

CA PMO™ Runtime Performance Optimizer

Installation Guide

r4.4



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CA Technologies Product References

This document references the following CA Technologies products:

- CA 7® Job Management (CA 7)
- CA Jobtrac® Job Management (CA Jobtrac)
- CA Panexec® (CA Panexec)
- CA PMO™ Runtime Performance Optimizer (CA PMO)
- CA PDSMAN® PDS Library Manager (CA PDSMAN)
- CA MIM
- CA QuickFetch® Runtime Performance Optimizer (CA QuickFetch)
- CA Roscoe® Interactive Environment (CA Roscoe)
- eTrust™ CA-Examine® Auditing (eTrust CA-Examine)
- eTrust™ CA-Top Secret® Security (eTrust CA-Top Secret)

Contact CA Technologies

Contact CA Support

For your convenience, CA Technologies provides one site where you can access the information that you need for your Home Office, Small Business, and Enterprise CA Technologies products. At <http://ca.com/support>, you can access the following resources:

- Online and telephone contact information for technical assistance and customer services
- Information about user communities and forums
- Product and documentation downloads
- CA Support policies and guidelines
- Other helpful resources appropriate for your product

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Chapter 1: Overview

This guide describes how to install and implement CA PMO.

This section contains the following topics:

[Audience](#) (see page 9)

[How the Installation Process Works](#) (see page 10)

Audience

Readers of this book should have knowledge in the following areas:

- JCL
- z/OS environment and installing software in this environment
- Your organization's IT environment, enterprise structure, and region structure

You may need to work with the following personnel:

- Systems should have a solid understanding of z/OS operating system internals, subsystems, and components.
- System operators should understand the hardware controls and general organization of the z/OS operating system.

How the Installation Process Works

CA Technologies has standardized product installations across all mainframe products. Installation uses the following process:

- Acquisition—Transports the software to your z/OS system.
- Installation using SMP/E—Optionally creates a CSI environment and runs the RECEIVE, APPLY and ACCEPT steps. The software is untailed.
- Deployment—Copies the target libraries to another system or LPAR.
- Configuration—Creates customized load modules, bringing the software to an executable state.

CA MSM provides a web-based interface to make the standardized installation process easier. Using CA MSM, someone with limited knowledge of JCL and SMP/E can install a product.

Note: If you do not have CA MSM, you can download it from the Download Center at [the CA Support Online website](#). Follow the installation instructions in the CA Mainframe Software Manager documentation bookshelf on the CA Mainframe Software Manager product page. The standardized installation process can also be completed manually.

To install your product, do the following tasks:

1. Prepare for the installation by [confirming that your site meets all installation requirements](#) (see page 11).
2. Acquire the product using one of the following methods:
 - CA MSM
 - Pax-Enhanced Electronic Software Delivery (ESD)
 - Order a DVD.
3. Install the product based on your acquisition method.
4. Install the CA Common Services using the pax files that contain the CA Common Services you need at your site.

All sites should install all CA Common Services contained in the Required CA Common Service bundle.
5. Apply maintenance, if applicable.
6. Deploy your target libraries.
7. Configure your product.

Chapter 2: Preparing for Installation

This section describes what you need to know and do before you install the product.

This section contains the following topics:

[Hardware Requirements](#) (see page 11)

[Software Requirements](#) (see page 11)

[CA Common Services Requirements](#) (see page 11)

[Security Requirements](#) (see page 12)

[Other Requirements](#) (see page 12)

[Concurrent Releases](#) (see page 13)

Hardware Requirements

CA PMO runs on any IBM or compatible processor running under a supported release of z/OS.

Software Requirements

The following software is required for CA PMO:

- Supported release of z/OS. For the latest information on supported operating system levels, check the CA support web site at www.ca.com.
- If you are an IMS user, disable the IMS Resident BLDL List. For details, see the IBM documentation. The change to IMS will take effect the next time you start IMS.

CA Common Services Requirements

The following CA Common Services are used with CA PMO:

- CAIRIM
- CA LMP
- CA Health Checker Common Service

Note: If other CA products are installed at your site, some of these services may already be installed.

Security Requirements

To complete the tasks in this guide, you need the following security privileges:

- Read authority for the installation data sets and SMP/E libraries.
- Update authority for the SMP/E libraries.
- Create authority for all associated data sets.

Other Requirements

Before you install CA PMO, be sure to have sufficient storage space in the extended common service area (ECSA).

CA PMO requires approximately 64KB of ECSA for SVC intercept routines and other miscellaneous data areas. Each PMO/XSYS and PMO/XCF will use approximately 30KB of ECSA for their buffers. The rest of ECSA required is dependent on several variables. You can calculate the approximate remaining ECSA requirement using the following formula:

$$\begin{aligned} & ((\text{MLSIZE} * \# \text{ of "in use" LNKLST sets}) * 118 \text{ bytes}) + \\ & ((\text{Total \# of LNKLST libraries from all "in use" LNKLST sets} + \text{NUMADDED} + \\ & \text{NUMCANDS} + \# \text{ of INCLPRVT parameter statements}) * 280 \text{ bytes}) + 8\text{K bytes} \end{aligned}$$

Note: An in use LNKLST set is either the current set or an active set. A data set that appears in multiple LNKLST sets should be counted once for *each* set when determining the total number of LNKLST libraries.

Concurrent Releases

You can install this release of CA PMO and continue to use an older release for your production environment. If you plan to continue to run a previous release, consider the following points:

- When installing into an existing SMP/E environment, this installation deletes previous releases.
- If you acquired your product from tape or with Pax-Enhanced ESD, select different target and distribution zones for your new release from where your current release is installed. The new zones use different libraries than your current release.

Note: CA MSM installs into a new CSI by default.

- Define DDDEF entries in your new zones to point SMP/E to the proper libraries for installation. Ensure that they point to the new release libraries.
- If used, the control file to be used by release 4.4 must be formatted by release 4.4. The control file contents are changed for release 4.4. A release 4.3 CA PMO cannot use a release 4.4 control file; likewise, a release 4.4 CA PMO cannot use a release 4.3 control file.

Chapter 3: Installing Your Product Using CA MSM

Use the procedures in this section to manage your product using CA MSM. Managing includes acquiring, installing, and maintaining products, and managing your CSIs. These procedures assume that you have already installed and configured CA MSM.

Note: If you do not have CA MSM, you can download it from the Download Center at [the CA Support Online website](#). Follow the installation instructions in the CA Mainframe Software Manager documentation bookshelf on the CA Mainframe Software Manager product page.

When you have completed the procedures in this section, go to [Configuring Your Product](#).

This section contains the following topics:

[CA MSM Documentation](#) (see page 15)

[Getting Started Using CA MSM](#) (see page 16)

[Acquiring Products](#) (see page 19)

[Installing Products](#) (see page 26)

[Maintaining Products](#) (see page 33)

[Setting System Registry](#) (see page 53)

[Deploying Products](#) (see page 53)

Note: The following procedures are for CA MSM r3. If you are using CA MSM r2, see the *CA Mainframe Software Manager r2 Product Guide*.

CA MSM Documentation

This section includes information to get you started managing your mainframe products using CA MSM. You can use the online help included in CA MSM, or the complete CA MSM bookshelf on [the CA Support Online website](#), to get additional information about how to use CA MSM.

Note: To ensure you have the latest version of these procedures, go to the CA Mainframe Software Manager product page on [the CA Support Online website](#), click the Bookshelves link, and select the bookshelf that corresponds to the version of CA MSM that you are using.

Getting Started Using CA MSM

This section includes information about how to get started using CA MSM.

How to Use CA MSM: Scenarios

In the scenarios that follow, imagine that your organization recently deployed CA MSM to simplify the installation of CA Technologies products and unify their management. You have also licensed a new CA Technologies product. In addition, you have a number of existing CSIs from previously installed products.

- The first scenario shows how you can use CA MSM to acquire the product.
- The second scenario shows how you can use CA MSM to install the product.
- The third scenario shows how you can use CA MSM to maintain products already installed in your environment.
- The fourth scenario shows how you can use CA MSM to deploy the product to your target systems.

How to Acquire a Product

The *Product Acquisition Service (PAS)* facilitates the acquisition of mainframe products and the service for those products, such as program temporary fixes (PTFs). PAS retrieves information about products to which your site is entitled. Then it records these entitlements in a software inventory that is maintained on your driving system.

You can use the PAS component of CA MSM to acquire a CA Technologies product.

Follow these steps:

1. Set up a CA Support Online account.

To use CA MSM to acquire or download a product, you must have a CA Support Online account. If you do not have an account, you can create one on [the CA Support Online website](#).

2. Determine the CA MSM URL for your site.

To [access CA MSM](#) (see page 19), you require its URL. You can get the URL from your site's CA MSM administrator and log in using your z/OS credentials. When you log in for the first time, you are prompted to create a CA MSM account with your credentials for [the CA Support Online website](#). This account enables you to download product packages.

3. Log in to CA MSM and go to the Software Catalog page to locate the product that you want to manage.

After you log in to CA MSM, you can see the products to which your organization is entitled on the Software Catalog tab.

If you cannot find the product you want to acquire, update the catalog. CA MSM refreshes the catalog through [the CA Support Online website](#) using the site IDs associated with your credentials for [the CA Support Online website](#).

4. [Download the product installation packages](#) (see page 21).

After you find your product in the catalog, you can [download the product installation packages](#) (see page 21).

CA MSM downloads (acquires) the packages (including any maintenance packages) from the CA FTP site.

After the acquisition process completes, the product is ready for you to install or maintain.

How to Maintain Existing Products

If you have existing CSIs, you can bring those CSIs into CA MSM so that you can maintain all your installed products in a unified way from a single web-based interface.

You can use the PAS and SIS to maintain a CA Technologies product.

Follow these steps:

1. Migrate the CSI to CA MSM to maintain an existing CSI in CA MSM.

During the migration, CA MSM stores information about the CSI in the database.

2. [Download the latest maintenance](#) (see page 34) for the installed product releases from the Software Catalog tab.

If you cannot find a release (for example, because the release is old), you can add the release to the catalog manually and then update the release to [download the maintenance](#) (see page 34).

3. [Apply the maintenance](#) (see page 38).

Note: You can also install maintenance to a particular CSI from the SMP/E Environments tab.

After the maintenance process completes, the product is ready for you to deploy. You may have to perform other steps manually outside of CA MSM before beginning the deployment process.

How to Deploy a Product

The *Software Deployment Service (SDS)* facilitates the mainframe product deployment from the software inventory of the driving system to the target system. This facilitation includes deploying installed products that are policy-driven with a set of appropriate transport mechanisms across a known topology.

You can use the SDS component of CA MSM to deploy a CA Technologies product that you have already acquired and installed.

Follow these steps:

1. Set up the system registry:
 - a. Determine the systems you have at your enterprise.
 - b. Set up remote credentials for those systems.
 - c. Set up the target systems (Non-Sysplex, Sysplex or Monoplex, Shared DASD Cluster, and Staging), and validate them.
 - d. Add FTP information, including data destination information, to each system registry entry.
2. Set up methodologies.
3. Create the deployment, which includes completing each step in the New Deployment wizard.

After creating the deployment, you can save it and change it later by adding and editing systems, products, custom data sets, and methodologies, or you can deploy directly from the wizard.

Note: If you must deploy other products to the previously defined systems using the same methodologies, you must create a separate deployment.

4. Deploy the product, which includes taking a snapshot, transmitting to target, and deploying (unpacking) to your mainframe environment.

After the deployment process completes, the product is ready for you to configure. You may have to perform other steps manually outside of CA MSM before beginning the configuration process.

Access CA MSM Using the Web-Based Interface

You access CA MSM using the web-based interface.

You need the URL of CA MSM from the CA MSM administrator.

Follow these steps:

1. Start your web browser, and enter the access URL.

The login page appears.

Note: If the Notice and Consent Banner appears, read and confirm the provided information.

2. Enter your z/OS login user name and password.

The initial page appears. If you log in for the first time, you are prompted to define your account on [the CA Support Online website](#).

Note: For more information about the interface, click the online help link at the top right corner of the page.

3. Click New.

You are prompted for the credentials to use on [the CA Support Online website](#).

4. Specify the credentials, click OK, and then click Next.

You are prompted to review your user settings.

Note: These settings are available on the User Settings page.

5. Change the settings or keep the defaults, and then click Finish.

A dialog opens, which shows the progress of the configuration task. You can click Show Results to view the details of the actions in a finished task.

Important! If your site uses proxies, review your proxy credentials on the User Settings, Software Acquisition page.

Acquiring Products

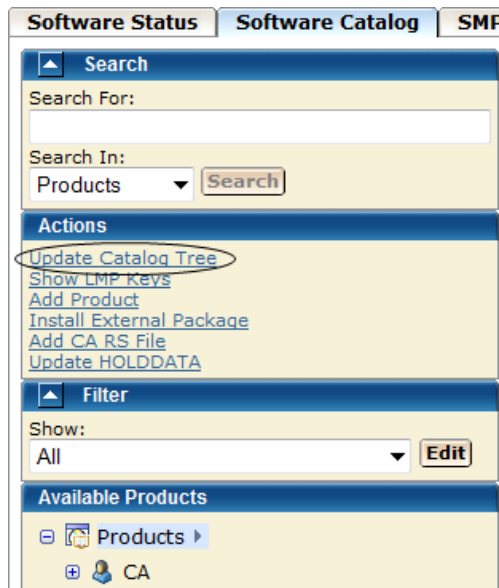
This section includes information about how to use CA MSM to acquire products.

Update Software Catalog

Initially, the CA MSM software catalog is empty. To see available products at your site, update the catalog tree. As new releases become available, update the catalog tree again to refresh the information. Any additions within a product are reflected within the Software Summary page. The available products are updated using the available site IDs associated with your credentials on [the CA Support Online website](#).

Follow these steps:

1. Click the Software Catalog tab.
2. Click the Update Catalog Tree link in the Actions section on the left side.



You are prompted to confirm the update.

Note: If you filter products in the product tree for specific site IDs, you can update the software catalog tree only for the selected filter. To do so, right-click the Products link at the top of the catalog tree on the left side, and select Update Catalog Tree.

3. Click OK.

A dialog that shows the progress of the task opens. When the task completes, you can click Show Results on the Progress tab to close this dialog. The task output browser opens and you can view the action details. Click Close to close the task output browser.

Note: While a task is in progress, you can perform other work. You can click Hide to exit the dialog and view the task status later on the Tasks tab.

All products for all site IDs are updated.

Download a Product Installation Package

You can download product packages through the Software Catalog tab. The Update Catalog action retrieves information about the products for your site.

Follow these steps:

1. Verify that your CA MSM login user name is associated with a registered user of [the CA Support Online website](#) on the Software Acquisition Settings page.

CA MSM uses the credentials to access [the CA Support Online website](#).

2. Locate and select the product that you want to download by using the Search For field or expanding the Available Products tree on the left side.

The product releases are listed.

Note: If the product does not appear on the product tree, click the Update Catalog Tree link in the Actions section on the left side. The available products are updated using the site ID associated with your credentials for [the CA Support Online website](#).

3. For the product release you want to download, click the Actions drop-down list to the right of the release, and select Update Catalog Release.

A dialog that shows the progress of the task opens. When the task completes, you can click Show Results on the Progress tab to close this dialog. The task output browser opens and you can view the action details. Click Close to close the task output browser.

Note: While a task is in progress, you can perform other work. You can click Hide to exit the dialog and view the task status later on the Tasks tab.

The product packages are downloaded.

Note: You can expand the tree in the right panel by selecting the Products link from the catalog tree. Then, click the vendor link in the right panel. If you select and download multiple products using this method and one of the products cannot be downloaded, the remaining products are not downloaded either. Remove the checks from the products that were processed and repeat the update catalog request.

Migrate Installation Packages Downloaded External to CA MSM

Sometimes you have product installation packages that you downloaded outside of CA MSM. For example, you are testing a beta version of a product, and you acquired external product pax files. You can add information about the external product packages to CA MSM from the Software Catalog tab.

Migrating these packages to CA MSM provides a complete view of all your product releases. After a package is migrated, you can use CA MSM to [install the product](#) (see page 26).

Follow these steps:

1. Click the Software Catalog tab, and click Add Product.

Note: A product that is not acquired from [the CA Support Online website](#) appears in the Software Catalog only after you perform this step.

An entry is added for the product.

2. Select the product gen level (for example, SP0 or 0110) for which the package applies.

The packages for the gen level are listed.

3. Click the Add External Package button.

You are prompted to identify the package.

4. Specify one of the following package types and package details, and click OK.

UNIX File

Adds an installation package located in a USS directory in binary mode.

Note: To add several packages from the same location, use [masking](#) (see page 25).

FTP File

Adds an installation package that is not published on [the CA Support Online website](#). This option is intended for downloading a beta product to validate it.

FTP Location

Defines the FTP path where the installation package is located. Start the path with a forward slash (/). Enter only a forward slash to specify the root directory.

Example: /outgoing/

Note: CA MSM automatically supplies ftp.ca.com at the beginning of the path.

Package Name

Defines the maintenance package name.

Example: 0111.pax.Z

Note: You can use an asterisk (*) for the package name.

User Name

Defines a valid user name to access the FTP location.

Password

Defines a valid password to access the FTP location.

A dialog that shows the progress of the task opens. When the task completes, you can click Show Results on the Progress tab to close this dialog. The task output browser opens and you can view the action details. Click Close to close the task output browser.

Note: While a task is in progress, you can perform other work. You can click Hide to exit the dialog and view the task status later on the Tasks tab.

Information about the package is saved in the CA MSM database.

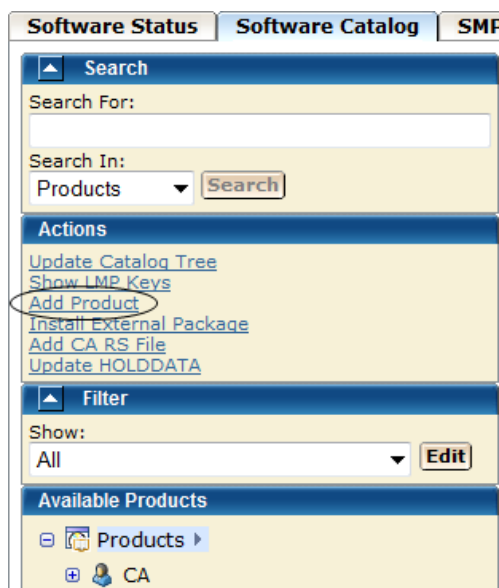
Note: To see the added package, refresh the page.

Add a Product

Sometimes, a product is not currently available from [the CA Support Online website](#). For example, if you are testing a beta version of a product, the version is delivered to you by other means. You can add these types of product packages to CA MSM using the Add Product action.

Follow these steps:

1. Click the Software Catalog tab, and click the Add Product link in the Actions section on the left side.



You are prompted to supply information about the product.

2. Specify the name, release, and gen level of the product, and click OK.

The product is added to the software catalog.

3. Click the gen level of the product you want to install on the product tree on the left side.

The Base Install Packages section appears on the right side.

4. Click the Add External Package button.

You are prompted to identify the package.

5. Specify one of the following package types and package details, and click OK.

UNIX File

Adds an installation package located in a USS directory in binary mode.

Note: To add several packages from the same location, use [masking](#) (see page 25).

FTP File

Adds an installation package that is not published on [the CA Support Online website](#). This option is intended for downloading a beta product to validate it.

FTP Location

Defines the FTP path where the installation package is located. Start the path with a forward slash (/). Enter only a forward slash to specify the root directory.

Example: /outgoing/

Note: CA MSM automatically supplies ftp.ca.com at the beginning of the path.

Package Name

Defines the maintenance package name.

Example: 0111.pax.Z

Note: You can use an asterisk (*) for the package name.

User Name

Defines a valid user name to access the FTP location.

Password

Defines a valid password to access the FTP location.

A dialog that shows the progress of the task opens. When the task completes, you can click Show Results on the Progress tab to close this dialog. The task output browser opens and you can view the action details. Click Close to close the task output browser.

Note: While a task is in progress, you can perform other work. You can click Hide to exit the dialog and view the task status later on the Tasks tab.

Information about the package is saved in the CA MSM database.

Note: To see the added package, refresh the page.

Masking for External Packages

Masking lets you add more than one [package](#) (see page 23) (or set of [maintenance files](#) (see page 36)) from the same location using a pattern (mask). You can use masking for components, maintenance in USS, and maintenance in data sets. You can use masking for files only, not for directories.

Masking: Use the asterisk symbol (*).

- For PDS and PDSE, you can mask members using asterisks.
- For sequential data sets, use the following characters:

?

Match on a single character.

*

Match on any number of characters within a data set name qualifier or any number of characters within a member name or file system name.

**

Match on any number of characters including any number of qualifiers within a data set name.

You can use as many asterisks as you need in one mask. After you enter the mask, a list of files corresponding to the mask pattern appears.

Note: By default, all files in the list are selected. Verify what files you want to add.

Example 1

The following example displays all PDF files that are located in the `/a/update/packages` directory:

```
/a/update/packages/*.pdf
```

Example 2

The following example displays all files located in the `/a/update/packages` directory whose names contain `p0`:

```
/a/update/packages/*p0*
```

Example 3

The following example displays all sequential data sets whose name starts with *PUBLIC.DATA.PTFS.:*

```
PUBLIC.DATA.PTFS.**
```

Example 4

The following example displays all members in the PDS/PDSE data set *PUBLIC.DATA.PTFLIB* whose name starts with *RO:*

```
PUBLIC.DATA.PTFLIB(RO*)
```

Installing Products

This section includes information about how to use CA MSM to install products.

Install a Product

You can install a downloaded product through the Software Catalog, Base Install Packages section. The process starts a wizard that guides you through the installation. At the end of the wizard, a task dynamically invokes the SMP/E and other utilities required to install the product.

Note: If your site uses only one file system (for example, only zFS or only HFS), you can configure CA MSM to use this file system for all installed products regardless of the file system that the product metadata specifies. The settings are available on the System Settings, Software Installation page. The file system type that you specify will override the file system type that the product uses.

Any USS file system created and mounted by CA MSM during a product installation is added in CA MSM as a managed product USS file system. CA MSM lets you enable and configure verification policy that should be applied to these file systems when starting CA MSM. For verification results, review CA MSM output.

These settings are available on the System Settings, Mount Point Management page.

During installation, you select the CSI where the product is to be installed, and specify its zones. You can either specify target and distribution zones to be in the existing CSI data sets, or create new data sets for each zone.

Note: While you are working with a particular SMP/E environment, the SMP/E environment is locked and other CA MSM users cannot perform any action against it. When the task finishes, or when you log out from CA MSM, or when your CA MSM session is inactive for more than 10 minutes, the lock releases.

To install a product

1. Click the Software Catalog tab, and select the product gen level (for example, SP0 or 0110) you want to install on the product tree on the left side.

Information about the product appears in the Base Install Packages section on the right side.

Note: If a product is acquired external to CA MSM, you can install the product using the Install External Package link. The process starts the wizard.

2. Do one of the following:
 - If the package was acquired using CA MSM, locate the product package that you want to install, click the Actions drop-down list to the right of the package, and select Install.

or

 - If the package was acquired external to CA MSM, click the Install External Packages link under the Actions section in the left pane, enter the location of the package, and click OK.

The Introduction tab of the wizard appears.

Note: An information text area can appear at the bottom of the wizard. The area provides information that helps you progress through the wizard. For example, if a field is highlighted (indicating an error), the information text area identifies the error.

3. Review the information about the installation, and click Next.

Note: If the license agreement appears for the product that you are installing, scroll down to review it, and accept it.

You are prompted to select the type of installation.

4. Click the type of installation, and then click Next.

(Optional) If you select Custom Installation, you are prompted to select the features to install. Select the features, and click Next.

A summary of the features to install appears, with any prerequisites.

5. Review the summary to check that any prerequisites are satisfied.

- If no prerequisites exist, click Next.

You are prompted for the CSI to use for this installation.

- If prerequisites exist, and they are all satisfied, click Next.

You are prompted to locate the installed prerequisites. If an installed prerequisite is in more than one CSI or zone, the CSI and Zone drop-down lists let you select the specific instance. After you make the selections, click Next.

You are prompted for the CSI to use for this installation.

- If prerequisites are not satisfied, click Cancel to exit the wizard. Install the prerequisites, and then install this product.

Note: You can click Custom Installation to select only those features that have the required prerequisites. You can click Back to return to previous dialogs.

6. Select an existing CSI, or click the Create a New SMP/E CSI option button, and click Next.

If you select Create a New SMP/E CSI, you are prompted to [specify the CSI parameters](#) (see page 29).

If you select an existing CSI, the wizard guides you through the same steps. Allocation parameters that you specify for work DDDEFs are applied only to new DDDEFs that might be created during the installation. The existing DDDEFs if any remain intact.

Note: Only CSIs for the SMP/E environments in your working set are listed. You can configure your working set from the SMP/E Environments tab.

- If you select a CSI that has incomplete information, the wizard prompts you for extra parameters.
- If you select an SMP/E environment being used in CA MSM by another user, a notification message appears. You are prevented from performing any actions on the SMP/E environment. You can either wait until the notification message disappears and the SMP/E environment becomes available, or click Cancel to select another SMP/E environment.

After you select a CSI or specify a new CSI, you are prompted for the target zone to use.

7. Select an existing zone, or click the Create a New SMP/E Target Zone option button. Click Next.

Note: If you select Create a New SMP/E Target Zone, you perform additional steps similar to the steps for the Create a New SMP/E CSI option. The target zone parameters are pre-populated with the values that are entered for the CSI. You can change them.

If you want the target zone to be created in a new data set, select the Create New CSI Data Set check box and fill in the appropriate fields.

After you select or specify a target zone, you are prompted for the distribution zone to use.

8. Select an existing zone, or click the Create a New SMP/E Distribution Zone option button. Click Next.

Note: If you selected to use an existing target zone, the related distribution zone is automatically selected, and you cannot select other distribution zone. If you selected to create a new target zone, you create a new distribution zone, and you cannot select existing distribution zone.

After a distribution zone is selected or specified, a summary of the installation task appears.

Note: If you select Create a New SMP/E Distribution Zone, you perform additional steps similar to the steps for the Create a New SMP/E CSI option. The distribution zone parameters are prepopulated with the values that are entered for the target zone. You can change them.

- If you want the distribution zone to be created in a new data set, select the Create New CSI Data Set check box and fill in the appropriate fields.
- If you want to use the same data set that you have already specified to be created for the target zone, the data set will be allocated using the parameters you have defined when specifying the target zone.

9. Review the summary, and click Install.

A dialog that shows the progress of the task opens. When the task completes, you can click Show Results on the Progress tab to close this dialog. The task output browser opens and you can view the action details. Click Close to close the task output browser.

Note: While a task is in progress, you can perform other work. You can click Hide to exit the dialog and view the task status later on the Tasks tab.

Create a CSI

You can create a CSI while you are [installing a product](#) (see page 26). During the process, you are asked to specify the following:

- Data set allocation parameters, which you can then customize for each data set
- Parameters for DDDEF allocation

You can specify data set allocation parameters collectively for all SMP/E data sets, target libraries, and distribution libraries that will be allocated during product installation. You can allocate data sets using one of the following methods:

- Allocate data sets using SMS parameters.
- Allocate cataloged data sets using UNIT and optionally VOLSER.
- Allocate uncataloged data sets using UNIT and VOLSER.

If you allocate uncataloged data sets, you must specify a VOLSER. Based on the value that you enter, CA MSM performs the following validations to help ensure integrity of the installation:

- The value of VOLSER must specify a mounted volume.
- You must have ALTER permissions for the data sets with the entered high-level qualifier (HLQ) on the volume defined by VOLSER.
- To test allocation, CA MSM temporarily allocates one of the uncataloged data sets that should be allocated during the installation.
 1. The data set is allocated with one track for both primary and secondary space.
 2. CA MSM verifies that the data set has been allocated on the specified volume.
 3. The data set is deleted.

If the data set allocation fails or the data set cannot be found on the specified volume, you cannot proceed with the product installation wizard.

Follow these steps:

1. Click **Create a New SMP/E CSI** from the product installation wizard.

You are prompted to define a CSI.

2. Specify the following, and click **Next**:

Name

Defines the name for the environment represented by the CSI.

Data Set Name Prefix

Defines the prefix for the name of the CSI VSAM data set.

Catalog

Defines the name of the SMP/E CSI catalog.

Cross-Region

Identifies the cross-region sharing option for SMP/E data sets.

Cross-System

Identifies the cross-system sharing option for SMP/E data sets.

High-Level Qualifier

Specifies the high-level qualifier (HLQ) for all SMP/E data sets that will be allocated during installation. The low-level qualifier (LLQ) is implied by the metadata and cannot be changed.

DSN Type

Specifies the DSN type for allocating SMP/E data sets.

SMS Parameters / Data Set Parameters

Specify if this CSI should use SMS or data set parameters, and complete the applicable fields.

Storage Class (SMS Parameters only)

Defines the SMS storage class for SMP/E data sets.

Management Class (SMS Parameters only)

Defines the management class for SMP/E data sets.

Data Class (SMS Parameters only)

Defines the data class for SMP/E data sets.

VOLSER (Data Set Parameters only)

Defines the volume serial number on which to place data sets.

Note: This field is mandatory if you set Catalog to No.

Unit (Data Set Parameters only)

Defines the type of the DASD on which to place data sets.

Catalog (Data Set Parameters only)

Specifies if you want SMP/E data set to be cataloged.

Note: An information text area can appear at the bottom of the wizard. The area provides information that helps you progress through the wizard. For example, if a field is highlighted (indicating an error), the information text area identifies the error.

Work DDDEF allocation parameters and a list of the data sets to be created for the CSI appear.

3. Specify whether to use SMS or Unit parameters for allocating work DDDEFs for the CSI, and complete the appropriate fields.

Note: The settings for allocating work DDDEFs are globally defined on the System Settings, Software Installation tab. You must have the appropriate access rights to be able to modify these settings.

4. Review the data set names. Click the Override link to change the high-level qualifier of the data set name and the allocation parameters, and then click Next.

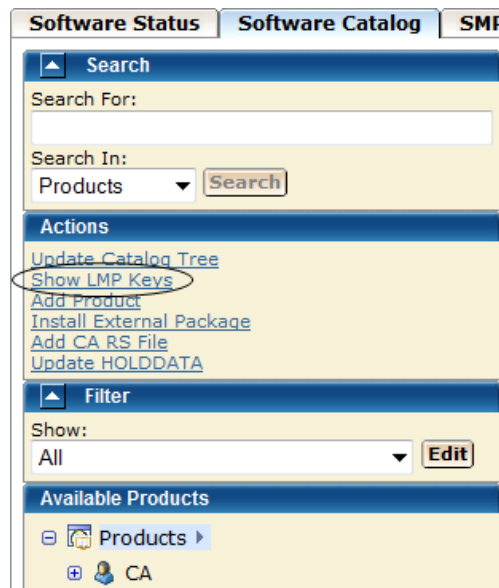
You are prompted to specify any additional parameters. A new CSI is specified.

Download LMP Keys

When you install a CA Technologies product on z/OS systems, license the product on each system using the product. License the product by entering CA Common Services for z/OS CA License Management Program (LMP) statements. You can download LMP keys through the Software Catalog tab so that the keys are available for you to enter manually. The Show LMP Keys action retrieves the keys from CA Support Online for the products to which your site is entitled, based on the requesting user ID and its associated site IDs.

Follow these steps:

1. Click the Software Catalog tab, and click the Show LMP Keys link in the Actions section on the left side.



A list of LMP keys for the indicated site ID appears.

2. Select the site ID for which you want to list the LMP keys from the Site IDs drop-down list.

The list is refreshed for the selected site ID.

Proceed to the next step if no LMP keys have been acquired or if you want to update the list.

3. Click Update Keys.

You are prompted to confirm the update.

4. Click OK.

The LMP keys for all known site IDs are retrieved. On completion of the retrieval process, the LMP keys are listed for the selected site.

Note: You can use the Refresh Site IDs button to refresh the list of site IDs used within CA MSM. Do so if you have recently added or removed a site ID, or if this list is invalid for any reason.

Maintaining Products

This section includes information about how to use CA MSM to download and apply product maintenance packages.

How to Apply Maintenance Packages

Use this process to download and apply product maintenance packages.

1. Identify your download method. This section details the steps to use the following download methods:
 - [Download Product Maintenance Packages](#) (see page 34)
 - [Download Product Maintenance Packages for Old Product Releases and Service Packs](#) (see page 34)
 - [Manage Maintenance Downloaded External to CA MSM](#) (see page 36)

Contact your system administrator, if necessary.

2. Apply the product maintenance package. This section also details the role of USERMODs.

Note: This section also describes how to back out maintenance that has been applied but not yet accepted.

Download Product Maintenance Packages

You can download maintenance packages for installed products through the Software Catalog tab.

Note: The information on the Software Status tab for HIPERs and new maintenance is based on the current information in your software catalog. We recommend that you [update the catalog](#) (see page 19) on a daily or weekly basis to keep it current.

Follow these steps:

1. Verify that your CA MSM login user name is associated with a registered user of [the CA Support Online website](#) on the Software Acquisition Settings page.

CA MSM uses the credentials to access [the CA Support Online website](#).

2. Click the name of the product for which you want to download maintenance on the product tree on the left side.

Maintenance information about the product appears in the Releases section on the right side.

3. For the product release for which you want to download maintenance, click the Actions drop-down list to the right of the release, and select Update Catalog Release.

A dialog that shows the progress of the task opens. When the task completes, you can click Show Results on the Progress tab to close this dialog. The task output browser opens and you can view the action details. Click Close to close the task output browser.

Note: While a task is in progress, you can perform other work. You can click Hide to exit the dialog and view the task status later on the Tasks tab.

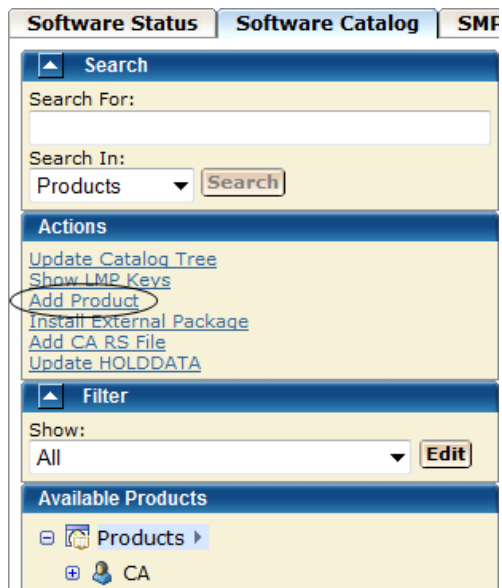
The maintenance packages are downloaded.

Download Maintenance Packages for Old Product Releases and Service Packs

CA MSM does not retrieve information about old product releases and service packs. If you need maintenance from those releases and service packs, you must add them to the software catalog before you can download the maintenance.

Follow these steps:

1. Click the Software Catalog tab, and click the Add Product link in the Actions section on the left side.



You are prompted to supply information about the product release.

2. Specify the name, release, and gen level of the product, and click OK.

Note: Use the same product name that appears on the product tree, and use the release and gen level values as they appear for Published Solutions on [the CA Support Online website](#).

The product release is added to the software catalog.

3. From the product tree on the left side, click the name of the product for which you want to download maintenance.

Maintenance information about the product appears in the Releases section on the right side.

4. For the added product release, click the Actions drop-down list to the right of the release, and select Update Catalog Release.

Maintenance packages are downloaded. A dialog that shows the progress of the task opens. When the task completes, you can click Show Results on the Progress tab to close this dialog. The task output browser opens and you can view the action details. Click Close to close the task output browser.

Note: While a task is in progress, you can perform other work. You can click Hide to exit the dialog and view the task status later on the Tasks tab.

Manage Maintenance Downloaded Outside of CA MSM

Sometimes you acquire maintenance packages, such as unpublished maintenance, PTF, APARs, and USERMODs, outside of CA MSM. For example, you are validating a test PTF released for a product. You can add information about these maintenance packages to CA MSM from the Software Catalog tab. The process starts a wizard that guides you through the migration.

Adding these maintenance packages to CA MSM provides you with a complete view of all the maintenance for a product release. After a package is migrated, you can use CA MSM to [apply the maintenance](#) (see page 38).

The maintenance is placed as either a single package or an aggregated package. An *aggregated package* is a file that comprises several single maintenance packages (nested packages). When you add an aggregated package, CA MSM inserts all the nested packages and the aggregated package itself. In the list of maintenance packages, the aggregated package is marked with the CUMULATIVE type.

When you insert an aggregated package, CA MSM assigns a fix number to it. The fix number is unique and contains eight characters. The first two characters are AM (for Aggregated Maintenance) and a unique six-digit number follows. The number value increases by 1 with each added aggregated package.

Note: If the aggregated maintenance package has the same fix number as one of its nested packages, only the nested package is added. The aggregated package itself is not available in the list of maintenance packages.

Follow these steps:

1. Click the Software Catalog tab, and select the product release for which the maintenance applies.

The maintenance packages for the release are listed.

2. Click the Add External Maintenance button.

You are prompted to specify the package.

3. Specify one of the following package types and package details:

Data Set

Adds a maintenance package located in a z/OS data set with an LRECL of 80 and RECFM of FB.

UNIX File

Adds a maintenance package located in a USS directory in binary mode.

FTP File

Adds a maintenance package that is not published on [the CA Support Online website](#). This option is intended for downloading a PTF to validate it.

FTP Location

Defines the FTP path where the maintenance package is located. Start the path with a forward slash (/). Enter only a forward slash to specify the root directory.

Example: /outgoing/

Note: CA MSM automatically supplies ftp.ca.com at the beginning of the path.

Maintenance Name

Defines the maintenance package name.

Example: RO0111.pax.Z

User Name

Defines a valid user name to access the FTP location.

Password

Defines a valid password to access the FTP location.

Solution

Adds a published solution on [the CA Support Online website](#).

Note: To add several data sets or UNIX file packages from the same location, use [masking](#) (see page 25).

4. Click OK.

A dialog that shows the progress of the task opens. When the task completes, you can click Show Results on the Progress tab to close this dialog. The task output browser opens and you can view the action details. Click Close to close the task output browser.

Note: While a task is in progress, you can perform other work. You can click Hide to exit the dialog and view the task status later on the Tasks tab.

The maintenance package with the related information is saved in the CA MSM database.

Note: To see the added package, refresh the page.

View Aggregated Package Details

You can view which nested packages are included in the aggregated package. The information includes the fix number, package type, and package description.

Follow these steps:

1. Click the Software Catalog tab, and select the product release that has the aggregated package whose details you want to view.

The maintenance packages for the release are listed.

2. Click the Fix # link for the aggregated package.

The Maintenance Package Details dialog opens.

3. Click the Nested Packages tab.

A list of nested packages contained in the aggregated package appears.

Manage Maintenance

After maintenance has been downloaded for a product, you can manage the maintenance in an existing SMP/E product installation environment.

Important! Before you start, update the error HOLDDATA in your software catalog. To do so, click Update Error HOLDDATA in the Actions section on the Software Catalog page. You can also set up the automatic error HOLDDATA download.

Note: While you are working with a particular SMP/E environment, the SMP/E environment is locked and other CA MSM users cannot perform any action against it. When the task finishes, or when you log out from CA MSM, or when your CA MSM session is inactive for more than 10 minutes, the lock releases.

The following installation modes are available:

Receive and Apply

Receives the maintenance and applies it to the selected target zone of the SMP/E environment.

Receive and Apply Check

Receives the maintenance and checks if the maintenance can be applied to the selected target zone of the SMP/E environment.

Receive, Apply Check, and Apply

Receives the maintenance, checks if the maintenance can be applied to the selected target zone of the SMP/E environment, and applies it if it can be applied.

Receive Only

Receives the maintenance.

The process starts a wizard that guides you through the maintenance steps. At the end of the wizard, a task dynamically invokes the SMP/E and other utilities required to apply the maintenance.

Note: You can also manage maintenance to an SMP/E environment using the SMP/E Environments, Maintenance tab.

Follow these steps:

1. Click the Software Catalog tab, and select the product from the tree on the left side.
Maintenance information appears on the right side for the releases you have.
2. Click the Release Name link.
The maintenance packages are listed.
Red asterisks identify HIPER maintenance packages.
3. Click the Fix # link for each maintenance package you want to install to review details.
The Maintenance Package Details dialog appears, identifying any prerequisites.
4. Review the information on this dialog, including any HOLDDATA information about this fix, and click Close to return to the Maintenance Packages section.
5. Select the maintenance packages you want to install, and click the Install link.
Note: The Installed column indicates whether a package is installed.
The Introduction tab of the wizard appears.
6. Review the information about the maintenance, and click Next.
The packages to install are listed.
7. Review and adjust the list selections as required, and click Next.
The SMP/E environments that contain the product to maintain are listed. Only environments in your working set are listed.
8. Select the environments in which you want to install the packages.
9. Click Select Zones to review and adjust the zones where the maintenance will be installed, click OK to confirm the selection and return to the wizard, and click Next.
Note: If you select an SMP/E environment being used in CA MSM by another user, a notification message appears. You are prevented from performing any actions on the SMP/E environment. You can either wait until the notification message disappears and the SMP/E environment becomes available, or click Cancel to select another SMP/E environment.

10. Select the installation mode for the selected maintenance, and click Next.

- If prerequisites exist and are available, review them and click Next. CA MSM installs these prerequisites as part of the process. If a prerequisite is *not* available, the wizard cannot continue. You must acquire the prerequisite and restart the process.

- If [HOLDDATA](#) (see page 77) entries exist, review them, and click Next.

Note: Click Export Table to open all HOLDDATA information for all selected maintenance in a separate browser window. This action is similar to running the LIST SYSMODS HOLDDATA command within your SMP/E environment.

SMP/E work DDDEFs of SMPWRKx and SYSUTx, with their allocation parameters, are listed.

Note: For more information about SMPWRKx and SYSUTx data sets, see the *IBM SMP/E for z/OS Reference*.

11. Review the allocation parameters of work DDDEFs, and edit them if necessary to verify, that sufficient space is allocated for them during the maintenance installation:

Note: Changes in the allocation parameters apply to the current maintenance installation only.

- a. Click Override for a DDDEF to edit its allocation parameters.

A pop-up window opens.

- b. Make the necessary changes, and click OK to confirm.

The pop-up window closes, and the DDDEF entry is selected in the list indicating that the allocation parameters have been overridden.

Note: To update allocation parameters for all DDDEFs automatically, click Retrieve DDDEF. CA MSM provides values for all DDDEFs based on the total size of the selected maintenance packages that you want to install. All DDDEF entries are selected in the list indicating that the allocation parameters have been overridden.

- If you want to cancel a parameter update for any DDDEF, clear its check box.
- If you want to edit the allocation parameters for a particular DDDEF after you automatically updated them using the Retrieve DDDEF button, click Override. Make the necessary changes and click OK to confirm, and return to the wizard.

12. (Optional) Review SMP/E work DDDEF and their allocation parameters for the selected SMP/E zones, and click Close to return to the wizard.

Note: The allocation parameters can differ from the allocation parameters that you obtained using the Retrieve DDDEF button.

Click Next.

A summary of the task appears.

13. Review the summary, and click Install.

A dialog that shows the progress of the task opens. When the task completes, you can click Show Results on the Progress tab to close this dialog. The task output browser opens and you can view the action details. Click Close to close the task output browser.

Note: While a task is in progress, you can perform other work. You can click Hide to exit the dialog and view the task status later on the Tasks tab.

The task applies the maintenance. You can accept the maintenance (except USERMODs) using the SMP/E Environments, Maintenance tab.

Note: CA MSM prevents you from accepting USERMODs.

View Installation Status of Maintenance Package

You can view installation status details of each maintenance package, including a list of SMP/E environments where the package is installed. You can also see the SMP/E environment data sets, and the installation status of the package for each SMP/E environment zone. For example, a maintenance package can be received in the global zone, but applied in a target zone, and accepted in a distribution zone.

Note: The installation status is not available for aggregated maintenance packages, for packages that are uninstallable, and for packages that do not have available SMP/E environments for installation.

Depending on the package status for each zone, you can see available actions for the package. For example, if the package is not received in an SMP/E environment zone, the Install action is available.

Follow these steps:

1. Click the Software Catalog tab, and select the product release that has the maintenance package whose installation status you want to view.

The maintenance packages for the release are listed.

2. Click the status link in the Installed column for the maintenance package.

The Maintenance Package Details dialog opens to the Installation Status tab. A list of SMP/E environments with package status per zone appears.

Note: Click the Actions drop-down list to start the installation wizard for packages that are not yet installed in at least one SMP/E environment zone, or the accept wizard for packages that are not accepted in at least one SMP/E environment zone. Click Install to More Environments to install the maintenance package in one or more SMP/E environments available for the package.

USERMODs

A product USERMOD can be provided as a published maintenance package downloaded during the Update Catalog process. When CA MSM downloads a package including a ++USERMOD statement, it is loaded under the product with a USERMOD type. You can install these packages using CA MSM but cannot accept them because they are not intended to be permanent.

You can create a USERMOD manually, or we can provide an unpublished maintenance package as a USERMOD. In this case, the USERMOD file, which contains the ++USERMOD statement and the body of the USERMOD, must be [managed as an externally downloaded package](#) (see page 36).

GROUPEXTEND Mode

CA MSM lets you invoke the SMP/E utility with the GROUPEXTEND option enabled for managing (applying and accepting) maintenance.

Sometimes before you install a maintenance package, you install other maintenance packages first (SYSMODs).

If a SYSMOD - prerequisite for the required maintenance package, has not been applied or cannot be processed, you can install the maintenance package in GROUPEXTEND mode. (For example, the SYSMOD is held for an error, a system, or a user reason ID; it is applied in error; it is not available.) The SMP/E environment where the product is installed automatically includes a superseding SYSMOD.

Note: When applying maintenance in GROUPEXTEND mode, the SMP/E environment *must* receive all SYSMODs that are included in the GROUPEXTEND option.

When you apply maintenance in GROUPEXTEND mode, the following installation modes are available:

Apply Check

Checks if the maintenance can be applied to the selected SMP/E environment in GROUPEXTEND mode.

Apply

Applies the maintenance to the selected SMP/E environment in GROUPEXTEND mode.

Apply Check and Apply

Checks if the maintenance can be applied to the selected SMP/E environment in GROUPEXTEND mode. Then applies it if possible.

For the GROUPEXTEND option, CA MSM does not automatically receive and display maintenance or HOLDDATA prerequisites that must be bypassed when applying the maintenance. Apply check mode lets you check if any prerequisites or HOLDDATA exist and report them in the task output.

You can also use the following similar installation modes to accept maintenance in GROUPEXTEND mode:

- Accept Check
- Accept
- Accept Check and Accept

How Maintenance in GROUPEXTEND Mode Works

We recommend that you apply maintenance in GROUPEXTEND mode in the following sequence:

1. Receive all SYSMODs that you want to include by the GROUPEXTEND option.
2. Run the maintenance in Apply check mode.
 - If the task fails, review SMPOUT in the task output. Review if there are missing (not received) SYSMODs or HOLDDATA that must be resolved or bypassed.
 - If the task succeeds, review SMPRPT in the task output. Review what SYSMODs were found and applied.
3. Run the maintenance in Apply mode, and specify SYSMODs that you want to exclude and HOLDDATA that you want to bypass, if any exist.

The followings options are available for bypassing HOLDDATA:

- HOLDSYSTEM
- HOLDCLASS
- HOLDERROR
- HOLDUSER

Note: For more information about the BYPASS options, see the *IBM SMP/E V3Rx.0 Commands*. *x* is the SMP/E release and corresponds to the SMP/E version that you use.

You can run the maintenance in Apply mode in the same CA MSM session after Apply check mode is completed. The values that you entered for Apply check mode are then prepopulated on the wizard dialogs.

Manage Maintenance in GROUPEXTEND Mode

CA MSM lets you invoke the SMP/E utility with the GROUPEXTEND option enabled for managing (applying and accepting) maintenance.

Note: While you are working with a particular SMP/E environment, the SMP/E environment is locked and other CA MSM users cannot perform any action against it. When the task finishes, or when you log out from CA MSM, or when your CA MSM session is inactive for more than 10 minutes, the lock releases.

Follow these steps:

1. Click the SMP/E Environments tab, and select the SMP/E environment from the tree on the left side.

A list of products installed in the SMP/E environment appears.

Note: If you select an SMP/E environment being used in CA MSM by another user, a notification message appears. You are prevented from performing any actions on the SMP/E environment. You can either wait until the notification message disappears and the SMP/E environment becomes available, or click Cancel to select another SMP/E environment.

2. Click the Maintenance link.

A list of maintenance packages for the products installed in the SMP/E environment appears.

3. Select the maintenance packages that you want to apply in GROUPEXTEND mode, and click the Apply GROUPEXTEND link.

The Introduction tab of the wizard appears.

4. Review the information about the maintenance, and click Next.

The packages that you want to apply are listed.

Note: Click a link in the Status column for a maintenance package, if available, to review a list of zones. The zones indicate, where the maintenance package is already received, applied, or accepted. Click Close to return to the wizard.

5. Review the packages, and click Next.

The Prerequisites tab of the wizard appears.

Important! For the GROUPEXTEND option, CA MSM does not automatically receive and display maintenance or HOLDDATA prerequisites that must be bypassed when applying the maintenance. Apply check mode lets you review if any prerequisites or HOLDDATA exist and report them in the task output. We recommend that you run the maintenance in Apply check mode first.

6. Read the information that is displayed on this tab, and click Next.

Installation options appear.

7. Specify installation options as follows, and click Next:
 - a. Select the installation mode for the selected maintenance.
 - b. Review the GROUPEXTEND options and select the ones that you want to apply to the maintenance:

NOAPARS

Excludes APARs that resolve error reason ID.

NOUSERMODS

Exclude USERMODs that resolve error user ID.

- c. (Optional) Enter SYSMODs that you want to exclude in the Excluded SYSMODs field. You can enter several SYSMODs, separate them by a comma.

The Bypass HOLDDATA tab of the wizard appears.

8. (Optional) Enter the BYPASS options for the HOLDDATA that you want to bypass during the maintenance installation. You can enter several BYPASS options, separate them by a comma.
9. Click Next.

A summary of the task appears.

10. Review the summary, and click Apply GROUPEXTEND.

A dialog that shows the progress of the task opens. When the task completes, you can click Show Results on the Progress tab to close this dialog. The task output browser opens and you can view the action details. Click Close to close the task output browser.

Note: While a task is in progress, you can perform other work. You can click Hide to exit the dialog and view the task status later on the Tasks tab.

- If you run the maintenance installation in Apply check mode and the task succeeds, review SMPRPT in the task output. Review what SYSMODs were found and applied.
- If you run the maintenance installation in Apply check mode and the task fails, review SMPOUT in the task output. Review if there are missing (not received) SYSMODs or HOLDDATA that must be resolved or bypassed.

You can accept the maintenance (except USERMODs) in the GROUPEXTEND mode using the SMP/E Environments, Maintenance tab. As a best practice, CA MSM prevents you from accepting USERMODs.

Note: You cannot accept USERMODs in GROUPEXTEND mode. Providing you have not enabled NOUSERMODS option, you can install USERMODs that are prerequisites for the maintenance package being installed.

CA RS Maintenance

CA MSM lets you track and install CA Recommended Services (CA RS) maintenance for your products.

CA Recommended Service (CA RS) is a set of maintenance packages that have been tested in a mainframe integrated system test environment. We recommend that you install CA RS maintenance to keep your products up-to-date. To keep yourself informed about new CA RS maintenance available, you must download (either manually or automatically) all CA RS files that list published maintenance for that CA RS level.

CA Technologies releases CA RS maintenance on a regular basis. CA RS maintenance levels are determined by its release date.

To be informed about new CA RS maintenance available, download the CA RS files listed for published CA RS maintenance. You can configure CA MSM to download them automatically, or [add CA RS files manually](#) (see page 46).

Based on information in CA RS files, you can filter CA RS maintenance in the SMP/E Environments, Maintenance section and select those maintenance packages that are applicable within the CA RS level you want to install.

You can install particular CA RS maintenance packages, or update all products in a particular CSI.

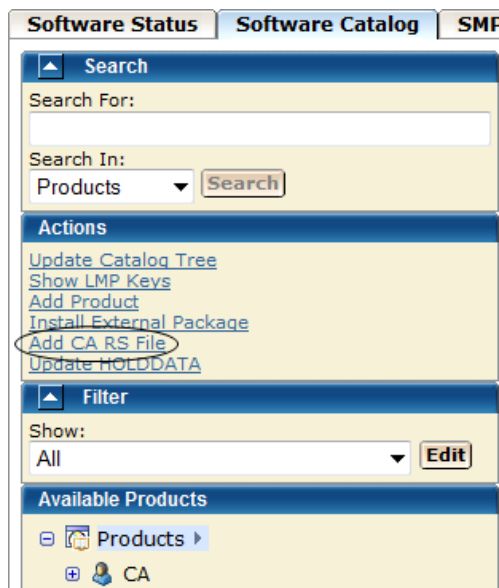
Note: A CA RS file may list a PTF that has been marked as PE (PTF in Error) by the error HOLDDATA and reflects a corrective PTF not listed in this CA RS file. This can occur if a PTF is found in error after the CA RS file is published. The CA RS processing continues as expected, and the PTF marked as PE is not applied. However, the CA RS level for the product will not be updated to the current level until you apply the corrective PTF to the CSI.

Add a CA RS File

If for any reason you cannot automatically download available CA RS files, you can add them to the software catalog manually. Use the Add CA RS File link. The CA RS files added manually are stored in the same USS directory as any other CA RS files.

Follow these steps:

1. Download the CA RS file using FTP from the CA Technologies file server directly to your USS directory.
 - a. Connect to the FTP site at the following location:
ftp://ftp.ca.com
 - b. Log in to ftp.ca.com as follows:
user name: anonymous
password: *your-email-address*
 - c. Change to the following directory:
/pub/ASSIGNS
 - d. Change your download mode to ASCII.
 - e. Download the CA RS file. CA RS files appear in the format:
CARyymm.TXT
2. In the CA MSM web-based interface, click the Software Catalog tab, and click the Add CA RS File link in the Actions section on the left side.



You are prompted to identify the CA RS file.

3. Specify the USS path to the CA RS file you want to add, and click OK.
Information about the CA RS file is saved in the CA MSM Software Catalog USS database.

Manage CA RS Maintenance

After CA RS maintenance packages have been downloaded, you can manage the maintenance in an existing SMP/E product installation environment.

Important! Before you start, update the error HOLDDATA in your software catalog. To do so, click [Update Error HOLDDATA](#) in the Actions section on the Software Catalog page. You can also set up the automatic error HOLDDATA download.

Note: While you are working with a particular SMP/E environment, the SMP/E environment is locked and other CA MSM users cannot perform any action against it. When the task finishes, or when you log out from CA MSM, or when your CA MSM session is inactive for more than 10 minutes, the lock releases.

The following installation modes are available:

Receive and Apply

Receives the CA RS maintenance and applies it to the selected target zone of the SMP/E environment.

Receive and Apply Check

Receives the CA RS maintenance and checks if the maintenance can be applied to the selected target zone of the SMP/E environment.

Receive, Apply Check, and Apply

Receives the CA RS maintenance, checks if the maintenance can be applied to the selected target zone of the SMP/E environment, and applies it if it can be applied.

Receive Only

Receives the CA RS maintenance.

Note: You can also manage CA RS maintenance to an SMP/E environment using the SMP/E Environments, CSI Information section. You can manage CA RS maintenance for any products in an SMP/E environment using the SMP/E Environments, Installed Product section.

Follow these steps:

1. Click the SMP/E Environments tab.

A list of SMP/E environments existing in CA MSM appears.

Note: If you select an SMP/E environment being used in CA MSM by another user, a notification message appears. You are prevented from performing any actions on the SMP/E environment. You can either wait until the notification message disappears and the SMP/E environment becomes available, or click Cancel to select another SMP/E environment.

2. Locate the SMP/E environment for the products whose CA RS maintenance you want to manage, click the Actions drop-down list to the right of the SMP/E environment, and select Upgrade CA RS Level.

The CA RS Processing wizard opens to the Introduction step.

3. Review the information on this step, and click Next.

A list of CA RS maintenance level appears.

4. Select the CA RS maintenance level that you want to upgrade the SMP/E environment to, and click Next.

The SMP/E environment and its products and FMIDs are listed in the tree form. Those products and FMIDs that are ready to be upgraded are selected. The current CA RS level is identified for each product and FMID.

Note: FMIDs that are not related to any product within the SMP/E environment are also listed and marked as not having ++FEATURE defined. You can select them for upgrading their CA RS level. If any products found do not have FMIDs related (no ++PRODUCT defined), they are listed and disabled by default.

5. Review and adjust the tree selections if necessary, and click Next.

You are prompted to select SMP/E zones where CA RS maintenance packages should be installed.

6. Click Select Zones to review and adjust the zones where the CA RS maintenance will be installed, click OK to confirm the selection and return to the wizard, and click Next.

The wizard displays a list of any CA RS maintenance packages missing from Software Catalog. These packages must be downloaded before proceeding with installation.

Note: If a maintenance package is being applied to multiple zones, the package appears multiple times (once for each zone). Although there are multiple entries, the package will be downloaded once, but it will be applied to all of the necessary zones.

7. Do one of the following:

- If there are no missing packages, click Next.
- If there are missing packages, review them and click Download to start downloading them into Software Catalog. When the download is finished, click Next.

Note: If there are a lot of missing packages, you can cancel the wizard and either download the maintenance packages manually on the Software Catalog page, or configure the automatic download using the SMP/E Environments page. After the download is completed, restart the wizard.

The CA RS maintenance packages to install are listed.

8. Review and adjust the list if necessary, and click Next.

You are prompted to select the installation mode.

9. Select the installation mode for the selected maintenance, and click Next.

- If prerequisites exist and are available, review them and click Next. CA MSM installs these prerequisites as part of the process. If a prerequisite is *not* available, the wizard cannot continue. You must acquire the prerequisite and restart the process.

- If [HOLDDATA](#) (see page 77) entries exist, review them, and click Next.

Within the HOLDDATA displayed, error HOLDDATA may be reflected for those maintenance packages that CA Technologies has marked as PE (PTF in Error). These packages are automatically removed from the list passed to SMP/E for APPLY processing.

GROUP statement processing handles dependencies automatically and may pull in PE SYSMOD from the GLOBAL zone if the corrective SYSMOD that resolves the HOLDREASON of the PE is being processed.

Note: Click Export Table to open all HOLDDATA information for all selected maintenance in a separate browser window. This action is similar to running the LIST SYSMODS HOLDDATA command within your SMP/E environment.

SMP/E work DDDEFs of SMPWRKx and SYSUTx, with their allocation parameters, are listed.

Note: For more information about SMPWRKx and SYSUTx data sets, see the *IBM SMP/E for z/OS Reference*.

10. Review the allocation parameters of work DDDEFs, and edit them if necessary to verify, that sufficient space is allocated for them during the maintenance installation:

Note: Changes in the allocation parameters apply to the current maintenance installation only.

- a. Click Override for a DDDEF to edit its allocation parameters.

A pop-up window opens.

- b. Make the necessary changes, and click OK to confirm.

The pop-up window closes, and the DDDEF entry is selected in the list indicating that the allocation parameters have been overridden.

Note: To update allocation parameters for all DDDEFs automatically, click Retrieve DDDEF. CA MSM provides values for all DDDEFs based on the total size of the selected maintenance packages that you want to install. All DDDEF entries are selected in the list indicating that the allocation parameters have been overridden.

- If you want to cancel a parameter update for any DDDEF, clear its check box.
- If you want to edit the allocation parameters for a particular DDDEF after you automatically updated them using the Retrieve DDDEF button, click Override. Make the necessary changes and click OK to confirm, and return to the wizard.

11. (Optional) Review SMP/E work DDDEF and their allocation parameters for the selected SMP/E zones, and click Close to return to the wizard.

Note: The allocation parameters can differ from the allocation parameters that you obtained using the Retrieve DDDEF button.

Click Next.

A summary of the task appears.

12. Review the summary, and click Install.

A dialog that shows the progress of the task opens. When the task completes, you can click Show Results on the Progress tab to close this dialog. The task output browser opens and you can view the action details. Click Close to close the task output browser.

Note: While a task is in progress, you can perform other work. You can click Hide to exit the dialog and view the task status later on the Tasks tab.

The task applies the CA RS maintenance. You can accept the applied maintenance (except USERMODs) using the SMP/E Environments, Maintenance tab.

Note: CA MSM prevents you from accepting USERMODs.

Back Out Maintenance

You can back out an applied maintenance package (but not an accepted maintenance package) through the SMP/E Environments tab. The process starts a wizard that guides you through the backout.

Note: While you are working with a particular SMP/E environment, the SMP/E environment is locked and other CA MSM users cannot perform any action against it. When the task finishes, or when you log out from CA MSM, or when your CA MSM session is inactive for more than 10 minutes, the lock releases.

Follow these steps:

1. Click the SMP/E Environments tab, and select the SMP/E environment from which you want to back out maintenance on the tree on the left side.

Products installed in the environment are listed.

2. Select the product component from which you want to back out maintenance.

The features in the component are listed.

Note: You can back out maintenance from all the products in the environment. Click the Maintenance tab to list all the maintenance packages for the environment.

3. Select the function from which you want to back out maintenance.

The maintenance packages for the feature are listed.

Note: You can use the Show drop-down list to show only applied packages.

4. Select the packages that you want to back out, and click the Restore link.

The maintenance wizard opens to the Introduction step.

Note: If you select an SMP/E environment being used in CA MSM by another user, a notification message appears. You are prevented from performing any actions on the SMP/E environment. You can either wait until the notification message disappears and the SMP/E environment becomes available, or click Cancel to select another SMP/E environment.

5. Review the information about the backout, and click Next.

The packages to back out are listed.

6. Review and adjust the list selections as required, and click Next.

Note: To review and adjust a list of zones from where you want to restore the maintenance, click Select Zones. Click OK to confirm the selection and return to the wizard.

The Prerequisite tab of the wizard appears.

7. Review the prerequisites if they exist, and click Next. CA MSM restores these prerequisites as part of the maintenance backout process.

A summary of the task appears.

8. Review the summary, and click Restore.

A dialog that shows the progress of the task opens. When the task completes, you can click Show Results on the Progress tab to close this dialog. The task output browser opens and you can view the action details. Click Close to close the task output browser.

Note: While a task is in progress, you can perform other work. You can click Hide to exit the dialog and view the task status later on the Tasks tab.

Setting System Registry

The *system registry* contains information about the systems that have been defined to CA MSM and can be selected as a target for deployments. You can create Non-Sysplex, Sysplex, Shared DASD Cluster, and Staging systems as well as maintain, validate, view, and delete a registered system, and investigate a failed validation.

Note: For more information about this functionality of CA MSM, see the *CA Mainframe Software Manager Product Guide*, located in the CA Mainframe Software Manager bookshelf on the CA Mainframe Software Manager product page on [the CA Support Online website](#).

Deploying Products

A *deployment* is a CA MSM object that you create to deploy libraries and data sets using a process that copies target libraries defined to SMP/E and user data sets across both shared DASD and networked environments.

Note: For more information about this functionality of CA MSM, see the *CA Mainframe Software Manager Product Guide*, located in the CA Mainframe Software Manager bookshelf on the CA Mainframe Software Manager product page on [the CA Support Online website](#).

Note: When you have completed the procedures in this section, go to Configuring Your Product.

Chapter 4: Installing Your Product from Pax-Enhanced ESD

This section contains the following topics:

[How to Install a Product Using Pax-Enhanced ESD](#) (see page 55)

[Allocate and Mount a File System](#) (see page 61)

[Copy the Product Pax Files into Your USS Directory](#) (see page 64)

[Create a Product Directory from the Pax File](#) (see page 69)

[Copy Installation Files to z/OS Data Sets](#) (see page 70)

[Receiving the SMP/E Package](#) (see page 71)

[Clean Up the USS Directory](#) (see page 74)

[Apply Maintenance](#) (see page 76)

How to Install a Product Using Pax-Enhanced ESD

This section describes the Pax-Enhanced ESD process. We recommend that you read this overview and follow the entire procedure the first time you complete a Pax-Enhanced ESD installation. For experienced UNIX users, the *Pax-Enhanced ESD Quick Reference Guide* has sufficient information for subsequent installations.

Important! Downloading pax files for the SMP/E installation as part of the Pax-Enhanced ESD process requires write authority to the UNIX System Services (USS) directories that are used for the ESD process.

If you prefer not to involve all CA Technologies product installers with z/OS UNIX System Services, assign a group familiar with USS to perform Steps 1 through 4 and provide the list of the unpacked MVS data sets to the product installer. USS is not required for the actual SMP/E RECEIVE of the product or for any of the remaining installation steps.

To install files using Pax-Enhanced ESD, use the following process:

1. Allocate and mount the file system. This process requires a USS directory to receive the pax file and to perform the unpack steps. We recommend that you allocate and mount a file system that is dedicated to Pax-Enhanced ESD and create the directory in this file system. Ensure that all users who will be working with pax files have write authority to the directory.

2. Copy the product pax files into your USS directory. To download files, choose one of the following options:

- Download a zip file from CA Support Online to your PC, unzip the file, and then upload the product pax files to your USS file system.
- FTP the pax files from CA Support Online directly to your USS directory.

Note: Perform Steps 3 through 6 for each pax file that you upload to your USS directory.

3. Create a product directory from the pax file. Set the current working directory to the directory containing the pax file, and create a directory in your USS directory by entering the following command:

```
pax -rvf pax-filename
```

4. Use the SMP/E GIMUNZIP utility to create z/OS installation data sets. The file UNZIPJCL in the directory that the pax command created in Step 3 contains a sample job to GIMUNZIP the installation package. Edit and submit the UNZIPJCL job.
5. Receive the SMP/E package. Use the data sets that GIMUNZIP created in Step 4. Perform a standard SMP/E RECEIVE using the SMPPTFIN and SMPHOLD (if applicable) DASD data sets. Also, specify the high-level qualifier for the RELFILES on the RFPREFIX parameter of the RECEIVE command.
6. Proceed with product installation. Consult product-specific documentation, including AREADME files and installation notes to complete the product installation.
7. (Optional) Clean up the USS directory. Delete the pax file, the directory that the pax command created, all of the files in it, and the SMP/E RELFILES, SMPMCS, and HOLDDATA data sets.

More Information:

[USS Environment Setup](#) (see page 60)

[Allocate and Mount a File System](#) (see page 61)

[Copy the Product Pax Files into Your USS Directory](#) (see page 64)

[Create a Product Directory from the Pax File](#) (see page 69)

How the Pax-Enhanced ESD Download Works

Important! To download pax files for the SMP/E installation as part of the Pax-Enhanced ESD process, you must have write authority to the UNIX System Services (USS) directories used for the ESD process and available USS file space before you start the procedures in this guide.

Use the following process to download files using Pax-Enhanced ESD:

1. Log in to <https://support.ca.com/>, and click Download Center.

The CA Support Online web page appears.

2. Under Download Center, select Products from the first drop-down list, and specify the product, release, and genlevel (if applicable), and click Go.

The CA Product Download window appears.

3. Download an entire CA Technologies product software package or individual pax files to your PC or mainframe. If you download a zip file, you must unzip it before continuing.

For both options, [The ESD Product Download Window](#) (see page 57) topic explains how the download interface works.

Note: For traditional installation downloads, see the *Traditional ESD User Guide*. Go to <https://support.ca.com/>, log in, and click Download Center. A link to the guide appears under the Download Help heading.

4. Perform the steps to install the product based on the product-specific steps.

The product is installed on the mainframe.

ESD Product Download Window

You can download CA Technologies product ESD packages multiple ways. Your choices depend on the size of the individual files and the number of files that you want to download. You can download the complete product with all components, or you can select individual pax and documentation files for your product or component.

The following illustration shows sample product files. The illustration lists all components of the product. You can use the Download Cart by selecting one or more components that you need, or selecting the check box for Add All to cart. If you prefer to immediately download a component, click the Download link.

CA Earl - MVS

- [Pax Enhanced Electronic Software Delivery \(ESD\) Guide](#)
- [Pax Enhanced Electronic Software Delivery \(ESD\) Quick Reference Guide](#)
- [Traditional Electronic Software Delivery \(ESD\) Guide](#)
- [Learn more about Using pkzip with your Downloaded Mainframe Products](#)
- [Learn more about downloading components of CA product](#)
- [Mounting ISO Images with OpenVMS](#)

If you have comments or suggestions about CA product documentation, send a message to techpubs@ca.com.

Note: Related Published Solutions are available on the other results tab on this page. You must add these solutions to your Download Cart to include them with your product files for download.

[View Download Cart](#)

				<input type="checkbox"/> Add All to cart		
Product Components				Add to cart	Download	
CCS - LEGACY - ESD ONLY 140000AW030.pax.Z	14.0 /0000	07/06/2011	4.89MB	<input type="checkbox"/>	Download	
CCS - MFNSM - ESD ONLY 140000AW040.pax.Z	14.0 /0000	07/06/2011	202.01MB	<input type="checkbox"/>	Download	
CCS - BASE - ESD ONLY 140001AW010.pax.Z	14.1 /0000	06/05/2012	27.44MB	<input type="checkbox"/>	Download	
CCS - OPTIONAL - ESD ONLY 140001AW020.pax.Z	14.1 /0000	06/05/2012	14.49MB	<input type="checkbox"/>	Download	
CA EARL PRODUCT PACKAGE 610106AEO00.pax.Z	6.1 /0106	10/30/2008	1.85MB	<input type="checkbox"/>	Download	
EARL PIPPACK AEO61010600.pdf	6.1 /0106	01/29/2010	93.92KB	<input type="checkbox"/>	Download	
CA EASYTRIEVE PRODUCT PACKAGE B60000ESA00.pax.Z	11.6 /0000	07/05/2011	6.12MB	<input type="checkbox"/>	Download	
DATACOM/AD PROD INFO PACKET CAIE00000P0.pdf	14.0 /0000	06/01/2012	220.53KB	<input type="checkbox"/>	Download	
DATACOM/AD XPRESS INSTALL				<input type="checkbox"/>	Download	

Clicking the link for an individual component takes you to the Download Method page.

Download Method

Please choose a download method to complete your download request. [Learn More](#)

HTTP via Download Manager
This is the CA recommended method for download. The Download Manager allows you to download your files faster and more efficiently.
[Download](#)

HTTP via Internet Browser
If Download Manager cannot be used or fails to start you may access your file(s) via your internet browser.
[View File Link\(s\)](#)

FTP
This method allows you to download your file(s) via FTP from CA's content delivery network or via native FTP servers.
Note: Processing is required and an email notification will be sent when your request is ready for downloading.
[FTP Request](#)

Depending on the size and quantity of ordered product files, the Download Method screen could also have these options:

Note: For mainframe downloads using this HTTP method, click the Learn More link.

Download Method

Please choose a download method to complete your download request. [Learn More](#)

HTTP via Download Manager
This is the CA recommended method for download. The Download Manager allows you to download your files faster and more efficiently.
[Download](#)

Create a Zip File
This method allows you to bundle your download files into one or more zip files of up to 3.5 GB each. These zip files can then be downloaded via HTTP or FTP.
Note: Processing is required and an email notification will be sent when your request is ready for downloading.
[Create Zip](#)

The HTTP method lets you start downloading immediately. The FTP method takes you to the Review Orders page that displays your order, first in a Pending status changing to Ready when your order has been processed.

Preferred FTP uses the new content delivery network (CDN). Alternate FTP uses the CA Technologies New York-based FTP servers.

The Create a Zip File option first creates the zip, and when ready, offers the options that the Zip Download Request examples show in the next illustration.

Review Download Requests

Below is a list of the FTP and large HTTP downloads that have been requested by your site. When status is set to **'Ready'** a link will appear.

- For FTP requests, click on the FTP link to view the path information for your download. For more information view our [FTP Help document](#)
- For HTTP requests, click on the HTTP link to initiate your download.
- To view the details of your request, click on the desired order number.

Today's Downloads

Order #	Status	Description	Date Placed	Download Options
10000961	Ready	FTP Download Request	04/30/2010	Preferred FTP ▼ Alternate FTP ▼

Previous 6 day Download History

Order #	Status	Description	Date Placed	Download Options
10000949	Ready	ZIP Download Request	04/29/2010	HTTP via DLM Preferred FTP ▼ Alternate FTP ▼
10000948	Ready	ZIP Download Request	04/29/2010	HTTP via DLM Preferred FTP ▼ Alternate FTP ▼

USS Environment Setup

You need a UNIX System Services (USS) directory and a file system with adequate space to perform the following tasks:

- Receive product pax files from CA Support Online.
- Perform utility functions to unpack the pax file into MVS data sets that you can use to complete the product installation.

We recommend that you allocate and mount a file system that is dedicated to Pax-Enhanced ESD. The amount of space that you need for the file system depends on the following variables:

- The size of the pax files that you intend to download.
- Whether you plan to keep the pax files after unpacking them. We do not recommend this practice.

We recommend that you use one directory for downloading and unpacking pax files. Reusing the same directory minimizes USS setup. You need to complete the USS setup only one time. You reuse the same directory for subsequent downloads. Alternatively, you can create a directory for each pax download.

Important! Downloading pax files for the SMP/E installation as part of the Pax-Enhanced ESD process requires write authority to the UNIX System Services (USS) directories that are used for the ESD process. The USS file system that is used for Pax-Enhanced ESD must have sufficient free space to hold the directory that the pax command created, and its contents. You need approximately 3.5 times the pax file size in free space to download the pax file and unpack its contents. For example, to download and unpack a 14 MB pax file, you need approximately 49 MB of free space in the file system hosting your ESD directory.

Allocate and Mount a File System

You can use the zSeries File System (zFS) or hierarchical file system (HFS) for ESD downloads.

This procedure describes how to perform the following tasks:

- Allocate a zFS or an HFS.
- Create a mount point in an existing maintenance USS directory of your choice.
- Mount the file system on the newly created mount point.

Note: You must have either SUPERUSER authority, or the required SAF profile setting to allow you to issue the USS mount command for the file system.

- Optionally, permit write access to anyone in the same group as the person who created the directory.

Important! USS commands are case-sensitive.

Follow these steps:

1. Allocate the file system by customizing one of the following samples to your site requirements:

- On a zFS, use the following sample:

```
//DEFINE EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//AMSDUMP DD SYSOUT=*
//SYSIN DD *
  DEFINE CLUSTER ( +
    NAME(your_zFS_data_set_name) +
    STORAGECLASS(class) +
    LINEAR +
    CYL(primary secondary) +
    SHAREOPTIONS(3,3) +
  )
/*
//FORMAT EXEC PGM=IOEAGFMT,REGION=0M,
// PARM=(' -aggregate your_zFS_data_set_name -compat')
//SYSPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//STDOUT DD SYSOUT=*
//STDERR DD SYSOUT=*
//CEEDUMP DD SYSOUT=*
/*
```

- On an HFS, use the following sample:

```
//ALCHFS EXEC PGM=IEFBR14
//CAESD DD DSN=yourHFS_data_set_name,
// DISP=(NEW,CATLG,DELETE),UNIT=3390,
// DSNTYPE=HFS,SPACE=(CYL,(primary,secondary),1)
```

The file system is allocated.

Note: Ensure that the zFS or HFS data set name that you use conforms to your data set naming conventions for USS file systems. If the allocation of the file system data set fails, it is because of environmental settings not allowing for the allocation. On an HFS, try using the ISPF 3.2 Data Set Utility to allocate your HFS data set.

2. Create a mount point for the file system. This example shows how to create a /CA/CAESD directory in an existing directory, /u/maint. From the TSO OMVS shell, enter the following commands:

```
cd /u/maint/  
mkdir CA  
cd CA  
mkdir CAESD
```

Note: This document refers to this structure as *yourUSSESDdirectory*.

The mount point is created.

3. Mount the file system by customizing one of the following samples to your site requirements:

- On a zFS, use the following sample:

```
MOUNT FILESYSTEM('your_zFS_data_set_name')  
MOUNTPOINT('yourUSSESDdirectory')  
TYPE(ZFS) MODE(RDWR)  
PARM(AGGRGROW)
```

- On an HFS, use the following sample:

```
MOUNT FILESYSTEM('your_HFS_data_set_name')  
MOUNTPOINT('yourUSSESDdirectory')  
TYPE(HFS) MODE(RDWR)
```

The file system is mounted.

4. (Optional) Set security permissions for the directory. You can use the chmod command to let other users access the ESD directory and its files. For example, to allow write access to the ESD directory for other users in your USS group, from the TSO OMVS shell, enter the following command:

```
chmod -R 775 /yourUSSESDdirectory/
```

Write access is granted.

Note: For more information about the chmod command, see the IBM *z/OS UNIX System Services User Guide (SA22-7802)*.

Copy the Product Pax Files into Your USS Directory

To begin the CA Technologies product installation procedure, copy the product pax file into the USS directory that you set up. Use one of the following methods:

- Download the product pax files directly from the CA Support Online FTP server to your z/OS system.
- Download the product pax file from the CA Support Online FTP server to your computer, and upload it to your z/OS system.
- Download the product file from CA Support Online to your computer. If your download included a zip file, unzip the file, and upload the unzipped pax files to your z/OS system.

This section includes a sample batch job to download a product pax file from the CA Support Online FTP server directly to a USS directory on your z/OS system and sample commands to upload a pax file from your computer to a USS directory on your z/OS system.

Important! The FTP procedures vary due to local firewall and other security settings. Consult your local network administrators to determine the appropriate FTP procedure to use at your site.

Ensure that sufficient free space is available in the USS file system that you are using for Pax-Enhanced ESD to hold the product pax file. If you do not have sufficient free space, error messages similar to the following appear:

```
EZA1490I Error writing to data set  
EZA2606W File I/O error 133
```

When the download finishes, the pax file size in your USS directory matches the value in the Size column for the corresponding pax file on the CA Technologies Products Download window.

More Information:

[How the Pax-Enhanced ESD Download Works](#) (see page 57)
[ESD Product Download Window](#) (see page 57)

Download Using Batch JCL

Use this process to download a pax file from the CA Support Product Downloads window by running batch JCL on the mainframe. Use the sample JCL attached to the PDF file as *CAtoMainframe.txt* to perform the download.

Important! To simplify the Pax-Enhanced ESD process, the PDF version of this guide includes a sample JCL job that you can copy directly to the mainframe. To access this job, click the paper clip icon at the left of the PDF reader. A window displaying attachments opens. Double-click the file to view the sample JCL.

Note: We recommend that you follow the preferred method as described on CA Support Online. This procedure is our preferred download method; however, we do include the procedure to download to the mainframe through a PC in the next section.

Follow these steps:

1. Supply a valid JOB statement.
2. Replace *yourTCPIP.PROFILE.dataset* with the name of the TCP/IP profile data set for your system. Consult your local network administrators, if necessary.

The job points to your profile.

3. Replace *YourEmailAddress* with your email address.

The job points to your email address.

4. Replace *yourUSSESDdirectory* with the name of the USS directory that you use for ESD downloads.

The job points to your USS directory.

5. Locate the product component to download on the CA Support Product Download window.

You have identified the product component to download.

6. Click Download for the applicable file.

Note: For multiple downloads, add files to a cart.

The Download Method window opens.

7. Click FTP Request.

The Review Download Requests window displays any files that you have requested to download.

Note: We send you an email when the file is ready to download or a link appears in this window when the file is available.

8. Select one of the following methods:

Preferred FTP

Uses CA Technologies worldwide content delivery network (CDN). If you cannot download using this method, review the security restrictions for servers that company employees can download from that are outside your corporate network.

Host Name: ftp://ftpdnloads.ca.com

Alternate FTP

Uses the original download servers that are based on Long Island, New York.

Host Name: ftp://scftpd.ca.com for product files and download cart files and ftp://ftp.ca.com for individual solution files.

Both methods display the host, user name, password, and FTP location, which you then can copy into the sample JCL.

Note: The following links provide details regarding FTP: the FTP Help document link in the Review Download Requests window and the Learn More link available in the Download Methods window.

9. Submit the job.

Important! If your FTP commands are incorrect, it is possible for this job to fail and still return a zero condition code. Read the messages in the job DDNAME SYSPRINT to verify the FTP succeeded.

After you run the JCL job, the pax file resides in the mainframe USS directory that you supplied.

Example: CAtoMainframe.txt, JCL

The following text appears in the attached CAtoMainframe.txt JCL file:

```
//GETPAX JOB (ACCOUNTNO),'FTP GET ESD PACKAGE',
//          MSGCLASS=X,CLASS=A,NOTIFY=&SYSUID
//*****
/* This sample job can be used to download a pax file directly from *
/* CA Support Online to a USS directory on your z/OS system.      *
/*                                                                *
/* When editing the JCL ensure that you do not have sequence numbers *
/* turned on.                                                    *
/*                                                                *
/* This job must be customized as follows:                       *
/* 1. Supply a valid JOB statement.                              *
/* 2. The SYSTCPD and SYSFTPD JCL DD statements in this JCL may be *
/* optional at your site. Remove the statements that are not    *
/* required. For the required statements, update the data set   *
/* names with the correct site-specific data set names.        *
/* 3. Replace "Host" based on the type of download method.      *
/* 4. Replace "YourEmailAddress" with your email address.       *
/* 5. Replace "yourUSSESDdirectory" with the name of the USS    *
/* directory used on your system for ESD downloads.            *
/* 6. Replace "FTP Location" with the complete path             *
/* and name of the pax file obtained from the FTP location     *
/* of the product download page.                               *
//*****
//GETPAX EXEC PGM=FTP,PARM='(EXIT',REGION=0M
//SYSTCPD DD DSN=yourTCPIP.PROFILE.dataset,DISP=SHR
//SYSFTPD DD DSN=yourFTP.DATA.dataset,DISP=SHR
//SYSPRINT DD SYSOUT=*
//OUTPUT DD SYSOUT=*
//INPUT DD *
Host
anonymous YourEmailAddress
lcd yourUSSESDdirectory
binary
get FTP_location
quit
```

Download Files to Mainframe through a PC

If you download pax or zip files from CA Support Online to your PC, use this procedure to upload the pax file from your PC to your z/OS USS directory.

Follow these steps:

1. Follow the procedures in [How the Pax-Enhanced ESD Download Works](#) (see page 10) to download the product pax or zip file to your PC. If you download a zip file, first unzip the file to use the product pax files.

The pax or zip file resides on your PC.

2. Open a Windows command prompt.

The command prompt appears.

3. Customize and enter the FTP commands with the following changes:
 - a. Replace *mainframe* with the z/OS system IP address or DNS name.
 - b. Replace *userid* with your z/OS user ID.
 - c. Replace *password* with your z/OS password.
 - d. Replace *C:\PC\folder\for\thePAXfile* with the location of the pax file on your PC.
 - e. Replace *yourUSSESDdirectory* with the name of the USS directory that you use for ESD downloads.
 - f. Replace *paxfile.pax.Z* with the name of the pax file to upload.

The pax file is transferred to the mainframe.

Example: FTP Commands

This list is a sample of FTP commands to upload the pax file from your PC to your USS Pax-Enhanced ESD directory:

```
ftp mainframe
userid
password
bin
lcd C:\PC\folder\for\thePAXfile
cd /yourUSSESDdirectory/
put paxfile.pax.Z
quit
exit
```

Create a Product Directory from the Pax File

Use the sample job attached to the PDF file as Unpackage.txt to extract the product pax file into a product installation directory.

Important! To simplify the Pax-Enhanced ESD process, the PDF version of this guide includes a sample JCL job that you can copy directly to the mainframe. To access this job, click the paper clip icon at the left of the PDF reader. A window displaying attachments opens. Double-click the file to view the sample JCL.

Follow these steps:

1. Supply a valid JOB statement.
2. Replace *yourUSSESDdirectory* with the name of the USS directory that you use for ESD downloads.

The job points to your specific directory.

3. Replace *paxfile.pax.Z* with the name of the pax file.

The job points to your specific pax file.

4. Submit the job.

The job runs and creates the product directory.

Note: If the PARM= statement exceeds 71 characters, uncomment and use the second form of UNPAXDIR instead. This sample job uses an X in column 72 to continue the PARM= parameters to a second line.

Sample Job to Execute the Pax Command (Unpackage.txt)

The following text appears in the attached Unpackage.txt JCL file:

```
//ESDUNPAX JOB (ACCOUNTNO), 'UNPAX ESD PACKAGE ',
// MSGCLASS=X, CLASS=A, NOTIFY=&SYSUID
//*****
/* This sample job can be used to invoke the pax command to create *
/* the product-specific installation directory. *
/* *
/* This job must be customized as follows: *
/* 1. Supply a valid JOB statement. *
/* 2. Replace "yourUSSESDdirectory" with the name of the USS *
/* directory used on your system for ESD downloads. *
/* 3. Replace "paxfile.pax.Z" with the name of the pax file. *
/* NOTE: If you continue the PARM= statement on a second line, make *
/* sure the 'X' continuation character is in column 72. *
//*****
//UNPAXDIR EXEC PGM=BPXBATCH,
// PARM='sh cd /yourUSSESDdirectory/; pax -rvf paxfile.pax.Z'
/*UNPAXDIR EXEC PGM=BPXBATCH,
/* PARM='sh cd /yourUSSESDdirectory/; pax X
/* -rvf paxfile.pax.Z'
//STDOUT DD SYSOUT=*
//STDERR DD SYSOUT=*
```

Copy Installation Files to z/OS Data Sets

Use this procedure to invoke the SMP/E GIMUNZIP utility to create MVS data sets from the files in the product-specific directory.

To copy the Pax-Enhanced ESD installation files to z/OS data sets

1. Locate and read the product readme file or installation notes, if applicable, which resides in the product-specific directory that the pax command created. This file contains product-specific details you need to complete the installation procedure.

You have identified product-specific installation details.

2. Use ISPF EDIT or TSO ISHELL to edit the UNZIPJCL sample job. You can perform this step in one of the following ways:
 - Use ISPF EDIT. Specify the full path name of the UNZIPJCL file.
 - Use TSO ISHELL. Navigate to the UNZIPJCL file and use the E line command to edit the file.

The job is edited.

3. Change the SMPDIR DD PATH to the product-specific directory created by the pax command.

Your view is of the product-specific directory.

Note: Edit the Job card to meet the site specific standards.

4. If ICSF is not active, perform the following steps:
 - a. Change the SMPJHOME DD PATH to your Java runtime directory. This directory varies from system to system.
 - b. Perform one of the following steps:
 - Change the SMPCPATH DD PATH to your SMP/E Java application classes directory, usually /usr/lpp/smp/classes/.
 - Change HASH=YES to HASH=NO on the GIMUNZIP parameter.

One of the following occurs: ICSF is active or you are using Java.

5. Change all occurrences of *YourHLQ* to the high-level qualifier for z/OS data sets used by the installation process. We suggest that you use a unique HLQ for each expanded pax file to uniquely identify the package. Do not use the same value for *yourHLQ* as you will use for the SMP/E RELFILES.

All occurrences of *YourHLQ* are set to your high-level qualifier for z/OS data sets.

6. Submit the UNZIPJCL job.

The UNZIPJCL job should complete with a zero return code. Messages GIM69158I and GIM48101I in the output and IKJ56228I in the JES log are acceptable.

GIMUNZIP creates z/OS data sets with the high-level qualifier you specified in the UNZIPJCL job. You use these data sets to perform the product installation. The pax file and product-specific directory are no longer needed at this point.

Note: For more information, see the IBM Reference Manual, *SMP/E for z/OS Reference (SA22-7772)*.

Receiving the SMP/E Package

If you are installing the package into a new SMP/E environment, use the sample jobs included with the product to set up an SMP/E environment before proceeding.

At this point, complete the SMP/E RECEIVE using files on DASD that the UNZIPJCL job created. Consult the product sample JCL library that contains a sample job customized to receive the product from DASD. Specifically, you must specify the following values:

- DASD data set names for SMPPTFIN and SMPHOLD (if applicable)
- The HLQ that you used in the UNZIPJCL job on the RFPREFIX parameter on the RECEIVE command

How to Install Products Using Native SMP/E JCL

The following steps describe the process to install products using native SMP/E JCL:

1. Allocate product data sets and SMP/E data sets.
2. Create SMP/E CSI.
3. Receive base functions.
4. Apply base functions.
5. Accept base functions.
6. Configure the product according to your site requirements.

Prepare the SMP/E Environment for Pax Installation

The members in this procedure prepare the data sets, initialize the zones, and create the DDDEFs for CA PMO.

For information about the members, see the comments in the JCL.

Note: We recommend that you make a backup copy of the SAMPJCL members before customizing them.

To prepare the SMP/E environment for your product

1. Customize the macro BTYSEEDIT with your site-specific information and then copy the macro to your syslib location. Replace the rightmost parameters for each ISREDIT CHANGE macro command. Each time you edit an installation member, type BTYSEEDIT on the TSO command line, and press Enter to replace the defaults with your specifications.

The macro is ready to customize your SAMPJCL members.

Note: Set the DASD HLQ to the same value specified for yourHLQ for the unzip to DASD ESD JCL.

Note: The following steps include instructions to execute the BTYSEEDIT macro each time you open a new SAMPJCL member. To edit all SAMPJCL members simultaneously, read and follow the instructions in the BTYEDALL member.

2. Open the SAMPJCL member BTY1ALL in an edit session and execute the BTYSEEDIT macro from the command line.
BTY1ALL is customized
3. Submit BTY1ALL

This job produces the following results:

- The target and distribution data sets for CA PMO are created.
- Unique SMPLTS, SMPMTS, SMPSCDS, and SMPSTS data sets for this target zone are created.

4. Open the SAMPJCL member BTY2CSI in an edit session and execute the BTYSEEDIT macro from the command line.

BTY2CSI is customized.

Submit BTY2CSI.

The job produces the following results:

- The CSI data set is defined.
- The SMPPTS and SMPLOG data sets are allocated.
- The global, target, and distribution zones are initialized.
- The DDDEF entries for your product are created.
- The DDDEFs for the required SMP/E data sets are created.

Run the Installation Jobs for a Pax Installation

Submit and run these SAMPJCL members in sequence. Do not proceed with any job until the previous job has completed successfully.

To run the installation job

1. Open the SAMPJCL member BTY3RECD in an edit session and execute the BTYSEEDIT macro from the command line.
BTY3RECD is customized.
2. Submit the SAMPJCL member BTY3RECD to receive SMP/E base function.
CA PMO is received and now resides in the global zone.
3. Open the SAMPJCL member BTY4APP in an edit session and execute the BTYSEEDIT macro from the command line.
BTY4APP is customized.
4. Submit the SAMPJCL member BTY4APP to APPLY SMP/E base function.
Your product is applied and now resides in the target libraries.
5. Open the SAMPJCL member BTY5ACC in an edit session and execute the BTYSEEDIT macro from the command line.
BTY5ACC is customized.
6. Submit the SAMPJCL member BTY5ACC to ACCEPT SMP/E base function.
Your product is accepted and now resides in the distribution libraries.

Clean Up the USS Directory

Important! This procedure is optional. Do not use this procedure until you complete the entire installation process.

To free file system disk space for subsequent downloads after downloading and processing the pax files for your CA Technologies product, we recommend removing the files from your USS directory and deleting unnecessary MVS data sets. You can delete the following items:

- Pax file
- Product-specific directory that the pax command created and all of the files in it
- SMP/E RELFILEs, SMPMCS, and HOLDDATA MVS data sets

These data sets have the HLQ that you assigned in the UNZIPJCL job.

Note: Retain non-SMP/E installation data sets such as *yourHLQ*.INSTALL.NOTES for future reference.

Follow these steps:

1. Navigate to your Pax-Enhanced ESD USS directory.

Your view is of the applicable USS directory.

2. Delete the pax file by entering the following command:

```
rm paxfile
```

paxfile

Specifies the name of the CA Technologies pax file that you downloaded.

The pax file is deleted.

3. Delete the product-specific directory by entering the following command:

```
rm -r product-specific_directory
```

product-specific_directory

Specifies the product-specific directory that the pax command created.

The product-specific directory is deleted.

Note: You can also use TSO ISHELL to navigate to the pax file and product-specific directory, and delete them using the D line command.

Apply Maintenance

CA Support Online may have maintenance and HOLDDATA that have been published since the installation data was created.

To apply maintenance

1. Check CA Support Online and download any PTFs and HOLDDATA published since this release was created.
2. Transfer the downloaded files to two separate FB 80 sequential data sets. Use one data set to contain the PTFs and the other to contain the HOLDDATA. See [HOLDDATA](#) (see page 77).

The PTFs and HOLDDATA become accessible to the SAMPJCL maintenance members, BTY6RECP, BTY7APYP, and BTY8ACCP.

3. The BTYSEDIT macro was customized in the installation steps. Verify that you still have the values from the base install.
4. Open the SAMPJCL member BTY6RECP in an edit session and execute the BTYSEDIT macro from the command line.

BTY6RECP is customized with your jobcard, CSI location, and zone names.

5. Customize the BTY6RECP SMPPTFIN and SMPHOLD DD statements to reference the FB 80 data sets for the PTFs and HOLDDATA.
6. Submit BTY6RECP.

The PTFs and HOLDDATA are received.

7. Open the SAMPJCL member BTY7APYP in an edit session and execute the BTYSEDIT macro from the command line.

BTY7APYP is customized.

8. Submit BTY7APYP.

The PTFs are applied.

9. (Optional) Open the SAMPJCL member BTY8ACCP in an edit session and execute the BTYSEDIT macro from the command line.

BTY8ACCP is customized.

10. (Optional) Submit SAMPJCL member BTY8ACCP.

The PTFs are accepted.

Note: You do not have to submit the job at this time. You can accept the PTFs according to your site's policy.

Note: We recommend that you check for available maintenance; however, you may find that none is available. If maintenance is not available, go to [Configuring Your Product](#) (see page 87)).

HOLDDATA

When you apply maintenance, you typically encounter SMP/E HOLDDATA. We use HOLDDATA to notify your SMP/E system of SYSMODs that have errors or special conditions. We support system and external HOLDDATA.

Note: When you have completed the procedures in this section, go to [Configuring Your Product](#).

Chapter 5: Installing Your Product from Tape

This section contains the following topics:

[Unload the Sample JCL from Tape](#) (see page 80)

[How to Install Products Using Native SMP/E JCL](#) (see page 81)

[Apply Maintenance](#) (see page 84)

Unload the Sample JCL from Tape

To simplify the process, the PDF version of this guide includes a sample JCL job that you can copy directly to the mainframe. To access this job, click the paper clip icon at the left of the PDF reader. A window displaying attachments opens. Double-click the UnloadJCL.txt file to view the sample JCL job.

Note: The sample JCL to install the product is also provided in the CAI.SAMPJCL library on the distribution tape.

Follow these steps:

1. Run the following sample JCL:

```
//COPY      EXEC  PGM=IEBCOPY,REGION=4096K
//SYSPRINT  DD   SYSOUT=*
//SYSUT1    DD   DSN=CAI.SAMPJCL,DISP=OLD,UNIT=unitname,VOL=SER=nnnnnn,
//          LABEL=(1,SL)
//SYSUT2    DD   DSN=yourHLQ.SAMPJCL,
//          DISP=(,CATLG,DELETE),
//          UNIT=sysda,SPACE=(TRK,(15,3,6),RLSE)
//SYSUT3    DD   UNIT=sysda,SPACE=(CYL,1)
//SYSIN     DD   DUMMY
```

unitname

Specifies the tape unit to mount the tape.

nnnnnn

Specifies the tape volume serial number.

yourHLQ

Specifies the data set prefix for the installation.

sysda

Specifies the DASD where you want to place the installation software.

The SAMPJCL data set is created and its contents are downloaded from the tape.

2. Continue with one of the following options:
 - If you already have set up the SMP/E environment, go to Run the Installation Jobs for a Tape Installation.
 - If you have *not* set up the SMP/E environment, go to Prepare the SMP/E Environment for Tape Installation.

How to Install Products Using Native SMP/E JCL

The following steps describe the process to install products using native SMP/E JCL:

1. Allocate product data sets and SMP/E data sets.
2. Create SMP/E CSI.
3. Receive base functions.
4. Apply base functions.
5. Accept base functions.
6. Configure the product according to your site requirements.

Prepare the SMP/E Environment for Tape Installation

The members in this procedure prepare the data sets, initialize the zones, and create the DDDEFs for CA PMO.

For information about the members, see the comments in the JCL.

Note: We recommend that you make a backup copy of the SAMPJCL members before customizing them.

To prepare the SMP/E environment for your product

1. Customize the macro BTYSEEDIT with your site-specific information and then copy the macro to your syslib location. Replace the rightmost parameters for each ISREDIT CHANGE macro command. Each time you edit an installation member, type BTYSEEDIT on the TSO command line, and press Enter to replace the defaults with your specifications. The macro is ready to customize your SAMPJCL members.

Note: Set the DASD HLQ to the same value specified for yourHLQ for the unzip to DASD ESD JCL.

Note: The following steps include instructions to execute the BTYSEEDIT macro each time you open a new SAMPJCL member. To edit all SAMPJCL members simultaneously, read and follow the instructions in the BTYEDALL member.

2. Open the SAMPJCL member BTY1ALL in an edit session and execute the BTYSEEDIT macro from the command line. BTY1ALL is customized
3. Submit BTY1ALL

This job produces the following results:

- The target and distribution data sets for CA PMO are created.
- Unique SMPLTS, SMPMTS, SMPSCDS, and SMPSTS data sets for this target zone are created.

4. Open the SAMPJCL member BTY2CSI in an edit session and execute the BTYSEEDIT macro from the command line.

BTY2CSI is customized.

5. Submit BTY2CSI.

The job produces the following results:

- The CSI data set is defined.
- The SMPPTS and SMPLOG data sets are allocated.
- The global, target, and distribution zones are initialized.
- The DDDEF entries for your product are created.
- The DDDEFs for the required SMP/E data sets are created.

Run the Installation Jobs for a Tape Installation

Submit and run these SAMPJCL members in sequence. Do not proceed with any job until the previous job has completed successfully.

To run the installation job

1. Open the SAMPJCL member BTY3RECT in an edit session and execute the BTYSEEDIT macro from the command line.
BTY3RECT is customized.
2. Submit the SAMPJCL member BTY3RECT to receive SMP/E base function.
CA PMO is received and now resides in the global zone.
3. Open the SAMPJCL member BTY4APP in an edit session and execute the BTYSEEDIT macro from the command line.
BTY4APP is customized.
4. Submit the SAMPJCL member BTY4APP to APPLY SMP/E base function.
Your product is applied and now resides in the target libraries.
5. Open the SAMPJCL member BTY5ACC in an edit session and execute the BTYSEEDIT macro from the command line.
BTY5ACC is customized.
6. Submit the SAMPJCL member BTY5ACC to ACCEPT SMP/E base function.
Your product is accepted and now resides in the distribution libraries.

Apply Maintenance

CA Support Online may have maintenance and HOLDDATA that have been published since the installation data was created.

To apply maintenance

1. Check CA Support Online and download any PTFs and HOLDDATA published since this release was created.
2. Transfer the downloaded files to two separate FB 80 sequential data sets. Use one data set to contain the PTFs and the other to contain the HOLDDATA. See [HOLDDATA](#) (see page 77).

The PTFs and HOLDDATA become accessible to the yourhlq.SAMPJCL maintenance members, BTY6RECP, BTY7APYP, and BTY8ACCP.

3. The BTYSEDIT macro was customized in the installation steps. Verify that you still have the values from the base install.
4. Open the SAMPJCL member BTY6RECP in an edit session and execute the BTYSEDIT macro from the command line.

BTY6RECP is customized with your jobcard, CSI location, and zone names.

5. Customize the BTY6RECP SMPPTFIN and SMPHOLD DD statements to reference the FB 80 data sets for the PTFs and HOLDDATA.
6. Submit BTY6RECP.

The PTFs and HOLDDATA are received.

7. Open the SAMPJCL member BTY7APYP in an edit session and execute the BTYSEDIT macro from the command line.

BTY7APYP is customized.

8. Submit BTY7APYP.

The PTFs are applied.

9. (Optional) Open the SAMPJCL member BTY8ACCP in an edit session and execute the BTYSEDIT macro from the command line.

BTY8ACCP is customized.

10. (Optional) Submit SAMPJCL member BTY8ACCP.

The PTFs are accepted.

Note: You do not have to submit the job at this time. You can accept the PTFs according to your site's policy.

Note: We recommend that you check for available maintenance; however, you may find that none is available. If maintenance is not available, go to [Configuring Your Product](#) (see page 87).

HOLDDATA

When you apply maintenance, you typically encounter SMP/E HOLDDATA. We use HOLDDATA to notify your SMP/E system of SYSMODs that have errors or special conditions. We support system and external HOLDDATA.

Chapter 6: Configuring Your Product

This chapter describes the steps to configure CA PMO.

This section contains the following topics:

[Step 1: Customize CA PMO Parameters](#) (see page 88)

[Step 2: Allocate the PMO/XSYS Control File \(Optional\)](#) (see page 92)

[Step 3: Install the PMOMON ISPF Panel \(Optional\)](#) (see page 93)

[Step 4: Set Up Automatic LLA Refreshes \(Optional\)](#) (see page 94)

[Step 5: Edit and Copy the CA PMO Startup Procedure](#) (see page 95)

[Step 6: Set Up Security for Operator Commands \(Optional\)](#) (see page 95)

[Step 7: Set Up the DFDSS Interface \(Optional\)](#) (see page 96)

[Step 8: Set Up the FDR Interface \(Optional\)](#) (see page 96)

[Step 9: Set Up the CA Roscoe Interface \(Optional\)](#) (see page 97)

Step 1: Customize CA PMO Parameters

CA PMO parameters control certain CA PMO functions, such as which libraries CA PMO will manage and which monetary values CA PMO will assign to CPU time and to users' time.

The member yourhlq.CBTYSAMP(PMOPARMS), which was copied from the installation tape, contains CA PMO parameters and their default values.

Your parameter data set can be shared by the same release of CA PMO running on multiple systems.

The parameters that you specify at this time are listed on the next few pages. For a complete description of CA PMO parameters and parameter syntax, see the chapter "Using Parameters" in the *CA PMO Systems Programmer Guide*.

A few sample parameter statements are shown in the following example. The first four statements apply to particular systems; the rest apply to all systems.

```
CPU1 SVCCPU=198,EXCPCPU=489
CPU1 CPUCOST=0.80,MLSIZE=500,NUMCANDS=50
CPU2 CPUCOST=0.60,MLSIZE=200,NUMCANDS=25
CPU2 INCLPRVT=USER.CPU2.LIB
INCLPRVT=USER.LIB1
INCLPRVT=USER.LIB2
LLA=AUTO
OPERMSG=NO
LLAPMLB=LLA.REFRESH.PARMLIB
REFDELAY=00:03:00
EXCPCOST=0.75
USERCOST=48.00
XSYS=CPU1,CPU2,CPU3
XSYSCOMM=ALL
INTVL=02:00:00
INCLAUTO=*,VOL=MVS001
INCLAUTO=USRVK11*,VOL=USR*
```

Parameters to Specify at Installation Time

There are several different groups of parameters that you need to consider:

1. The first set of parameters concerns basic CA PMO operation. Specify the following parameters:

CPUCOST=*monetary cost*
 EXCPCOST=*monetary cost*
 USERCOST=*monetary cost*
 MONEYSYM=*monetary symbol*
 EXCPCPU=*microseconds per EXCP*
 SVCCPU=*CPU time*
 LLA=*interface option*
 OPERMSG=*LLA refresh option*
 REFDELAY=*time*
 SYSOUT=*report destination*
 RPTDSN=*data set name,VOL=volser*

Notes:

- You can specify CA PMO parameters in any order.
- Specify the RPTDSN parameter only if you assign a value of DS to the SYSOUT parameter.

2. Specify the following parameter:

LLAPRMLB=*data set name*

3. To activate the CA PMO cross-system communication option to propagate locally detected library changes to all systems in the PMOplex, you will need to consider XCF and the control file. XCF may be used to send update information to other PMO systems on the same sysplex. The control file may be used to send update information to other PMO systems that are on different sysplexes.

For XCF:

XCFGROUP=*group name*
 XCFMEMBR=*member name*

Specifying these values causes PMO to automatically start the PMO/XCF Enhanced Data Transmission component. It causes CA PMO to communicate directory entry update information to each PMO defined within the group. All PMO systems within the sysplex are defined within the same group. Each PMO system has a unique member name. When an update occurs, PMO communicates the update to all other members of the group. Default: None

For the control file, the parameter is:

XSYS= (*sysa, sysb, sysc, etc*)

Specifying values in this parameter causes CA PMO to automatically start the PMO/XSYS component. It causes CA PMO to communicate directory entry update information to each system defined on the XSYS= parameter. Default: None

For both XCF and the control file:

```
XSYSCOMM=(PMO,ALL)
```

A value of ALL tells CA PMO to communicate information about all library updates. A value of PMO tells CA PMO to communicate library update information only about eligible libraries and libraries being managed by CA PMO Default: ALL

For more information, see [Determine the Multiple System Communication Path](#) (see page 92).

4. By default, CA PMO runs in ACTIVE mode. You probably will want to accept this default. However, if desired, you can cause CA PMO to run in PASSIVE mode by specifying:

```
MODE=PASSIVE
```

Note: PASSIVE mode causes CA PMO to keep statistics as if it were optimizing directory searches, but it will not actually perform this function.

5. The next set of parameters addresses compatibility with the following products:
 - CA 7
 - CA Roscoe
 - CA Top Secret
 - JES3
 - CA Jobtrac
 - CA Panexec
 - CA PDSMAN

If your site runs any of these products, you must specify values for one or more of the parameters listed in the following sample:

```
DESIZE=directory entry size  
JES3ALLC=allocation option  
PANEXEC=co-exist option  
ROSCOE=co-exist option  
TOPSECRET=co-exist option
```

For more information, see the chapters "Using Parameters" and "Compatibility with Other Products" in the *CA PMO Systems Programmer Guide*.

6. By default, CA PMO automatically decides what private libraries to manage, and it manages these libraries in hash tables only. Be sure that LLA *is not* managing any private libraries.

If you wish, you may restrict CA PMO management of private libraries by specifying the INLAUTO or EXLAUTO parameters. For details on these parameters, see the chapter "Using Parameters" in the *Systems Programmer Guide*.

The EXLAUTO parameter prohibits CA PMO from managing certain libraries:

```
EXLAUTO=data set name,VOL=volser
```

The INCLAUTO parameter defines a set of private libraries that CA PMO can manage automatically:

```
INCLAUTO=data set name,VOL=volser
```

Note: Specify **either** INCLAUTO **or** EXCLAUTO, not both.

7. If you have a severe paging problem on your system, you may want to prevent CA PMO from automatically selecting any private libraries for management. If this is the case, specify:

```
EXCLAUTO=*
```

If you specify EXCLAUTO=*, you must specify which private libraries CA PMO will manage with INCLPRVT parameter statements:

```
INCLPRVT=data set name,VOL=volser
```

In the future, if you want CA PMO to manage additional libraries, you can refer to the PMOMON D9 display. This display provides a list of good candidates for management.

Note: CA PMO does not automatically include any CA Panexec libraries.

8. The DESERV exit installation is by default set to NO. This exit is installed during CA PMO initialization and allows CA PMO to intercept directory requests issued against the LNKST concatenation when a PDSE library is present in the LNKST.
9. BLDLTRIM is by default set to NO. This parameter activates the CA PMO optimization enhancements associated with trimming DEB chains in the BLDL exit.

Step 2: Allocate the PMO/XSYS Control File (Optional)

CA PMO supports update propagation between PMO systems. Two communication methods are provided:

XCF Enhanced Data Transmission

XCF allows communication between systems on a single sysplex

Control file

The control file resides on shared DASD and allows communication between any systems which have access to the DASD volume.

Example:

Consider the following environment:

```
SYSPLEXA, with two systems
    SPA1
    SPA2
SYSPLEXB, with 1 system
    SPB1
```

An update taking place on SPA1, would be passed to SPA2 through XCF. SPA2 would then pass the update on to SPB1 through the control file.

For the above example, systems would communicate as follows:

On SYSPLEXA, systems SPA1 and SPA2 would communicate with each other using XCF. Each PMO in the sysplex would use the same group name (XCFGROUP), which allows for XCF to know where messages should be delivered. So when SPA1 needs to inform other PMO's within the SYSPLEX that an update occurred, it can request XCF to send the messages to all other members of the group (XCFMEMBR). In this small example, there is only one other member, SPA2.

As XCF may only be used within a SYSPLEX, the control file would be used to communicate between SYSPLEXA system SPA2, and SYSPLEXB system SPB1. XSYS identifies the MVS systems running PMO instances using the control file.

The CA PMO parameters for XCF and control file would be specified as follows:

```
SYSPLEXA, system SPA1
    XCFGROUP=PLXAGRP
    XCFMEMBR=SPA1MEM
SYSPLEXA, system SPA2
    XCFGROUP=PLXAGRP
    XCFMEMBR=SPA2MEM
    XSYS=SPA2,SPB1
SYSPLEXB, system SPB1
    XSYS=SPA2,SPB1
```

Note: The parameters above specify the same group for SPA1 and SPA2, since these systems are in the same sysplex. Also, SPA1 and SPA2 have unique member names.

If your environment will be using a control file, customize and submit the SAMP(ALLOCCF) member to allocate the cross-system communication file on a shared DASD volume. This sample JCL contains general instructions for control file sizing and placement.

Step 3: Install the PMOMON ISPF Panel (Optional)

To use the PMOMON split-screen mode under ISPF, you must copy member PMOPANEL from the SAMP data set to one of the panel libraries concatenated to your ISPLIB ddname

Step 4: Set Up Automatic LLA Refreshes (Optional)

Note: If you do not want CA PMO to automatically refresh LLA after module and library updates, skip this step and go on to the next step.

If you want CA PMO to automatically refresh LLA following library and module updates, follow these steps:

1. Specify the following CA PMO parameters:

```
REFDELAY=LLA refresh delay  
LLAPRMLB=data set name  
LLA=AUTO  
OPERMSG=NO
```

For more information about these parameters, see the chapter "Using Parameters" in the *CA PMO Systems Programmer Guide*.

2. Edit the IEFPARM data set on each system that runs CA PMO.

This data set is specified on the //IEFPARM DD statement in the LLA startup procedure. Typically, your IEFPARM data set is SYS1.PARMLIB, but your site may be using another data set.

Specify the following three members in the IEFPARM data set of each system:

```
CSVLLA1P  
CSVLLA2P  
CSVLLA3P
```

Each of these members should contain the following statement:

```
PARMLIB(data.set) SUFFIX(xP)
```

- The variable *data.set* must be the same as the value that you specified for the LLAPRMLB parameter. Do not specify SYS1.PARMLIB for the variable *data.set*. You must specify a unique data set for the LLAPRMLB parameter on each system.
- The value for the variable *x* must be 1 for the CSVLLA1P member, 2 for the CSVLLA2P member, and 3 for the CSVLLA3P member.

Note: CA PMO automatically adds members to the data set you specified for the LLAPRMLB parameter. **Do not** manually add these members.

For more information on LLA refreshes, see the discussions of the LLA parameter and the OPERMSG parameter in the chapters "Using Parameters" and "Tuning CA PMO" in the *CA PMO Systems Programmer Guide*.

Step 5: Edit and Copy the CA PMO Startup Procedure

1. Edit the startup procedure in SAMP(PROCPMO). You will find relevant instructions in that data set.
2. After editing PROCPMO, copy it to your system PROCLIB. For the purposes of simplicity and consistency, it is recommended that you use the name "PMO," although you may choose any valid procedure name.

Step 6: Set Up Security for Operator Commands (Optional)

To prevent unauthorized users from issuing CA PMO operator commands, do the following:

- Your security administrator must activate the OPERCMDS class and define the command profiles (PMO.command name) for each command you want to protect.
- Authorized users should be given READ access; all others should be given an access of NONE.
- You can also protect the STOP PMO (or P PMO) command by using the profile name PMO.STOP.

Note: If a command has no profile, CA PMO assumes that anyone may issue it. Review the CMDSECUR member of SAMP for sample RACF commands for enabling this security.

- Specify CMDSECUR=YES to activate security. If your security package is not set up to use the system authorization facility (SAF), you must specify CMDSECUR=NO. For more information on the CMDSECUR parameter, see the chapter "Using Parameters" in the *CA PMO Systems Programmer Guide*.

Note: CA PMO uses the RACROUTE macro and SAF to ensure only authorized users are issuing CA PMO commands.

Step 7: Set Up the DFDSS Interface (Optional)

The DFDSS interface allows CA PMO to detect PDS updates by DFDSS. Specifically, the interface checks for any DFDSS RESTORE, COMPRESS, COPY, and DEFRAG updates.

Note: The DFDSS interface can determine only when a PDS has undergone a *logical* RESTORE update.

To enable the interface, follow these steps:

1. Edit the INSTDFS2 member of the SAMP data set.

This job will apply a USERMOD to DFDSS through SMP/E. We recommend that you allow the job to RECEIVE and APPLY the USERMOD, but not ACCEPT it. This will allow you to perform a RESTORE procedure through SMP/E to remove the USERMOD.

The interface will not interfere with any other user exits applied to DFDSS.

2. Specify DFDSS=YES in the CA PMO parameter data set to enable the interface.

Note: Specifying DFDSS=YES when the interface has not been installed will not adversely affect CA PMO or DFDSS.

Step 8: Set Up the FDR Interface (Optional)

The FDR interface allows CA PMO to detect PDS updates made by the FDR (Fast Dump Restore) product from Innovation Data Processing. To install the FDR interface, follow these steps:

1. Edit the INSTFDR member of the SAMP data set. INSTFDR contains the installation job for the FDR interface.

CA PMO uses the FDR Disk Volume OPEN exit and the Data Set Security exit. For more information, see the chapter "Compatibility with Other Products" in the *CA PMO Systems Programmer Guide*.

If you already have these exits installed at your site, edit the INSTFDR member and use the linkage editor control cards to link the exits together.

If you did not have one or both of the FDR exits installed prior to running the CA PMO installation job, you must inform FDR of the newly installed exits. For instructions on how to do this, see the FDR documentation.

2. Specify FDR=YES in the CA PMO parameter data set to enable the interface.

Note: Specifying FDR=YES when the interface has not been installed will not adversely affect CA PMO or FDR.

Step 9: Set Up the CA Roscoe Interface (Optional)

To allow CA Roscoe users to use PMOMON, follow the instructions in yourhlq.SAMP member INSTROSC.

Chapter 7: Starting CA PMO

This section contains the following topics:

[Authorizing the Load Library](#) (see page 99)

[Test Starting CA PMO](#) (see page 99)

[Starting CA PMO Automatically at IPL Time](#) (see page 99)

Authorizing the Load Library

The CA PMO load library must be APF-authorized. You can authorize the library by specifying it in the IEAAPFxx member of SYS1.PARMLIB.

Test Starting CA PMO

If you are using the PMO/XSYS option, you must format the control file when you start CA PMO for the first time after installation. You must reformat the control file *every time you change the value of the XSYS parameter* in your parameter data set.

Enter the following command on one system that runs CA PMO:

```
S started_task_name,FORMAT=YES
```

When CA PMO starts, it responds:

```
PM0001I CA PMO 4.4 ACTIVE
```

When PMO/XSYS becomes active on that system, it responds:

```
PM0701I PMO/XSYS 4.4 ACTIVE
```

When PMO/XCF becomes active on that system, it responds:

```
PM0801I - PMO/XCF 4.4 ACTIVE)
```

Starting CA PMO Automatically at IPL Time

As an alternative to starting CA PMO by issuing a start command at the console, you can allow CA PMO to start automatically when you IPL your system.

On all systems that run CA PMO, add the CA PMO start command to the IPL commands in SYS1.PARMLIB(COMMNDxx).

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