promotion also triggers Harvest to set the Service Desk change order Monitor Harvest Package workflow task status from In Progress to Complete, and to set the change order Notify Assignee workflow task status from Wait to Pending.

Cancel CA Clarity PPM Change Order Tasks

When a CA Clarity PPM change order task is not scheduled and work is not being done, you can cancel the work using CA Clarity PPM. To do this, on the Task Properties: Change Order Details page, at Change Order Status, select Cancel, and click Submit. The change order task status remains Not Started.

When you cancel a CA Clarity PPM change order task, an update is sent to Service Desk. The log comment is entered in Service Desk Change Order Activity Log List detailing the cancellation of the CA Clarity PPM change order task. The cancellation process also updates the *Service Desk Change Order Evaluate Clarity Task* workflow task status from "Evaluate" to "Skip".

Note: If you only have Service Desk and CA Clarity PPM connected, cancelling the CA Clarity PPM task also updates the Service Desk change order *Notify Assignee* workflow task status from "Wait" to "Pending" to "Complete".

Note: If you have Harvest, Service Desk and CA Clarity PPM connected and you are using them to manage the change order development, cancelling the CA Clarity PPM task also updates the Service Desk change order Monitor Harvest Package workflow task status from "Wait" to "Skip", and updates the change order *Notify Assignee* workflow task status from "Wait" to "Pending" to "Complete".

Complete CA Clarity PPM Tasks and Projects

The following sections describe how to mark CA Clarity PPM tasks and projects as complete.

Mark Tasks as Complete

When all the Harvest packages for a task have been promoted to the production lifecycle state, the CA Clarity PPM project manager can mark the CA Clarity PPM task as complete. This is basic project management functionality.

If you have Service Desk and CA Clarity PPM connected, and you are using Service Desk to create change orders, marking the CA Clarity PPM change order task as complete triggers CA Clarity PPM to send an update to Service Desk. The log comment is entered in Service Desk Change Order Activity Log List detailing the task completion.

Note: When the task is complete, the Service Desk assignee should update and close the Service Desk change order and notify the Service Desk end-user.

Note: See the *Project Management User Guide* for more information.

How Projects are Marked as Complete

After all the project tasks are 100 percent complete, the CA Clarity PPM project manager should mark the project as complete. This is basic project management functionality.

Note: See the *Project Management User Guide* for more information.

When you complete a CA Clarity PPM project that originated in Service Desk, the following takes place:

- CA Clarity PPM sends an update to Service Desk.
- The log comment is entered in Service Desk's *Change Order Activity Log List* detailing the CA Clarity PPM project completion.
- In CA Clarity PPM the Service Desk change order *Monitor Clarity Project* workflow task status is set from "In Progress" to "Complete".
- In CA Clarity PPM the change order Notify Assignee workflow task status is set from Wait to Pending.

Note: When the project is complete, the Service Desk assignee should update and close the Service Desk change order and notify the Service Desk end-user.

Chapter 7: Harvest User Tasks (Connector for CA Unicenter® Service Desk and CA Software Change Manager for Distributed)

This section contains the following topics:

[Create Harvest Projects Using the Lifecycle Template](#) (see page 148)

[Use the Service Desk Clarity Connector Request for Change Form](#) (see page 150)

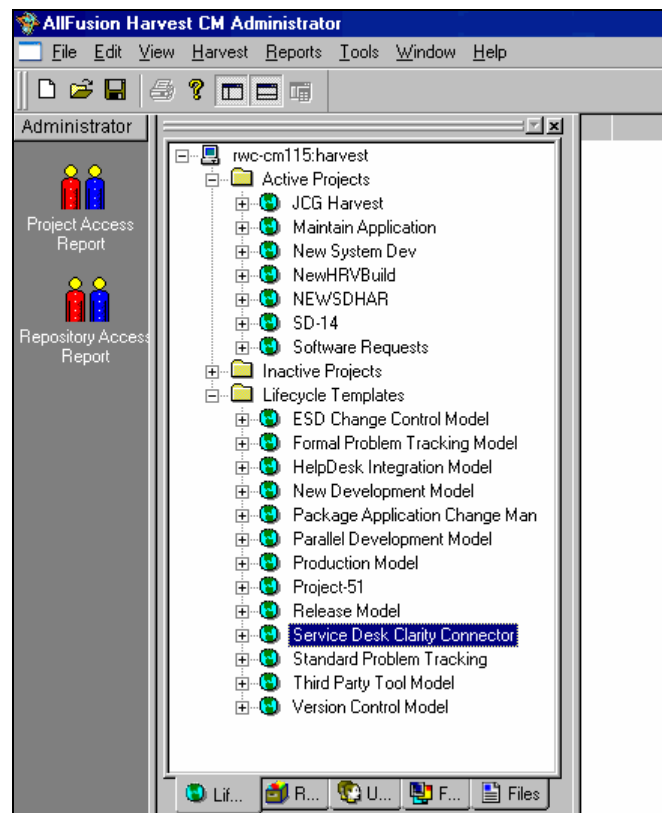
[Promote Harvest Package through Service Desk Clarity Connector Lifecycle States](#) (see page 151)

[Demote Harvest Package from Test to Development Lifecycle State](#) (see page 152)

[Create Harvest Package and Associate to CA Clarity PPM Feature Task](#) (see page 153)

Create Harvest Projects Using the Lifecycle Template

Use CA Technologies Harvest *Service Desk Clarity Connector* lifecycle template to create new Harvest projects, and to define the project forms and processes. This project template provides the necessary forms and processes to integrate Harvest with Service Desk and CA Clarity PPM.



Use the existing AllFusion Harvest Change Manager (CM) Administrator functionality to create the Harvest project in Harvest.

To create a Harvest project using the *Service Desk Clarity Connector* lifecycle template

1. Log in to AllFusion Harvest CM Administrator.
2. Expand the Lifecycle Templates folder and right-click the *Service Desk Clarity Connector* lifecycle template.

The shortcut menu appears.

3. Select Copy To.

The Copy Project window opens.

4. Complete the following fields:

- Name—enter a name for your new project.
- Copy To—make sure Active is selected.
- Duplicate Access Control—make sure this check box is selected.
- Create User Group—make sure this check box is cleared.

5. Click OK.

The new active project appears in the Active Projects list.

Use the Service Desk Clarity Connector Request for Change Form

When you create Harvest packages using CA Clarity PPM or Service Desk, a *Service Desk Clarity Connector Request for Change* form is created that is associated to the package. Some of the form tabs-Origination, Service Desk, and CA Clarity PPM-are specific to the connection and are pre-populated with read-only information that is brought over from Service Desk and CA Clarity PPM. To view the specific fields that are mapped, see the appendix "Field Mappings."

The screenshot displays a software interface with two main panes. The left pane is a tree view showing a hierarchy of projects and packages. The right pane is titled 'Service Desk Clarity Connector' and contains a 'Request for Change' form. The form has several tabs: 'Origination', 'Service Desk', 'Clarity', 'Application', 'Investigation', 'Development', 'Test', and 'Confirmation'. The 'Service Desk' tab is currently selected. The form fields include: 'Date Reported' (22/04/2006 16:35:58 PM), 'Reported by' (ServiceDesk), 'Origin' (empty), 'Category' (Project.Maint Harvest Only), 'Priority' (4), 'ETC Hours' (empty), and 'Description' (testing again!). At the bottom of the right pane are buttons for 'Print...', 'OK', 'Cancel', and 'Apply'.

To access the form associated to the package

From the list, expand the Harvest package to show the form associated with the package, and click the form. The Request For Change form opens in the right pane.

Promote Harvest Package through Service Desk Clarity Connector Lifecycle States

The *Service Desk Clarity Connector* lifecycle template has four default lifecycle states: plan, development, test, and production. As the package transitions from one lifecycle state to the next, you will promote the package in Harvest. When you promote or demote a Harvest package that is associated with a Service Desk change order, Harvest sends an update to Service Desk. The log comment is entered in Service Desk Change Order Activity Log List. Harvest package lifecycle state changes are also tracked on the Task Details page in Clarity, and on the integrated dashboard portlet of Clarity project.

To promote a Harvest package

1. Expand the project to show the four lifecycle states.
2. Expand the lifecycle state, Packages and right-click the package you want to promote.
The shortcut menu appears.
3. Select Processes, and depending on the lifecycle state, select one of the following:
 - Promote to Development—to promote a package from the planning lifecycle state to the development lifecycle state.
 - Promote to Test—to promote a package from the development lifecycle state to the test lifecycle state.
 - Promote to Production—to promote a package from the test lifecycle state to the production lifecycle state.

Demote Harvest Package from Test to Development Lifecycle State

Use AllFusion Harvest CM Workbench to demote Harvest packages. If you demote a package that is associated with a Service Desk change order from the test lifecycle state to the development lifecycle state, Harvest sends an update to Service Desk. The log comment is entered in Service Desk Change Order Activity Log List. Harvest package lifecycle state changes are also tracked on the *Task Details* page in CA Clarity PPM, and on the integrated dashboard portlet of CA Clarity PPM project.

To demote a Harvest package from the test lifecycle state to the development lifecycle state

1. Expand the project to show the four lifecycle states.
2. Expand the Test lifecycle state, Packages, and right-click the package you want to demote.

The shortcut menu appears.

3. Select Processes, and select Demote to Dev.

The package is demoted to Dev.

Create Harvest Package and Associate to CA Clarity PPM Feature Task

When you want to track the work that is represented by a CA Clarity PPM feature task in Harvest, you can create new packages and associate them to an existing form. This process captures all the work in that same form through its association to the CA Clarity PPM feature task.

To create a package

1. Log in to the AllFusion Harvest Workbench.
2. Expand the projects folder to show the four lifecycle states.
3. Right-click the Plan lifecycle state.
4. Select Processes, and select Create RFC.

The Create RFC dialog opens.

5. Complete the following fields:
 - Name—enter a name for your new package.
 - Assign To—select the person to which you want to assign this package.
6. Click OK.

The new package is listed beneath the Plan lifecycle state on the Workbench.

To create an association between the new package and an existing form

1. Right-click the newly defined package on the Projects tab of the Workbench, and select Properties.

The Package Properties dialog opens.

2. Select the Forms tab and click Add.

The Find Form dialog opens.

3. Locate and select the form you want to associate with the new package, and click OK.

The Find Form dialog closes.

4. Click OK on the Package Properties dialog.

The associated form is listed beneath the new package on the Workbench.

In CA Clarity PPM, the feature task associated to the form reflects an additional package. Harvest package lifecycle state changes are also tracked on the *Task Details* page in CA Clarity PPM, and on the integrated dashboard portlet of CA Clarity PPM project.

Appendix A: Field Mappings (Connector for CA Unicenter® Service Desk and CA Software Change Manager for Distributed)

This section describes the fields that are mapped to and from CA Clarity PPM when you use the connector.

This section contains the following topics:

[Field Mappings: Service Desk Change Orders to CA Clarity PPM Incidents](#) (see page 155)

[Field Mappings: Service Desk Change Orders to CA Clarity PPM Ideas](#) (see page 156)

[Field Mappings: Service Desk Change Orders to CA Clarity PPM Change Order Tasks](#) (see page 157)

[Field Mappings: CA Clarity PPM Tasks to Harvest Packages](#) (see page 159)

[Field Mappings: Service Desk Change Orders to Harvest Packages](#) (see page 163)

Field Mappings: Service Desk Change Orders to CA Clarity PPM Incidents

In CA Clarity PPM, the fields listed in the following table are populated when a Service Desk analyst creates a CA Clarity PPM incident using Service Desk. Notes are provided only when there is special information on the location of the field in either CA Clarity PPM or Service Desk.

Note: For more information about incident fields, see the *CA Clarity PPM Using Demand Management* guide.

CA Clarity PPM Incident Field	Service Desk Change Order Field	Notes
Short Description	Order Summary	
Tracking ID	Change Order Number	The Change Order Number field is required.
Detailed Description	Order Description	The Order Description field is required.
Category	Category	

CA Clarity PPM Incident Field	Service Desk Change Order Field	Notes
Priority	Priority	1, 2 = High 3, 4 = Medium 5 = Low None = Not selected
Expected End Date	Need By Date	The Need By Date field is required.
Estimated Total Effort (Hours)	Est Duration	Field displays on the Costs/Plans tab in Service Desk.
Primary Contact Name	Assignee	Field displays in the Primary Contact section of the Incident page in CA Clarity PPM.

Field Mappings: Service Desk Change Orders to CA Clarity PPM Ideas

In CA Clarity PPM, the fields listed in the following table are populated when a Service Desk analyst creates a CA Clarity PPM idea using Service Desk. Notes are provided only when there is special information on the location of the field in either CA Clarity PPM or Service Desk.

Note: See the *Demand Management User Guide* for more information.

CA Clarity PPM Idea Fields	Service Desk Change Order Fields	Notes
Subject	Order Summary	
Priority	Priority	1, 2 = High 3, 4 = Medium 5 = Low None = Not selected
Description	Order Description	The Order Description field is required.
Owner	Assignee	
Idea ID	Change Order Number	The Change Order Number field is required.
Estimated Start Date	Actual Start Date	

CA Clarity PPM Idea Fields	Service Desk Change Order Fields	Notes
Estimated Finish Date	Need By Date	The Need By Date field is required.

Field Mappings: Service Desk Change Orders to CA Clarity PPM Change Order Tasks

In CA Clarity PPM, the fields listed in the following table are populated when a Service Desk analyst creates a change order task on an existing CA Clarity PPM project using Service Desk. Notes are provided only when there is special information on the location of the field in either CA Clarity PPM or Service Desk, or on how the connector handles data exchanges between the two applications.

Service Desk Change Order Fields	CA Clarity PPM Change Order Task Fields	Notes
Change Order Number	ID	The Change Order Number field is required. The ID is the CA Clarity PPM task ID and appears on the Task Properties page.
Order Summary	Name	The Order Summary field is required. Only the first 150 characters of this field are mapped.
	Change Order Status	The Change Order Status field appears in the Change Order Information section on the Task Properties: Change Order Details page. It is automatically set to Evaluate when the task is created.
Order Description	Description	The Order Description field is required. The Description field appears in the Change Order Information section on the Task Properties: Change Order Details page.

Service Desk Change Order Fields	CA Clarity PPM Change Order Task Fields	Notes
	Start	The task Start date field is calculated based on the change order Estimated Duration field and the Need By Date field. This field appears on the Task Properties page.
Need By Date	Finish	The Need By Date field is required. The Finish field appears on the Task Properties page.
Change Order Number	Harvest ID	The Change Order Number field is required. The Harvest ID field is read-only and appears in the Change Order Information section on the Task Properties: Change Order Details page.
Priority	Priority	In CA Clarity PPM, the Priority field appears on Task Properties: Change Order Details page.
Project	Harvest Project	The Service Desk project CI is used to store information about projects that exist in CA Clarity PPM and Harvest. This information is used to determine both the CA Clarity PPM project and the Harvest project.

Field Mappings: CA Clarity PPM Tasks to Harvest Packages

In Harvest, the fields listed in the following table are populated in Harvest when a CA Clarity PPM project manager creates a Harvest package from a CA Clarity PPM feature or change order task. These fields appear on the CA Harvest *Service Desk Clarity Connector Request for Change* form. Notes are provided only when there is special information on the location of the field in either CA Clarity PPM or Harvest, or on how the connector handles data exchanges between the two applications.

CA Clarity PPM Task Fields	Harvest Package Fields	Notes
From Change Order Tasks		
Harvest ID & ID	Name	The ID is the CA Clarity PPM task ID and appears on the Task Properties page. The Name field appears on the Package tab on the Package Properties window in Harvest, and is a concatenation of both CA Clarity PPM ID fields, e.g. <Harvest ID> - <ID>.
Assignee	Assigned To	The CA Clarity PPM resource ID and Harvest user ID must match. The Assignee is the name of the first resource listed in the Assignments section of the Task Properties page. The Assigned To field appears on the Package tab on the Package Properties window in Harvest.
	Change Order #	The Change Order # field appears on the Service Desk tab of the form if the change order originated from Service Desk.

CA Clarity PPM Task Fields	Harvest Package Fields	Notes
	Date Reported	The Date Reported field is not a direct field mapping; it is automatically set to the date and time the task was created. This field appears on the Origination tab of the form.
Finish	Fix by	The Fix by field appears on the Investigation tab of the form.
Priority	Priority	In Harvest, the Priority field appears on the Origination tab of the form. In CA Clarity PPM, the Priority field appears on the Task Properties: Change Order Details page.
Description	Description	The Description field (Harvest) appears on the Origination tab of the form.
	Category	The Category field is not a direct field mapping; it is automatically set to Change Order. This field appears on the Origination tab of the form.
	Reported By	The Reported By field is not a direct field mapping; it is automatically set to CA Clarity PPM. This field appears on the Origination tab of the form.
ETC	ETC Hours	The CA Clarity PPM resource ID and Harvest user ID must match. The ETC Hours is the ETC value for the first assignee listed in the Assignments section of the Task Properties page. This field appears on the Origination tab of the form.

CA Clarity PPM Task Fields	Harvest Package Fields	Notes
	Origin	The Origin field is not a direct field mapping; it is automatically set to Service Desk. This field appears on the Origination tab of the form.
	Type	The Type field is not a direct field mapping; it is automatically set to Change Order. This field appears on the Origination tab of the form.
Project ID	Project ID	This field appears on the form's CA Clarity PPM tab.
Harvest ID	Feature ID	This field appears on the CA Clarity PPM tab of the form.
Project Name	Project Name	This field appears on the CA Clarity PPM tab of the form.
From Feature Tasks		
Harvest ID & ID	Name	The ID is the CA Clarity PPM task's ID and appears on the Task Properties page. The Name field appears on the Package tab on the Package Properties window in Harvest, and is a concatenation of both CA Clarity PPM ID fields, e.g. <Harvest ID> - <ID>.
Harvest Manager	Assigned To	The CA Clarity PPM resource ID and Harvest user ID must match. The Assigned To field appears on the Package tab on the Package Properties window in Harvest.

CA Clarity PPM Task Fields	Harvest Package Fields	Notes
	Date Reported	The Date Reported field is not a direct field mapping; it is automatically set to the date and time the task was created. This field appears on the Origination tab of the form.
Finish	Fix by	The Fix by field appears on the Investigation tab of the form.
Priority	Priority	In Harvest, the Priority field appears on the form's Origination tab. In CA Clarity PPM, the Priority field appears on the Task Properties: Change Order Details page.
Description	Description	In Harvest, the Description field appears on the Origination tab of the form.
Component	Category	The Category field appears on the Origination tab of the form.
	Reported By	The Reported By field is not a direct field mapping; it is automatically set to CA Clarity PPM. This field appears on the Origination tab of the form.
	Origin	The Origin field is not a direct field mapping; it is automatically set to CA Clarity PPM. This field appears on the Origination tab of the form.
	Type	The Type field is not a direct field mapping; it is automatically set to Feature. This field appears on the Origination tab of the form.

CA Clarity PPM Task Fields	Harvest Package Fields	Notes
Project ID	Project ID	This field appears on the CA Clarity PPM tab of the form.
Harvest ID	Feature ID	This field appears on the CA Clarity PPM tab of the form.
Project Name	Project Name	This field appears on the CA Clarity PPM tab of the form.

Field Mappings: Service Desk Change Orders to Harvest Packages

In AllFusion Harvest, the AllFusion Harvest package fields listed in the following table are populated when a Service Desk analyst creates a Harvest package from a Service Desk change order. These fields appear on the *Service Desk Clarity Connector Request for Change* form in AllFusion Harvest. Notes are provided only when there is special information on the location of the field in either Service Desk or Harvest, or on how the connector handles data exchanges between the two applications.

Service Desk Change Order Fields	Harvest Package Fields	Notes
Change Order Number	Change Order #	The Change Order # field appears on the Service Desk tab of the form. Where this field is also used for the default package name, you can change this value in Harvest.
Start Date	Date Reported	The Start Date field appears on the workflow task: Create Harvest Package, on the Workflow Tasks tab. The Date Reported field appears on the Origination tab of the form. This value is the date/time from the Harvest server.
Requester	Reported by	The Reported by field appears on the Origination tab of the form.

Service Desk Change Order Fields	Harvest Package Fields	Notes
N/A, system generated field.	Origin	The Origin field appears on the Origination tab of the form. This value is set to Service Desk, and indicates the source that created the package.
Category	Category	The Category field appears on the Origination tab of the form.
Priority	Priority	The Priority field appears on the Origination tab of the form.
Est. Duration, on the Costs/ Plans tab.	ETC Hours	The ETC Hours field appears on the Origination tab of the form.
Order Description	Description	The Description field appears on the Origination tab of the form.

Appendix B: Fault Handling (Connector for CA Unicenter® Service Desk and CA Software Change Manager for Distributed)

This appendix gives information about fault handling from Service Desk to CA Clarity PPM and CA Clarity PPM to Harvest.

This section contains the following topics:

[Fault Handling: Service Desk to CA Clarity PPM](#) (see page 165)

[Fault Handling: CA Clarity PPM to Harvest](#) (see page 166)

Fault Handling: Service Desk to CA Clarity PPM

Service Desk change orders have unique internal IDs (hidden) and reference numbers that are passed to CA Clarity PPM. The reference number is used to determine the type of CA Clarity PPM object-project, task, incident, or idea-that is created.

The following table contains errors you might come across during the connection of Service Desk and CA Clarity PPM and how CA Clarity PPM handles them.

Fault	Action	Resolution
Duplicate CA Clarity PPM Task ID	A log comment is entered in Service Desk Change Order Activity Log List.	One of the following should occur: ■ Create a Service Desk change order. ■ Change the duplicate CA Clarity PPM Task ID.

Fault	Action	Resolution
Project ID does not exist	A log comment is entered in Service Desk Change Order Activity Log List.	One of the following should occur: ■ If the CA Clarity PPM project exists, edit the Service Desk project CI to match the CA Clarity PPM Project ID. ■ If the CA Clarity PPM project does not exist, create the project. ■ Create a Service Desk change order.
Resource ID not found	A default resource ID is used for the Idea Owner (for CA Clarity PPM ideas) and Primary Contact (for incidents).	The CA Clarity PPM administrator user named CAIAdmin is used by default.
Duplicate Incident ID	A log comment is entered in Service Desk Change Order Activity Log List.	Create a Service Desk change order.
Duplicate Idea ID	A log comment is entered in Service Desk Change Order Activity Log List.	Create a Service Desk change order.

Fault Handling: CA Clarity PPM to Harvest

The following table contains errors you might come across during the connection of CA Clarity PPM and Harvest and how Harvest handles them.

Fault	Action	Resolution
Harvest User ID does not match CA Clarity PPM Resource ID	The Assigned To field is left empty.	The Harvest manager must manually assign the Harvest package.
Resource ID not found	The Assigned To field is left empty.	The Harvest manager must manually assign the Harvest package.

Appendix C: Verifying the Service Desk Installation (Connector for CA Unicenter® Service Desk and CA Software Change Manager for Distributed)

This appendix contains procedures to verify whether Service Desk is installed properly or not.

This section contains the following topics:

[Verify the Service Desk Integration Installation](#) (see page 168)

Verify the Service Desk Integration Installation

To verify the Service Desk integration installation

1. Log in to the Service Desk web client as a user with Administrative Access rights, using the same credentials that you used to run the configuration.
2. Select Administration, Service Desk, Application Data, Configuration Items, and Configuration Item Classes from the Administration tab.

Note: If you chose ITIL, the list displays CIs and CI classes. If not, the list displays assets and asset classes.

The Configuration Item Family List appears in the right pane, as follows:

The screenshot shows the CA Unicenter Service Desk web client interface. The top navigation bar includes 'Service Desk', 'Knowledge', and 'Administration'. The 'Administration' tab is selected, and the left sidebar shows a tree view with 'Configuration Item Families' highlighted. The main content area displays the 'Configuration Item Family List' table.

Family	Description	Status
Computer	Computer family	Active
Hardware	Hardware Device family	Active
Other	Other family	Active
Projects	Project family	Active
Service	Service family	Active
Software	Software family	Active

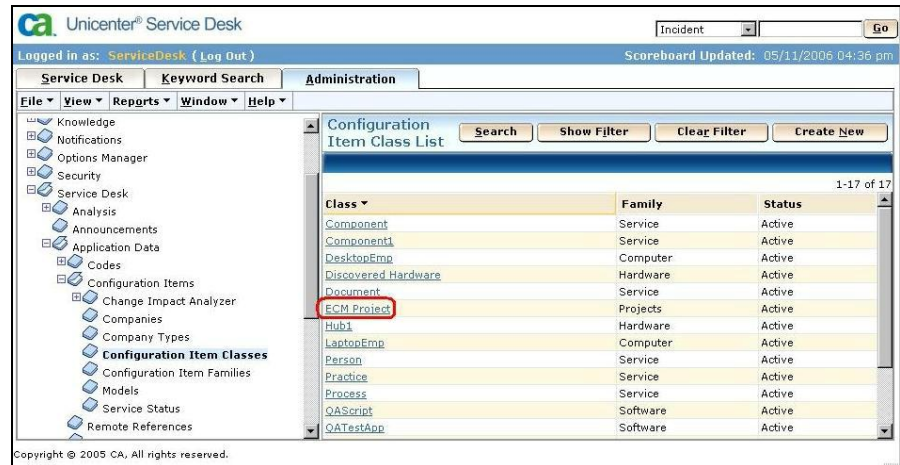
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A new CI family appears representing a project. A Service Desk project CI is used to store information about projects that exist in CA Clarity PPM and Harvest. This information is used during the various integration processes.

3. Select Administration, Service Desk, Configuration Items, and Configuration Item Classes from the Administration tab.

Note: If you chose ITIL, the list displays CIs and CI classes. If not, the list displays assets and asset classes.

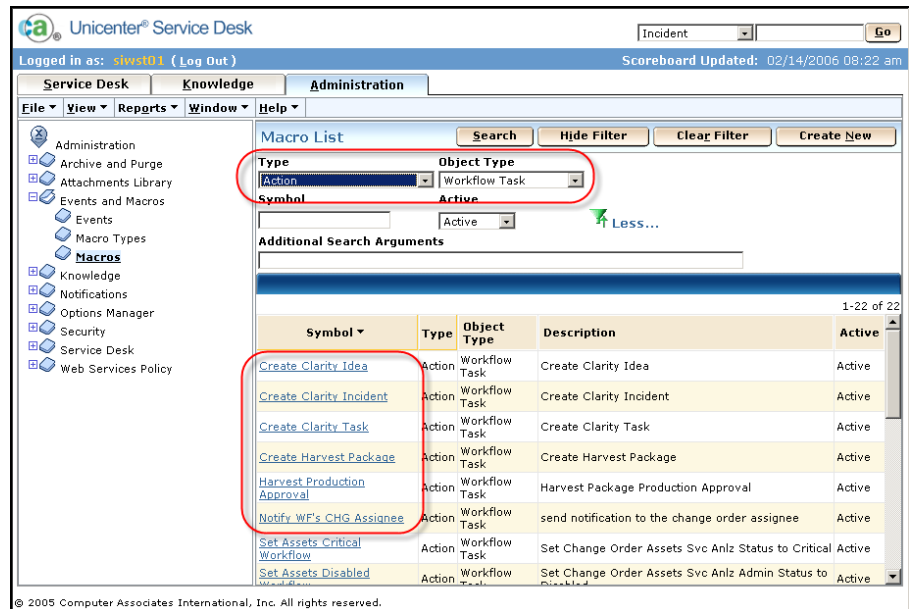
The Configuration Item Class List appears in the right pane, as follows:



A class named ECM Project appears in the list. This class is a member of the CI family of the project. You can use this class to create the project CIs for the connector.

4. Select Administration, Events and Macros, and Macros from the Administration tab.

The Macro List appears in the right pane. Service Desk macros are used to start the connection processes, and are launched during specific status changes in workflow tasks.

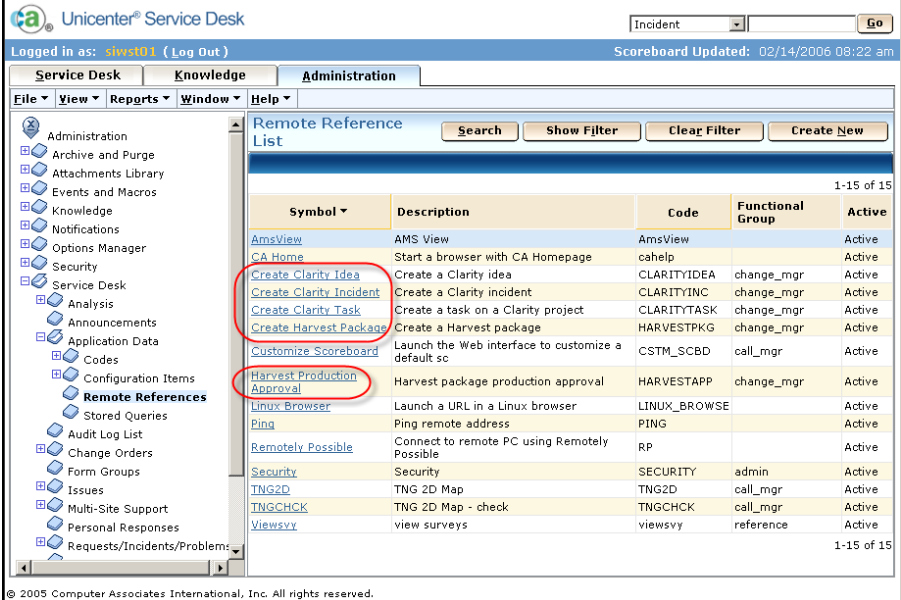


5. Verify that the above macros exist by performing a search using the following criteria:
 - In the Type field, select Action.
 - In the Object Type field, select Workflow Task.
 - Click Search.
6. Select Administration, Service Desk, Application Data, and Remote References from the Administration tab.

Note: If you chose ITIL, the list displays CIs and CI classes. If not, the list displays assets and asset classes.

 - The Remote Reference List appears in the right pane. Remote references store the command line specification that is used to execute the integration processes. The values of the command line specifications that are stored here are used during the processing of the Action Macros that were examined in a previous step.

7. Perform this search using the following criteria and verify that the same search results are returned:



The screenshot shows the Unicenter Service Desk Administration interface. The left sidebar lists various administration tasks, with 'Remote References' highlighted. The main pane displays a table of remote reference tasks. Several items in the table are circled in red, indicating the search results.

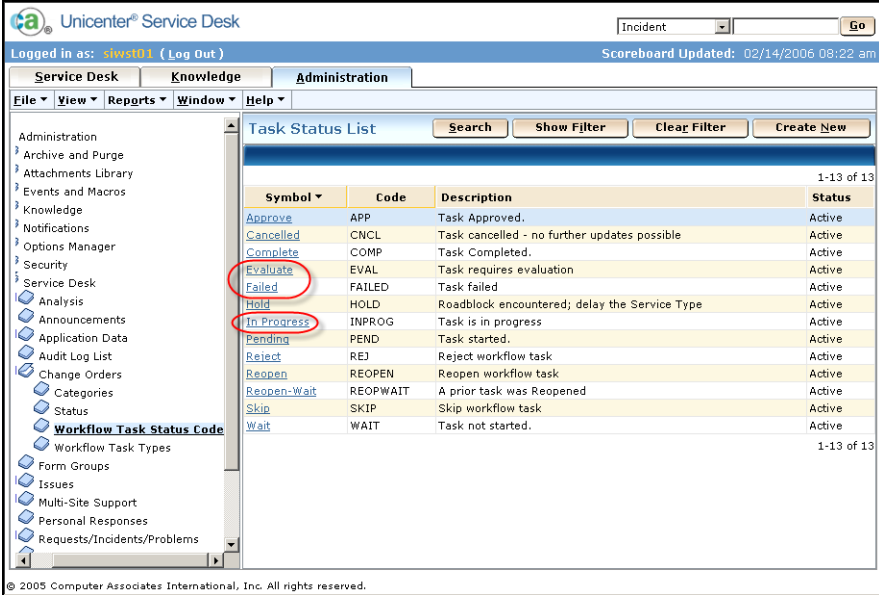
Symbol	Description	Code	Functional Group	Active
AmsView	AMS View	AmsView		Active
CA Home	Start a browser with CA Homepage	cahelp		Active
Create Clarity Idea	Create a Clarity idea	CLARITYIDEA	change_mgr	Active
Create Clarity Incident	Create a Clarity incident	CLARITYINC	change_mgr	Active
Create Clarity Task	Create a task on a Clarity project	CLARITYTASK	change_mgr	Active
Create Harvest Package	Create a Harvest package	HARVESTPKG	change_mgr	Active
Customize Scoreboard	Launch the Web interface to customize a default sc	CSTM_SCBD	call_mgr	Active
Harvest Production Approval	Harvest package production approval	HARVESTAPP	change_mgr	Active
Linux Browser	Launch a URL in a Linux browser	LINUX_BROWSE		Active
Ping	Ping remote address	PING		Active
Remotely Possible	Connect to remote PC using Remotely Possible	RP		Active
Security	Security	SECURITY	admin	Active
TNG2D	TNG 2D Map	TNG2D	call_mgr	Active
TNGCHECK	TNG 2D Map - check	TNGCHECK	call_mgr	Active
Viewsrv	view surveys	viewsrv	reference	Active

8. Several new workflow task statuses have been added for the connection processes. From the Administration tab, select Administration, Service Desk, Change Orders, and Workflow Task Status Code.

Note: If you chose ITIL, the list displays CIs and CI classes. If not, the list displays assets and asset classes.

The Task Status List appears in the right pane.

9. Verify that the Evaluate and In Progress task statuses are listed, as follows:



The screenshot shows the Unicenter Service Desk Administration interface. The 'Task Status List' is displayed in the right pane. The list contains 13 items, with 'Evaluate' and 'In Progress' highlighted by red circles. The left pane shows the 'Workflow Task Status Code' selected under the 'Workflow Task Types' category.

Symbol	Code	Description	Status
Approve	APP	Task Approved.	Active
Cancelled	CNCL	Task cancelled - no further updates possible	Active
Complete	COMP	Task Completed.	Active
Evaluate	EVAL	Task requires evaluation	Active
Failed	FAILED	Task failed	Active
Hold	HOLD	Roadblock encountered; delay the Service Type	Active
In Progress	INPROG	Task is in progress	Active
Pending	PEND	Task started.	Active
Reject	REJ	Reject workflow task	Active
Reopen	REOPEN	Reopen workflow task	Active
Reopen-Wait	REOPWAIT	A prior task was Reopened	Active
Skip	SKIP	Skip workflow task	Active
Wait	WAIT	Task not started.	Active

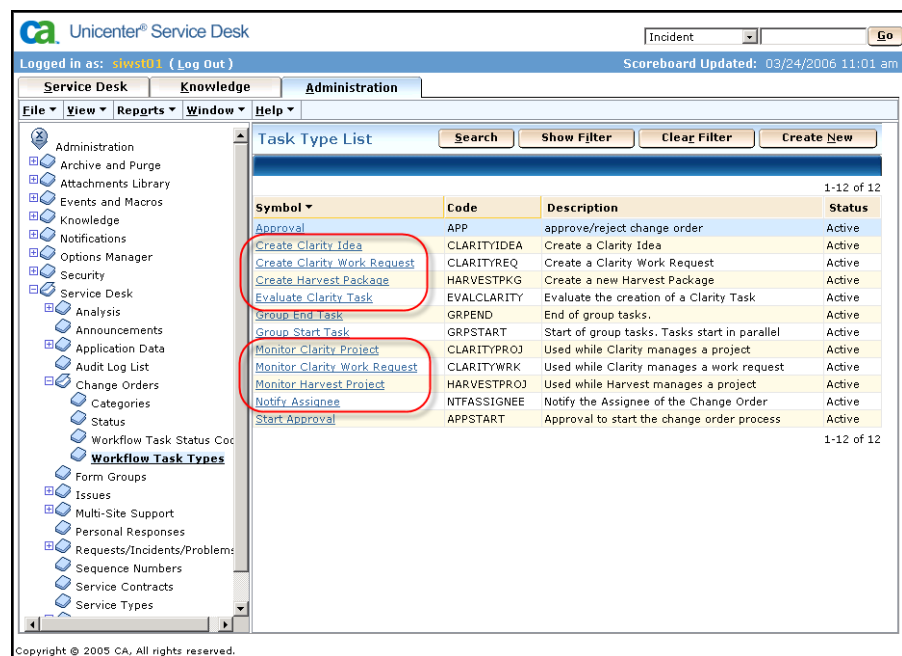
10. Select Service Desk, Change Orders, and Workflow Task Types from the Administration tab.

Note: If you chose ITIL, the list displays CIs and CI classes. If not, the list displays assets and asset classes.

The Task Type List appears in the right pane. Workflow task types are templates that are used to create the workflow tasks that are used in a change order. The task types represent a workflow task and associate the various statuses that will be used.

11. Verify that the following workflow task types are listed, as follows:

- Create Clarity Idea
- Create Clarity Work Request
- Create Harvest Package
- Evaluate Clarity Task
- Monitor Clarity Project
- Monitor Clarity Work Request
- Monitor Harvest Project
- Notify Assignee

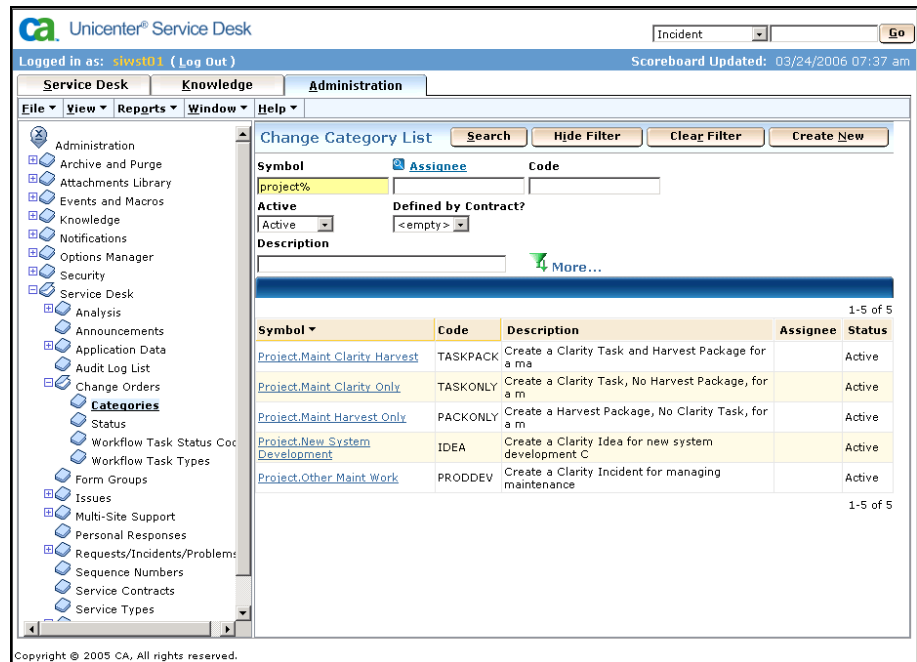


12. Select Service Desk, Change Orders, and Categories from the Administration tab.

Note: If you chose ITIL, the list displays CIs and CI classes. If not, the list displays assets and asset classes.

The Change Category List appears in the right pane. These sample change categories define the workflow tasks, Valid Task Statuses, and Action Macros associations needed for the various types of Change scenarios that can be performed with the connection.

13. Enter **project%** in the Symbol field, and click Search to perform a search for all change categories that begin with project.
14. Verify that the following change categories are listed, as follows:
 - Project.Maint Clarity Harvest
 - Project.Maint Clarity Only
 - Project.Maint Harvest Only
 - Project.New System Development
 - Project.Other Maint Work



15. Using the following table, access the detail window for each category and verify the Change Category, Workflow Task, Valid Status, and Status = Action Macro:

Change Category	Workflow Task	Valid Status	Status = Action Macro
Project.New System Development	100 Create Clarity Idea	Cancelled, Complete, Failed, Pending, Skip, Wait	Complete=Create Clarity Idea

Change Category	Workflow Task	Valid Status	Status = Action Macro
	200 Monitor Clarity Project	Cancelled, Complete, Failed, In Progress, Pending, Skip, Wait	
	300 Notify Assignee	Cancelled, Complete, Failed, Pending, Skip, Wait	Pending=Notify WF's CHG Assignee
Project.Maint Harvest Only	100 Create Harvest Package	Cancelled, Complete, Failed, Pending, Skip, Wait	Complete=Create Harvest Package
	200 Monitor Harvest Project	Cancelled, Complete, Failed, In Progress, Pending, Skip, Wait	
	300 Notify Assignee	Cancelled, Complete, Failed, Pending, Skip, Wait	Pending=Notify WF's CHG Assignee
Project.Other Maint Work	100 Create Clarity Work Request	Cancelled, Complete, Failed, Pending, Skip, Wait	Complete=Create Clarity Incident

Change Category	Workflow Task	Valid Status	Status = Action Macro
	200 Monitor Clarity Work Request	Cancelled, Complete, Failed, In Progress, Pending, Skip, Wait	
	300 Notify Assignee	Cancelled, Complete, Failed, Pending, Skip, Wait	Pending=Notify WF's CHG Assignee
Project.Maint Clarity Harvest	100 Evaluate Clarity Task	Cancelled, Complete, Evaluate, Failed, Pending, Skip, Wait	Evaluate=Create Clarity Task
	200 Monitor Harvest Project	Cancelled, Complete, Failed, In Progress, Pending, Skip, Wait	
	300 Notify Assignee	Cancelled, Complete, Failed, Pending, Skip, Wait	Pending=Notify WF's CHG Assignee
Project.Maint Clarity Only	100 Evaluate Clarity Task	Cancelled, Complete, Evaluate, Failed, Pending, Skip, Wait	Evaluate=Create Clarity Task

Change Category	Workflow Task	Valid Status	Status = Action Macro
	200 Notify Assignee	Cancelled, Complete, Failed, Pending, Skip, Wait	Pending=Notify WF's CHG Assignee

Notes

If the system is restarted after installation, you must manually reboot the Unicenter Service Desk server.

Some versions of Windows truncate the PATH value if there are more than 1023 characters in the total length of the PATH variable. If the value of the PATH is too long, you can either move the Harvest-related PATH entries to the front of the PATH variable, or you can use 8.3 file name notation to shorten the overall length of the PATH variable.

If you modify Windows environment variables, you must reboot the Service Desk server for the Service Desk service to recognize your changes.

The command lines of the new Remote References located on the Remote Reference Detail window contain the command that will be executed to call the connection. The command lines that are stored in the Remote References appear as follows:

```
{XOG_HOME}\bin\cai (Clarity Processes)
{SD_CL_CNCTR_HOME}\bin\run_i (Harvest Processes)
```

Service Desk changes the command lines based on the platform from which the server is running. These command lines include the following:

Windows

```
"%XOG_HOME%\bin\cai.bat"
"%SD_CL_CNCTR_HOME%\bin\run_i.bat"
```

Linux/UNIX

```
$XOG_HOME/bin/cai.sh
$SD_CL_CNCTR_HOME/bin/run_i.sh
```

The environment variables are then expanded, the command line parameters are added, and the command is executed.

The following *Create Clarity Task Remote Reference Detail* window illustrates the command line specified in the Remote Reference:

The screenshot shows the 'Create Clarity Task Remote Reference Detail' window. At the top, the CA Unicenter Service Desk logo is on the left, and a search bar with 'Incident' and a 'Go' button is on the right. Below this, a status bar shows 'Logged in as: siwst01 (Log Out)' and a '(Close Window)' button. A menu bar contains 'File', 'View', 'Window', and 'Help'. The main title bar reads 'Create Clarity Task Remote Reference Detail' with an 'Edit' button. The main content area contains a table with three columns: 'Symbol', 'Code', and 'Record Status'. The table has one row with the values 'Create Clarity Task', 'CLARITYTASK', and 'Active'. Below the table, there are several sections: 'Description' with the text 'Create a task on a Clarity project', 'Function Group' with the value 'change_mgr', 'Architecture Type' with the value 'all', 'NT Server, Unix Server, or Unix Client Exec Command' with the value '\${XOG_HOME}\bin\cai', and 'Windows Client Exec Command' which is currently empty.

Symbol	Code	Record Status
Create Clarity Task	CLARITYTASK	Active

Description
Create a task on a Clarity project

Function Group
change_mgr

Architecture Type
all

NT Server, Unix Server, or Unix Client Exec Command
\${XOG_HOME}\bin\cai

Windows Client Exec Command

Environment Variables

The following is an example of the environment variables that are set with information from the Service Desk change order and workflow task. These environment variables are available when the command line is launched:

```
#####
# Environment variables that are available at execution which
# contain information from current Change Order and Workflow task
#####
#
# Change Order
# -----
#
# SD_ACT_COMP_DATE          Actual Completion Date (UTC)
# SD_ACT_COST               Actual Cost
# SD_ACT_DURATION           Actual Duration
# SD_AEU_HANDLE             Affected End User Persistent_id
# SD_AEU_NAME               Affected End User Combo Name
# SD_AEU_USERID             Affected End User User-id (System Login)
# SD_ASSIGNEE_HANDLE        Assignee Persistent_id
# SD_ASSIGNEE_NAME          Assignee Combo Name
# SD_ASSIGNEE_USERID        Assignee User-Id (System Login)
# SD_BACKOUT_PLAN           Backout Plan
# SD_CALL_BACK_DATE         Call Back Date (UTC)
# SD_CATEGORY_CODE          Change Category Code
# SD_CATEGORY_HANDLE        Change Category Persistent_id
# SD_CATEGORY_NAME          Change Category Symbol
# SD_CD                     Clarity Idea Processing Flag
# SD_CHARSET                Character set currently in use by Service Desk
# SD_CHG_HANDLE             Change Order Persistent_id
# SD_CHG_REF_NUM            Change Order Number
# SD_CHG                    Change Order Persistent_id
# SD_CHGNUM                 Change Order Number
# SD_CI                     Clarity Incident Processing Flag
# SD_CLARINFO               clarity_info from Project Asset Extension (projex)
```

# SD_CLOSE_DATE	Change Order Close Date
# SD_CREATED_BY_HANDLE	Change Order Created By Persistent_id
# SD_CREATED_BY_NAME	Change Order Created By Combo Name
# SD_CREATED_BY_USERID	Change Order Created By User-Id (System Login)
# SD_DESCRIPTION	Change Order Description
# SD_DF	Harvest Processing Flag
# SD_EF	Endevor Processing Flag
# SD_EFFORT	Change Order Effort
# SD_ENDEVOR	endevor_name from Project Asset Extension (projex)
# SD_ENDINFO	endevor_info from Project Asset Extension (projex)
# SD_ENDSRV	endevor_server from Project Asset Extension (projex)
# SD_ENTINFO	entwb_info from Project Asset Extension (projex)
# SD_ENTSRV	entwb_server from Project Asset Extension (projex)
# SD_ENTWB	entwb_name from Project Asset Extension (projex)
# SD_EST_COMP_DATE	Change Order Estimated Completion Date (UTC)
# SD_EST_COST	Change Order Estimated Cost
# SD_EST_DURATION	Change Order Estimated Duration
# SD_GROUP_HANDLE	Change Order Assigned Group Persistent_id
# SD_GROUP_NAME	Change Order Assigned Group Last Name
# SD_HARVEST	harvest_name from Project Asset Extension (projex)
# SD_HARVINFO	harvest_info from Project Asset Extension (projex)
# SD_HARVSRV	harvest_server from Project Asset Extension (projex)
# SD_IMPACT_HANDLE	Change Order Impact Persistent_id
# SD_IMPACT_NAME	Change Order Impact Symbol
# SD_IMPACT_VALUE	Change Order Impact Numeric Value
# SD_JUSTIFICATION	Change Order Justification
# SD_MF	Enterprise Workbench Processing Flag
# SD_NEED_BY_DATE	Change Order Need By Date (UTC)
# SD_NIKU	clarity_name from Project Asset Extension (projex)
# SD_NIKUID	clarity_id from Project Asset Extension (projex)
# SD_NWF	Persistent_id Of Next Workflow Task (If Any)
# SD_OPEN_DATE	Change Order Open Date (UTC)
# SD_ORGANIZATION_HANDLE	Change Order Organization Persistent_id
# SD_ORGANIZATION_NAME	Change Order Organization Name
# SD_PARENT_HANDLE	Parent Change Order Persistent_id
# SD_PARENT_REFNUM	Parent Change Order Number
# SD_PF	Clarity Task Processing Flag
# SD_PRIORITY_HANDLE	Change Order Priority Persistent_id
# SD_PRIORITY_NAME	Change Order Priority Symbol
# SD_PRIORITY_VALUE	Change Order Priority Numeric Value
# SD_PROJECT_HANDLE	Change Order Project Persistent_id (Asset)
# SD_PROJECT_NAME	Change Order Project Name (Asset)
# SD_PROJECT_ORG_HANDLE	Change Order Project Organization Persistent_id
# SD_PROJECT_ORG_NAME	Change Order Project Organization Name
# SD_REQUESTER_HANDLE	Change Order Requester Persistent_id
# SD_REQUESTER_NAME	Change Order Requester Name

```
# SD_REQUESTER_USERID      Change Order Requester User-Id (System Login)
# SD_RESOLVE_DATE          Change Order Resolve Date
# SD_ROOTCAUSE_HANDLE      Change Order Root Cause Persistent_id
# SD_ROOTCAUSE_NAME        Change Order Root Cause Symbol
# SD_START_DATE            Change Order Actual Start Date (UTC)
# SD_STATUS_CODE           Change Order Status Code
# SD_STATUS_HANDLE         Change Order Status Persistent_id
# SD_STATUS_NAME           Change Order Status Symbol
# SD_SUMMARY               Change Order Summary
# SD_SYSTEM_AHD_GENERATED_USER_HANDLE  System_AHD_generated Persistent_id
# SD_SYSTEM_AHD_GENERATED_USER_UUID    System_AHD_generated Id
# SD_TYPE                  Currently "WORKFLOW"
#
# Workflow Task
# -----
#
# SD_WF_ACT_COMP_DATE      Workflow Task Actual Completion Date
# SD_WF_ACT_COST           Workflow Task Actual Cost
# SD_WF_ACT_DURATION       Workflow Task Actual Duration
# SD_WF_ASSIGNEE_HANDLE    Workflow Task Assignee Persistent_id
# SD_WF_ASSIGNEE_NAME      Workflow Task Assignee Combo Name
# SD_WF_ASSIGNEE_USERID    Workflow Task Assignee User-Id (System Login)
# SD_WF_CI_HANDLE          Workflow Task Asset/CI Persistent_id
# SD_WF_CI_NAME            Workflow TaskAsset/CI Name
# SD_WF_DESCRIPTION        Workflow Task Description
# SD_WF_EST_COMP_DATE      Workflow Task Estimated Completion Date (UTC)
# SD_WF_EST_COST           Workflow Task Estimated Cost
# SD_WF_EST_DURATION       Workflow Task Estimated Duration
# SD_WF_GROUP_HANDLE       Workflow Task Assignee Persistent_id
# SD_WF_GROUP_NAME         Workflow Task Assignee Last Name
# SD_WF_HANDLE             Workflow Task Persistent_id
# SD_WF_NEXT_WF_HANDLE     Next Workflow Task Persistent_id (If Any)
# SD_WF_SEQUENCE           Workflow Task Sequence Number
# SD_WF_STATUS_CODE        Workflow Task Status Code
# SD_WF_STATUS_NAME        Workflow Task Status Symbol
# SD_WF_TASK_TEMPLATE_HANDLE  Workflow Task Template Persistent_id
# SD_WF_TASK_TEMPLATE_NAME  Workflow Task Template Name
# SD_WF                   Workflow Task Persistent_id
#####
```

Appendix D: Preparing CAI Processes for Redeployment (Connector for CA Unicenter® Service Desk and CA Software Change Manager for Distributed)

Use the following set of procedures if the Connector: Unicenter Service Desk/Harvest add-in was installed prior to applying a fix pack or upgrading to a new version of CA Clarity PPM. The following list summarizes the steps you need to do before redeploying the add-in and reconfiguring the connector:

- Delete all CAI process instances
- Deactivate the processes
- Record the current process settings
- Re-install the add-in
- Reconfigure the processes
- Revalidate and reactivate the processes
- Schedule the CAI Harvest Status process

This section contains the following topics:

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Delete All CAI Process Instances

You must first delete all process instances related to the connector, the CAI processes. Alternatively, you can run the Delete Process Instance job to delete all process instances.

Important! The Delete Process Instance job deletes all process instances from CA Clarity PPM; not just instances from CAI processes. Use this method with care.

To delete all CAI process instances

1. Login to CA Clarity PPM as a CA Clarity PPM administrator, and open the Administration Tool..
The *Administration Home* page appears.
2. Click Processes from the Data Administration menu.
The Available Processes page appears.
3. Select the Initiated tab.
The Initiated Processes page appears.
4. Filter the list to view only the CAI process instances. At Process Name, enter cai, and click Filter.
5. If there are process instances listed, select all of the process instances listed on the page by clicking the Select All icon, and click Delete.

Note: If a process instance contains errors, you must first cancel it before you can delete it.

6. Click Yes to confirm.

All the process instances listed on that page are now deleted. Repeat this until all CAI process instances are deleted.

Deactivate the CAI Processes

When you redeploy the add-in, the CAI process definitions get updated. The processes must be inactive for the changes to occur. Do this in CA Clarity PPM.

To deactivate the CAI processes

1. Go to the Administration Tool, and select Processes from the Data Administration menu.
The *Available Processes* page appears.
2. Filter the list to view only the CAI processes—the processes related to the connector. At Process Name, enter **cai**, and click Filter.
3. Click the name of the process you want to deactivate from the list of processes.
The *Process Definition: Properties* page appears.
4. Complete the following fields in the General section of the page, and then click Save and Exit:
Mode
Select Draft.
Your changes are saved.
5. Repeat these steps for each CAI process.

Record the Current CAI Process Settings

The *Connector: Unicenter Service Desk/Harvest* add-in includes processes that allow CA Clarity PPM to connect with Service Desk and Harvest. You configured these CAI processes, the processes related to the connector, during the connector's installation and configuration on CA Clarity PPM. When you apply a fix pack or upgrade to a new version of CA Clarity PPM, the add-in—including all the add-in content such as the processes—are replaced with a fresh version.

Because the CAI process configurations will be lost when you apply the fix pack or upgrade to a new version of CA Clarity PPM, we recommend you record their current settings. You will use these settings after the fix pack is applied to CA Clarity PPM and the Connector: Unicenter Service Desk/Harvest add-in is redeployed.

Re-install the Add-In

To redeploy the Connector: Unicenter Service Desk/Harvest add-in

1. Open the Administration Tool.
The *Administration Home* page appears.
2. Click Add-Ins from the Clarity Studio menu.
The *Add-Ins* page appears.
3. Click the Connector: Unicenter Service Desk/Harvest add-in.
The *Add-In Details* page appears.
4. Accept the default selected items with the status "Upgrade Ready" and "Not Installed" to redeploy.
5. Click Apply and click Yes to confirm.
The *Connector: Unicenter Service Desk/Harvest* add-in is now installed.

Reconfigure the Processes

After reinstalling the *Connector: Unicenter Service Desk/Harvest* add-in in CA Clarity PPM, you must reconfigure the processes by editing the GEL scripts for each of the process steps.

Revalidate and Reactivate the Processes

After you edit the GEL scripts for each of the process steps, you must revalidate and reactivate the CAI process before they can be used.

Schedule the CAI Harvest Status Process

Schedule the CAI Harvest Status process to run at regular intervals. Do this by running the *Execute a Process* job in CA Clarity PPM.

Note: Contact your CA Clarity PPM administrator or see the *Administration Guide* for more information.