CA Compress™ Data Compression

Installation Guide

Release 5.5

CA Technologies Product References

This document references the following CA Technologies products:

- CA Compress™ Data Compression (CA Compress)
- CA Mainframe Software Manager™ (CA MSM)
- CA Top Secret® (CA Top Secret)
- CA ACF2™ (CA ACF2)
- CA MIM™ Resource Sharing (CA MIM Resource Sharing)

Contact CA Technologies

Contact CA Support

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

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

Providing Feedback About Product Documentation

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

To provide feedback about CA Technologies product documentation, complete our short customer survey which is available on the CA Support website at http://ca.com/docs.

Contents

Chapter 1: Overview

This guide describes how to install and implement CA Compress.

This section contains the following topics:

Audience

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

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

Consult with the following personnel, as required:

- Systems programmer for z/OS and VTAM definitions
- Storage administrator for DASD allocations

How the Installation Process Works

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

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

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

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

To install your product, do the following tasks:

1. Prepare for the installation by confirming that your site meets all installation requirements (see page 11).
2. Use one of the following methods to acquire the product:
   - Download the software from CSO using CA MSM (see page 15).
   - Download the software from CSO using Pax-Enhanced Electronic Software Delivery (ESD) (see page 21).
   - Order a tape or a DVD.
3. Perform an SMP/E installation using one of the following methods:
   - If you used CA MSM to acquire the product, start the SMP/E step from the SMP/E Environments tab in CA MSM.
   - If you used ESD to acquire the product, you can install the product in the following ways:
     - Install the product manually.
     - Use the Insert New Product option in CA MSM to complete the SMP/E installation.
   - If you used a tape (see page 45) or DVD, install the product manually.

   Note: If a CA Recommended Service (CA RS) package is published for your product, install it before continuing with deployment.

4. Deploy the target libraries using one of the following methods:
   - If you are using CA MSM, deployment is required; it is a prerequisite for configuration.
   - If you are using a manual process, deployment is an optional step.

   Note: Deployment is considered part of starting your product.
5. Configure your product manually.

   Note: Configuration is considered part of starting your product.

Chapter 2: Preparing for Installation

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

This section contains the following topics:

Hardware Requirements

CA Compress is distributed on a standard label tape. CA Compress can also be downloaded and installed from CA Mainframe Software Manager (CA MSM) or Pax-Enhanced Electronic Software Delivery (ESD).

Note: To prevent possible naming conflicts, do not install CA Compress into the same zones as the products of other vendors or your operating system.

Software Requirements

The following software is required for CA Compress:

- IBM Supported release of z/OS r.9 or above

CA Common Services Requirements

The following CA Common Services are used with CA Compress:

- CAIRIM
- CAICCI
- CA LMP

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

LMP Key Requirements

The CA License Management Program (CA LMP) tracks licensed software in a standardized and automated way. It uses common real-time enforcement software to validate the user's configuration. CA LMP reports on activities related to the license, usage, and financials of CA Technologies products.

CA LMP features include:

- Common Key Data Set can be shared among many CPUs
- Check digits are used to detect errors in transcribing key information
- Execution keys can be entered without affecting any CA software product already running
- No special maintenance requirements

CA Compress is licensed with an LMP key. You acquire the LMP key with one of the following methods:

- From your product tape
- With ESD
- From CA Support

Storage Requirements

Distribution Libraries

The following table lists the amount of disk space needed to install the Distribution libraries:

Library Name	3390 Tracks
ACVBCLS0	15
ACVBJCL	15
ACVBMENU	15
ACVBMOD0	90
ACVBPENU	75
ACVBSENU	15
ACVBSAMP	15
ACVBXML	15

Library Name	3390 Tracks
Total	255

Target Libraries

The following table lists the amount of disk space needed to install the Target libraries:

Library Name	3390 Tracks
CCVBCLS0	15
CCVBJCL	15
CCVBLINK	90
CCVBLOAD	150
CCVBMENU	15
CCVBPENU	75
CCVBSENU	15
CCVBSAMP	15
CCVBXML	15
Total	405

Concurrent Releases

You can install this release of CA Compress and continue to use an older release in another SMP/E CSI 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 in that environment.
- 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

These topics provide information to get you started managing your product using CA MSM. You can use the online help included in CA MSM to get additional information.

Before using these topics, you must already have CA MSM installed at your site. If you do not have CA MSM installed, you can download it from the Download Center at the CA Support Online website, which also contains links to the complete documentation for CA MSM.

Note: The information in this section applies to the latest version of CA MSM. If you are using an earlier version, see the appropriate bookshelf on the CA Mainframe Software Manager product page.

How to Use CA MSM: Scenarios

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

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

How to Acquire a Product

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

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

Follow these steps:

1. Set up a CA Support Online account.

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

2. Determine the CA MSM URL for your site.

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

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

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

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

4. Download the product installation packages.

   After you find your product in the catalog, you can download the product installation packages.

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

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

How to Install a Product

The *Software Installation Service (SIS)* facilitates the installation and maintenance of mainframe products in the software inventory of the driving system. This facilitation includes browsing downloaded software packages, managing SMP/E consolidated software inventories on the driving system, and automating installation tasks.

You can use the SIS component of CA MSM to install a CA Technologies product.

Note: To prevent possible naming conflicts, do not install CA Compress into the same zones as the products of other vendors or your operating system.

Follow these steps:

1. Initiate product installation and review product information.
2. Select an installation type.
3. Review installation prerequisites if any are presented.
4. Take *one* of the following steps to select an SMP/E environment:
   - Create an SMP/E environment:
     a. Set up the global zone.
     b. Create a target zone.
     c. Create a distribution zone.
   - Use an existing SMP/E environment from your working set:
     a. Update the global zone.
     b. Set up the target zone: Either create a target zone or use an existing target zone.
     c. Set up the distribution zone: Either create a distribution zone or use an existing distribution zone.

     Note: If you install a product or its components into an existing target or distribution zone, older versions are deleted from the zone and associated data sets. We recommend that you use new target and distribution zones for this installation so that you can apply maintenance to your current release, if necessary.
5. Review the installation summary and start the installation.

After the installation process completes, check for and install available product maintenance. The product is ready for you to deploy. Sometimes there are other steps to perform manually outside of CA MSM before beginning the deployment process.

How to Maintain Existing Products

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

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

Follow these steps:

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

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

2. Download the latest maintenance 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.

3. Apply the maintenance.

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

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

How to Deploy a Product

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

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

Follow these steps:

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

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

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

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

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

Access CA MSM Using the Web-Based Interface

You access CA MSM using the web-based interface. Obtain the URL of CA MSM from the CA MSM administrator.

Follow these steps:

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

   The login page appears.

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

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

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

3. Click New.

   You are prompted for the credentials to use on the CA Support Online website.

   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 Online 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 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.

Chapter 4: Installing Your Product from Pax-Enhanced ESD

This section contains the following topics:

How to Install a Product Using Pax-Enhanced ESD

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

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

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

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

1. Allocate and mount the file system. This process requires a USS directory to receive the pax file and to perform the unpack steps. We recommend that you allocate and mount a file system 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-filename`

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 26)
Allocate and Mount a File System (see page 27)
Copy the Product Pax Files into Your USS Directory (see page 30)
Create a Product Directory from the Pax File (see page 35)
Copy Installation Files to z/OS Data Sets (see page 36)

How the Pax-Enhanced ESD Download Works

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

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

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

   The CA Support Online web page appears.

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

   The CA Product Download window appears.

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

   For both options, The ESD Product Download Window (see page 23) 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.

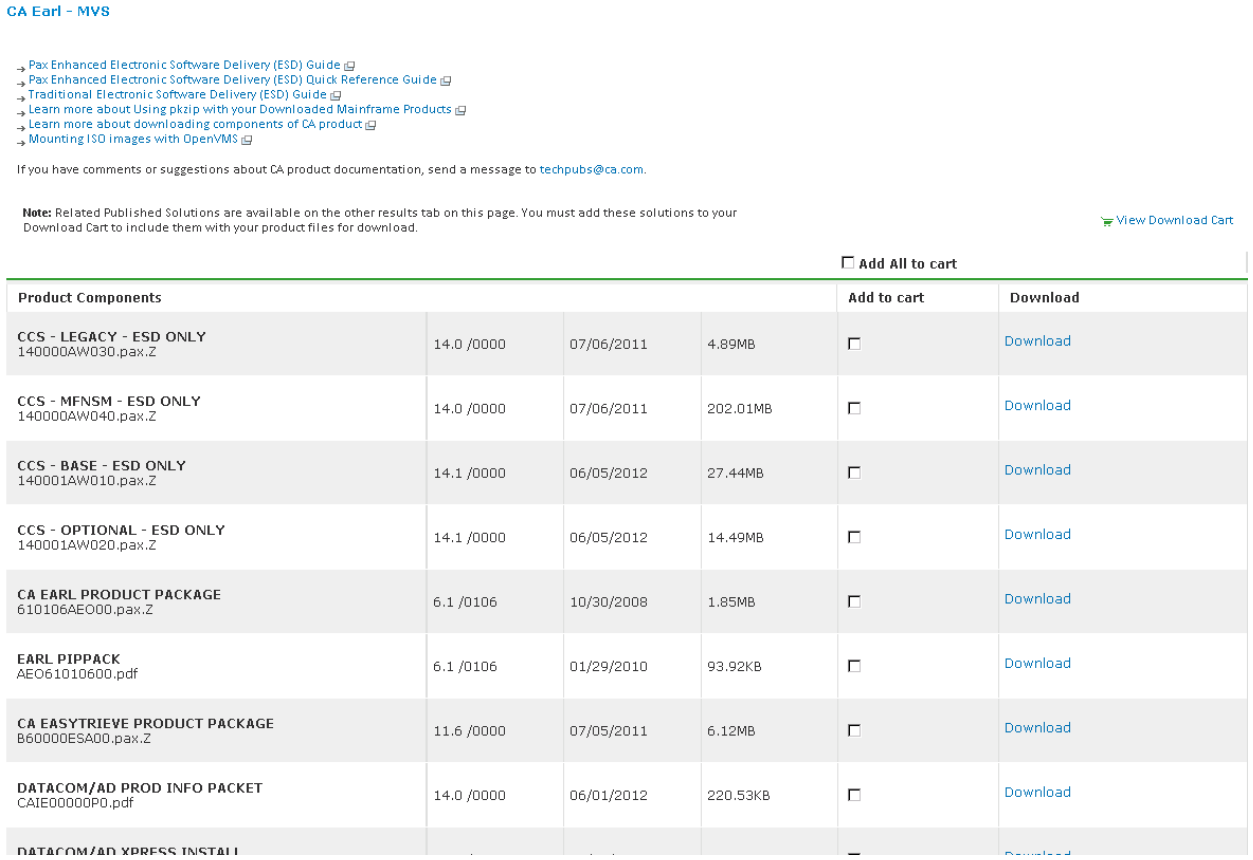
4. Perform the steps to install the product based on the product-specific steps.

   The product is installed on the mainframe.

ESD Product Download Window

CA Technologies 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
- Mounting ISO images with OpenVMS

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

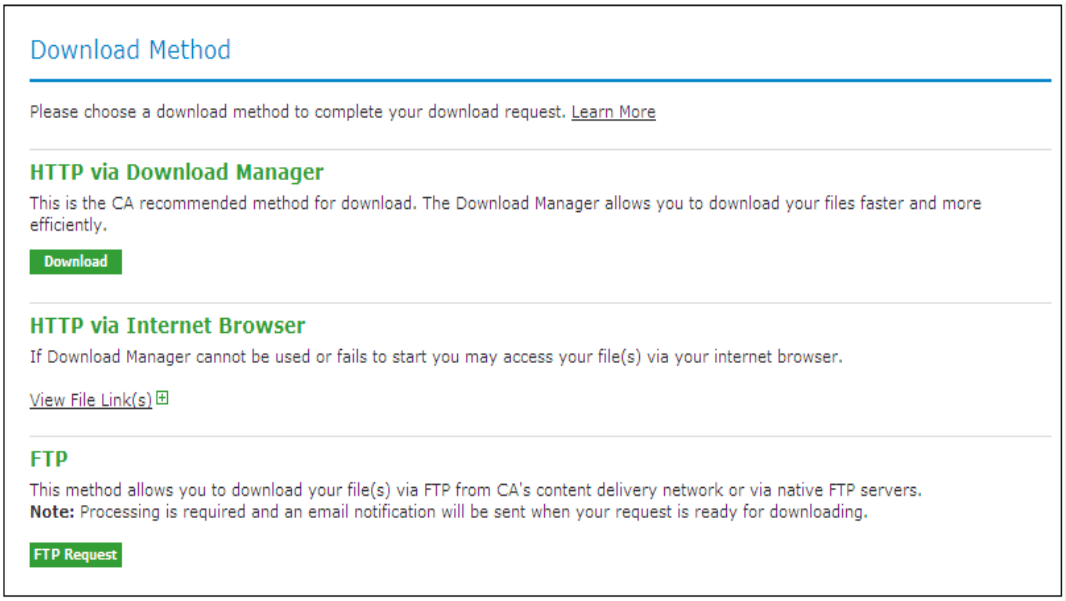
Note: Related Published Solutions are available on the other results tab on this page. You must add these solutions to your Download Cart to include them with your product files for download.

View Download Cart

Add All to cart

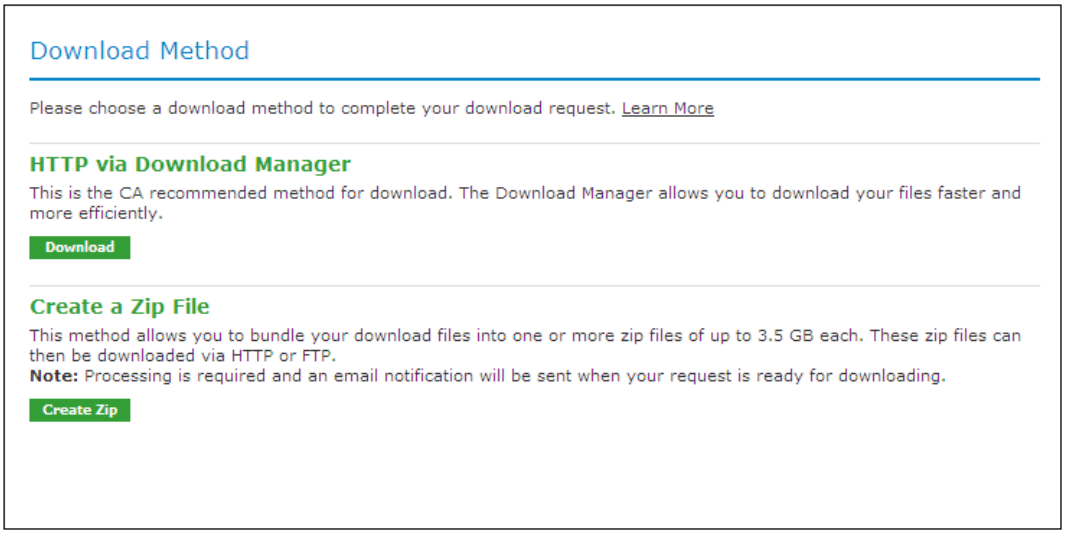
Product Components				Add to cart	Download
CCS - LEGACY - ESD ONLY 140000AW030.pax.Z	14.0 /0000	07/06/2011	4.89MB	☐	Download
CCS - MFNSM - ESD ONLY 140000AW040.pax.Z	14.0 /0000	07/06/2011	202.01MB	☐	Download
CCS - BASE - ESD ONLY 140001AW010.pax.Z	14.1 /0000	06/05/2012	27.44MB	☐	Download
CCS - OPTIONAL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

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



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

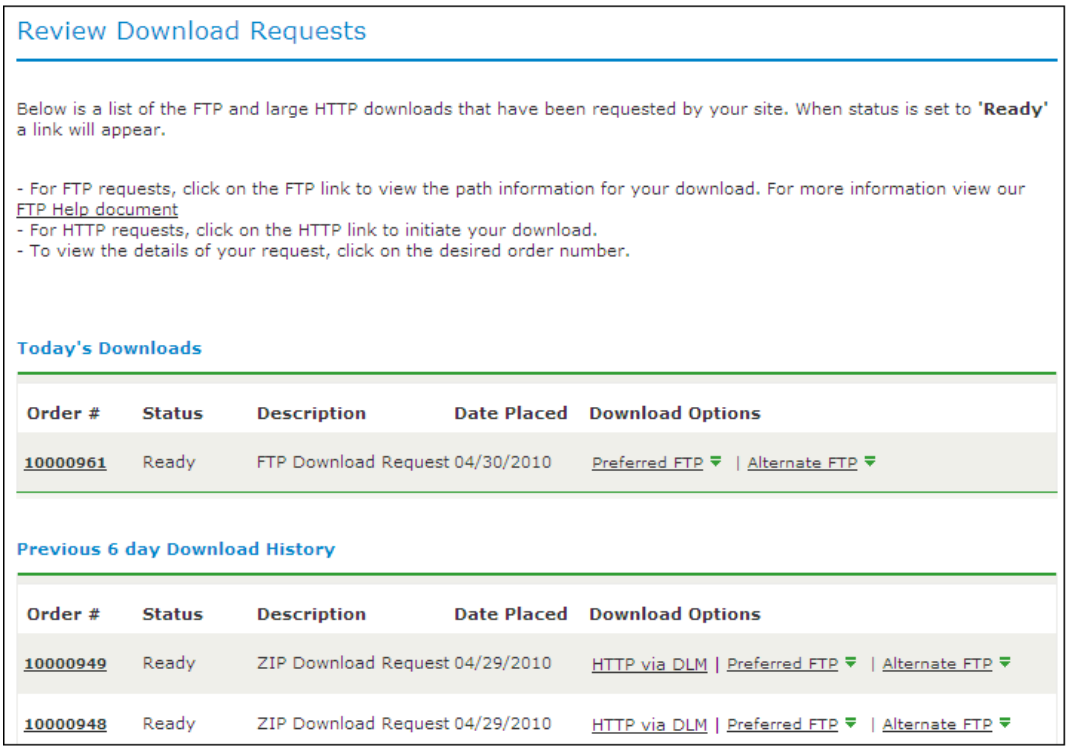
Note: For mainframe downloads using this HTTP method, click the Learn More link.



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

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

The Create a Zip File option first creates the zip, and when ready, offers the options 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
10000961	Ready	FTP Download Request	04/30/2010	Preferred FTP | Alternate FTP

Previous 6 day Download History

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

USS Environment Setup

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

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

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

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

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

This procedure describes how to perform the following tasks:

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

  Note: You must have SUPERUSER authority to do this.
- Optionally, permit write access to anyone in the same group as the person who created the directory.

  Important! USS commands are case-sensitive.

Follow these steps:

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

   - On a zFS, use the following sample:

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

   - On an HFS, use the following sample:

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

   The file system is allocated.

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

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

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

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

   The mount point is created.

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

   - On a zFS, use the following sample:

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

   - On an HFS, use the following sample:

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

Copy the Product Pax Files into Your USS Directory

To begin the CA Technologies product installation procedure, copy the product'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! The FTP procedures vary due to local firewall and other security settings. Consult your local network administrators to determine the appropriate FTP procedure to use at your site.

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

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

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

More Information:

How the Pax-Enhanced ESD Download Works (see page 23)
ESD Product Download Window (see page 23)

Download Using Batch JCL

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

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

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

Follow these steps:

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

   The job points to your profile.
3. Replace *YourEmailAddress* with your email address.

   The job points to your email address.
4. Replace *yourUSSESDdirectory* with the name of the USS directory that you use for ESD downloads.

   The job points to your USS directory.
5. Locate the product component to download on the CA Support Product Download window.

   You have identified the product component to download.
6. Click Download for the applicable file.

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

   The Download Method window opens.
7. Click FTP Request.

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

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

8. Select one of the following methods:

   Preferred FTP

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

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

   Alternate FTP

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

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

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

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

9. Submit the job.

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

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

Example: CAtoMainframe.txt, JCL

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

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

Download Files to Mainframe through a PC

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

Follow these steps:

1. Follow the procedures in How the Pax-Enhanced ESD Download Works 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 a sample JCL job that you can copy directly to the mainframe. To access this job, click the paper clip icon at the left of the PDF reader. A window displaying attachments opens. Double-click the file to view the sample JCL.

Follow these steps:

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

   The job points to your specific directory.
3. Replace *paxfile.pax.Z* with the name of the pax file.

   The job points to your specific pax file.
4. Submit the job.

   The job runs and creates the product directory.

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

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

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

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

Copy Installation Files to z/OS Data Sets

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

Follow these steps:

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 the product-specific details you require to complete the installation procedure.

   You have identified the 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, typically /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 y*ourHLQ* to the high-level qualifier (HLQ) for z/OS data sets used by the installation process. We suggest that you use a unique HLQ for each expanded pax file to identify uniquely the package. Do *not* use the same value for y*ourHLQ* as you use for the SMP/E RELFILEs.

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

6. Submit the UNZIPJCL job.

   The UNZIPJCL job completes 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.

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

How to Install Products Using Native SMP/E JCL

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

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

Prepare the SMP/E Environment for Pax Installation

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

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

Follow these steps:

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

   The macro is ready to customize the *yourHLQ*.CAI.SAMPJCL members.

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

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

2. Open the SAMPJCL member SHR1ALL in an edit session and execute the SHRSEDIT macro from the command line.

   SHR1ALL is customized.

3. Submit SHR1ALL.

   This job produces the following results:

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

4. Open the SAMPJCL member SHR2CSI in an edit session and execute the SHRSEDIT macro from the command line.

   SHR2CSI is customized.

5. Submit SHR2CSI.

   This job produces the following results:

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

Run the Installation Jobs for a Pax Installation

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

Follow these steps:

1. Open the SAMPJCL member SHR3RECD in an edit session, and execute the SHRSEDIT macro from the command line.

   SHR3RECD is customized.

2. Submit the *yourHLQ*.CAI.SAMPJCL member SHR3RECD to receive SMP/E base functions.

   CA Compress is received and now resides in the global zone.

3. Open the SAMPJCL member SHR4APP in an edit session, and execute the SHRSEDIT macro from the command line.

   SHR4APP is customized.

4. Submit the *yourHLQ*.CAI.SAMPJCL member SHR4APP to apply SMP/E base functions.

   CA Compress is applied and now resides in the target libraries.

5. Open the SAMPJCL member SHR5ACC in an edit session, and execute the SHRSEDIT macro from the command line.

   SHR5ACC is customized.

6. Submit the *yourHLQ*.CAI.SAMPJCL member SHR5ACC to accept SMP/E base functions.

   CA Compress is accepted and now resides in the distribution libraries.

Clean Up the USS Directory

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

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

- Pax file
- Product-specific directory 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.

Follow these steps:

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

   Your view is of the applicable USS directory.

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

   `rm paxfile`

   paxfile

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

   The pax file is deleted.

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

   `rm -r product-specific-directory`

   product-specific-directory

   Specifies the product-specific directory 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 has maintenance and HOLDDATA published since the installation data was created. After the maintenance process completes, the product is ready to deploy.

Follow these steps:

1. Check CA Support Online and download any PTFs and HOLDDATA published since this release was created. If the base release was created recently, PTFs or HOLDDATA may not have been published yet.
2. Transfer the downloaded files to two separate FB 80 sequential data sets. Use one data set to contain the PTFs and the other to contain the HOLDDATA.

   The PTFs and HOLDDATA become accessible to the *yourHLQ*.CAI.SAMPJCL maintenance members.

3. The SHRSEDIT macro was customized in the installation steps. Verify that you still have the values from the base install.

4. Open the SAMPJCL member SHR6RECP in an edit session and execute the SHRSEDIT macro from the command line.

   SHR6RECP is customized with your JOB statement, CSI location, and zone names.

5. Customize the SHR6RECP SMPPTFIN and SMPHOLD DD statements to reference the FB 80 data sets for the PTFs and HOLDDATA.

6. Submit SHR6RECP.

   The PTFs and HOLDDATA are received.

7. Open the SAMPJCL member SHR7APYP in an edit session and execute the SHRSEDIT macro from the command line.

   SHR7APYP is customized.

8. Submit SHR7APYP.

   The PTFs are applied.

9. (Optional) Open the SAMPJCL member SHR8ACCP in an edit session and execute the SHRSEDIT macro from the command line.

   SHR8ACCP is customized.

10. (Optional) Submit *yourHLQ*.CAI.SAMPJCL member SHR8ACCP.

    The PTFs are accepted.

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

HOLDDATA

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

System HOLDDATA

System HOLDDATA indicates data that is an in-stream part of the SYSMOD, informing you of special conditions. The following reasons are used with SYSTEM HOLDDATA for CA Compress:

ACTION

Indicates that you must perform special processing before or after you apply this SYSMOD.

AO

Affects automated operations. It changes either the message identifier or the displacement of a field inside the message.

DB2BIND

Indicates that DBRMs have changed and packages need to be rebound.

DDDEF

Indicates that data sets and DDDEFs are being added or modified.

DELETE

Deletes the SYSMOD load module. You cannot reverse this type of SYSMOD with the SMP/E RESTORE command.

DEP

Indicates a dependency for this SYSMOD that you must externally verify.

DOC

Indicates a documentation change with this SYSMOD.

DYNACT

Describes the steps to dynamically activate this fix without performing an IPL.

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.

ENH

Introduces a small programming enhancement. The hold contains the instructions to implement the enhancement. If no action is needed to implement the enhancement, give a summary of the enhancement.

EXIT

Indicates that changes delivered by this SYSMOD require reassembly of user exits.

EXRF

Indicates that the SYSMOD must be installed in both the Active and Alternate Extended Recovery Facility Systems.

IPL

Indicates that an IPL is required for this SYSMOD to take effect. This is used only when there is no alternative for dynamic activation.

MSGSKEL

Indicates that the SYSMOD contains internationalized message versions which must be run through the message compiler for each language.

MULTSYS

Apply this SYSMOD to multiple systems for either pre-conditioning, coexistence, or exploitation.

RESTART

Indicates that after applying this SYSMOD, the site must perform a special restart as opposed to a routine restart.

SQLBIND

Indicates that a bind is required for a database system other than DB2.

SYSMOD

Indicates that some or all of the elements delivered by this SYSMOD are to be downloaded to a workstation.

Code a bypass operand on your APPLY command to install SYSMODs that have internal holds. Code the bypass operand only after you have performed the required action, or if you are performing the action after the APPLY, if that is appropriate.

External HOLDDATA

External HOLDDATA is not part of the PTF. It resides in a separate file. It is commonly used for SYSMODs that have been distributed and later are discovered to cause problems.

Download the external HOLDDATA from CA Support to a DASD file, and allocate the file to the SMPHOLD DD statement. To take care of the external HOLDDATA, receive it into your SMP/E environment. SMP/E receives the HOLDDATA from CA-supplied jobs.

If a SYSMOD has an unresolved hold error, SMP/E does not install it unless you add a bypass to your APPLY command. You can bypass an error hold in situations that are not applicable to you. Error holds that are not applicable to you can include a problem that happens only with a hardware device that you do not have or in a product feature that you do not use.

When CA publishes a SYSMOD that resolves the hold, the resolving SYSMOD supersedes the hold error. This action lets you apply the original SYSMOD in conjunction with the fixing SYSMOD.

A special HOLDDATA class called ERREL exists. We have determined that the problem fixed by the SYSMOD is more important than the one that it causes. We recommend that you apply these SYSMODs.

The only manual task is running a REPORT ERRSYSMODS. This report identifies the following:

- Any held SYSMODs already applied to your system.
- Any resolving SYSMODs that are in RECEIVE status.

SMP/E identifies the SYSMOD to apply to correct the situation.

Chapter 5: Installing Your Product from Tape

This section contains the following topics:

Unload the Sample JCL from Tape

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

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

Follow these steps:

1. Run the following sample JCL:

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

unitname

Specifies the tape unit to mount the tape.

nnnnnnn

Specifies the tape volume serial number.

yourHLQ

Specifies the data set prefix for the installation.

sysda

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

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

2. Continue with one of the following options:

   - If you already have set up the SMP/E environment, go to Run the Installation Jobs for a Tape Installation.
   - If you have *not* set up the SMP/E environment, go to Prepare the SMP/E Environment for Tape Installation.

How to Install Products Using Native SMP/E JCL

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

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

Prepare the SMP/E Environment for Tape Installation

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

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

Note: To prevent possible naming conflicts, do not install CA Compress into the same zones as the products of other vendors or your operating system.

Follow these steps:

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

   The macro is ready to customize your y*ourHLQ*.SAMPJCL members.

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

2. Open the SAMPJCL member SHR1ALL in an edit session and execute the SHRSEDIT macro from the command line.

   SHR1ALL is customized.

3. Submit SHR1ALL.

   This job produces the following results:

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

4. Open the SAMPJCL member SHR2CSI in an edit session and execute the SHRSEDIT macro from the command line.

   SHR2CSI is customized.

5. Submit SHR2CSI.

   This job produces the following results:

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

Run the Installation Jobs for a Tape Installation

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

Follow these steps:

1. Open the SAMPJCL member SHR3RECT in an edit session and execute the SHRSEDIT macro from the command line.

   SHR3RECT is customized.

2. Submit the *yourHLQ*.SAMPJCL member SHR3RECT to receive SMP/E base functions.

   CA Compress is received and now resides in the global zone.

3. Open the SAMPJCL member SHR4APP in an edit session and execute the SHRSEDIT macro from the command line.

   SHR4APP is customized.

4. Submit the *yourHLQ*.SAMPJCL member SHR4APP to apply SMP/E base functions.

   Your product is applied and now resides in the target libraries.

5. Open the SAMPJCL member SHR5ACC in an edit session and execute the SHRSEDIT macro from the command line.

   SHR5ACC is customized.

6. Submit the *yourHLQ*.SAMPJCL member SHR5ACC to accept SMP/E base functions.

   Your product is accepted and now resides in the distribution libraries.

Apply Maintenance

CA Support Online has maintenance and HOLDDATA published since the installation data was created. After the maintenance process completes, the product is ready to deploy.

Follow these steps:

1. Check CA Support Online and download any PTFs and HOLDDATA published since this release was created. If the base release was created recently, PTFs or HOLDDATA may not have been published yet.
2. Transfer the downloaded files to two separate FB 80 sequential data sets. Use one data set to contain the PTFs and the other to contain the HOLDDATA.

   The PTFs and HOLDDATA become accessible to the *yourHLQ*.SAMPJCL maintenance members.
3. The SHRSEDIT macro was customized in the installation steps. Verify that you still have the values from the base install.
4. Open the SAMPJCL member SHR6RECP in an edit session and execute the SHRSEDIT macro from the command line.

   SHR6RECP is customized with your JOB statement, CSI location, and zone names.
5. Customize the SHR6RECP SMPPTFIN and SMPHOLD DD statements to reference the FB 80 data sets for the PTFs and HOLDDATA.
6. Submit SHR6RECP.

   The PTFs and HOLDDATA are received.
7. Open the SAMPJCL member SHR7APYP in an edit session and execute the SHRSEDIT macro from the command line.

   SHR7APYP is customized.
8. Submit SHR7APYP.

   The PTFs are applied.
9. (Optional) Open the SAMPJCL member SHR8ACCP in an edit session and execute the SHRSEDIT macro from the command line.

   SHR8ACCP is customized.
10. (Optional) Submit *yourHLQ*.SAMPJCL member SHR8ACCP.

    The PTFs are accepted.

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

HOLDDATA

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

System HOLDDATA

System HOLDDATA indicates data that is an in-stream part of the SYSMOD, informing you of special conditions. The following reasons are used with SYSTEM HOLDDATA for CA Compress:

ACTION

Indicates that you must perform special processing before or after you apply this SYSMOD.

AO

Affects automated operations. It changes either the message identifier or the displacement of a field inside the message.

DB2BIND

Indicates that DBRMs have changed and packages need to be rebound.

DDDEF

Indicates that data sets and DDDEFs are being added or modified.

SYSMOD

Indicates that some or all of the elements delivered by this SYSMOD are to be downloaded to a workstation.

DELETE

Deletes the SYSMOD load module. You cannot reverse this type of SYSMOD with the SMP/E RESTORE command.

DEP

Indicates a dependency for this SYSMOD that you must externally verify.

DOC

Indicates a documentation change with this SYSMOD.

DYNACT

Describes the steps to dynamically activate this fix without performing an IPL.

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.

ENH

Introduces a small programming enhancement. The hold contains the instructions to implement the enhancement. If no action is needed to implement the enhancement, give a summary of the enhancement.

EXIT

Indicates that changes delivered by this SYSMOD require reassembly of user exits.

EXRF

Indicates that the SYSMOD must be installed in both the Active and Alternate Extended Recovery Facility Systems.

IPL

Indicates that an IPL is required for this SYSMOD to take effect. This is used only when there is no alternative for dynamic activation.

MSGSKEL

Indicates that the SYSMOD contains internationalized message versions which must be run through the message compiler for each language.

MULTSYS

Apply this SYSMOD to multiple systems for either pre-conditioning, coexistence, or exploitation.

RESTART

Indicates that after applying this SYSMOD, the site must perform a special restart as opposed to a routine restart.

SQLBIND

Indicates that a bind is required for a database system other than DB2.

Code a bypass operand on your APPLY command to install SYSMODs that have internal holds. Code the bypass operand only after you have performed the required action, or if you are performing the action after the APPLY, if that is appropriate.

External HOLDDATA

External HOLDDATA is not part of the PTF. It resides in a separate file. It is commonly used for SYSMODs that have been distributed and later are discovered to cause problems.

Download the external HOLDDATA from CA Support to a DASD file, and allocate the file to the SMPHOLD DD statement. To take care of the external HOLDDATA, receive it into your SMP/E environment. SMP/E receives the HOLDDATA from CA-supplied jobs.

If a SYSMOD has an unresolved hold error, SMP/E does not install it unless you add a bypass to your APPLY command. You can bypass an error hold in situations that are not applicable to you. Error holds that are not applicable to you can include a problem that happens only with a hardware device that you do not have or in a product feature that you do not use.

When CA publishes a SYSMOD that resolves the hold, the resolving SYSMOD supersedes the hold error. This action lets you apply the original SYSMOD in conjunction with the fixing SYSMOD.

A special HOLDDATA class called ERREL exists. We have determined that the problem fixed by the SYSMOD is more important than the one that it causes. We recommend that you apply these SYSMODs.

The only manual task is running a REPORT ERRSYSMODS. This report identifies the following:

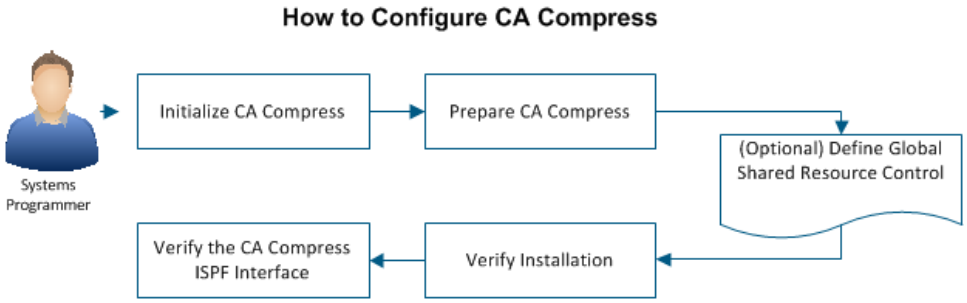
- Any held SYSMODs already applied to your system.
- Any resolving SYSMODs that are in RECEIVE status.

SMP/E identifies the SYSMOD to apply to correct the situation.

Chapter 6: Configuring Your Product

After installing CA Compress using SMP/E, configure CA Compress to run as a started task by performing the procedures described here. The configuration prepares CA Compress for the specific environment and requirements of your site.

The following diagram illustrates the CA Compress configuration process:



To configure CA Compress, complete the following steps:

1. Initialize CA Compress (see page 54).
2. Prepare CA Compress (see page 56).
3. (optional) Define Global Shared Resource Control (see page 57).
4. Verify Installation (see page 58).
5. Verify the CA Compress ISPF Interface (see page 59).

Initialize CA Compress

Initialize the CA Compress control files by modifying and submitting the install JCL. Initializing CA Compress starts the CA Compress configuration process.

Note: If you are upgrading from a previous version of CA Compress, use your existing Analysis and Control files and skip this step.

Follow these steps:

1. Edit the install JCL, YOUR.CAI.CCVBJCL($INSTALL).
2. Change all occurrences of the following items:
   - Job statement
   - Volser - the volume serial name for the CA Compress libraries and the IDCAMS DEFINE control statements
3. Change the system control input statements under the DEFAULTS DD statement. These input statements are the company (C) data and the authority (A) code statements.

   The company (C) data contains the following elements:

   C

   Indicates company data. C is a constant.

   Y/N/D

   Indicates access to the various CA Compress interface support services.

   - Y indicates that the access to the interface is controlled.
   - N indicates that the interface is open to general use.
   - D completely disables the Interactive User Interface (IUI) security. Use this option when you rely on CA Top Secret, CA ACF2, RACF, or your security product.

   0

   Indicates a 'Reserved for a future enhancement' status.

   UNIT2

   Defines the default DASD device type used when work files are allocated or JCL is generated.

name

Defines the name of the installation site. The company name is printed as part of the header on reports.

Limits: 1 to 50 characters, including spaces.

cat1node

Defines the high-level catalog node to be used when generating a data set name of a Dialog work file. This parameter is optional, but positional (its position must be present). If a catalog node is specified, it is used for all work data sets unless overridden by the catalog node of the user.

The authority (A) code contains the following elements:

A

Indicates authority code. A is a constant.

tsoid

Defines the TSO logon ID of the primary authorized user to install and implement the CA Compress IUI.

lastname, firstname mi

Defines the name of the primary authorized user. The field includes last name, first name, and middle initial. The comma can be included to separate the last name from the first name, but this punctuation mark is included for readability only. Its absence does not cause an error.

Limits: 1 to 25 characters.

username

Defines the name by which the IUI addresses the authorized user during processing. This name can represent the user name or user code developed by your installation.

Limits: 1 to 15 characters.

cat2node

Defines the high-level catalog node to be used when generating a data set name of a work file for this user. This parameter is optional, but positional. Its position must be present. If a catalog node is specified, it supersedes the catalog node in the company data card.

4. Submit and save the JCL.

   The CA Compress control files are initialized.

Prepare CA Compress

After initializing the CA Compress control files, prepare CA Compress to run as a started task that fully supports Virtual Storage Access Method (VSAM) transparency and the SUBSYS JCL parameter.

Follow these steps:

1. Verify that the linklist libraries do not contain any modules from the old versions.
2. Define the authorized library to be allocated to STEPLIB for the started task.

   Note: Modules ZSURSHRK and ZSURRLSE, the Hardware Compression dictionaries, and all the VSAM Performance Enhancement (VPE) modules must be in a linklist library. ZSURSHRK must also be in an authorized STEPLIB used by the started task. Also, File Descriptor Tables (FDTs) must generally be kept in the Control File. If you fetch them instead from a load library, that load library must be in the linklist.
3. Add a four-character subsystem name, with no other parameters, to SYS1.PARMLIB(IEFSSNxx).

   Example: ZSAM
4. Add the distributed data set YOUR.CAI.CCVBLINK to SYS1.PARMLIB(LNKLSTxx).

After adding the subsystem and linklist entries to SYS1.PARMLIB, modify and copy the started task to prepare the CA Compress started task procedure member.

Follow these steps:

1. Edit YOUR.CAI.CCVBJCL(ZSAMSTC).
2. Change all occurrences of YOUR.CAI, the high-level qualifier for the CA Compress libraries.
3. Copy the ZSAMSTC procedure member to a PROCLIB.

   Note: The first four characters of the member name must match the defined subsystem name, and it must be five to eight characters in length. If you use a four-character name exactly equal to the subsystem name, the started task fails with abend 0B0-08.
4. If you plan to use VPE, uncomment the VPEUP and VPEDN steps. VPE dynamically improves performance for selected data sets, compressed or otherwise.

   Note: VPE, which can run without the rest of CA Compress, is described in detail in the section VSAM Performance Enhancement in the *CA Compress Reference Guide*.
5. Put the name of the PROCLIB that holds the CA Compress started task in the Job Entry Subsystem (JES) concatenation.
6. APF Authorize the authorized library defined in STEPLIB that holds the CA Compress load modules.

Important! An Initial Program Load (IPL) is required to activate the newly added subsystem name and the linklist library.

(Optional) Define Global Shared Resource Control

A global resource serialization product, such as CA MIM Resource Sharing or Global Resource Serialization (GRS) of IBM, improves performance and avoids serialization problems by converting the CA Compress RESERVEs to SCOPE=SYSTEMS global enqueues. If you specify SYNCHRES(YES) in the member GRSCNFxx in SYS1.PARMLIB, VSAM I/O in the CA Compress started task hangs, along with any user job waiting for it, unless you implement the changes described here.

If you are a CA MIM Resource Sharing user, place the following two statements in the member MIMQNAME in the CA MIM Resource Sharing PARMLIB:

```
SYSxxxx  GDIF=YES,
         SCOPE=RESERVES,
         EXEMPT=NO,
         ECMF=YES,
         RPTAFTER=30,
         RPTCYCLE=60

SHRINKFE GDIF=YES,
         SCOPE=RESERVES,
         EXEMPT=NO,
         ECMF=YES,
         RPTAFTER=30,
         RPTCYCLE=60
```

If you are a GRS user, add the following two statements to the RNL RESERVE section in SYS1.PARMLIB member GRSRNL*xx*:

```
RNLDEF RNL(CON)  TYPE(GENERIC)  NAME(SYSxxxx)
RNLDEF RNL(CON)  TYPE(GENERIC)  NAME(SHRINKFE)
```

Note: In SYS*xxxx*, xxxx is the CA Compress subsystem name as you have installed it, equal to the first four characters of the CA Compress started task name.

Verify Installation

Run the installation verification procedure (IVP) to make sure that CA Compress is properly installed. The IVP generates a data set, compresses it, and verifies that the compression actually took place.

Follow these steps:

1. Edit the IVP JCL, YOUR.CAI.CCVBJCL($IVP).
2. Change all occurrences of the following items:
   - Job statement
   - Volser - the volume serial name for the CA Compress libraries
3. Start CA Compress by typing the following code at the operator console:
   ```
   S membername
   ```
   Where membername is the started task procedure name.
4. Submit the job $IVP.
5. Check the operator console for the job message and return code.

   If CA Compress installed correctly, the following messages with a return code of zero appear in the job log:
   ```
   CA Compress FOR MVS VSAM TRANSPARENCY SUCCESSFUL
   CA Compress FOR MVS PS TRANSPARENCY SUCCESSFUL
   CA Compress FOR MVS SUCCESSFULLY INSTALLED
   ```
   If CA Compress had problems during the installation, the following messages with a return code of eight appear on the operator console:
   ```
   CA Compress FOR MVS IVP FAILED
   CONTACT CA TECHNICAL SUPPORT
   ```
   These messages are preceded by diagnostics describing the failure. Verify that the started task did not fail due to an obvious cause, such as a JCL error, before calling CA Support.

Verify the CA Compress ISPF Interface

Verify the CA Compress Interactive System Productivity Facility (ISPF) interface to confirm that the interface functions correctly. Verifying the ISPF interface completes the CA Compress configuration process.

Follow these steps:

1. Edit the member CVBCMP5 in the YOUR.CAI.CCVBCLS0 library created by the install JCL and change the data set names to your own. The following code shows the top section of the CLIST, where all the CVBCMP5 member data sets are located:

```
PROC 0 AFDSN('YOUR.CAI.COMPRESS.ANALYSIS.FILE') +
       AFSHROPT() +
       LLIB('YOUR.CAI.CCVBLOAD') +
       PLIB('YOUR.CAI.CCVBPENU') +
       MLIB('YOUR.CAI.CCVBMENU') +
       MLIB1('SYS1.SIBMMENU') +
       SLIB('YOUR.CAI.CCVBSENU') +
       TLIB('YOUR.USER.TLIB') +
       MVSLIB('YOUR.CAI.CCVBLOAD') +
       DCA('YOUR.CAI.CCVBLOAD') +
       FDTLIB('YOUR.CAI.COMPRESS.FDTLIB') +
       IMPLABND('N') +
       DCAMODE('L') +
       DCADSF('.') +
       DCARSQ('S') +
       DCASTPRE('        ') +
       DCASTPST('        ') +
       DCASEC('NONE') +
       DCAPCT('100') +
       DCABYP('0') +
       DCAEXT('0') +
       DCASKP('0') +
       DCASCPRE('        ') +
       DCASCPST('        ') +
       DCASLDSO('A') +
       DCASLLMB('0') +
       DCASLHMB('0') +
```

   Note: If the load library FDTLIB is the source of the FDT load modules at execution time, it must be in the linklist, or at least be authorized. If possible, FDTs must always be supplied from the Control File.

2. Set the SOUT value to the appropriate SYSOUT class value.

3. Execute the CVBCOMP CLIST and verify that the CA Compress ISPF interface functions correctly.

   Note: You can execute CVBCMP5 directly, but it modifies the environment in several ways, including placing the Command ===> line at the bottom of the screen. CVBCOMP sets up a new application that is deleted along with all of its changes when you exit the CA Compress ISPF interface.

   You have successfully configured CA Compress.

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