

# CA Repository for z/OS

## Installation Guide

r7.2



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## CA Product References

This document references the following CA products:

- CA ERwin® Data Modeler
- CA Data Transformer Enterprise Metadata Edition
- CA Repository Exchange for Assembler
- CA Repository Exchange for BMC Change Manager
- CA Repository Exchange for CA Endeavor® Change Manager
- CA Repository Exchange for CA ERwin® Data Modeler
- CA Repository Exchange for CA IDMS®
- CA Repository Exchange for CA Gen
- CA Repository Exchange for CA InfoRefiner®
- CA Repository Exchange for COBOL
- CA Repository Exchange for IBM Data Dictionary
- CA Repository Exchange for DB2
- CA Repository Exchange for IMS
- CA Repository Exchange for JCL
- CA Repository Exchange for PL1
- CA Repository Exchange for Oracle
- CA Repository Exchange for SAS
- CA Repository Exchange for SQL
- CA Repository Exchange for SQL Server
- CA Repository Exchange for Sybase
- CA Repository Exchange for Teradata
- CA Repository Exchange for UDB
- CA Repository Exchange for XML DTD
- CA Repository Exchange for ODBC
- CA Repository Universal XML Exchange
- CA Repository for z/OS
- CA Repository for z/OS Webstation

## Contact CA

### Contact Technical Support

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

- 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

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This guide describes how to install and implement CA Repository for z/OS.

This section contains the following topics:

[Audience](#) (see page 11)

[How the Installation Process Works](#) (see page 12)

## Audience

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

- JCL
- CLISTs
- ISPF Dialog Manager
- Utility IEBCOPY
- SMP/E
- DB2 8 or later
- Work Load manager for DB2 stored procedures (WLM)

Verify that the installer has the following authorities:

- SYSADM authority
- Access to (modify) LOGON Proc
- Ability to edit the SYSPROC data set
- Ability to start, stop, and create DB2 stored procedures in the WLM

**Note:** If you are upgrading from a previous release, you also need to be familiar with your CA Repository for z/OS extensions.

## How the Installation Process Works

The following steps describe the installation process:

1. Prepare for the installation by confirming that your site meets all installation requirements.
2. Acquire the product using one of the following methods:
  - CA MSM  
**Note:** If you do not have CA MSM, you can download it from the Download Center at CA Support Online. Follow the installation instructions in the *CA Mainframe Software Manager Product Guide*, available at <https://support.ca.com/>.
  - Pax-Enhanced Electronic Software Delivery (ESD)
  - Tape
3. Install your product based on your acquisition method.
4. Apply maintenance, if applicable.
5. Deploy your product.
6. Start your product.
7. Configure the minimum settings for your product.

# Chapter 2: Preparing for Installation

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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 13)
- [Software Requirements](#) (see page 13)
- [Space Requirements](#) (see page 14)
- [CA Common Services Requirements](#) (see page 14)
- [DASD Requirements](#) (see page 18)
- [Concurrent Releases](#) (see page 20)

## Hardware Requirements

CA Repository for z/OS requires a z/OS mainframe operating system.

## Software Requirements

The following software is required for CA Repository for z/OS:

- Any IBM-supported release of z/OS
- z/OS ISPF
- IBM's SMP/E software
- DB2 Release 8.1 NFM or later
- The DB2 sample programs DSNTIAD and DSNTIAUL
- A combined 12 MB of memory for online users. Memory requirements below the line are in the 4 MB range, depending on active applications.
- LE Runtime environment
- Work load manager (WLM) for DB2 stored procedures
- The load library used to hold the DB2 stored procedures and DB2 functions must be authorized and included in the STEPLIB of the WLM.

The XML. TOOLKIT dataset must also be authorized and included in the STEPLIB of the WLM

- A DB2 database defined as TEMP for Declared Temporary Tables
- The CA Repository for z/OS load library must be a Partitioned Data Set Extended (PDSE)
- The DB2 load library for stored procedures must be a Partitioned Data Set Extended (PDSE)

For information about the latest supported releases, visit CA Support Online at <http://ca.com/support>.

## Space Requirements

CA Repository for z/OS has the following space requirements:

- DB2-Total disk space required for initial installation of every supported model is 718 MB
- CA Repository for z/OS-Total DASD requirements for software libraries is 250 MB

## CA Common Services Requirements

The CA Common Services for z/OS are a group of system services that protect your investment in software products by helping you manage your data center more efficiently. Each of the services offers individual benefits to the user. The CAIRIM and CA LMP components are used with CA Repository for z/OS to help you get up and running.

These services are briefly described in the following sections. For a detailed description, see the *CA Common Services for z/OS Getting Started*.

## CAIRIM

CAIRIM, CAI Resource Initialization Manager, is the common driver for a collection of dynamic initialization routines that eliminate the need for user SVCs, SMF exits, subsystems, and other installation requirements commonly encountered when installing systems software. These routines are grouped under the CA z/OS dynamic service code, S910. Some of the features of CAIRIM include:

- Getting SMF data
- Verifying proper software installation
- Installing z/OS interfaces
- Automating start up of CA and other vendor products
- Assuring proper timing and order of initialization

No other services are required to operate properly.

## CA-LMP

The CA License Management Program (LMP) provides a standardized and automated approach to the tracking of licensed software. It uses common real-time enforcement software to validate the user's configuration. CA LMP reports on license, usage, and financial activities of CA products. The routines that accomplish this are integrated into the CA z/OS dynamic service code, S910 (the CAIRIM service). CA LMP features include:

- Common key data set can be shared among many CPUs
- *Check digits* to detect errors in transcribing key information
- Execution keys can be entered without affecting any CA software solution already running
- No special maintenance requirements

**Note:** CA Repository for z/OS requires CA Common Services for z/OS at genlevel r11 (SP6) or later.

The CA LMP execution key, provided on the Key Certificate, must be added to the CAIRIM parameters to ensure proper initialization of the CA software solution. This procedure is described in the following section.

Your LMP Key Certificate contains the following information:

| <b>Fields</b>     | <b>Descriptions</b>  |
|-------------------|--|
| Product Name      | The trademarked or registered name of the CA software solution licensed for the designated site and CPUs.  |
| Product Code      | A two-character code that corresponds to CA Repository for z/OS.   |
| Supplement        | The reference number of your license for CA Repository for z/OS, in the format nnnnnn - nnn. This format differs slightly inside and outside North America, and in some cases might not be provided at all.  |
| CPU ID            | The code identifying the specific CPU for which installation of CA Repository for z/OS is valid.   |
| Execution Key     | An encrypted code required by CA LMP for CA Repository for z/OS initialization. During installation, it is referred to as the LMP Code.  |
| Expiration Date   | The date ( <i>ddmmyy</i> as in 01AUG00) your license for CA Repository for z/OS expires.   |
| Technical Contact | The name of the technical contact at your site who is responsible for the installation and maintenance of CA Repository for z/OS. This is the person to whom CA addresses all CA LMP correspondence.   |
| MIS Director      | The name of the Director of MIS, or the person who performs that function at your site. If the title, but not the individual's name, is indicated on the Certificate, you should supply the actual name when correcting and verifying the Certificate. |
| CPU Location      | The address of the building where the CPU is installed.  |

### Define the CA LMP Execution Key

#### To define or update a CA LMP execution key to the CAIRIM parameters

1. Examine the CA LMP Key Certificate you received with your CA Repository installation cartridge. You will need the information on it in the next step.

2. Define the CA LMP key by modifying member KEYS in the OPTLIB data set.

The parameter structure for member KEYS follows:

```
PROD(pp) DATE(ddmmyy) CPU(ttt-mmm/sssss) LMPCODE(kkkkkkkkkkkkkk)
```

**pp**

Required. The two-character product code. For any given CA LMP software solution, this code agrees with the product code already in use by the CAIRIM initialization parameters for earlier genlevels of that software solution.

**ddmmyy**

The CA LMP licensing agreement expiration date.

**ttt-mmm**

Required. The CPU type and model (for example: 9672-RB5) on which the CA LMP software solution is to run. If the CPU type and/or model require less than four characters, blank spaces are inserted for the unused characters.

**sssss**

Required. The serial number of the CPU on which the CA LMP software solution is to run.

**kkkkkkkkkkkkkkkk**

Required. The execution key needed to run the CA LMP software solution. This CA LMP execution key is provided on the Key Certificate shipped with each CA LMP software solution.

The following is an example of a control statement for the CA LMP execution software parameter. This CA LMP execution key is not valid and is provided as an example only.

```
PROD(VP) DATE(01MAR05) CPU(9672-RB5 /370623) LMPCODE(52H2K06130Z7RZD6)
```

For a full description of the procedure for defining the CA LMP execution key to the CAIRIM parameters, see *CA Common Services for z/OS Getting Started*.

## DASD Requirements

The downloadable pax file can be unpxed and unzipped to produce disk files equivalent to the files distributed on tape. See Electronic Software Delivery.

Disk space requirements depend on your product mix.

The following tables indicate the estimated blocks of DASD space required.

- Each data set is preceded by a high-level qualifier (for example, CAI.HLQ or CAI.SHLQ) that you can find in the Parameter Worksheet in the “Worksheets” appendix.
- The column heading VOLUME refers to the VOLSER given in the Installation Worksheet in the “Worksheets” appendix.
- The column heading TRKS refers to the estimated number of tracks used with 3380-type DASD.

### SMP/E CSI and Data Sets

The following are the values for the SMP/E CSI and data sets:

|                           | <b>VOLUME</b> | <b>BLK SIZE</b> | <b>LRECL</b> | <b>PRI Blks</b> | <b>SEC Blks</b> | <b>DIR Blks</b> |
|---------------------------|---------------|-----------------|--------------|-----------------|-----------------|-----------------|
| CAI.SHLQ.SMPCSI           |               |                 |              |                 |                 |                 |
| CAI.SHLQ.SMPCSI.CSI.DATA  | VSAMPK        | 4096            | 143          | 30 (TRKS)       | 30 (TRKS)       | N/A             |
| CAI.SHLQ.SMPCSI.CSI.INDEX | VSAMPK        | 4096            | N/A          | 15 (TRKS)       | 15 (TRKS)       | N/A             |
| CAI.SHLQ.SMPSCDS          | DASD01        | 3120            | 80           | 885             | 390             | 300             |
| CAI.SHLQ.SMPMTS           | DASD01        | 3120            | 80           | 130             | 130             | 15              |
| CAI.SHLQ.SMPPTS           | DASD01        | 3120            | 80           | 8000            | 390             | 600             |
| CAI.SHLQ.SMPSTS           | DASD01        | 3120            | 80           | 130             | 130             | 15              |
| CAI.SHLQ.SMPHOLD          | DASD01        | 3120            | 80           | 1170            | 390             |                 |

### SAMPJCL and Indirect Libraries

The following are the values for the SAMPJCL and Indirect Libraries:

|                  | <b>VOLUME</b> | <b>BLK SIZE</b> | <b>LRECL</b> | <b>PRI Blks</b> | <b>SEC Blks</b> | <b>DIR Blks</b> |
|------------------|---------------|-----------------|--------------|-----------------|-----------------|-----------------|
| CAI.SHLQ.SAMPJCL | DASD01        | 3120            | 80           | 195             | 39              | 13              |

## Target Libraries

The following are the values for the Target libraries:

|                   | <b>VOLUME</b> | <b>BLK SIZE</b> | <b>LRECL</b> | <b>PRI Blks</b> | <b>SEC Blks</b> | <b>DIR Blks</b> |
|-------------------|---------------|-----------------|--------------|-----------------|-----------------|-----------------|
| CAI.SHLQ.LOADLIB  | DASD02        | 6144            | 0            | 40000           | 4000            | 80              |
| CAI.SHLQ.DBRMLIB  | DASD02        | 3120            | 80           | 1000            | 200             | 85              |
| CAI.SHLQ.ISPPLIB  | DASD01        | 6160            | 80           | 275             | 10              | 25              |
| CAI.SHLQ.ISPSLIB  | DASD01        | 6160            | 80           | 2210            | 215             | 70              |
| CAI.SHLQ.ISPMLIB  | DASD01        | 6160            | 80           | 135             | 135             | 5               |
| CAI.SHLQ.ISPTLIB  | DASD01        | 6160            | 80           | 135             | 135             | 15              |
| CAI.SHLQ.CLIST    | DASD01        | 6160            | 80           | 4830            | 4800            | 55              |
| CAI.SHLQ.SAMPPGM  | DASD01        | 6160            | 80           | 370             | 180             | 25              |
| CAI.SHLQ.CCPSJCL  | DASD01        | 8800            | 80           | 370             | 180             | 25              |
| CAI.SHLQ.DATA     | DASD01        | 11750           | 235          | 11750           | 485             | 85              |
| CAI.SHLQ.CCPSXML  | DASD01        | 32760           | 512          | 50              | 10              | 5               |
| CAI.SHLQ.LONGDATA | DASD01        | 32676           | 32676        | 800             | 100             | 85              |

## Custom User Libraries

The following are the values for the Custom User libraries:

|                  | <b>VOLUME</b> | <b>BLK SIZE</b> | <b>LRECL</b> | <b>PRI BLKSs</b> | <b>SEC TRKs</b> | <b>DIR Blks</b> |
|------------------|---------------|-----------------|--------------|------------------|-----------------|-----------------|
| CAI.CUST.ISPPLIB | DASD01        | 6160            | 80           | 182              | 91              | 5               |
| CAI.CUST.ISPSLIB | DASD01        | 6160            | 80           | 182              | 91              | 5               |
| CAI.CUST.CLIST   | DASD01        | 6160            | 80           | 182              | 91              | 5               |

## Distribution Libraries

The following are the values for the Distribution libraries.

|  | <b>VOLUME</b> | <b>BLK SIZE</b> | <b>LRECL</b> | <b>PRI Blks</b> | <b>SEC Blks</b> | <b>DIR Blks</b> |
|--|---------------|-----------------|--------------|-----------------|-----------------|-----------------|
|--|---------------|-----------------|--------------|-----------------|-----------------|-----------------|

|                    | VOLUME | BLK SIZE | LRECL | PRI Blks | SEC Blks | DIR Blks |
|--------------------|--------|----------|-------|----------|----------|----------|
| CAI.SHLQ.CP\$72LLD | DASD03 | 6144     | 0     | 13000    | 2000     | 100      |
| CAI.SHLQ.CP\$72MLD | DASD03 | 3120     | 80    | 250      | 50       | 85       |
| CAI.SHLQ.CP\$72PNL | DASD01 | 6160     | 80    | 230      | 20       | 85       |
| CAI.SHLQ.CP\$72SKL | DASD01 | 6160     | 80    | 1015     | 460      | 85       |
| CAI.SHLQ.CP\$72MSG | DASD01 | 6160     | 80    | 91       | 91       | 15       |
| CAI.SHLQ.CP\$72TLB | DASD01 | 6160     | 80    | 191      | 91       | 45       |
| CAI.SHLQ.CP\$72CL  | DASD01 | 6160     | 80    | 420      | 185      | 85       |
| CAI.SHLQ.CP\$72SAM | DASD01 | 6160     | 80    | 20185    | 185      | 45       |
| CAI.SHLQ.CP\$72DAT | DASD01 | 11750    | 235   | 4825     | 482      | 85       |
| CAI.SHLQ.CP\$72DTL | DASD01 | 32676    | 32676 | 1000     | 100      | 85       |
| CAI.SHLQ.ACPSJCL   | DASD01 | 8800     | 80    | 370      | 180      | 25       |
| CAI.SHLQ.ACPSXML   | DASD01 | 32760    | 512   | 50       | 10       | 5        |

## Concurrent Releases

You can install this release of CA Repository for z/OS 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.

# Chapter 3: Installing Your Product Using CA MSM

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Use the procedures in this section to manage your product using CA MSM. Managing includes acquiring, installing, maintaining, and deploying products, setting system registries, 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 CA Support Online. Follow the installation instructions in the *CA Mainframe Software Manager Product Guide*, available at <https://support.ca.com/>.

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 21)  
[Getting Started Using CA MSM](#) (see page 22)  
[Acquiring Products](#) (see page 32)  
[Installing Products](#) (see page 38)  
[Maintaining Products](#) (see page 44)  
[Setting System Registry](#) (see page 56)  
[Deploying Products](#) (see page 89)

**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 guide includes the required procedures to install your product. If you want to learn more about the full functionality of CA MSM, see the *CA Mainframe Software Manager Product Guide* in the Download Center on <https://support.ca.com/>.

**Note:** To ensure you have the latest version of these procedures, go to the CA Mainframe Software Manager product page on Customer Support Online and click the Bookshelves link.

## Getting Started Using CA MSM

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

### How to Use CA MSM: A Scenario

Your organization recently deployed CA MSM to simplify the installation of CA products and unify their management. The organization has also licensed a new CA 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 and install the new product; The second scenario shows how you can use CA MSM to deploy the product to your target systems; and the third scenario shows how you can use CA MSM to maintain products already installed in your environment.

#### Acquire and Install a New Product

You want to use CA MSM to acquire and install the new CA product.

1. 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 [website](#).
2. To [access CA MSM](#) (see page 31), 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 [website](#). This account enables you to download product packages.
3. 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](#) (see page 32). CA MSM refreshes the catalog through the CA Support [website](#) using the site IDs associated with your credentials for the CA Support [website](#).
4. After you find your product in the catalog, you can [download the product installation packages](#) (see page 33). CA MSM downloads (acquires) the packages (including any maintenance packages) from the CA FTP site.
5. After you acquire the product installation packages, you can find the packages at the product gen level you want. From there, you can [install your product](#) (see page 38). A wizard guides you through the installation process. A CSI is created for the installed product as part of the installation process. You also can install a product to an existing CSI.

## Deploy a Product

CA MSM Deployment Services takes installed software in combination with other software and deploys it to systems in your enterprise. That is, deployments copy data on disk from one place to another. It takes the data (the *what*) from here (the *source*) and moves it to there (the *target*). The CA MSM Deployment Service is the means (the *way*).

You can use the following steps to build you first deployment:

1. Determine the systems you have at your enterprise.
2. Add systems to system registry and validate them.
3. [Create remote credentials](#) (see page 86) for those systems in CA MSM.
4. [Add FTP](#) (see page 76) information along with data destination information to each system registry entry.
5. [Create a methodology](#) (see page 119).
6. Use the [deployment wizard](#) (see page 89) to build a deployment.

**Note:** If you need to deploy other products to the previously-defined systems using the same methodologies, repeat this step.

## System Registration

Each system in the enterprise that you are deploying products to need to be added to the CA MSM system registry and then validated. A deployment can only be sent to a validated system. This process is called registering your system and applies to each system in your enterprise. For example, if you have five systems at your enterprise, you will need to perform this procedure five times.

**Note:** After a system is registered, it does not need to be registered again, but you can update the data in the different registration fields and re-register your system.

The system registration process contains the following high-level steps:

1. Set up your remote credentials.

This is where you provide a user ID and password to the remote target system where the deployment will copy the installed software to. Remote credentials are validated during the deployment process. You will need the following information:

- Remote user ID
- Remote system name
- Password
- Authenticated authorization before creating a remote credential.

Your system administrator can help you with setting up your remote credentials.

2. Set up your system registry.

The CA MSM system registry is a CA MSM database, where CA MSM records information about your systems that you want to participate in the deployment process. There is one entry for each system that you register. Each entry consists of three categories of information: general, FTP locations, and data destinations.

Each system registry entry is one of four different system types. Two reflect real systems, and two are CA MSM-defined constructs used to facilitate the deployment process. The two real system types are Non-Sysplex System and Sysplex Systems. The two CA MSM-defined system types are Shared DASD Clusters and Staging Systems.

### Non-Sysplex Systems

Specifies a stand-alone z/OS system that is not part of a sysplex system.

**Note:** During system validation, if it is found to be part of a Sysplex, you will be notified and then given the opportunity to have that system automatically be added to the Sysplex which it is a member of. This may cause the creation of a new Sysplex system. If you do not select the automatic movement to the proper Sysplex, this system will be validated and cannot be deployed.

### **Sysplex or Monoplex Systems**

Specifies a *Sysplex* (SYStem comPLEX), which is the IBM mainframe system complex that is a single logic system running on one or more physical systems. Each of the physical systems that make up a Sysplex is often referred to as a *member* system.

A *Monoplex system* is a sysplex system with only one system assigned.

**Note:** Monoplexes are stored in the Sysplex registry tree but with the name of the Monoplex System and not the Monoplex Sysplex Name. For example, a system XX16 defined as a Monoplex, with a Sysplex name of LOCAL. It will be depicted in the System Registry as a Sysplex with the name of XX16. This sysplex will contain one system: XX16.

This system type can help you if you have Monoplexes with the same Sysplex name (for example: LOCAL). Instead of showing multiple LOCAL Sysplex entries that would need to be expanded to select the correct Monoplex system, the CA MSM System Registry shows the actual Monoplex System name at the top-level Sysplex Name.

### **Shared DASD Clusters**

Specifies a *Shared DASD Clusters* system, which is a CA MSM deployment services term that defines a set of systems that share DASD and it can be composed of Sysplex systems, Non-Sysplex systems, or both. A Staging system cannot be part of a Shared DASD Cluster.

### **Staging Systems**

Specifies a *Staging system*, which is a CA MSM deployment services term that defines a virtual system. A Staging system deploys the deployment to the computer where the CA MSM driving system is located. To use a Staging system, the CA MSM driving system must be registered in the CA MSM System Registry.

**Note:** A Staging system can be useful in testing your deployments, and learning deployment in general. It can also be used if your target systems are outside a firewall. For example, deploy to a Staging system and then manually copy the deployment to tape.

3. Define the FTP location information for every system.

FTP locations are used to retrieve the results of the deployment on the target system (regardless if the deployment was transmitted through FTP or using Shared DASD). They are also used if you are moving your deployments through FTP.

To define the FTP location, you need to provide the following:

**URI**

Specifies the host system name.

**Port Number**

Specifies the port number.

**Default:** 21)

**Directory Path**

Specifies the landing directory, which is location that the data is temporarily placed during a deployment.

4. Define a data destination for every system.

The data destination is how you tell CA MSM which technique to use to transport the deployment data to the remote system. The following choices are available:

**FTP**

When FTP is selected as the transport mechanism, the deployment data is shipped to the target system through FTP. It is temporarily placed on the target system at the landing directory specified in the FTP Location information section of the system Registry.

**Shared DASD**

When you specify shared DASD, CA MSM uses a virtual transport technique. That is, it does not actually copy the data from one system to the other. Because the two systems share DASD, there is no need to do this. All of the deployment data is kept in USS file systems managed by CA MSM.

Even though the DASD is shared, the remote system may not be able to find the deployment data in the USS file system. Therefore, CA MSM temporarily unmounts the file system from the CA MSM driving system and mounts it in read-only mode on the remote system.

For CA MSM to determine where to mount the file system on the remote system, you must specify a mount point location in the data destination. In addition, you can provide allocation information for the creation of the deployment file system, so that when the file system is created on the CA MSM driving system, it will be on the DASD that is shared.

Data destinations are assigned to Non-Sysplex and Sysplex systems, and Shared DASD Clusters. Data destinations are named objects, and may be assigned to multiple entities in the system registry and have their own independent maintenance dialogs.

The remote allocation information is used by the deployment process on the remote system, letting you control where the deployed software is placed. By specifying the GIMUNZIP volser, CA MSM adds a "volume=" parameter to the GIMUNZIP instructions on the remote system. The list of zFs volsers is only needed if (1) the software you are deploying contains USS parts, and (2) you select a "container" copy option during the deployment process.

**Note:** After you have created your systems, you will need to validate them.

5. Register each system by validating that it exists.

**Note:** You should validate your Non-Sysplex Systems first, and then your Sysplex or Shared Cluster Systems.

You start the validation process when you select the Validate button in the Actions drop down for a Sysplex System, Non-Sysplex System, and Shared DASD Cluster on that system's System Registry Page. This starts a background process using the CCI validation services to validate this system.

**Note:** Staging Systems are not validated. However, you will need to create and validate a system registry entry for the CA MSM driving system if you are going to utilize Staging systems.

**Note:** If the validation is in error, review the message log, update your system registry-entered information, and validate again.

You are now ready to set up your products to be deployed.

## Deploying Products

After you install software using CA MSM, you still need to deploy it. You can use the deployment wizard to guide you through the deployment process. In the wizard, you can deploy one product at a time. You can also save a deployment at any step in the wizard, and then manually edit and deploy later.

**Note:** You must have at least one product, one system, and one methodology defined and selected to deploy.

You must complete the following steps in the Deployment wizard before you deploy:

### **Deployment Name and Description**

Enter the deployment name and description using the wizard. The name must be a meaningful deployment name.

**Note:** Each deployment name must be unique. Deployment names are not case-sensitive. For example DEPL1 and depl1 are the same deployment name.

We recommend that you enter an accurate and brief description of this deployment.

### **CSI Selection**

Select a CSI. A CSI is created for the installed product as part of the installation process.

### **Product Selection**

Displays the products that are installed in the CSI you selected.

### **Custom Data Set**

Custom data sets let you add other data sets along with the deployment. They contain either a z/OS data set or USS paths.

- For a z/OS data set, you need to provide a data set name that is the actual existing z/OS data set and a mask that names the data set on the target system. This mask may be set up using [symbolic qualifiers](#) (see page 123) and must be available to CA MSM. During the deployment process, the custom data set is accessed and copied to the target system the same way a target library is accessed and copied.
- For USS paths, you need to provide a local path, a remote path which may be set up using [symbolic qualifiers](#) (see page 123) and type of copy. Type of copy can be either a container copy or a file-by-file copy.

You can [add a custom data set](#) (see page 110).

## Methodology

Methodology is the process by which data sets are named on the target system. A methodology provides the *how* of a deployment, that is, what you want to call your data sets. It is the named objects with a description that are assigned to an individual deployment.

To [create a methodology](#) (see page 119), specify the following:

### Data set name mask

Lets you choose symbolic variables that get resolved during deployment)

### Disposition of the target data sets

If you select *Create*, ensure that the target data sets do not exist, otherwise, the deployment fails.

If you select *Create or Replace* and the target data sets do not exist, they will be created. If the target data sets exist, *Create or Replace* indicates that data in the existing data set, file, or directory will be replaced, as follows:

#### Partitioned data set

*Create or Replace* indicates that existing members in a partitioned data set will be replaced by members with the same name from the source file. Any currently existing member that is not in the source file will remain in the PDS. Any member from the source that does not already exist in the target PDS will be added to the target PDS.

The amount of free space in the PDS should be sufficient to hold the additional content, because no automatic compress is performed.

#### Directory in a UNIX file system

*Create or Replace* indicates files in a directory will be replaced by files with same name from the source. Any currently existing directory in a UNIX file system that is not in the source will remain in the UNIX file system.

#### Sequential data set or a file in the UNIX file system

*Create or Replace* indicates the existing data set or file and its attributes will be replaced with the data from the source file.

### **For a VSAM data set (cluster)**

*Create or Replace* indicates that an existing VSAM cluster should be populated with the data from the source file. The existing VSAM cluster must be of the same type as the source cluster (ESDS, KSDS, LDS, or RRDS). In addition, the existing VSAM cluster must have characteristics that are compatible with the source cluster (such as, record size, key size, and key offset). Replace does not verify the compatibility of these characteristics!

**Note:** You can replace the contents of an existing cluster using the IDCAMS ALTER command to alter the cluster to a reusable state. You must do this before the data from the VSAM source is copied into the cluster using an IDCAMS REPRO command. The REPRO command will use both the REPLACE and REUSE operands, and after you use it, the cluster is altered back to a non-reusable state if that was its state to begin with.

### **System Selection**

Select the system for this deployment.

### **Preview**

Preview identifies the deployment by name and briefly states the products, systems, means of transport, target libraries including source, target and resolution, as well as SMP/E environment and snapshot information. It shows the translated symbolic qualifiers.

Use this option to review your deployment before deploying.

### **Deploy**

Deploy combines the snapshot, transmit, and deploy action into one action. Deploy enables you to copy your CA MSM-installed software onto systems across your enterprise. For example, you can send one or many products to one or many systems. Deploy can send the software by copying it to a shared DASD or through FTP.

### **Summary**

After your products have successfully deployed, you can review your deployment summary and then confirm your deployment. You can also delete a completed deployment.

### **Confirm**

Confirms that the deployment is complete. A deployment is not completed until it is confirmed. After it is confirmed, the deployment moves to the Confirmed deployment list.

## Maintain Existing Products

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

1. To maintain an existing CSI in CA MSM, migrate the CSI to CA MSM. During the migration, CA MSM stores information about the CSI in the database.
2. After the CSI is migrated, you can [download the latest maintenance](#) (see page 44) 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 45).
3. After you download the latest maintenance, you can [apply the maintenance](#) (see page 48).

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

## Access CA MSM Using the Web-Based Interface

You access CA MSM using the web-based interface. You must have at least *one* of the following web browsers: Microsoft Internet Explorer 6.0, 7.0, or 8.0, or Mozilla Firefox 3.5.

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

### To access CA MSM using the web-based interface

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

The login page appears.

**Note:** If the Notice and Consent Banner appears, read the information provided, and click the link to confirm it.

2. Enter your z/OS login user name and password, and click the Log In button.

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

**Note:** For more information about the interface, click the 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 [website](#).

**Important!** The account to which the credentials apply *must* have the Product Display Options set to BRANDED PRODUCTS. You can view and update your account preferences by logging into the CA Support [website](#) and clicking My Account. If you do not have the correct setting, you are not able to use CA MSM to download product information and packages.

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 that 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. As new releases become available, update the catalog again to refresh the information. The available products are updated using the site ID associated with your credentials on the CA Support [website](#).

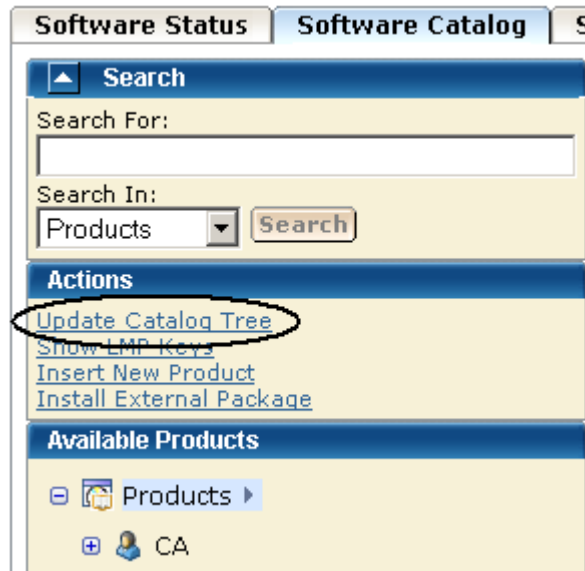
If you update the catalog tree and some changes are missing, check your user settings on the CA Support [website](#).

#### To update your software catalog

1. Click 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 on a daily or weekly basis to keep it current.

- Click the Update Catalog Tree link in the Actions section at the left.



You are prompted to confirm the update.

- Click OK.

A dialog opens that shows the progress of the task. When the task completes, you can click Show Results on the Progress tab to view the details of the actions. Click Close to return to the previous page.

**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 at the Tasks tab.

## Download 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.

### To download a product installation package

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

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

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

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 at the left. The available products are updated using the site ID associated with your credentials for the CA Support [website](#). If you update the catalog tree and some changes are missing, check your user settings on the CA Support [website](#).

3. Click Update Catalog Release in the Actions column in the right pane for the product release you want to download.

A dialog opens that shows the progress of the task. When the task completes, you can click Show Results on the Progress tab to view the details of the actions. Click Close to return to the previous page.

**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 at the Tasks tab.

The product packages are downloaded.

**Note:** You can expand the tree in the right panel by selecting a product and clicking the vendor link in the right panel, but if you use this method and select multiple products, be aware that if one of the selected products cannot be downloaded, the remaining products will not be processed. If this happens, remove the checks from the ones that were processed and repeat the update catalog request.

## Migrate Installation Packages Downloaded External to CA MSM

If you have acquired product pax files by means other than through CA MSM, you can add information about these product installation 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 38).

### **To migrate information about a product installation package downloaded by other means**

1. Click the Software Catalog tab, and click Insert New Product.

**Note:** A product not acquired from the CA Support [website](#) does not appear in Software Catalog until 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 enter a path for the package.

4. Specify the USS path to the package you want to migrate, and click OK.

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

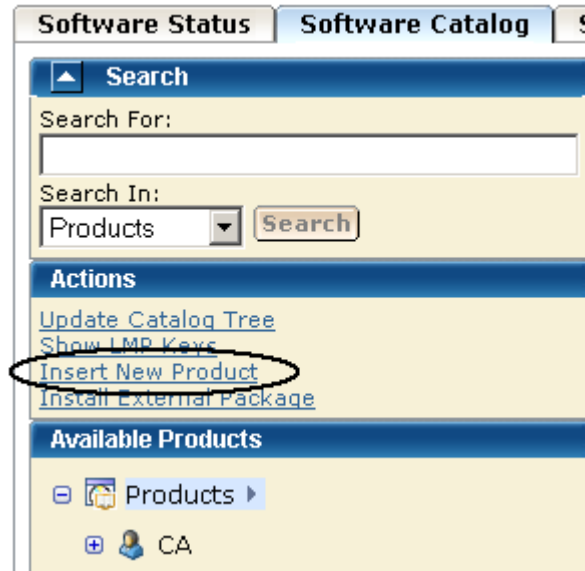
**Note:** To see the added package, refresh the page.

## **Add a Product**

Sometimes, a product is not currently available from the CA Support [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 Insert New Product action.

### To add a product package to CA MSM

1. Click the Software Catalog tab, and click the Insert New Product link in the Actions section at the left.



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 at the left.  
The Base Install Packages section appears at the right.
4. Click the Add External Package button.  
You are prompted to identify the package.
5. Specify the USS path to the package you want to add, and click OK.

**Note:** If you need to add several packages from the same location, you can use [masking](#) (see page 37).

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 to add more than one package (or set of maintenance files) from the same location based on 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 qualifier of a data set name or any number of characters within a member name or file system name.

\*\*

Match on any number of characters including any number of .qualifier 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. Make sure you review the list and check what files need to be added.

### 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 CSI, the CSI is locked and other CA MSM users cannot perform any action against it. The lock is released when the task is finished, you log out of CA MSM, or your CA MSM session has been inactive for more than ten minutes.

### 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 at the left.

Information about the product appears in the Base Install Packages section at the right, for example:

| Select                   | Name                         | Last Modified Date | Type         | Download Status | Size   | Release/Gen Level | Actions |
|--------------------------|------------------------------|--------------------|--------------|-----------------|--------|-------------------|---------|
| <input type="checkbox"/> | CA COMMON SERVICES COVER LTR | Nov 20, 2007       | PDF          | Yes             | 46 Kb  | 14.5/SP1          | Actions |
| <input type="checkbox"/> | CA COMMON SERVICES PROD PKG  | Nov 11, 2008       | Base Install | Yes             | 407 Mb | 14.5/SP1          | Actions |
| <input type="checkbox"/> | CA MSM COVER LETTER          | Dec 1, 2009        | PDF          | Yes             | 149 Kb | 14.5/SP1          | Actions |
| <input type="checkbox"/> | CA MSM COVER LETTER          | Mar 18, 2010       | PDF          | Yes             | 136 Kb | 14.5/SP1          | Actions |

**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 42).

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 a CSI that is being used in CA MSM by another user, a notification message appears, and you are prevented from performing any actions on the CSI. You can either wait until the notification message disappears and the CSI is available, or click Cancel to select another CSI.

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 opens that shows the progress of the task. When the task completes, you can click Show Results on the Progress tab to view the details of the actions. Click Close to return to the previous page.

**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 at the Tasks tab.

## Create a CSI

You can create a CSI while you are [installing a product](#) (see page 38). 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

### To create a CSI

1. Click Create a New SMP/E CSI from the product installation wizard.  
You are prompted to define a CSI.
2. Specify a name for the environment represented by the CSI, and the following VSAM and data set allocation parameters:
  - Specify the prefix for the name of the CSI VSAM data set.
  - Specify the prefix for the names of the SMP/E data sets.
  - Select whether to use SMS, and complete the appropriate fields.

You can leave the other parameters at their defaults.

**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. Click Next.  
Work DDDEF allocation parameters and a list of the data sets to be created for the CSI appear.
4. 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.
5. Review the data set names. Click the Override link to change allocation parameters, and then click Next.

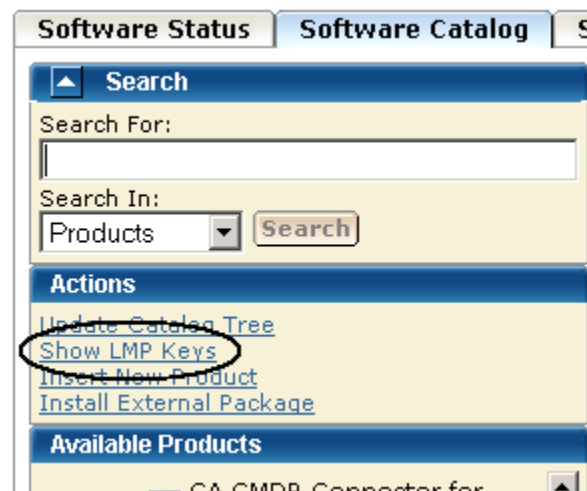
You are prompted to specify any additional parameters. A new CSI is specified.

## Download LMP Keys

When you install a CA product on z/OS systems, you must license the product on each system that uses the product. You do this 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 for the products to which your site is entitled.

### To retrieve and list the LMP keys for your products

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



A list of LMP keys retrieved 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.

If the list is empty or if you want to update the lists, proceed to the next step.

3. Click Update Keys.

You are prompted to confirm the update.

4. Click OK.

The LMP keys 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 information on the page.

## 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 44)
- [Download Product Maintenance Packages for Old Product Releases and Service Packs](#) (see page 45)
- [Manage Maintenance Downloaded External to CA MSM](#) (see page 46)

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.

#### To download product maintenance packages

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

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

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

Maintenance information about the product appears in the Releases section at the right.

3. Click the Update Catalog Release button for the product release for which you want to download maintenance.

A dialog opens that shows the progress of the task. When the task completes, you can click Show Results on the Progress tab to view the details of the actions. Click Close to return to the previous page.

**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 at the Tasks tab.

The maintenance packages are downloaded.

**More information:**

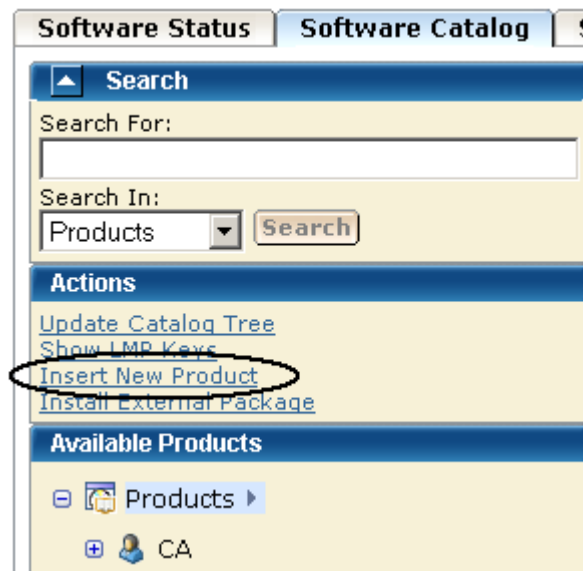
[Download Maintenance Packages for Old Product Releases and Service Packs](#)  
(see page 45)

## 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.

### To download maintenance packages for a product release not in the software catalog

1. Click the Software Catalog tab, and click the Insert New Product link in the Actions section at the left.



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 [website](#).

The product release is added to the software catalog.

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

Maintenance information about the product appears in the Releases section at the right.

4. Click Update Catalog Release for the added product release.

Maintenance packages are downloaded. A dialog opens that shows the progress of the task. When the task completes, you can click Show Results on the Progress tab to view the details of the actions. Click Close to return to the previous page.

**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 at the Tasks tab.

## Manage Maintenance Downloaded External to CA MSM

Some maintenance packages, such as unpublished maintenance, APARs, and USERMODs, may be acquired externally to CA MSM. 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 48).

The maintenance package must be located in a z/OS data set or a USS directory. If you use a z/OS data set, it must have an LRECL of 80. If you place the maintenance in a USS directory, copy it in binary mode.

The maintenance is placed as either a single package or an aggregated package that is a single file comprised of multiple maintenance packages. An *aggregated package* is a file comprised of several single maintenance packages (nested packages). When you add an aggregated package, CA MSM inserts all nested packages that the aggregated package includes and the aggregated package itself. In the list of maintenance packages, the aggregated package is identified by 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, starting with AM (for Aggregated Maintenance) followed by a unique 6-digit number whose 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 packages are added. The aggregated package itself will not be available in the list of maintenance packages.

#### **To add a maintenance package acquired externally**

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 type and location.

3. Specify the package type and either the data set name or the USS path.

**Note:** If you need to add several packages from the same location, you can use [masking](#) (see page 37).

4. Click OK.

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

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

#### **More information:**

[Manage Maintenance](#) (see page 48)

### **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.

#### **To view aggregated package details**

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.

**Note:** While you are working with a particular CSI, the CSI is locked and other CA MSM users cannot perform any action against it. The lock is released when the task is finished, you log out of CA MSM, or your CA MSM session has been inactive for more than ten minutes.

The following installation modes are available:

### **Receive and Apply**

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

### **Receive and Apply Check**

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

### **Receive, Apply Check, and Apply**

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

### **To manage maintenance for a product**

1. Click the Software Catalog tab, and select the product from the tree at the left.

Maintenance information appears at the right for the releases you have.

2. Click Update Catalog Release for the release on which you want to apply maintenance.

The maintenance information is updated.

- If the information indicates that maintenance is available, click the Release Name link.

The maintenance packages are listed, for example:

| Software Status   |         | Software Catalog                                    |                | SMP/E Environments |                 | Deployments |  | System Registry |  | Tasks |  | Settings |  |        |       |             |                |      |           |         |                          |         |                                |              |         |                 |         |                          |         |                         |              |         |                 |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |   |              |     |          |         |                          |         |  |             |     |          |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |  |              |     |          |         |                          |         |  |              |     |          |         |
|---|---------|---|----------------|--------------------|-----------------|-------------|--|-----------------|--|-------|--|----------|--|--------|-------|-------------|----------------|------|-----------|---------|--------------------------|---------|--------------------------------|--------------|---------|-----------------|---------|--------------------------|---------|-------------------------|--------------|---------|-----------------|---------|--------------------------|---------|---|-------------|-----|----------|---------|--------------------------|---------|---|--------------|-----|----------|---------|--------------------------|---------|---|--------------|-----|----------|---------|--------------------------|---------|--|-------------|-----|----------|---------|--------------------------|---------|---|-------------|-----|----------|---------|--------------------------|---------|---|--------------|-----|----------|---------|--------------------------|---------|--|--------------|-----|----------|---------|--------------------------|---------|--|--------------|-----|----------|---------|
| <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p><b>Search</b></p> <p>Search For:</p> <p>Search In: Products</p> <p>Actions: Update Catalog Tree, Show LMP Keys, Insert New Product, Install External Package</p> <p>Available Products: CA Panvalet - MVS, 14.4, 14.5, SP1, CA Panvalet Option for ISPF - MVS, CA Panvalet Option for TSO - MVS, CA Partition Expert for DB2 for z/OS - MVS, CA PDSMAN PDS Library Management ALL 5 COMPONENTS - MVS, CA PDSMAN PDS Library Management All Extensions and Performance - MVS</p> </div> <div style="width: 65%;"> <p>14.5</p> <p>Products &gt; CA &gt; CA Panvalet - MVS &gt; 14.5</p> <p><b>Maintenance Packages</b> Add External Maintenance Refresh</p> <p>Show: All All for current release All source IDs</p> <p>Select and: Install 1 - 10 of 70</p> <table border="1"> <thead> <tr> <th>Select</th> <th>Fix #</th> <th>Description</th> <th>Confirmed Date</th> <th>Type</th> <th>Installed</th> <th>Actions</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td> <td>0185660</td> <td>* PRODUCT DOCUMENTATION CHANGE</td> <td>Jan 29, 2007</td> <td>PEA/PDC</td> <td>Not installable</td> <td>Actions</td> </tr> <tr> <td><input type="checkbox"/></td> <td>0089243</td> <td>* PRODUCT ERROR ALERT *</td> <td>Jun 20, 2007</td> <td>PEA/PDC</td> <td>Not installable</td> <td>Actions</td> </tr> <tr> <td><input type="checkbox"/></td> <td>R012055</td> <td>0607: MSM INST. ADD SUPPORT FOR SAMPJCL UNDER SMP/E</td> <td>Oct 7, 2009</td> <td>PTF</td> <td>No (0/1)</td> <td>Actions</td> </tr> <tr> <td><input type="checkbox"/></td> <td>0088256</td> <td>14.5-SP00 : PAN0/PAN#1 INPUT STREAM INVALID COMMAND</td> <td>May 11, 2007</td> <td>PTF</td> <td>No (0/1)</td> <td>Actions</td> </tr> <tr> <td><input type="checkbox"/></td> <td>0088259</td> <td>14.5-SP01 : PAN0/PAN#1 INPUT STREAM INVALID COMMAND</td> <td>May 11, 2007</td> <td>PTF</td> <td>No (0/1)</td> <td>Actions</td> </tr> <tr> <td><input type="checkbox"/></td> <td>0086490</td> <td>14.5-SP00 : DOING ++WRITE, LNG FMT CHANGED AFTER</td> <td>Mar 6, 2007</td> <td>PTF</td> <td>No (0/1)</td> <td>Actions</td> </tr> <tr> <td><input type="checkbox"/></td> <td>0090975</td> <td>14.5-SP00/SP01: PAM DIRECTORY AVERAGE BYTES</td> <td>Sep 4, 2007</td> <td>PTF</td> <td>No (0/1)</td> <td>Actions</td> </tr> <tr> <td><input type="checkbox"/></td> <td>0081764</td> <td>14.5-SP00: PAN#1 ++CONTROL WITH NO CODE GIVES ERROR</td> <td>Aug 25, 2006</td> <td>PTF</td> <td>No (0/1)</td> <td>Actions</td> </tr> <tr> <td><input type="checkbox"/></td> <td>0081765</td> <td>14.5-SP00: PV071 DOING ++SCANS OF ZTYPE1-8 MEMBERS</td> <td>Aug 25, 2006</td> <td>PTF</td> <td>No (0/1)</td> <td>Actions</td> </tr> <tr> <td><input type="checkbox"/></td> <td>0086868</td> <td>14.5-SP00: ZTYPE7 NOT FORMATTED CORRECTLY ON TSO</td> <td>Mar 19, 2007</td> <td>PTF</td> <td>No (0/1)</td> <td>Actions</td> </tr> </tbody> </table> </div> </div> |         |   |                |                    |                 |             |  |                 |  |       |  |          |  | Select | Fix # | Description | Confirmed Date | Type | Installed | Actions | <input type="checkbox"/> | 0185660 | * PRODUCT DOCUMENTATION CHANGE | Jan 29, 2007 | PEA/PDC | Not installable | Actions | <input type="checkbox"/> | 0089243 | * PRODUCT ERROR ALERT * | Jun 20, 2007 | PEA/PDC | Not installable | Actions | <input type="checkbox"/> | R012055 | 0607: MSM INST. ADD SUPPORT FOR SAMPJCL UNDER SMP/E | Oct 7, 2009 | PTF | No (0/1) | Actions | <input type="checkbox"/> | 0088256 | 14.5-SP00 : PAN0/PAN#1 INPUT STREAM INVALID COMMAND | May 11, 2007 | PTF | No (0/1) | Actions | <input type="checkbox"/> | 0088259 | 14.5-SP01 : PAN0/PAN#1 INPUT STREAM INVALID COMMAND | May 11, 2007 | PTF | No (0/1) | Actions | <input type="checkbox"/> | 0086490 | 14.5-SP00 : DOING ++WRITE, LNG FMT CHANGED AFTER | Mar 6, 2007 | PTF | No (0/1) | Actions | <input type="checkbox"/> | 0090975 | 14.5-SP00/SP01: PAM DIRECTORY AVERAGE BYTES | Sep 4, 2007 | PTF | No (0/1) | Actions | <input type="checkbox"/> | 0081764 | 14.5-SP00: PAN#1 ++CONTROL WITH NO CODE GIVES ERROR | Aug 25, 2006 | PTF | No (0/1) | Actions | <input type="checkbox"/> | 0081765 | 14.5-SP00: PV071 DOING ++SCANS OF ZTYPE1-8 MEMBERS | Aug 25, 2006 | PTF | No (0/1) | Actions | <input type="checkbox"/> | 0086868 | 14.5-SP00: ZTYPE7 NOT FORMATTED CORRECTLY ON TSO | Mar 19, 2007 | PTF | No (0/1) | Actions |
| Select  | Fix #   | Description   | Confirmed Date | Type               | Installed       | Actions     |  |                 |  |       |  |          |  |        |       |             |                |      |           |         |                          |         |                                |              |         |                 |         |                          |         |                         |              |         |                 |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |   |              |     |          |         |                          |         |  |             |     |          |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |  |              |     |          |         |                          |         |  |              |     |          |         |
| <input type="checkbox"/>  | 0185660 | * PRODUCT DOCUMENTATION CHANGE                      | Jan 29, 2007   | PEA/PDC            | Not installable | Actions     |  |                 |  |       |  |          |  |        |       |             |                |      |           |         |                          |         |                                |              |         |                 |         |                          |         |                         |              |         |                 |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |   |              |     |          |         |                          |         |  |             |     |          |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |  |              |     |          |         |                          |         |  |              |     |          |         |
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| <input type="checkbox"/>  | R012055 | 0607: MSM INST. ADD SUPPORT FOR SAMPJCL UNDER SMP/E | Oct 7, 2009    | PTF                | No (0/1)        | Actions     |  |                 |  |       |  |          |  |        |       |             |                |      |           |         |                          |         |                                |              |         |                 |         |                          |         |                         |              |         |                 |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |   |              |     |          |         |                          |         |  |             |     |          |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |  |              |     |          |         |                          |         |  |              |     |          |         |
| <input type="checkbox"/>  | 0088256 | 14.5-SP00 : PAN0/PAN#1 INPUT STREAM INVALID COMMAND | May 11, 2007   | PTF                | No (0/1)        | Actions     |  |                 |  |       |  |          |  |        |       |             |                |      |           |         |                          |         |                                |              |         |                 |         |                          |         |                         |              |         |                 |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |   |              |     |          |         |                          |         |  |             |     |          |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |  |              |     |          |         |                          |         |  |              |     |          |         |
| <input type="checkbox"/>  | 0088259 | 14.5-SP01 : PAN0/PAN#1 INPUT STREAM INVALID COMMAND | May 11, 2007   | PTF                | No (0/1)        | Actions     |  |                 |  |       |  |          |  |        |       |             |                |      |           |         |                          |         |                                |              |         |                 |         |                          |         |                         |              |         |                 |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |   |              |     |          |         |                          |         |  |             |     |          |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |  |              |     |          |         |                          |         |  |              |     |          |         |
| <input type="checkbox"/>  | 0086490 | 14.5-SP00 : DOING ++WRITE, LNG FMT CHANGED AFTER    | Mar 6, 2007    | PTF                | No (0/1)        | Actions     |  |                 |  |       |  |          |  |        |       |             |                |      |           |         |                          |         |                                |              |         |                 |         |                          |         |                         |              |         |                 |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |   |              |     |          |         |                          |         |  |             |     |          |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |  |              |     |          |         |                          |         |  |              |     |          |         |
| <input type="checkbox"/>  | 0090975 | 14.5-SP00/SP01: PAM DIRECTORY AVERAGE BYTES         | Sep 4, 2007    | PTF                | No (0/1)        | Actions     |  |                 |  |       |  |          |  |        |       |             |                |      |           |         |                          |         |                                |              |         |                 |         |                          |         |                         |              |         |                 |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |   |              |     |          |         |                          |         |  |             |     |          |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |  |              |     |          |         |                          |         |  |              |     |          |         |
| <input type="checkbox"/>  | 0081764 | 14.5-SP00: PAN#1 ++CONTROL WITH NO CODE GIVES ERROR | Aug 25, 2006   | PTF                | No (0/1)        | Actions     |  |                 |  |       |  |          |  |        |       |             |                |      |           |         |                          |         |                                |              |         |                 |         |                          |         |                         |              |         |                 |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |   |              |     |          |         |                          |         |  |             |     |          |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |  |              |     |          |         |                          |         |  |              |     |          |         |
| <input type="checkbox"/>  | 0081765 | 14.5-SP00: PV071 DOING ++SCANS OF ZTYPE1-8 MEMBERS  | Aug 25, 2006   | PTF                | No (0/1)        | Actions     |  |                 |  |       |  |          |  |        |       |             |                |      |           |         |                          |         |                                |              |         |                 |         |                          |         |                         |              |         |                 |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |   |              |     |          |         |                          |         |  |             |     |          |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |  |              |     |          |         |                          |         |  |              |     |          |         |
| <input type="checkbox"/>  | 0086868 | 14.5-SP00: ZTYPE7 NOT FORMATTED CORRECTLY ON TSO    | Mar 19, 2007   | PTF                | No (0/1)        | Actions     |  |                 |  |       |  |          |  |        |       |             |                |      |           |         |                          |         |                                |              |         |                 |         |                          |         |                         |              |         |                 |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |   |              |     |          |         |                          |         |  |             |     |          |         |                          |         |   |             |     |          |         |                          |         |   |              |     |          |         |                          |         |  |              |     |          |         |                          |         |  |              |     |          |         |

Red asterisks identify HIPER maintenance packages.

- Click the Fix # link for each maintenance package you want to install.

The Maintenance Package Details dialog appears, identifying any prerequisites.

- Review the information on this dialog, and click Close to return to the Maintenance Packages section.

- 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.

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

The packages to install are listed.

- 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.

- Select the environments in which you want to install the packages.

- 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 a CSI that is being used in CA MSM by another user, a notification message appears, and you are prevented from performing any actions on the CSI. You can either wait until the notification message disappears and the CSI is available, or click Cancel to select another CSI.

11. 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 entries exist, review and select them, and click Next.

A summary of the task appears.

12. Review the summary, and click Install.

A dialog opens that shows the progress of the task. When the task completes, you can click Show Results on the Progress tab to view the details of the actions. Click Close to return to the previous page.

**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 at the Tasks tab.

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

**More information:**

[Download Product Maintenance Packages](#) (see page 44)

[Download Maintenance Packages for Old Product Releases and Service Packs](#) (see page 45)

### View Installation Status of Maintenance Package

You can view installation status details of each maintenance package, including a list of CSIs where the package is installed, the CSI data sets, and the installation status of the package for each CSI zone. For example, a maintenance package can be received in the global zone, applied in a target zone, and accepted in a distribution zone.

**Note:** The installation status is not available for aggregated maintenance packages as well as for those maintenance packages that are not installable or do not have available CSIs to be installed to.

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 a CSI zone, the Install action is available.

**To view installation status of a maintenance package**

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 CSIs 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 CSI zone) or the Accept wizard (for packages that are not accepted in at least one CSI zone). Click Install to More Environments to install the maintenance package in one or more CSIs available for the package.

**USERMODs**

A product USERMOD can be provided as a published maintenance package downloaded by CA MSM during the Update Catalog process. When CA MSM downloads a package that includes 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 46).

**GROUPEXTEND Mode**

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

For some maintenance packages, before you install them, you must first install other maintenance packages (SYSMODs).

If a SYSMOD that is defined as a prerequisite for the product maintenance package that you want to install has not been applied or cannot be processed (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), you can install the maintenance package in GROUPEXTEND mode, and the SMP/E environment where the product is installed automatically includes a superseding SYSMOD.

**Note:** For applying maintenance in GROUPEXTEND mode, the SMP/E environment *must* have all SYSMODs received to be included by 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, and applied it if it can be applied.

For the GROUPEXTEND option, CA MSM does not automatically receive and display prerequisites for maintenance or HOLDDATA that needs to 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.

**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 SMPDOUT in the task output to check if there are missing (not received) SYSMODs or HOLDDATA that need to be resolved or bypassed.
  - If the task succeeds, review SMPRPT in the task output to check 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 needs to correspond to the version of SMP/E that you use.

When you 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 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 CSI, the CSI is locked and other CA MSM users cannot perform any action against it. The lock is released when the task is finished, you log out of CA MSM, or your CA MSM session has been inactive for more than ten minutes.

#### To manage maintenance for a product in GROUPEXTEND mode

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

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

**Note:** If you select a CSI that is being used in CA MSM by another user, a notification message appears, and you are prevented from performing any actions on the CSI. You can either wait until the notification message disappears and the CSI is available, or click Cancel to select another CSI.

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 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 to be applied are listed.

**Note:** If a link in the Status column for a maintenance package is available, you can click it to review a list of zones 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 prerequisites for maintenance or HOLDDATA to 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. We recommend that you run the maintenance in Apply check mode first.

6. Read the information 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 those 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 should be excluded in the Excluded SYSMODs field. You can enter several SYSMODs separated 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 separated by a comma.

9. Click Next.

A summary of the task appears.

10. Review the summary, and click Apply GROUPEXTEND.

A dialog opens that shows the progress of the task. When the task completes, you can click Show Results on the Progress tab to view the details of the actions. Click Close to return to the previous page.

**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 at the Tasks tab.

- If you run the maintenance installation in Apply check mode and the task succeeds, review SMPRPT in the task output to check 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 to check if there are missing (not received) SYSMODs or HOLDDATA that need to 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:** Although you cannot accept USERMODs in GROUPEXTEND mode, you can install them if they are prerequisites for the maintenance package being installed, unless you have enabled the NOUSERMODS option.

## Back Out Maintenance

You can back out applied (but not accepted) maintenance packages 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 CSI, the CSI is locked and other CA MSM users cannot perform any action against it. The lock is released when the task is finished, you log out of CA MSM, or your CA MSM session has been inactive for more than ten minutes.

### To back out a maintenance package from a product release

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

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:** If you want to back out maintenance from all the products in the environment, you can 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 you want to back out, and click the Restore link.

The Introduction tab of the wizard appears.

**Note:** If you select a CSI that is being used in CA MSM by another user, a notification message appears, and you are prevented from performing any actions on the CSI. You can either wait until the notification message disappears and the CSI is available, or click Cancel to select another CSI.

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:** Click Select Zones to review and adjust a list of zones from where the maintenance will be restored, and 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 opens that shows the progress of the task. When the task completes, you can click Show Results on the Progress tab to view the details of the actions. Click Close to return to the previous page.

**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 at the Tasks tab.

## Setting System Registry

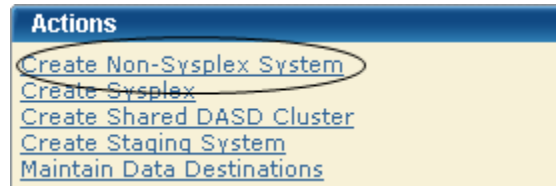
This section includes information about how to use CA MSM to set the system registry. The *system registry* contains all systems that can be selected as a target for a deployment. You can create Non-SYSPLEX, SYSPLEX, Shared DASD Cluster, and Staging systems as well as maintain, validate, view, and delete a system register, and investigate a failed validation.

## Create a Non-Sysplex System

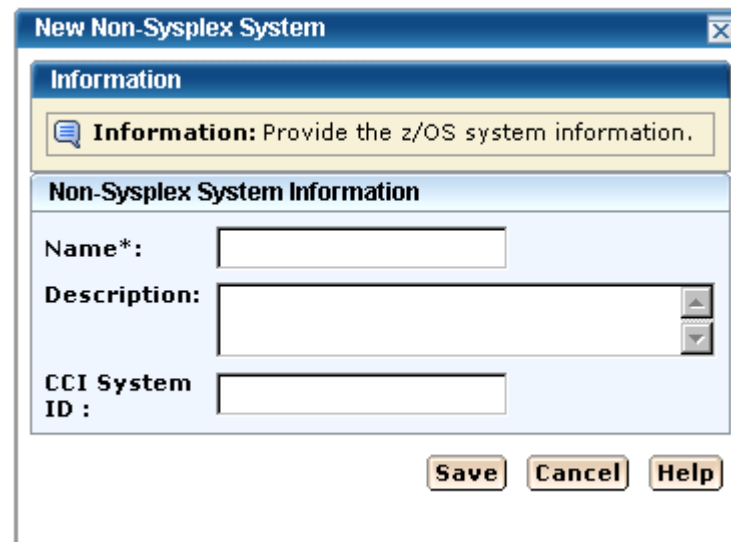
You can create a Non-Sysplex System Registry.

### To create a Non-Sysplex system registry

1. Click the System Registry tab, and in the Actions section click the Create Non-Sysplex link.



The New Non-Sysplex System dialog appears.

A screenshot of the 'New Non-Sysplex System' dialog box. The dialog has a title bar with the text 'New Non-Sysplex System' and a close button. Below the title bar is an 'Information' section with a message icon and the text 'Information: Provide the z/OS system information.' Below this is a section titled 'Non-Sysplex System Information' containing three input fields: 'Name\*:' (with an asterisk indicating it is mandatory), 'Description:', and 'CCI System ID :'. At the bottom right of the dialog are three buttons: 'Save', 'Cancel', and 'Help'.

**Note:** The asterisk indicates that the field is mandatory.

2. Enter the following and click Save:

**Non-Sysplex System Name**

Enter the Non-Sysplex System Name.

**Limits:** Maximum 8 characters.

**Note:** Sysplex and Non-Sysplex systems can have the same name. Use the Description field to differentiate between these systems.

**Description**

Enter the Description.

**Limits:** Maximum 255 characters.

**CCI System ID**

Enter the CCI System ID.

**Limits:** Maximum 8 characters.

The Non-Sysplex System is to saved and its name appears as the last entry in the Non-Sysplex Systems Registry List on the right.

**Note:** Click Cancel to withdraw this create request.

**Note:** z/OS systems running under VM are treated as being in basic mode and not LPAR mode. As result, the LPAR number is null in the z/OS control block. When this is the case, the system validation output will show the following:

Property Name: z/OS LPAR Name, Value: \*\* Not Applicable \*\*.

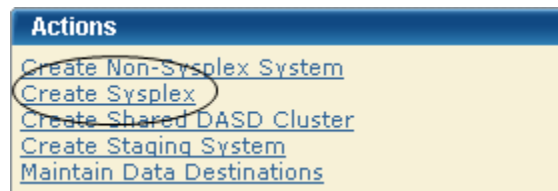
## Create a Sysplex or Monoplex

You can create a Sysplex or Monoplex system registry if you have Monoplexes with the same Sysplex name (for example: LOCAL). Instead of showing multiple LOCAL Sysplex entries which would need to be expanded to select the correct Monoplex system, the CA MSM System Registry shows the actual Monoplex system name at the top level Sysplex name.

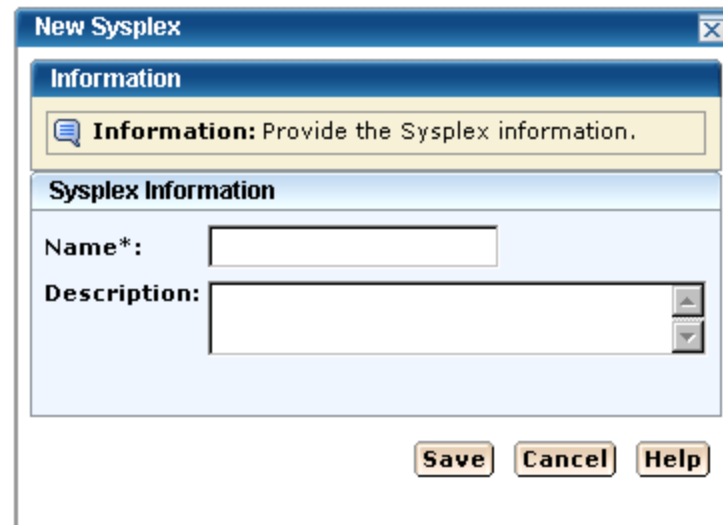
The FTP and DATA Destinations at the system level are not used when the Sysplex is a Monoplex. The only FTP Location and Data Destinations that are referenced are those defined at the Sysplex Level.

### To create a Sysplex or Monoplex system registry

1. Click the System Registry tab, and in the Actions section click the Create Sysplex link.



The Sysplex System dialog appears.

A screenshot of a dialog box titled 'New Sysplex'. It has a close button in the top right corner. The dialog is divided into two main sections. The first section is 'Information', which contains a message icon and the text 'Information: Provide the Sysplex information.'. The second section is 'Sysplex Information', which contains two text input fields: 'Name\*' and 'Description:'. The 'Name\*' field has an asterisk indicating it is mandatory. At the bottom of the dialog are three buttons: 'Save', 'Cancel', and 'Help'.

**Note:** The asterisk indicates that the field is mandatory.

2. Enter the following and click Save.

**Name**

Enter the Sysplex System Name.

**Limits:** Maximum 8 characters.

**Description**

Enter the Description.

**Limits:** Maximum 255 characters.

Sysplex and Non-Sysplex system can have the same name. Use the Description field to differentiate these systems.

**Note:** Monplexes are stored in the Sysplex registry tree but with the name of the Sysplex system and not the Monoplex Sysplex Name. For example, a system XX16 defined as a Monoplex, with a Sysplex name of LOCAL. It will be depicted in the System Registry as a Sysplex with the name of XX16. This Sysplex will contain one system: XX16.

The Sysplex System is saved and its name appears as the last entry in the Sysplex Systems Registry List on the right.

**Note:** Click Cancel to withdraw this create request.

**Note:** z/OS systems running under VM are treated as being in basic mode and not LPAR mode. As result, the LPAR number is null in the z/OS control block. When this is the case, the system validation output will show the following

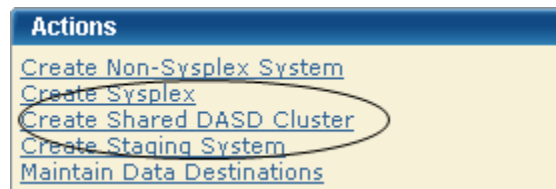
Property Name: z/OS LPAR Name, Value: \*\* Not Applicable \*\*.

## Create a Shared DASD Cluster

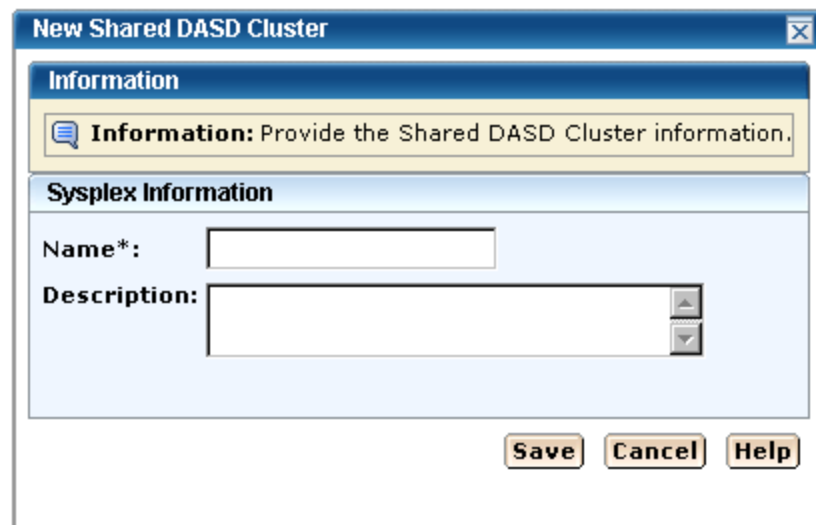
You can create a Shared DASD Cluster.

### To create a Shared DASD Cluster

1. Click the System Registry tab, and in the Actions section click the Shared DASD Cluster link.



The New Shared DASD Cluster dialog appears.

A screenshot of a dialog box titled 'New Shared DASD Cluster'. The dialog has a blue title bar with a close button. Below the title bar is an 'Information' section with a message icon and the text 'Information: Provide the Shared DASD Cluster information.' Below that is a 'Sysplex Information' section with two text input fields: 'Name\*' and 'Description:'. The 'Name\*' field has an asterisk indicating it is mandatory. At the bottom right of the dialog are three buttons: 'Save', 'Cancel', and 'Help'.

**Note:** The asterisk indicates that the field is mandatory.

2. Enter the following and click Save:

**Name**

Enter the Shared DASD Cluster Name.

**Limits:** Maximum 8 characters.

**Note:** Each Shared DASD Cluster name must be unique and it is not case-sensitive. For example DASD1 and dasd1 are the same Shared DASD Cluster name. A Staging System may have the same name as a Non-Sysplex, Sysplex, or Shared DASD Cluster.

**Description**

Enter the Description.

**Limits:** Maximum 255 characters.

The Shared DASD Cluster is saved and its name appears as the last entry in the Systems Registry Cluster List on the right.

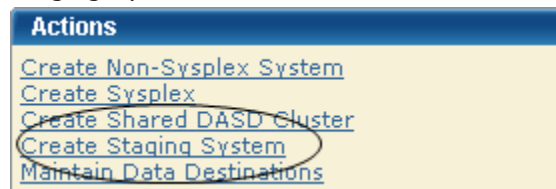
**Note:** Click Cancel to withdraw this create request.

## Create a Staging System

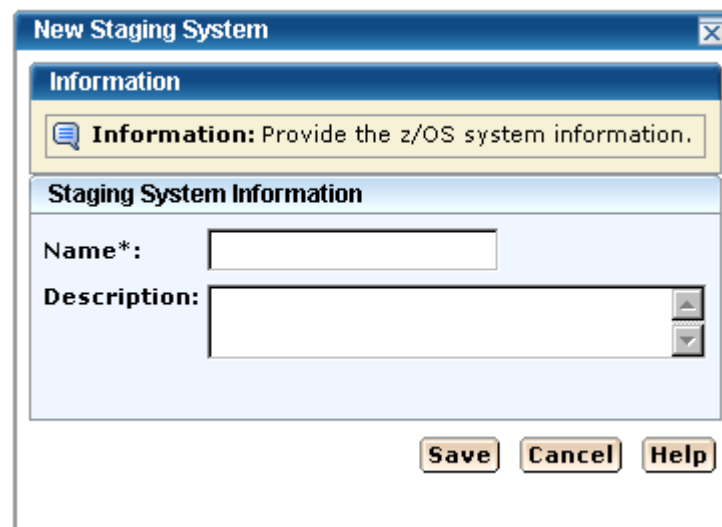
You can create a Staging System.

### To create a Staging System

1. Click the System Registry tab, and in the Actions section click the Create Staging System link.



The New Staging System dialog appears.

A screenshot of the 'New Staging System' dialog box. The dialog has a title bar with 'New Staging System' and a close button. Below the title bar is an 'Information' section with a message icon and the text 'Information: Provide the z/OS system information.' Below that is a 'Staging System Information' section with two input fields: 'Name\*' and 'Description:'. The 'Name\*' field is a single-line text box, and the 'Description:' field is a multi-line text box with scrollbars. At the bottom right of the dialog are three buttons: 'Save', 'Cancel', and 'Help'.

**Note:** The asterisk indicates that the field is mandatory.

2. Enter the following and click Save:

**Name**

Enter the Staging System Name.

**Limits:** Maximum 8 characters.

**Note:** Each Staging System name must be unique and is not case-sensitive. For example STAGE1 and stage1 are the same Staging System name. A Staging System may have the same name as a Non-Sysplex, Sysplex, or Shared DASD Cluster.

**Description**

Enter the Description.

**Limits:** Maximum 255 characters.

The Staging System is saved and its appears as the last entry in the Staging Systems Registry on the right.

**Note:** Click Cancel to withdraw this create request.

## Authorization

CA MSM supports the following authorization modes for the Systems Registry.

**Edit Mode**

Lets you update and change System Registry information.

**Note:** Once the information is changed you must click save to save the information or cancel to cancel the changed information.

**View Mode**

Lets you view System Registry information, but not make any changes.

## Change a System Registry

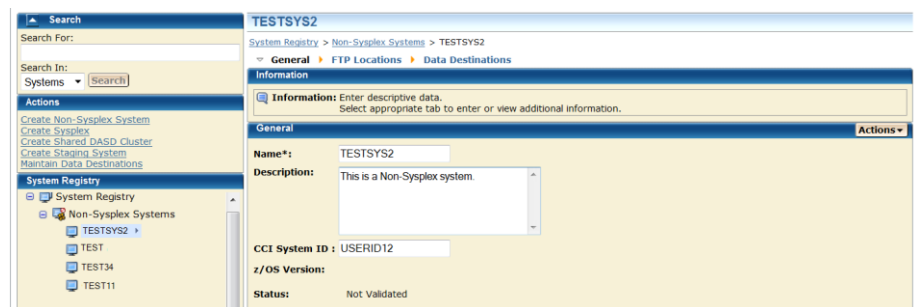
You can change the system registry if you have Monoplexes with the same sysplex name (for example: LOCAL). Instead of showing multiple LOCAL sysplex entries which would need to be expanded to select the correct Monoplex system, the CA MSM System Registry shows the actual Monoplex System name at the top level Sysplex Name.

### To change a system registry

1. Click the System Registry tab, and select Non-Sysplex Systems, Sysplexes, Shared DASD Clusters, or Staging Systems from the tree at the left.

Information about the systems related to the type you selected appears on the right side.

2. Select the system to change.



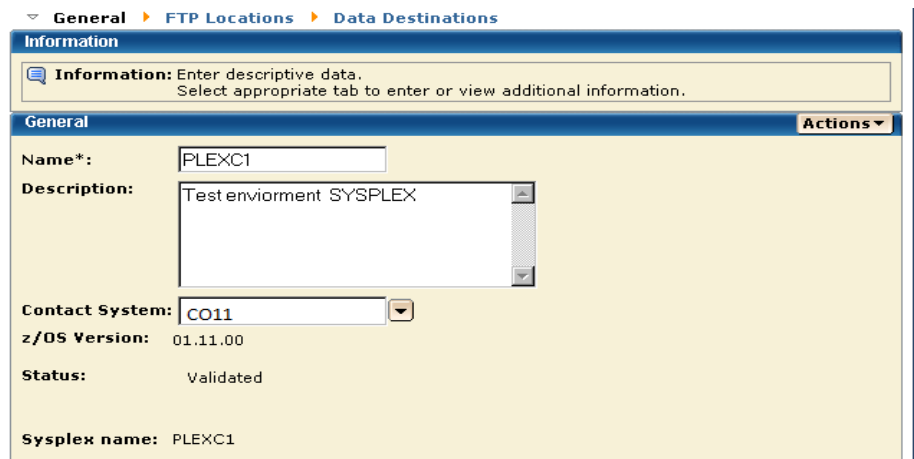
Detailed information about the system appears on the right side.

3. Update the following information as needed. The information that you update is dependent on whether you are changing a [Non-Sysplex System](#) (see page 57), [Sysplex](#) (see page 59), [Shared DASD Cluster](#) (see page 61), or [Staging System](#) (see page 63).

4. Depending on the type of system, do one of the following:

- For Shared DASD or SYSPLEX system only, select the Contact System. This is system where the Shared DASD location or FTP location. The FTP location should be set to the contact system URI. The contact system is used for remote credentials.

For example, if the contact system is set to CO11, FTP location URI is set to XX61 and the remote credentials are set up for CO11, the deployment could fail because your remote credentials might not be the same on both systems (CO11 and XX61) and, because you set the Contact System to CO11 but you are contacting to XX61, a spawn will be started on CO11 but CA MSM will look for the output on XX61 because that is where the FTP location was set.



**Note:** Monoplexes are stored in the Sysplex registry tree but with the name of the Monoplex System and not the Monoplex Sysplex Name. For example, a system XX16 defined as a Monoplex, with a sysplex name of LOCAL. It will be depicted in the System Registry as a Sysplex with the name of XX16. This sysplex will contain one system: XX16.

The FTP and DATA Destinations at the system level are not used when the Sysplex is a Monoplex. The only FTP Location and Data Destinations that are referenced are those defined at the Sysplex Level.

- For Staging systems, enter the GIMUNZIP volume and/or zFS candidate volumes.

The zFS candidate volumes let you specify an optional list of VOLSERS used during the allocation of zFS container data sets for USS parts.

[System Registry](#) > [Staging Systems](#) > Stage1

The screenshot shows the configuration page for a Staging System named 'Stage1'. The page is divided into sections: 'Information' with a message 'Enter descriptive data.', 'General' with fields for 'Name\*' (Stage1), 'Description' (Staging System), 'GIMUNZIP Volume' (TSO16A), and 'zFS Candidate Volumes' (TSO16A followed by four empty boxes). An 'Actions' dropdown menu is visible in the top right of the General section.

5. Select one of the following actions from the Actions drop-down list in the General bar:

#### Cancel

Cancel this maintenance.

#### Save

Save the changes to this maintenance.

#### Validate

Validate authenticates this entry.

**Note:** The validation process is done in steps; each system in this request is validated with the last step summarizing, verifying, and confirming the validation. If the validation fails this step shows how the validation failed. You can [investigate the failed validation](#) (see page 69).

#### Validation Rules

- For a Non-Sysplex system, that single system is validated and the last step summarizes, verifies, and confirms the validation.
- For a Sysplex system, each system within the Sysplex is validated as an individual step and the last step summarizes, verifies, and confirms the validation.
- For Shared DASD Cluster each Non-Sysplex system is validated, each Sysplex system is validated as described in the Sysplex Rule and the last step summarizes, verifies, and confirms the validation.

**Note:** A Staging system is not validated.

When a system is validated, the status appears in the Status field.

The following are the system validation results:

**Validated**

Indicates that the system is available, status is updated as valid, and system registry is updated with results from validation.

**Validation in Progress**

Indicates that the system status is updated to in progress.

**Validation Error**

Indicates that the system status is updated to error, and you can [investigate the failed validation](#) (see page 69).

**Not Validated**

Indicates that this system has not been validated yet.

**Not Accessible**

Indicates that the system has not been validated because it is no longer available or was not found in the CCI Network.

**Validation Conflict**

Indicates that the system has been contacted but the information entered then different then the information retrieved.

**Error details**

When there is a validation conflict, the Error details button appears. Click this button to find the reason for this conflict. You can [investigate the failed validation](#) (see page 69).

**Note:** The error reason resides in local memory. If the message *Please validate the system again* appears, the local memory has been refreshed and the error has been lost. To find the conflict again, validate this system again.

**Conflict details**

When a validation is in conflict, the Error details button appears. Click this button to find the reason for this conflict. You can [investigate the failed validation](#) (see page 69).

**Note:** The conflict reason is kept in local memory. If the "Please validate the system again." message appears, the local memory has been refreshed and the conflict has been lost. To find the conflict again, validate this system again.

## Failed Validations

When a validation fails, you can investigate it, make corrections, and validate it again. Use the following procedures in this section:

- [Investigate a Failed Validation using the Tasks Page](#) (see page 69)
- [Investigate a Failed Validation Immediately After a Validation](#) (see page 71)
- [Download a Message Log](#) (see page 73)
- [Save a Message Log as a Data Set](#) (see page 74)
- [View Complete Message Log](#) (see page 75)

**Note:** The CA MSM screen samples in these topics use a Non-Sysplex system as an example, but the method also works for a Sysplex or a Shared DASD Cluster.

### Investigate a Failed Validation Using Tasks Page

When a validation fails, you can investigate it, make corrections, and validate it again.

#### To investigate a failed validation using the Tasks Page

1. On the System Registry Page, in the left hand column find the system with a validation status error and make a note of it.
2. Click the Tasks tab and then click Task History.
3. At the Show bar, select All task, or My task to list the tasks by Owner.
 

**Note:** You can refine the task list by entering USER ID, types, and status.
4. Find the failed validation and click the link in the Name column.

The screenshot shows the 'Task History' window with a table of tasks. The task 'Validating System: XX60' is highlighted with a red circle. The status is 'Failed'.

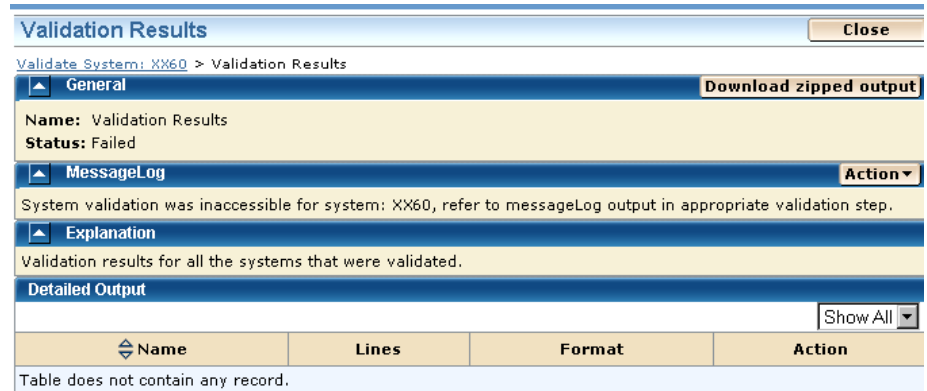
| Owner   | Name                                    | Type            | Status | Start Time           | Stop Time            | Task ID |
|---------|---|-----------------|--------|----------------------|----------------------|---------|
| USER456 | <a href="#">Validating System: XX60</a> | System Registry | Failed | 1/12/2010 02:26:01PM | 1/12/2010 02:26:09PM | 432     |

The Validate System window appears.

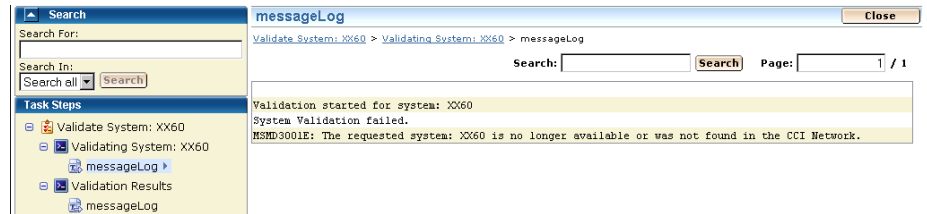
The screenshot shows the 'Validate System: XX60' window. It displays details for the task and a list of steps.

| # | Name                                    | Description   | Status    |
|---|---|---|-----------|
| 1 | <a href="#">Validating System: XX60</a> | Validating system and retrieving values.                    | Succeeded |
| 2 | <a href="#">Validation Results</a>      | Validation results for all the systems that were validated. | Failed    |

- Click the Validation Results link to view the results.



- Click the messages log to review the details for each error.



**Note:** You can analyze the error results and determine the steps required to troubleshoot them.

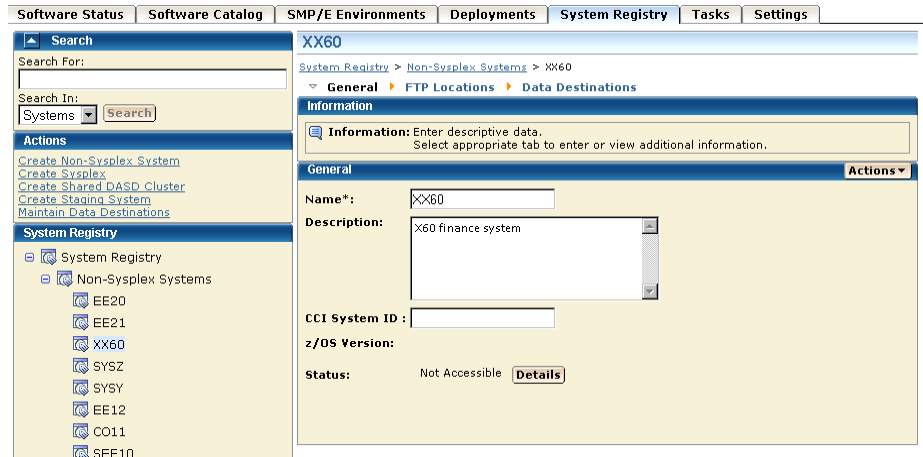
- Correct the issue and validate again.

## Investigate a Failed Validation After Validation

When a validation fails, you can investigate it, make corrections, and validate it again.

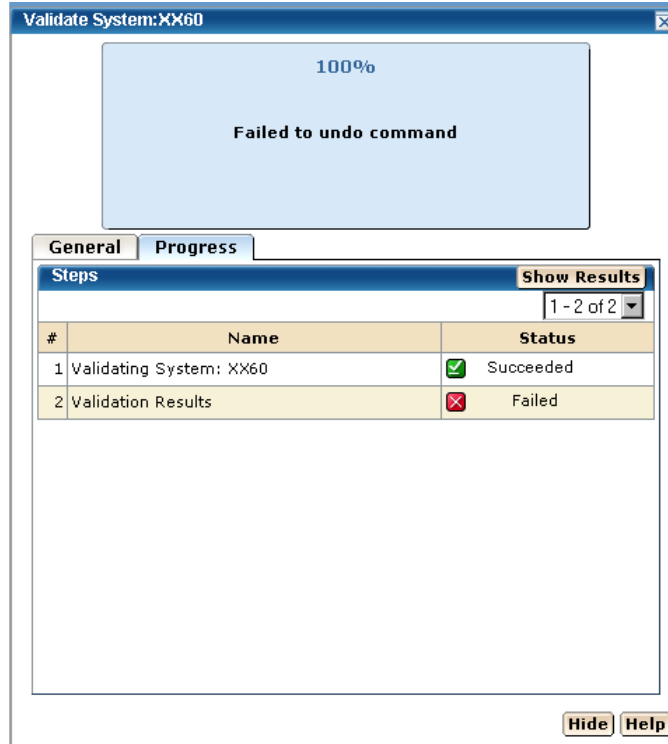
### To investigate a failed validation immediately after Validation

1. On the System Registry Page, in the left hand column, find the system with a validation status error, and make note of it.

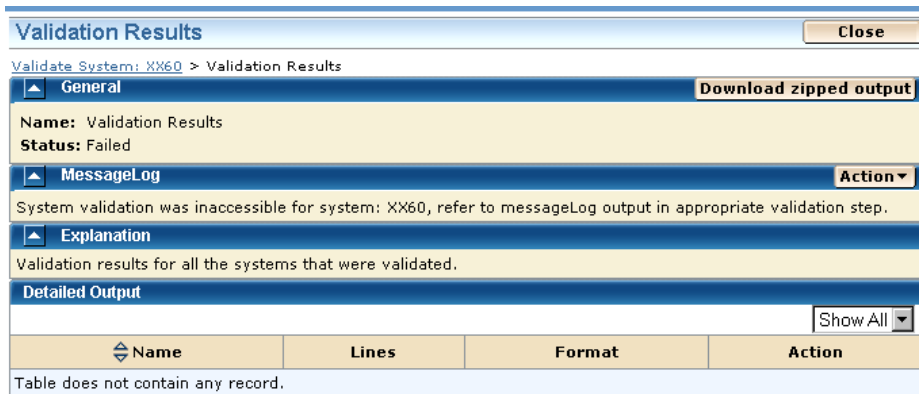


2. Click Details to see the error details.
3. If the Message states *Please validate the system again*, click Validate. The system validates again.

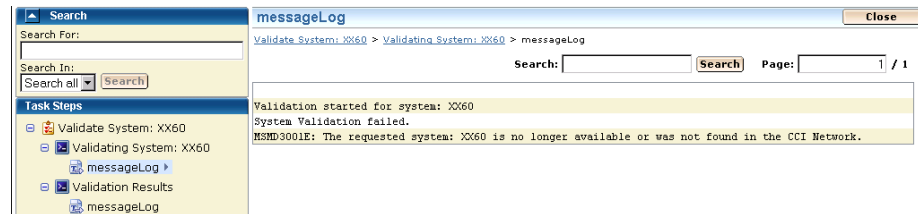
- 4. Click the Progress tab.



- 5. Click Show Results to view the results.



6. Click the messages logs to review the details for each error.



**Note:** You can analyze the error results and determine the steps required to troubleshoot them.

7. Correct the issue and validate again.

### Download a Message Log

You can save the message log in the following ways:

- To download a zipped file of all the text messages for this validation, click the Deployment Name on the top left tree and click Download zipped out button on the General menu bar. You will be requested to save this file.
- To download as TXT, click the Deployment Name or the Deployment Results on the left tree, click the Action button on the MessageLog bar and click the Download as TXT. You will be requested to save this file.
- To download as ZIP, click the Deployment Name or the Deployment Results on the left tree, click the Action button on the MessageLog bar and click the Download as ZIP. You will be requested to save this file.

## Save a Message Log as a Data Set

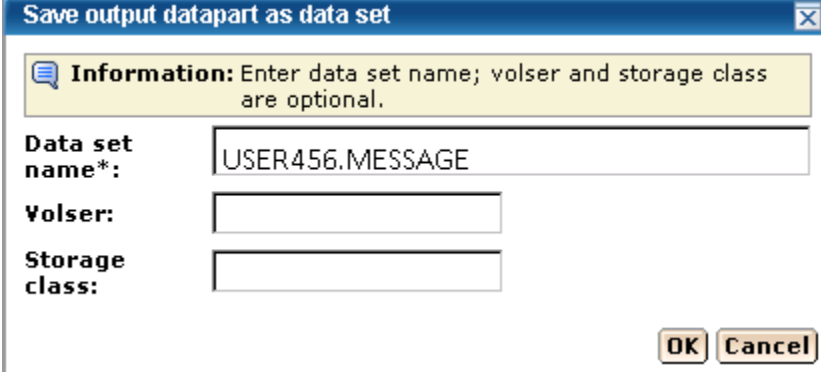
You can save a message log as a data set.

### To save as a data set

1. Click the Deployment Name or the Deployment Results on the left tree, click the Action button on the MessageLog bar, and click the Save as data set.

The Save output as a data set dialog appears.

**Note:** This information is sent to CA Support to analyze the failed deployment.



**Save output datapart as data set**

**Information:** Enter data set name; volser and storage class are optional.

**Data set name\*:** USER456.MESSAGE

**Volser:**

**Storage class:**

**OK** **Cancel**

**Note:** The asterisk indicates that the field is mandatory.

2. Enter the following and click OK:

#### Data Set Name

Enter a data set name. CA MSM generates a value.

#### Volser

For Non-SMS data, enter the Volser.

#### Example:

Volsers: SYSP01 and SYSP02

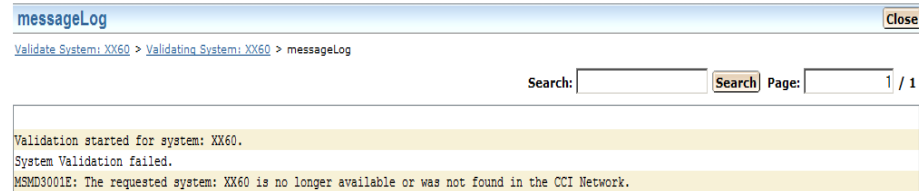
#### Storage Class

For SMS Allocation data, enter the Storage Class.

The message log is saved as a data set.

## View Complete Message Log

To view the complete message log for a failed validation, click Show All.



**Note:** To close the message log, click Close.

## Delete a System Registry

You can delete a system registry.

### To delete a system registry

1. Click the System Registry tab and on the right, in the System Registry panel, select Non-Sysplex Systems, Sysplexes, Clusters, or Staging Systems.

The system list appears.

2. Click the Select box for each system registry you want to delete, click Delete, and then click OK to confirm.

The system is deleted.

## FTP Locations

The FTP Locations lists the current FTP locations for this system. You can [add](#) (see page 76), [edit](#) (see page 77), [set default](#) (see page 78), or [remove](#) (see page 78) FTP locations.

An FTP location must be defined for every system. They are used to retrieve the results of the deployment on the target system regardless if the deployment was transmitted through FTP or using Shared DASD. They are also used if you are moving your deployments through FTP. You will need the URI (host system name), port number (default is 21), and the directory path, which is the landing directory. The landing directory is where the data is temporarily placed during a deployment.

## Add FTP Locations

You can add FTP locations.

### To add FTP locations

1. Click the System Registry tab, and select Non-Sysplex Systems, Sysplexes, Shared DASD Clusters, or Staging Systems from the tree at the left.

Information about the systems related to the type you selected appears on the right side.

2. Click the system name link you want to create FTP locations.

Detailed information about the system appears on the right side.

3. Click the FTP Locations tab.

The FTP Locations window appears.

4. Click Add.

The New FTP Location window appears.

**Note:** The asterisk indicates that the field is mandatory.

5. Enter the following and click Save:

#### URI

Enter the URI.

**Limits:** Maximum length is 255.

#### Port

Enter the Port.

**Limits:** Maximum Port number is 65535 and must be numeric.

**Default:** 21

#### Directory Path

Enter the Directory Path.

**Limits:** Most start with a root directory, that is /.

The new FTP location appears as the last entry on the list.

**Note:** Click Cancel to withdraw this create request.

### More information:

[Edit FTP Locations](#) (see page 77)

[Set FTP Location Default](#) (see page 78)

[Delete FTP Locations](#) (see page 78)

## Edit FTP Locations

You can edit FTP locations.

**Note:** The asterisk indicates that the field is mandatory.

### To edit FTP locations

1. Click the System Registry tab, and select Non-Sysplex Systems, Sysplexes, Shared DASD Clusters, or Staging Systems from the tree at the left.  
Information about the systems related to the type you selected appears on the right side.
2. Click the system link where you want to create FTP locations.  
Detailed information about the system appears on the right side.
3. Click the FTP Location tab. The FTP Locations window appears.
4. Select the FTP location and select Edit on the Actions drop down. The Edit FTP Location window appears.
5. Update the following and click Save:

#### URI

Enter the URI.

**Limits:** Maximum length is 255.

#### Port

Enter the Port.

**Limits:** Maximum Port number is 65535 and must be numeric.

**Default:** 21

#### Directory Path

Enter the Directory Path.

**Limits:** Most start with a root directory, that is /.

The new FTP location appears as the last entry on the list.

**Note:** Click Cancel to withdraw this create request.

## Set FTP Location Default

You can set an FTP location default.

### To set an FTP location default

1. Click the System Registry tab, and select Non-Sysplex Systems, Sysplexes, Shared DASD Clusters, or Staging Systems from the tree at the left.

Information about the systems related to the type you selected appears on the right side.

2. Select the system link you want to set the FTP location default to.

Detailed information about the system appears on the right side.

3. Click the FTP Locations tab.

The FTP Locations window appears.

4. Select the FTP locations and select Default on the Actions drop down.

The word *Default* appears in the Default column.

## Delete FTP Locations

You can remove FTP locations.

### To remove FTP locations

1. Click the System Registry tab, and select Non-Sysplex Systems, Sysplexes, Shared DASD Clusters, or Staging Systems from the tree at the left.

Information about the systems related to the type you selected appears on the right side.

2. Select the system where you want to delete FTP locations.

Detailed information about the system appears on the right side.

3. Click the FTP Locations tab.

The FTP Locations window appears.

4. Click the Select box for each FTP location you want to remove, click Remove, and then click OK to confirm.

The FTP location is deleted from this system.

## Data Destinations

The Data Destinations page lists the current data destinations for this system.

## Create Data Destinations

You can create data destinations.

### To create a data destination

1. Click the System Registry tab, and in the Actions section click the Maintain Data destinations link.

The Maintains Data Destinations dialog appears.

2. Click Create.

The New Data Destination dialog appears.

**New Data Destination**

**Information**

**Information:** Name this data destination then choose transmission method and remote allocation data.

**General**

**Name\*:**

**Description:**

**Transmission Method:**  Shared DASD  FTP

**Mount Point\*:**

**Storage Class:**

**VOLSER:**

**Remote Allocation Data**

**GIMUNZIP Volume:**

**zFS Candidate Volumes:**

**Save** **Cancel** **Help**

**Note:** The asterisk indicates that the field is mandatory.

3. Enter the following and click Save:

**Name**

Enter a meaningful Name.

**Limits:** Maximum 64 characters.

**Note:** Each data destination name must be a unique name and it is not case-sensitive. For example DATAD1 and datad1 are the same data destination name.

**Description**

Enter the description.

**Limits:** Maximum 255 characters.

**Transmission Method**

Select the transmission method.

**Default:** Shared DASD.

**Mount Point**

(Shared DASD only) Enter the mount point directory path, which is a directory path that must exist on the target system. The user that is doing the deployment must have write permission to this directory, as well as mount authorization on the target system.

**Note:** A mount user must have UID(0) or at least have READ access to the SUPERUSER.FILES.MOUNT resource found in the UNIXPRIV class.

**Limits:** Maximum 120 characters

**Note:** SMS is not mutually exclusive with non-SMS. They can both be specified (usually one or the other is specified though). This is where you specify allocation parameters for the deployment on a target system.

**Storage Class**

(Shared DASD only) Enter the Storage Class.

**Limits:** Maximum 8 characters

**Example:** SYSPRG

**VOLSER**

(Shared DASD only) Enter the Volser.

**Limits:** Maximum 6 characters

**Example:** SYSP01 and SYSP02

**GIMUNZIP Volume**

Enter the GIMUNZIP volume.

**Limits:** Maximum 6 characters

**zFS Candidate volumes**

Enter zFS Candidate volumes.

**Limits:** Maximum 6 characters

The zFS candidate volumes allow the specification of an optional list of VOLSERs used during the allocation of zFS container data sets for USS parts.

The new data destination appears as the last entry on the Pick data destination list.

**Note:** Click Cancel to withdraw this create request.

**Add a Data Destination**

You can add a current data destinations to an existing system.

**To add a current data destination to an existing system**

1. Click the System Registry tab, and select Non-Sysplex Systems, Sysplexes, Shared DASD Clusters, or Staging Systems from the tree at the left.

Information about the systems related to the type you selected appears on the right side.

2. Select the system you want to add data destinations.

Detailed information about the system appears on the right side.

3. Click the Data Destination tab.

The Data Destination window appears.

4. Click Add.

The Pick data destination window appears.

5. Select the data destinations you want to add and click Select.

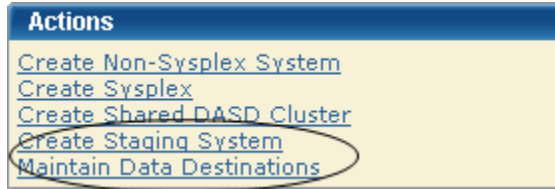
The data destination is added to the system.

## Maintain Data Destinations

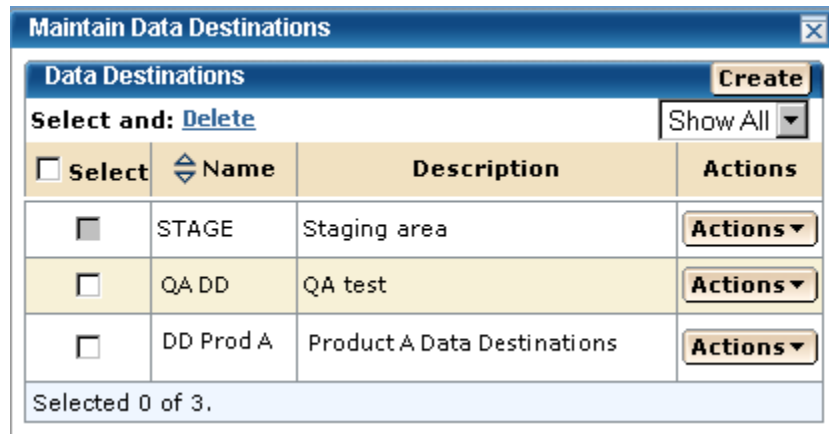
You can maintain, [delete](#) (see page 85), or [create](#) (see page 79) data destinations.

### To maintain existing data destinations

1. Click the System Registry tab, and in the Actions section click the Maintain Data destinations link.



The Maintains Data Destinations dialog appears.



**Note:** A grayed select box indicates that the data destinations is assigned and cannot be removed. It can be edited.

- Select Edit from the Actions drop down for the data destination you want to change.

The Edit Data Destinations dialog appears.

**Note:** The asterisk indicates that the field is mandatory.

**Important!** The only valid fields in the Edit Data Destinations dialog are Name, Comments, VOLSER, and the Data Destination is shared check box.

- Update the following and click Save:

#### Name

Enter a meaningful Name.

**Limits:** Maximum 64 characters.

**Note:** Each data destination name must be a unique name and it is not case-sensitive. For example DATAD1 and datad1 are the same data destination name.

#### Description

Enter the description.

**Limits:** Maximum 255 characters.

### **Transmission Method**

Select the transmission method.

**Default:** Shared DASD.

### **Mount Point**

(Shared DASD only) Enter the mount point directory path, which is a directory path that must exist on the target system. The user that is doing the deployment must have write permission to this directory, as well as mount authorization on the target system.

**Note:** A mount user must have UID(0) or at least have READ access to the SUPERUSER.FILESYS.MOUNT resource found in the UNIXPRIV class.

**Limits:** Maximum 120 characters

**Note:** SMS is not mutually exclusive with non-SMS. They can both be specified (usually one or the other is specified though). This is where you specify allocation parameters for the deployment on a target system.

### **Storage Class**

(Shared DASD only) Enter the Storage Class.

**Limits:** Maximum 8 characters

**Example:** SYSPRG

### **VOLSER**

(Shared DASD only) Enter the Volser.

**Limits:** Maximum 6 characters

**Example:** SYSP01 and SYSP02

### **GIMUNZIP Volume**

Enter the GIMUNZIP volume.

**Limits:** Maximum 6 characters

### **zFS Candidate volumes**

Enter zFS Candidate volumes.

**Limits:** Maximum 6 characters

The zFS candidate volumes allow the specification of an optional list of VOLSERS used during the allocation of zFS container data sets for USS parts.

The updated data destination appears as the last entry on the Pick data destination list.

**Note:** Click Cancel to withdraw this change request.

---

## Set a Default Data Destination

You can set a default for a current data destination.

### To set a default for a current data destination

1. Click the System Registry tab, and select Non-Sysplex Systems, Sysplexes, Shared DASD Clusters, or Staging Systems from the tree at the left.

Information about the systems related to the type you selected appears on the right side.

2. Select the system link you want to set the data destination default to.

Detailed information about the system appears on the right side.

3. Click the Data Destination tab.

The Data Destination window appears.

4. Select the data destination that you want as the default.

5. In the Action box select Set as Default.

The word *Default* appears in the Default column.

## Delete Data Destinations

You can delete current data destinations that have *not* been assigned.

**Important:** A grayed select box indicates that the data destination is assigned and it cannot be deleted. It can be edited.

### To delete a data destinations

1. Click the System Registry tab, and select Non-Sysplex Systems, Sysplexes, Shared DASD Clusters, or Staging Systems from the tree at the left.

Information about the systems related to the type you selected appears on the right side.

2. Select the system where you want to delete a data destination.

Detailed information about the system appears on the right side.

3. Click the Data Destination tab.

The Data Destination window appears.

4. Click the Select box for each data destination you want to remove, click Remove, and then click OK to confirm.

The data destination is deleted from this system.

## Remote Credentials

The Remote Credentials page sets up remote credentials accounts by owner, remote user ID, and remote system name. You must use the Apply button to apply and save your changes.

**Important!** Remote Credentials are validated during the deployment process. It is the responsibility of the user to have the correct Owner, Remote User ID, Remote System Name, password, and authenticated authorization before creating a new remote credential.

You can [add](#) (see page 86), [edit](#) (see page 87), or [delete](#) (see page 88) remote credentials.

### Add Remote Credentials

You can add remote credentials.

**Important!** Remote Credentials are validated during the deployment process. It is the responsibility of the user to have the correct Owner, Remote User ID, Remote System Name, password, and authenticated authorization before creating a new remote credential.

#### To add remote credentials

1. Click the Settings tab, and select Remote Credentials from the tree at the left.

Detailed information appears on the right side.

2. In the Remote Credentials Accounts panel, click New.

The New Remote Credential dialog appears.

3. Enter the following and click OK:

**Note:** The asterisk indicates that the field is mandatory.

#### Remote User ID

Enter a correct remote user ID.

**Limits:** Maximum 64 characters.

#### Remote System Name

Enter a correct remote system name.

**Limits:** Maximum 8 characters.

**Example:** RMinPlex

**Note:** A remote credential default can be set up by creating a remote credential without the system name. This default would be for the user creating this remote credentials only.

**Password**

Enter a correct password.

**Limits:** Minimum 2 characters and Maximum 63 characters.

**Note:** Password is case sensitive, make sure that your password follows the correct case sensitive rules for your remote system.

**Confirm Password**

Enter the correct confirm password.

**Limits:** Minimum 2 characters and Maximum 63 characters.

**Note:** Password is case sensitive, make sure that your password follows the correct case sensitive rules for your remote system.

The remote credential entry appears on Remote Credentials list.

4. Click Apply

Your changes are applied.

**Edit Remote Credentials**

You can edit remote credentials.

**Important!** Remote Credentials are validated during the deployment process. It is the responsibility of the user to have the correct Owner, Remote User ID, Remote System Name, password, and authenticated authorization before creating a new remote credential.

**To edit remote credentials**

1. Click the Setting tab, and select Remote Credentials from the tree at the left. Detailed information appears at the right.
2. In the Actions drop down list, click Edit for the remote credential you want to edit.

The Edit Remote Credential window appears.

3. Update the following and click OK:

**Note:** The asterisk indicates that the field is mandatory.

**Remote User ID**

Enter a correct remote user ID.

**Limits:** Maximum 64 characters.

### Remote System Name

Enter a correct remote system name.

**Limits:** Maximum 8 characters.

**Example:** RMinPlex

**Note:** A remote credential default can be set up by creating a remote credential without the system name. This default would be for the user creating this remote credentials only.

### Password

Enter a correct password.

**Limits:** Minimum 2 characters and Maximum 63 characters.

**Note:** Password is case sensitive, make sure that your password follows the correct case sensitive rules for your remote system.

### Confirm Password

Enter the correct confirm password.

**Limits:** Minimum 2 characters and Maximum 63 characters.

**Note:** Password is case sensitive, make sure that your password follows the correct case sensitive rules for your remote system.

The remote credential entry appears on Remote Credentials list.

4. Click Apply

Your changes are applied.

## Delete Remote Credentials

You can delete remote credentials.

### To delete remote credentials

1. Click the Setting tab, and select Remote Credentials from the tree at the left.  
Detailed information appears at the right.
2. In the Actions drop down list, click Delete for the remote credential you want to delete.  
A Delete Confirmation window appears.
3. Click OK.  
The remote credential is deleted.

## Deploying Products

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

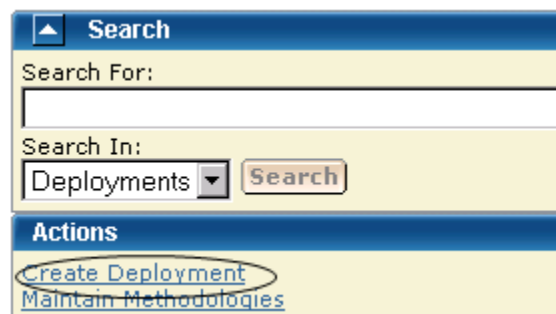
*Deployments* let you deploy system objects across the enterprise. These services enable deployment across both Shared DASD environments and networked environments. The objects to be deployed include target libraries defined to SMP/E and user-selected data sets.

### Create a Deployment using the Product Wizard

You can create a new deployment by using the New Deployment wizard.

#### To create a deployment

1. Click the Deployments tab, and then in the Actions section, Create Deployment link.



The Deployment of Products wizard appears.

## Enter Name and Description

**Note:** The asterisk indicates that the field is mandatory.

### Do the following

1. Enter a meaningful deployment name.

**Limits:** Maximum 64 characters.

**Note:** Each deployment name must be unique and it is not case-sensitive. For example, DEPL1 and depl1 are the same deployment name.

2. Enter the description of this deployment.

**Limits:** Maximum 255 characters.

3. Click Next.

The CSI Selection window appears.

**Note:** When creating a deployment, you can save this deployment at any step in this wizard. This "under construction" deployment is added to the current deployments list. You can [maintain this deployment](#) (see page 98) until a successful snapshot has been created.

## CSI Selection

The CSI selections listed were preselected from the SMP/E Environments window. You can select a CSI.

### To select a CSI

1. Select a CSI, and click Next.

The Product Selection window appears.

**Note:** When creating a deployment, you can save this deployment at any step in this wizard. This "under construction" deployment is added to the current deployments list. You can [maintain this deployment](#) (see page 98) until a successful snapshot has been created.

---

## Product Selection


### To select a product

1. Select a product from the list.

**Note:** If you cannot select the product or product feature from the list, it is for one of the following reasons:

- The product or feature is not deployable for the selected CSI.
- The product feature is part of a product that you must select first.

If a feature is mandatory for the selected product, the corresponding check box is also selected and disabled, and you cannot deselect the feature from the list.

2. If there is a  text icon in Text column, click the text icon to read the instructions supplied by CA Support for product, data sets, and other necessary information.
3. Click the "I have read the associated text by selecting the text icon from the list about" box. This box appears only if there is a text icon.

**Note:** You will not be able to click Next until you click this box.

4. Click Next.

**Note:** If you do not see any products showing up to select that means the appropriate PTF which enables your products deployment through metadata has not been installed.

**Note:** When creating a deployment, you can save this deployment at any step in this wizard. This "under construction" deployment is added to the current deployments list. You can [maintain this deployment](#) (see page 98) until a successful snapshot has been created.

Custom Data Sets Selection window appears.

## Custom Data Sets

A *custom data set* contains either an z/OS data set or USS parts paths. For an z/OS data set you need to provide a data set name that is the actual existing z/OS data set and a mask that names the data set on the target system. This mask may be set up using [symbolic qualifiers](#) (see page 123) and must be available to CA MSM. During the deployment process, the custom data set is accessed and copied to the target system the same way a target library is accessed and copied.

For USS parts you need to provide a local path, a remote path which may be set up using [symbolic qualifiers](#) (see page 123) and type of copy. Type of copy can be either a container copy or a file-by-file copy.

**To select a custom data set**

1. Select a custom data set from the list. Click Select and then Next.

**Note:** To add a new custom data set click the Add Data Set button and [enter the custom data set information](#) (see page 110).

The Methodology Selection window appears.

**More information:**

[Add a Custom Data Set](#) (see page 110)

## Methodology Selection

The methodology lets you provide a single data set name mask that is used to control the target library names on the target system.

### To select a Methodology

1. Select a Methodology from the list and click Next.

**Note:** To create a new methodology click the Create button and [enter the new methodology information](#) (see page 119).

**New Deployment**

1 Introduction 2 CSI Selection 3 Product Selection 4 Custom Data Sets 5 **Methodology Selection** 6 System Selection 7 Preview

Methodologies are named object with a description they provide the how of deployments. They have a single data set name mask that is used to control which target libraries are called on the target system. Select the applied methodology.

**Methodologies** Create

1 - 5 of 44

| Select                | Name    | Description                 | DSN Mask              |
|-----------------------|---------|-----------------------------|-----------------------|
| <input type="radio"/> | Method1 | Methodology                 | &SYSID                |
| <input type="radio"/> | Method2 | Method2f                    | &MSMDID               |
| <input type="radio"/> | Method3 | Methodology for West        | &SYSUID..&MSMDID.     |
| <input type="radio"/> | Method4 | CAPRODS.R12.CAEVENT         | CARPRODS.&SYSID.&MSMD |
| <input type="radio"/> | Method5 | Method for Test Environment | &SYSUID..&MSMDID.     |

Save Back Next Deploy Cancel Help

System Selection window appears.

**Note:** When creating a deployment, you can save this deployment at any step in this wizard. This "under construction" deployment is added to the current deployments list. You can [maintain this deployment](#) (see page 98) until a successful snapshot has been created.

### More information:

[Create a Methodology](#) (see page 119)

## System Selection

1. Select the systems to be deployed

**Note:** When two system have the same name use the description to differentiate between these systems.

**Note:** Sysplex systems are denoted by Sysplex System:System Name. For example PLEX1:CO11 where PLEX1 is Sysplex name and CO11 is the system name.

| System to deploy                |           |                |                     |
|---------------------------------|-----------|----------------|---------------------|
| <input type="checkbox"/> Select | Name      | Type           | Description         |
| <input type="checkbox"/>        | XX61      | Sysplex        | Production System 1 |
| <input type="checkbox"/>        | PLEX1     | Sysplex        | Production System 2 |
| <input type="checkbox"/>        | PLEX1:CO1 | Sysplex System | Sysplex System West |

2. Click Next.

The Preview window appears.

**Note:** When creating a deployment, you can save this deployment at any step in this wizard. This "under construction" deployment is added to the current deployments list. You can [maintain this deployment](#) (see page 98) until a successful snapshot has been created.

## Preview

1. Click Save to save the deployment  
or
2. Click Deploy to set up this deployment.

**Note:** Click Cancel to exit this procedure without saving.

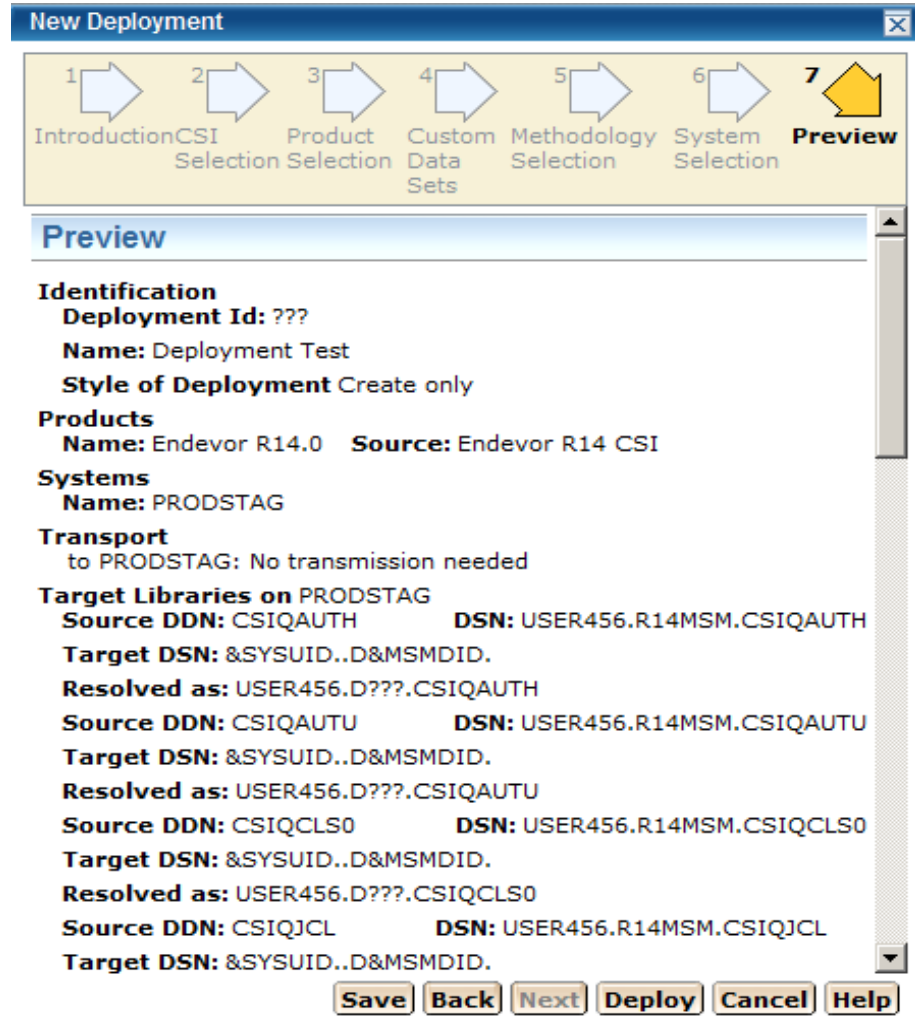
The Preview identifies the deployment by name and briefly states the products, systems, means of transport, target libraries including source, target and resolution, as well as SMP/E environment and snapshot information.

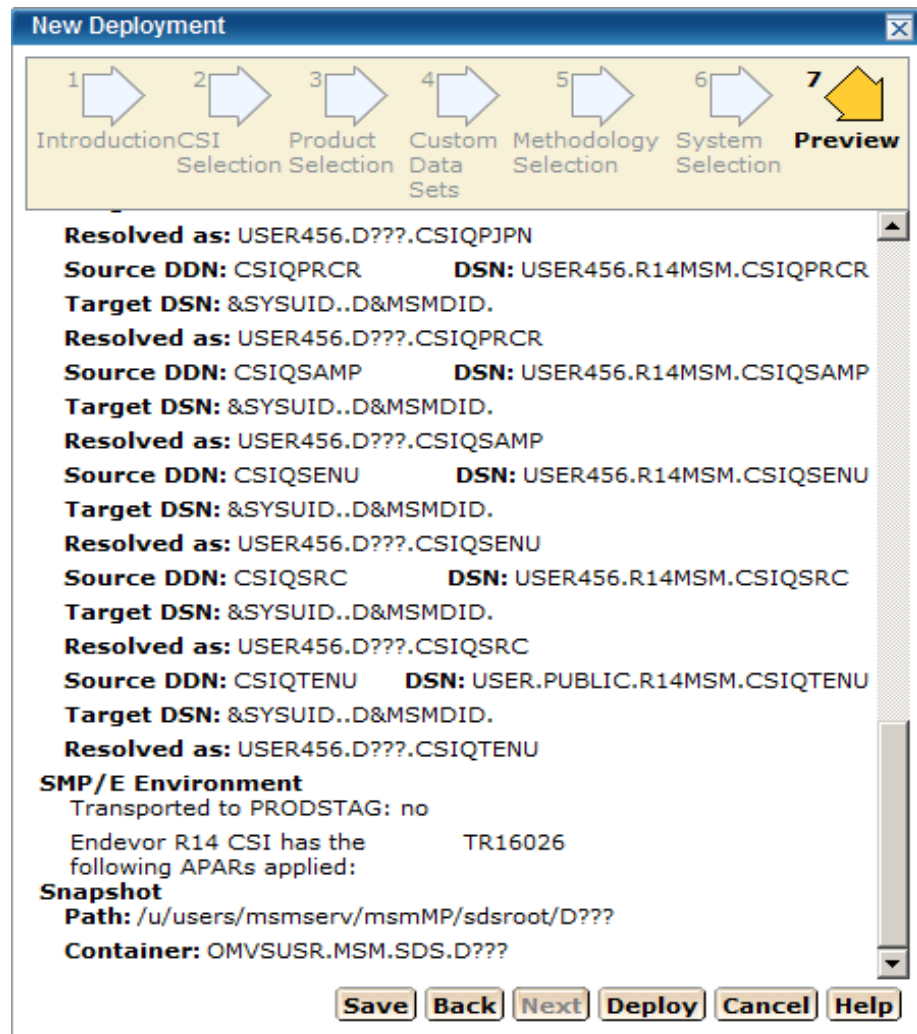
**Important!** Data sets may need to be APF Authorized and/or added to the Link List and/or Link Pack Area. These data sets are identified in this dialog.

**Note:** Any ??? in the Preview means that CA MSM has not assigned this value yet. For example, before a Product Deployment is deployed the MSMDID shows as ???. After deployment the Automatic ID is assigned by CA MSM and this is the MSMDID.

## Deployment Preview Sample

This sample shows a deployment ready to be deployed.



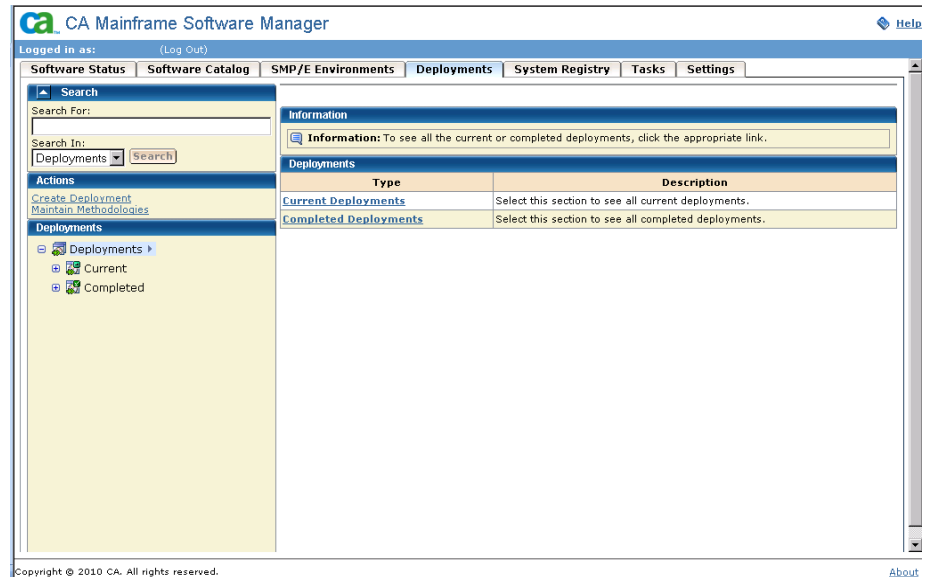


## View a Deployment

You can view a deployment by using the CA MSM.

### To view a deployment

1. Click the Deployments tab, and select the current or completed deployment from the tree at the left. The detailed deployment information appears at the right.



## Maintain Deployments

You can maintain deployments any time before you snapshot the deployment.

**Important!** Each deployment must have at least one product defined, at least one system defined, and a methodology defined.

### To maintain deployments

1. Click the Deployments tab. The Deployment window appears.
2. On the right, in the Deployments panel click the current deployment link.

The detailed deployment information appears.

The screenshot shows the 'Deployments' tab selected in the top navigation bar. On the left, there is a search bar and a tree view under 'Deployments' with 'Current' selected. The main area displays 'Current' deployment information, including an information message and a table of 'Current Deployments'.

| Name                             | Description                            | Actions |
|----------------------------------|--|---------|
| <a href="#">Test Environment</a> | Authorized development tester only     | Actions |
| <a href="#">QA Environment</a>   | Authorized Quality Assurance personnel | Actions |
| <a href="#">Production_A</a>     | Production Alpha System                | Actions |
| <a href="#">Production_B</a>     | Production Beta System                 | Actions |

3. Click the Deployment Name link for the Deployment you want to maintain. This deployment's window appears

Change the information on this window as needed. Each deployment name must be unique and it is not case-sensitive. For example DEPL1 and depl1 are the same deployment name.

**Note:** The methodology provides the means for deployment. It is used to control the target library names on the target system.

There are actions that you can perform based on Deployment State.

**Test Environment 768** Actions ▾

Deployments > Current > Test Environment 768

**Information**

Information: To add products, use the action button on the Product List panel.  
 To add systems or clusters, use the action button on the System List panel.

**Deployment Details** Save

**Deployment Name\*:**

**Description:**

**Current State:** Under Construction

**Methodology\*:**  Edit

**Deployment ID:** 634

**Product List** Add Products

Select and: [Remove](#) Show All ▾

| <input type="checkbox"/> Select | Product Name     | Release/Genlevel | SMP/E Environment                    | Actions   |
|---------------------------------|------------------|------------------|--------------------------------------|-----------|
| <input type="checkbox"/>        | CA Auditor - MVS | 55 58            | <a href="#">Auditor Installation</a> | Actions ▾ |

**System List** Add Systems

Select and: [Remove](#) Show All ▾

| <input type="checkbox"/> Select | System Name                     | Type                | Description         | Actions   |
|---------------------------------|---------------------------------|---------------------|---------------------|-----------|
| <input type="checkbox"/>        | <a href="#">TestSys2</a>        | Non-Sysplex System  | test system         | Actions ▾ |
| <input type="checkbox"/>        | <a href="#">Sysplex2</a>        | Sysplex             | Sysplex test system | Actions ▾ |
| <input type="checkbox"/>        | <a href="#">Clustertestsys2</a> | Shared DASD Cluster | Cluster test system | Actions ▾ |

Selected 0 of 3.

4. To maintain a methodology, select a methodology from the drop down list. To edit the selected methodology click the edit button and the [Edit Methodology window](#) (see page 132) appears.

**Note:** The Deployment ID is the value of the MSMID variable.

5. You can select, [add](#) (see page 109), or [remove](#) (see page 110) a product.
6. You can select, [add](#) (see page 136), or [remove](#) (see page 137) a system.
7. You can select, [add](#) (see page 110), or [remove](#) (see page 119) a custom data set.
8. Click Save on the Deployment Details window.

9. Click Actions button to do one of the following:

**Preview (Summary)**

**Note:** This action button changes to Summary after a successful deploy.

Generates a list of the following current information:

- Deployment's ID
- Name
- Products
- Systems
- Transport information
- Target libraries including: source, target, and resolved data set names.
- SMP/E environment
- Snapshot path and container

**Snapshot**

Takes a snapshot of the current deployment.

A *snapshot* of the set of target libraries is taken by CA MSM, by utilizing the IBM supplied utility GIMZIP to create a compressed archive of these libraries, along with a list of applied maintenance. The SMP/E environment is "locked" during this archive creation process to insure the integrity of the archived data.

**Transmit**

Transmit enables a customer to take their CA MSM installed software and copy it onto systems across the enterprise through FTP, in preparation for a subsequent deployment.

**Deploy**

Combines the snapshot, transmit, and deploy action into one action.

**Confirm (see page 107)**

Confirms that the deployment is complete. This is the final action by the user.

**Note:** A deployment is not completed until it is confirmed. Once it is confirmed the deployment moves to the Confirmed deployment list.

**Delete**

Deletes deployment and its associated containers, folders, and files. This does not including the deployed target libraries on the end systems. See delete a deployment for a list of deleted files.

**Note:** A deployment's deletion does not start until it is confirmed.

**Reset Status**

You can reset a deployment status when the deployment has a status of *snapshot in progress*, *transmitting*, or *deploying*. See reset status for a list of deleted files.

10. Click Save on the Deployment Details window.

**More information:**

[Edit a Methodology](#) (see page 132)

[Add a Product](#) (see page 109)

[Remove a Product](#) (see page 110)

[Add a System](#) (see page 136)

[Remove a System](#) (see page 137)

[Confirm a Deployment](#) (see page 107)

**Failed Deployments**

When a deployment fails, you investigate, correct, and deploy again. Use the following procedures in this section:

- [Investigate a Failed Deployment Using the Tasks Page](#) (see page 102)
- [Download a Message Log](#) (see page 73)
- [Save a Message Log as a Data Set](#) (see page 74)
- [View Complete Message Log](#) (see page 75)

**Note:** A deployment is processed in steps and in order as listed in the Deployment window. Each step must pass successfully before the next step is started. If a step fails, the deployment fails at that step, and all steps after the failed step are not processed.

**More information:**

[Download a Message Log](#) (see page 73)

[Save a Message Log as a Data Set](#) (see page 74)

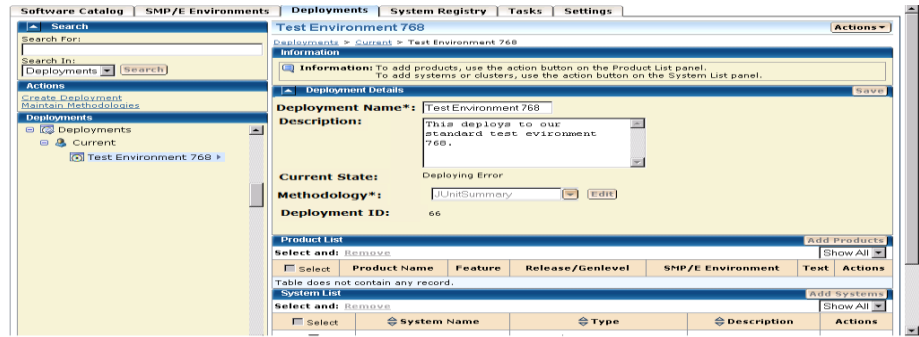
[View Complete Message Log](#) (see page 75)

## Investigate a Failed Deployment

When a deployment fails, you investigate, correct, and deploy again.

### To investigate a failed deployment using the Tasks page

1. On the Deployments Page, in the left hand column, find the deployment with an error and note its name.



2. Click the Tasks tab and then click Task History.

**Note:** Click Refresh on the right hand side of the Task History bar to refresh the Task History display.

3. At the Show bar, select All tasks, or select My tasks to list the tasks by Owner.

**Note:** You can refine the task list by entering USER ID, types, and status, and then sort by Task ID.

- Find the failed deployment step and click the link in the Name column.

| Owner   | Name  | Type       | Status | Start Time           | Stop Time            | Task ID |
|---------|---|------------|--------|----------------------|----------------------|---------|
| USER456 | <a href="#">Deploy Test Environment 768</a> | Deployment | Failed | 1/26/2010 12:58:09PM | 1/26/2010 12:59:14PM | 980     |

The Task Manager window appears.

| #  | Name   | Description   | Status      |
|----|--|---|-------------|
| 1  | <a href="#">Validate deployable state</a>                      | Validate that the deployment is in a state that can be deployed       | Succeeded   |
| 2  | <a href="#">Deployment Update Status: Snapshot In Progress</a> | Update the deployment status of the deployment                        | Succeeded   |
| 3  | <a href="#">Validate remote systems</a>                        | Validate that the remote systems are valid, including contact systems | Succeeded   |
| 4  | <a href="#">Lock CSIs in deployment</a>                        | Serialize access to the CSIs in this deployment                       | Failed      |
| 5  | <a href="#">Validate deployment</a>                            | Validate the deployment settings                                      | Not Started |
| 6  | <a href="#">Archive creation</a>                               | Creating archives for products  | Not Started |
| 7  | <a href="#">SYSMODS Extraction</a>                             | Extracting SYSMODS from CSIs  | Not Started |
| 8  | <a href="#">Freeze deployment</a>                              | Creating a permanent location for this deployment                     | Not Started |
| 9  | <a href="#">Record target library names</a>                    | Record the target libraries used by the deployment                    | Not Started |
| 10 | <a href="#">Unlock CSIs in this deployment</a>                 | Release the serialization of CSIs in this deployment                  | Not Started |
| 11 | <a href="#">Deployment Update Status: Snapshot Completed</a>   | Update the deployment status of the deployment                        | Not Started |
| 12 | <a href="#">Deployment Update Status: Deploying</a>            | Update the deployment status of the deployment                        | Not Started |
| 13 | <a href="#">Deploy Products</a>                                | Deploy the product libraries on the target systems                    | Not Started |
| 14 | <a href="#">Deployment Update Status: Deployed</a>             | Update the deployment status of the deployment                        | Not Started |

- Click the link in the Name column to view the results, and click on the messages logs to review the details for each error.

| Name                     | Lines | Format | Action |
|--------------------------|-------|--------|--------|
| <a href="#">errorLog</a> | 4     | U      | Action |

**Note:** You can analyze the error results and determine the steps required to troubleshoot them.

- Correct the issue and deploy again.

**More information:**

- [Download a Message Log](#) (see page 73)
- [Save a Message Log as a Data Set](#) (see page 74)
- [View Complete Message Log](#) (see page 75)

**Download a Message Log**

You can save the message log in the following ways:

- To download a zipped file of all the text messages for this validation, click the Deployment Name on the top left tree and click Download zipped out button on the General menu bar. You will be requested to save this file.
- To download as TXT, click the Deployment Name or the Deployment Results on the left tree, click the Action button on the MessageLog bar and click the Download as TXT. You will be requested to save this file.
- To download as ZIP, click the Deployment Name or the Deployment Results on the left tree, click the Action button on the MessageLog bar and click the Download as ZIP. You will be requested to save this file.

**Save a Message Log as a Data Set**

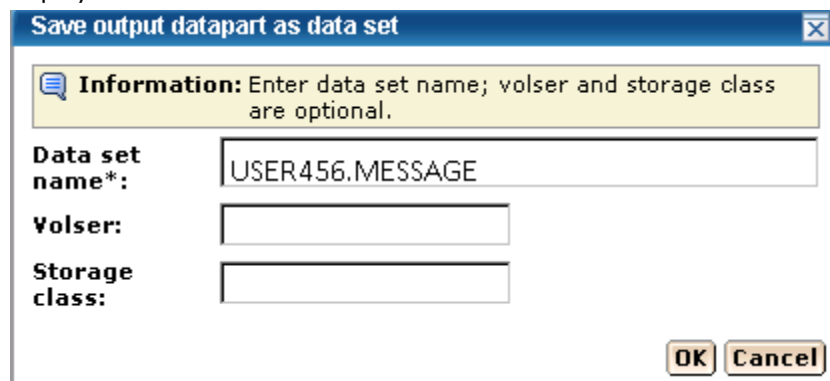
You can save a message log as a data set.

**To save as a data set**

1. Click the Deployment Name or the Deployment Results on the left tree, click the Action button on the MessageLog bar, and click the Save as data set.

The Save output as a data set dialog appears.

**Note:** This information is sent to CA Support to analyze the failed deployment.



**Note:** The asterisk indicates that the field is mandatory.

- Enter the following and click OK:

**Data Set Name**

Enter a data set name. CA MSM generates a value.

**Volser**

For Non-SMS data, enter the Volser.

**Example:**

Volsers: SYSP01 and SYSP02

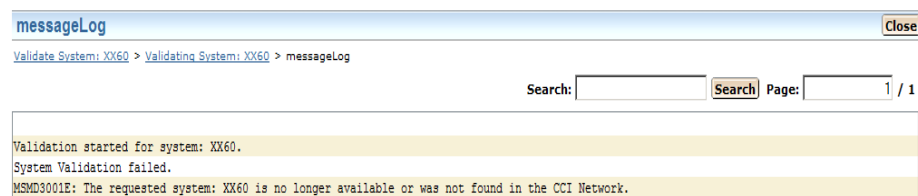
**Storage Class**

For SMS Allocation data, enter the Storage Class.

The message log is saved as a data set.

## View Complete Message Log

To view the complete message log for a failed validation, click Show All.



**Note:** To close the message log, click Close.

## Delete a Deployment

You can delete deployments. A deployment's deletion must be confirmed before a deletion starts.

**Note:** If system information was changed, not all files may be deleted. In this case you may need to delete these files manually. For example, if an FTP transmission was changed to an Shared DASD Cluster or if the remote credentials are incorrect or changed.

The message log explains which containers, folders, and files were deleted during processing and which ones were not deleted. See how to [investigate a failed deployment](#) (see page 69) for details on finding the message log.

**Note:** Target libraries are never deleted.

The following artifacts are deleted by status.

**Under Construction**

All applicable database records

**Snapshot in Error**

All applicable database records

**Snapshot Completed**

Archive located at Application Root/sdsroot/Dnnnn where *n*nnn = Deployment ID automatic number. Application Root is defined in settings under mount point management.

All applicable database records.

**Transmit in Error**

Same as Snapshot Completed, plus attempts to delete any transmitted snapshots on target systems.

**Transmitted**

Same as Transmit in Error.

**Deploy in Error**

Same as Transmitted.

**Deployed**

Same as Snapshot Completed.

**Complete**

Same as Snapshot Completed.

**To delete a deployment**

1. Click the Deployments tab.  
The Deployment window appears.
2. On the right, in the Deployments panel, click the current deployment link.  
The detailed deployment information appears.
3. Click the deployment name link, and from the Actions drop down list, select Delete, and then click OK to confirm.  
The deployment is deleted.

## Delete a Completed Deployment

You can delete a completed deployment.

### To delete a completed deployment

1. Click the Deployments tab.

The Deployment window appears.

2. On the right, in the Deployments panel click the Completed Deployments link.

A list of completed deployments appears.

3. Select the completed deployment you want to delete, click Delete, and then OK to the Delete confirmation window.

The completed deployment is deleted.

## Confirm a Deployment

You can use this procedure to confirm that the deployment is complete.

**Note:** A deployment is not completed until it is confirmed. After it is confirmed, the deployment moves to the Completed deployment list.

**Important!** Data sets may need to be APF Authorized and/or added to the Link List and/or Link Pack Area. These data sets are identified in this dialog.

**To confirm a deployment**

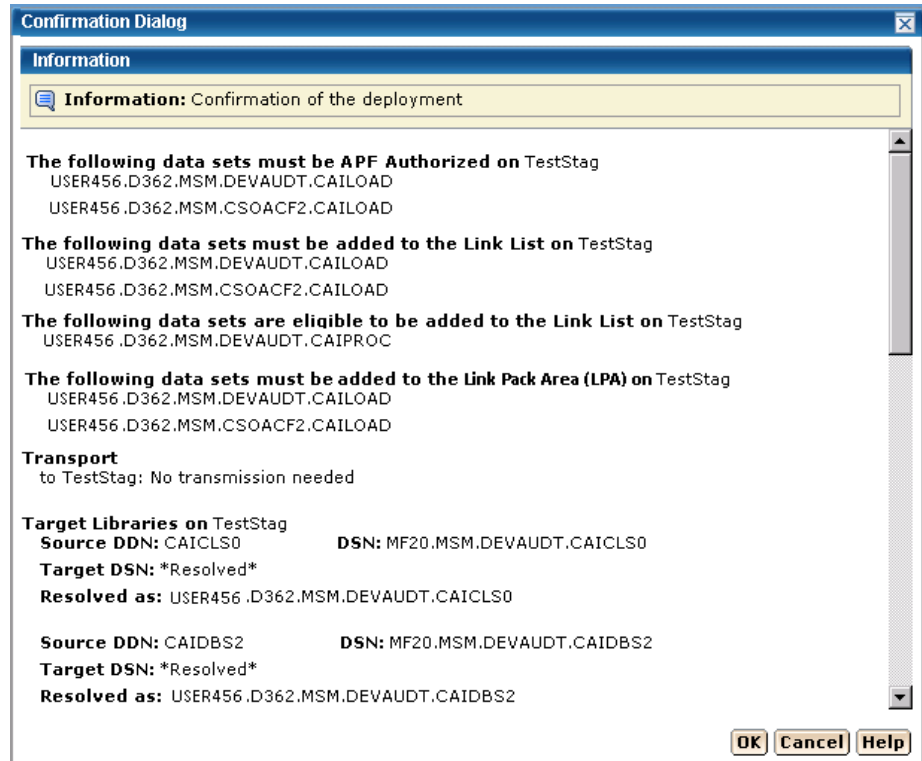
1. Click Confirm and Confirmation Dialog window appears.  
Review the confirmation.
2. Click OK when the deployment is correct.

**Note:** Click Cancel to exit this procedure without confirming.

The Deployment Summary window contains none or any of the following:

- Deployment’s ID
- Name
- Products
- Systems
- Data Sets actions
- Transport information
- Target libraries including: source, target, and resolved data set names.
- SMP/E environment
- Snapshot path and container

This example shows the Data Sets actions, Transport, and Target libraries information.




## Products

You can view, add, and remove products from a deployment.

### Add a Product

You can add a product to a deployment.

#### To add a product to a deployment

1. Click the Deployments tab. The Deployments window appears.
2. On the right, in the Deployments panel click the Current Deployment link.  
A list of current deployments appears.
3. Click the deployment name link.
4. In the Product List panel click Add Products.  
The Add Products wizard appears.
5. Select a CSI and click Next.  
The Product Selection appears.
6. Select a Product.
7. If there is a  text icon in Text column, click the text icon to read the instructions supplied by CA Support for product, data sets, and other necessary information.
8. Click the "I have read the associated text by selecting the text icon from the list about" box. This box appears only if there is a text icon.  
**Note:** You will not be able to click Next until you click this box.
9. Click Next.  
The Custom Data Set Selection appears
10. If needed, select or [add a custom data set](#) (see page 110).
11. Click Add Products.  
The Product is added.

## Remove a Product

You can remove a product from a deployment.

**Note:** This product will no longer be associated with the current deployment.

### To remove a product from a deployment

1. Click the Deployments tab. The Deployment window appears.
2. On the right, in the Deployments panel click the Current Deployment link.  
A list of current deployments appears.
3. Select the deployment that you want to remove the product from.
4. In the Product List panel, select a product to remove.
5. Click the Remove link.
6. Click OK to the Remove Products confirmation window.  
The product is removed.

## Custom Data Sets

You can view, [add](#) (see page 110), [edit](#) (see page 115), and [remove](#) (see page 119) custom data sets from a deployment.

### Add a Custom Data Set

You can add custom data sets to a deployment.

#### To add custom data sets to a deployment

1. Click the Deployments tab.  
The Deployments window appears.
2. On the right, in the Deployments panel, click the Current Deployment link.  
A list of current deployments appears.
3. Click the deployment name link.

- In the Custom Data Sets List panel, click Add Data Sets.

The Add Custom Data Sets dialog appears.

**Add Custom Data Set**

Add a Custom data set by selecting the product, entering the Data Set Name, and the Mask.  
Note: The Instructions are required directions supplied by CA Support.

**Product\*:** CA Auditor for z/OS

**Instructions:**

**Data Set Type\*:**  Data Set  USS

**Data Set Name\*:**

**Mask\*:**

OK Cancel Help

**Note:** The asterisk indicates that the field is mandatory.

- Select a Product from the drop down list.

**Note:** When there are instructions, they are required and supplied by CA Support.

- Select the Data Set Type, either data set (step 7) or USS (step 10).

**Default:** data set

- For data set, enter the Data Set Name.

**Limits:** Maximum 44 characters.

**Note:** This is the existing z/OS data set name that you want CA MSM to include in the deployment when it is deployed on the target systems.

8. Enter the Data Set Name Mask and/or click the file icon and select a [symbolic name](#) (see page 123).

**Mask**

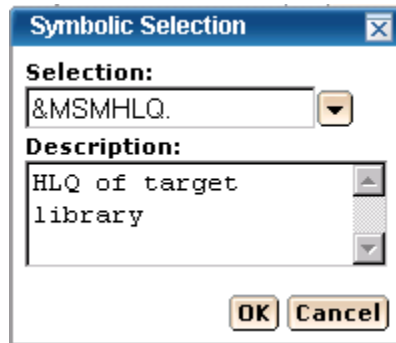
This is the mask that will be used to name the data sets that are being deployed. They can contain [symbolic qualifiers](#) (see page 123). For example, if you enter CAPRODS.&SYSID, the &SYSID is replaced by its values, and if the SYSID that is being deployed to is XX16, the dsn mask will be CAPRODS.XX16

**Limits:** Maximum 64 characters.

**Note:** Each deployed target data set is named using the resolved content of the Data Set Name Mask followed by the low level qualifier of the source data set. Appending the low level qualifier from the source data set insures uniqueness of the final data set name.

**Note:** Two consecutive periods are required to separate the two masks.

**Note:** It consists of one or more qualifiers separated by periods, and has a maximum input length of 64 characters, including the periods. When it is translated is has a maximum length of 44 characters including the periods.



9. Enter the Mask and click OK.

10. For USS data set type, enter the Local Path. The local path is the directory where files are to be copied from.

**Limit:** Maximum 255 characters.

The screenshot shows a dialog box with the following fields and options:

- Data Set Type\*:** Radio buttons for  Data Set and  USS.
- Local Path\*:** A text input field.
- Remote Path\*:** A text input field with a file icon button to its right.
- Type of Copy:** Radio buttons for  Container Copy and  File-by-file Copy.
- Buttons: **OK**, **Cancel**, and **Help**.

**Note:** The asterisk indicates that the field is mandatory.

11. Enter the Remote Path and/or click the file icon and select a [symbolic name](#) (see page 123). The remote path is the path where the files are to be copied to.

**Limit:** Maximum 255 characters.

12. Select the Type of Copy:

- If you select Container Copy, proceed to step 14.
- If you select File-by-file Copy, proceed to step 15, and ensure that the USS path exists on all of the remote systems of this deployment, and that there is sufficient space to hold these target libraries.

**Default:** File-by-file Copy

13. Click OK.

14. For Container Copy, enter the container name and/or click the file icon and select a [symbolic name](#) (see page 123).

**Limit:** Maximum 64 characters.

**Note:** It consists of one or more qualifiers separated by periods, and has a maximum input length of 64 characters, including the periods. When it is translated, it has a maximum length of 44 characters, including the periods.

**Note:** For Container Copy, the following occurs during the deployment process:

- a. A file system of the requested type is created.
- b. The size of the file system is computed as follows:
  - The size of all of the constituent files and directories in the local path are added up as bytes.
  - These bytes are converted to tracks and used as the primary allocation value.
  - If there is a non-zero percent of free space entered, it is used to calculate the secondary allocation.

- c. All of the directories in the mount point are dynamically created.
- d. The file system is mounted at the requested mount point.

**Note:** The mount is not permanent. You will need to update your BPXPARMS to make this mount point permanent.

- e. The content from the local path is copied into the newly created and mounted file system.

The screenshot shows a dialog box with the following fields and controls:

- Type of Copy:** Radio buttons for  Container Copy and  File-by-file Copy.
- Container Name\*:** A text input field with a file icon on the right.
- Type of Container\*:** A dropdown menu.
- Mount Point\*:** A text input field with a file icon on the right.
- % Free Space\*:** A text input field containing the number 0.
- Buttons:** OK, Cancel, and Help buttons at the bottom right.

**Note:** The asterisk indicates that the field is mandatory.

- 15. Select the Type of Container from the drop down box.
- 16. Enter the Mount Point and/or click the file icon and select a [symbolic name](#) (see page 123).

**Limit:** Maximum 255 characters.

**Note:** The container is created and it is mounted at a position in the USS file system hierarchy. The place in the hierarchy where it is mounted is known as that containers mount point. Most leaves in the USS file system can be mount points, for any one container.

- 17. Enter the percentage of Free Space needed.

The percentage of free space is the amount of space to leave in the file system, after the size has been computed. This is done by specifying secondary space on the allocation. For example, the computed space was determined to be 100 tracks. Then 35 would be 35% free space and the space allocations would be in tracks, 100 primary 35 secondary. While 125 would be 125% over and allocation would be in tracks, 100 primary 125 secondary.

**Limit:** 0 to 1000.

- 18. Click OK.

The custom data set is added.

## Edit a Custom Data Set

You can edit a custom data set.

### To edit a custom data set

1. Click the Deployments tab.

The Deployments window appears.

2. On the right, in the Deployments panel, click the Current Deployment link.

A list of current deployments appears.

3. Click the deployment name link.

4. In the Custom Data Sets List panel, click the Actions drop-down list and click Edit.

The Edit Custom Data Sets dialog appears.

**Edit Custom Data Set**

Edit a custom data set by selecting the Product, Data Set Name, and the Mask.  
Note: The Instructions are required directions supplied by CA Support.

**Product\*:** CA Auditor for z/OS

**Instructions:**

**Data Set Type\*:**  Data Set  USS

**Data Set Name\*:**

**Mask\*:**

OK Cancel Help

**Note:** The asterisk indicates that the field is mandatory.

5. Select a Product from the drop down list.

**Note:** When there are instructions, they are required and supplied by CA Support.

6. Select the Data Set Type, either data set (step 7) or USS (step 10).

**Default:** data set

7. For data set, enter the Data Set Name.

**Limits:** Maximum 44 characters.

**Note:** This is the existing z/OS data set name that you want MSM to include in the deployment when it is deployed on the target systems.

8. Enter the Data Set Name Mask and/or click the file icon and select a [symbolic name](#) (see page 123).

**Mask**

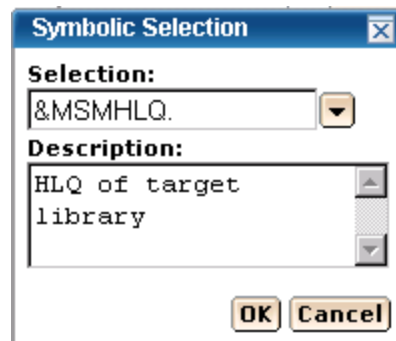
This is the mask that will be used to name the data sets that are being deployed. They can contain [symbolic qualifiers](#) (see page 123). For example, if you enter CAPRODS.&SYSID, the &SYSID is replaced by its values, and if the SYSID that is being deployed to is XX16, the dsn mask will be CAPRODS.XX16

**Limits:** Maximum 64 characters.

**Note:** Each deployed target data set is named using the resolved content of the Data Set Name Mask followed by the low level qualifier of the source data set. Appending the low level qualifier from the source data set insures uniqueness of the final data set name.

**Note:** Two consecutive periods are required to separate the two masks.

**Note:** It consists of one or more qualifiers separated by periods, and has a maximum input length of 64 characters, including the periods. When it is translated is has a maximum length of 44 characters including the periods.



9. Enter the Mask and click OK.

10. For USS data set type, enter the Local Path. The local path is the directory where files are to be copied from.

**Limit:** Maximum 255 characters.

The screenshot shows a dialog box with the following fields and options:

- Data Set Type\*:** Radio buttons for  Data Set and  USS.
- Local Path\*:** A text input field.
- Remote Path\*:** A text input field with a file icon button to its right.
- Type of Copy:** Radio buttons for  Container Copy and  File-by-file Copy.
- Buttons: **OK**, **Cancel**, and **Help**.

**Note:** The asterisk indicates that the field is mandatory.

11. Enter the Remote Path and/or click the file icon and select a [symbolic name](#) (see page 123). The remote path is the path where the files are to be copied to.

**Limit:** Maximum 255 characters.

12. Select the Type of Copy:

- If you select Container Copy, proceed to step 14.
- If you select File-by-file Copy, proceed to step 15, and ensure that the USS path exists on all of the remote systems of this deployment, and that there is sufficient space to hold these target libraries.

**Default:** File-by-file Copy

13. Click OK.

14. For Container Copy, enter the container name and/or click the file icon and select a [symbolic name](#) (see page 123).

**Limit:** Maximum 64 characters.

**Note:** It consists of one or more qualifiers separated by periods, and has a maximum input length of 64 characters, including the periods. When it is translated it has a maximum length of 44 characters including the periods.

**Note:** For container copy the following occurs during the deployment process:

- a. A file system of the requested type is created
- b. The size of the file system is computed as follows:
  - The size of all of the constituent files and directories in the local path are added up as bytes.
  - These bytes are converted to tracks and used as the primary allocation value
  - If there is a non-zero percent of free space entered, it is used to calculate the secondary allocation.

- c. All of the directories in the mount point will be dynamically created.
- d. The file system will be mounted at the requested mount point

**Note:** The mount is not permanent. You will need to update your BPXPARMS to make this mount point permanent.

- e. The content from the local path will be copied into the newly created and mounted file system.

The screenshot shows a dialog box with the following fields and controls:

- Type of Copy:** Two radio buttons, with 'Container Copy' selected.
- Container Name\*:** A text input field with a file icon on the right.
- Type of Container\*:** A dropdown menu.
- Mount Point\*:** A text input field with a file icon on the right.
- % Free Space \*:** A text input field containing the number '0'.
- Buttons:** 'OK', 'Cancel', and 'Help' buttons at the bottom right.

**Note:** The asterisk indicates that the field is mandatory.

- 15. Select the Type of Container from the drop down box.
- 16. Enter the Mount Point and/or click the file icon and select a [symbolic name](#) (see page 123).

**Limit:** Maximum 255 characters.

**Note:** The container is created and it is mounted at a position in the USS file system hierarchy. The place in the hierarchy where it is mounted is known as that containers mount point. Most leaves in the USS file system can be mount points, for any one container.

- 17. Enter the percentage of Free Space needed.

The percentage of free space is the amount of space to leave in the file system, after the size has been computed. This is done by specifying secondary space on the allocation. For example, the computed space was determined to be 100 tracks. Then 35 would be 35% free space and the space allocations would be in tracks, 100 primary 35 secondary. While 125 would be 125% over and allocation would be in tracks, 100 primary 125 secondary.

**Limit:** 0 to 1000.

- 18. Click OK.

The custom data set is changed.

## Remove a Custom Data Set

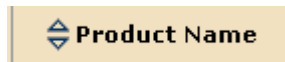
You can remove a custom data set from a deployment.

**Note:** This data set will no longer be associated with the current deployment.

### To remove a custom data set

1. Click the Deployments tab.  
The Deployment window appears.
2. On the right, in the Deployments panel click the Current Deployment link.  
A list of current deployments appears.

### Product Name Sort Arrows



Click the up arrow to place the product names in alphabetic order or click the down arrow to place them in reverse alphabetic order.

3. Select the custom data set that you want to remove from this deployment.
4. Click the Remove link.
5. Click OK to the Remove Custom Data Set confirmation window.  
The custom data set is removed.

## Methodologies

You can [create](#) (see page 119), maintain, [edit](#) (see page 132), and [delete](#) (see page 135) methodologies from a deployment.

### Create a Methodology

You can create a methodology.

**Note:** The asterisk indicates that the field is mandatory.

### To create a methodology

1. Click the Create button, in the Methodology Selection in the New Deployment wizard.  
The Create a New Methodology window appears.

2. Enter the methodology name.

**Limits:** Maximum 64 characters.

**Note:** Each methodology name must be unique and it is not case-sensitive. For example Meth1 and meth1 are the same methodology name.

**New Methodology**

**Information**

**Information:** Name the methodology, provide data set name mask, and select the style of deployment.

**Methodology Information**

**Name\*:**

**Description:**

**Data Set Name Mask**

\*

**Style of Deployment**

**Create only**

**Create or Replace**

**Save** **Cancel** **Help**

3. Enter the description of this methodology.

**Limits:** Maximum 255 characters.

4. Enter the data mask name and/or click the file icon and select a [symbolic name](#) (see page 123).

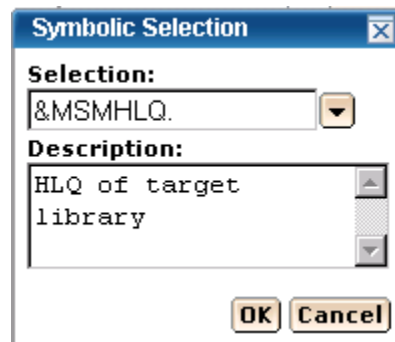
#### Data Set Name Mask

This is the mask that will be used to name the data sets that are deployed. They can contain [symbolic qualifiers](#) (see page 123). For example, assume you enter, CAPRODS.&SYSID. In this case, the &SYSID will be replaced by its values. If the SYSID that is being deployed to is X16, the dsn mask will be: CAPRODS.X16

**Limits:** Maximum 64 characters.

**Note:** Each deployed target data set will be named using the resolved content of the Data Set Name Mask followed by the low-level qualifier of the source data set. Appending the low-level qualifier from the source data set help ensures uniqueness of the final data set name.

**Note:** It consists of one or more qualifiers separated by periods, and has a maximum input length of 64 characters, including the periods. When it is translated, it has a maximum length of 44 characters including the periods.



5. Select a style of Deployment.

**Create only**

Creates new data sets.

**Note:** Prior to creating any data sets on the remote system, a check is made, to see if the data sets already exist. The deployment is not allowed to continue if this occurs.

**Replace or Create**

If you select *Create or Replace* and the target data sets do not exist, they will be created. If the target data sets exist, *Create or Replace* indicates that data in the existing data set, file or directory will be replaced

**Partitioned data set**

*Create or Replace* indicates that existing members in a partitioned data set will be replaced by members with the same name from the source file. Any currently existing member that is not in the source file will remain in the PDS. Any member from the source that does not already exist in the target PDS will be added to the target PDS.

The amount of free space in the PDS will need to be sufficient to hold the additional content, since no automatic compress will be done.

**Directory in a UNIX file system**

*Create or Replace* indicates files in a directory will be replaced by files with same name from the source. Any currently existing directory in a UNIX file system that is not in the source will remain in the UNIX file system.

**Sequential data set or a file in the UNIX file system**

*Create or Replace* indicates the existing data set or file and its attributes will be replaced with the data from the source file.

**For a VSAM data set (cluster)**

*Create or Replace* indicates that an existing VSAM cluster should be populated with the data from the source file.

**Note:** The existing VSAM cluster must be of the same type as the source cluster (ESDS, KSDS, LDS, or RRDS).

**Note:** The existing VSAM cluster must have characteristics that are compatible with the source cluster (such as, record size, key size, and key offset). Replace does not verify the compatibility of these characteristics!

**Note:** To replace the contents of an existing cluster, the cluster is altered to a reusable state by using an IDCAMS ALTER command, if necessary, before the data from the VSAM source is copied into the cluster by using an IDCAMS REPRO command. The REPRO command will use both the REPLACE and REUSE operands. Following the REPRO operation, the cluster is altered back to a non-reusable state if that was its state to begin with.

6. Click Save.

**Note:** Click Cancel to exit this procedure without saving.

## Symbolic Qualifiers

The symbolic qualifiers with description for the Data Set Name Mask and the Directory Path follow.

### Data Set Name Mask

Data Set Name Mask is a unique name that identifies each data set. It consists of one or more qualifiers separated by periods, and has a maximum input length of 64 characters, including the periods. When the Data Set Name Mask is translated it has a maximum length of 44 characters including the periods.

### Directory Path

Directory Path is a USS path name, it consists of one or more directory leaves separated by forward slashes, and has a maximum input length of 255 characters including slashes. When the Directory Path is translated it has a maximum length of 255 characters.

### Symbolic Substitution

Symbolic substitution, or translation, is a process performed by CA MSM to resolve the mask values specified in the Data Set Name Mask and Directory Path, into real names based upon the contents of the symbolic variables at translation time. A CA MSM symbol is defined in the list of symbols. Each symbol begins with an ampersand (&) and ends with a period (.). For example, the symbol &LYYMMDD. would be completely replaced with its value at translation time, including the ampersand and trailing period. The trailing period is important and is considered part of the symbolic name.

### Symbolic Variables

You can use symbolic variables in the construction of a data set name with the value of the symbolic variable to end a dataset name segment.

**Example:** Assume MSMDID is 255.

`SYSWORK.D&MSMDID..DATASET`

**Note:** The double periods are necessary because the first period is part of the symbolic name, and therefore does not appear in the translated value.

The final data set name is `SYSWORK.D255.DATASET`.

### Numeric Values

Some CA MSM symbolic names translate to numeric values. In the case where you want to use one of these symbolic variables in your data set name, you may have to precede it with an alpha constant. This is because z/OS data set naming rules do not allow a data set name segment to start with a numeric.

If you wanted to use a date value in your translated data set name, you could use one of the CA MSM defined date symbolic qualifiers such as `&LYMMDD`. You must be careful how you construct the data set mask value.

**Example:** Assume that you want to have a middle level qualifier to have a unique value based upon the date of April 1, 2010.

Mask = `SYSWORK.D&LYMMDD..DATASET`, translates to `SYSWORK.D100401.DATASET`

An incorrect specification of the mask would be:

`SYSWORK.&LYMMDD..DATASET`, translates to `SYSWORK.100401.DATASET`. Because the middle-level qualifier starts with a numeric it is an invalid data set name.

### Directory Paths

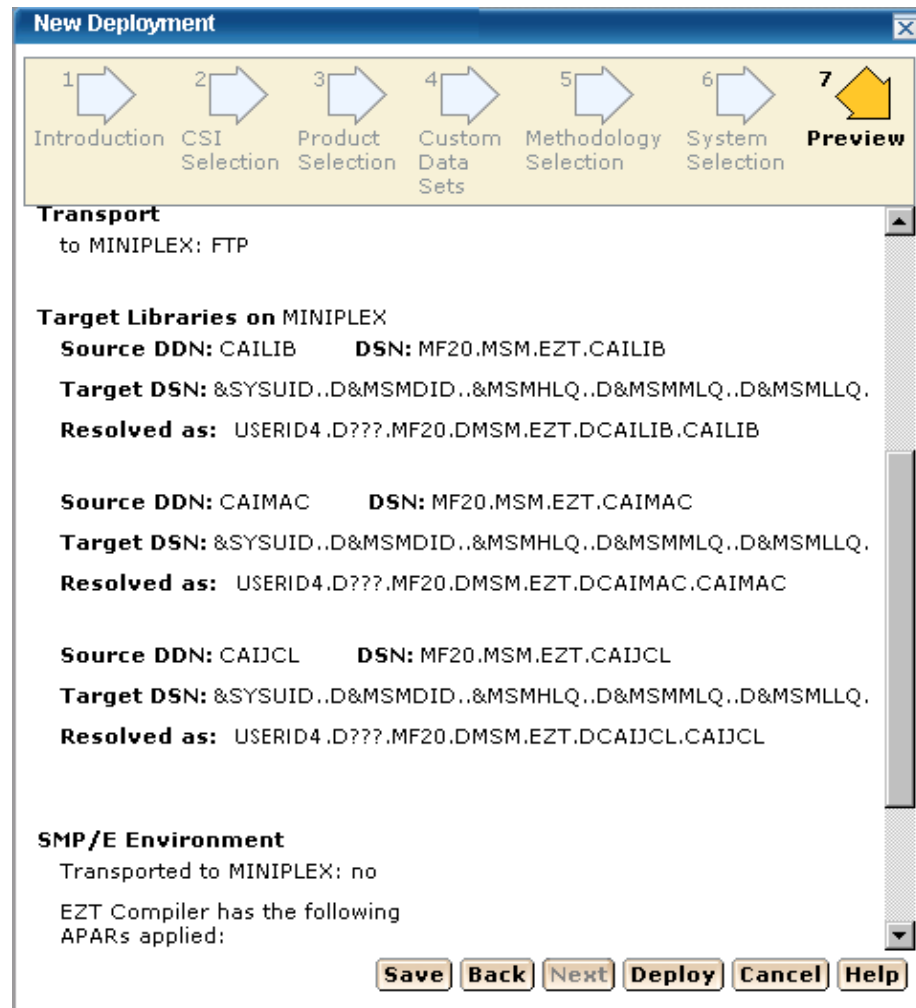
Symbolic substitution works in the same logical way for directory paths. However, directory paths do not typically have periods in them, so you will typically not see the double dots in directory paths.

**Example:** Assume the target system is SYSZ.

`/u/usr/&MSMSYSNM./deployments` translates to `/u/usr/SYSZ/deployments`.

## Preview Example

**Note:** Before a Product Deployment is deployed the MSMDID shows as ????. After deployment the Automatic ID is assigned and this is the MSMDID.



## Symbolic Qualifiers

### ID and System Information

#### MSMDID

This is the MSM Deployment ID.

**Limits:** This is automatically assigned by MSM when the Deploy button is clicked or when a deployment is saved.

### **MSMMPN**

This is the MSM Mount Point Name. The value is entered into the mount point name field when [adding a custom data set](#) (see page 110) with both the USS radio button and the Container copy radio button set. It is of primary value in remote path.

**Note:** The Mount Point Name field can contain symbols when it is translated first, the value of the MSMMPN. variable is resolved.

**Example:** Assume the value of MSMDID is 253 and the user entered the following information.

Mount point name: /u/users/deptest/R&MSMDID./leaf

Remote path: &MSMMPN.

The translated value of &MSMMPN is /u/users/deptest/R253/leaf

### **MSMSYSNM**

This is the MSM system object name.

### **SYSCLONE**

This is the shorthand name of the system.

**Limits:** Maximum 2 characters.

### **SYSNAME**

This is the system name entered when a Non-Sysplex System, Sysplex, Shared DASD Cluster, or Staging System is created.

### **SYSPLEX**

This is the system name entered when a Sysplex is created.

**Note:** This symbolic may not be used for a Non-SYSPLEX system.

### **SYSUID**

The current user ID.

## **Target Libraries**

### **MSMHLQ**

MSMHLQ is the high-level qualifier for the target library.

**Limits:** It is the characters before the first period in a fully qualified data set name. The high-level qualifier can be from 1 to 8 characters.

**Example:** For the data set johnson.finance.division.script, the high-level qualifier is johnson.

**MSMMLQ**

MSMMLQ is the middle-level qualifier for the target library.

**Limits:** It is the characters after the first period and before the last period in a fully qualified data set name. The middle-level qualifier size can vary based on the number of qualifiers defined.

**Example:** For the data set johnson.finance.division.script, the middle-level qualifier is finance.division.

**MSMLLQ**

MSMLLQ is the low-level qualifier for the target library.

**Limits:** It is the characters after the last period in a fully qualified data set name. The low-level qualifier can be from 1 to 8 characters.

**Example:** For the data set johnson.finance.script, the low-level qualifier is script.

**MSMSLQ**

This is the secondary low-level qualifier for the target library and it is the "segment" of the data set name just before the low-level qualifier (MSMLLQ).

**Limits:** It is the characters after the last period in a fully qualified data set name. The low-level qualifier can be from 1 to 8 characters.

**Example:** For the data set johnson.finance.second.script, the low-level qualifier is second.

**MSMPREF**

This is the target library prefix. The target library prefix is the entire data set name to the left of the last the MSMLLQ.

**Example:** For the data set johnson.finance.division.script the prefix is johnson.finance.division

### **MSMDLIBN**

The deployed library number is a unique number, for each deployed library, within a deployment.

**Example:** Assume 3 target libraries in a deployment.

DSN = USER456.LIBR473.CAIPROC

DSN = USER456.LIBR473.CAILOAD

DSN = USER456.LIBR473.CAIEEXEC

Assume the methodology specified a mask of:

&SYSUID..D&MSMDID..LIB&MSMDLIBN

Assume USERID is USER789, and the deployment ID is 877, then the resolved DSNs would be,

Deployed library = USER789.D877.LIB1.CAIPROC

Deployed library = USER789.D877.LIB2.CAILOAD

Deployed library = USER789.D877.LIB3.CAIEEXEC

### **Local Date and Time**

#### **LYYMMDD**

This is the local two-digit year.

**YY** two-digit year

**MM** two-digit month (01=January)

**DD** two-digit day of month (01 through 31)

**Example:** 100311

#### **LYR2**

This is the local two-digit year.

**LYR2** two-digit year

**Example:** 10

#### **LYR4**

This is the local four-digit year.

**LYR4** four-digit year

**Example:** 2010

#### **LMON**

This is the local month.

**LMON** two-digit month (01=January)

**Example:** 03

**LDAY**

This is the local day of the month.

**LDAY** two-digit day of month (01 through 31)

**Example:** 11

**LJDAY**

This is the local Julian day.

**LJDAY** three-digit day (001 through 366)

**Example:** The Julian day for January 11th is 011.

**LWDAY**

This is the local day of the week.

**LWDAY** is three characters in length. The days are MON, TUE, WED, THR, FRI, SAT, and SUN.

**Example:** MON

**LHHMMSS**

This is the local time in hours, minutes, and seconds.

**HH** two digits of hour (00 through 23) (am/pm NOT allowed)

**MM** two digits of minute (00 through 59)

**SS** two digits of second (00 through 59)

**Example:** 165148

**LHR**

This is the local time in hours.

**LHR** two-digits of hour (00 through 23) (am/pm NOT allowed)

**Example:** 16

**LMIN**

This is the local time in minutes.

**LMIN** two-digits of minute (00 through 59)

**Example:** 51

**LSEC**

This is the local time in seconds.

**LSEC** two-digits of second (00 through 59)

**Example:** 48

### **UTC Date and Time**

Coordinated Universal Time is abbreviated UTC.

#### **YYMMDD**

This is the UTC date.

**YY** two-digit year

**MM** two-digit month (01=January)

**DD** two-digit day of month (01 through 31)

**Example:** 100311

#### **YR2**

This is the UTC two digit year.

**YR2** two-digit year

**Example:** 10

#### **YR4**

This is the UTC four digit year.

**YR4** four-digit year

**Example:** 2010

#### **MON**

This is the UTC month.

**MON** two-digit month (01=January)

**Example:** 03

#### **DAY**

This is the UTC day of the month.

**DAY** two-digit day of month (01 through 31)

**Example:** 11

#### **JDAY**

This is the UTC Julian day.

**JDAY** three-digit day (001 through 366)

**Example:** The Julian day for January 11th is 011.

#### **WDAY**

This is the UTC day of the week.

**WDAY** is three characters in length. The days are MON, TUE, WED, THR, FRI, SAT, and SUN.

**Example:** MON

**HHMMSS**

This is the UTC time in hours, minutes, and seconds.

**HH** two-digits of hour (00 through 23) (am/pm NOT allowed)

**MM** two-digits of minute (00 through 59)

**SS** two-digits of second (00 through 59)

**Example:** 044811

**HR**

This is the UTC time in hours.

**HR** two digits of hour (00 through 23) (am/pm NOT allowed)

**Example:** 04

**MIN**

This is the UTC time in minutes.

**MIN** two-digits of minute (00 through 59)

**Example:** 48

**SEC**

This is the UTC time in seconds.

**SEC** two-digits of second (00 through 59)

**Example:** 11

## Edit a Methodology

You can edit a methodology by updating or modifying any of the fields on the Edit Methodology window.

### To edit a methodology

1. Click the Deployments tab, and in the Actions section click the Maintain Methodologies link.
2. Select the methodology that you want to edit and click Edit.

The Maintain Methodologies select window appears.

**Edit Methodology**

**Information**

**Information:** Name the methodology, provide data set name mask, and select the style of deployment.

**Methodology Information**

**Name\*:** USER456

**Description:** MSMETHODOLOGY

**Data Set Name Mask**

\* &MSMHLQ.

**Style of Deployment**

**Create only**

**Create or Replace**

**Save** **Cancel** **Help**

**Note:** The asterisk indicates that the field is mandatory.

As with Add a Methodology, all fields are available to be edited and the details for each field are listed.

3. Enter the Methodology Name.

**Limits:** Maximum 64 characters.

**Note:** Each methodology name must be unique and it is not case-sensitive. For example Meth1 and meth1 are the same methodology name..

4. Enter the Description of this Methodology.

**Limits:** Maximum 255 characters.

5. Enter the Data Set Name Mask and/or click the file icon and select a [symbolic name](#) (see page 123).

### Data Set Name Mask

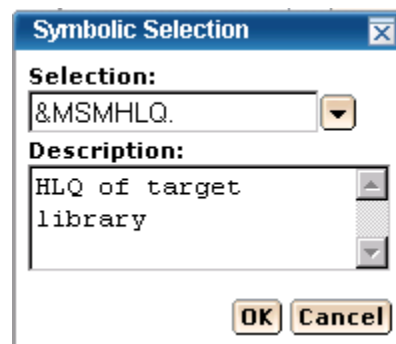
This is the mask that will be used to name the data sets that are deployed. They can contain [symbolic qualifiers](#) (see page 123).

**Example:** CAPRODS.&SYSID - in this case the &SYSID will be replaced by its values. If the SYSID that is being deployed to is XX16 the dsn mask will be: CAPRODS.XX16

**Limits:** Maximum 64 characters.

**Note:** Each deployed target data set will be named using the resolved content of the Data Set Name Mask followed by the low level qualifier of the source data set. Appending the low level qualifier from the source data set insures uniqueness of the final data set name.

**Note:** It consists of one or more qualifiers separated by periods, and has a maximum input length of 64 characters, including the periods. When it is translated it has a maximum length of 44 characters including the periods.



6. Select a Style of Deployment.

**Create only**

Creates new data sets.

**Note:** Prior to creating any data sets on the remote system, a check is made, to see if the data sets already exist. The deployment is not allowed to continue if this occurs.

**Replace or Create**

If you select *Create or Replace* and the target data sets do not exist, they will be created. If the target data sets exist, *Create or Replace* indicates that data in the existing data set, file or directory will be replaced

**Partitioned data set**

*Create or Replace* indicates that existing members in a partitioned data set will be replaced by members with the same name from the source file. Any currently existing member that is not in the source file will remain in the PDS. Any member from the source that does not already exist in the target PDS will be added to the target PDS.

The amount of free space in the PDS will need to be sufficient to hold the additional content, since no automatic compress will be done.

**Directory in a UNIX file system**

*Create or Replace* indicates files in a directory will be replaced by files with same name from the source. Any currently existing directory in a UNIX file system that is not in the source will remain in the UNIX file system.

**Sequential data set or a file in the UNIX file system**

*Create or Replace* indicates the existing data set or file and its attributes will be replaced with the data from the source file.

**For a VSAM data set (cluster)**

*Create or Replace* indicates that an existing VSAM cluster should be populated with the data from the source file.

**Note:** The existing VSAM cluster must be of the same type as the source cluster (ESDS, KSDS, LDS, or RRDS).

**Note:** The existing VSAM cluster must have characteristics that are compatible with the source cluster (such as, record size, key size, and key offset). Replace does not verify the compatibility of these characteristics!

**Note:** To replace the contents of an existing cluster, the cluster is altered to a reusable state by using an IDCAMS ALTER command, if necessary, before the data from the VSAM source is copied into the cluster by using an IDCAMS REPRO command. The REPRO command will use both the REPLACE and REUSE operands. Following the REPRO operation, the cluster is altered back to a non-reusable state if that was its state to begin with.

- Click Save.

**Note:** Click Cancel to exit without saving your changes.

**More information:**

[Symbolic Qualifiers](#) (see page 123)

## Delete Methodologies

### To delete methodologies

- Click the Deployments tab, and in the Actions section click the Maintain Methodologies link.

The Maintain Methodologies select window appears.

| Select                              | Name     | Description | DSN Mask                     | Actions |
|-------------------------------------|----------|-------------|------------------------------|---------|
| <input checked="" type="checkbox"/> | Method1  | Method1     | &SYSUID.                     | Action  |
| <input type="checkbox"/>            | Method2  | Method2     | &SYSUID..D&MSMDID..&MSMSLQ   | Action  |
| <input type="checkbox"/>            | Another1 | Method3     | &SYSUID..D&MSMDID.           | Action  |
| <input type="checkbox"/>            | myMeth   | Test Method | &SYSUID..D&MSMDID..&SYSNAME. | Action  |

2. Select the methodology that you want to delete.  
**Note:** A grayed select box indicates that the methodology is assigned and cannot be deleted. It can be edited.
3. Click Delete and then OK to the Delete Methodologies confirmation window.  
The methodology is deleted.

## Systems

You can view, add, and remove systems from a deployment.

### Add a System

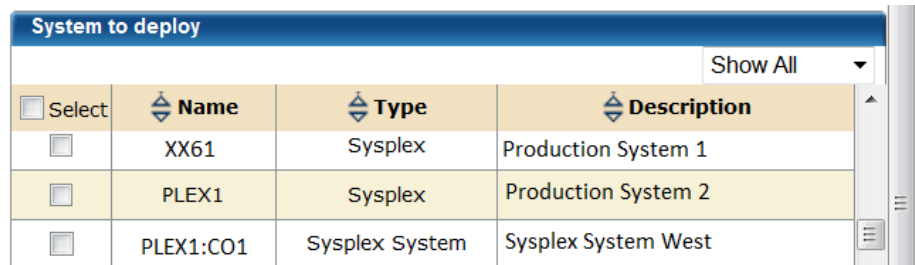
You can add a system to a deployment.

#### To add a system

1. Click the Deployments tab. The Deployment window appears.
2. On the right, in the Deployments panel click the Current Deployment link.  
A list of current deployments appears.
3. Click the deployment name link.
4. In the System List panel, click Add Systems.  
The Add Systems window appears.
5. Select a system to add.

**Note:** When two systems have the same name use the description to differentiate between these systems.

**Note:** Sysplex systems are denoted by Sysplex System:System Name. For example PLEX1:CO11 where PLEX1 is Sysplex name and CO11 is the system name.



| <input type="checkbox"/> Select | Name      | Type           | Description         |
|---------------------------------|-----------|----------------|---------------------|
| <input type="checkbox"/>        | XX61      | Sysplex        | Production System 1 |
| <input type="checkbox"/>        | PLEX1     | Sysplex        | Production System 2 |
| <input type="checkbox"/>        | PLEX1:CO1 | Sysplex System | Sysplex System West |

6. Click OK.  
The Preview window appears.  
The system is added.

## Remove a System

You can remove a system from a deployment.

### To remove a system

1. Click the Deployments tab.  
The Deployment window appears.
2. On the right, in the Deployments panel click the Current Deployment link.  
A list of current deployments appears.
3. Select the deployment that you wish to remove the product from.

### System Name Sort Arrows



Click the up arrow to place the system names in alphabetic order or click the down arrow to place them in reverse alphabetic order.

### Type Sort Arrows



Click the up arrow to place the types in alphabetic order or click the down arrow to place them in reverse alphabetic order.

### Description Sort Arrows



Click the up arrow to place the descriptions in alphabetic order or click the down arrow to place them in reverse alphabetic order.

4. In the System List panel, select a system you want to remove.
5. Click Remove and then OK to the Remove Products confirmation window.  
The system is removed.

## Deployment Summary

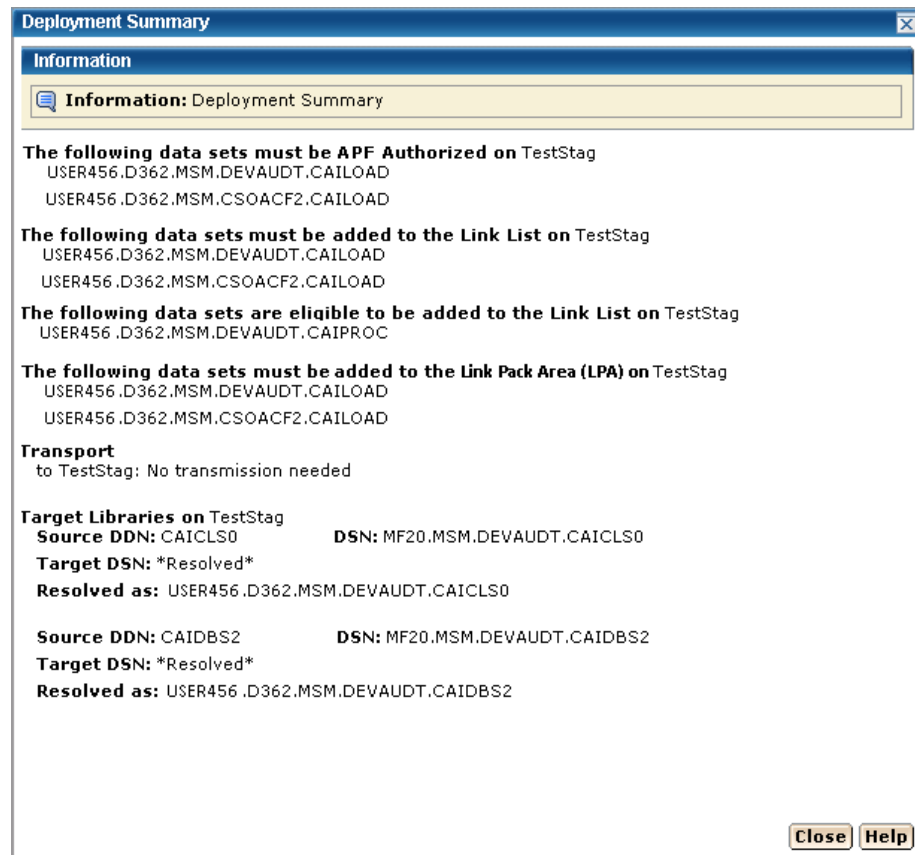
This Action button is available after a successful deployment.

**Important!** Data sets may need to be APF Authorized and/or added to the Link List and/or Link Pack Area. These data sets are identified in this dialog.

The Deployment Summary window contains none or any of the following:

- Deployment's ID
- Name
- Products
- Systems
- Data Sets actions
- Transport information
- Target libraries including: source, target, and resolved data set names.
- SMP/E environment
- Snapshot path and container

This example shows the Data Sets actions, Transport, and Target libraries information.



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



# Chapter 4: Installing Your Product From Pax-Enhanced ESD

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Use the procedures in this section to acquire and install your product using Pax-Enhanced Electronic Software Delivery (ESD).

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

This section contains the following topics:

[How to Install a Product Using Pax-Enhanced ESD](#) (see page 141)

[Allocate and Mount a File System](#) (see page 147)

[Copy the Product Pax Files into Your USS Directory](#) (see page 148)

[Create a Product Directory from the Pax File](#) (see page 153)

[Copy Installation Files to z/OS Data Sets](#) (see page 154)

[Receiving the SMP/E Package](#) (see page 155)

[Clean Up the USS Directory](#) (see page 156)

[Apply Maintenance](#) (see page 158)

## 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. Experienced UNIX users may find the *Pax-Enhanced ESD Quick Reference Guide* or this overview sufficient 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 used for the ESD process.

**Important!** If you prefer not to involve all CA 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 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 new directory in your USS directory by entering the following command:  

```
pax -rvf pax-file-name
```
4. Use the SMP/E GIMUNZIP utility to create z/OS installation data sets. The file UNZIPJCL in the directory created by the pax command in Step 3 contains a sample job to GIMUNZIP the installation package. Edit and submit the UNZIPJCL job.
5. Receive the SMP/E package. For this step, use the data sets created by GIMUNZIP 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 created by the pax command, all of the files in it, and the SMP/E RELFILEs, SMPMCS, and HOLDDATA data sets.

**More Information:**

[USS Environment Setup](#) (see page 146)

[Allocate and Mount a File System](#) (see page 147)

[Copy the Product Pax Files into Your USS Directory](#) (see page 148)

[Create a Product Directory from the Pax File](#) (see page 153)

[Copy Installation Files to z/OS Data Sets](#) (see page 154)

## 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. For additional ESD information, go to <http://www.ca.com/mainframe>. Under Events, we offer an ESD webcast to further explain the Pax-Enhanced ESD process.

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 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 143) 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

CA product ESD packages can be downloaded multiple ways. Your choices depend on the size of the individual files and the number of files 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. It lists all components of the product. You can use the Download Cart by checking one or more components that you need or check the 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](#)

If you have comments or suggestions about CA product documentation, send a message to [techpubs@ca.com](mailto:techpubs@ca.com).

[View Download Cart](#)

**Add All to cart**

| Product Components                                      |            |            |       | Add to cart              | Download                 |
|---|------------|------------|-------|--------------------------|--------------------------|
| <b>CA COMMON SERVICES PROD PKG</b><br>11SP08AW000.pax.Z | 11.0 /SP08 | 03/31/2010 | 407MB | <input type="checkbox"/> | <a href="#">Download</a> |
| <b>CA EARL PRODUCT PACKAGE</b><br>610106AEO00.pax.Z     | 6.1 /0106  | 03/31/2010 | 1MB   | <input type="checkbox"/> | <a href="#">Download</a> |
| <b>EARL PIPPACK</b><br>AEO61010600.pdf                  | 6.1 /0106  | 03/31/2010 | 93KB  | <input type="checkbox"/> | <a href="#">Download</a> |
| <b>EARL INSTALL GUIDE MANUAL</b><br>I2J2ED610NE.pdf     | 6.1 /0000  | 03/31/2010 | 361KB | <input type="checkbox"/> | <a href="#">Download</a> |
| <b>CA COMMON SERVICES COVER LTR</b><br>QI92742.pdf      | 11.0 /SP08 | 03/31/2010 | 46KB  | <input type="checkbox"/> | <a href="#">Download</a> |

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 product files ordered, 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 methods let 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, New York-based FTP servers.

The Create a Zip File option first creates the zip and when ready, offers the options shown by the Zip Download Request examples in the next screen.

**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  |
|--------------------------|--------|----------------------|-------------|---|
| <a href="#">10000961</a> | Ready  | FTP Download Request | 04/30/2010  | <a href="#">Preferred FTP</a> ▼   <a href="#">Alternate FTP</a> ▼ |

**Previous 6 day Download History**

| Order #                  | Status | Description          | Date Placed | Download Options   |
|--------------------------|--------|----------------------|-------------|--|
| <a href="#">10000949</a> | Ready  | ZIP Download Request | 04/29/2010  | <a href="#">HTTP via DLM</a>   <a href="#">Preferred FTP</a> ▼   <a href="#">Alternate FTP</a> ▼ |
| <a href="#">10000948</a> | Ready  | ZIP Download Request | 04/29/2010  | <a href="#">HTTP via DLM</a>   <a href="#">Preferred FTP</a> ▼   <a href="#">Alternate FTP</a> ▼ |

## 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 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 set up. You need to complete the USS setup only one time. You reuse the same directory for subsequent downloads. Alternatively, you can create a new 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 used for the ESD process. In the file system that contains the ESD directories, you also need free space approximately 3.5 times the pax file size 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 Pax-Enhanced ESD downloads.

This procedure details how to perform the following tasks:

- Allocate an HFS file system
- Create a new mount point in an existing maintenance directory
- Mount the file system on the newly created mount point
- Optionally permit write access to anyone in the same group as the person who created the directory

**Important!** USS commands are case-sensitive.

### To allocate and mount the file system

1. Allocate the HFS. For example:

```
//ALCHFS EXEC PGM=IEFBRI4
//CAESD DD DSN=yourHFS dataset name,
// DISP=(NEW,CATLG,DELETE),UNIT=3390,
// DSNTYPE=HFS,SPACE=(CYL,(primary,secondary,1))
```

The HFS is allocated.

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. For example, from TSO, enter the following command:

```
MOUNT      FILESYSTEM('yourHFS dataset 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 *z/OS UNIX System Services User Guide (SA22-7802)*.

## Copy the Product Pax Files into Your USS Directory

To begin the CA product installation procedure, copy the product's pax file into the USS directory 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 PC, and upload it to your z/OS system.
- Download the product file from CA Support Online to your PC. 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 PC to a USS directory on your z/OS system.

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

**Important!** Ensure that sufficient free space is available in the USS file system 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 should match the value in the Size column for the corresponding pax file on the CA Products Download window.

**More Information:**

[How the Pax-Enhanced ESD Download Works](#) (see page 143)  
[ESD Product Download Window](#) (see page 143)

## 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 in the lower left corner of the PDF reader. This opens a window displaying attachments. 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.

### To download files using batch JCL

1. Supply a valid JOB statement.
2. Replace *yourTCPIP.PROFILE.dataset* with the name of the TCPIP 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:** You may also add files to a cart for multiple downloads.

The Download Method window opens.

7. Click FTP Request.

The Review Download Requests window opens and 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's world-wide content delivery network (CDN). If you are not able to download using the Preferred FTP method, your company may have security restrictions that require knowledge of and configuration for all servers that company employees can download from that are outside of 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:** For details regarding FTP, see 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, this job may fail and still return a zero condition code. You must read the messages in the job DDNAME SYSPRINT to verify the FTP succeeded.

After running the JCL, 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.      *
//*                                                                *
//* This job must be customized as follows:                        *
//* 1. Supply a valid JOB statement.                               *
//* 2. Replace "yourTCPIP.PROFILE.dataset" with the name if the TCPIP *
//*    profile data set for your system.                           *
//* 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,REGION=0K
//SYSTCPD DD DSN=yourTCPIP.PROFILE.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.

### To upload files to the mainframe through a PC

1. Follow the procedures in [How the Pax-Enhanced ESD Download Works](#) (see page 12) 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's 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 sample a JCL job that you can copy directly to the mainframe. To access this job, click the paper clip icon in the lower left corner of the PDF reader. This opens a window displaying attachments. Double-click the file to view the sample JCL.

### **To create a product installation directory using the `Unpackage.txt` sample job**

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:** After making the changes noted in the job, 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.

## Example 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.

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 installation using files on DASD, which the UNZIPJCL job had created. For more information about SMP/E Installation Worksheet and the parameters needed during installation, see the appendix "Preparation Worksheets".

## How to Install Products Using Native SMP/E JCL

The SAMPJCL library contains members P\$INS02 through P\$INS07 and P\$INS10. The specific instructions for executing each job are self-contained in each member. For more information about parameters required during installation, see the appendix "Preparation Worksheets."

| Step | Job      | Description   |
|------|----------|---|
| 1    | P\$INS02 | Allocates and initializes the SMP/E CSI and data sets if you want a separate or new CSI for the installation. |
| 2    | P\$INS03 | Allocates the indirect, distribution, and target libraries.   |
| 3    | P\$INS04 | Defines the target and distribution zones to the SMP/E CSI.   |
| 4    | P\$INS05 | Defines DDEFs to the target and distribution zones.   |
| 5    | P\$INS06 | Receives the CA Repository for z/OS product.  |
| 6    | P\$INS07 | Applies the CA Repository for z/OS product.   |
| 7    | P\$INS10 | Accepts the CA Repository for z/OS product.   |

## 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 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 created by the pax command 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.

**To delete the pax files and product-specific directories**

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 Product 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 created by the pax command.

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 hold data that have been published since the installation data was created.

### To apply maintenance

1. Check CA Support Online and download any PTFs 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 hold data, if any.
3. To receive and apply a PTF, edit and submit the following JCL:

```
//P$72MREC EXEC PGM=GIMSMP,REGION=7096K,PARM='DATE=U'  
//SMPCSI DD DSN= &P$SHLQ.SMPCSI.CSI,  
// DISP=SHR  
//SMPLOG DD SYSOUT=*  
//SMPHOLD DD DISP=SHR,DSN=&SMPHOLD  
//SMPPTFIN DD DISP=SHR,DSN=&SMPPTFIN  
//SMPOUT DD SYSOUT=*  
//SMPRPT DD SYSOUT=*  
//SMPLIST DD SYSOUT=*  
//SMPSNAP DD SYSOUT=*  
//SYSPRINT DD SYSOUT=*  
//SMPCNTL DD *  
    SET BDY(GLOBAL) .  
    RECEIVE SELECT (Xnnnnnn) SYSMODS .  
    SET BDY(P$TGT) .  
    APPLY SELECT (Xnnnnnn) .  
/*
```

**&P\$SHLQ**

Specifies the high-level qualifier that is used to prefix the SMP/E data sets and libraries. For more information about Installation Worksheet, see the appendix "Preparation Worksheets".

**&SMPPTFIN**

Specifies the dataset to reference the FB 80 library that contains the PTFs to be applied.

**&SMPHOLD**

Specifies the dataset to reference the FB 80 library containing Hold data information.

**Xnnnnnn**

Specifies the PTF number to be applied.

**Note:** The job should end with a return code of zero unless there is hold data.

**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 167).

## HOLDDATA

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

**System hold data**

Indicates data that is an in-stream part of the SYSMOD instructing you of special conditions. Examples of system hold data are as follows:

**ACTION**

Indicates that you must perform special processing before or after you apply this SYSMOD.

**DEP**

Indicates a dependency for this SYSMOD that you must externally verify.

**DELETE**

Deletes the SYSMOD load module. You cannot reverse this type of SYSMOD with the SMP/E RESTORE command.

**DOC**

Indicates a documentation change with this SYSMOD.

**EC**

Indicates that this SYSMOD requires a hardware engineering change. An EC hold SYSMOD usually does not affect the product unless the EC is present on the hardware device.

To install SYSMODS that have internal holds, code a bypass operand on your APPLY command. You must only code the bypass operand after you have performed the required action or when you are performing the action after the APPLY.

The following is an example of an accept statement with a bypass operand:  
APPLY SELECT (Xnnnnnn ) BYPASS(HOLDSYSTEM(ACTION(Xnnnnnn )))

**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 161)

[How to Install Products Using Native SMP/E JCL](#) (see page 163)

[Apply Maintenance](#) (see page 164)

## Unload the Sample JCL from Tape

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

### To unload the sample JCL from tape

1. Run the following sample JCL:

```
/P$INS01 JOB (ACCT,INFO), 'PROGRAMMER',
// CLASS=0,MSGCLASS=T,MSGLEVEL=(1,1),
// GROUP=,USER=*UID,PASSWORD=*PSW
// *
// * CA REPOSITORY INSTALL STEP #1
// *
// * EDIT AND SUBMIT THE FOLLOWING SAMPLE JCL TO EXECUTE IEFBR14
// * PROGRAM TO ALLOCATE AND DOWNLOAD THE CA REPOSITORY
// * SAMPJCL LIBRARY.
// *
// * PROCEDURE SAMPJCL FOR CA REPOSITORY PRODUCT SAMPJCL LIB COPY
// *
//SAMPJCL PROC P$SHLQ='CAI.SHLQ',
// P$VOL1='VOL=SER=DASD01',
// P$UNI1=3380,
// P$ITVOL=P$YYMM,
// P$ITUNI=TAPE,
// SYSOUT='*'
// *
// * ALLOC SAMPJCL LIBRARY
// *
//ALOCJCL EXEC PGM=IEFBR14,TIME=3
//SOURCE DD DISP=(NEW,CATLG),DSN=&P$SHLQ..SAMPJCL,
// UNIT=&P$UNI1,SPACE=(3120,(195,39,13)),&P$VOL1
// DCB=(DSORG=P0,RECFM=FB,LRECL=80,BLKSIZE=3120)
// *
// * COPY SAMPJCL LIBRARY
```

```
//*
//COPYJCL EXEC PGM=IEBCOPY,REGION=1024K
//SYSPRINT DD SYSOUT=&SYSOUT
//SYSUT3 DD UNIT=SYSDA,SPACE=(CYL,(1,1)),DISP=(MOD,DELETE,DELETE)
//SYSUT4 DD UNIT=SYSDA,SPACE=(CYL,(1,1)),DISP=(MOD,DELETE,DELETE)
//INDD DD DSN=CAI.SAMPJCL,DISP=SHR,
// UNIT=&P$ITUNI,LABEL=(1,SL),
// VOL=SER=&P$ITVOL //OUTDD DD DSN=&P$SHLQ..SAMPJCL,DISP=SHR
//*
// PEND
//*
/* EXECUTE SAMPJCL PROC
/*
//STEP1 EXEC SAMPJCL
/*
//COPYJCL.SYSIN DD * COPY OUTDD=OUTDD,INDD=INDD
/*
//
```

2. Change the job card as necessary for your site.
3. Perform the following global changes:
  - From *CAI.SHLQ* to your SMPE HLQ, for example *USERID.TEST*.
  - From *DASD01* to the VOLSER of a permanent pack on which these files will be allocated.
  - From *3380* to the unit name of the permanent pack on which these files will be allocated.
  - From *P\$YYMM* to the VOLSER of the install tape. The VOLSER can be found on the external label of the tape.
  - From *TAPE* to the unit type of the install tape. E.G., *TAPE,CART*.
4. Submit the job. A return code of zero is expected.

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

## How to Install Products Using Native SMP/E JCL

The SAMPJCL library contains members P\$INS01 through P\$INS07 and P\$INS10. The specific instructions for executing each job, are self-contained in each member. For more information about parameters needed during installation, see the appendix "Preparation Worksheets."

| <b>Step</b> | <b>Job</b> | <b>Description</b>   |
|-------------|------------|--|
| 1           | P\$INS01   | Executes IEFBR14 and creates the SAMPJCL library from which you retrieve members to complete the installation. This is the same JCL described in the previous section and does not need to be rerun. |
| 2           | P\$INS02   | Allocates and initializes the SMP/E CSI and data sets if you want a separate or new CSI for the installation.  |
| 3           | P\$INS03   | Allocates the indirect, distribution, and target libraries.  |
| 4           | P\$INS04   | Defines the target and distribution zones to the SMP/E CSI.  |
| 5           | P\$INS05   | Defines DDEFs to the target and distribution zones.  |
| 6           | P\$INS06   | Receives the CA Repository for z/OS product.   |
| 7           | P\$INS07   | Applies the CA Repository for z/OS product.  |
| 8           | P\$INS10   | Accepts the CA Repository for z/OS product.  |

## Apply Maintenance

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

### To apply maintenance

1. Check CA Support Online and download any PTFs 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 hold data if there is any.
3. Edit and submit the following JCL to receive and apply a PTF

```
//P$72MREC EXEC PGM=GIMSMP,REGION=7096K,PARM='DATE=U'  
//SMPCSI DD DSN= &P$SHLQ.SMPCSI.CSI,  
// DISP=SHR  
//SMPLOG DD SYSOUT=*  
//SMPHOLD DD DISP=SHR,DSN=&SMPHOLD  
//SMPPTFIN DD DISP=SHR,DSN=&SMPPTFIN  
//SMPOUT DD SYSOUT=*  
//SMPRPT DD SYSOUT=*  
//SMPLIST DD SYSOUT=*  
//SMPSNAP DD SYSOUT=*  
//SYSPRINT DD SYSOUT=*  
//SMPCNTL DD *  
    SET BDY(GLOBAL) .  
    RECEIVE SELECT (Xnnnnnn) SYSMODS .  
    SET BDY(P$TGT) .  
    APPLY SELECT (Xnnnnnn) .  
/*
```

**&P\$SHLQ**

Specifies the high-level qualifier, which is used to prefix the SMP/E data sets and libraries. For more information, see Installation Worksheet item number one in the appendix "Preparation Worksheet".

**&SMPPTFIN**

Specifies the dataset to reference the FB 80 library containing the PTFs to be applied

**&SMPHOLD**

Specifies the dataset to reference the FB 80 library containing Hold data information

**Xnnnn**

Specifies the PTF number to be applied.

**Note:** The job should end with a return code of zero unless there is hold data.

**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 167).

## HOLDDATA

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

**System hold data**

Indicates data that is an in-stream part of the SYSMOD instructing you of special conditions. Examples of system hold data are as follows:

**ACTION**

Indicates that you must perform special processing before or after you apply this SYSMOD.

**DEP**

Indicates a dependency for this SYSMOD that you must externally verify.

**DELETE**

Deletes the SYSMOD load module. You cannot reverse this type of SYSMOD with the SMP/E RESTORE command.

**DOC**

Indicates a documentation change with this SYSMOD.

**EC**

Indicates that this SYSMOD requires a hardware engineering change. An EC hold SYSMOD usually does not affect the product unless the EC is present on the hardware device.

To install SYSMODS that have internal holds, code a bypass operand on your APPLY command. You must only code the bypass operand after you have performed the required action or when you are performing the action after the APPLY.

The following is an example of an accept statement with a bypass operand:

```
APPLY SELECT (Xnnnnnn ) BYPASS(HOLDSYSTEM(ACTION(Xnnnnnn )))
```

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

# Chapter 6: Configuring Your Product

---

This chapter describes the minimum configuration tasks needed before CA Repository for z/OS can be started, customized, and used in your environment.

**Note:** Follow these instructions if you are configuring the repository for the first time. For more information about upgrading from a previous release, see the chapter "Migration Information".

This section contains the following topics:

- [Copy the DB2 Stored Procedures](#) (see page 168)
- [Allocate and Copy Members to Custom Libraries](#) (see page 168)
- [CLIST Preparation](#) (see page 168)
- [Access the Installation Customization Menu](#) (see page 171)
- [Define Installation Defaults](#) (see page 173)
- [Define DB2 Defaults](#) (see page 176)
- [Specify ISPF Default Libraries](#) (see page 179)
- [Specify the Models to Install](#) (see page 180)
- [Edit the STEPLB Skeleton Library](#) (see page 182)
- [Create the Tables, Views, Stored Procedures, and Triggers](#) (see page 182)
- [Load the Metadata Models](#) (see page 185)
- [Bind the Utility Plans and Packages](#) (see page 187)
- [Create the Data Tables](#) (see page 190)
- [Grant DB2 Privileges](#) (see page 192)
- [Bind All DB2 Plans and Packages](#) (see page 195)
- [Load the Version Table](#) (see page 198)
- [Specify Name Generation Parameters](#) (see page 198)
- [Load Component Data Tables](#) (see page 201)
- [Load the Default Path Definitions](#) (see page 202)
- [Load the Default Element Domains](#) (see page 204)
- [Load Global Commands](#) (see page 206)
- [Run the SHOPCNTL LOAD Program](#) (see page 207)
- [Complete the Installation](#) (see page 208)

## Copy the DB2 Stored Procedures

This step copies the repository DB2 stored procedures into the DB2 stored procedure authorized library from the target load library. The DB2 authorized library is used in the STEPLIB concatenation of the DB2 workload manager.

**Important:** The DB2 stored procedure library must be a PDSE.

1. Retrieve member P\$INS08 from your CCPSJCL PDS.
2. Make the required global changes (see the instruction block).
3. Submit the JCL to complete this step.
4. Review the output for successful completion.

## Allocate and Copy Members to Custom Libraries

This step allocates custom libraries and copies several members from the distribution libraries to the custom libraries.

1. Retrieve member P\$INS09 from your CCPSJCL PDS.
2. Make the required global changes (see the instruction block).
3. Submit the JCL to complete this step.
4. Review the output for successful completion.

**Note:** Make sure that you review, edit, execute, and complete this step before continuing.

## CLIST Preparation

This section identifies the steps you must complete to access and customize the various CLIST used within the product.

### Make the CLISTs TSO-Accessible

After the SMP/E installation completed, you must make the ARZOS.CLIST data set members TSO-accessible.

The master ARZOS and ARZUTIL CLISTs reside in the CAI.SHLQ.CLIST library. However, a customized copy of these CLISTs also resides in the CAI.SHLQ.CUST.CLIST data set. This library was created in the Allocate and Copy Members to Custom Libraries step in the chapter "SMP/E Installation and Related Tasks."

To make the ARZOS.CLIST executable, you can perform either of the following operations:

- Copy the ARZOS.CLIST members to a CLIST data set already allocated to SYSPROC
- Add the ARZOS.CLIST data set to the SYSPROC concatenation in your LOGON PROC

**Note:** Users of variable blocked CLIST libraries must reallocate these libraries as VB.

### Customize NEWAPPL ID

If your organization will not be using the default NEWAPPL id, NEWAPPL(DBEX), specified in the ARZOS CLISTs (ARzOS, ARZUTIL, DBXINST and DBXSQLX), you must complete the following steps. Otherwise proceed to the ARZOS CLIST step.

1. Copy the DBXINST and DBXSQLX CLISTS from the installation CLIST library (HLQ.CLIST) to your HLQ.CUST.CLIST library.
2. Change the value of NEWAPPL to reflect your APPLID in ARZOS, ARZUTIL, DBXINST and DBXSQLX.

### The ARZOS CLIST

This step identifies the files allocated by the ARZOS CLIST and describes the customization that you need to complete.

Once the CLISTs are in a location accessible by TSO, you must edit the ARZOS member containing the CLIST that invokes both the Installation Customization Menu and the CA Repository for z/OS products. This CLIST performs ISPF LIBDEFs to get the ISPF portion of CA Repository for z/OS ready to run. It also allocates files that the product requires.

**Note:** The LE run-time libraries and DB2 load library should be allocated using the LINKLIST or LOGON PROC. If this is not the case, these libraries can be STEPLIBed within the ARZOS CLIST.

### Files Allocated by the ARZOS CLIST

In addition to the ISPF data sets, the ARZOS CLIST includes several file allocations used by the installation process or the CA Repository products. The following table lists these files and their respective purposes.

| File     | Purpose                           | Use               |
|----------|-----------------------------------|-------------------|
| DBXDDL   | Temporary file for DDL generation | Product execution |
| DBXISPF1 | Temporary file for DDL generation | Product execution |

| <b>File</b> | <b>Purpose</b>                             | <b>Use</b>                         |
|-------------|--|------------------------------------|
| DBXISPF2    | Temporary file for DDL generation          | Product execution                  |
| DBXPARM     | Repository Parameters (required)           | Installation and product execution |
| DBXRPT      | Temporary file for viewing reports         | Product execution                  |
| DBXTEMP     | Temporary file for creating online reports | Product execution                  |
| DBXTEXT     | Temporary file for text editing            | Product execution                  |
| ISPFIL      | Temporary file for generating JCL          | Product execution                  |
| SYSPRINT    | Used for online debugging                  | Product execution                  |
| CNTLOUT     | Temporary file for the Director GUI editor | Product execution                  |

The allocation for DBXDDL, DBXPLAN, DBXRPT, DBXTEMP, and DBXTEXT are specific to each user of the product. They are created each time a user invokes CA Repository for z/OS and are deleted when that user exits the product.

The SYSPRINT file used for debugging is created if it does not already exist. The CLIST needs to have a user-accessible, generic unit specified (the current value is SYSDA) that is available at your site. If your site does not allow the use of a TSO ID as the first node in data set allocations, you must add an additional, generic node to each of these allocations.

## Customize the ARZOS CLIST

### To customize the ARZOS CLIST

1. Change the qualifier TDSNQ to the high-level qualifier you used to create the base data sets. During the SMP/E portion of the install, parameter P\$SHLQ was used to indicate the base library prefix.
2. Change the Qualifier TDCNQ to the high-level qualifier you used to create the custom data sets. During the SMP/E portion of the install, parameter TDCNQ was used to indicate the custom library prefix.
3. Change the value of the UNIT parameter if necessary (these are temporary data sets so system work packs are acceptable).
4. If your organization is not using the default NEWAPPL(DBEX) you must update the value of this parameter so that it reflects your organization's applid. For more information, see Customize NEWAPPL ID.

## Execute the ARZOS CLIST

When the installation is complete you will be able to access the ARZOS CLIST by entering the following command on the ISPF command line:

```
TSO ARZOS
```

## The ARZUTIL CLIST

The ARZUTIL CLIST generates JCL for various utilities. The following steps tell you how to customize and execute this CLIST.

### Customize the ARZUTIL CLIST

#### To customize the ARZUTIL CLIST

1. Change the Qualifier TDCNQ to the high-level qualifier you used to create the custom data sets. During the SMP/E portion of the install, parameter TDCNQ was used to indicate the custom library prefix.
2. Change the value of the UNIT parameter if necessary (these are temporary data sets so system work packs are acceptable).
3. If your organization is not using the default NEWAPPL value, NEWAPPL(DBEX), you must update the value of this parameter so that it reflects your organization's applid. For additional details, see *Customize NEWAPPL ID*.

The ARZUTIL CLIST generates JCL for various utilities. You must edit the CLIST and change all references of TDCNQ to the high-level qualifier you used to create the custom data sets. During the SMP/E portion of the install, parameter TDCNQ was used to indicate the custom library prefix.

### Execute the ARZUTIL CLIST

You can access the Utility Menu by entering the following command on the ISPF command line:

```
TSO ARZOS U
```

## Access the Installation Customization Menu

Once you have unloaded the ISPF data sets and customized the ARZOS CLIST, you can access the CA Repository for z/OS Installation Customization Menu that lists options for installing, customizing, and upgrading the repository and its add-on tools. Each of the menu options represents a step in the installation process.

#### To display the Installation Customization Menu screen

1. Enter the following at the ISPF command line:

```
TSO ARZOS I
```

2. The Installation Customization Menu appears. You can now continue with installation.

```
----- CA Repository for z/OS -----  
----- Installation Customization Menu -----  
  
COMMAND ==>  
  
      1 Defaults           - Define Installation Defaults           More:  
      2 DB2 Defaults      - Define DB2 Install Options  
      3 ISPF Defaults     - Define ISPF Install Options  
      4 Products         - Set Product Switches  
      5 Batch            - Set-up Batch Parameters  
      6 Steplib          - Setup Steplib member  
      7 Create           - Create DB2 Objects for Control Information  
      8 Load             - Load DB2 Control Tables  
      9 Plans            - Prepare Repository Plans and Packages  
     10 Create Data      - Create DB2 Objects for Data Tables  
     11 Security         - Grant User Privileges  
     12 DB2 Utilities    - RUNSTAT, REORG, ALTER Repository Tablespaces  
     13 Upgrade Menu     - Install Upgrades  
     14 Name Gen         - Define Name Gen Parameters  
     15 Component Load   - Load Data for Components  
     16 Path Load        - Load Sample Path Definitions  
     17 Domain Load     - Load Sample Domain Definitions  
     18 Global Cnds     - Load Sample Global Commands  
  
Enter END command to EXIT.
```

## Installation Customization Menu

You perform most of the customization tasks from the Installation Customization Menu. The following are general guidelines for using this ISPF-based menu.

- To select a menu option, type the number of the menu option at the command line, and then press Enter. For example, if the instructions say Select option 1, type **1** at the command line and then press Enter.
- When you are using a menu screen, use the arrow keys or the Tab key to move between fields. Do not press Enter until you finish entering all the necessary fields.
- Press PF3 to exit an installation screen or if you are at the Installation Customization Menu to exit the Installation Facility.
- To see all options, use the scroll keys PF7 (up) and PF8 (down).

**Note:** The values entered at each of the screens accessed through the Installation Customization Menu are saved to the DBXPARM parameter file in the ISPLIB data set when you exit the installation process. The message DBXPARM UPDATED appears each time you exit an installation option screen. This update procedure ensures that values you enter are not lost if the CLIST terminates abnormally.

## Define Installation Defaults

CA Repository for z/OS uses several default values when processing user input. These values range from the DB2 LOAD module library to the number of lines per page for CA Repository for z/OS reports.

### To specify the default values for CA Repository for z/OS

1. At the Installation Customization Menu, select option 1 Defaults. The Default Values screen appears.

```

----- CA Repository for z/OS -----
----- Default Values -----
COMMAND ==>

      Repository Release Level ==> r7.2
              Company Name ==> CA
                Report Lines Per Page ==> 60
      Repository Base Library Prefix ==> PRM.R72
      Repository Custom Library Prefix ==> PRM.R72.CUSTOM
      Repository LOAD Library ==> PRM.R72.LOADLIB
      Repository DBRM Library ==> PRM.R72.DBRMLIB
      Repository StoredProc DBRM Library ==> PRM.R72.DBRMLIB
      DB2 LOAD Library ==> DB2.D91A.SDSNLOAD
      DB2 Utility LOAD Library ==> DB2.RUNLIB.LOAD
      DB2 LOAD Library (for DSNTIAD) ==> DB2.RUNLIB.LOAD.LOAD
      DSNTIAD Plan Name ==> DSNTIA91
      DSNTPE2 Plan Name ==> DSNTPE91
      DSNTIAUL Plan Name ==> DSNTIAUL
      Permanent Dataset Unit ==> SYSDA
      SMS Installation? ==> N
      Repository Extended Text Commands...
              ==> DESCRIPT
              ==> COMMENT
              ==> IEWPICT
              ==> TEXTBLCK
              ==> EXTDTXT

Enter END command to EXIT.

```

2. Enter values into the fields as follows:

#### Company Name

The name of the organization licensed for this repository (up to 40 characters).

This name will appear throughout CA Repository for z/OS and on all report headers.

#### Report Lines Per Page

The number of lines of data contained on each CA Repository for z/OS report page.

This value serves as the default used to calculate when report page breaks occur and will vary depending on the printer or printers used.

### **Base Library Prefix**

The high-level qualifier for the CA Repository for z/OS base level data set names.

Each CA Repository for z/OS data set is made up of the Library Prefix and a suffix. The suffix indicates the type of library, such as CLIST.

**Note:** During the SMP/E portion of the install, parameter P\$SHLQ was used to indicate the base library prefix. For an upgrade installation, parameter P\$SNLQ was used to indicate the base library prefix.

### **Custom Library Prefix**

The high-level qualifier for the CA Repository for z/OS custom data set names.

Each CA Repository for z/OS data set consists of the library prefix and a suffix. The suffix indicates the type of library, such as CLIST.

**Note:** During the SMP/E portion of the install, parameter TDCNQ was used to indicate the custom library prefix.

### **LOAD Library**

The fully qualified data set name (without quotation marks) of the LOAD library containing the CA Repository LOAD modules (see the note at the end of this step regarding library naming).

### **DBRM Library**

The fully qualified data set name (without quotation marks) of the DBRM library containing the CA Repository Database Request Modules (see the note at the end of this step regarding library naming).

### **StoredProc DBRM Library**

The fully qualified data set name (without quotation marks) of the DBRM library containing the CA Repository Database Stored Procedures (see the note at the end of this step regarding library naming).

### **DB2 LOAD Library**

The fully qualified data set name (without quotation marks) of the LOAD library containing the DB2 LOAD modules.

### **DB2 Utility LOAD Library**

The fully qualified data set name (without quotation marks) of the LOAD LIBRARY containing the DB2 Utilities, such as DSNUTILB.

JCL streams in later steps use this name in the STEPLIB in addition to the DB2 LOAD library.

**DB2 LOAD Library (for DSNTIAD)**

The fully qualified data set name (without quotation marks) of the LOAD library containing the DSNTIAD LOAD module.

JCL streams in later steps of the installation process use this name to execute the DB2 program DSNTIAD.

**DSNTIAD Plan Name**

The name of the DSNTIAD plan your site uses.

**DSNTEP2 Plan Name**

The name of the plan under which the sample program DSNTEP2 was bound.

**DSNTIAUL Plan Name**

The name of the plan under which the sample program DSNTIAUL was bound.

**Permanent Data set Unit**

The name of the data set unit CA Repository for z/OS uses for storage during unload jobs and other CA Repository functions.

**SMS Installation**

Specify Y if your site uses SMS.

Specify N if your site does not use SMS. If you select this option, the unload process calculates the unload data set in blocks during a recreate.

**Extended Text Commands**

(1-5) The names to use for each of the five different sets of extended text available from within CA Repository for z/OS.

Each name can contain up to eight characters and will be used to label the extended text during entity maintenance.

**Note:** A command with a name that is the same as the label specified in these fields must be added to the CA Repository command control table before the text can be processed. The default text commands, DESCRIPT, COMMENT, IEWPICT, TEXTBLCK, EXTDTTEXT, are already included on the command table.

These five parameters can be completed at any time, and are not used during the remainder of the product installation. They will be written to the parameter file along with all the other values entered during each step of the installation.

**Note:** Standard practice for naming the CA Repository for z/OS library data sets is to add a high-level qualifier to the LOADLIB and DBRMLIB suffixes. For the high-level qualifier, use the same qualifier you used when changing the ARZOS CLIST.

- When you finish, enter END or press PF3 to redisplay the Installation Customization Menu. If you need to make changes later, you can reselect the screen and enter them during any installation step.

## Define DB2 Defaults

This step defines the DB2 defaults to use when creating DB2 objects for CA Repository for z/OS.

### To set the DB2 defaults

- At the Installation Customization Menu, select option 2 DB2 Defaults. The DB2 Defaults screen appears.

```

----- CA Repository for z/OS -----
----- DB2 Defaults -----
COMMAND ==>

    Default DB2 Subsystem Name ==> DB26
    Default Storage Group ==> REPOSSG
    Control Table Storage Group ==> REPOSCT
    Default Buffer Pool ==> BP0
    Default Index Buffer Pool ==> BP0
    Repository Owner ==> REPOS72
    Catalog Owner ==> SYSIBM
    WLM environment Name ==> D91AWLM2
    AR/zOS Plan name ==> REPOS72
    Repository Package Collection ==> REPOS72_PACK
    Implement Audit/History Trail ==> N (Y or N)
    Define DB2 Data Set Creation ==> N (Y or N)
    Require Approval Process ==> N (Y or N)

Enter Repository Database Names ...

    Control Database ==> REPOSDB1           Database 2 ==> REPOSDB2
    Database 3 ==> REPOSDB3           Database 4 ==> REPOSDB4
    Database 5 ==> REPOSDB5           Database 6 ==> REPOSDB6
    Database 7 ==> REPOSDB7           Database 8 ==> REPOSDB8
    Database 9 ==> REPOSDB9           Database 10 ==> REPOSDBA

Enter DB2 Install Parameters ...

    DB2 Version ==> 9 (8, 9)
    Decimal Point Indicator ==> . ( . OR , )
    String Delimiter ==> S (S-Single Quote,D-Double Quotes)

Enter END command to EXIT.

```

2. Enter values into each of the DB2 Defaults screen fields as follows:

**Default DB2 Subsystem Name**

The name of the DB2 subsystem on which CA Repository for z/OS will reside.

**Default Storage Group**

The name of the STOGROUP that will contain the CA Repository for z/OS data tables.

The data tables are created later in the installation. For more information, see Create the Data Tables later in this chapter.

**Notes:**

- The CA Repository for DB2 objects rely on storage groups rather than VSAM data sets.
- The Default and Control Table storage groups should reference different volumes.

**Control Table Storage Group**

The name of the STOGROUP that will contain the CA Repository for z/OS control tables.

The control tables are created later in the installation (see Create the Tables, Views, and Stored Procedures later in this chapter). The control tables are discussed in detail in the *Administration Guide*.

**Note:** The Default and Control Table storage groups should reference different volumes.

**Default Bufferpool**

The name of the bufferpool to use in the creation of all Tablespaces. Valid values are BP0 through BP49.

**Default Index Bufferpool**

The name of the bufferpool to use in the creation of all Indexes. Valid values are BP0 through BP49.

**Repository Owner**

The DB2 Creator name for all CA Repository for z/OS Tables.

**Catalog Owner**

The DB2 Creator name for the DB2 catalog tables.  
Default: SYSIBM.

**WLM Environment Name**

The subsystem name of the work load manager.

**Plan Name**

The name of the plan to use for all CA Repository for z/OS products.

### Package Collection

The collection name to use for all CA Repository for z/OS packages.

### Implement Audit/History Trail

Y-History tables and triggers are created for the Cross Reference, Workstation Cross Reference, and text tables and any table associated with an entity type that has a Y in the history flag column of the DBX\_ENT\_TYPE\_DESC table.

N-History tables and Triggers are not created for any repository table.

**Note:** You must specify N if the repository is not hosted on a DB2 version 8 New Function Mode System.

For more information, see the "History Tables" chapter in the *CA Repository for z/OS Administration Guide*.

### Define DB2 Data Set Creation

Y-Physical allocate DB2-managed data sets at creation time

N-To defer the physical allocation of DB2-managed data sets until the first insert into a table within the tablespace.

### Database Names

The names of the DB2 databases that contain the tables created to support the CA Repository for z/OS products.

Note: CA strongly recommends that you specify a different database in each field.

### DB2 Version

The DB2 version your site uses. Valid options: 8 or 9.

### Decimal Point Indicator

The preferred decimal-point indicator. Valid options are a period (.) or comma (,).

### String Delimiter

The preferred string delimiter. Valid options are:

S-Single quotation marks (')

D-Double quotation marks (")

### Required Approval Process

Y-Insert, Update or Delete require approval by an approver

N-Approval is not required

**Note:** For more information about WSO approval process, see the "Repository Approval Jobs" chapter in the *CA Repository for Webstation Option Administration Guide*.

- When you are finished, enter END or press PF3 to redisplay the Installation Customization Menu.

**Note:** If you need to make changes later, you can reselect the screen and enter them during any installation step. Changes are saved to the custom ISPLIB data set ( HLQ.CUST.ISPLIB).

## Specify ISPF Default Libraries

Set the default ISPF libraries used at your site. This is necessary because some CA Repository products execute ISPF in batch using your ISPF libraries. Information you enter on this panel will be used to generate the JCL for these products.

### To specify the ISPF default libraries

- At the Installation Customization Menu, select option 3 ISPF Defaults. The ISPF Default Libraries screen appears.

```

----- CA Repository for z/OS
-----
----- ISPF Default Libraries -----
COMMAND ==>

ISPLLIB ==> ISP.SISPLOAD
          ==>
ISPPLIB ==> ISP.SISPPENU
          ==>
ISPSLIB ==> ISP.SISPSLIB
          ==> ISP.SISPSENU
ISPLLIB ==> ISP.SISPMENU
          ==>
ISPTLIB ==> ISP.SISPTENU
          ==>
ISPTABL ==> ISP.SISPTENU
          ==>
SYSPROC ==> ISP.SISPEXEC

Enter END command to EXIT.

```

- Enter values into the ISPF Default Libraries fields as follows:

#### **ISPLLIB**

The names of your default ISPF LOADLIB data sets.

#### **ISPPLIB**

The names of your default ISPF panel data sets.

#### **ISPSLIB**

The names of your default ISPF skeleton data sets.

**ISPMLIB**

The names of your default ISPF message data sets.

**ISPTLIB**

The names of your default ISPF table data sets.

**ISPTABL**

The names of your default ISPF table data sets.

**SYSPROC**

The names of your default ISPF CLIST data sets.

3. When you are finished, enter END or press PF3 to redisplay the Installation Customization Menu. If you need to make changes later, you can reselect the screen and enter them during any installation step.

## Specify the Models to Install

To specify which CA Repository for z/OS models you are installing

1. If you currently have data loaded into the Repository that is no longer supported with this product release and you want to retain the ability to view the non-supported data, it is necessary to complete the instructions contained in the Non-Supported Models Checklist in the appendix "Checklists."

**Note:** Failure to complete this task prior to execution of this step results in loss of non-supported data.

2. At the Installation Customization Menu, select option 4 Products. The Model/Control data Selection screen appears.

```

----- CA Repository for z/OS -----
----- Model/Control data Selection -----
COMMAND ==>

Process installation for these product models...

Base Product? ==> Y
DB2? ==> Y
ORACLE? ==> Y
Teradata? ==> Y
MS SQL Server? ==> Y
Tandem? ==> Y
UDB? ==> Y
IMS? ==> Y
IDMS? ==> Y
CA Endeavor? ==> Y
Webstation Option? ==> Y
Universal XML?==>Y
Software Model?==>Y
CA ERwin? ==> Y
CA Gen? ==> Y
SYBASE? ==> Y
Info Refiner? ==> Y
CA Transformer? ==> Y
Object Oriented Model? ==> Y
XML DTD? ==> Y
SAS? ==> Y
ODBC? ==> Y
WSDL Model?==>Y
Enter END command to EXIT

```

3. Enter Y or N in each of fields as follows:
  - For **Base Product**, specify Y.
  - For **DB2**, specify Y (the DB2 model is used by CA Repository Exchange for DB2, which is included with CA Repository for z/OS).
  - For the remaining fields, specify Y for any model you are installing and N for any model that you are not installing.

**Note:** See the Product/Model Checklist in the appendix "Checklists" for more information about individual models and which components use them.
4. Once you have specified a value for these fields, enter the END command or press PF3 to return to the Installation Customization Menu. If you need to make changes, you can reselect this screen and enter your changes during any step of the installation process.

## Edit the STEPLB Skeleton Library

CA Repository for z/OS includes a member in the skeleton library called STEPLB. This member must be customized.

### To customize the STEPLB member

1. At the Installation Customization Menu, select option 6 Steplib. The Edit screen appears.

```
EDIT          PRM.R72CUST.ISPSLIB(STEPLB) - 01.03          Columns 00001 00072
Command ==>                                         Scroll ==> CSR
***** Top of Data *****
000001 //STEPLIB DD DSN=PRM.R72BASE.LOADLIB,DISP=SHR
000002 //          DD DSN=CEE.SCEERUN,DISP=SHR
000003 //          DD DSN=DB2.SDSNLOAD,DISP=SHR
***** Bottom of Data *****
```

2. Edit the member and ensure that you include the following:
  - Your CA Repository for z/OS LOADLIB
  - DB2 run-time libraries
  - The LE run-time libraries
3. Press PF3 to save the changes and return to the Installation Customization Menu.

## Create the Tables, Views, Stored Procedures, and Triggers

This step creates the DB2 storage groups, databases, CA Repository control tables, views, work tables, global temporary tables stored procedures, and triggers that the CA Repository products require. This step builds a JCL stream containing the required DB2 CREATE statements based on the models you chose on the Model Selection screen (see Specify the Models to Install section in this chapter) and values you enter here.

**Note:** The JCL stream that this step generates executes the DB2 sample program DSNTIAD. Make sure the program is set up at your site before starting this step.

### To create the DB2 objects required for CA Repository

1. At the Installation Customization Menu, select option 7 Create. The DB2 Object Creation screen appears.

```

----- CA Repository for z/OS -----
----- DB2 Object Creation for Control Information -----
COMMAND ==>

Install these objects...
  Storage Group? ==> N (Y,N)
  Data Stgrp? ==> PRMDATA      Control Stgrp? ==> PRMVSCTL
  Databases? ==> Y

      VCAT name? ==>          (leave blank if not installing STOGROUP)
  Data Stgroup Volumes  1)      2)      3)
  Control Stgroup Volumes 4)      5)      6)
  SET SQLID TO? ==>

  Edit or Submit? ==> E (E-edit,S-submit)
  Save Output? ==> N (Y=yes,N=no)
  Output Data Set ==>

Batch Job Card:
==> //ARZOS01T JOB (10146), 'INSTALL',
==> //          CLASS=B,MSGCLASS=X,
==> //          MSGLEVEL=(1,1),REGION=0M,TIME=1440
==> /*JOBPARM SYSAFF=CA11
Enter ENTER command to continue or END command to EXIT.

```

2. Enter values into the fields as follows:

#### Storage Group

Specify N to use existing groups.

Specify Y to create new DB2 storage groups for CA Repository. If you use Y, two groups are created: one for the control tables and one for the data tables.

#### Data Stgrp

Leave as is.

This field automatically displays the Default Storage Group name that you entered on the DB2 Defaults screen (see Define DB2 Defaults earlier in this chapter).

#### Control Stgrp

Leave as is.

This field automatically displays the Control Table Storage Group name entered on the DB2 Defaults screen (see Define DB2 Defaults earlier in this chapter).

### Databases

Specify Y to indicate that you want to create new DB2 databases for CA Repository.

The CREATE DATABASE statements this step generates use the storage groups and the bufferpool you specified on the DB2 Defaults screen (or in the previous Name field).

### VCAT Name

The name of the VCAT to use when creating storage groups for CA Repository. Leave this field blank if you entered N in Storage Group.

### Stogroup Volumes

If you entered Y in Storage Group, enter the DASD volumes for the CREATE STOGROUP statements.

Use fields 1-3 for the data table volumes and use fields 4-6 for the control table volumes. The two storage groups should **not** share the same volumes.

**Note:** If you are using SMS managed data sets, Volumes 1 and 4 should specify an asterisk, \*, as the volume.

If you entered N in Storage Group, these fields are ignored.

### Set SQLID to

The SQLID you want to use when creating the DB2 objects.

If you enter a value in this field, a SET CURRENT SQLID statement is added to the beginning of the DB2 CREATE statements.

### Edit or Submit

Specify E to display the JCL in an ISPF Edit session prior to submission.

### Save Output

Specify Y to save the generated JCL in the partitioned data set specified in the following Output Data Set field.

Specify N to discard the JCL after submission.

### Output Data Set

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates

**Important!** Ensure that you change the name in each new step if you do not want to overwrite any previously saved JCL.

**Batch Job Card**

The batch job statement you want included with the JCL stream generated by this procedure.

If you leave any of these fields blank, it defaults to a JCL comment (/\*).

**Note:** You must complete these fields unless your environment automatically generates a job statement upon submission (in which case you must leave these fields blank). The information you enter appears on all subsequent screens that require a Job card.

3. Press Enter to generate and display the JCL for creating the required objects.
4. Check the JCL for any conflicts with your system environment and make any necessary corrections.
5. Enter **SUB** at the command line to submit the job.

Verify that the job ends successfully before continuing. Common errors, their causes, and the appropriate solutions are listed below.

| Error    | Reason  | Action   |
|----------|---|--|
| SQL -107 | A specified name is too long (usually storage group or database names). | Shorten the name mentioned in the error message.   |
| SQL -104 | The operation encounters an illegal symbol.                             | Revisit CA Repository menu options 0 and 1, and verify that the DB2 options are correct.                   |
| SQL -904 | A resource needed to perform CREATEs was unavailable.                   | Retry the operation. If the error persists, contact your DBA to ensure the needed resource is operational. |

Contact CA Technical Support if you encounter any additional errors or if you have any questions regarding the previous recommendations.

## Load the Metadata Models

This step requires you to load several CA Repository control tables with data that define product-specific metadata models, entities, commands, and messages. This step uses the DB2 LOAD utility to populate the repository control tables. It generates the appropriate LOAD statements and file allocations based on the products you chose to install (see Specify the Models to Install earlier in this chapter) and information you provide during this step.

### To load the CA Repository control tables

1. At the Installation Customization Menu, select option 8 Load. The Load Control Information screen appears.

```
----- CA Repository for z/OS -----  
----- Load Control Information -----  
COMMAND ==>  
  
      Set SQLID to? ==> ARZOSI  
      Current Contents? ==> A (A-add,R-replace)  
      Edit or Submit? ==> E (E-edit,S-submit)  
      Save Output? ==> N (Y=yes,N-no)  
      Output Data Set ==>  
  
Batch Job Card:  
=> //BALVL01T JOB (10146),'INSTALL',  
=> //          CLASS=B,MSGCLASS=X,  
=> //          MSGLEVEL=(1,1),REGION=0M,TIME=1440  
=> /*JOBPARM SYSAFF=CA11  
  
Enter ENTER command to continue or END command to EXIT.
```

2. Enter values into the fields as follows:

#### Set SQLID to

The SQLID you want to use when loading metamodels.

If you enter a value in this field, a SET CURRENT SQLID statement will be added to the beginning of the job.

#### Current contents

Specify R (initial installation only!).

#### Edit or Submit

Specify E.

#### Save Output

Specify Y to save the generated JCL in the data set specified in Output Data Set.

Specify N to discard the JCL after running the job.

#### Output Data Set

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates

Ensure that you change the names if you do not want to overwrite any previously saved JCL.

**Batch Job Card**

Leave as is.

These fields default to the Job card you specified in the previous step.

3. Press Enter.

JCL for loading the control tables is displayed in an ISPF edit session.

4. Check the JCL for errors and submit the JOB.

5. Verify that the job ends successfully before continuing. Common errors, their causes, and the appropriate solutions are listed in the following table:

| <b>Error</b> | <b>Reason</b>   | <b>Action</b>   |
|--------------|---|---|
| SQL -206     | The job attempts to insert data to a column that is not defined to the table. | Take a screen print of the error and contact CA Technical Support.  |
| SQL -204     | The job attempts to insert to a non-existing table.                           | Investigate the job output from the previous step for errors.   |
| SQL -803     | The job encountered a duplicate row.  | Contact CA Technical Support. Make sure you make a note of the table being loaded and check the DISCARD file. |
| SQL -904     | A resource needed to perform the LOADs was unavailable.                       | Retry the operation. If the error persists, contract your DBA to ensure the needed resource is operational.   |

Contact CA Technical Support if you encounter any additional errors or if you have any questions regarding the above recommendations.

6. Enter END or press PF3 to return to the Installation Customization Menu.

## Bind the Utility Plans and Packages

In this step you will do the following:

- Bind the CA Repository for z/OS utility plans and packages
- Grant access to the bound plans

Once the plans and packages are bound, CA Repository will GRANT access to PUBLIC for the CA Repository plan. Granting to PUBLIC saves time required to enroll new users and saves DB2 connection time when checking for plan access privileges.

**To bind the utility plans and packages**

1. At the Installation Customization Menu, select option 9 Plans. The DB2 Plans and Packages screen appears.

```
----- CA Repository for z/OS -----  
----- DB2 Plans and Packages -----  
COMMAND ==>  
  
Prepare Packages ...  
Utility, All, or Foreign packages? ==> U (U, A, F)  
  
    Set SQLID to? ==> ARZUSER  
      BIND Plans? ==> Y (Y=yes,N=no)      Auth ID of Plan? ==>  
Grant to PUBLIC? ==> N (Y=yes,N=no)  
Foreign Cat SSIDs? ==> ==> ==>  
Foreign Cat DB2VER? ==> ==> ==>  
  Edit or Submit? ==> E (E-edit,S-submit)  
    Save Output? ==> N (Y=yes,N=no)  
  Output Data Set ==>  
  
Enter ENTER command to continue or END command to EXIT.
```

2. Enter values into the fields as follows:

**Utility, All, or Foreign packages**

Specify U to bind only the Utility packages.

**Set SQLID to**

The SQLID you want to use when creating the plans.

If you enter a value in this field, a SET CURRENT SQLID statement is added to the beginning of the job.

**BIND Plans**

Specify Y to bind the plans and packages.

**AUTHID of Plan**

The AUTHID to use for the OWNER parameter of the bind.

**Grant to PUBLIC**

Specify Y to grant access to the generated plans to the special DB2 ID, PUBLIC.

PUBLIC access to a plan does not grant individual users access to the Repository data. We recommend that this switch be set to Y during the initial repository installation.

**Foreign Cat SSIDs**

Leave blank.

This field should be blank during the initial installation.

**Foreign Cat DB2VER**

Leave blank.

This field should be blank during the initial installation.

**Edit or Submit**

Specify E.

**Save Output**

Specify Y to save the generated JCL in the data set specified in Output Data Set.

Specify N to discard the JCL after running the job.

**Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates.

Ensure that you change the names if you do not want to overwrite any previously saved JCL.

3. Press Enter.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job and check the output for errors. Things to look for include:
  - Occurrences of the word UNSUCCESSFUL in the job output.  
Unsuccessful BINDs that you can ignore are listed in the following table. If any unsuccessful BINDs occur that are not listed in the table, report them to CA Technical Support.
  - A non-zero return code for the job.  
Contact CA Technical Support if the job ends with any return code other than 0.

| Package | Action  |
|---------|---|
| PRMPR32 | Can be ignored if you are using CA InfoRefiner and the CA InfoRefiner tables are not in this DB2 subsystem. |
| DBXLQMF | Can be ignored if the QMF object tables were not installed into the DB2 subsystem.                          |

6. Press PF3 to return to the Installation Customization Menu.

**Note:** The plan and collection names that this step generates are written to the DBXPARM member in the custom level ISPPLIB data set for use after the installation.

## Create the Data Tables

The next step is to create the DB2 data tables that the CA Repository products require. The Installation Customization Menu includes an option that builds a JCL stream containing DB2 CREATE statements for all the needed table spaces, tables and indexes for all the products you selected on the Model/Control data Selection screen (see Specify the Models to Install earlier in this chapter). The Installation Facility lets you save all of the DDL in its own data set, so if any CREATE fails, you can edit and resubmit it.

### To create the DB2 data tables that the CA Repository products require

1. At the Installation Customization Menu, select option 10 Create Data. The DB2 Object Creation screen appears.

```
----- CA Repository for z/OS -----  
----- DB2 Object Creation for Repository Data -----  
COMMAND ==>  
  
  Saved dataset for Tablespace, Table, and Indexes (Must be Sequential)  
  DDL Data Set ==>  
  
  Set SQLID To? ==>  
  
  Edit or Submit? ==> E (E-edit,S-submit)  
  Save Output? ==> N (Y=yes,N-no)  
  Output Data Set ==>  
  
Enter ENTER command to continue or END command to EXIT.
```

2. Enter values into the fields as follows:

#### DDL Data Set

The name of a sequential file in which to hold the generated CREATE DDL.

**Note:** This file should be empty, since the job deletes and reallocates it.

#### Set SQLID to

The SQLID you want to use when creating the tablespaces, tables and indexes.

If you enter a value in this field, a SET CURRENT SQLID statement is added to the beginning of the DB2 statements.

#### Edit or Submit

Specify E.

#### Save Output

Specify Y to save the generated JCL in the data set specified in Output Data Set.

Specify N to discard the JCL after running the job.

### Output Data Set

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates

Ensure that you change the names if you do not want to overwrite any previously saved JCL.

3. Press Enter.

JCL for creating the data objects is displayed.

4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job.
6. Verify the job ends successfully before continuing. Common errors, their causes, and the appropriate solutions are listed in the following table:

| <b>Error</b>                            | <b>Reason</b>  | <b>Action</b>   |
|---|--|---|
| SQL -104                                | There is an illegal symbol in the CREATE syntax.   | Revisit menu Options 1 and 2 to verify your DB2 settings.   |
| SQL -601                                | The name of an object to be created is identical to an existing object.  | Resolution is not necessary. Ignore this error and proceed with the installation.   |
| SQL -904                                | A resource needed to perform the CREATEs was unavailable.  | Retry the operation. If the error persists, contract your DBA to ensure the needed resource is operational. (See the Note at the end of this table.)      |
| SQL -805 or EXT00019                    | A DBRM or package name was not found in a plan. This usually means that the Binding Utility Plans and Packages step did not complete successfully. | Review the job output from the Binding Utility Plans and Packages step and correcting any errors there. Rerun this job when you've resolved those errors. |
| RC=8, SQL -501, or EXT00015             | The Loading the Metadata Models step was not executed successfully.  | Check the Product Selection switches, then rerun the metadata loads.  |
| RC=8; SQL -104, -204, -551; or EXT00018 | The CREATE syntax is being generated incorrectly.  | Recheck the DB2 and ISPF settings for the Installation Facility.  |
| RC=8 or RC=998                          | The operation cannot find a requested module or message  | Recheck the ISPF settings for the Installation Facility.  |

| Error | Reason    | Action |
|-------|-----------|--------|
|       | (ISPXXX). |        |

**Note:** Carefully review the space allocations and availability within the STOGROUP. You can reduce the Primary and Secondary Quantities temporarily, but you will have to increase them later.

Contact CA Technical Support if you encounter any additional errors or if you have any questions regarding the above recommendations.

7. Enter END or press PF3 to redisplay the Installation Customization Menu.

## Grant DB2 Privileges

This step grants users access privileges for the CA Repository DB2 tables and the CA Repository itself.

Choose Option 11 from the Installation Customization Menu to access the Grant DB2 Privileges screen, where you can give users access to CA Repository, including authority for all commands in the dialogs corresponding to the products you selected for installation.

Once the first set of users has access, you can give new users access through the Extend dialog as described in the *Administration Guide*.

CA recommends that you execute the initial granting of authorities in two steps:

1. Grant DB2 authority for all repository tables to PUBLIC.
2. Grant repository privileges to one or more user IDs.

Instructions for these steps are provided in the procedures that follow.

### Grant DB2 Authority to All Tables

CA Repository for z/OS features a sophisticated internal security system that provides several levels of control not provided by DB2. If DB2 authority of SELECT is granted to PUBLIC for all CA Repository tables, then individual privileges do not need to be granted. If you do not use PUBLIC access, you will have to grant every user (or DB2 user group) DB2 privileges for each of the CA Repository underlying DB2 tables.

CA recommends that users be granted only Select access to the CA Repository tables. For additional DB2 security requirements for CA Repository, see the chapter "Understanding DB2 Security."

### To grant DB2 authority to the CA Repository tables

1. At the Installation Customization Menu, select option 11 Security. The Grant DB2 Privileges screen appears.

```

----- CA Repository for z/OS -----
----- Grant DB2 Privileges -----
COMMAND ==>
Grant privileges to...
  User TSO ID ==> PUBLIC
                ==>
                ==>
                ==>
                ==>

  Set SQLID to? ==>
  Authorize ALL DBEXCEL? ==> N (Y=yes,N-no)
  GRANT DB2 Privilege? ==> SELECT(INSERT,UPDATE,DELETE,SELECT,ALL)
  with GRANT OPTION? ==> N (Y=yes,N-no)
  Edit or Submit? ==> E (E-edit,S-submit)
  Save Output? ==> N      (Y=yes,N-no)
  Output Data Set ==>

Enter ENTER command to continue or END command to EXIT.

```

2. Enter values into the fields as follows:
  - For the first **User TSO ID** field, specify PUBLIC. Leave the other User TSO ID fields blank.
  - For **Set SQLID to**, specify the SQLID you want to use when granting DB2 privileges to PUBLIC.
  - If you enter a value in this field, a SET CURRENT SQLID statement is added to the start of the job.
  - For **Authorize ALL DBEXCEL**, specify N to skip the CA Repository authorization process.
  - For **GRANT DB2 Privilege**, specify SELECT.
  - For **with GRANT OPTION**, specify N.
  - For **Edit or Submit**, specify E for Edit.
  - For **Save Output**, specify Y to save the generated JCL in the data set specified in Output Data Set. Specify N to discard the JCL after running the job.
  - For **Output Data Set**, specify the fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates.

Ensure that you change the names if you do not want to overwrite any previously saved JCL.

3. Press Enter to generate and display the JCL. This JCL contains one or more GRANT statements providing ALL authorities on multiple tables to PUBLIC.
4. Check the JCL for conflicts with your environment.
5. Submit the job and make sure it completes successfully.

## Grant Internal Privileges

Once you have granted ALL authority to PUBLIC, you can use the Grant DB2 Privileges screen to grant internal CA Repository privileges to one or more TSO user IDs. Because subsequent steps of the installation require that the installer have the ALL DBEXCEL privilege, one of the first IDs you need to process is the one you are using to install the repository.

### To provide internal CA Repository privileges to a group of TSO user IDs

1. Enter values into the Grant DB2 Privileges screen fields as follows:

#### **User TSO ID**

The TSO IDs of the users to whom you want to grant DB2 privileges.

If you must enter more than five IDs, repeat this step until all users are authorized.

#### **Set SQLID to**

The SQLID you want to use when granting user privileges.

If you enter a value in this field, a SET CURRENT SQLID statement is added to the start of the job.

#### **Authorize ALL DBEXCEL**

Specify Y.

#### **GRANT DB2 Privilege**

Leave blank.

#### **with GRANT OPTION**

Specify N.

#### **Edit or Submit**

Specify E.

### Save Output

Specify Y to save the generated JCL in the data set specified in Output Data Set. Specify N to discard the JCL after running the job.

### Output Data Set

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates

Ensure that you change the names if you do not want to overwrite any previously saved JCL.

2. Press Enter to generate JCL containing SQL statements that define the ALL DBEXCEL privilege and assign the specified users to it.
3. Review the JCL and make any necessary corrections, then submit the job.
4. Make sure the job completes successfully before continuing.
5. Press PF3 to exit the Grant DB2 Privileges screen and return to the Installation Customization Menu.

**Note:** Although the user ID used to create the CA Repository tables has complete rights to them, you must still give this ID internal access to the repository using the Grant DB2 Privileges screen.

## Bind All DB2 Plans and Packages

In this step, you bind all the CA Repository plans and grant access to the bound plans and packages.

**Note:** You will be using the same DB2 Plans and Packages screen you used in Bind Utility Plans and Packages earlier in this chapter. However, this time you must enter A (for ALL) in the Utility, All, or Foreign packages field.

**To bind the plans and grant access to the plans and packages**

1. At the Installation Customization Menu, select option 9 Plans. The DB2 Plans and Packages screen appears.

```
----- CA Repository for z/OS -----  
----- DB2 Plans and Packages -----  
COMMAND ==>  
  
Prepare Packages ...  
Utility, All, or Foreign packages? ==> A (U, A, F)  
  
    Set SQLID to? ==>  
        BIND Plans? ==> Y (Y=yes,N=no)      Auth ID of Plan? ==>  
    Grant to PUBLIC? ==> Y (Y=yes,N=no)  
    Foreign Cat SSIDs? ==> ==> ==>  
    Foreign Cat DB2VER? ==> ==> ==>  
    Edit or Submit? ==> E (E=edit,S=submit)  
    Save Output? ==> N (Y=yes,N=no)  
    Output Data Set ==>  
Enter ENTER command to continue or END command to EXIT.
```

2. Enter values into the fields as follows:

**Utility, All, or Foreign packages**

Specify A.

**Set SQLID to**

The SQLID you want to use when creating the plans.

If you enter a value in this field, a SET CURRENT SQLID statement is added to the beginning of the job.

**BIND Plans**

Specify Y.

**AUTHID of Plan**

The AUTHID to use for the OWNER parameter of the bind.

**Grant to PUBLIC**

Specify Y to grant the special DB2 ID PUBLIC access to the generated plans.

PUBLIC access to a plan does not grant individual users access to the CA Repository data.

**Foreign Cat SSIDs**

Leave blank.

**Foreign Cat DB2 Ver**

Leave blank.

**Edit or Submit**

Specify E.

**Save Output**

Specify Y to save the generated JCL in the data set specified in Output Data Set. Specify N to discard the JCL after running the job.

**Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates.

Ensure that you change the names if you do not want to overwrite any previously saved JCL.

3. Press Enter.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job and check the output for errors. Things to look for include:
  - Occurrences of the word UNSUCCESSFUL in the job output.  
Unsuccessful BINDs that you can ignore are listed in the table below. If any unsuccessful BINDs occur that are not listed in the table, report them to CA Technical Support.
  - A non-zero return code for the job.  
Contact CA Technical Support if the job ends with any return code other than 0.

| <b>Package</b>         | <b>Action</b>   |
|------------------------|---|
| PRMPR32                | Can be ignored if you are using CA InfoRefiner and the CA InfoRefiner tables are not in this DB2 subsystem.   |
| DBXLQMF                | Can be ignored if the QMF object tables have not been installed into the DB2 subsystem.   |
| Any other package name | Look for the program name in the repository ISPLLIB member PROGDEF. Find the program name starting in column 1. Column 54 of this member contains the FMID. A blank FMID is the same as CP\$7200. If you did not select the FMID at SMPE installation time you can ignore the errors. |

6. Press PF3 to return to the Installation Customization Menu.

## Load the Version Table

You must now execute a program (PRMLVER) to load the Valid Version table DBX\_CNTLVLVDVER.

### To load the version table

1. At the Installation Customization Menu, select option 13 Upgrade Menu. The Installation Upgrade Customization Menu appears.
2. Select option 4 PROGRAMS to display the Execute Conversion Programs screen.
3. Enter PRMLVER in the Conversion Program field.
4. Enter E in the Edit or Submit field.
5. Press Enter. Review the generated JCL and make any necessary changes.
6. Type SUB on the command line, and press Enter to submit the job.
7. Make sure the job ends successfully before continuing. If the job ends with a return code other than 0, contact CA Technical Support.
8. Press PF3 twice to return to the Installation Customization Menu.

## Specify Name Generation Parameters

This step requires you to specify parameters that control operation of the Naming Standard Exit. This exit generates standardized names for the different name attributes of an element, including element names, business names, DB2 column names, and Assembler names. The exit generates names by comparing the words and phrases that make up an element's business or element name against standardized abbreviations.

You do not need to set up the name generation parameters at this time. These parameters can be specified or updated at any time during the life cycle of your CA Repository implementation. If you update the parameters at a later date, the parameters will take effect immediately after you exit the Installation Customization Menu.

**To specify Name Generation parameters**

1. At the Installation Customization Menu, select option 14 Name Gen. The Name Gen Parm screen appears.

```

----- CA Repository for z/OS -----
----- Name Gen Parm -----
COMMAND ==>

      Generate DB2 Name? ==> Y
      Generate ASM Name? ==> N
      Prefix or Suffix? ==>
      Element Name Delimiter? ==> -
      DB2 Name Delimiter? ==> -
      ASM Name Delimiter? ==> -
      Other Name Delimiter? ==> -
      Allow Duplicate Class Words? ==> N
      Short Abbrev for Relational? ==> Y
      Compress Long Names? ==> N      (Y-Long & Med, A-All, N-No)
      Number of Tokens for Matches? ==> 3
      Special Processing Flags? ==>

Enter END command to EXIT.

```

2. Enter values into the fields as follows:

**Generate DB2 Name**

Specify Y to generate DB2 column names; otherwise, enter N.

**Generate ASM Name**

Specify Y to generate Assembler names; otherwise, enter N.

**Prefix or Suffix**

Specify P to use a qualifier class word as a prefix when generating names.

Specify S to use a qualifier class word as a suffix.

Leave blank if you do not want the class word as either a prefix or suffix in generated names.

**Element Name Delimiter**

A delimiter (separator character) for element names, such as - (hyphen) or \_ (underscore).

You may enter any combination of up to seven characters.

**DB2 Name Delimiter**

A delimiter for DB2 column names (up to six characters).

**ASM Name Delimiter**

A delimiter for Assembler names (up to eight characters).

**Other Name Delimiter**

The delimiter for business names (up to eight characters).

**Allow Duplicate Class Words**

Specify Y if you want to permit names to contain more than one word flagged in the glossary as a class word.

Specify N to limit the number of class words in a generated name to 1.

**Short Abbrev for Relational**

Specify Y if you want relational names to take standard abbreviation from the glossary's short abbreviation (if no short abbreviation exists in the glossary, the glossary long name is used).

Specify N if you want relational names to uses the glossary long name.

**Compress Long Names**

Specify Y if you want to compress names that are too long.

Specify N to return an error to the user when names are too long.

**Number of Tokens for Matches**

The number of tokens in generated names that you want the Exit to use when searching for matching names.

For example, if the entry in this field is 4 and the name is CUST-NAME-ADDR-LINE, the exit prompts users to choose from a list of other names that match these four tokens in any order. If the generated name is shorter than this value, it uses the number of tokens in the name instead of the specified value (for example, for CUST-ADDR, if any name has either CUST or ADDR, it will appear in the list).

**Note:** Entering any value greater than 0 in this field can impact the performance of the Exit.

**Special Processing Flags**

Specify M to display a list of candidates that contains the generated business name.

Leave blank-no special processing.

3. Enter END or press PF3 to redisplay the Installation Customization Menu.

## Load Component Data Tables

You must execute this step if your site has or is adding support for any of the following:

- CA Repository Exchange for ERwin
- CA Repository for z/OS Webstation Option

This step loads the data used by various repository components. If your site does not use any of these repository products, you can skip these tasks and proceed to the next step.

### To load the data tables

1. At the Installation Customization Menu, select option 15 Component Load. The Load Component Data screen appears.

```

----- CA Repository for z/OS -----
----- Load Component Data -----
COMMAND ==>
Load Data For...
  ERwin? ==> N
  Webstation Option? ==> N
  Edit or Submit? ==> E (E-edit,S-submit)
  Save Output? ==> N (Y=yes,N-no)
  Output Data Set ==>
Batch Job Card:
==> //ARZOS011 JOB (116200000), 'INSTALL JOB ',CLASS=M,
==> // MSGLEVEL=(1,1),MSGCLASS=X,TIME=1440,
==> // REGION=0M
==> /*JOBPARM SYSAFF=CA31
Enter ENTER command to continue or END

```

2. Enter values into the fields as follows:

#### Load Control Data For... ERwin

Specify Y to load mapping data for that tool into the CA Repository control tables.

Specify N if you are not installing support for that tool.

#### Load Control Data For... Webstation Option

Specify Y to load mapping data for that tool into the CA Repository control tables.

Specify N if you are not installing support for that tool.

#### Edit or Submit

Specify E.

### **Save Output**

Specify Y to save the generated JCL in the data set specified in Output Data Set.

Specify N to discard the JCL after running the job.

### **Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates.

Ensure that you change the names if you do not want to overwrite any previously saved JCL.

### **Batch Job Card**

The batch Job statement you want included with the JCL stream generated by this procedure

If you leave any of these fields blank, it defaults to a JCL comment (/\*).

3. Press Enter.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job and check the output for errors. The LOAD steps include error files that are allocated as temporary data sets. You can reallocate these files so that you can review and deal with any duplicate rows before continuing repository installation.
6. Press PF3 twice to return to the Installation Customization Menu.

## **Load the Default Path Definitions**

This step loads default path definitions into the CA Repository control tables. The Path Report, Path Add, and Path Delete facilities make direct use of these definitions. This step uses the DB2 LOAD utility to populate the Path Control Table.

### To load the default path definitions

1. At the Installation Customization Menu, select option 16 Path Load. The Load Path Definitions screen appears.

```

----- CA Repository for z/OS -----
----- Load Path Definitions -----
COMMAND ==>
Load Sample Path Definitions...
Current Contents? ==> R (A-add,R-replace)
Customized Path DSN? ==>
(blank for default paths)
Edit or Submit? ==> E (E-edit,S-submit)
Save Output? ==> N (Y=yes,N-no)
Output Data Set ==>
Batch Job Card:
==> //ARZOS01T JOB (10146), 'INSTALL',
==> //          CLASS=B,MSGCLASS=X,
==> //          MSGLEVEL=(1,1),REGION=0M,TIME=1440
==> /*JOBPARM SYSAFF=CA11
Enter ENTER command to continue or END command to EXIT.

```

2. Enter values into the fields as follows:

#### Current Contents

Specify R to replace any path information currently in the control tables.

**Important!** Only set this switch to R during the initial repository installation!

#### Customized Path DSN

Leave blank.

#### Edit or Submit

Specify E.

#### Save Output

Specify Y to save the generated JCL in the data set specified in Output Data Set.

Specify N to discard the JCL after running the job.

### **Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates.

Ensure that you change the names if you do not want to overwrite any previously saved JCL.

### **Batch Job Card**

These fields default to the Job Card you specified when unloading the tape or ESD pax file.

Leave them as is. For more information, see the chapter "SMP/E Installation and Related Tasks."

3. Press Enter to generate the JCL.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job and check the output for errors.
6. Enter END or press PF3 to return to the Installation Customization Menu.

## **Load the Default Element Domains**

In this step, you will load default domains into the element domain table so that they can be used to aid in the definition of new metadata within CA Repository. At installation, the only Maps designed to handle Domains are the maps supporting the ELEMENT entity type.

This step uses the CA Repository LOAD utility to populate the ELDDOMAIN table and the DB2 LOAD utility to populate the Code Table Control table.

**Note:** Because you do not want to replace the Code Table definitions that were loaded in an earlier step, be certain that the DB2 Load Utility (DSNUTILB) appends the data to rows in this table; to do this, use the generated LOAD RESUME syntax.

### To load the default element domains

1. At the Installation Customization Menu, select option 17 Domain Load. The Load Domain Definitions screen appears.

```

----- CA Repository for z/OS -----
----- Load Domain Definitions -----
COMMAND ==>

Load Sample Domain Definitions...
  Edit or Submit? ==> E (E-edit,S-submit)
  Save Output? ==> N (Y=yes,N-no)
  Output Data Set ==>

Batch Job Card:
==> //ARZOS01T JOB (10146),'INSTALL',
==> //          CLASS=B,MSGCLASS=X,
==> //          MSGLEVEL=(1,1),REGION=0M,TIME=1440
==> /*JOBPARM SYSAFF=CALL

Enter ENTER command to continue or END command to EXIT.

```

2. Enter values into the fields as follows:

#### **Edit or Submit**

Specify E.

#### **Save Output**

Specify Y to save the generated JCL in the data set specified in Output Data Set.

Specify N to discard the JCL after running the job.

#### **Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates.

Ensure that you change the names if you do not want to overwrite any previously saved JCL.

#### **Batch Job Card**

Leave as is.

These fields default to the Job Card you specified when unloading the tape or ESD pax file.

3. Press Enter to generate the JCL.
4. Check the generated JCL before submission and correct any conflicts with your system environment.

5. Submit the job and check the output for errors. The LOAD step for the ELDDOMAIN table includes error files that are allocated as temporary data sets. You can reallocate these files so that you can review and deal with any duplicate rows before continuing with CA Repository installation.
6. Enter END or press PF3 to return to the Installation Customization Menu.

## Load Global Commands

In this step, you will load a set of CA-defined, global *fast* commands. These commands are abbreviations of the normal CA Repository command strings, and are designed to speed up processing.

**Note:** This step is optional. If you do not load the global commands during the installation, your CA Repository Administrator can easily load them at a later time.

### To load global commands for CA Repository

1. At the Installation Customization Menu, select option 18 Global Cmds. The Load Sample Global Commands screen appears.

```
----- CA Repository for z/OS -----  
----- Load Sample Global Commands -----  
COMMAND ==>  
  
Load Sample Global Commands...  
  
Set SQLID to? ==> USER01  
  
Edit or Submit? ==> E (E-edit,S-submit)  
Save Output? ==> N (Y=yes,N-no)  
Output Data Set ==>  
  
Batch Job Card:  
==> //ARZOS01T JOB (10146), 'INSTALL',  
==> //          CLASS=B,MSGCLASS=X,  
==> //          MSGLEVEL=(1,1),REGION=0M,TIME=1440  
==> /*JOBPARM SYSAFF=CA11  
  
Enter ENTER command to continue or END command to EXIT.
```

2. Enter values into the fields as follows:

#### Set SQLID to

The SQLID you want to use when loading the commands.

If you enter a value in this field, a SET CURRENT SQLID statement is added to the start of the job.

#### Edit or Submit

Specify E.

### **Save Output**

Specify Y to save the generated JCL in Output Data Set.

Specify N to discard the JCL after running the job.

### **Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates

Ensure that you change the names if you do not want to overwrite any previously saved JCL.

### **Batch Job Card**

These fields default to the Job Card you specified when unloading tape or ESD pax file.

3. Press Enter to generate the JCL.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job and check the output for errors.
6. Press PF3 to return to the Installation Customization Menu.

## **Run the SHOPCNTL LOAD Program**

If you are using CA Repository for z/OS Webstation Option you must load WSO control data. The name of the program is SHOPCNTL and you run it from the PROGRAMS option on the Upgrade Customization Menu.

**Note:** If your site does not use CA Repository for z/OS Webstation Option skip this step.

**To run the SHOPCNTL program**

1. At the Installation Customization Menu, select option 13 Upgrade Menu. The Upgrade Customization Menu appears.
2. Select option 4 PROGRAMS to display the Execute Conversion Programs screen.
3. Enter SHOPCNTL in the Conversion Program field.
4. Enter E in the Edit or Submit field.
5. Press Enter. Review the generated JCL and make any necessary changes.
6. Type SUB on the command line and press Enter to submit the job.
7. Make sure the job ends successfully before continuing.  
If the job ends with any return code other than 0, contact CA Technical Support.
8. Press PF3 twice to return to the Installation Customization Menu.

## Complete the Installation

The CA Repository for z/OS installation is complete. You can now exit the Installation Facility by pressing PF3 from the Installation Customization Menu.

To begin your implementation, see the *CA Repository for z/OS Administration Guide* and the *CA Repository for z/OS Product Guide*.

# Chapter 7: Migration Information

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If you have already installed CA Repository for z/OS r4.0 or its previous version, you must first upgrade to r7 before migrating to r7.2. For more information about upgrading to r7, see *CA Repository for z/OS Installation Guide* for the Release 7.0.

**Note:** To monitor your progress, use the Migration Upgrade Steps Checklist in the appendix "Checklists."

This section contains the following topics:

- [Migration Considerations](#) (see page 210)
- [Copy the r7.2 DB2 Stored Procedures](#) (see page 212)
- [Copy Members to Custom Libraries](#) (see page 213)
- [CLIST Preparation](#) (see page 213)
- [Access the Installation Customization Menu](#) (see page 216)
- [Define Installation Defaults](#) (see page 218)
- [Specify the Models to Install](#) (see page 219)
- [Execute Preload SQL Statements](#) (see page 219)
- [Bind the Utility Plans and Packages](#) (see page 222)
- [Additional Steps for CA ERwin or Universal Exchange](#) (see page 224)
- [Load the New Data](#) (see page 227)
- [Run the RUNSTATS Utility](#) (see page 232)
- [Resynchronize the Tables](#) (see page 234)
- [Execute SQL Statements](#) (see page 238)
- [Run the RUNSTATS Utility](#) (see page 241)
- [Bind All Plans and Packages](#) (see page 242)
- [Refresh the WLM](#) (see page 244)
- [Load Component Data Tables](#) (see page 244)
- [Rebuild the ALL DBEXCEL Privilege](#) (see page 246)
- [Run the SHOPCNTL Load Program](#) (see page 247)
- [Update the Release Number](#) (see page 248)
- [Complete the Migration](#) (see page 250)

## Migration Considerations

Note the following migration upgrade guidelines:

- Before you start, ensure that you have installed the SPM/E portion of the CA Repository for z/OS r7.2. Refer to Chapter 4.
- Make sure that no one is logged on or actively using CA Repository for z/OS. You should also notify users not to use the product for the duration of the upgrade.
- Ensure that no CA Repository for z/OS jobs are running.

The migration upgrade drops and recreates some of the CA Repository for z/OS work tables. You may not be able to restart any work in progress such as CASE loads, migrations, and so on after you install the upgrade.

- Execute the steps in the order presented, as required for your specific migration upgrade unless you have specific instructions from CA Technical Support to do otherwise. For more information, see Migration Upgrade Considerations for Specific Situations.

**Note:** Many of the steps are mini-procedures that have a series of tasks that must be performed in order. Complete each task, and be certain that you complete each step successfully before generating or executing JCL for subsequent steps.

- *Do not* copy information from the screen examples in this guide. Be sure to follow the written instructions that accompany each step.
- Review the generated JCL.

Many of the installation steps give you the option to review and edit generated JCL prior to submitting it. CA recommends that you always review generated JCL before you submit it.

## Migration Upgrade Considerations for Specific Situations

The migration upgrade conversion processes are divided into the following three sections:

- **Pre-load Conversions**

Pre-load conversions are run prior to loading the metadata control tables with new and updated data. These conversions read the data from the control tables as they appeared in the prior release and act on it. For example, if an attribute name of an entity type must change, the pre-load conversion alters the table and adds the new column name. It then updates the new column with the value from the old column.

- **Load Control Data**

The load control data portion of the upgrade loads the control tables with the definitions for the new release and recreates the changed objects using the ReSync process.

- **Post-load Conversions**

Post-load conversions run after the control table loads. These conversion programs read data from the newly loaded control tables and act on it. For example, a new attribute must be populated from a still existing older attribute.

## Save Migration JCL

At every appropriate step, you can choose to save the JCL generated by that step (whether or not you choose to edit the JCL).

Be aware that the data set in which you store the JCL must be a partitioned data set. If you choose to save the JCL as you perform the installation, it is important to note that the data set and member you specify are saved from step to step.

**Important!** Ensure that you change the member name before you generate new JCL or you overwrite the JCL saved from the previous step.

## Back Up the Previous Release

**Important!** This step is not necessary when installing CA Repository for z/OS r7.2 on a new CSI. Otherwise, complete the steps for Backup the Previous Release

Before you start the migration process, ensure that CA Repository for z/OS r7 and data sets are backed up.

### To back up the previous release

1. Back up the CA Repository for z/OS r7 DB2 tables. You can use either of the following methods:

- CA RC/Migrator® for DB2 for z/OS to back up each CA Repository database along with the catalog definition in a single step.
- Image-copy the CA Repository for z/OS and catalog tables using IBM supplied utilities.

2. Back up the r7 CA Repository data set's libraries.

**Note:** If you have members in the 7.0 custom libraries (CAI.SHLQ.CUST.CLIST, CAI.SHLQ.CUST.ISPPLIB and/or CAI.SHLQ.CUST.ISPSLIB) other than the ARZOS and ARZUTUIL CLISTs then take backups of the libraries. After migration is complete and verified you can customize the 7.2 equivalent datasets.

## Copy the r7.2 DB2 Stored Procedures

This step copies the repository DB2 stored procedures into the DB2 stored procedure authorized library from the target load library. The DB2 authorized library is used in the STEPLIB concatenation of the DB2 workload manager.

**Important:** The DB2 stored procedure library must be a PDSE.

1. Retrieve member P\$INS08 from your CCPSJCL PDS.
2. Make the required global changes (see the instruction block).
3. Submit the JCL to complete this step.
4. Review the output for successful completion.

## Copy Members to Custom Libraries

This step copies several members from the distribution libraries to the custom libraries.

### To create new custom level libraries for r7.2

1. Retrieve member P\$INS09 from your CCPSJCL PDS.
2. Make the required global changes (see the instruction block).
3. Submit the JCL to complete this step.
4. Retrofit your r7 custom level libraries to your r7.2 custom level libraries.
5. Review the output for successful completion.

## CLIST Preparation

This section identifies the steps you must complete to access and customize the various CLIST used within the product.

### Make the CLISTs TSO-Accessible

The master ARZOS and ARZUTIL CLISTs reside in the CAI.SHLQ.CLIST library. However, a customized copy of these CLISTs also resides in the CAI.SHLQ.CUST.CLIST data set.

#### To make the ARZOS.CLIST executable, do one of the following operations:

- Copy the ARZOS.CLIST members to a CLIST data set already allocated to SYSPROC
- Add the ARZOS.CLIST data set to the SYSPROC concatenation in your LOGON PROC

**Note:** Users of variable blocked CLIST libraries must reallocate these libraries as VB.

## Customize NEWAPPL ID

If your organization will not be using the default NEWAPPL ID, NEWAPPL(DBEX), specified in the ARZOS CLISTs (ARZOS, ARZUTIL, DBXINST and DBXSQLX), you must complete the following steps. Otherwise proceed to Customize NEWAPPL ID.

1. Copy the DBXINST and DBXSQLX CLISTS from the installation CLIST library (HLQ.CLIST) to your HLQ.CUST.CLIST library.
2. Change the value of NEWAPPL to reflect your APPLID in ARZOS, ARZUTIL, DBXINST and DBXSQLX.

## The ARZOS CLIST

This step identifies the files allocated by the ARZOS CLIST and describes the customization that you need to complete.

Once the CLISTS are in a location accessible by TSO, you must edit the ARZOS member containing the CLIST that invokes both the Installation Customization Menu and the CA Repository for z/OS products. This CLIST performs ISPF LIBDEFs to get the ISPF portion of CA Repository for z/OS ready to run. It also allocates files that the product requires.

**Note:** The LE run-time libraries and DB2 load library should be allocated through the LINKLIST or LOGON PROC. If this is not the case, these libraries can be STEPLIBed within the ARZOS CLIST.

## Files Allocated by the ARZOS CLIST

In addition to the ISPF data sets, the ARZOS CLIST includes several file allocations used by the configuration and migration of the CA Repository products. The following table lists these files and their respective purposes.

| <b>File</b> | <b>Purpose</b>                             | <b>Use</b>                         |
|-------------|--|------------------------------------|
| DBXDDL      | Temporary file for DDL generation          | Product execution                  |
| DBXISPF1    | Temporary file for DDL generation          | Product execution                  |
| DBXISPF2    | Temporary file for DDL generation          | Product execution                  |
| DBXPARM     | Repository Parameters (required)           | Installation and product execution |
| DBXRPT      | Temporary file for viewing reports         | Product execution                  |
| DBXTEMP     | Temporary file for creating online reports | Product execution                  |
| DBXTEXT     | Temporary file for text editing            | Product execution                  |
| ISPFIL      | Temporary file for generating JCL          | Product execution                  |

| <b>File</b> | <b>Purpose</b>                             | <b>Use</b>        |
|-------------|--|-------------------|
| SYSPRINT    | Used for online debugging                  | Product execution |
| CNTLOUT     | Temporary file for the Director GUI editor | Product execution |

The allocation for DBXDDL, DBXPLAN, DBXRPT, DBXTEMP, and DBXTEXT are specific to each user of the product. They are created each time a user invokes CA Repository for z/OS and are deleted when that user exits the product.

The SYSPRINT file used for debugging is created if it does not already exist. The CLIST needs to have a user-accessible, generic unit specified (the current value is SYSDA) that is available at your site. If your site does not allow the use of a TSO ID as the first node in data set allocations, you must add an additional, generic node to each of these allocations.

## Customize the ARZOS CLIST

### To customize the ARZOS CLIST

1. Change the qualifier TDSNQ to the high-level qualifier you used to create the base data sets. During the SMP/E portion of the install, parameter P\$SHLQ was used to indicate the base library prefix.
2. Change the Qualifier TDCNQ to the high-level qualifier you used to create the custom data sets. During the SMP/E portion of the install, parameter TDCNQ was used to indicate the custom library prefix.
3. Change the value of the UNIT parameter if necessary (these are temporary data sets so system work packs are acceptable).
4. If your organization is not using the default NEWAPPL(DBEX) you must update the value of this parameter so that it reflects your organization's applid. For additional details, see Customize NEWAPPL ID.

## Execute the ARZOS CLIST

When the installation is complete you will be able to access the ARZOS CLIST by entering the following command on the ISPF command line:

```
TSO ARZOS
```

## The ARZUTIL CLIST

The ARZUTIL CLIST generates JCL for various utilities. The following steps tell you how to customize and execute this CLIST.

## Customize the ARZUTIL CLIST

### To customize the ARZUTIL CLIST

1. Change the Qualifier TDCNQ to the high-level qualifier you used to create the custom data sets. During the SMP/E portion of the install, parameter TDCNQ was used to indicate the custom library prefix.
2. Change the value of the UNIT parameter if necessary (these are temporary data sets so system work packs are acceptable).
3. If your organization is not using the default NEWAPPL value, NEWAPPL(DBEX), you must update the value of this parameter so that it reflects your organization's applid. For additional details, see [Customize NEWAPPL ID](#).

The ARZUTIL CLIST generates JCL for various utilities. You must edit the CLIST and change all references of TDCNQ to the high-level qualifier you used to create the custom data sets. During the SMP/E portion of the install, parameter TDCNQ was used to indicate the custom library prefix.

## Execute the ARZUTIL CLIST

You can access the Utility Menu by entering the following command on the ISPF command line:

```
TSO ARZOS U
```

## Access the Installation Customization Menu

After you unload the ISPF data sets and customize the ARZOS CLIST, you can access the CA Repository for z/OS Installation Customization Menu that lists options for installing, customizing, and upgrading the repository and its add-on tools. Each of the menu options represents a step in the installation process.

**To display the Installation Customization Menu screen**

1. Enter the following at the ISPF command line:

```
TSO ARZOS I
```

The Installation Customization Menu appears.

2. Continue with installation.

```
----- CA Repository for z/OS -----
----- Installation Customization Menu -----

COMMAND ==>

      1 Defaults           - Define Installation Defaults
      2 DB2 Defaults       - Define DB2 Install Options
      3 ISPF Defaults      - Define ISPF Install Options
      4 Products           - Set Product Switches
      5 Batch              - Set-up Batch Parameters
      6 Steplib            - Setup Steplib member
      7 Create             - Create DB2 Objects for Control Information
      8 Load               - Load DB2 Control Tables
      9 Plans              - Prepare Repository Plans and Packages
     10 Create Data        - Create DB2 Objects for Data Tables
     11 Security           - Grant User Privileges
     12 DB2 Utilities      - RUNSTAT, REORG, ALTER Repository Tablespaces
     13 Upgrade Menu      - Install Upgrades
     14 Name Gen           - Define Name Gen Parameters
     15 Component Load    - Load Data for Components
     16 Path Load         - Load Sample Path Definitions
     17 Domain Load       - Load Sample Domain Definitions
     18 Global Cnds       - Load Sample Global Commands

More:

Enter END command to EXIT.
```

**The Installation Customization Menu**

You perform most of the customization tasks from the Installation Customization Menu. The following are general guidelines for using this ISPF-based menu.

- To select a menu option, type the number of the menu option at the command line, and then press Enter. For example, if the instructions say Select option 1, type **1** at the command line and press Enter.
- When you are on a menu screen, use the arrow keys or the Tab key to move between fields. Do **not** press Enter until you finish entering all the necessary fields.

- Press PF3 to exit an installation screen or, if you are at the Installation Customization Menu, to exit the Installation Facility.
- To see all options, use the scroll keys PF7 (up) and PF8 (down).

**Note:** The values entered at each of the screens accessed using the Installation Customization Menu are saved to the DBXPARM parameter file in the ISPLLIB data set when you exit the installation process. The message DBXPARM UPDATED appears each time you exit an installation option screen. This update procedure ensures that the values you enter will not be lost if the CLIST terminates abnormally.

## Define Installation Defaults

To carry over the installation defaults to r7.2, you may refer to the DBXPARM in the CAI.SHLQ.CUST.ISPLLIB from your r7 installation. You will need to update the DBXPARM in CAI.SHLQ.CUST.ISPLLIB for your r7.2 libraries before verifying the defaults. For details about installation defaults, see Define Installation Defaults in the chapter "Configuring Your Product."

### To verify Installation Defaults

- At the Installation Customization Menu, select option 1 Defaults. The Default Values screen appears.
- Default values from the DBXPARM member display.
- When you finish, enter END or press PF3 to redisplay the Installation Customization Menu.

### To verify The DB2 Defaults

- At the Installation Customization Menu, select option 2 DB2 Defaults. The DB2 Defaults screen appears.
- The DB2 values appear.
- When you are done, enter END or press PF3 to redisplay the Installation Customization Menu.

### To verify the ISPF default libraries

- At the Installation Customization Menu, select option 3 ISPF Defaults. The ISPF Default Libraries screen appears.
- The ISPF Default libraries display.
- When you are finished, enter END or press PF3 to redisplay the Installation Customization Menu. If you need to make changes later, you can reselect the screen and enter them during any installation step.

**To verify the STEPLB member**

- At the Installation Customization Menu, select option 6 STEPLIB. The Edit screen appears.
- The STEPLIB DSN names previously defined appear.
- Press PF3 to exit the panel and return to the Installation Customization Menu.

**Note:** If changes are needed make them here by updating the STEPLIB.

## Specify the Models to Install

**To specify which CA Repository for z/OS models you are installing**

1. If you currently have data loaded into the repository that is no longer supported with this product release, and you want to retain the ability to view the non-supported data, you must complete the instructions contained in the Non-Supported Models checklist in the appendix "Checklists."

**Important!** Failure to complete this task prior to execution of this step results in loss of non-supported data.

2. At the Installation Customization Menu, select option 4 Products. The Model/Control data Selection screen appears.

The models that were previously selected remain.

3. If you want to select this model change the value to **Y** then enter the END command or press PF3 to return to the Installation Customization menu.

**Note:** If you are not certain which models to install, see the Product/Model Checklist in the appendix "Checklists," or refer to your license agreement.

4. When you are finished, enter the END command or press PF3 to return to the Installation Customization Menu. If you need to make changes, you can reselect this screen and enter your changes during any step of the installation process.

## Execute Preload SQL Statements

You must now execute the SQL statement prior to loading new control data. This statement is contained in the upgrade statement file, which you can run from an option on the Installation Upgrade Customization Menu.

The purpose of the file is as follows:

| File | Contains Statements That ... |
|------|------------------------------|
| 6    | Update OO Model objects      |

| <b>File</b> | <b>Contains Statements That ...</b>  |
|-------------|--|
|             | Update Entity 27521 RETURNS. Change Association to Relationship.<br>Set Target object to 27509<br>Update Entity 27504 CL IN FL. Change Association To Relationship. Set<br>Source object to 27517<br>Update Entity 27507 CL MB FU. Change Association To Relationship.<br>Set Source object to 27517 |
| 11          | Install WSO DB2 Objects.<br><b>Note:</b> New WSO tables in r7.2 have been added  |
| 17          | Add items new to r7.2<br>Add APPROVAL REQUIRED flag to ENT TYPE DESC Table<br>Add approval table<br>Add new stored procedures  |

**To execute the statement files**

1. At the Installation Upgrade Customization Menu, select option 3 SQL.  
The Execute Release Statements screen appears.
2. Enter field values as follows:

**Release Statement File**

Specify 6.

Set SQLID to

The SQLID you want to use when creating the DB2 objects. If you enter a value in this field, a SET CURRENT SQLID statement is added to the beginning of the DB2 statements.

**Edit or Submit**

Specify E.

**Save Output**

Specify Y to save the generated JCL in the partitioned data set specified in Output Data Set (below).

Specify N to discard the JCL after submission.

**Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates. Ensure that you change the names if you do not want to overwrite any previously saved JCL.

**Batch Job Card**

The batch Job statement you want included with the JCL stream generated by this procedure. Any field left blank defaults to a JCL comment (//\*).

3. Press Enter to generate the JCL.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job and review the results for successful completion codes (0). Errors you may encounter are as follows.

| <b>Error</b> | <b>Occurs when</b>  | <b>And can be resolved by</b> |
|--------------|---|-------------------------------|
| +562         | A grant is ignored because the grantee already has the requested privilege. | Ignore this error.            |
| -601         | The object already exists. Ignore this error.                               |                               |

Investigate any other errors with CA Technical Support.

6. Press PF3 twice to return to the Installation Customization Menu.
7. Repeat Steps 2 through 5. When setting up the parameters for Step 2, change the value of the Release Statement File from:
  - a. 6 to 11
  - b. 11 to 17
8. Press PF3 twice to return to the Installation Customization Menu.

## Bind the Utility Plans and Packages

In this step, do the following:

- Bind the CA Repository for z/OS utility plans and packages
- Grant access to the bound plans

Once the plans and packages are bound, CA Repository GRANTS access to PUBLIC for the CA Repository plan. Granting to PUBLIC saves time required to enroll new users and saves DB2 connection time when checking for plan access privileges.

### To bind the utility plans and packages

1. At the Installation Customization Menu, select option 9 Plans. The DB2 Plans and Packages screen appears.

```
----- CA Repository for z/OS -----  
----- DB2 Plans and Packages -----  
COMMAND ==>  
  
Prepare Packages ...  
Utility, All, or Foreign packages? ==> U (U, A, F)  
  
    Set SQLID to? ==> ARZUSER  
      BIND Plans? ==> Y (Y=yes,N=no)      Auth ID of Plan? ==>  
Grant to PUBLIC? ==> N (Y=yes,N=no)  
Foreign Cat SSIDs? ==> ==>  
Foreign Cat DB2VER? ==> ==>  
Edit or Submit? ==> E (E-edit,S-submit)  
Save Output? ==> N (Y=yes,N=no)  
Output Data Set ==>  
  
Enter ENTER command to continue or END command to EXIT.
```

2. Enter values into the fields as follows:

#### Utility, All, or Foreign packages

Specify U to bind only the Utility packages.

#### Set SQLID to

The SQLID you want to use when creating the plans.

If you enter a value in this field, a SET CURRENT SQLID statement is added to the beginning of the job.

#### BIND Plans

Specify Y to bind the plans and packages.

#### AUTHID of Plan

Specifies the AUTHID to use for the OWNER parameter of the bind.

**Grant to PUBLIC**

Specify Y to grant access to the generated plans to the special DB2 ID, PUBLIC.

PUBLIC access to a plan does not grant individual users access to the Repository data. We recommend that this switch be set to Y during the initial repository installation.

**Foreign Cat SSIDs**

Leave blank.

**This field should be blank during the initial installation.**

**Foreign Cat DB2VER**

Leave blank.

This field should be blank during the initial installation.

**Edit or Submit**

Specify E.

**Save Output**

Specify Y to save the generated JCL in the data set specified in Output Data Set.

Specify N to discard the JCL after running the job.

**Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates.

Ensure that you change the names if you do not want to overwrite any previously saved JCL.

3. Press Enter.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job and check the output for errors. Things to look for include:
  - Occurrences of the word UNSUCCESSFUL in the job output.  
Unsuccessful BINDs that you can ignore are listed in the following table. If any unsuccessful BINDs occur that are not listed in the table, report them to CA Technical Support.
  - A non-zero return code for the job.

| Package | Action  |
|---------|---|
| PRMPR32 | Can be ignored if you are using CA InfoRefiner and the CA InfoRefiner tables are not in this DB2 subsystem. |

| Package | Action   |
|---------|--|
| DBXLQMF | Can be ignored if the QMF object tables were not installed into the DB2 subsystem. |

If the job ends with any return code other than 0, contact CA Technical Support.

6. Press PF3 twice to return to the Installation Customization Menu.

**Note:** The plan and collection names that this step generates are written to the DBXPARM member in the CAI.SHLQ.CUST.ISPPLIB data set for use after the installation.

## Additional Steps for CA ERwin or Universal Exchange

If you are installing CA Repository Exchange for CA ERwin Data Modeler or Universal XML Exchange, you must:

- Drop PRMXML tables
- Create work tables

Detailed information is provided in the following sections.

### Drop PRMXML Tables

If you have installed the CA Repository Exchange for CA ERwin Data Modeler or Universal XML Exchange the PRMXML tables must be dropped. These tables are recreated in the next step, Create Work Tables.

Ensure that you understand the contents of the statement files before you submit them, and check the results of each submission before submitting the next file.

Submit the statement files in the order shown in the following table:

| File | Contents   |
|------|--|
| 12   | Drop tables PRMXML_OI, PRMXML_AI, PRMXML_PI, and PRMXML_TI |

**To execute the statement files**

1. At the Installation Upgrade Customization Menu, select option 3 SQL. The Execute Release Statements screen appears.
2. Enter values into the fields as follows:

**Release Statement File**

Specify 12.

**Set SQLID to**

The SQLID you want to use when creating the DB2 objects. If you enter a value in this field, a SET CURRENT SQLID statement is added to the beginning of the DB2 statements.

**Edit or Submit**

Specify E.

**Save Output**

Specify Y to save the generated JCL in the partitioned data set specified in Output Data Set (below).

Specify N to discard the JCL after submission.

**Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates. Ensure that you change the names if you do not want to overwrite any previously saved JCL.

**Batch Job Card**

The batch Job statement you want included with the JCL stream generated by this procedure. Any of these fields left blank default to a JCL comment (/\*).

3. Press Enter to generate the JCL.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job and review the results for successful completion codes (0).

If you receive a -204 error when running file 12, you can ignore it if you have not previously installed CA Repository Exchange for ERwin.

Contact CA Technical Support if you have any questions about these recommendations.

6. Press PF3 twice to return to the Installation Customization Menu.

## Create Work Tables

If you have installed CA Repository Exchange for CA ERwin Data Modeler or the CA Repository Universal XML Exchange, you must create the PRMXML tables and other work tables.

Ensure that you understand the contents of the statement files before you submit them, and check the results of each submission before submitting the next file.

Submit the statement files in the order shown in the following table:

---

| <b>File</b> | <b>Contents</b>                     |
|-------------|-------------------------------------|
| 9           | Recreate CA Repository work tables. |

---

### To execute the statement files

1. At the Installation Upgrade Customization Menu, select option 3 SQL. The Execute Release Statements screen appears.
2. Enter values into the fields as follows:

#### **Release Statement File**

Specify 9.

#### **Set SQLID to**

The SQLID you want to use when creating the DB2 objects. If you enter a value in this field, a SET CURRENT SQLID statement is added to the beginning of the DB2 statements.

#### **Edit or Submit**

Specify E.

#### **Save Output**

Specify Y to save the generated JCL in the partitioned data set specified in Output Data Set (below).

Specify N to discard the JCL after submission.

**Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates. Ensure that you change the names if you do not want to overwrite any previously saved JCL.

**Batch Job Card**

The batch Job statement you want included with the JCL stream generated by this procedure. Any of these fields left blank default to a JCL comment (/\*).

3. Press Enter to generate the JCL.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job and review the results for successful completion codes (0). You may receive a -601 error when the named table or index already exists. You may receive a -562 SQL error when a grant is performed for a user who already has the privilege. In the case of a -601 or -562 SQL error the job will end with a return code of 8. Ignore this error for all DB2 objects except the tablespaces, tables, and indexes for tables starting with PRMXML.

Contact CA Technical Support if you have any questions about these recommendations.

6. Press PF3 twice to return to the Installation Customization Menu.

## Load the New Data

This step loads the upgrade's new and modified code tables, commands, dialogs, entity types, messages, and maps.

**Note:** This step creates several temporary control tables that it uses to determine what it should delete from your control tables. The intent is to delete only rows that contain CA-supplied data and then reload the new data. Any additions or changes you have made to the control data are retained when the CA control data is reloaded. Contact CA Technical Support if you have any questions about this process.

## Load the Data

### To load the new data

1. At the Installation Upgrade Customization Menu, select option 5 LOAD. The Load Repository Control Information screen appears:

```

--- Upgrade - Load Repository Control Information -----
COMMAND ==>
  Load control tables...
    DIALOGs? ==> Y    CODE TABLEs? ==> Y
    ENTITYs? ==> Y    IO MAPs? ==> Y
    MESSAGEs? ==> Y    COMMANDs? ==> Y

  Set SQLID to ? ==>
  Current Contents? ==> (A-add,R-replace,P-new products)
  Edit or Submit? ==> E (E-edit,S-submit)
  Save Output? ==> N (Y=yes,N-no)
  Output Data Set ==>

Batch Job Card:
==> //PDAAC350 JOB (33010,200), '350 INSTALL',CLASS=A,
==> //          MSGLEVEL=(1,1),MSGCLASS=X,
==> //          NOTIFY=PDAACA,REGION=0M,TIME=1440
==> //*

Enter ENTER command to continue or END command to EXIT.
    
```

2. Enter values into the other fields as follows:

| Field                                  | Enter  |
|--|--|
| All switches under Load Control Tables | Y  |
| Set SQLID to                           | Leave this field blank.  |
| Current Contents                       | A  |
| Edit or Submit                         | E  |
| Save Output                            | Y-To save the JCL stream generated by this step to the partitioned data set specified in Output Data Set (following).<br>N-To discard the JCL after submission.  |
| Output Data Set                        | The fully-qualified data set name (without quotation marks) of the partitioned data set where you want to save the output.<br><br>This step overwrites any information already in the specified data set, so make sure you change the member name before generating the JCL. |
| Batch Job Card                         | The batch job statement you want included with the JCL   |

| Field | Enter  |
|-------|--|
|       | stream generated by this procedure. If you leave any of these fields blank, it defaults to a JCL comment (/*). |

3. Press Enter to generate the JCL.
4. Review the generated JCL and make needed changes, then enter **SUB** on the command line and press Enter to submit the job.
5. Verify that the job ran successfully before continuing.

Common errors, their causes, and the appropriate solutions are listed in the following table:

| Error    | Occurs When   | Resolve By   |
|----------|---|--|
| SQL +100 | This job updates the CA-supplied flag on a table with no extensions.          | Ignore this error.   |
| SQL -206 | The job attempts to insert data to a column that is not defined to the table. | Taking a screen print of the error and contacting CA Technical Support.  |
| SQL -204 | The job attempts to insert to a non-existing table.                           | Investigating the job output from the previous step for errors.  |
| SQL -803 | The job encountered a duplicate row.  | See the section Analyzing Duplicate Row Errors below.  |
| SQL -904 | A resource needed to perform the LOADs was unavailable.                       | Retrying the operation. If the error persists, contract your DBA to ensure the needed resource is operational. |

Contact CA Technical Support if you encounter any additional errors or if you have any questions regarding the above recommendations.

6. Press PF3 to return to the Installation Upgrade Customization Menu.

## Analyze Duplicate Row Errors

Because CA Repository is saving customizations that your site has made to control data (for example, dialogs and messages), the load job may cause duplicate row errors during the load. Errors such as these are caused by existing rows and do not cause problems in CA Repository.

In some instances, however, duplicate row errors can occur when the load job tries to install two or more identical rows; this indicates a problem that you need to resolve with CA Technical Support.

After the load job ends, review the job's SYSPRINT DD for any duplicate row errors (**Hint:** Search for the literal DISCARDED). Investigate the discard file associated with the table from which rows were discarded. Use the following table to determine in which discard file to look:

| <b>Table with Discard Errors</b> | <b>Location of Rejections</b> |
|----------------------------------|-------------------------------|
| DBX_DIALOG                       | USERID.DLG.DISCARD            |
| DBX_ENT_TYPE_DESC                | USERID.ENT.DISCARD            |
| DBX_SET_TYPE                     | USERID.SET.DISCARD            |
| DBX_POLICY                       | USERID.PLC.DISCARD            |
| DBX_IO_MAP_DESC                  | USERID.MAP.DISCARD            |
| DBX_IO_MAP_ATTR                  | USERID.MAPA.DISCARD           |
| DBX_SCREEN_ATTR                  | USERID.SCRA.DISCARD           |
| DBX_SCREEN_LIT                   | USERID.SCRL.DISCARD           |
| DBX_PRODUCT_MAP                  | USERID.PRDM.DISCARD           |
| DBX_MSG_DESC                     | USERID.MSG.DISCARD            |
| DBX_MSG_TEXT                     | USERID.MSGT.DISCARD           |
| DBX_SEC_DEF                      | USERID.CMD.DISCARD            |
| DBX_CODE_TBL                     | USERID.CDT.DISCARD            |
| DBX_CODE_VARIANCE                | USERID.CDTV.DISCARD           |

**Note:** Many duplicate row errors are caused by extensions made to the base CA Repository. If you are an installer who is not the CA Repository Administrator, investigate duplicate row errors with the Administrator who knows what is expected in these files.

Possible causes for duplicate row errors resulting from user extensions for each table are listed below. This is not intended to be a complete list, but only to give examples and to help shed light on any discarded rows you may be investigating.

| <b>Table</b>      | <b>Possible Cause of Duplicate Row Errors</b>   |
|-------------------|---|
| DBX_CODE_TBL      | Modifying a code table's type or validation rule causes that code table definition to remain once the CA-supplied data is deleted. When DB2 attempts to reload that code table definition, it is rejected since it already exists. This discarded row can be ignored. |
| DBX_CODE_VARIANCE | Modifying the value of a code table variance or changing the allowable numeric range causes a   |

| Table             | Possible Cause of Duplicate Row Errors  |
|-------------------|---|
|                   | <p>variance to remain in the control table once the CA-supplied data is deleted. When DB2 attempts to reload this variance, it is discarded since it already exists. This is expected, so you can ignore these rejections.</p>  |
| DBX_DIALOG        | <p>Replacing a map used in a dialog for an entity type with your own customized map causes that row to be discarded.</p> <p>For example, you created a new map for the ELEMENT entity type (204) called 1204, and used this in the Oracle dialog. When DB2 tries to load that row for the Oracle dialog, entity type 204, map 204, it is discarded because entity type 204 already has a map (1204) in the DBX_DIALOG table for the Oracle dialog. In these cases, you can ignore the rejected row.</p>                   |
| DBX_ENT_TYPE_DESC | <p>Toggling the Duplicates flag on an entity type causes that row to remain in the DBX_ENT_TYPE_DESC table once CA-supplied data is deleted. Subsequently, when DB2 attempts to reload the row for that entity type, it is discarded since the entity type definition already exists.</p> <p>Other changes that you may have made to entity types include changing source or target entity types or source or target cardinalities on associations and relationships. You can ignore rows rejected for these reasons.</p> |
| DBX_IO_MAP_DESC   | <p>CA Repository blindly removes <i>all</i> maps with a MAP_ID less than 1000 or greater than 25000. Any modifications you make to CA-supplied maps should be saved as a new map in the 1000 to 25000 range. There should not be any discarded rows here. If there are, contact CA Technical Support.</p>   |
| DBX_IO_MAP_ATTR   | <p>CA Repository blindly removes <i>all</i> maps with a MAP_ID less than 1000 or greater than 25000. Any modifications you make to CA-supplied maps should be saved as a new map in the 1000 to 25000 range. There should not be any discarded rows here. If there are, contact CA Technical Support.</p>   |
| DBX_MSG_DESC      | <p>Any CA-supplied message that you have built from the Extend dialog is subsequently discarded when DB2 tries to reload the original message. You can ignore these rejected rows.</p>  |
| DBX_MSG_TEXT      | <p>Any CA-supplied message that you have built from</p>   |

| <b>Table</b>    | <b>Possible Cause of Duplicate Row Errors</b>  |
|-----------------|--|
|                 | the Extend dialog is subsequently discarded when DB2 tries to reload the original message. You can ignore these rejected rows.   |
| DBX_POLICY      | If you removed the CA-supplied policy on the ELEMENT entity type and created your own, the CA-supplied policy may be discarded by DB2. You can ignore this rejection.  |
| DBX_PRODUCT_MAP | There should not be any discarded rows here. Contact CA Technical Support if there are.  |
| DBX_SCREEN_ATTR | CA Repository blindly removes <i>all</i> maps with a MAP_ID less than 1000 or greater than 25000. Any modifications you make to CA-supplied maps should be saved as a new map in the 1000 to 25000 range. There should not be any discarded rows here. If there are, contact CA Technical Support. |
| DBX_SCREEN_LIT  | CA Repository blindly removes <i>all</i> maps with a MAP_ID less than 1000 or greater than 25000. Any modifications you make to CA-supplied maps should be saved as a new map in the 1000 to 25000 range. There should not be any discarded rows here. If there are, contact CA Technical Support. |
| DBX_SEC_DEF     | Adding a user exit to a command, for example, prevents the command from being deleted and causes it to be discarded when DB2 reloads the command data. You can ignore these rejections.  |
| DBX_SET_TYPE    | There should not be any discarded rows here. If there are, contact CA Technical Support.   |

## Run the RUNSTATS Utility

At this point you must update the catalog statistics of the CA Repository DB2 tables using the DB2 utility RUNSTATS. The statistics are used to calculate the size of the unload data sets in the Create the New Tables and Resynchronize Existing Tables. These statistics are run against the tables for all products you selected in Define Installation Defaults.

**To run RUNSTATS**

1. At the Installation Customization Menu, select option 12 DB2 Utilities. The Run DB2 Utilities screen appears.

```

----- Installation - Run DB2 Utilities -----
COMMAND ==>

Execute Utilities

      Utility? ==> RUNSTAT (RUNSTAT,REORG,ALTER)
      Edit or Submit? ==> E (E-edit,S-submit)
      Save Output? ==> N (Y=yes,N-no)
      Output Data Set ==>

Enter ENTER command to continue or END command to EXIT

```

2. Enter values into the fields as follows:

**Utility**

Specify RUNSTAT.

**Edit or Submit**

Specify E.

**Save Output**

Specify Y to save the generated JCL in the data set specified in Output Data Set.

Specify N to discard the JCL after running the job.

**Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates. Ensure that you change the names if you do not want to overwrite any previously saved JCL.

3. Once values are entered in all the fields, press Enter. The JCL for running RUNSTATS appears.
4. Check the generated JCL before submission and correct any system conflicts.
5. Submit the job and review the results a RC of 4 is expected.
6. Use the END command or press PF3 to redisplay the Installation Customization Menu.

**Note:** The DB2 Utilities screen performs the RUNSTATS and REORG utilities only on tables created in the databases listed in your DB2 Defaults (see Define DB2 Defaults). If extended entity tables are in different databases, you need to create the utility JCL by hand.

For more information about these utilities see the appropriate IBM DB2 for z/OS Utilities Guide.

## Resynchronize the Tables

**Note:** This step works only if Bind the Utility Plans and Packages completed successfully.

There are three parts to this step, as follows:

- The first part generates two additional jobs (UNLOAD and RECREATE JCL)
- The second and third parts are to run UNLOAD and RECREATE JCL

## Create the New Tables and Resynchronize Existing Tables

This step creates the new tables required for this release of CA Repository with the specific products you have licensed. It also resynchronizes the existing CA Repository tables with new maps provided with this release of CA Repository.

### To create new tables and resynchronize existing tables

1. At the Installation Customization Menu, select option 13.

The Installation Upgrade Customization Menu appears.

2. Select option 7 ReSync.

The ReSync Repository Tables screen appears.

```

----- CA Repository for z/OS -----
----- ReSync Repository Tables -----
COMMAND ==>

Generate Syntax for Synchronizing Repository Maps with DB2 Tables ...
(Note: all three must be sequential datasets)

      DDL Out Data Set ==> ARZUSER.R72TF.DDL

      Unload Jcl Data Set ==> ARZUSER.R72TF.UNL
      Recreate Jcl Data Set ==> ARZUSER.R72TF.RECRE

      Set SQLID to? ==> ARZUSER
      Save Output? ==> N (Y=yes,N=no)
      Output Data Set ==>

      Edit or Submit? ==> E (E-dit,S-ubmit)

Batch Job Card:
==> //ARZUSER JOB (10146),'INSTALL',
==> //          CLASS=B,MSGCLASS=X,
==> //          MSGLEVEL=(1,1),REGION=0M,TIME=1440
==> /*JOBPARM SYSAFF=CA11

```

3. Enter values into the fields as follows:

#### DDL Out Data Set

The fully qualified name (no quotation marks) of the sequential data set that holds the DDL to create all new CA Repository table spaces, tables, and indexes.

#### Unload JCL Data Set

The fully qualified name (no quotation marks) of the sequential data set that holds the UNLOAD JCL for all CA Repository tables and associated DB2 objects that have changed with this upgrade.

#### Recreate JCL Data Set

The fully-qualified name (no quotation marks) of the sequential data set that holds the RECREATE JCL for all CA Repository tables and associated DB2 objects that have changed with this upgrade.

#### Set SQLID to

The SQLID you want to use when creating the DB2 objects. If you enter a value in this field, a SET CURRENT SQLID statement is added to the beginning of the DB2 statements.

**Save Output**

Specify Y to save the generated JCL in the partitioned data set specified in Output Data Set (below).

Specify N to discard the JCL after submission.

**Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates. Ensure that you change the names if you do not want to overwrite any previously saved JCL.

**Edit or Submit**

Specify E.

**Batch Job Card**

The batch Job statement you want included with the JCL stream generated by this procedure. If you leave any of these fields blank, it defaults to a JCL comment (//\*).

4. Press Enter to display the JCL for generating the required DDL.
5. Check the generated JCL before submitting and correct any conflicts with your system environment.
6. Submit the job. The job generates and execute the DDL, and then generate the UNLOAD and RECREATE JCL, storing them in the data sets you specified.

**Note:** If these files are empty, there is nothing to unload or recreate.

7. Review the results of the Create the new tables and resynchronize the existing tables and resubmit the job if necessary. A list of potential errors and their resolutions follows.

| <b>Error</b>         | <b>Occurs When</b>   | <b>Resolve By</b>  |
|----------------------|--|--|
| SQL -104             | There is an illegal symbol in the CREATE syntax.   | Revisiting menu options 0 and 1 to verify your DB2 settings.   |
| SQL -601             | The name of an object to be created is identical to an existing object.  | Resolution is not necessary. Ignore this error and proceed with the installation.  |
| SQL -805 or EXT00019 | A DBRM or package name was not found in a plan. This usually means that the Binding the Utility Plans and Packages step did not complete successfully. | Reviewing the job output from the Binding the Utility Plans and Packages step and correcting any errors there. Rerun this job when you have resolved the errors. |
| SQL -904             | A resource needed to   | Retrying the operation. If the error   |

| <b>Error</b>                         | <b>Occurs When</b>   | <b>Resolve By</b>   |
|--------------------------------------|--|---|
|                                      | perform the CREATE was unavailable.                                      | persists, contact your DBA to ensure the needed resource is operational. Pay particular attention to the space allocations and availability within the STOGROUP. You can reduce the Primary and Secondary Quantities for the time being, but you have to increase them at a later date. |
| RC=6 on the CRTDDL step              | CA Repository determined that it does not need to create any new tables. | Resolution is not necessary. Ignore this error and proceed with the installation. CA Repository appropriately skips the CRTALL step.  |
| RC=8, SQL -501, or EXT00015          | The Loading the New Data step was not executed successfully.             | Checking the Product Selection switches (see Specify the Models to Install), then rerunning the metadata loads.   |
| RC=8; SQL -104, -204, -551; EXT00018 | The CREATE syntax is being generated incorrectly.                        | Rechecking the DB2 and ISPF settings for the Installation Facility.   |
| RC=8 or RC=998                       | The operation cannot find a requested module or message (ISPXXX).        | Rechecking the ISPF settings (see Specify ISPF Default Libraries) for the Installation Facility.  |

8. Review the contents of the UNLOAD and RECREATE data sets. If these data sets are empty, press PF3 to return to the Installation Upgrade Customization Menu and then proceed to Execute SQL Statements.

## Run the UNLOAD from the Resynchronize Process

The UNLOAD JCL is stored in the Unload data set created in the previous step (see Create the New Tables and Resynchronize Existing Tables). If the data set is empty, there is nothing to unload. Continue to Execute SQL Statements.

### To run the unload

1. Check the JCL and correct any conflicts with your system environment.
2. Submit the JCL. The job unloads data from CA Repository tables that changed.

3. Review the job output. If any errors occurred during processing, see the table in Create the New Tables and Resynchronize Existing Tables.
4. Proceed to Run the RECREATE from the Resynchronize Process step.

**Note:** Any tables that are recreated as a result of this step are in a copy pending state in DB2. These table spaces must either be image-copied or started before they can be modified.

## Run the RECREATE from the Resynchronize Process

The RECREATE JCL is stored in the Recreate data set created in Create the New Tables and Resynchronize Existing Tables. If the data set is empty, then there is nothing to recreate. Continue to the next step.

### To run the recreate

1. Check the JCL and correct any conflicts with your system environment.
2. Submit the JCL. The job drops, recreates and reloads data from Repository tables that changed.
3. Review the job output. If any errors occurred during processing, see the table in Create the New Tables and Resynchronize Existing Tables.

## Execute SQL Statements

You must now execute special sets of SQL statements to modify some of the DB2 objects used by the CA Repository. These statements are contained in upgrade statement files, which you can run from an option on the Installation Upgrade Customization Menu.

The purpose of these files is as follows:

| File | Contains Statements That ...   |
|------|--|
| 1    | Create view, primary key and foreign key for the DBX_WORKSTATION_D table.<br>Create views for Webstation Option  |
| 2    | Create additional indexes for elements and workstation table<br>Create tablespace and table 'TEMP_SUBTYPES'  |
| 4    | Create History tables and Triggers for the text, cross reference and workstation cross reference tables.<br><b>NOTE:</b> If you have created History tables in r7 you can skip executing the DDL in this file. |

| <b>File</b> | <b>Contains Statements That ...</b>   |
|-------------|---|
| 10          | Add APPREQ information to DBX SYSTEM table.   |
| 19          | Add new datatype NVARCHAR,NCHAR to DBX DDL ELEMENTS table. The DDL will set the datatype to NVARCHAR and NCHAR where it is currently USER and the picture clause is nvarchar, nchar, NVARCHAR or NCHAR. |

### To execute the statement files

1. At the Installation Upgrade Customization Menu, select option 3 SQL. The Execute Release Statements screen appears.
2. Enter values into the fields as follows:

#### Release Statement File

Specify 1.

#### Set SQLID to

The SQLID you want to use when creating the DB2 objects. If you enter a value in this field, a SET CURRENT SQLID statement is added to the beginning of the DB2 statements.

#### Edit or Submit

Specify E.

#### Save Output

Specify Y to save the generated JCL in the partitioned data set specified in Output Data Set (below).

Specify N to discard the JCL after submission.

#### Output Data Set

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates. Ensure that you change the names if you do not want to overwrite any previously saved JCL.

#### Batch Job Card

The batch Job statement you want included with the JCL stream generated by this procedure. Any of these fields left blank defaults to a JCL comment (/\*).

3. Press Enter to generate the JCL.
4. Check the generated JCL before submission and correct any conflicts with your system environment.

5. Submit the job and review the results for successful completion codes (0). Errors you may encounter are listed in the following table.

| <b>Error</b> | <b>Occurs when</b>  | <b>And can be resolved by</b>  |
|--------------|---|--|
| +100         | No rows are found.  | Ignore this error.   |
| +162         | A tablespace is in check pending status.                                    | Removing the check pending status from the tablespace. For information, see the DB2 documentation or contact your DB2 DBA. |
| +541         | Constraint is a duplicate.  | Ignore this error if the referential constraint WKSN\$ID exists.   |
| +562         | A grant is ignored because the grantee already has the requested privilege. | Ignore this error.   |
| -454         | The create function already exists.   | Ignore this error.   |
| -601         | The object already exists.  | Ignore this error.   |
| -624         | Table already contains constraint.  | Ignore this error if the DBX_WORKSTATION_D table already contains a primary key.   |

Investigate any other errors with CA Technical Support.

6. Press PF3 once to return to the CA Repository for z/OS Execute Release Statements panel.
7. Repeat Steps 2 through 5. When setting up the parameters for Copy Members to Custom Libraries, change the value of the Release Statement File from:
  - a. 1 to 2
  - b. 2 to 4
  - c. 4 to 10
  - d. 10 to 19
8. Press PF3 twice to return to the Installation Customization Menu.

## Run the RUNSTATS Utility

At this point you must update the CA Repository for z/OS DB2 table catalog statistics using the DB2 utility, RUNSTATS. The statistics are used to calculate the size of the unload data sets in the next step Bind All Plans and Packages.

### To run the RUNSTATS against the tables for all products you selected for installation in Define Installation Defaults

1. At the Installation Customization Menu, select option 12 DB2 Utilities. The Run DB2 Utilities screen displays.

```

----- Run DB2 Utilities -----
COMMAND ==>

Execute Utilities

        Utility? ==> RUNSTAT (RUNSTAT,REORG,ALTER)
        Edit or Submit? ==> E (E-edit,S-submit)
        Save Output? ==> N (Y=yes,N-no)
        Output Data Set ==>

Enter ENTER command to continue or END command to EXIT

```

2. Enter values into the fields as follows:

#### Utility

Specify RUNSTAT.

#### Edit or Submit

Specify E.

#### Save Output

Specify Y to save the generated JCL in the data set specified in Output Data Set.

Specify N to discard the JCL after running the job.

#### Output Data Set

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates. Ensure that you change the names if you do not want to overwrite any previously saved JCL.

3. Once you have entered values in all the fields, press Enter. JCL for running RUNSTATS appears.
4. Check the generated JCL before submission and correct any system conflicts.

5. Submit the job.
6. Use the END command or press PF3 to redisplay the Installation Customization Menu.

**Note:** The DB2 Utilities screen performs the RUNSTATS and REORG utilities only on tables created in the databases listed in your DB2 Defaults (see Define DB2 Defaults). If extended entity tables are in different databases, you have to create the utility JCL by hand.

## Bind All Plans and Packages

This step binds *all* the CA Repository utility packages. Binding the packages at this stage is essential for later steps of the installation process.

### To bind the utility packages

1. At the Installation Customization Menu, select option 9 Plans. The DB2 Plans and Packages screen appears.

```
----- CA Repository for z/OS -----  
----- DB2 Plans and Packages -----  
COMMAND ==>  
  
Prepare Packages ...  
Utility, All, or Foreign packages? ==> A (U, A, F)  
  
    Set SQLID to? ==> USER01  
        BIND Plans? ==> Y (Y=yes,N=no)      Auth ID of Plan? ==>  
    Grant to PUBLIC? ==> N (Y=yes,N=no)  
    Foreign Cat SSIDs? ==> ==>  
    Foreign Cat DB2VER? ==> ==>  
    Edit or Submit? ==> E (E-edit,S-submit)  
    Save Output? ==> N (Y=yes,N=no)  
    Output Data Set ==>  
  
Enter ENTER command to continue or END command to EXIT.
```

2. Enter values into the fields as follows:

#### Utility, All, or Foreign packages

A

#### Set SQLID to

The SQLID you want to use when creating the plans. If you enter a value in this field, a SET CURRENT SQLID statement will be added to the beginning of the job.

#### BIND Plans

Y

**AUTHID of Plan**

The AUTHID to use for the OWNER parameter of the bind.

**Grant to PUBLIC**

Y-to grant the special DB2 ID PUBLIC access to the generated plans. PUBLIC access to a plan does not grant individual users access to the Repository data.

**Foreign Cat SSIDs**

Leave blank.

**Foreign Cat DB2 Ver**

Leave blank.

**Edit or Submit**

E

**Save Output**

Y-to save the generated JCL in the data set specified in Output Data Set. N-to discard the JCL after running the job.

**Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates. Be sure to change the names if you do not want to overwrite any previously saved JCL.

3. Press Enter to generate the JCL.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job and check the output for errors. Things to look for include:
  - Occurrences of the word UNSUCCESSFUL in the job output
  - Unsuccessful BINDs that you can ignore are listed in the following table. If any unsuccessful BINDs occur that are not listed in the table, report them to CA Technical Support.
  - A non-zero return code for the job

Contact CA Technical Support if the job ends with any return code other than 0.

**Note:** You can ignore any +562 SQL codes on the GRANT step. This message indicates that the authority you are attempting to assign has already been given.

| Package                | Response  |
|------------------------|---|
| PRMPR32                | Can be ignored if you are using InfoRefiner and the InfoRefiner tables are not in this DB2 subsystem.   |
| DBXLQMF                | Can be ignored if QMF is not installed in the DB2 subsystem   |
| Any other package name | Look for the program name in the repository ISPLLIB member PROGDEF. Find the program name starting in column 1. Column 54 of this member contains the FMID. A blank FMID is the same as CP\$70. If you did not select the FMID at SMPE installation time you can ignore the errors. |

## Refresh the WLM

New and updated stored procedures have been installed, and the Workload Manager needs to be refreshed. You can accomplish this by issuing the VARY command with the REFRESH option as follows:

```
D WLM,APPLENV=appLenvname,REFRESH
```

See the *IBM Z/OS V1R7.0 MVS Systems Commands* manual for details. Your systems programmer may need to complete this task.

Check to make sure that the stored procedure load library is authorized.

## Load Component Data Tables

You must execute this step if your site has or is adding support for any of the following:

- CA Repository Exchange for ERwin
- CA Repository for z/OS Webstation Option

This step loads the data used by various repository components. If your site does not use any of these repository products, you can skip these tasks and proceed to the next step.

### To load the data tables

- At the Installation Customization Menu, select option 15 Component Load. The Load Component Data screen appears.

```

----- CA Repository for z/OS -----
----- Load Component Data -----
COMMAND ==>
Load Data For...
ERwin? ==> N
Webstation Option? ==> N
Edit or Submit? ==> E (E-edit,S-submit)
Save Output? ==> N (Y=yes,N-no)
Output Data Set ==>
Batch Job Card:
==> //ARZOS011 JOB (116200000), 'INSTALL JOB ',CLASS=M,
==> // MSGLEVEL=(1,1),MSGCLASS=X,TIME=1440,
==> // REGION=QM
==> /*JOBPARM SYSAFF=CA31

```

**Enter ENTER command to continue or END command to EXIT.**

- Enter values into the fields as follows:

#### **Load Control Data For... ERwin**

Specify Y to load mapping data for that tool into the CA Repository control tables.

Specify N if you are not installing support for that tool.

#### **Load Control Data For... Webstation Option**

Specify Y to load mapping data for that tool into the CA Repository control tables.

Specify N if you are not installing support for that tool.

#### **Edit or Submit**

Specify E.

#### **Save Output**

Specify Y to save the generated JCL in the data set specified in Output Data Set.

Specify N to discard the JCL after running the job.

#### **Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates.

Ensure that you change the names if you do not want to overwrite any previously saved JCL.

### Batch Job Card

The batch Job statement you want included with the JCL stream generated by this procedure

If you leave any of these fields blank, it defaults to a JCL comment (/\*).

3. Press Enter.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job and check the output for errors. A return code of 5 or less is expected.
6. Press PF3 twice to return to the Installation Customization Menu.

## Rebuild the ALL DBEXCEL Privilege

The next step of the installation process consists of rebuilding the repository ALL DBEXCEL privilege.

1. At the Installation Customization Menu, select option 11 Security. The Grant DB2 Privileges screen appears.

```
----- CA Repository for z/OS -----  
----- Grant DB2 Privileges -----  
COMMAND ==>  
  
Grant Privileges to...  
  User TSO ID ==> USER1  
              ==>  
              ==>  
              ==>  
              ==>  
  
  Set SQLID to? ==> ARZUSER  
  Authorize ALL DBEXCEL? ==> Y (Y=yes,N=no)  
  GRANT DB2 Privilege? ==> SELECT (INSERT,UPDATE,DELETE,SELECT,ALL)  
  with GRANT OPTION? ==> N (Y=yes,N=no)  
  Edit or Submit? ==> E (E-edit,S-submit)  
  Save Output? ==> N (Y=yes,N=no)  
  Output Data Set ==>  
  
Enter ENTER command to continue or END command to EXIT.
```

2. Enter values into the fields as follows:

### User TSO ID

Type your TSO ID in the first field. Leave the remaining ID fields blank.

### Set SQLID to

The SQLID you want to use when granting user privileges. If you enter a value in this field, a SET CURRENT SQLID statement is added to the beginning of the job.

**Authorize ALL DBEXCEL**

Specify Y.

**GRANT DB2 Privilege**

Leave blank.

**with GRANT OPTION**

Specify N.

**Edit or Submit**

Specify E.

**Save Output**

Specify Y to save the generated JCL in the data set specified in Output Data Set.

Specify N to discard the JCL after running the job.

**Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates. Ensure that you change the names if you do not want to overwrite any previously saved JCL.

3. Once you enter values in all the fields, press Enter. JCL to rebuild the ALL DBEXCEL privilege is generated and displayed.
4. Check the JCL before submission and correct any conflicts with your system environment.
5. Submit the job and check the output for errors. You can ignore any -803 SQL codes.
6. Press PF3 to return to the Installation Customization Menu.

## Run the SHOPCNTL Load Program

**Note:** Skip this step if your site does not use CA Repository for z/OS Webstation Option.

If your site uses the CA Repository for z/ OS Webstation Option, perform this step to load the CA Repository for z/OS Webstation Option control data into the CA Repository.

**Important!** If you already have these products installed, you must review the SHOPCNTL load job prior to running this job. The SHOPCNTL load job overwrites CA supplied search objects. Remove all data about search objects that have been customized.

**To run the SHOPCNTL load program to load control data**

1. At the Installation Customization Menu, select option 13 Upgrade Menu. The Installation Upgrade Customization Menu appears.
2. Select option 4 Programs.  
The Execute Conversion Programs screen appears.
3. Enter data in the following fields:  
**Conversion Program**  
Specify SHOPCNTL.  
**Edit or Submit**  
Specify E.
4. Press Enter. Review the generated JCL and make any necessary changes.
5. Type SUB on the command line and press Enter to submit the job.
6. Make sure the job ends successfully before continuing. If the job ends with any return code other than 0, please contact CA Technical Support.
7. Press PF3 twice to return to the Installation Customization Menu.

## Update the Release Number

You must now execute special sets of SQL statements to complete the migration process. These statements are contained in upgrade statement files, which you can run from an option on the Installation Upgrade Customization Menu.

The purpose of these files is as follows:

---

| <b>File</b> | <b>Contents</b>  |
|-------------|--|
| 13          | Updates the DBX_SYSTEM table with the correct release and service pack number. |

---

**To execute the statement files**

1. At the Installation Upgrade Customization Menu, select option 3 SQL. The Execute Release Statements screen appears.
2. Enter values into the fields as follows:

**Release Statement File**

Specify 13.

**Set SQLID to**

The SQLID you want to use when creating the DB2 objects. If you enter a value in this field, a SET CURRENT SQLID statement is added to the beginning of the DB2 statements.

**Edit or Submit**

Specify E.

**Save Output**

Specify Y to save the generated JCL in the partitioned data set specified in Output Data Set (below).

Specify N to discard the JCL after submission.

**Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates. Ensure that you change the names if you do not want to overwrite any previously saved JCL.

**Batch Job Card**

The batch job statement you want included with the JCL stream generated by this procedure. Any of these fields left blank defaults to a JCL comment (/\*).

3. Press Enter to generate the JCL.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job and review the results for successful completion codes (0).
6. Press PF3 twice to return to the Installation Customization Menu.

## Complete the Migration

The following resources will assist you in completing the install:

- For assistance setting up DB2 access to the CA Repository tables, stored procedures, and DB2 functions, see the chapter “DB2 Security.”
- If you are using the DB2 foreign catalog sync programs on the remote CPUs, see the *CA Repository for z/OS RDBMS Administration Guide*.
- Custom programs that call the IO module DBXVLI2 must be relinked.

Review all custom maps. Columns that were added or modified as part of the migration may need to be adjusted. Columns that have changed due to a data type change must have their offsets recalculated.

# Chapter 8: Configuring Optional Components

---

This chapter describes how to configure optional components of CA Repository for z/OS for the first time on top of an existing CA Repository for z/OS at r7.2. It includes information you must have **before** you start the configuration process and presents detailed instructions for each step required in the procedure.

This section contains the following topics:

[Preparing to Configure Optional Components](#) (see page 251)

[Back Up the Current Release](#) (see page 253)

[Access the Installation Customization Menu](#) (see page 253)

[Specify the Models to Install](#) (see page 254)

[Load the New Data](#) (see page 254)

[Resynchronize the Tables](#) (see page 255)

[Execute SQL Statements](#) (see page 257)

[Run the RUNSTATS Utility](#) (see page 258)

[Bind the Utility Packages](#) (see page 259)

[Rebuild the ALL DBEXCEL Privilege](#) (see page 259)

[Additional Steps for Exchange for ERwin and Universal XML Exchange](#) (see page 260)

[Load Component Data Tables](#) (see page 261)

[Additional Steps for Webstation Option](#) (see page 262)

## Preparing to Configure Optional Components

Consider the following:

- If you are installing a new component with the initial installation, the optional component is configured when the base product is configured. If you are installing a new component with the r7.2 migration upgrade process, the optional component is migrated when the base product is migrated.
- If you are installing a new component on top of an existing CA Repository for z/OS r7.2 installation, follow the instructions described in this chapter.

## Installation and SMP/E Preparation

Before using the instructions in this chapter to configure a new component, ensure that you have installed the optional component first. For more information about installing optional FMIDS, see the chapters "Installing Your Product Using CA MSM", "Installing Your Product From Pax-Enhanced Electronic Software Deliver" or "Installing Your Product From Tape" depending on the installation method.

## Configuration Guidelines

Note the following installation guidelines:

- Before you start, ensure that no one is logged on or actively using CA Repository for z/OS.

You should also notify users not to use the product for the duration of the upgrade.

- Ensure that no CA Repository for z/OS jobs are running.

The upgrade drops and recreates some of the CA Repository for z/OS work tables. You may not be able to restart any work in progress (for example, CASE loads, migrations, and so on) after you configure the upgrade.

- Read and understand each of the steps before you perform it. Ensure that you understand the tasks you are to perform and the results you can expect.

Contact CA Technical Support if you have questions.

- Execute the steps in the order presented, as required for your specific upgrade

**Note:** Many of the steps are mini-procedures that have a series of tasks that must be performed in order. Complete each task, and be certain that you complete each step successfully before generating or executing JCL for subsequent steps.

- *Do not* simply copy information from the screen examples in this guide. Be sure to follow the written instructions that accompany each step.

- Review the generated JCL.

Many of the installation steps give you the option to review and edit generated JCL prior to submitting it. CA recommends that you always review generated JCL before you submit it.

## Save Installation JCL

At every appropriate step, you can choose to save the JCL generated by that step (whether or not you choose to edit the JCL).

Be aware that the data set in which you store the JCL must be a partitioned data set. If you choose to save the JCL as you perform the installation, it is important to note that the data set and member you specify are saved from step-to-step.

**Important!** Ensure that you change the member name before you generate new JCL or you will overwrite the JCL saved from the previous step.

## Back Up the Current Release

**Important!** Before you add a component to an existing installation, ensure that the CA Repository for z/OS r7.2 and data sets are backed up.

Before you add a new component to an existing installation, you must back up the CA Repository for z/OS DB2 tables. You can use either of the following methods:

- CA RC/Migrator for DB2 for z/OS to back up each CA Repository database along with the catalog definition in a single Step
- Image-copy the CA Repository for z/OS and catalog tables using IBM-supplied utilities

## Access the Installation Customization Menu

### To display the Installation Customization Menu screen

1. Enter the following at the ISPF command line:

**TSO ARZOS I**

2. The Installation Customization Menu appears. You can now continue with installation.

For more information about using the Installation Customization Menu, see Access the Installation Customization Menu in the chapter "Configuring Your Product."

## Specify the Models to Install

### To specify which CA Repository for z/OS models you are installing

1. At the Installation Customization Menu, select option 4 Products. The Model/Control data Selection screen appears.
2. Specify **Y** for Base Product and DB2. For the remaining fields, specify Y to install that model.

**WARNING!** Do not set a product switch to N if it was previously set to Y. Failure to leave these switches as is can cause columns to be dropped from the metadata tables.

**Note:** For more information about individual models and which components use them, see the Product/Model Checklist in the appendix "Checklists."

3. Press PF3 to save the changes and return to the Installation Customization Menu.

## Load the New Data

This step loads the upgrade's new and modified code tables, commands, dialogs, entity types, messages, and maps.

This step creates several temporary control tables that it uses to determine what it should delete from your control tables. The intent is to delete only rows that contain CA-supplied data and then reload the new data. Any additions or changes you have made to the control data are retained when the CA control data is reloaded. Contact CA Technical Support if you have any questions about this process.

### To load the new data

1. At the Installation Upgrade Customization Menu, select option 5 Load. The Load Repository Control Information screen appears.
2. Enter values into the fields as follows:

#### All switches under Load Control Tables

Specify Y.

#### Current Contents

Specify A.

#### Edit or Submit

Specify E.

**Save Output**

Specify Y to save the JCL stream generated by this step to the partitioned dataset specified in Output Data Set (below).

Specify N to discard the JCL after submission.

**Output Data Set**

The fully qualified data set name (without quotation marks) of the partitioned data set where you want to save the output.

This step overwrites any information already in the specified data set, so make sure you change the member name before generating the JCL.

**Batch Job Card**

The batch Job Statement you want included with the JCL stream generated by this procedure. If you leave any of these fields blank, it will default to a JCL comment (//\*).

3. Press Enter to generate the JCL
4. Review the generated JCL and make any needed changes, then enter **SUB** on the command line and press Enter to submit the job.
5. Verify that the job ran successfully before continuing.  
  
See Load the New Data in the "Migration Information" chapter for a list of common errors, their causes, and the appropriate solutions. Contact CA Technical Support if you encounter any additional errors or if you have any questions regarding the above recommendations.
6. Press PF3 to return to the Installation Upgrade Customization Menu.

## Analyze Duplicate Row Errors

Because CA Repository is saving customizations that your site made to control data (for example, dialogs and messages), the load job may cause duplicate row errors during the load. Errors such as these are caused by existing rows and will not cause any problems in CA Repository.

For more information about duplicate row errors, see Analyzing Duplicate Row Errors in the chapter "Migration Information".

## Resynchronize the Tables

There are three parts to this step, as follows:

- The first part generates two additional jobs (UNLOAD and RECREATE JCL)
- The second and third parts are to run UNLOAD and RECREATE JCL

## Create the New Tables and Resynchronize Existing Tables

This step creates the new tables required for this release of CA Repository with the specific products you have licensed. It also resynchronizes the existing CA Repository tables with new maps provided with this release of CA Repository.

### To create new tables and resynchronize existing tables

1. At the Installation Customization Menu, select option 13. The Installation Upgrade Customization Menu appears.
2. Select option 7 ReSync. The ReSync Repository Tables screen appears.
3. Enter values into the fields as applicable at your site.  
See Create the New Tables and Resynchronize Existing Tables in the chapter "Migration Information" for additional information about these fields.
4. Press Enter to display the JCL for generating the required DDL.
5. Check the generated JCL before submission and correct any conflicts with your system environment.
6. Submit the job. The job generates and executes the DDL, then generates the UNLOAD and RECREATE JCL, storing them in the data sets you specified.

**Note:** If these files are empty, there is nothing to unload or recreate.

7. When the first job completes successfully, ensure that you edit and submit the generated UNLOAD job. Verify that each step in the UNLOAD JCL ended successfully.
8. When the UNLOAD job completes successfully, ensure that you edit and submit the generated RECREATE JCL. Verify that each step in the RECREATE JCL ended successfully.

**Note:** You need to check the SYSPRINT output of the CRTALL step for errors. A RC=0 on this step does not necessarily indicate a successful completion.

Contact CA Technical Support if there are any problems with any of these jobs.

See Create the New Tables and Resynchronize Existing Tables in the chapter "Migration Information" for a list of potential errors and their resolutions.

9. Press PF3 to return to the Installation Upgrade Customization Menu.

**Note:** Any tables recreated as a result of this step will be in a copy pending state in DB2. These table spaces must be image-copied or started before they can be modified.

## Run the UNLOAD from the Resynchronize Process

The UNLOAD JCL is stored in the Unload data set created in the previous step (see Create the New Tables and Resynchronize Existing Tables). If the data set is empty, there is nothing to unload. Continue to the next section, Run the RECREATE from the Resynchronize Process.

### To run the unload

1. Check the JCL and correct any conflicts with your system environment.
2. Submit the JCL. The job unloads data from CA Repository tables that changed.

See the table in Create the New Tables and Resynchronize Existing Tables in the chapter "Migration Information" for potential errors and their resolutions.

## Run the RECREATE from the Resynchronize Process

The RECREATE JCL is stored in the Recreate data set created in Create the New Tables and Resynchronize Existing Tables. If the data set is empty, then there is nothing to recreate. Continue to the next Step.

### To run the recreate

1. Check the JCL and correct any conflicts with your system environment.
2. Submit the JCL. The job drops, recreates and reloads data from Repository tables that changed.

See the table in Create the New Tables and Resynchronize Existing Tables in the chapter "Migration Information" for potential errors and their resolutions.

## Execute SQL Statements

You must now execute special sets of SQL statements to modify some of the DB2 objects used by the CA Repository. These statements are contained in upgrade statement files, which you can run from an option on the Installation Upgrade Customization Menu.

File 2 contains statements that:

- Create indexes to improve performance
- Create several work tables

**To execute the statement files**

1. At the Installation Upgrade Customization Menu, select option 3 SQL. The Execute Release Statements screen appears.
2. Enter values into the fields applicable at your site.  
See Execute SQL Statements in the chapter "Migration Information" for additional information about these fields.
3. Press Enter to generate the JCL.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job and review the results for successful completion codes (0). If you receive +162, -601, or +100 errors, see Execute SQL Statements in the chapter "Migration Information" for more information.
6. Press PF3 twice to return to the Installation Customization Menu.

## Run the RUNSTATS Utility

At this point you must update the catalog statistics of the CA Repository DB2 tables using the DB2 utility RUNSTATS. The statistics are used to calculate the size of the unload data sets in the next step. These statistics are run against the tables for all products you selected in Define Installation Defaults, in the chapter "Configuring Your Product."

**To run RUNSTATS**

1. At the Installation Customization Menu, select option 12 DB2 Utilities. The Run DB2 Utilities screen appears.
2. Enter values into the fields as applicable at your site.  
See Run the RUNSTATS Utility in the chapter "Migration Information" for additional information about these fields.
3. Once you have entered values in all the fields, press Enter. JCL for running RUNSTATS appears.
4. Check the generated JCL before submission and correct any system conflicts.
5. Submit the job.
6. Use the END command or press PF3 to redisplay the Installation Customization Menu.

**Note:** The DB2 Utilities screen performs the RUNSTATS and REORG utilities only on tables created in the databases listed in your DB2 Defaults. See Define DB2 Defaults in the chapter "Configuring Your Product." If extended entity tables are in different databases, you must create the utility JCL by hand.

## Bind the Utility Packages

This step binds the CA Repository utility packages. Binding the packages at this stage is essential for later steps of the installation process.

### To bind the utility packages

1. At the Installation Customization Menu, select option 9 Plans. The DB2 Plans and Packages screen appears.
2. Enter values into the fields as applicable at your site. Specify **U** in the Utility, All, or Foreign packages field to bind the utility packages.

See Bind the Utility Plans and Packages in the chapter "Configuring Your Product" for additional information about these fields.

3. Press Enter to generate the JCL.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job.
6. Verify that the packages are bound successfully before continuing.

See Bind the Utility Plans and Packages in the chapter "Configuring Your Product" for things to look for during verification.

## Rebuild the ALL DBEXCEL Privilege

The next step of the installation process consists of rebuilding the ALL DBEXCEL privilege.

### To rebuild the ALL DBEXCEL privilege

1. At the Installation Customization Menu, select option 11 Security. The Grant DB2 Privileges screen appears:
2. Enter values into the fields.

See Rebuild the All DBEXCEL Privilege in the chapter "Migration Information" for more information about the fields on this screen.

3. Once you have entered values in all the fields, press Enter. JCL to rebuild the ALL DBEXCEL privilege is generated and displayed.
4. Check the JCL before submission and correct any conflicts with your system environment.
5. Submit the job and check the output for errors. You can ignore any -803 SQL codes.
6. Press PF3 to return to the Installation Customization Menu.

## Additional Steps for Exchange for ERwin and Universal XML Exchange

If you are installing CA Repository Exchange for CA ERwin Data Modeler or the Universal XML Exchange, you must:

- Drop PRMXML tables
- Create work tables
- Load Component data tables

Detailed information is provided in the following sections.

### Drop PRMXML Tables

If you have installed the CA Repository Exchange for CA ERwin Data Modeler the PRMXML tables must be dropped. These tables are recreated in the next step (Create Work Tables).

Ensure that you understand the contents of the statement files before you submit them, and check the results of each submission before submitting the next file.

Submit the statement files in the order shown in the following table:

---

| <b>File</b> | <b>Contents</b>  |
|-------------|--|
| 12          | Drop tables PRMXML_OI, PRMXML_AI, PRMXML_PI, and PRMXML_TI |

---

#### To execute the statement files

1. At the Installation Upgrade Customization Menu, select option 3 SQL. The Execute Release Statements screen appears.
2. Enter values in the fields as described in Drop PRMXML Tables in the chapter "Migration Information."
3. Press Enter to generate the JCL.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job and review the results for successful completion codes (0).

If you receive a -204 error when running file 12, you can ignore it if you have not previously installed CA Repository Exchange for CA ERwin Contact CA Technical Support if you have any questions about these recommendations.

6. Press PF3 twice to return to the Installation Customization Menu.

## Create Work Tables

Ensure that you understand the contents of the statement files before you submit them, and check the results of each submission before submitting the next file.

Submit the statement files in the order shown in the following table:

| File | Contents                            |
|------|-------------------------------------|
| 9    | Recreate CA Repository work tables. |

### To execute the statement files

1. At the Installation Upgrade Customization Menu, select option 3 SQL. The Execute Release Statements screen appears.
2. Specify 9 in the Release Statement File field, and enter values in the other fields as indicated in Create Work Tables in the chapter "Migration InformationMigration InformationJCL.
3. Check the generated JCL before submission and correct any conflicts with your system environment.
4. Submit the job and review the results for successful completion codes (0). You can receive the -601 error when the named table or index already exists. Ignore this error for all DB2 objects except the tablespaces, tables, and indexes for tables starting with PRMXML.

Contact CA Technical Support if you have any questions about these recommendations.

5. Press PF3 twice to return to the Installation Customization Menu.

## Load Component Data Tables

**Note:** Skip this step if your site does not use the Exchange for CA ERwin or the Universal XML Exchange product.

### To load the Component Data tables

1. At the Installation Customization Menu, select option 15 Component Load. The Load Component Data screen appears.

**Note:** You will need to use the PF7 (up) and PF8 (down) keys to scroll and view all the options on this screen.

2. Enter values into the fields as applicable at your site.

For more information, see Load Component Data Tables in the chapter "Migration Information."

3. Once you enter values in all the fields, press Enter.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job and check the output for errors. The LOAD steps include error files allocated as temporary data sets. You can reallocate these files so that you can review and deal with any duplicate rows before continuing CA Repository installation.
6. Press PF3 twice to return to the Installation Customization Menu.

## Additional Steps for Webstation Option

If you are installing CA Repository for z/OS Webstation Option, you must:

- Execute SQL statements to install new tables, stored procedures, and DB2 functions
- Refresh the WLM
- Run the SHOPCNTL load program

Detailed information is provided in the following sections.

### Execute SQL Statements

You must now execute special sets of SQL statements to modify some of the DB2 objects used by CA Repository for z/OS Web Station Option. These statements are contained in upgrade statement files, which you can run from an option on the Installation Upgrade Customization Menu.

File 1

- Create new Views

File 11:

- Create WSO specific tables
- Install new stored procedures

**To execute the statement files**

1. At the Installation Upgrade Customization Menu, select option 3 SQL. The Execute Release Statements screen appears.
2. Enter values in the fields as follows:

**Release Statement File**

Specify 11.

**Set SQLID to**

The SQLID you want to use when creating the DB2 objects. If you enter a value in this field, a SET CURRENT SQLID statement is added to the beginning of the DB2 statements.

**Edit or Submit**

Specify E.

**Save Output**

Specify Y to save the generated JCL in the partitioned data set specified in Output Data Set (below).

Specify N to discard the JCL after submission.

**Output Data Set**

The fully qualified name (without quotation marks) of the partitioned data set you want to use to save the JCL that this step generates. Ensure that you change the names if you do not want to overwrite any previously saved JCL.

**Batch Job Card**

The batch Job Statement you want to include with the JCL stream generated by this procedure. Any of these fields left blank defaults to a JCL comment (/\*).

3. Press Enter to generate the JCL.
4. Check the generated JCL before submission and correct any conflicts with your system environment.

5. Submit the job and review the results for successful completion codes (0).  
If you receive +162, -601, or +100 errors, see Execute SQL Statements in the chapter "Migration Information" for more information.
6. Press PF3 once to return to the CA Repository for z/OS Execute Release Statements panel.
7. Repeat Steps 2 through 5. When setting up the parameters for Copy Members to Custom Libraries, change the value of the Release Statement File from:
  - a. 11 to 1
8. Press PF3 twice to return to the Installation Customization Menu.

## Load Component Data Tables

**Note:** Skip this step if your site does not use the Exchange for CA ERwin product.

### To load the CASE Interface control tables

1. At the Installation Customization Menu, select option 15 Component Load. The Load Component Data screen appears.

**Note:** You will need to use the PF7 (up) and PF8 (down) keys to scroll and view all the options on this screen.
2. Enter values into the fields as applicable at your site.

See Load Component Data Tables in the chapter "Migration Information" for additional information about these fields.
3. Once you enter values in all the fields, press Enter.
4. Check the generated JCL before submission and correct any conflicts with your system environment.
5. Submit the job and check the output for errors. The LOAD steps include error files allocated as temporary data sets. You can reallocate these files so that you can review and deal with any duplicate rows before continuing CA Repository installation.
6. Press PF3 twice to return to the Installation Customization Menu.

## Refresh the WLM

New and updated stored procedures were installed. The Workload Manager needs to be refreshed. You can refresh the WLM by issuing the VARY command with the REFRESH option as follows:

```
D WLM,APPLENV=applenvname,REFRESH
```

For details, see the *IBM Z/OS V1R9.0 MVS Systems Commands* manual. Your systems programmer may need to complete this task.

Check to make sure that the stored procedure load library is authorized. The new stored procedure DBXSSF appends if the library is not authorized.

## Run the SHOPCNTL Load Program

**Note:** Skip this step if your site does not use CA Repository for z/OS Webstation Option.

If your site uses the CA Repository for z/OS Webstation Option perform this step to load the CA Repository for z/OS Webstation Option control data into the CA Repository.

**Important!** If you already have these products installed, you must review the SHOPCNTL load job prior to running this job. The SHOPCNTL load job overwrites CA-supplied search objects. Remove all data about search objects that were customized.

### To run the SHOPCNTL load program to load control data

1. At the Installation Customization Menu, select option 13 Upgrade Menu. The Installation Upgrade Customization Menu appears.
2. Select option 4 Programs. The Execute Conversion Programs screen appears.
3. Enter data in the following fields:
  - Conversion Program**  
Specify SHOPCNTL.
  - Edit or Submit**  
Specify E.
4. Press Enter. Review the generated JCL and make any necessary changes.
5. Type SUB on the command line and press Enter to submit the job.

6. Make sure the job ends successfully before continuing. If the job ends with any return code other than 0, please contact CA Customer Support.
7. Press PF3 twice to return to the Installation Customization Menu.

# Appendix A: Understanding DB2 Security

---

This section discusses about the additional DB2 security that must be granted on individual tables, stored procedures and functions for the CA Repository to function properly.

This section contains the following topics:

[Redundant ValidProc](#) (see page 267)

[Control Tables](#) (see page 268)

[Other Authorizations](#) (see page 268)

## Redundant ValidProc

The ValidProc in previous releases is redundant and has been eliminated from the repository product.

The ValidProc was created before the dynamic rules option became available in DB2 6.1 and performs the same function. Each user was granted update, insert and delete on all repository tables. During the insert, update or delete statement ValidProc was executed to make sure that the plan name associated with the statement was a CA Repository plan.

## DYNAMICRULES on Plans and Packages

In r7.2 all binds of CA Repository packages are performed using the DYNAMICRULES(BIND) option. This parameter has DB2 treating Dynamic SQL exactly like Static SQL when executed from a program. Note the following:

- Unqualified SQL is implicitly qualified with the value of the bind option QUALIFIER
- DB2 uses the authorization ID of the package when checking the authorization of a dynamic SQL statement
- You only have to grant SELECT authority to any CA Repository tables as all updates are performed through bound programs
- You must grant EXECUTE authority on the CA Repository plans to users because they execute static SQL

For more information about the DYNAMICRULES parameter, see the appropriate DB2 manuals.

## Control Tables

Many operations involving the control tables are done using standard DB2 utilities such as DSNTEP2. Only the CA Repository Administrator or DB2 DBA will update these tables. Explicit grants for inserts, update, and deletes of these tables need to be issued for the control tables if the administrator does not already have DBADM or SYSADM authority over these tables.

## Other Authorizations

This section describes additional authorization requirements.

### CA Repository Exchange for CA ERwin Data Modeler and CA Universal XML Exchange

Users of the CA Repository Exchange for ERwin scanner must be granted INSERT, UPDATE, DELETE, and SELECT authority on the following tables: PRMXML\_OI, PRMXML\_AI, PRMXML\_TI, and PRMXML\_PI. These tables are considered worktables that are not critical to the operation of the CA Repository.

### CA Repository for z/OS Webstation Option and Other Remote Execution

Users who use a JDBC or ODBC driver to access DB2 tables, execute stored procedures, and functions must be granted explicit authority on those objects.

- CA Repository for z/OS Webstation Option is referenced in the following table as a JDBC application that requires specific DB2 authority.
- Users who have built their own JDBC or ODBC applications also require some, if not all, of these authorities.

CA Repository for z/OS Webstation Option users require SELECT access to the following tables:

- DBX\_XREF
- DBX\_SHP\_TOPIC
- DBX\_WORKSTATION\_D
- DBX\_USER\_GROUP
- DBX\_SEC\_PROF
- DBX\_SHP\_TABCNTL
- DBX\_SHP\_TAB\_ATTR
- DBX\_SHP\_SRCHATTR
- DBX\_SHP\_SRCH\_VAL
- DBX\_SHP\_SRCHATVL
- DBX\_SHP\_FLOWCNTL
- DBX\_TEXT\_1
- DBX\_TEXT\_2
- IDQUERYRELATION
- PROCESSQUERYRELATION
- DBX\_APPROVAL

CA Repository for z/OS Webstation Option users require SELECT access to tables referenced in search objects. For example, specify the following to grant USER01 SELECT access to the DBX\_XREF table whose creator was DBXREL30:

```
GRANT SELECT ON TABLE DBXREL30.DBX_XREF TO USER01;
```

CA Repository for z/OS Webstation Option users require SELECT, INSERT, UPDATE, and DELETE access to the following tables:

- DBX\_USER\_PREF
- DBX\_TEMP\_TEXT

For example, specify the following to grant USER01 SELECT, UPDATE, INSERT, and DELETE access to the previous tables that have a creator of DBXREL30:

```
GRANT UPDATE, INSERT, DELETE, SELECT ON TABLE DBXREL30.DBX_USER_PREF TO USER01;
GRANT ALL ON TABLE DBXREL30.DBX_TEMP_TEXT TO USER01
```

**Note:** You must use the ALL privilege on the Created Global temporary table DBX\_TEMP\_TEXT.

CA Repository for z/OS Webstation Option users require EXECUTE access to the DBX\_STREAMTEXT\_32K function. The internal name of this function is DBXT32K. For example, specify the following to grant USER01 EXECUTE access to the DBX\_STREAMTEXT\_32K function that has a creator of DBXREL30:

```
GRANT EXECUTE ON SPECIFIC FUNCTION DBXREL30.DBXT32K TO USER01;
```

CA Repository for z/OS Webstation Option users require EXECUTE access to the first eight of the following stored procedures. The other stored procedures are listed here for those who are writing their own applications that call the stored procedures.

| <b>Procedure Name</b> | <b>Internal Name</b> |
|-----------------------|----------------------|
| DBXSEC                | DBXSEC               |
| CRTXT80               | CRTXT80              |
| DBXNSVI               | DBXNSVI              |
| DBXCHECKEXTSEC        | DBXSSF               |
| DBPROC                | DBPROC               |
| DBSEARCH              | DBSEARCH             |
| CMSG                  | CMSG                 |
| DBXENTID              | DBXENTID             |
| DBXIOI                | DBXIOI               |
| DBXIOU                | DBXIOU               |
| DBXIOD                | DBXIOD               |
| DBXIOM                | DBXIOM               |
| CGETVER               | CGETVER              |
| DBXIOR                | DBXIOR               |
| DBXIOS01              | DBXIOS               |
| DBXIOS02              | DBXIOS               |
| DBXIOS03              | DBXIOS               |
| DBXIOS04              | DBXIOS               |
| DBXIOS05              | DBXIOS               |
| DBXIOS06              | DBXIOS               |
| DBXIOS07              | DBXIOS               |
| DBXIOS08              | DBXIOS               |
| DBXIOS09              | DBXIOS               |
| DBXIOS10              | DBXIOS               |
| DBXIOS11              | DBXIOS               |
| DBXIOS12              | DBXIOS               |
| DBXIOS13              | DBXIOS               |

| <b>Procedure Name</b> | <b>Internal Name</b> |
|-----------------------|----------------------|
| DBXIOS14              | DBXIOS               |
| DBXIOS15              | DBXIOS               |

For example, specify the following to grant USER1 EXECUTE access to all the required stored procedures for CA Repository for z/OS Webstation Option with a creator of DBXREL30:

```
GRANT EXECUTE ON PROCEDURE DBXREL30.DBXSEC, DBXREL30.CRTXT80, DBXREL30.DBXNSVI,  
DBXREL30.DBXCHECKEXTSEC TO USER1;
```



# Appendix B: Preparation Worksheets

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This appendix provides the installation and parameter worksheets. It also lists the add-on tools with their models.

This section contains the following topics:

[Installation Worksheet](#) (see page 273)

[Parameter Worksheet](#) (see page 275)

## Installation Worksheet

This pre-installation worksheet is designed to simplify the task of modifying the JCL supplied at installation. The parameter values are supplied for your convenience.

| Parameter Description  | Proc Parameter |
|--|----------------|
| What high-level qualifier is used to prefix the SMP/E data sets and libraries?<br>Maximum Length: 25 characters<br>Default: CAI.SHLQ<br>This value will be used later in the installation as the Base library Prefix | P\$SHLQ= _____ |
| What is the name of the Target zone?<br>Maximum Length: 7 characters<br>Default: P\$TGT  | P\$TZ= _____   |
| What is the name of the Distribution zone?<br>Maximum Length: 7 characters<br>Default: P\$DLB  | P\$DZ= _____   |
| What DASD volume serial name is used for the repository SMPE, indirect libraries, and temp DSNs?<br>Maximum Length: 6 characters<br>Default: DASD01  | P\$VOL1= _____ |
| What DASD type is the P\$VOL1 volume? (for example, SYSDA,3380,3390)<br>Maximum Length: 8 characters<br>Default: 3380  | P\$UNI1= _____ |
| What DASD volume serial number is used for the   | P\$VOL2= _____ |

| Parameter Description  | Proc Parameter  |
|--|-----------------|
| repository Target Libraries?<br>Maximum Length: 6 characters<br>Default: DASD02  |                 |
| What DASD type is the P\$VOL2 volume? (for example, SYSDA,3380,3390)<br>Maximum Length: 8 characters<br>Default: 3380  | P\$UNI2= _____  |
| What DASD volume serial number is used for the repository Distribution Libraries?<br>Maximum Length: 6 characters<br>Default: DASD03   | P\$VOL3= _____  |
| What DASD type is the P\$VOL3 volume? (for example, SYSDA,3380,3390)<br>Maximum Length: 8 characters<br>Default: 3380  | P\$UNI3= _____  |
| What is the data set name of the DB2 LOADLIB?<br>Maximum Length: 44 characters<br>Default: DB2.DB2610.SDSNLOAD   | P\$DB2L= _____  |
| What is the data set name of the DB2 Stored PROCEDURE Target Loadlib?<br>Maximum Length: 44 characters<br>Default:DB2.RUNLIB.LOAD  | P\$DB2SP= _____ |
| What is the volume serial of the repository install tape? (You can find the volume serial number on the external label of the install tape.)<br>Maximum Length: 6 characters<br>Default: P\$YYMM | P\$ITVOL= _____ |
| What unit type is the P\$ITVOL TAPE volume? For example, TAPE,CART.<br>Maximum Length: 5 characters<br>Default: TAPE   | P\$ITUNI= _____ |
| What high-level qualifier is used to prefix the current CAIIPC data sets.<br>Maximum Length: 28 characters<br>Default: CAI.PHLQ  | P\$PHLQ= _____  |
| What DASD volume serial name is used for the VSAM space of the SMPE CSI cluster?<br>Maximum Length: 6 characters   | P\$VSPK= _____  |

| Parameter Description   | Proc Parameter |
|---|----------------|
| Default: VSAMPK   |                |
| What high-level qualifier is used to prefix the CA Repository Custom Libraries?<br>Maximum Length: 25 characters<br>Default: CAI.CUST<br><b>Note:</b> This value will be used later in the installation as the Custom library Prefix. | TDCNQ= _____   |
| If CA Librarian is installed: What is the data set name of the Target Load Library for CA Librarian where the CSECT FAIROPN can be found?<br>Maximum Length: 44 characters<br>Default: LIBR.LOADLIB                                   | P\$FAIR= _____ |
| What is the data set name of the ISPF Load Library where the CSECT ISPLINK can be found?<br>Maximum Length: 44 characters<br>Default: ISP.SISPLOAD  | P\$ISPL= _____ |

## Parameter Worksheet

Each of the following parameters will be required at some point during the installation or upgrade process. Record these values on this worksheet so that they are available for future reference.

| System Parameter                               | Value |
|--|-------|
| CA Repository for z/OS Release Level           | 7     |
| Company Name                                   |       |
| Report Lines Per Page                          | 60    |
| CA Repository for z/OS Base Library Prefix     |       |
| CA Repository for z/OS Custom Library Prefix   |       |
| CA Repository for z/OS LOAD Library            |       |
| CA Repository for z/OS DBRM Library            |       |
| CA Repository for z/OS StoredProc DBRM Library |       |
| DB2 LOAD Library                               |       |
| DB2 Utility LOAD Library                       |       |
| DB2 LOAD Library (for DSNTIAD)                 |       |

| <b>System Parameter</b>                             | <b>Value</b> |
|---|--------------|
| DSNTIAD Plan Name                                   |              |
| DSNTEP2 Plan Name                                   |              |
| DSNTIAUL Plan Name                                  |              |
| Permanent Data Set Unit                             |              |
| SMS Installation? Yes or No                         |              |
| CA Repository for z/OS Extended Text Commands...(5) |              |
| Default DB2 Subsystem Name                          |              |
| Default Storage Group                               |              |
| Control Table Storage Group                         |              |
| Default Buffer Pool                                 |              |
| Default Index Buffer Pool                           |              |
| CA Repository for z/OS Owner                        |              |
| Catalog Owner                                       |              |
| WLM environment Name                                |              |
| CA Repository for z/OS Plan name                    |              |
| CA Repository for z/OS Package Collection           |              |
| Up to 10 New DB2 databases                          |              |
| DB2 Version   |              |
| Decimal Point Indicator                             |              |
| String Delimiter                                    |              |
| ISPLLIB ISPF library names                          |              |
| ISPPLIB ISPF library names                          |              |
| ISPSLIB ISPF library names                          |              |
| ISPMLIB ISPF library names                          |              |
| ISPTLIB ISPF library names                          |              |
| ISPTABL ISPF library names                          |              |
| SYSPROC ISPF library names                          |              |

# Appendix C: Checklists

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This appendix provides the installation and model checklists for you to use to monitor your progress.

This section contains the following topics:

[Product/Model Checklist](#) (see page 277)

[Configuration Steps Checklist](#) (see page 279)

[Migration Upgrade Steps Checklist](#) (see page 280)

[Component Installation Checklist](#) (see page 281)

## Product/Model Checklist

The following table lists the CA Repository for z/OS add-on tools or products and their associated models. Not all products have a unique model-instead the model is shared by other components.

Every model in this product comes with the base product. You may choice which model you want to load.

For example if you have the Exchange for Oracle you must load the Oracle model or you will get errors trying to run the exchange for Oracle. If you do not buy the Exchange for Oracle you can still load the oracle model.

There is no product that will fail if you choose not to load the software model or the WSDL model.

Use the following list to mark the models you plan to install:

| <b>Install</b>           | <b>Product Name</b>  | <b>Model Name</b> |
|--------------------------|--|-------------------|
| <input type="checkbox"/> | CA Repository for z/OS   | Base Product      |
| <input type="checkbox"/> | CA Repository for z/OS Webstation Option                           | Webstation        |
| <input type="checkbox"/> | CA Repository Exchange for DB2                                     | DB2               |
| <input type="checkbox"/> | CA Data Transformer Enterprise Metadata Edition                    | Data Transformer  |
| <input type="checkbox"/> | CA Repository Exchange for CA Endeavor <sup>®</sup> Change Manager | ENDEVOR           |
| <input type="checkbox"/> | CA Repository Exchange for CA ERwin Data Modeler                   | ERwin             |

| <b>Install</b>           | <b>Product Name</b>                                    | <b>Model Name</b>     |
|--------------------------|--|-----------------------|
| <input type="checkbox"/> | CA Repository Exchange for CA IDMS <sup>®</sup>        | IDMS                  |
| <input type="checkbox"/> | CA Repository Exchange for CA Gen                      | CA Gen                |
| <input type="checkbox"/> | CA Repository Exchange for IMS                         | IMS                   |
| <input type="checkbox"/> | CA Repository Exchange for IBM Data Dictionary         | IMS                   |
| <input type="checkbox"/> | CA Repository Exchange for CA InfoRefiner <sup>®</sup> | InfoRefiner           |
| <input type="checkbox"/> | CA Repository Exchange for SQL Server                  | MS SQL Server         |
| <input type="checkbox"/> | CA Repository Exchange for Oracle                      | Oracle                |
| <input type="checkbox"/> | CA Repository Exchange for Assembler                   | Base Product          |
| <input type="checkbox"/> | CA Repository Exchange for COBOL                       | Base Product          |
| <input type="checkbox"/> | CA Repository Exchange for JCL                         | Base Product          |
| <input type="checkbox"/> | CA Repository Exchange for PL1                         | Base Product          |
| <input type="checkbox"/> | CA Repository Exchange for SAS                         | SAS                   |
| <input type="checkbox"/> | CA Repository Exchange for SQL                         | Base Product          |
| <input type="checkbox"/> | CA Repository Exchange for Sybase                      | Sybase                |
| <input type="checkbox"/> | CA Repository Exchange for Teradata                    | Teradata              |
| <input type="checkbox"/> | CA Repository Exchange for UDB                         | UDB                   |
| <input type="checkbox"/> | CA Repository Exchange for XML DTD                     | XML DTD               |
| <input type="checkbox"/> | CA Repository Exchange for BMC Change Manager          | DB2                   |
| <input type="checkbox"/> | CA Repository Exchange for ODBC                        | ODBC                  |
| <input type="checkbox"/> | CA Repository Universal XML Exchange                   | Object Oriented Model |
| <input type="checkbox"/> | CA Repository Universal XML Exchange                   | Software Model        |
| <input type="checkbox"/> | CA Repository Universal XML Exchange                   | WSDL Model            |
| <input type="checkbox"/> | CA Repository Universal XML Exchange                   | Universal XML         |

**Note:** CA Repository Universal XML Exchange can be used to load any repository model and is not limited to the OO model, Software model and WSDL model.

## Non-Supported Models

The models in the following table accompanied components that are no longer supported. These models are no longer loaded automatically through the installation panels. However, you can load them manually by customizing member DBXINST4. It is recommended that you copy the DBXINST4 member from the CAI.SHLQ.ISPPLIB to your CAI.SHLQ.CUST.ISPPLIB prior to customization. It is necessary to copy the DBXINST4 from the SMP/E controlled CAI.SHLQ.ISPPLIB to a non-SMP/E controlled library such as CAI.SHLQ.CUST.ISPPLIB prior to customizing DBXINST4. Set the product switch to Y prior to loading the CA Repository for z/OS control data.

| Model Name      | Product Switch Name |
|-----------------|---------------------|
| Adabas          | ADBPS               |
| Apertus Carlton | CRLPS               |
| COOL:Enterprise | ADWPS               |
| Informix        | IFXPS               |
| LBMS            | LBMSPS              |
| Prism           | DWPS                |
| Silverrun       | SRPPS               |
| SAP/R3          | SAPPS               |

**Note:** If you are upgrading a repository that currently has data loaded into it that is no longer supported in the new release, you **must** complete this step prior to executing Specify the Models to Install in the chapter "Migration Information." Failure to do so results in loss of non-supported data.

## Configuration Steps Checklist

Perform each step in the order presented. You can use the following checklist to track your progress.

| Step | Task                                       | Completed                |
|------|--|--------------------------|
| 1    | Copy the r7.2 DB2 Stored Procedures        | <input type="checkbox"/> |
| 2    | Copy Members to Custom Libraries           | <input type="checkbox"/> |
| 3    | Make CLISTS Preparation                    | <input type="checkbox"/> |
| 4    | Access the Installation Customization Menu | <input type="checkbox"/> |
| 5    | Define Installation Defaults               | <input type="checkbox"/> |

| <b>Step</b> | <b>Task</b>                                     | <b>Completed</b>         |
|-------------|---|--------------------------|
| 6           | Define DB2 Defaults                             | <input type="checkbox"/> |
| 7           | Specify ISPF Default Libraries                  | <input type="checkbox"/> |
| 8           | Specify the Models to Install                   | <input type="checkbox"/> |
| 9           | Edit the STEPLB Skeleton Library                | <input type="checkbox"/> |
| 10          | Create the Tables, Views, and Stored Procedures | <input type="checkbox"/> |
| 11          | Load the Metadata Models                        | <input type="checkbox"/> |
| 12          | Bind Utility Plans and Packages                 | <input type="checkbox"/> |
| 13          | Create the Data Tables                          | <input type="checkbox"/> |
| 14          | Grant DB2 Privileges                            | <input type="checkbox"/> |
| 15          | Bind All DB2 Plans and Packages                 | <input type="checkbox"/> |
| 14          | Load the Version Table                          | <input type="checkbox"/> |
| 16          | Specify Name Generation Parameters              | <input type="checkbox"/> |
| 17          | Load Component Data Table                       | <input type="checkbox"/> |
| 18          | Load the Default Path Definitions               | <input type="checkbox"/> |
| 19          | Load the Default Element Domains                | <input type="checkbox"/> |
| 20          | Load Global Commands                            | <input type="checkbox"/> |
| 21          | Run the SHOPCNTL LOAD Program                   | <input type="checkbox"/> |

## Migration Upgrade Steps Checklist

You can use the following checklist to track your progress after you back up CA Repository for z/OS r7 and data sets. Perform each step in the order presented.

| <b>Step</b> | <b>Task</b>                                | <b>Completed</b>         |
|-------------|--|--------------------------|
| 1           | Copy the r7,2 DB2 Stored Procedures        | <input type="checkbox"/> |
| 2           | Copy Members to Custom Libraries           | <input type="checkbox"/> |
| 3           | Make CLISTS Preparation                    | <input type="checkbox"/> |
| 4           | Access the Installation Customization menu | <input type="checkbox"/> |
| 5           | Define installation defaults               | <input type="checkbox"/> |
| 6           | Define DB2 defaults                        | <input type="checkbox"/> |
| 7           | Specify ISPF default libraries             | <input type="checkbox"/> |

| <b>Step</b> | <b>Task</b>                                      | <b>Completed</b>         |
|-------------|--|--------------------------|
| 8           | Specify the models to install                    | <input type="checkbox"/> |
| 9           | Edit the STEPLB File                             | <input type="checkbox"/> |
| 10          | Execute preload SQL statements                   | <input type="checkbox"/> |
| 11          | Bind the utility plans and packages              | <input type="checkbox"/> |
| 12          | Add Steps for CA ERwin or Universal XML Exchange | <input type="checkbox"/> |
| 13          | Load the new data                                | <input type="checkbox"/> |
| 13a         | Load the data                                    | <input type="checkbox"/> |
| 13b         | Analyze duplicate row errors                     | <input type="checkbox"/> |
| 14          | Run the RUNSTATS utility                         | <input type="checkbox"/> |
| 15          | Resynchronize the tables                         | <input type="checkbox"/> |
| 15a         | Create new and synchronize existing tables       | <input type="checkbox"/> |
| 15b         | Run the UNLOAD from the resynchronize process    | <input type="checkbox"/> |
| 15c         | Run the RECREATE from the resynchronize process  | <input type="checkbox"/> |
| 16          | Execute SQL statements                           | <input type="checkbox"/> |
| 17          | Run the RUNSTATS utility                         | <input type="checkbox"/> |
| 18          | Bind all plans and packages                      | <input type="checkbox"/> |
| 19          | Refresh the WLM                                  | <input type="checkbox"/> |
| 20          | Load Component Data Tables                       | <input type="checkbox"/> |
| 21          | Rebuild the all DBEXCEL privilege                | <input type="checkbox"/> |
| 22          | Run the SHOPCNTL load program                    | <input type="checkbox"/> |
| 21          | Update the release number (statement 13)         | <input type="checkbox"/> |
| 22          | Complete the upgrade                             | <input type="checkbox"/> |

## Component Installation Checklist

Perform each step in the order presented. You can use the following checklist to track your progress.

| <b>Step</b> | <b>Task</b>                               | <b>Check</b>             |
|-------------|---|--------------------------|
| 1           | Back Up The Current Release               | <input type="checkbox"/> |
| 2           | Determine Which Optional FMIDs to Install | <input type="checkbox"/> |

| <b>Step</b> | <b>Task</b>  | <b>Check</b>             |
|-------------|--|--------------------------|
| 3           | SMP/E Received the Optional FMIDs                                  | <input type="checkbox"/> |
| 4           | SMP/E APPLY the Optional FMIDs                                     | <input type="checkbox"/> |
| 5           | Define the LMP key for the Optional FMIDs                          | <input type="checkbox"/> |
| 6           | SMP/E ACCEPT the Optional FMIDs                                    | <input type="checkbox"/> |
| 7           | Access the Installation Customization menu                         | <input type="checkbox"/> |
| 8           | Specify the models to install                                      | <input type="checkbox"/> |
| 9           | Load the new data  | <input type="checkbox"/> |
| 10          | Resynchronize the repository tables                                | <input type="checkbox"/> |
| 10a         | Create the New Tables and resynchronize process                    | <input type="checkbox"/> |
| 10b         | Run the UNLOAD from the resynchronize process                      | <input type="checkbox"/> |
| 10c         | Run the RECREATE from the resynchronize process                    | <input type="checkbox"/> |
| 11          | Execute the SQL Statements   | <input type="checkbox"/> |
| 12          | Run the RUNSTATS utility   | <input type="checkbox"/> |
| 13          | Bind the Utility packages  | <input type="checkbox"/> |
| 14          | Rebuild the ALL DBEXCEL Privilege                                  | <input type="checkbox"/> |
| 15          | Additional Steps for Exchange for ERwin and Universal XML Exchange | <input type="checkbox"/> |
| 15a         | Drop PRMXML Tables   | <input type="checkbox"/> |
| 15b         | Create Work Tables   | <input type="checkbox"/> |
| 16          | Load Component Data Tables   | <input type="checkbox"/> |
| 17          | Additional Steps for Webstation Option                             | <input type="checkbox"/> |
| 17a         | Execute SQL Statements   | <input type="checkbox"/> |
| 17c         | Load Component Data Tables   | <input type="checkbox"/> |
| 17b         | Run the SHOPCNTL load program                                      | <input type="checkbox"/> |

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