

CA PMA Chargeback™

Installation Guide

Release 12.7



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CA Technologies Product References

This document references the following CA Technologies products:

- CA Datacom/AD
- CA Datacom/DB
- CA Earl™
- CA JARS Resource Accounting (CA JARS)
- CA Mainframe Software Manager (CA MSM)

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>.

Documentation Changes

The following documentation updates have been made since the last release of this documentation:

Note: In PDF format, page references identify the first page of the topic in which a change was made. The actual change may appear on a later page.

- Installation Procedures—Changed and added install steps to include information on using CA MSM configuration.
- Added [Installing your Product from DVD](#) (see page 57) section.

Contents

Chapter 1: Overview	9
Audience.....	9
How the Installation Process Works.....	10
Chapter 2: Preparing for Installation	13
Hardware Requirements	13
Software Requirements.....	13
CA Common Services Requirements	13
LMP Keys Requirements.....	15
Security Requirements	15
Storage Requirements.....	15
TSO Requirements.....	15
DASD Requirements	15
Concurrent Releases	17
DVD Space Requirements.....	17
Complete the Configuration Worksheet	18
Chapter 3: Installing Your Product Using CA MSM	19
How to Use CA MSM: Scenarios	19
How to Acquire a Product.....	19
How to Install a Product	20
How to Maintain Existing Products	21
How to Deploy a Product.....	22
How to Configure a Product	23
Access CA MSM Using the Web-Based Interface	24
Chapter 4: Installing Your Product from Pax-Enhanced ESD	27
How to Install a Product Using Pax-Enhanced ESD	27
How the Pax-Enhanced ESD Download Works.....	29
ESD Product Download Window	29
Allocate and Mount a File System.....	33
Copy the Product Pax Files into Your USS Directory	35
Download Using Batch JCL.....	36
Download Files to Mainframe through a PC.....	39
Create a Product Directory from the Pax File	40

Sample Job to Execute the Pax Command (Unpackage.txt)	41
Copy Installation Files to z/OS Data Sets	41
How to Install Products Using Native SMP/E JCL	43
Prepare the SMP/E Environment for PAX Installation	44
Run the Installation Jobs for a Pax Installation	45
Apply Maintenance	46
HOLDDATA.....	47

Chapter 5: Installing Your Product from Tape 49

Unload the Sample JCL from Tape	50
How to Install Products Using Native SMP/E JCL	51
Prepare the SMP/E Environment for Tape Installation	52
Run the Installation Jobs for a Tape Installation	53
Apply Maintenance	54
HOLDDATA.....	55

Chapter 6: Installing Your Product from DVD 57

DVD Contents	57
The pax Command	57
How to Install a Product	58
Create a Product Directory from the Pax File	59
Sample JCL	60
Complete the Installation	60

Chapter 7: Starting Your Product 61

Introduction.....	61
How to Prepare for Deployment.....	61
Apply IBM APARs.....	61
Run Any Other Jobs	61
Copy the CAIKSPAR and CAIKRPAR Files.....	62
Review System Requirements and Database Installation.....	62
Prepare the DB2 Database.....	62
How to Complete Deployment With CA MSM.....	63
Startup JCL Procedures Customized by CA MSM	63
How to Deploy Without CA MSM	63
Deploy without CA MSM	63
How to Complete Configuration With CA MSM.....	63
Configuration Wizard	64
Complete the Configuration	68
How to Configure Without CA MSM	69

Run cBASE Link-Edit.....	69
Run cBASE Data Dictionary Link-Edit for CA Datacom.....	69
Run the DB2 BIND Procedure.....	69
Allocate CAIKSPAR.....	70
Customize CAIKSPAR.....	70
Prepare the CA Datacom Database.....	70
Create Schema for CA Datacom Users.....	71
Create and Load Tables.....	72
Allocate CAIKRPAR.....	73
Customize CAIKRPAR.....	73
Required Manual Configuration.....	73
Chapter 8: Migration Information.....	81
Update Database Tables.....	81
Appendix A: Troubleshooting.....	83
Verifying the Problem.....	83
Collecting Diagnostic Data.....	83
Interpreting Diagnostic Data.....	85
Appendix B: Configuration Worksheet.....	87
Complete the Worksheet.....	87
Index.....	89

Chapter 1: Overview

This guide describes how to install and implement CA PMA Chargeback.

This section contains the following topics:

[Audience](#) (see page 9)

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

Audience

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

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

You may need to work with the following personnel:

- Systems programmer for z/OS
- Storage administrator, for DASD allocations
- DB2 or CA Datacom database administrator

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 13).
2. Use one of the following methods to acquire the product:
 - [Download the software from CSO using CA MSM](#) (see page 19).
 - [Download the software from CSO using Pax-Enhanced Electronic Software Delivery \(ESD\)](#) (see page 27).
 - 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 49) 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:
 - Deployment is optional for CA PMA Chargeback unless a customer is using CA MSM for configuration.
 - If you are using a manual process, deployment is an optional step.

Note: Deployment is considered part of [starting your product](#) (see page 61).
5. Configure your product using CA MSM or manually.

Note: Configuration is considered part of [starting your product](#) (see page 61).

Chapter 2: Preparing for Installation

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

This section contains the following topics:

[Hardware Requirements](#) (see page 13)

[Software Requirements](#) (see page 13)

[CA Common Services Requirements](#) (see page 13)

[LMP Keys Requirements](#) (see page 15)

[Security Requirements](#) (see page 15)

[Storage Requirements](#) (see page 15)

[Concurrent Releases](#) (see page 17)

[DVD Space Requirements](#) (see page 17)

[Complete the Configuration Worksheet](#) (see page 18)

Hardware Requirements

CA PMA Chargeback can be run on both nonprogrammable color and monochrome terminals.

Software Requirements

CA PMA Chargeback runs under z/OS.

Either the current release of DB2 or CA Datacom with SQL must be installed. If your site does not have one of these databases, CA provides a current release of CA Datacom/AD on a separate installation tape.

CA Common Services Requirements

CA PMA Chargeback uses the cBASE component of ViewPoint to provide online facilities. Programs are written in C language. We, therefore, provide the CA Common Services for z/OS CA C Runtime routines necessary to execute these programs. Reporting and sorting are accomplished with two CA Common Services components: the Earl Service and CA SRAM.

Before installing CA PMA Chargeback, the following CA Common Services for z/OS *must* be installed:

- CAIRIM (S910 or higher)
- ViewPoint (CAG3000 or higher)

- CA-C Runtime (F330 or higher)

If you plan to use CA Earl reporting, the following CA Common Services for z/OS*must also* be installed:

- SRAM Service (SR66 or higher)
- Earl Service (XE61)

CAIRIM

Prepares your operating system environment for all CA applications and starts them. The common driver for a collection of dynamic initialization routines eliminates the need for user SVCs, SMF exits, subsystems, and other installation requirements commonly encountered when installing systems applications.

Integral parts of CAIRIM are CAISSF, CA LMP, and CA zIIP Enablement Services.

CAISSF

Provides an external security mechanism for controlling and monitoring access to all system and application resource processes. CAISSF is integrated into many CA enterprise applications and is also used by other CCS for z/OS services. CAISSF provides security services for user logon, resource access control, process use control, and recording and monitoring of violation activity.

CA LMP

Provides a standardized and automated approach to the tracking of licensed software and is provided as an integral part of CAIRIM. After CAIRIM is installed, you have access to Technical Support for all CA LMP-supported products.

CA zIIP Enablement Services

Provides a common service for CA products to allow their code to run on zIIP processors, if available.

ViewPoint

Provides an SQL engine for PC-based workstation products. Workstation products can use ViewPoint to query z/OS product databases without knowledge of the underlying database structure.

CA-C Runtime

Provides a C run-time facility that insulates programs from system and release dependencies.

SRAM Service

Allows the activation of several sort processes concurrently, simplifying the data and logic flow. The incoming data to the sort can be manipulated as desired by the user program in a high-level language without the need for special exit routines.

Earl Service

Provides a user-friendly report-definition facility with the power of a comprehensive programming system. Earl Service allows you to modify and print the contents and layout of a pre-defined CA application report using English-like statements.

LMP Keys Requirements

The CA License Management Program (LMP) is one of the components of CA TCC: Total Client Care. LMP is comprised of three components: the CA product, the LMP product key certificate, and the common LMP enforcement software.

The key certificate contains an execution key for each CPU licensed at your site. These keys must be entered into the PPOPTION data set LMP product keys member, which has a default name of KEYS.

The LMP common enforcement software is distributed as part of the CAIRIM CA Common Services for z/OS.

Define the LMP execution key at this time. For more information, see the *CA Common Services for z/OS Getting Started* for detailed instructions.

Security Requirements

One of the CA security solutions or a compatible non-CA security product is required for database access.

Storage Requirements

The following storage requirements are required for CA PMA Chargeback.

TSO Requirements

We recommend that TSO users run the DataManager and CA PMA Chargeback online facility using 4 MB or more. However, online processing can function using 2 MB.

DASD Requirements

This section shows the device independent allocation requirements, in tracks, for this product's SMP/E target and distribution libraries.

CA PMA Chargeback Permanent (Target) Libraries

Library Name	Blksize	Tracks	Dir Blocks	Description
CAJRCLSO	32720	2,1	2	CLIST Library
CAJRLOAD	6144	39,8	6	Load Library
CAJRPROC	32720	3,1	2	Procedure Library
CAJRJCL	32720	6,2	14	Sample JCL Library
CAJRSAMP	32720	2,1	2	Sample Source Library
CAJROPTN	32720	2,1	2	Sample Option Library
CAJRDATV	32760	11,3	2	IVP Data Library
CAJREARL	32720	4,1	9	CA Earl Library
CAJRXML	32760	75,75	2	XML Library
CAJRSQL	32720	84,17	26	SQL Library
CAJRCPNC	32760	16,4	74	cBASE PMA Chargeback Panel Library
CAJRCPNS	32760	30,6	137	cBASE Shared Panel Library
CAJRCLST	32760	6,2	41	cBASE List Library
CAJRCMSG	32760	21,5	212	cBASE Message Library
CAJRCDLG	32760	231,47	66	cBASE Dialog Library
CAJRCSQL	32720	24,5	212	cBASE SQL Library
CAJRCTMP	32720	3,1	3	cBASE Template Library

CA PMA Chargeback Distribution Libraries

AAKRSAMP	32720	2,1	2	Sample Library
AAKRSQL	32720	13,3	8	SQL Library
AAKREARL	32720	4,1	9	CA Earl Library
AAKRJCL	32720	5,1	11	JCL Library
AAKRCLSO	32720	2,1	2	CLIST Library
AAKRPROC	32720	2,1	2	Procedure Library
AAKROPTN	32720	2,1	2	Sample Option Library
AAKRMOD0	27998	19,4	5	Object Module Library
AAKRCLST	32760	5,1	33	cBASE List Library
AAKRMSG	32760	18,4	161	cBASE Message Library
AAKRCPNS	32760	30,6	137	cBASE Shared Panel Library

AAKRCDLG	32760	209,42	50	cBASE Dialog Library
AAKRCSQL	32760	20,4	168	cBASE SQL Library
AAKRCTMP	32720	2,1	2	cBASE Template Library
AAKRDATV	32760	11,3	2	IVP Data Library
AAKRXML	32760	75,75	2	XML Library
AAKSSQL	32720	73,15	18	SQL Library
AAKSEARL	32720	3,1	2	CA Earl Library
AAKSJCL	32720	3,1	3	JCL Library
AAKSPROC	32720	3,1	2	Procedure Library
AAKSOPTN	32720	2,1	2	Sample Option Library
AAKSMOD0	27998	15,3	6	Object Module Library
ABEOCDLG	32760	25,5	17	DataManager cBASE Dialog Library
ABEOCLST	32760	3,1	8	DataManager cBASE List Library
ABEOCLSO	32720	2,1	2	DataManager CLIST Library
ABEOCMMSG	32760	9,2	51	DataManager cBASE Message Library
ABEOCPNC	32760	16,4	74	DataManager cBASE Panel Library
ABEOCSQL	32760	9,2	44	DataManager cBASE SQL Library
ABEOCTMP	32720	2,1	2	DataManager cBASE Template Library
ABEOJCL	32720	3,1	2	DataManager JCL Library
ABEOMOD0	27998	4,1	2	DataManager Object Module Library

Concurrent Releases

You can install this release of CA PMA Chargeback and continue to use an older release for your production environment. However, due to substantial changes in target and distribution libraries, you must install into a new SMP/E environment.

DVD Space Requirements

Ensure that you have sufficient free space in the USS file system that you are using for Pax-Enhanced ESD to hold the directory created by the pax command and its contents. You need approximately 3.5 times the pax file size in free space.

If you do not have sufficient free space, you receive error message EDC5133I.

Compete the Configuration Worksheet

Plan your installation by completing the [Configuration Worksheet](#) (see page 87).

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

Imagine that your organization has started using 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 CA Technologies products.

You can use the following scenarios to guide you through the process:

1. [Acquire the new product](#) (see page 19).
2. [Install the new product](#) (see page 20).
3. [Maintain products already installed in your environment](#) (see page 21).
4. [Deploy the product to your target systems](#) (see page 22).
5. [Configure the deployed product to your target systems](#) (see page 23).

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 24), 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.

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.
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.

More information:

[How to Prepare for Deployment](#) (see page 61)

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.

More information:

[How to Prepare for Deployment](#) (see page 61)

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 network 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.

More information:

[How to Complete Deployment With CA MSM](#) (see page 63)

How to Configure a Product

The *Software Configuration Service (SCS)* facilitates the mainframe product configuration from the software inventory of the driving system to targeted z/OS operating systems.

You can use the SCS component of CA MSM to configure a CA Technologies product that you have already acquired, installed, and deployed.

Follow these steps:

1. Select a deployed product to configure from the Deployments tab to open the Create Configuration wizard.
2. Create the configuration, which includes completing each step in the Create Configuration wizard, including the following:
 - a. Define a configuration name and select a target system.
 - b. Select configuration functions and options.
 - c. Define system preferences.
 - d. Create target settings.
 - e. Select and edit resources.

3. Build the configuration. The last step of the Create Configuration wizard lets you build the configuration.
4. Implement the configuration. The implementation process in CA MSM is a step-by-step process that carefully guides you and provides detailed instructions to start, stop, and manage the steps of the implementation process.

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

Note: You cannot use CA MSM to configure a product to a staging system.

More information:

[How to Complete Configuration With CA MSM](#) (see page 63)

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](#) (see page 27)

[Allocate and Mount a File System](#) (see page 33)

[Copy the Product Pax Files into Your USS Directory](#) (see page 35)

[Create a Product Directory from the Pax File](#) (see page 40)

[Copy Installation Files to z/OS Data Sets](#) (see page 41)

[How to Install Products Using Native SMP/E JCL](#) (see page 43)

[Apply Maintenance](#) (see page 46)

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:

[Allocate and Mount a File System](#) (see page 33)

[Copy the Product Pax Files into Your USS Directory](#) (see page 35)

[Create a Product Directory from the Pax File](#) (see page 40)

[Copy Installation Files to z/OS Data Sets](#) (see page 41)

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 29) 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 ISD images with OpenVMS](#)

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

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

[View Download Cart](#)

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

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

Download Method

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


HTTP via Download Manager

This is the CA recommended method for download. The Download Manager allows you to download your files faster and more efficiently.

[Download](#)

HTTP via Internet Browser

If Download Manager cannot be used or fails to start you may access your file(s) via your internet browser.

[View File Link\(s\)](#) 

FTP

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

[FTP Request](#)

Depending on the size and quantity of 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 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 ▼

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 29)
[ESD Product Download Window](#) (see page 29)

Download Using Batch JCL

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

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

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

Follow these steps:

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

The job points to your profile.

3. Replace *YourEmailAddress* with your email address.

The job points to your email address.

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

The job points to your USS directory.

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

You have identified the product component to download.

6. Click Download for the applicable file.

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

The Download Method window opens.

7. Click FTP Request.

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

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

8. Select one of the following methods:

Preferred FTP

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

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

Alternate FTP

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

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

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

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

9. Submit the job.

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

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

Example: CAtoMainframe.txt, JCL

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

```
//GETPAX JOB (ACCOUNTNO),'FTP GET ESD PACKAGE',
//      MSGCLASS=X,CLASS=A,NOTIFY=&SYSUID
//*****
/* This sample job can be used to download a pax file directly from *
/* CA Support Online to a USS directory on your z/OS system.      *
/*                                                                *
/* When editing the JCL ensure that you do not have sequence numbers *
/* turned on.                                                    *
/*                                                                *
/* This job must be customized as follows:                       *
/* 1. Supply a valid JOB statement.                              *
/* 2. The SYSTCPD and SYSFTPDD 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
//SYSFTPDD DD DSN=yourFTP.DATA.dataset,DISP=SHR
//SYSPPRINT 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 *yourHLQ* 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 *yourHLQ* as you 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 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.

Note: The CA PMA Chargeback product can be installed in either of two ways: you can install the full product including JARS/OLF, or you can install CA PMA Chargeback base only without JARS/OLF. The path you choose determines the value of pre in the following installation steps:

- Substitute AWF for pre if you are installing the full product including JARS/OLF (for example, AWFSEEDIT).
- Substitute AJR for pre if you are installing only the base CA PMA Chargeback without JARS/OLF (for example AJRSEEDIT).

Prepare the SMP/E Environment for PAX Installation

The members in this procedure prepare the data sets, initialize the zones, and create the DDDEFs for CA PMA Chargeback. External DDDEF data sets are required. The default is NULLFILE.

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

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

To prepare the SMP/E environment for your product

1. Customize the macro BL5SEDIT with your site-specific information and then copy the macro to your syslib location. Replace the rightmost parameters for each ISREDIT CHANGE macro command. Each time you edit an installation member, type BL5SEDIT on the TSO command line, and press Enter to replace the defaults with your specifications.

The macro is ready to customize your SAMPJCL members.

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

Note: The following steps include instructions to execute the BL5SEDIT macro each time you open a new SAMPJCL member. To edit all SAMPJCL members simultaneously, read and follow the instructions in the BL5EDALL member.

2. Open the SAMPJCL member BL51ALL in an edit session and execute the BL5SEDIT macro from the command line.

BL51ALL is customized.

3. Submit BL51ALL.

This job produces the following results:

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

4. Open the SAMPJCL member BL52CSI in an edit session and execute the BL5SEDIT macro from the command line.

BL52CSI is customized.

5. Submit BL52CSI.

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*.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 BL53RECD in an edit session, and execute the BL5SEEDIT macro from the command line.
BL53RECD is customized.
2. Submit the *yourHLQ*.SAMPJCL member BL53RECD to receive SMP/E base functions.
Third-Party Software for CA PMA Chargeback is received and now resides in the global zone.
3. Open the SAMPJCL member BL54APP in an edit session, and execute the BL5SEEDIT macro from the command line.
BL54APP is customized.
4. Submit the *yourHLQ*.SAMPJCL member BL54APP to apply SMP/E base functions.
Third-Party Software for CA PMA Chargeback is applied and now resides in the target libraries.
5. Open the SAMPJCL member BL55ACC in an edit session, and execute the BL5SEEDIT macro from the command line.
BL55ACC is customized.
6. Submit the *yourHLQ*.SAMPJCL member BL55ACC to accept SMP/E base functions.
Third-Party Software for CA PMA Chargeback 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, no PTFs or HOLDDATA will 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 BL5SEDIT macro was customized in the installation steps. Verify that you still have the values from the base install.
4. Open the SAMPJCL member BL56RECP in an edit session and execute the BL5SEDIT macro from the command line.

BL56RECP is customized with your JOB statement, CSI location, and zone names.
5. Customize the BL56RECP SMPPTFIN and SMPHOLD DD statements to reference the FB 80 data sets for the PTFs and HOLDDATA.
6. Submit BL56RECP.

The PTFs and HOLDDATA are received.
7. Open the SAMPJCL member BL57APYP in an edit session and execute the BL5SEDIT macro from the command line.

BL57APYP is customized.
8. Submit BL57APYP.

The PTFs are applied.
9. (Optional) Open the SAMPJCL member BL58ACCP in an edit session and execute the BL5SEDIT macro from the command line.

BL58ACCP is customized.
10. (Optional) Submit *yourHLQ.SAMPJCL* member BL58ACCP.

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.

Note: We recommend that you check for available maintenance; however, you may find that none is available.

HOLDDATA

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

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

Chapter 5: Installing Your Product from Tape

This section contains the following topics:

[Unload the Sample JCL from Tape](#) (see page 50)

[How to Install Products Using Native SMP/E JCL](#) (see page 51)

[Prepare the SMP/E Environment for Tape Installation](#) (see page 52)

[Apply Maintenance](#) (see page 54)

Unload the Sample JCL from Tape

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

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

Follow these steps:

1. Run the following sample JCL:

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

unitname

Specifies the tape unit to mount the tape.

nnnnnn

Specifies the tape volume serial number.

yourHLQ

Specifies the data set prefix for the installation.

sysda

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

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

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

How to Install Products Using Native SMP/E JCL

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

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

Note: The CA PMA Chargeback product can be installed in either of two ways: you can install the full product including JARS/OLF, or you can install CA PMA Chargeback base only without JARS/OLF. The path you choose determines the value of pre in the following installation steps:

- Substitute AWF for pre if you are installing the full product including JARS/OLF (for example, AWFSEEDIT).
- Substitute AJR for pre if you are installing only the base CA PMA Chargeback without JARS/OLF (for example AJRSEEDIT).

Prepare the SMP/E Environment for Tape Installation

The members in this procedure prepare the data sets, initialize the zones, and create the DDDEFs for CA PMA Chargeback. External DDDEF data sets are required. The default is NULLFILE.

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

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

To prepare the SMP/E environment for your product.

1. Customize the macro BL5SEEDIT with your site-specific information and then copy the macro to your syslib location. Replace the rightmost parameters for each ISREDIT CHANGE macro command. Each time you edit an installation member, type BL5SEEDIT on the TSO command line, and press Enter to replace the defaults with your specifications.

The macro is ready to customize your SAMPJCL members.

Note: The following steps include instructions to execute the BL5SEEDIT macro each time you open a new SAMPJCL member. To edit all SAMPJCL members simultaneously, read and follow the instructions in the BL5EDALL member.

2. Open the SAMPJCL member BL51ALL in an edit session and execute the BL5SEEDIT macro from the command line.

BL51ALL is customized.

3. Submit BL51ALL.

This job produces the following results:

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

Remove this embedded object if your product does not use USS.

4. Open the SAMPJCL member BL52CSI in an edit session and execute the BL5SEEDIT macro from the command line.

BL52CSI is customized.

5. Submit BL52CSI.

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 BL53RECT in an edit session and execute the BL5SEEDIT macro from the command line.
BL53RECT is customized.
2. Submit the *yourHLQ*.SAMPJCL member BL53RECT to receive SMP/E base functions.
CA PMA Chargeback is received and now resides in the global zone.
3. Open the SAMPJCL member BL54APP in an edit session and execute the BL5SEEDIT macro from the command line.
BL54APP is customized.
4. Submit the *yourHLQ*.SAMPJCL member BL54APP to apply SMP/E base functions.
Your product is applied and now resides in the target libraries.
5. Open the SAMPJCL member BL55ACC in an edit session and execute the BL5SEEDIT macro from the command line.
BL55ACC is customized.
6. Submit the *yourHLQ*.SAMPJCL member BL55ACC 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, no PTFs or HOLDDATA will 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 BL5SEDIT macro was customized in the installation steps. Verify that you still have the values from the base install.
4. Open the SAMPJCL member BL56RECP in an edit session and execute the BL5SEDIT macro from the command line.

BL56RECP is customized with your JOB statement, CSI location, and zone names.
5. Customize the BL56RECP SMPPTFIN and SMPHOLD DD statements to reference the FB 80 data sets for the PTFs and HOLDDATA.
6. Submit BL56RECP.

The PTFs and HOLDDATA are received.
7. Open the SAMPJCL member BL57APYP in an edit session and execute the BL5SEDIT macro from the command line.

BL57APYP is customized.
8. Submit BL57APYP.

The PTFs are applied.
9. (Optional) Open the SAMPJCL member BL58ACCP in an edit session and execute the BL5SEDIT macro from the command line.

BL58ACCP is customized.
10. (Optional) Submit *yourHLQ.SAMPJCL* member BL58ACCP.

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.

Note: We recommend that you check for available maintenance; however, you may find that none is available.

HOLDDATA

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

Chapter 6: Installing Your Product from DVD

This section contains the following topics:

[DVD Contents](#) (see page 57)

[The pax Command](#) (see page 57)

[How to Install a Product](#) (see page 58)

[Create a Product Directory from the Pax File](#) (see page 59)

[Complete the Installation](#) (see page 60)

DVD Contents

The DVD contains a folder that includes the pax file for the product.

The files on the online site always have the most current product updates. To determine if you have the latest updates, go to <http://ca.com/support> and click Download Center.

The pax Command

The pax command does the following:

- Extracts the files and directories packaged within the pax file.
- Creates a USS directory in the same directory structure where the pax file resides.
- Automatically generates a product and level-specific directory name.

How to Install a Product

The pax.Z files delivered on the DVD must be uploaded to your z/OS USS directory.

Follow these steps:

1. Copy the entire product software package (or individual pax files) to your PC from the CA Technologies product DVD.

Note: Do *not* change the format of the pax.Z.

2. Open a Windows command prompt.

The command prompt appears.

3. Customize and enter the following FTP commands:

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

mainframe

Specifies the z/OS system IP address or DNS name.

userid

Specifies your z/OS user ID.

password

Specifies your z/OS password.

C:\PC\folder\for\thePAXfile

Specifies the location of the pax file on your PC.

Note: If you specify a location that has blanks or special characters in the path name, enclose that value in double quotation marks.

yourUSSESDdirectory

Specifies the name of the USS directory that you use for ESD downloads.

paxfile.pax.Z

Specifies the name of the pax file to upload.

The pax file is transferred to the mainframe.

Create a Product Directory from the Pax File

The sample job [Unpackage.txt](#) (see page 60) simplifies the Pax-Enhanced ESD process; you can copy this JCL job directly to the mainframe.

Follow these steps:

1. Enter the following JCL:

```
//ESDUNPAX JOB (accountnumber), 'UNPAX ESD PACKAGE ',  
// MSGCLASS=X, CLASS=A, NOTIFY=&SYSUID  
//UNPAXDIR EXEC PGM=BPXBATCH,  
// PARM='sh cd /yourUSSESDdirectory/; pax -rvf paxfile.pax.Z'  
//STDOUT DD SYSOUT=*  
//STDERR DD SYSOUT=*
```

accountnumber

Specifies a valid JOB statement.

yourUSSESDdirectory

Specifies the name of the USS directory for your ESD downloads.

Note: If the PARM= statement exceeds 71 characters after making these changes, uncomment and use the second form of UNPAXDIR in the sample JCL instead.

paxfile.pax.Z

Specifies the name of the pax file.

2. Submit the job.

The job runs and creates the product directory.

Sample JCL

The following is the text for the 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=*
```

Complete the Installation

Chapter 7: Starting Your Product

This section describes what you need to do to start CA PMA Chargeback.

This section contains the following topics:

[Introduction](#) (see page 61)

[How to Prepare for Deployment](#) (see page 61)

[How to Complete Deployment With CA MSM](#) (see page 63)

[How to Deploy Without CA MSM](#) (see page 63)

[How to Complete Configuration With CA MSM](#) (see page 63)

[How to Configure Without CA MSM](#) (see page 69)

[Migration Information](#) (see page 81)

[Troubleshooting](#) (see page 83)

[Configuration Worksheet](#) (see page 87)

Introduction

How to Prepare for Deployment

This section contains topics that describe the manual tasks you need to perform before beginning the deployment process.

Apply IBM APARs

CA Technical Support has identified a number of IBM APARs that impact the operation or performance of CA PMA Chargeback. We recommend that you review our current list of IBM APARs and apply only those that are appropriate to your environment.

Note: For a current list of IBM APARS, contact CA Technical Support.

Run Any Other Jobs

Prior to deployment and configuration, the following tasks must be performed.

Copy the CAIKSPAR and CAIKRPAR Files

When installing JARS/Online Facility (OLF), copy the CAIKSPAR and CAIKRPAR parameter files when upgrading from a previous release. Copying these files is necessary because the deployment does not have the customized value.

Current users can record where their existing CAIKSPAR and CAIKRPAR parameter files are so they can use them as references when setting up these parameter files.

Review System Requirements and Database Installation

Review the system requirements in the "Preparing for Installation" chapter. Pay special attention to the requirement for one of two databases: DB2 or CA Datacom. If you do not already have one, now is the time to install CA Datacom/AD. See the CA Datacom/AD installation and maintenance documentation for instructions on how to install the database.

Prepare the DB2 Database

If you are using CA Datacom as your database, this section can be skipped.

- Have the DB2 database administrator authorize the ID being used to install CA PMA Chargeback for DATABASE CREATE, TABLE CREATE, and GRANT authority.
- Create a database, buffer pool, and storage group to be used by CA PMA Chargeback.
- Grant access to the database and buffer pool to the ID being used to install CA PMA Chargeback.
- The following SQL commands can be used as a guide for setting up DB2 to prepare for CA PMA Chargeback.

```
CREATE DATABASE PMA490
STOGROUP SGPMA490
BUFFERPOOL BP0
CREATE STOGROUP SGPMA490 VOLUMES ("*", "*", "*") VCAT xxxx;
```

The above SQL statements will create and identify the PMACB database to DB2 using storage group SGPMA490 and buffer pool zero. The xxxx represents the four-character database subsystem id.

```
GRANT DBADM ON DATABASE PMA490 TO userid;
GRANT USE OF BUFFERPOOL BP0 TO userid;
GRANT USE OF STOGROUP SGPMA490 TO userid;
GRANT EXECUTE ON PLAN CAISSQL2,CAISSQL3,CAISSQL9 TO userid;
```

The SQL statements above grant database administrator authority and use of the buffer pool and storage group to the user ID specified.

How to Complete Deployment With CA MSM

The topics in this section describe the manual tasks you perform when [deploying your product using CA MSM](#) (see page 22).

You can use CA MSM to deploy a runtime copy of all of the application SMP/E-installed Target libraries to one or all of the systems at your site.

You can choose to deploy the application profile libraries, ALIBs, and INCLUDE libraries as custom data sets using CA MSM.

For more information, see [How to Deploy a Product](#). (see page 22)

Startup JCL Procedures Customized by CA MSM

How to Deploy Without CA MSM

The topics in this section describe the manual tasks you perform if you are not deploying your product using CA MSM.

Deploy without CA MSM

The application does not require any additional procedures when deploying this product without CA MSM. However, you will need to follow the procedures in [How to Configure Without CA MSM](#) (see page 69) before starting the product.

Note: It is not required to deploy the product at all, CA PMA Chargeback can be run directly from the Target Libraries.

How to Complete Configuration With CA MSM

The topics in this section describe the manual tasks you perform when [configuring your product using CA MSM](#) (see page 23).

Follow these steps:

1. Use a deployment that was generated through CA MSM.
The deployment appears in the list of Deployments in the Configurable category.
2. Select the deployment from the Configurable deployments menu.
3. Select create a configuration.
The Configuration wizard is initialized.

Configuration Wizard

To configure your product using CA MSM, use the Configuration wizard.

How to Define your Target Configuration

Use the Define and Target panel to define your target configuration.

Follow these steps:

1. Name your configuration and indicate which functions you want deployment to configure.
Configurations can be named manually, or a name can be generated.
2. Select the system where this configuration is processed.
3. (optional) Specify a description.
4. Click Next.

How to select functions and options

To select which functions and options are used in this configuration, use the Functions and Options panel.

Follow these steps:

1. Click the checkbox for configure PMA Chargeback.
2. To configure select the options.
3. (New customers) Indicate which database DB2 or CA Datacom you are initializing to use.
4. (New customers) Select create a chargeback environment.
Recommended: For new and existing customers, install or update your IRD and ORD entries.
5. Click Next.
6. Click Next. No changes are needed on the Define System Preferences panel.

Define System Preferences Panel

No changes for this panel.

1. Click next.

How to Create Target Settings

To select the target settings for your configuration, use the Target Settings panel.

Follow these steps:

1. Open the Chargeback Parameters options by expanding the tree.
2. Find the database product that is used to manage the chargeback environment.

DB2

- a. Name the DB2 subsystem.
- b. (Optional) Enter the PLAN name.
- c. Using European formatting, set the Euro DB2 option to YES.

Note: For existing customers, these values are set in your existing CAIKSPAR file.

CA Datacom

- a. Enter the database owner ID.

Note: This value is set in your existing CAIKSPAR file.

3. Verify the database name.

Default: PMA490

DB2

The database name can be changed to any valid name.

Recommended: Use the default.

CA Datacom

Required: Default is used.

4. Specify the database.
 - DB2
 - Specify CA Datacom/DB or CA Datacom/AD.

5. Specify the chargeback parameters.

For existing customers, the name in parentheses indicates which value is in either the CAIKSPAR or CAIKRPAR parameter files. For new customers, fill in the value that matches the description.

Customer Name

The name of your company or what you would like to see in the report headers (CAIKSPAR, CUST).

Base Version

The base version for chargeback (CAIKRPAR, BASE).

CBLOAD

The version name where chargeback data is loaded (CAIKRPAR, CBLOAD).

Charge Precision

The number of decimal places to use when calculating and saving charge information (CAIKSPAR, CHARGE).

Rate Precision

The number of decimal places to use when saving rate information (CAIKSPAR, RATE).

Unit Precision

The number of decimal places to use when saving unit quantity information (CAIKSPAR, UNIT).

Reconciliation

Whether or not a Reconciliation file is produced (CAIKRPAR, RECON).

6. Select names for the CAIKSPAR and CAIKRPAR members in the CAJROPTN data set.

Recommended: The member names should be changed, if they are not the default values are overwritten in place in the Options (CAJROPTN) data set.

7. Name the CAIKSPAR and CAIKRPAR members.

Recommended: The member names are changed, because the default values are overwritten in place in the Options (CAJROPTN) data set.

8. Specify the JCL for the configuration steps.

Default: SYSOUT class is an asterisk, meaning this default started task output class.

Recommended: If the default output class is not a held class, change it to a held output class.

9. Specify the database settings.
 - a. Select the database Owner for DB2 and CA Datacom.
 - b. Select if configuring JARS/OLF (default).
 - c. For DB2, indicate the DB2 load library that is used for your DB2 subsystem.
 - d. For CA Datacom, enter the CA Datacom dataset names for various files that CA Datacom uses. Provide the names of the CA Datacom load library, the CA Datacom CUSLIB, the CA Datacom IPC library, and the CA Datacom. Consult with your CA Datacom administrator for the correct names.

10. Specify the IXX and Data files.

The IXX and Data files are created with a new installation. Specify the data set names allocation units, the volume serials, and the number of blocks.

Recommended: The number of blocks remain unchanged.

11. Specify the CA Common Services Load Library and Macro Library.

Suffix names for these libraries are CCCSLOAD and CCCSMAC respectively. Specify the name of a temporary PDS that is used during the configuration process, as well as the unit where it is allocated. This PDS only uses two cylinders on a 3390 and is deleted upon completion of configuration.

12. Specify the IRD/ORD Definitions.

1. IRD and ORD entries can be added or updated as part of configuration by selecting or excluding these items.

Default: All the shipped entries are the actions included.

Note: Only change entries that are to be excluded.

Important! Entries that are excluded are removed from an existing database, be careful when excluding a set of IRD and ORD entries.

2. Click Next.
3. Click Next. No changes are needed on the Edit Resources panel.

Select and Edit Resources Panel

No changes for this panel.

1. Click Next.

How to Review and Build your Configuration

To review and build your configuration use the Review and Build panel.

Follow these steps:

Recommended: Review the options and setting for SMF/E:

1. Click Target Settings.
2. Review your selected values and defaults that were set.
3. If the settings are valid, click Build.
4. To make any needed changes, click Back, until you are at the Target Setting.
5. Make any necessary adjustments, click Next, until you are back on the Review and Build panel.

What to do when the Configuration is built

Follow these steps:

1. Click the Configurations Tab.
2. Locate the Configuration in the table under the Configurations tab.
3. Click the Action button.
4. Select Implement.
5. The implementation displays
6. **Recommended:** To process the implementation one-step at a time, use the Release Next button.

Note: If there is a failure, the last output that is produced can be used for diagnosis.

Complete the Configuration

Once you have configured CA PMA Chargeback using CA MSM:

Follow these steps:

1. For CA Datacom databases, complete the CA Datacom Database Procedures.
2. For DB2 complete the [Prepare DB2 Database](#) (see page 13) procedure, only.
3. For all installations, complete the [Required Manual Configuration](#) (see page 73) procedures.
4. If you opted not to have CA MSM copy the IRD and ORD entries, follow the IRD/ORD Configuration procedures as needed.

Note: When configuring using CA MSM these tasks are done automatically. Skip this section if configuring using CA MSM.

You are now ready to customize certain programs and user exits.

How to Configure Without CA MSM

The topics in this section describe the manual tasks you perform if you are not configuring your product using CA MSM.

Run cBASE Link-Edit

Members IF23LKDC and IF23LKD2 link-edit the CA Datacom service routines or the DB2 plan database, respectively. Choose the appropriate member, depending on which database you are using.

Edit the JCL to conform to your data center's standards and the previously completed worksheet. Submit the job and review the output. Processing should complete with a return code of 0 or 4.

Note: Members IF23LKDC and IF23LKD2 are in the CA Common Services for z/OS sample JCL library.

Run cBASE Data Dictionary Link-Edit for CA Datacom

If you are using CA Datacom, you must process member SP23DDLK to link-edit the Data Dictionary.

Edit the JCL to conform to your data center's standards and the previously completed worksheet. Submit the job and review the output. Processing should complete with a return code of 0.

Note: Member SP23DDLK is in the CA Common Services for z/OS sample JCL library.

Run the DB2 BIND Procedure

When using DB2 as your database access method, member SP23BIND runs the BIND procedure for the CA SDBS modules that were installed by SYSMOD CSP2300. If you are not using DB2, proceed to the next step in this installation.

To conform to your standards for your data center and the previously completed worksheet, edit the JCL. Submit the job and review the output. Processing should complete with a return code of 4.

Note: Member SP23BIND is located in the CA Common Services for z/OS sample JCL library.

Important! The user ID (referred to as the owner ID) used in subsequent steps *must* be authorized for the database by your database administrator. This user ID *must* be used to complete the installation.

Allocate CAIKSPAR

Member CAKSPALL in CAJRJCL allocates the CAIKSPAR file. To conform to your standards for your data center use the previously completed worksheet, edit this JCL. To verify that processing completed, submit the job and review the output with a return code of 0.

Customize CAIKSPAR

Customize the CAIKSPAR data set to define your database environment. See the Batch Processing & Reporting in the *CA PMA Chargeback User Guide* for information on customization. In order to process the IVPs, the Base_Version must be set to **TEST**.

Important! All the batch JCL STEPLIB statements must be reviewed and customized before processing.

- For CA Datacom, ensure that the data set name matches the data set names that are used during CA Datacom installation. Also delete references to the DB2 library.
- For DB2, ensure that the data set name of the DB2 library is correct. Also delete the references to the CA Datacom libraries and remove the DCIND symbolic from all JCL members and PROCs.

Prepare the CA Datacom Database

If the database system to be used by CA PMA Chargeback is:

- For CA Datacom/DB, complete Prepare CA Datacom/DB Database section.
- CA Datacom/AD, complete Prepare CA Datacom/AD Database section

Prepare CA Datacom/DB Database

Set up the PMA490 database, before [creating the schema for CA Datacom/DB](#) (see page 71). JCL to set up the database can be found in the CAJRJCL as the member name CADBDATA. The JCL contains five steps:

1. DDUPDATE —Adds the PMA490 database definitions to the dictionary.
2. COPYPRD—Copies the PMA490 definitions to PROD status

3. CATALOG—Catalogs the PMA490 definitions to the CXX
4. IEFBR14—Allocates the datasets for index and data areas
5. INITLD—Initializes and NULL LOADs the PMA490 areas

After successful completion of these steps, continue to [Create Schema for CA Datacom Users](#) (see page 71).

Note: If you are using CA Datacom r12 or later, the DBUTLTY program (see step INITLD) must be authorized.

Prepare CA Datacom/AD Database

The following jobs, provided in CAJRJCL, must be executed in the order that is listed to prepare the CA Datacom/AD database.

1. CADBDEF—Adds PMA490 database definitions
2. CADDRTV—Verifies, copies to PROD, catalogs, and enables
3. CADBALLC—Allocates datasets for index and data areas
4. CADBUTIL—INITs and NULL LOADs the database

After successful completion of these steps, continue to [Create Schema for CA Datacom Users](#) (see page 71).

Note: If you are using CA Datacom r12 or later, the DBUTLTY program (see step INITLD in the CADBUTIL job) must be authorized.

Create Schema for CA Datacom Users

CAJRJCL member CAKRSCH creates a schema authorizing an owner ID to allow access to the database. Customize the CAKRTAB PROC contained in CAJRPROC and CAKRSCMA contained in CAJRSQL.

- In CAKRSCMA, change the default owner ID of DUMMY to the authorized ID (installer ID).
- In CAKRTAB, set the PARM statement as follows:

```
EXEC PGM=CAKRINST, PARM='CAIKSPCB, SYSADM'
```

The second parameter of the PARM statement indicates to the database installation program how to connect to the database. The SYSADM AUTH ID is a preauthorized ID that can be used to authorize the first new user ID (usually the installer's). Use SYSADM to perform the CREATE schema task authorizing the new owner ID (installer ID). After successful completion of this step, change SYSADM in the CAKRTAB PROC to the user ID just authorized in the CREATE schema step. Continue with the installation tasks.

Create and Load Tables

To execute JCL members CAKRTBLI and CAKRTBLO follow this two-step procedure. Both members invoke the CAKRTAB procedure found in the CAJRPROC library. Update CAKRTAB according to directions found in the member, before executing CAKRTBLI and CAKRTBLO.

1. Member CAKRTBLI in CAJRJCL allocates and loads the required tables for JARS/OLF. This member also creates indexes and synonyms for the owner ID and loads and commits the startup definitions.

This jobstream consists of four steps. Each of these steps utilizes input from additional CAJRSQL members. An overview of the steps and the input statements is provided in this table. The last two columns of the table indicate whether customization is required for DB2 or CA Datacom.

Step	Description	Input	DB2	Datacom
STEP010	Creates Tables	CAKRDC8	N/A	Y
		CAKRDB8	Y	N/A
STEP020	Create Synonyms	CAKRRCR84	Y	Y
STEP030	Load Dispatch Tables	CAKSCR81	N	N
STEP040	Load JARS/OLF Tables-IVP	CAKRRCR88	N	N

For CA Datacom, customize input members CAKRDC8 and CAKRRCR84. In member CAKRDC8, change PMA490 to reflect the correct database name. In member CAKRRCR84, change owner ID to the DB owner ID.

For DB2, customize CAJRSQL library members CAKRDB8 and CAKRRCR84. For member CAKRDB8, change DSND04 to reflect the correct database name. For member CAKRRCR84, change owner ID to the DB owner ID.

Continue by, customizing the CAJRJCL library member CAKRTBLI. The STEP010 step must be reviewed to make sure that the INPUT symbolic reflects the appropriate input, either CAKRDC8 or CAKRDB8. To verify that processing complete, submit the job and review the output with a return code of 0.

Note: Input members are from CAJRSQL.

2. Member CAKRTBLO loads JARS/OLF IRD/ORD tables. Edit this member and select only the tables that you want to load.

Note: For more information, see the predefined JARS History Records of the *CA PMA Chargeback JARS/OLF User Guide*.

CAJRSQ library members that are distributed with the product are used as input to program CAKRINST include SQL *COMMIT* statements after every one hundred inserts. All work to the point of the comment statement is entered into the database and held storage is freed.

Important! This procedure removes the *ROLLBACK* capability if the job fails for any reason. Create necessary BACK-UPS for tables that will be modified after initial installation before using CAKRINST.

Allocate CAIKRPAR

Member CAKRCALL allocates CAIKRPAR. To conform to standard of your data center, use the previously completed worksheet and customize the JCL. To verify that processing has completed with a return code of 0, submit the job and review the output.

Customize CAIKRPAR

Customize the CAIKRPAR data set. For IVPs to run successfully, set the following settings:

- BASE = TEST
- CBLOAD = TEST
- RECON = YES

Note: For more information, see the Batch Processing and Reporting in the CA PMA Chargeback *User Guide*.

Continue by following the procedure under [Required Manual Configuration](#) (see page 73).

Required Manual Configuration

The topics in this section describe the required manual configurations tasks that must be performed.

Process DataManager IVP

Member CAKSIVP processes IVP data using the startup definitions loaded in [Run cBASE Data Dictionary Link-Edit for CA Datacom](#) (see page 69).step. To conform to the standards for your data center use the previously defined worksheet, edit this JCL. To verify that processing has completed with a return code of 0, submit the job and review the output.

Validate that IVP processing completed successfully by reviewing the condition codes and the DataManager Load Processing Report. This report shows the following information:

Input Statistics: JARS Record Read	544
IRDID Records Generated	213
Output Statistics: CAIKSOP MBJ	213

Print ORD Data File

Customize the EARL PROC (CAKSEARL) located in CAJRPROC. Copy the CAKSEARL PROC to your user PROCLIB or use instream in the CAJRJCL library member CAKSORDS.

To conform to the standards for your data center use the previously completed worksheet, edit the member CAKSORDS. To verify that processing is completed with a return code of 0, submit the job and review the output.

Process CA PMA Chargeback IVP

This step uses the *committed* CA PMA Chargeback startup definitions that are loaded into the database during [Create and Load Tables](#) (see page 72). The ORD data file generated from the [Print ORD Data File](#) (see page 74) also to apply charges to the CCCTAB and to generate a detailed reconciliation file.

To conform to the standard for your data center use the previously completed worksheet, edit the member CAKRIVP. To verify that the processing is completed with a return code of 0, submit the job and review the output. Review the CA PMA Chargeback Load Processing Summary Report. The records read should be equal to the total output records written to the ORD data file.

Validate that the IVP processing completed successfully by reviewing the condition codes and the CA PMA Chargeback Summary Control Report. The control report shows the following information:

Records Read	213
Original Records Created	419
Records Inserted into CCCTAB	61

Print CA PMA Chargeback Reconciliation File

The CA PMA Chargeback IVP process includes generation of the reconciliation file. Member CAKRECON uses Earl Service to print the reconciliation file. See Chapter 11 of the *User Guide* for detailed information.

Edit this member according to the standards for your data center and the previously completed worksheet. To verify that the processing has completed successfully, submit the job and review the output. The record count of the SYSEARL should show the following information:

Hitfile Records Written	419
Grand Total	2931.6712

Generate CA PMA Chargeback Invoices

This step generates an invoice from the IVP data processed in [Print CA PMA Chargeback Reconciliation File](#) (see page 75) step. Member CAKRINVC uses CA Earl Service to generate an invoice.

Edit this member according to the standards for your data center and the previously completed worksheet. To verify that the processing has completed successfully, submit the job and review the output.

Customize DataManager Online and CA PMA Chargeback Online

1. **Customize Templates:**

Customize members NEWDM (for DataManager) and NEWCB (for CA PMA Chargeback) in CAI.CAJRCTMP.

For DB2, change the &&XXSSID to the four-character SSID. (The SSID is a driver that is used when DB2 links to data.)

For CA Datacom, change the &&XXSSID to the owner ID.

The &&XXWHTSQL must reflect the numeric value that is associated with the database system. These values are:

- 2 SQL/OS
- 3 DB2
- 4 CA Datacom/DB

For DB2, change XXPLAN to CAISSQL3.

2. **Customize CLISTs:**

Edit members PMADMC (for DataManager) and PMACBC (for CA PMA Chargeback) in CAI.CAJRCLS0 to reflect the appropriate high-level qualifiers. In PMACBC, remove the CAI.CAJRCPNO library from the concatenations.

Note: The library CAI.VPOINT.PANEL is part of CA Common Services (Viewpoint).

3. **Allocate Libraries for CLISTs:**

The following load libraries must be allocated during the execution of the PMADMC or PMACBC CLISTs, in this order:

- CA PMA Chargeback load library CAI.CAJRLOAD
- CA Common Services load library
- For CA Datacom, its load library (CAILIB or CABDLOAD) and custom load library (CUSLIB)
- For DB2, its load library (SYS2.DSNLOAD)

Recommended: Use the ISPEXEC facility and create a temporary TASKLIB that is available during the execution of the CLISTs. Here is an example for PMACBC:

```
FREE DDN(PMALIB)
ALLOC F(PMALIB) DA(                                     +
      'CAI.CAJRLOAD'                                   +
      'CA.COMMON.SERVICE.CAILIB'                       +
      'CA.DATACOM.DB.LIBRARY') SHR REUSE
      .
      . PMACBC CLIST statements
      .
ISPEXEC LIBDEF ISPLLIB LIBRARY ID(PMALIB)
CBASEX NEWCB
ISPEXEC LIBDEF ISPLLIB LIBRARY
```

Updating your CLISTS as shown in this section (instead of adding a STEPLIB statement to your TSOPROC) reduces the amount of system overhead. When STEPLIBs are added to TSO LOGON PROCs, they are searched every time TSO commands are entered. By allocating as a TASKLIB within the CLIST and removing the TASKLIB on exiting the CLIST, no additional overhead is incurred.

4. Set European DB2 (optional):

Customize the CAIKSPAR data set to set EURODB2 = YES if you plan to use European DB2 with a comma as a decimal point separator. In addition, update CAJRCTMP library members NEWDM and NEWCB and uncomment these three)*SET statements:

```
) *SET &&XXDECPNT = ,      ->  )SET &&XXDECPNT = ,
) *SET &&XXNTYPE = EUR     ->  )SET &&XXNTYPE = EUR
) *SET &&NTYPE = EUR       ->  ) *SET &&NTYPE = EUR
```

Note: See [Customize CAIKSPAR](#) (see page 73) for information on how to customize CAIKSPAR.

Invoke DataManager Online

1. Log on executing the TSOPROC.
2. Execute CAI.CAJRCLS0(PMADMC) either through TSO or the ISPF TSO command processor.

Invoke CA PMA Chargeback Online

1. Log on executing the TSOPROC.
2. Execute the CAI.CAJRCLS0(PMACBC) either through TSO or the ISPF TSO command processor.
3. Verify IVP results. Perform the following procedure:
 - Select the online Query function.
 - Select Charge query.
 - On the Charge Query Primary panel (CBQQRYP), define the Query name and description. Press F2 to create.
 - On the Charge Query Specifications panel (CBQQRYS):
 - Ensure that the Version field is set to TEST.
 - Press F2 to execute the query.
 - The Charge Query Results panel (CBQQRYP) displays where you can verify IVP results.

Prepare for Live Data

To complete the IVP process, the DataManager tables were committed to a TEST version and the CA PMA Chargeback tables were committed to TESTTEST. Processing of the CA PMA Chargeback IVP resulted in updating of the CCCTAB. The following steps are required to remove IVP data:

1. Delete the CCCTAB:

CAJRJCL member CAKRDEL1 deletes the IVP data records from the CCCTAB.

To conform to the standards for your data center' use the previously completed worksheet, edit this member. To verify that the processing has completed with a return code of 0, submit the job and review the output t.

Note: Processing of this member results in the deletion of the CA PMA Chargeback IVP data.

2. Delete IVP CA PMA Chargeback Definitions (Optional):

CAJRJCL member CAKRDEL2 deletes the CBdefs that CA PMA Chargeback IVP that this product utilized in processing.

To conform to the standards of your data center use the previously completed worksheet, edit this member. To verify that the processing has completed with a return code of 0, submit the job and review the output.

Grant Access to Additional Users

This step outlines the tasks necessary to grant additional user IDs access to the JARS/OLF tables.

A. Authorize user ID:

For DB2, the new user must be granted EXECUTE access on the plans that were created when the bind procedure was run. The plan names are CAISSQL2, CAISSQL3, and CAISSQL9. The following SQL statement grants execute access to user ID C0001:

```
GRANT EXECUTE ON PLAN CAISSQL2, CAISSQL3, CAISSQL9 TO C0001;
```

For CA Datacom, create a schema for the new user. Member CAKRSCHE can be used. Be sure to customize CAKRSCMA; change the user ID to the new user ID.

B. Grant access to a user ID:

To reflect the user ID requiring grant access, customize the CAJRSQ library member CAKRRCR87. To conform to your standards for the data center, edit the CAJRJCL library member CAKRGRNT. To make sure that the job completed with a condition code of 0, submit the job and review the output.

Note: When the database security is not turned on, SQL error -559 is returned. This error occurs, when attempting to grant other users access to JARS/OLF tables. You can proceed to the next step when this error occurs.

C. Establish synonyms:

Important! Execute this step by the user ID requiring the synonyms.

Member CAKRSYN establishes synonyms. This member uses input member CAKRCR84 to complete this process. To confirm your data center standards, EDIT CAKRSYN. Verify the owner ID of the tables you are creating synonyms for is reflected in CAKRCR84. The last SQL statement in member CAKRCR84 performs an insert into the options table to set up the default options for the new user. Change the first variable in the VALUES operand to the name of the new user ID. This variable appears in the statement directly after the word *VALUES* as illustrated in the following example:

```
INSERT INTO OWNERID.OPTTABS VALUES ( 'NEWUSER', 'BOTH', 'NOREV', ...
```

Replace the *OWNERID* in this statement with the user ID (*OWNER*) that was originally used to create the tables. Replace the *NEWUSER* with the new user ID.

- For DB2, run the CAKRSYN step from the user ID that requires the synonyms.
- For CA Datacom/DB or AD, update the CAKRTAB PROC as follows:

```
EXEC PGM=CAKRINST, PARM='CAIKSPCB,NEWUSER'
```

Replace the *NEWUSER* parameter in the *PARM* statement with the name of the user ID for which you are creating synonyms.

Implement Security

Security of CA PMA Chargeback tables is implemented by protection of dialogs.

For more information, see the *CA PMA Chargeback User Guide* or the *CA PMA Chargeback DataManager User Guide* chapters on security and audit.

Chapter 8: Migration Information

This section contains the following topics:

[Update Database Tables](#) (see page 81)

Update Database Tables

After applying CA PMA Chargeback maintenance or installing a new version of CA PMA Chargeback, there is an optional step to perform database table updates. Member CAKRTBLM contained in CAJRJCL contains the JCL and instructions on how to perform table updates.

Note: This optional step uses the CAKRTAB procedure, customized during installation.

To determine if table updates are required, review the member CAKRTBLZ in CAJRSQL, before running this update job. Member CAKRTBLZ contains a list of all modified IRD/ORD data sets by release and the SQL statements to delete IRD/ORD data sets. Refresh these data sets as needed. Updating job CAKRTBLM is required when IRD/ORD data sets are in use by the current chargeback algorithm that are listed in CAKRTBLZ. In addition, update CAKRTBLM when the updated IRD/ORD data set provide new metrics in a chargeback algorithm.

Appendix A: Troubleshooting

This section contains the following topics:

[Verifying the Problem](#) (see page 83)

[Collecting Diagnostic Data](#) (see page 83)

[Interpreting Diagnostic Data](#) (see page 85)

Verifying the Problem

Before contacting Technical Support, attempt to resolve the problem using the following steps.

1. Examine the procedure that you used and compare it to the documented procedure for performing the required activity.
2. If you find no discrepancies between your procedures and the documented procedures, repeat the activity under conditions similar to those that existed when the problem first appeared. (If you no longer get unsatisfactory results, an inadvertent error may have caused the problem.)
3. If the same error occurs when you repeat a given activity, and you can find nothing in the documentation to suggest that your procedure is flawed, check with others at your site to determine if they have had the same or similar problem and how they handled it.

Collecting Diagnostic Data

Use the information below to see how to resolve various problems.

CA PMA Chargeback Online Facility

Unable to bring up the online facility

- Verify that member NEWCB in CAJRCTMP is correctly customized as outlined in the step Customize DataManager Online and CA PMA Chargeback Online in the chapter "Configuring Your Product."
- Verify that member PMACBC in CAJRCLS0 has been changed to reflect the appropriate high-level qualifiers.
- Verify that the CAJLOAD library is allocated and available to the TSO session.
- Verify that the user CAIKRPAR (CAIKRPAR DD statement) correctly defines your database environment.
- Verify that the step Grant Access to Additional Users in the chapter "Configuring Your Product" has been completed.

Error in definition

If you attempt to define accounting sources for an ORD Type and receive a message that says the ORD Type does not exist, do the following:

- Verify that the DataManager version specified using the Option facility reflects the DataManager version with which the ORD Type was committed.
- If the ORD Types definition exists in the development version of DataManager, you must process the DataManager commit before these ORD Types can be used by CA PMA Chargeback for definition.

Period Functions — Forecasting

If you receive a message stating the Forecast version does not match the version specified in Options, perform the following steps.

- Exit the Forecasting panel.
- Select Options, then select item 2 (Versions) from the Options pull-down.
- Change the DataManager and CA PMA Chargeback version to match the CA PMA Chargeback version specified during generation of the forecast.

CA PMA Chargeback

Batch Processing Error

See the *Messages and Codes Guide* to determine appropriate reasons and actions for the error messages received.

DataManager

Batch Processing Error

See the *Messages and Codes Guide* to determine appropriate reasons and actions for the error messages received.

DataManager Online Facility

Unable to bring up the online facility

- Verify that member NEWDM in CAJRCTMP is correctly customized as outlined in the step Customize DataManager Online and CA PMA Chargeback Online in the chapter "Configuring Your Product."
- Verify that member PMADMC in CAJRCLS0 has been changed to reflect the appropriate high-level qualifiers.
- Verify that the CAJRLOAD library is allocated and available to the TSO session.
- Ensure that the user CAIKSPAR (CAIKSPAR DD statement) correctly defines your database environment.

Interpreting Diagnostic Data

When you have collected the specified diagnostic data, write down your answers to the following questions.

- What was the sequence of events prior to the error condition?
- What circumstances existed when the problem occurred and what action did you take?
- Has this situation occurred before? What was different then?
- Did the problem occur after a particular PTF was applied or after a new release of the software was installed?
- Have you recently installed a new release of the operating system?
- Has the hardware configuration (tape drives, disk drives, and so forth) changed?

From your response to these questions and the diagnostic data, try to identify the cause and resolve the problem.

If you determine that the problem is a result of an error in a CA product, you can make use of the CA online support system to see if a fix (APAR or PTF) or other solution to your problem has been published. Otherwise, contact [Technical Support](#).

Appendix B: Configuration Worksheet

This section contains the configuration worksheet.

This section contains the following topics:

[Complete the Worksheet](#) (see page 87)

Complete the Worksheet

Complete the worksheet before going any further. The keywords on the worksheet are the same as the symbolic parameters used in the supplied installation JCL. If a default has been assigned in the supplied JCL, it is indicated under the associated item description of the worksheet.

1. What high-level qualifier has been defined for the CA Common Services libraries?

Default: CSIND='CAI' 1. CSIND=_____

2. If using CA Datacom, what high-level qualifier has been defined for those libraries?

Default: DCIND='CAI' 2. DCIND=_____

3. If using DB2, what is the name of your DB2 load library?

No default 3. DSNLOAD=_____

4. If using DB2, what is the subsystem ID?

No default 4. SUBSYSTEM_ID=_____

5. Which DASD volume do you plan to use for the JARS/OLF parameter files?

No default

5. PARMVOL=_____

6. What high-level qualifier do you plan to assign to the parameter files?

Default: PINDEX='CAI'

6. PINDEX=_____

7. What values do you plan to use for the following parameters?

7. DATABASE_NAME=_____

DB2 PLAN_ID=_____

SQL_TYPE=_____

SUBSYSTEM_ID=_____

CUSTOMER_NAME=_____

BASE_VERSION=_____

CHARGE_PREC=_____

RATE_PREC=_____

UNIT_PREC=_____

EURODB2=_____

CBLOAD_VERSION=_____

RECONCILIATION_FILE=___

Note: See the "Batch Processing & Reporting" chapter in the *User Guide* for information on these parameters.

Index

A

- access
 - login • 24
- allocate and mount • 33

C

- CA Datacom
 - database preparation • 70
- CA LMP • 13
- CA MSM usage scenarios • 19
- CA-C Runtime • 13
- CAI.SAMPJCL
 - library • 50
 - sample jobs • 50
- CAIKRPAR • 73
- CAIKSPAR • 70
- CAIRIM • 13
- CAISSF • 13
- cBASE data dictionary link-edit • 69
- Common Services requirements • 13
- contacting technical support • 3
- copy files to USS directory • 35, 36, 39
- customer support, contacting • 3
- customizing
 - CA PMA Chargeback online • 76
 - CAIKRPAR • 73
 - CAIKSPAR • 70

D

- database installation • 62
- DataManager
 - invoking online facility • 77
 - process IVP • 74
- DB2
 - database • 62
 - European • 76
 - user access to • 78
- defining database environment • 70
- diagnostic data • 83
- Distribution Libraries • 16
- download
 - files using ESD • 29
 - options • 35
 - overview • 27

- to mainframe through a PC • 39
- using batch JCL • 36

E

- Earl Service • 13
- European DB2 • 76
- external HOLDDATA • 47

G

- generating invoices • 75
- GIMUNZIP utility • 41
- granting access to additional users • 78

H

- hardware requirements • 13
- hash setting • 41
- high-level qualifier • 41
- HOLDDATA • 47

I

- IEBCOPY • 50
- implementing security • 79
- installation
 - worksheet • 87
- installing
 - from Pax-Enhanced ESD • 27
 - from tape • 49
- Integrated Cryptographic Services Facility (ICSF) • 41
- internal HOLDDATA • 47
- invoices • 75
- invoking
 - CA PMA Chargeback online • 77
 - DataManager online • 77

J

- Java version support • 41

L

- libraries • 16
- LMP keys, tailoring • 15

M

- maintenance • 46

O

online facility • 77
ORD data file, print • 74

P

pax ESD procedure
 copy product files • 35
 create product directory • 40
 download files • 29
pax file
 copy files to USS directory • 35, 36, 39
permanent (target) libraries • 16
preparing for live data • 78
printing
 ORD data file • 74
 reconciliation file • 75
process overview • 27
processing
 CA PMA Chargeback IVP • 74
 DataManager IVP • 74
product download window • 29
product-level directory • 40

R

read me • 27, 41
reconciliation file, print • 75
requirements • 62
running
 cBASE data dictionary link-edit • 69

S

sample JCL • 50
sample jobs • 36, 40
 CAtoMainframe.txt • 36
 Unpackage.txt • 40
security
 implementation • 79
 requirements • 15
SMP/E
 GIMUNZIP utility • 41
software requirements • 13
SRAM Service • 13
support, contacting • 3
system • 13

T

tailoring LMP keys • 15

tape installation • 52
tape, installing from • 49
target libraries • 16
technical support, contacting • 3
troubleshooting • 83

U

UNIX System Services (USS)
 access requirements • 27
UNZIPJCL • 41

V

ViewPoint • 13

W

worksheet, installation • 87