CA SOLVE:Operations® Automation for CICS

Installation Guide

Release 11.9

CA Technologies Product References

This document references the following CA Technologies products:

- CA ACF2™ for z/OS
- CA Auditor for z/OS (CA Auditor)
- CA Common Services for z/OS
- CA Common Inventory Service
- CA Mainframe Software Manager™ (CA MSM)
- CA SOLVE:Access™ Session Management (CA SOLVE:Access)
- CA SOLVE:Operations® Automation
- CA SOLVE:Operations® Automation for CICS
- CA SYSVIEW® Performance Management (CA SYSVIEW)
- CA Top Secret® for z/OS

Contact CA Technologies

Contact CA Support

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

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

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.

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

Contents

Chapter 1: Overview

This guide describes how to install and implement CA SOLVE:Operations Automation for CICS.

This section contains the following topics:

Audience Qualifications

Readers of this book require knowledge in the following areas:

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

You work with the following personnel:

- Systems programmer for z/OS, VTAM, CICS, and TCP/IP definitions
- Security administrator, for library and started task access authority
- Storage Management Subsystem (SMS) or storage administrator, for direct access storage device (DASD) allocations

How the Installation Process Works

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

- Acquisition—Transports the software to your z/OS system.
- Installation using SMP/E—Optionally creates a new 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:

1. Prepare for the installation by confirming that your site meets all installation requirements (see page 15).
2. Use one of the following methods to acquire the product:
   - Download the software from CSO using CA MSM (see page 25).
   - Download the software from CSO using Pax-Enhanced Electronic Software Delivery (ESD).
   - 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 manually or use the Insert New Product option in CA MSM to complete the SMP/E install.
   - If you used a tape (see page 65) or DVD, install the product manually.

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

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

   Note: Deployment is considered part of starting your product.
5. Configure your product using CA MSM or manually.

   Note: Configuration is considered part of starting your product.

Purpose and Structure of This Guide

This guide contains step-by-step procedures to guide you through the installation, setup, migration, initialization, and maintenance of your product.

Important! This guide describes how to implement a generic version of your product. To configure your product to suit your site requirements, and set up specific features, such as enhancements associated with this release, you must review the remaining guides in the documentation set.

The guide describes how to perform the processes in the following sections.

Preinstallation

During preinstallation, you perform the following tasks:

1. Check your hardware and software levels.
2. Check your security and access privileges.
3. Gather the information needed during installation.
4. Prepare your system for installation.

Installation

During installation, you perform *one* of the following tasks:

- Use the CA MSM to install your product.
- Use the Install Utility to generate the installation JCL and then use the generated JCL to install your product.

Configuration

During configuration or setup, you use the Install Utility to generate the setup JCL statements to build the regions required by your product.

Product Preparation

During product preparation, you prepare the components that make up your product.

Initial Migration Required for Upgrade

During initial migration, you perform the migration steps required before starting your product region for the first time.

Note: This process is required if you are upgrading.

Startup

During startup, you start and log on to your product region for the first time.

Customization

During customization, you perform initial customization in your product region.

Complete Migration

During complete migration, you perform the migration steps required after you start your product region.

Important! To ensure the successful implementation of your product, you must complete all the tasks in this guide in the order presented.

Note: This process is required if you are upgrading.

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:

Multiple Product Installation and Setup

You can install multiple products in the CA SOLVE:Operations Automation family based on what you have purchased. You can also set up multiple products in one region.

Therefore, you can perform the steps in the *Installation Guides* for these products concurrently as you install and set them up.

Software Requirements

You must verify your system is set with the requirements described in this section.

Operating Environment

Ensure that you have the appropriate operating environment. Your system must have:

- A currently-supported version of z/OS.
- If you intend to implement Secure Sockets Layer (SSL) for the web interface:
  - SMP/E V3R5.0.
  - IBM's 31-bit SDK for z/OS, Java 2 Technology Edition for the libjvm.x side deck. IBM's 64-bit SDK is *not* supported.

WebCenter Requirements

WebCenter users require the following minimum levels of third-party products installed on their PCs:

- Internet Explorer: 6.0 with SP1 *or* Firefox: 2.0
- Java Runtime Environment (JRE): Preferably a recent version such as JRE 1.6.0_22 (JRE 1.6.0_13 through JRE 1.6.0_20 not supported)

  Notes:

  - If you are using WebCenter over an IPv6 network, your WebCenter users need at least JRE 1.5.0_12.
  - If you are using a 64-bit browser, review the JRE support and minimum system requirements for 64-bit browsers on the Sun Java website.

Migration Mode

If you intend to use migration mode (see page 21) to link a new product region to a Version 5.0 product region (or environment), ensure you have applied the following Version 5.0 maintenance to your CA SOLVE:Operations Automation for CICS Version 5.0 product:

- NZ28508
- NZ28509
- RO12224
- RO29007

For r11, the following maintenance is required:

- RO12223
- RO29601

CA Common Services Requirements

Your system must have a currently supported version of CA Common Services for z/OS. The CA Common Services load library must be accessible to the product address space and the SOLVE SSI address space through the JCL STEPLIB or system LNKLST.

Note: The latest version of CA Common Services for z/OS is included in your package.

The following CA Common Services are used with CA SOLVE:Operations Automation for CICS:

CA LMP of the CAIRIM Common Service

Authorizes your product features. CA LMP provides a standardized and automated approach to the tracking of licensed software. The service uses common real-time enforcement software to validate the configuration. CA LMP reports on activities related to the license, usage, and financials of CA Technologies products.

CAICCI Common Service

Provides cross-system communication. This service is required, for example, for communication with Unicenter Service Desk.

CAISDI/soap

Is the z/OS Simple Object Access Protocol (SOAP) client that communicates with Unicenter Service Desk. The component manages the communication using TCP/IP to Unicenter Service Desk and provides the basic mechanisms that allow CA Technologies products to open Unicenter Service Desk tickets. This component is required for all Unicenter Service Desk integration.

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

Note: For more information about CA Common Services for z/OS components, see the CA Common Services for z/OS documentation on the Technical Support web site (see page 4).

Security Requirements

When you prepare your z/OS task for startup, the following authorities are required on your system:

- If you plan to use ESD to download the product, you require access to UNIX System Services (USS).
- You have READ authority to data sets with a prefix of CAI.*.
- You have UPDATE authority to the following data sets or libraries:
  - Started task PROCLIB that stores the run-time JCL job, for example, SYS1.PROCLIB
  - SYS1.PARMLIB
  - SYS1.VTAMLST or the library that stores VTAM application definitions and VTAM initialization parameters
  - SYS1.VTAMLIB for terminal mode table definitions
  - The CICS load library SDFHLOAD
  - Master catalog, a requirement if you intend to define alias entries for data set prefixes
- You have authority to update the following initialization parameter data set members if necessary:
  - SYS1.PARMLIB(IEFSSN*xx*) to add subsystem IDs
  - SYS1.PARMLIB(IEAAPF*xx*) to APF-authorize your load libraries
  - SYS1.PARMLIB(CONSOL*xx*) if your system does not use extended MCS consoles
  - SYS1.PARMLIB(LPALST*xx*) if you want to use the SOLVE SSI task as the PPI provider
  - SYS1.PARMLIB(PROG*xx*) if you want CA Auditor for z/OS or CA Common Inventory Service to know of your products for your auditors
- Ensure that the following conditions are met:
  - The user IDs associated with your started tasks have access to the run-time data sets created by the installation and setup processes (UPDATE authority required).
  - The user ID associated with the product region started task is authorized to issue system commands.

Storage Requirements

CA SOLVE:Operations Automation for CICS has the following 3390 DASD space requirements:

- If you are using CA MSM or ESD, the following z/OS UNIX file system space is required for the downloaded and unpacked files: 115 MB.
- For installation and setup, the following spaces are required:
  - Installation = 720 cylinders
  - IBM System Modification Program Extended (SMP/E) libraries = 30 cylinders
  - Setup = 190 cylinders
  - Setup temporary work area = 370 cylinders

Worksheets

The preparation worksheets (see page 145) help you gather the required information before you install and configure (or set up) the product.

The post-installation worksheet (see page 154) lets you record the names of the data sets created by the installation and configuration process for future reference.

Migration Preparation

Some migration tasks require actions on the region that you are migrating from. If you are planning to reuse resources for your new product region, such as access control block (ACB) name and started task name, make sure that you perform these tasks before you shut down your existing region for the last time.

More information:

Performing Initial Migration (see page 101)
Completing Migration (see page 121)

Parameter Group Values

If you do not use a region initialization (INI) file and want to migrate your previous parameter group values to your new product region, record these values now. You use them to customize the product region.

How to Migrate Your Initialization File

If you have an existing region INI file from r11 onwards, you can migrate the file for use in this release.

Important! Review and update the file to ensure that names such as ACBs, data sets, and interfaces are suitable for the new region.

The process of migrating your INI file consists of the following steps:

1. If you have not already generated your INI file, generate the INI file in the previous region.
2. Configure the file by updating the data set names used, and checking the ACB and various interface names. Alternatively, you can delete the configuration section for a whole parameter group to let the defaults for the new region be used.

   Note: During region initialization, the INI file is applied by passing all parameter values to the INI file procedure and letting the procedure overwrite the values as needed. If you do not want to overwrite the settings for a parameter group or individual parameter, comment out or delete the statements in the INI file that contains the group or parameter. Setting the value of a parameter to null sets the parameter value to null, which may not be what you wanted.
3. Start the new region using the INI file by editing your RUNSYSIN.

   After you start the region, you can check it and regenerate the INI if necessary.

   Important! Generation of the INI file replaces custom code, such as code that includes MVS system symbols, with the actual values. If you regenerate the file, reapply the custom code.

Note: For more information about setting up the initialization file, see the *Administration Guide*.

Knowledge Base

If you want to migrate your knowledge base, consider the following:

- To keep a copy of an old distributed ResourceView template (for example, you might have modified it), copy this template to a new template image version above 0009. You can copy a template image from the Template System Image List panel (/RADMIN.T.I).
- To keep a copy of an old distributed EventView rule set (for example, you might have modified it), make a copy of this rule set under a different name. (If the rule set is associated with a system image, update the association accordingly.) You can copy a rule set from the Ruleset List panel (/EADMIN.R.R).

Multisystem Considerations

You cannot link and synchronize a new region with a region running an earlier release of the product.

How Migration Mode Works

You can use migration mode to assist in the migration of an existing multisystem network.

Migration mode gives the new product region the same level of visibility as normal synchronization, but a slightly reduced command capability. The main difference between migration mode and normal synchronization is that the databases are not synchronized, and single point database maintenance is not possible in migration mode.

Migration mode works as follows:

1. You unlink an existing region from the multisystem network.
2. You migrate this region to the latest release.
3. You link the newly-migrated region back into the multisystem network.
4. After the new region is linked back, you can monitor all resources for all linked regions from the new region.
5. When the next region is unlinked and migrated to the latest release, it can be linked and synchronized in the standard way to the first migrated region.

Each region can be migrated as required without losing the benefits of multisystem monitoring.

More information:

Migration Mode (see page 16)

How to Prepare for Multisystem Network Migration

If you are upgrading multiple synchronized regions to this release, perform the following steps to plan for it.

1. Ensure that your existing multisystem network has at least two focal regions. If you have only one focal region, unlink a subordinate region and relink it as a focal region.
2. Choose a focal region and unlink it from the multisystem network.
3. Upgrade the focal region, and perform migration tasks.
4. After you have completed all of the steps in this guide, link your new focal region in migration mode (see page 128) to an existing focal region.
5. Select the next product region to upgrade and unlink it.
6. Upgrade this product region and then synchronize it to the focal region that you upgraded in Step 3.
7. Continue until all regions are upgraded.

Notes:

- You only perform knowledge base migration for the first region because the focal knowledge base contains details of all linked regions.
- You only link the first new focal region in migration mode.

Data Migration

If you are upgrading, you can migrate your site-specific data. The Install Utility helps you migrate some of this data. You can migrate other data manually.

The Install Utility helps you migrate the following types of site-specific data:

- NETINFO records
- PSPOOL Print Services Manager (PSM) spool data set
- UAMS USERIDS
- VFS Report Writer report schedules

You can migrate the following types of site-specific data manually:

- Knowledge base (see page 121)
- Managed Object Development Services (MODS) data set (see page 124)
- Network Partitioning Facility (NPF) and System Authorization Facility (SAF) security members (see page 101)
- OSCNTL data set (see page 128)
- Panels (see page 126)

Chapter 3: Installing Your Product Using CA MSM

Important! During installation, use the CAIT71 target zone and the CAID71 distribution zone. The setup process requires that these zone names be used.

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

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

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

How to Use CA MSM: Scenarios

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

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

How to Acquire a Product

The *Product Acquisition Service (PAS)* facilitates the acquisition of mainframe products and the service for those products, such as program temporary fixes (PTFs). The PAS retrieves information about the products to which your site is entitled and records these entitlements in a software inventory 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 29), 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, including browsing downloaded software packages, managing SMP/E consolidated software inventories (CSIs) 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. Do *one* of the following to select a CSI:
   - Create a new CSI:
     a. Set up the global zone.
     b. Create a target zone.
     c. Create a distribution zone.
   - Use an existing CSI from your working set:
     a. Update the global zone.
     b. Set up the target zone: either create a new target zone or use an existing target zone.
     c. Set up the distribution zone: either create a new distribution zone or use an existing distribution zone.

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

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

How to Maintain Existing Products

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

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

Follow these steps:

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

   During the migration, CA MSM stores information about the CSI in the database.
2. Download the latest maintenance for the installed product releases from the Software Catalog tab.

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

3. Apply the maintenance.

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

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

How to Deploy a Product

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

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

Follow these steps:

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

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

   Note: If you must deploy other products to the previously defined systems using the same methodologies, you must create a separate deployment.
4. Deploy the product, which includes taking a snapshot, transmitting to target, and deploying (unpacking) to your mainframe environment.

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

Access CA MSM Using the Web-Based Interface

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

Follow these steps:

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

   The login page appears.

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

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

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

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

3. Click New.

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

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

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

   You are prompted to review your user settings.

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

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

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

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

Chapter 4: Installing Your Product from Pax-Enhanced ESD

This section contains the following topics:

How to Install a Product Using Pax-Enhanced ESD

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

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

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

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

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

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

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

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

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

   `pax -rvf pax-filename`

4. Use the SMP/E GIMUNZIP utility to create z/OS installation data sets. The file UNZIPJCL in the directory created by the pax command in Step 3 contains a sample job to GIMUNZIP the installation package. Edit and submit the UNZIPJCL job.

5. Proceed with product installation. Consult product-specific documentation, including AREADME files and installation notes to complete the product installation.

6. (Optional) Clean up the USS directory. Delete the pax file, the directory created by the pax command, all of the files in it, and the SMP/E RELFILEs, SMPMCS, and HOLDDATA data sets.

More Information:

USS Environment Setup (see page 36)
Allocate and Mount a File System (see page 37)
Copy the Product Pax Files into Your USS Directory (see page 40)
Create a Product Directory from the Pax File (see page 45)
Copy Installation Files to z/OS Data Sets (see page 46)

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 33) 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.

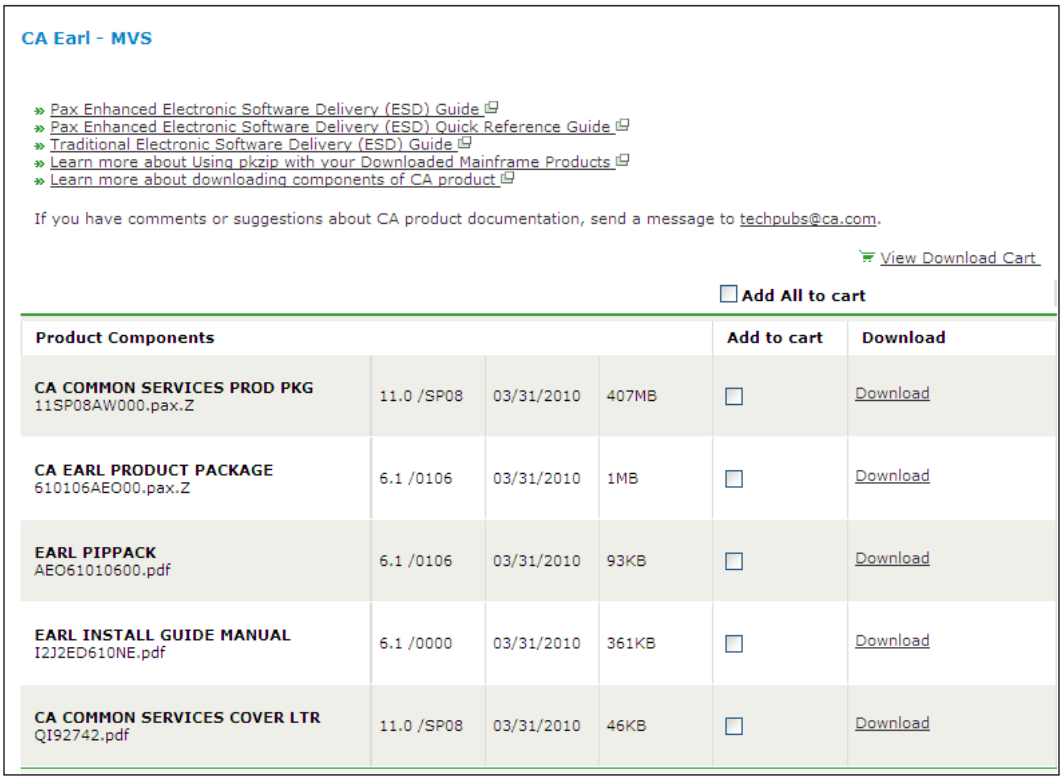
4. Perform the steps to install the product based on the product-specific steps.

   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

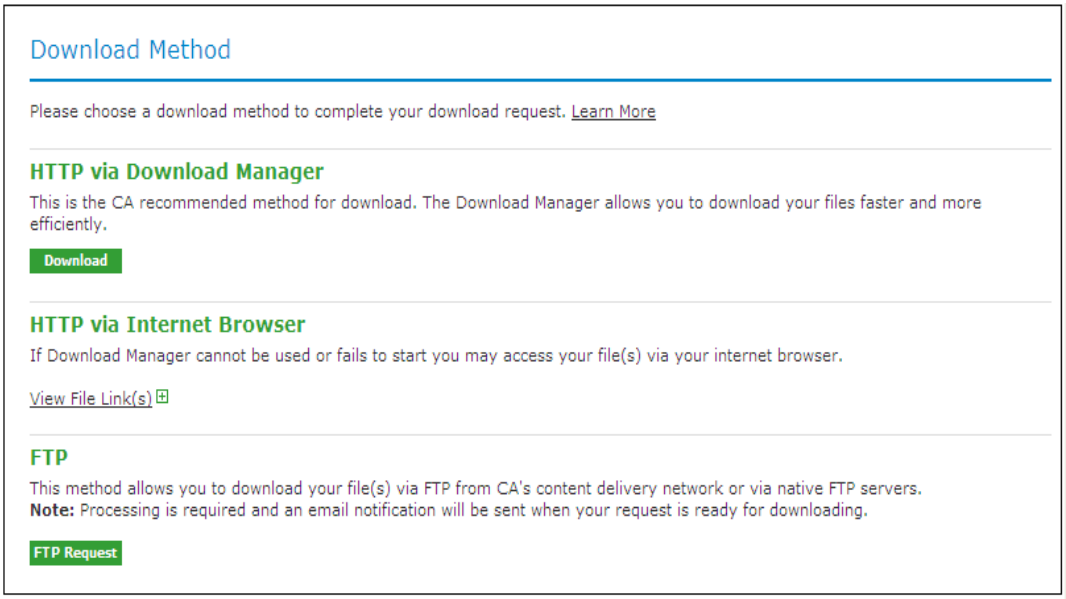
If you have comments or suggestions about CA product documentation, send a message to techpubs@ca.com.

View Download Cart

☐ Add All to cart

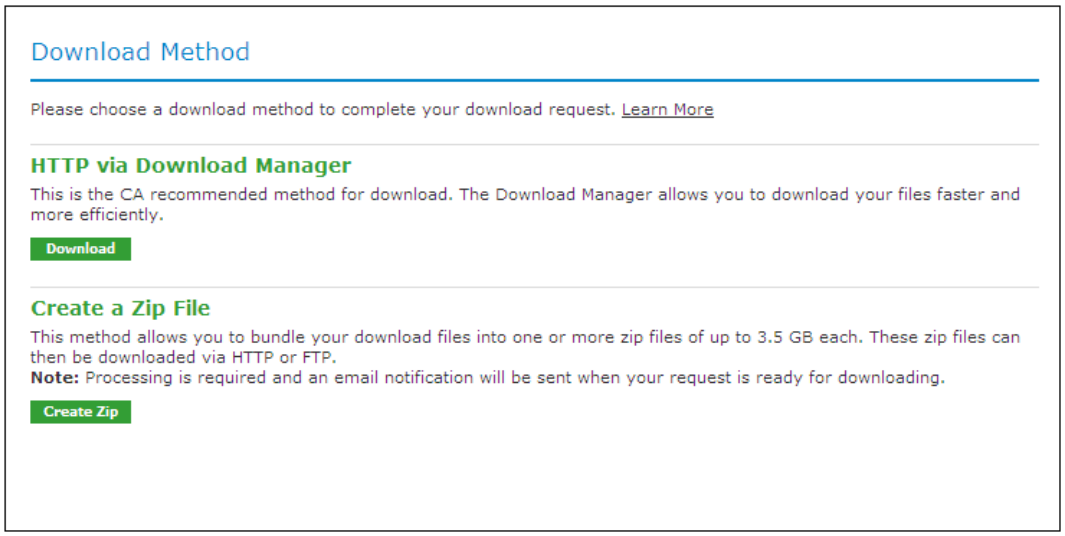
Product Components				Add to cart	Download
CA COMMON SERVICES PROD PKG 11SP08AW000.pax.Z	11.0 /SP08	03/31/2010	407MB	☐	Download
CA EARL PRODUCT PACKAGE 610106AEO00.pax.Z	6.1 /0106	03/31/2010	1MB	☐	Download
EARL PIPPACK AEO61010600.pdf	6.1 /0106	03/31/2010	93KB	☐	Download
EARL INSTALL GUIDE MANUAL I2J2ED610NE.pdf	6.1 /0000	03/31/2010	361KB	☐	Download
CA COMMON SERVICES COVER LTR QI92742.pdf	11.0 /SP08	03/31/2010	46KB	☐	Download

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



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

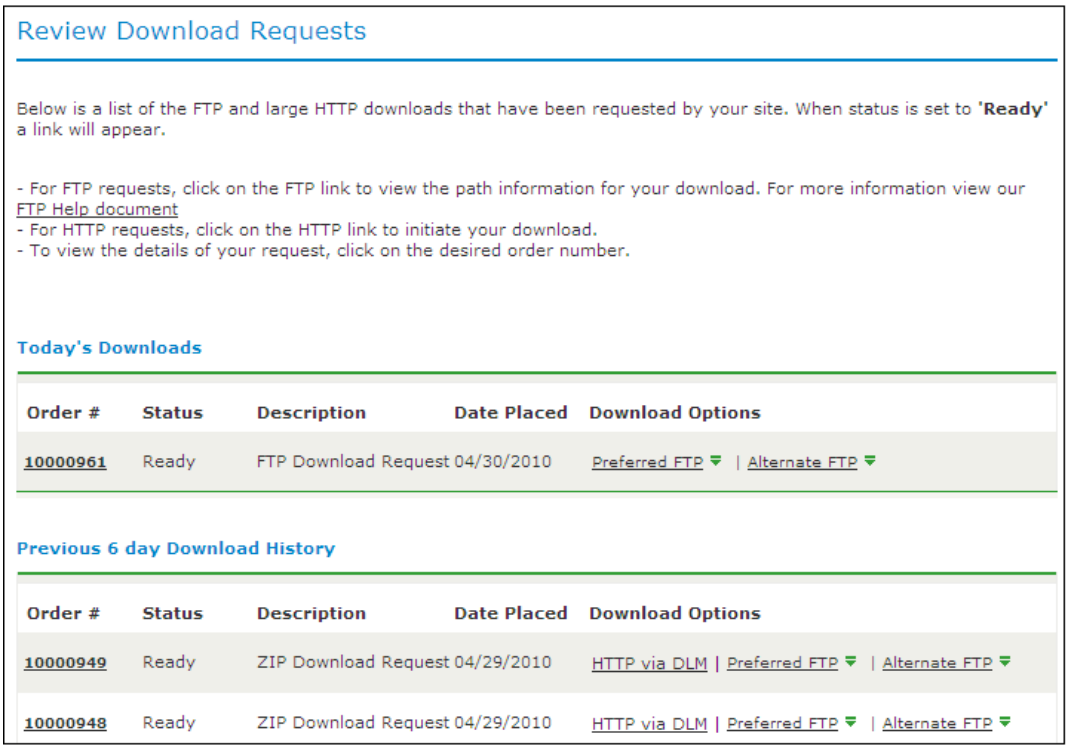
Note: For mainframe downloads using this HTTP method, click the Learn More link.



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

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

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



Review Download Requests

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

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

Today's Downloads

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

Previous 6 day Download History

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

USS Environment Setup

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

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

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

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

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

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

Allocate and Mount a File System

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

This procedure describes how to perform the following tasks:

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

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

  Important! USS commands are case-sensitive.

Follow these steps:

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

   - On a zFS, use the following sample:

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

   - On an HFS, use the following sample:

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

   The file system is allocated.

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

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

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

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

   The mount point is created.

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

   - On a zFS, use the following sample:

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

   - On an HFS, use the following sample:

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

   The file system is mounted.

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

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

   Write access is granted.

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

Copy the Product Pax Files into Your USS Directory

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

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

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

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

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

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

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

More Information:

How the Pax-Enhanced ESD Download Works (see page 33)
ESD Product Download Window (see page 33)

Download Using Batch JCL

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

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

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

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 are not able to download using the Preferred FTP method, check the security restrictions for all servers that company employees can download from that are outside of your corporate network.

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

   Alternate FTP

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

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

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

   Note: For details regarding FTP, see the FTP Help document link in the Review Download Requests window and the Learn More link available in the Download Methods window.

9. Submit the job.

   Important! If your FTP commands are incorrect, 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 running the JCL, the pax file resides in the mainframe USS directory that you supplied.

Example: CAtoMainframe.txt, JCL

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

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

Download Files to Mainframe through a PC

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

Follow these steps:

1. Follow the procedures in How the Pax-Enhanced ESD Download Works to download the product pax or zip file to your PC. If you download a zip file, first unzip the file to use the product pax files.

   The pax or zip file resides on your PC.

2. Open a Windows command prompt.

   The command prompt appears.

3. Customize and enter the FTP commands with the following changes:

   a. Replace *mainframe* with the z/OS system's IP address or DNS name.

   b. Replace *userid* with your z/OS user ID.

   c. Replace *password* with your z/OS password.

   d. Replace *C:\PC\folder\for\thePAXfile* with the location of the pax file on your PC.

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

   f. Replace *paxfile.pax.Z* with the name of the pax file to upload.

   The pax file is transferred to the mainframe.

Example: FTP Commands

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

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

Create a Product Directory from the Pax File

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

Important! To simplify the Pax-Enhanced ESD process, the PDF version of this guide includes a sample JCL job that you can copy directly to the mainframe. To access this job, click the paper clip icon in the lower left corner of the PDF reader. This opens a window displaying attachments. 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: After making the changes noted in the job, if the PARM= statement exceeds 71 characters, uncomment and use the second form of UNPAXDIR instead. This sample job uses an X in column 72 to continue the PARM= parameters to a second line.

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

   You have identified product-specific installation details.

2. Use ISPF EDIT or TSO ISHELL to edit the UNZIPJCL sample job. You can perform this step in one of the following ways:

   - Use ISPF EDIT. Specify the full path name of the UNZIPJCL file.
   - Use TSO ISHELL. Navigate to the UNZIPJCL file and use the E line command to edit the file.

   The job is edited.

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

   Your view is of the product-specific directory.

4. If ICSF is not active, perform the following steps:

   a. Change the SMPJHOME DD PATH to your Java runtime directory. This directory varies from system to system.

   b. Perform one of the following steps:

      - Change the SMPCPATH DD PATH to your SMP/E Java application classes directory, usually /usr/lpp/smp/classes/.
      - Change HASH=YES to HASH=NO on the GIMUNZIP parameter.

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

5. Change all occurrences of *YourHLQ* to the high-level qualifier (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 uniquely identify the package. Do not use the same value for *yourHLQ* as you will use for the SMP/E RELFILEs.

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

6. Submit the UNZIPJCL job.

   The UNZIPJCL job 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 at this point.

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

Install Utility

The Install Utility guides the installation. The Install Utility installs the product into an IBM System Modification Program Extended (SMP/E) environment. The utility collects your site-specific values such as data set prefixes, DASD volume serial numbers, and JCL parameter values. It then uses these values to generate the jobs necessary to perform the installation of your product.

Unload the Install Utility

The installation utility software lets you generate and run the JCL required to install your product. The installation utility software is delivered electronically with ESD.

The installation software unloads into the *dsnpref*.CAI.OPB9.CC2DJCL data set; *dsnpref* is a prefix you specify for your product data sets.

After you unzip the data sets, do *one* of the following:

- Rename *dsnpref*.CAI.OPB9.CC2DJCL to *dsnpref*.OPB9.CC2DJCL
- Copy the members in *dsnpref*.CAI.OPB9.CC2DJCL into *dsnpref*.OPB9.CC2DJCL

Installation JCL

The installation process creates the *dsnpref.*OPB9.INSTDB database to store details of each installation that you perform. If you are also installing other products in the CA SOLVE:Operations Automation family of products, this database manages those installations. These details include the products you install and the installation values that you specify.

Note: During this task, the INSTALLATION JCL Library Creation panel lets you specify your installation JCL library. The default library name is *dsnpref*.OPB9.INSTALL.JCL, where *dsnpref* is the same data set prefix you used for the *dsnpref*.OPB9.CC2DJCL data set.

If your installation JCL library exists, do *one* of the following:

- Specify a new data set name at that panel.
- Delete the existing library by issuing a TSO DELETE command.

Note: If you leave the Install Utility at any stage, you can return to it from the ISPF/PDF TSO Command Shell prompt. Execute the following command:

```
EXEC 'dsnpref.OPB9.CC2DJCL(INSTALL)'
```

Additional Features

The Install Utility provides an option to install SSL support.

Generate the Installation JCL

During the installation process, you provide the site-specific installation information that you previously collected (see page 145). This information is used to generate the installation JCL.

Follow these steps:

1. At the ISPF/PDF TSO Command Shell prompt, execute the following command:

   `EXEC 'dsnpref.OPB9.CC2DJCL(INSTALL)'`

   The Install Utility panel appears.

   Note: On each of the Install Utility panels, you can use the following keys:

   - Enter to proceed to the next panel
   - F1 to display online help
   - F3 to return to the previous panel
   - F4 to exit and return to the main menu

2. Press Enter.

   The Install Utility Primary Menu panel appears.

3. Enter **1** (Set Installation Parameters).

   The Software Delivery Method panel appears.

4. Complete each of the panels as they open. Press Enter at the completion of each panel.

   You must complete all five parameter panels before you can install the product. You can take the default options or specify site-specific values.

   Note: For information about the fields, press F1 (Help).

5. Enter **2** (Install Products).

   The INSTALLATION Primary Menu panel appears.

6. Enter **1** (Select Products to Install).

   The INSTALLATION Product Selection panel appears with previously installed products unavailable.

7. Enter **S** next to the product name and press Enter.

   The INSTALLATION Product Confirmation panel appears, confirming your selections.

   If you have already installed another product in the product family, the INSTALLATION Components Already Installed panel appears, confirming your selections.

   Note: You can enter S next to multiple products to install multiple products at one time. You must be licensed for any products you install.

8. Press Enter to confirm your selection, and complete each of the INSTALLATION panels as they open.

   You must complete all the panels before you can set up your regions. You can take the default options or specify site-specific values.

9. Record the data set name into which the JCL was generated in your post-installation worksheet (see page 154).

   You can submit the jobs from the panel or directly from this data set after exiting the panel.

10. Submit and run the following installation jobs in sequence. Do not proceed with any job until the previous job has completed successfully.

    I01ALLOC

    Allocates the data sets.

    The I01ALLOC member allocates CC2DLOAD as a load library of the PDS type. Do not change it to a PDS/E type because the type is not supported.

    I02INSMP

    Initializes the SMP/E data sets.

    I03RCSMP

    Performs an SMP/E RECEIVE.

    I04AKSMP

    Performs an SMP/E APPLY CHECK. This job is listed only if maintenance exists for previously installed products.

    I05RSSMP

    Performs an SMP/E RESTORE. This job is listed only if maintenance exists for previously installed products.

    I06APSMP

    Performs an SMP/E APPLY.

    I07ACSMP

    Performs an SMP/E ACCEPT.

11. If you selected SSL Support as an additional feature to install, the following jobs are also generated. Submit and run them in sequence as for the previous jobs.

    - I21ALLME
    - I22INIME
    - I23RECME
    - I26APPME
    - I27ACCME

    Notes:

    - If you installed and set up your regions without SSL support, and then later install SSL support, add the installed *dsnpref*.OPB9.CC2DPLD data set to the region's STEPLIB or in the system LNKLST.
    - You must have SMP/E V3R5.0 to implement SSL.

12. Press F3.

    You are returned to the Primary Menu panel.

Clean Up the USS Directory

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

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

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

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

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

Follow these steps:

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

   Your view is of the applicable USS directory.

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

   `rm paxfile`

   paxfile

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

   The pax file is deleted.

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

   `rm -r product-specific-directory`

   product-specific-directory

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

   The product-specific directory is deleted.

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

Maintenance

Maintenance includes program temporary fixes (PTFs) that supersede all authorized program analysis reports (APARs) that were created up to that time. Details of the superseded APARs are available as comments within the PTFs.

Product Maintenance

Important! The *dsnpref*.OPB9.CC2DLINK data set must be in your system LNKLST before you start maintenance. You can also create a STEPLIB to the data set name (DSN) in your TSOPROC (that is, allocate it to ISPLLIB). If you installed the product using CA MSM, you must use CA MSM to apply maintenance.

Product maintenance is provided as system modification program (SMP) fixes. The fixes consist of PTFs applied using the IBM System Modification Program Extended (SMP/E) tool.

Note: If an installed SMP fix contains maintenance for the VSAM data sets, you must update those data sets for each region you have set up.

RAMDB maintenance is provided as SMP/E PTFs. However, this is only the delivery and recordkeeping methodology. You must apply the maintenance using $RMDB04D.

Apply Maintenance

This section describes how to apply individual SMP fixes using the Install Utility.

Note: Individual SMP fixes are only available from the CA Technical Support site (see page 4).

When you receive SMP fixes, unload them into one of the following:

- A sequential data set
- A member of a partitioned data set

Multiple SMP fixes can be appended into a single data set or member.

Follow these steps:

1. Access the ISPF/PDF Primary Menu.
2. Select the COMMAND option.

   The ISPF Command Shell panel appears.
3. At the command prompt, enter the following command:

   `EXEC 'dsnpref.OPB9.CC2DJCL(INSTALL)'`
4. At the Install Utility title panel, press Enter.

   The Install Utility Primary Menu panel appears.
5. At the Install Utility Primary Menu panel, enter **8** (Maintain Products).

   The MAINTENANCE Primary Menu panel appears.
6. Enter **3** (Apply individual SMP fixes from a DASD data set).

   The MAINTENANCE DASD Fixes Dataset Name panel appears.
7. Enter the data set name that contains the SMP fixes to be applied and press Enter.
8. Complete the fields on the following MAINTENANCE panels as they open.

9. At the MAINTENANCE JCL Library Creation panel, review your fix JCL library.

   The default library name is:

   dsnpref.OPB9.FIX.DASD.JCL

   dsnpref

   The same data set prefix you used for the *dsnpref*.OPB9.CC2DJCL data set.

   Note: Each time you apply maintenance, use a new output data set. A new data set ensures that the only jobs in your maintenance JCL library are the jobs required for the maintenance you are installing now. To use a new data set:

   - Delete the library by issuing a TSO DELETE command and the library name, at the command prompt.
   - Specify a new data set name.

10. Press Enter to proceed with the generation of the maintenance JCL.

    When the JCL generation is complete, a list of generated jobs and a description of what each member does appears.

11. Note the name of the data set into which the JCL was generated.

12. Submit and run the following jobs in sequence. Do not proceed with any job until the previous job has completed successfully.

    Each job must complete with return code 0 unless otherwise indicated.

    Important! If there is maintenance for additional features, the SMP/E apply job must be run on a system that has the z/OS UNIX file system used during installation and mounted for read/write access.

    F11RCSMP

    SMP/E receives maintenance and lists existing HOLDDATA and SOURCEIDs that are already applied. If a job step returns condition code 04, there is no HOLDDATA present.

    Review the information. For any held APARs that you want to apply, add the correct BYPASS HOLD*x* operands to the corresponding APPLY control statement for those APARs. Add the operands by manually editing the F12APSMP job that contains the SMP control statements.

    Note: For information about the BYPASS HOLD*x* operands, see IBM's *SMP/E Commands* guide.

    F12APSMP

    SMP/E applies maintenance.

13. Press F3.

    The Install Utility Primary Menu panel appears.

    If the fix contains maintenance for VSAM data sets (as indicated by HOLDDATA), continue with the procedure to update the VSAM data sets for the regions you have set up. Otherwise, you have finished applying the fix.

HOLDDATA

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

System HOLDDATA

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

ACTION

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

AO

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

DB2BIND

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

DDDEF

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

DELETE

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

DEP

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

DOC

Indicates a documentation change with this SYSMOD.

SYSMOD

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

DYNACT

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

ENH

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

EXIT

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

EXRF

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

MULTSYS

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

RESTART

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

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

External HOLDDATA

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

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

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

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

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

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

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

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

Update VSAM Data Sets

If an installed SMP fix contains maintenance for the VSAM data sets, maintenance option V of the Install Utility becomes available. To complete maintenance, select the option to update the data sets for the regions you have set up.

Follow these steps:

1. Access the ISPF/PDF Primary Menu, and select the COMMAND option.

   The ISPF Command Shell panel appears.

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

   `EXEC 'dsnpref.OPB9.CC2DJCL(INSTALL)'`

   The Install Utility title panel appears.

3. Press Enter.

   The Install Utility Primary Menu panel appears.

4. Enter **8** (Maintain Products).

   The MAINTENANCE Primary Menu panel appears.

5. Enter **V** (Update MODS, PANELS, OSCNTL and NETINFO data sets with installed maintenance).

   The MAINTENANCE Shared Region Data Sets panel appears.

6. Review the information, and press Enter.

7. At the MAINTENANCE JOBCARD Information panel, specify your JOBCARD details and press Enter.

8. At the MAINTENANCE JCL Library Creation panel, review your fix JCL library. The default library name is:

   dsnpref.OPB9.FIX.VSAMUPD.JCL

   dsnpref

   The same data set prefix used for the *dsnpref*.OPB9.CC2DJCL data set.

   Note: Each time you apply maintenance, use a new output data set. The new data set helps ensure that the only jobs in your maintenance JCL library are the jobs required for the maintenance you are installing. To use a new data set, take *one* of the following actions:

   - Delete the library by issuing a TSO DELETE command and the library name, at the command prompt.
   - Specify a new data set name.

9. Press Enter to proceed with the generation of the maintenance JCL.

10. Submit and run the job F21RFRSH to update the VSAM data sets.

    Note: The utility also generates the following jobs: F22DUMP and F23REST. If a shared DASD is not available, the jobs help you deploy those updates to a target system. The F22DUMP job creates backup data set that include the updated VSAM data sets, which you deploy to the target system. This backup data set is *dsnpref*.DFDSS.SHARED. The F23REST job, when submitted on the target system, restores the updated VSAM data sets from the backup data sets.

11. Press F3.

    The Install Utility Primary Menu panel appears.

12. Press F4 to exit the Install Utility Primary Menu panel and return to the ISPF Command Shell panel, or continue with the other options.

Individual RAMDB Maintenance

Note: Individual RAMDB maintenance is also available from the CA Technical Support site (see page 4).

This section describes how to apply maintenance to the RAMDB and details the command syntax of the $RMDB04D maintenance utility. You apply this maintenance in an active region.

Important! The RAMDB data set must not be updated with individual replacement records using the IDCAMS REPRO command.

You use $RMDB04D OPT=APPLY (see page 61) to apply maintenance. When applying maintenance, you can use the DIFF operand to display details of what differences are being added, replaced, or deleted by the maintenance.

Create Backup RAMDB

As a safety precaution, create a backup of your RAMDB (herein referred to RAMDBd) before applying maintenance.

Follow these steps:

1. Allocate RAMDBd in the same way that RAMDB was allocated.

   The cluster definition is in *dsnpref*.OPB9.*rname*.JCL(S01LCALC).

2. Stop the product region.

3. Copy the data from RAMDB to RAMDBd using IDCAMS REPRO command.

   Note: For information, see the example in *dsnpref*.OPB9.*rname*.JCL(S04LDVSM).

4. Restart the product region.

Apply Maintenance to RAMDB

You can apply maintenance directly to your RAMDB. The maintenance can then propagate to all connected regions, if any. If necessary, you can restore the maintenance using your RAMDBd as input (if the maintenance has not yet been applied to RAMDBd).

Follow these steps:

1. Log on to your product region and enter CMD.

   The command entry panel appears.

2. Apply-check the RAMDB fix by entering the following command:

   ```
   $RMDB04D OPT=APPLY FIX=fix-name CHECK=YES
   ```

   fix_name

   Is RAM@UPDT for published solutions or TZ*ddddd* for test fixes.

   When the APPLY CHECK finishes, a report appears. The report shows whether an APPLY of the fix will be successful, and also exactly what changes will result from the APPLY.

   Note: Perform this step for the following reasons:

   - To see what happens if a fix is applied to a RAMDB
   - To see whether a fix has been applied to a RAMDB

3. Apply the RAMDB fix by entering the following command:

   ```
   $RMDB04D OPT=APPLY FIX=fix_name
   ```

Note: If a RAMDB fix does not apply correctly or if you want to restore a fix, restore the RAMDB maintenance (see page 60).

Restore RAMDB Maintenance

Note: This step is optional.

The RESTORE option can be used to remove an applied fix from the RAMDB by using RAMDBd as input. The fix is effectively reversed, that is, any added objects are deleted and any deleted or replaced objects are copied from RAMDBd back to the RAMDB.

To restore the fix, enter the following command:

```
$RMDB04D OPT=RESTORE FIX=fix_name DDBDSN=?RAMDBd-dataset-name DDB=?RAMDBd
```

?RAMDBd

Specifies the ddname for the backup RAMDB.

?RAMDBd-dataset-name

Specifies the full data set name of the backup RAMDB.

RAMDB Maintenance Utility Syntax

This section describes the syntax of the RAMDB maintenance utility.

$RMDB04D OPT=APPLY

Use this procedure to apply a fix to a RAMDB or check a fix against a RAMDB.

This procedure has the following format:

```
$RMDB04D OPT=APPLY
          FIX=fix-number
         [DDNAME=ddname | DATASET=dataset-name]
         [CHECK={NO | YES]
         [DIFF={YES | NO}]
         [FORCE={NO | YES}]
         [CONFIRM={YES | NO}]
         [DB=file-id [DBDSN=db-dataset-name]]
```

OPT=APPLY

Specifies that a fix is being applied to a RAMDB.

FIX=*fix-number*

Specifies the fix number. This number is used as the member name of the input partitioned data set.

[DDNAME=*ddname* | DATASET=*dataset-name*]

Specifies the DDNAME parameter if the data set containing the fix is already allocated to the system, or the DATASET parameter if the data set containing the fix is to be allocated and freed after the fix has been retrieved. These two parameters are mutually exclusive and, therefore, you cannot specify both of them. If neither is specified, the COMMANDS DD concatenation in the region is used.

[CHECK={NO | YES}]

Specifies whether the fix is checked. If you specify YES, the fix is checked only for compatibility with the database and is not applied to the database. The check phase is always performed regardless of the value specified. However, this parameter determines whether the check phase is the only phase to be performed.

[DIFF={YES | NO}]

Specifies whether differences are displayed. If you specify YES (the default), the differences between the target objects and the new objects contained in the fix are displayed for each updated object. This applies to any SET (update) and CREATE (add) actions in the fix member where the target objects already exist.

[FORCE={NO | YES}]

Specifies whether the fix is applied regardless of the success or failure of the check phase. However, if CHECK=YES is specified, the FORCE parameter has no effect.

[CONFIRM={YES | NO}]

Specifies whether the fix is retrieved and the syntax checked before being presented as a panel for browsing. The panel enables you to view the fix and confirm the application. After you confirm, the fix is applied, and the message log displays another panel for browsing. If you specify NO, the fix is applied without presenting any confirmation panel and the message log is written to the terminal rather than being displayed as a panel.

The message log is always written to the activity log regardless of the options specified.

[DB=*file-id* [DBDSN=db-*dataset-name*]]

Specifies the DB parameter to apply the fix to a database other than the currently allocated RAMDB. This parameter specifies the file ID of the target database. If you also specify the DBDSN parameter, the specified data set is allocated a ddname that is the same as the specified file ID, and is opened and started. The database is not freed after the fix is applied. If the database is already allocated, the specified data set name is verified as allocated to the ddname (that is the same as the specified file ID) and opened to the same file ID.

$RMDB04D OPT=RESTORE

Use this procedure to reverse the effect of a fix.

This procedure has the following format:

```
$RMDB04D OPT=RESTORE
         FIX=fix-number
        [DDNAME=ddname | DATASET=dataset-name]
        [CONFIRM={YES | NO}]
        [TDB=target-file-id [TDBDSN=target-dataset-name]]
        [DDB=source-file-id [DDBDSN=source-dataset-name]]
```

OPT=RESTORE

Specifies that a fix, which has been applied to the target RAMDB, is being reversed.

FIX= *fix-number*

Specifies the fix number to back out of the RAMDB. This number is used as the member name of the fix data set and is verified against the contents of the member for the correct fix.

[DDNAME=*ddname* | DATASET=*dataset-name*]

Specifies the DDNAME parameter if the data set containing the fix is already allocated to the system, or the DATASET parameter if the data set containing the fix is to be allocated and freed after the fix has been retrieved. These two parameters are mutually exclusive and, therefore, you cannot specify both of them. If neither is specified, the COMMANDS DD concatenation in the region is used.

[CONFIRM={YES | NO}]

Specifies whether the fix is retrieved and the syntax checked before being presented as a panel for browsing. The panel lets you view the fix and confirm the restoration process. After you confirm, the fix is removed and the original data restored. The message log is presented as another panel for browsing. If you specify NO, the restoration process proceeds without presenting any confirmation panel, and the message log is written to the terminal rather than being displayed as a panel.

The message log is always written to the activity log regardless of the options specified.

[TDB=*target-file-id* [TDBDSN=*target-dataset-name*]]

Reverses a fix in a database other than the currently allocated RAMDB. This parameter specifies the file ID of the target database. If you also specify the TDBDSN parameter, the specified data set is allocated a ddname that is the same as the specified file ID, and is opened and started. The database is not freed after the restoration process. If the database is already allocated, the specified data set name is verified as allocated to the ddname (that is the same as the specified file ID) and opened to the same file ID.

DDB=*source-file-id* [DDBDSN=*source-dataset-name*]

Specifies the file ID of the source database.

Note: Restoration requires the specification of the distribution (source) database through the DDB parameter.

The source database must be a copy of the original database. If you also specify the DDBDSN parameter, the specified data set is allocated a ddname that is the same as the specified file ID, and is opened and started. The database is not freed after the restoration process. If the database is already allocated, the specified data set name is verified as allocated to the ddname (that is the same as the specified file ID) and opened to the same file ID.

Chapter 5: Installing Your Product from Tape

This section contains the following topics:

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

Install Utility

The Install Utility guides the installation. The Install Utility installs the product into an IBM System Modification Program Extended (SMP/E) environment. The utility collects your site-specific values such as data set prefixes, DASD volume serial numbers, and JCL parameter values. It then uses these values to generate the jobs necessary to perform the installation of your product.

Unload the Install Utility

The installation utility software lets you generate and run the JCL required to install your product. The installation utility software is delivered on tape.

The installation software unloads into the *dsnpref*.OPB9.CC2DJCL data set; *dsnpref* is a prefix you specify for your product data sets.

To unload the install utility, do *one* of the following:

- If *dsnpref*.OPB9.CC2DJCL does not exist and you are installing from tape, unload into a new data set from tape (see page 66).
- If *dsnpref*.OPB9.CC2DJCL exists from a previous installation and you are installing from tape at the current release level, unload into an existing data set from tape (see page 67).

Unload into a New Data Set from Tape

If *dsnpref*.OPB9.CC2DJCL does not exist and you are installing from tape, you must unload the installation software from tape on to your DASD and into a new data set.

Follow these steps:

1. Create an unload job by copying the following JCL:

```
//jobname  JOB .............
//STEP1    EXEC PGM=IEBCOPY
//SYSPRINT DD   SYSOUT=*
//SYSUT1   DD   DSN=CAI.SAMPJCL,
//              DISP=OLD,UNIT=?device-in,VOL=SER=?tapeser,
//              LABEL=(1,SL,EXPDT=98000)
//SYSUT2   DD   DSN=?dsnpref.OPB9.CC2DJCL,
//              DISP=(NEW,CATLG,DELETE),
//              UNIT=?device-out,VOL=SER=?volser,
//              SPACE=(CYL,(10,1,120)),
//              DCB=(RECFM=FB,LRECL=80,BLKSIZE=0)
//SYSIN    DD   DUMMY
```

   Important! The SYSUT2 data set name must end with OPB9.CC2DJCL.

2. Replace the statements prefixed with a question mark (?) with your own values as follows:

   ?device-in

   Specifies the tape drive unit to mount the tape.

   ?tapeser

   Specifies the tape volume serial number in the form C2D71*x*. The value for this release is C2D710.

   ?dsnpref

   Specifies the data set prefix that will be used for the installation, maintenance, and Install Utility data sets. Do not include the name of your planned product region in the prefix; *?dsnpref* can be up to 29 characters long. If the data set high level qualifiers you are using do not exist, define an alias entry in the master catalog.

   ?device-out

   Specifies the type of the DASD device where you want to place the installation software.

   ?volser

   Specifies the volume serial number of the DASD.

   If allocation is controlled by SMS, replace UNIT= and VOL=SER= with STORCLAS=*?storclass*.

3. Submit and run the job.
4. Check that the job successfully completed.

Unload into an Existing Data Set from Tape

If *dsnpref*.OPB9.CC2DJCL exists from a previous installation at the current release level, unload the installation software from tape into the existing data set.

Follow these steps:

1. Create an unload job by copying the following JCL:

```
//jobname  JOB .............
//STEP1   EXEC PGM=IEBCOPY
//SYSPRINT DD  SYSOUT=*
//SYSUT1   DD  DSN=CAI.SAMPJCL,
//             DISP=OLD,UNIT=?device-in,VOL=SER=?tapeser,
//             LABEL=(1,SL,EXPDT=98000)
//SYSUT2   DD  DSN=?dsnpref.OPB9.CC2DJCL,
//             DISP=OLD
//SYSIN    DD  *
  COPY I=((SYSUT1,R)),O=SYSUT2
  COPY I=((SYSUT2,R)),O=SYSUT2
/*
```

2. Replace the statements prefixed with a question mark (?) with your own values as follows:

   ?device-in

   Specifies the tape drive unit to mount the tape.

   ?tapeser

   Specifies the tape volume serial number in the form C2D71*x*. The value for this release is C2D710.

   ?dsnpref

   Specifies the data set prefix in the previous installation.

3. Submit and run the job.
4. Verify that the job successfully completed.

Installation JCL

The installation process creates the *dsnpref*.OPB9.INSTDB database to store details of each installation that you perform. If you are also installing other products in the CA SOLVE:Operations Automation family of products, this database manages those installations. These details include the products you install and the installation values that you specify.

Note: During this task, the INSTALLATION JCL Library Creation panel lets you specify your installation JCL library. The default library name is *dsnpref*.OPB9.INSTALL.JCL, where *dsnpref* is the same data set prefix you used for the *dsnpref*.OPB9.CC2DJCL data set.

If your installation JCL library exists, do *one* of the following:

- Specify a new data set name at that panel.
- Delete the existing library by issuing a TSO DELETE command.

Note: If you leave the Install Utility at any stage, you can return to it from the ISPF/PDF TSO Command Shell prompt. Execute the following command:

```
EXEC 'dsnpref.OPB9.CC2DJCL(INSTALL)'
```

Additional Features

The Install Utility provides an option to install SSL support.

Generate the Installation JCL

During the installation process, you provide the site-specific installation information that you previously collected (see page 145). This information is used to generate the installation JCL.

Follow these steps:

1. At the ISPF/PDF TSO Command Shell prompt, execute the following command:

   ```
   EXEC 'dsnpref.OPB9.CC2DJCL(INSTALL)'
   ```

   The Install Utility panel appears.

   Note: On each of the Install Utility panels, you can use the following keys:

   - Enter to proceed to the next panel
   - F1 to display online help
   - F3 to return to the previous panel
   - F4 to exit and return to the main menu

2. Press Enter.

   The Install Utility Primary Menu panel appears.

3. Enter **1** (Set Installation Parameters).

   The Software Delivery Method panel appears.

4. Complete each of the panels as they open. Press Enter at the completion of each panel.

   You must complete all five parameter panels before you can install the product. You can take the default options or specify site-specific values.

   Note: For information about the fields, press F1 (Help).

5. Enter **2** (Install Products).

   The INSTALLATION Primary Menu panel appears.

6. Enter **1** (Select Products to Install).

   The INSTALLATION Product Selection panel appears with previously installed products unavailable.

7. Enter **S** next to the product name and press Enter.

   The INSTALLATION Product Confirmation panel appears, confirming your selections.

   If you have already installed another product in the product family, the INSTALLATION Components Already Installed panel appears, confirming your selections.

   Note: You can enter S next to multiple products to install multiple products at one time. You must be licensed for any products you install.

8. Press Enter to confirm your selection, and complete each of the INSTALLATION panels as they open.

   You must complete all the panels before you can set up your regions. You can take the default options or specify site-specific values.

9. Record the data set name into which the JCL was generated in your post-installation worksheet (see page 154).

   You can submit the jobs from the panel or directly from this data set after exiting the panel.

10. Submit and run the following installation jobs in sequence. Do not proceed with any job until the previous job has completed successfully.

    I01ALLOC

    Allocates the data sets.

    The I01ALLOC member allocates CC2DLOAD as a load library of the PDS type. Do not change it to a PDS/E type because the type is not supported.

    I02INSMP

    Initializes the SMP/E data sets.

    I03RCSMP

    Performs an SMP/E RECEIVE.

    I04AKSMP

    Performs an SMP/E APPLY CHECK. This job is listed only if maintenance exists for previously installed products.

    I05RSSMP

    Performs an SMP/E RESTORE. This job is listed only if maintenance exists for previously installed products.

    I06APSMP

    Performs an SMP/E APPLY.

    I07ACSMP

    Performs an SMP/E ACCEPT.

11. If you selected SSL Support as an additional feature to install, the following jobs are also generated. Submit and run them in sequence as for the previous jobs.

    - I21ALLME
    - I22INIME
    - I23RECME
    - I26APPME
    - I27ACCME

    Notes:

    - If you installed and set up your regions without SSL support, and then later install SSL support, add the installed *dsnpref*.OPB9.CC2DPLD data set to the region's STEPLIB or in the system LNKLST.
    - You must have SMP/E V3R5.0 to implement SSL.

12. Press F3.

    You are returned to the Primary Menu panel.

Maintenance

Maintenance includes program temporary fixes (PTFs) that supersede all authorized program analysis reports (APARs) that were created up to that time. Details of the superseded APARs are available as comments within the PTFs.

Product Maintenance

Important! The *dsnpref*.OPB9.CC2DLINK data set must be in your system LNKLST before you start maintenance. You can also create a STEPLIB to the data set name (DSN) in your TSOPROC (that is, allocate it to ISPLLIB). If you installed the product using CA MSM, you must use CA MSM to apply maintenance.

Product maintenance is provided as system modification program (SMP) fixes. The fixes consist of PTFs applied using the IBM System Modification Program Extended (SMP/E) tool.

Note: If an installed SMP fix contains maintenance for the VSAM data sets, you must update those data sets for each region you have set up.

RAMDB maintenance is provided as SMP/E PTFs. However, this is only the delivery and recordkeeping methodology. You must apply the maintenance using $RMDB04D.

Apply Maintenance

This section describes how to apply individual SMP fixes using the Install Utility.

Note: Individual SMP fixes are only available from the CA Technical Support site (see page 4).

When you receive SMP fixes, unload them into one of the following:

- A sequential data set
- A member of a partitioned data set

Multiple SMP fixes can be appended into a single data set or member.

Follow these steps:

1. Access the ISPF/PDF Primary Menu.
2. Select the COMMAND option.

   The ISPF Command Shell panel appears.
3. At the command prompt, enter the following command:

   `EXEC 'dsnpref.OPB9.CC2DJCL(INSTALL)'`
4. At the Install Utility title panel, press Enter.

   The Install Utility Primary Menu panel appears.
5. At the Install Utility Primary Menu panel, enter **8** (Maintain Products).

   The MAINTENANCE Primary Menu panel appears.
6. Enter **3** (Apply individual SMP fixes from a DASD data set).

   The MAINTENANCE DASD Fixes Dataset Name panel appears.
7. Enter the data set name that contains the SMP fixes to be applied and press Enter.
8. Complete the fields on the following MAINTENANCE panels as they open.

9. At the MAINTENANCE JCL Library Creation panel, review your fix JCL library.

   The default library name is:

   dsnpref.OPB9.FIX.DASD.JCL

   dsnpref

   The same data set prefix you used for the *dsnpref*.OPB9.CC2DJCL data set.

   Note: Each time you apply maintenance, use a new output data set. A new data set ensures that the only jobs in your maintenance JCL library are the jobs required for the maintenance you are installing now. To use a new data set:

   - Delete the library by issuing a TSO DELETE command and the library name, at the command prompt.
   - Specify a new data set name.

10. Press Enter to proceed with the generation of the maintenance JCL.

    When the JCL generation is complete, a list of generated jobs and a description of what each member does appears.

11. Note the name of the data set into which the JCL was generated.

12. Submit and run the following jobs in sequence. Do not proceed with any job until the previous job has completed successfully.

    Each job must complete with return code 0 unless otherwise indicated.

    Important! If there is maintenance for additional features, the SMP/E apply job must be run on a system that has the z/OS UNIX file system used during installation and mounted for read/write access.

    F11RCSMP

    SMP/E receives maintenance and lists existing HOLDDATA and SOURCEIDs that are already applied. If a job step returns condition code 04, there is no HOLDDATA present.

    Review the information. For any held APARs that you want to apply, add the correct BYPASS HOLD*x* operands to the corresponding APPLY control statement for those APARs. Add the operands by manually editing the F12APSMP job that contains the SMP control statements.

    Note: For information about the BYPASS HOLD*x* operands, see IBM's *SMP/E Commands* guide.

    F12APSMP

    SMP/E applies maintenance.

13. Press F3.

    The Install Utility Primary Menu panel appears.

    If the fix contains maintenance for VSAM data sets (as indicated by HOLDDATA), continue with the procedure to update the VSAM data sets for the regions you have set up. Otherwise, you have finished applying the fix.

HOLDDATA

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

System HOLDDATA

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

ACTION

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

AO

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

DB2BIND

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

DDDEF

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

DELETE

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

DEP

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

DOC

Indicates a documentation change with this SYSMOD.

SYSMOD

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

DYNACT

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

ENH

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

EXIT

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

EXRF

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

MULTSYS

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

RESTART

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

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

External HOLDDATA

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

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

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

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

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

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

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

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

Update VSAM Data Sets

If an installed SMP fix contains maintenance for the VSAM data sets, maintenance option V of the Install Utility becomes available. To complete maintenance, select the option to update the data sets for the regions you have set up.

Follow these steps:

1. Access the ISPF/PDF Primary Menu, and select the COMMAND option.

   The ISPF Command Shell panel appears.

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

   `EXEC '`*`dsnpref`*`.OPB9.CC2DJCL(INSTALL)'`

   The Install Utility title panel appears.

3. Press Enter.

   The Install Utility Primary Menu panel appears.

4. Enter **8** (Maintain Products).

   The MAINTENANCE Primary Menu panel appears.

5. Enter **V** (Update MODS, PANELS, OSCNTL and NETINFO data sets with installed maintenance).

   The MAINTENANCE Shared Region Data Sets panel appears.

6. Review the information, and press Enter.

7. At the MAINTENANCE JOBCARD Information panel, specify your JOBCARD details and press Enter.

8. At the MAINTENANCE JCL Library Creation panel, review your fix JCL library. The default library name is:

   dsnpref.OPB9.FIX.VSAMUPD.JCL

   dsnpref

   The same data set prefix used for the *dsnpref*.OPB9.CC2DJCL data set.

   Note: Each time you apply maintenance, use a new output data set. The new data set helps ensure that the only jobs in your maintenance JCL library are the jobs required for the maintenance you are installing. To use a new data set, take *one* of the following actions:

   - Delete the library by issuing a TSO DELETE command and the library name, at the command prompt.
   - Specify a new data set name.

9. Press Enter to proceed with the generation of the maintenance JCL.

10. Submit and run the job F21RFRSH to update the VSAM data sets.

    Note: The utility also generates the following jobs: F22DUMP and F23REST. If a shared DASD is not available, the jobs help you deploy those updates to a target system. The F22DUMP job creates backup data set that include the updated VSAM data sets, which you deploy to the target system. This backup data set is *dsnpref*.DFDSS.SHARED. The F23REST job, when submitted on the target system, restores the updated VSAM data sets from the backup data sets.

11. Press F3.

    The Install Utility Primary Menu panel appears.

12. Press F4 to exit the Install Utility Primary Menu panel and return to the ISPF Command Shell panel, or continue with the other options.

Individual RAMDB Maintenance

Note: Individual RAMDB maintenance is also available from the CA Technical Support site (see page 4).

This section describes how to apply maintenance to the RAMDB and details the command syntax of the $RMDB04D maintenance utility. You apply this maintenance in an active region.

Important! The RAMDB data set must not be updated with individual replacement records using the IDCAMS REPRO command.

You use $RMDB04D OPT=APPLY (see page 61) to apply maintenance. When applying maintenance, you can use the DIFF operand to display details of what differences are being added, replaced, or deleted by the maintenance.

Create Backup RAMDB

As a safety precaution, create a backup of your RAMDB (herein referred to RAMDBd) before applying maintenance.

Follow these steps:

1. Allocate RAMDBd in the same way that RAMDB was allocated.

   The cluster definition is in *dsnpref*.OPB9.*rname*.JCL(S01LCALC).

2. Stop the product region.

3. Copy the data from RAMDB to RAMDBd using IDCAMS REPRO command.

   Note: For information, see the example in *dsnpref*.OPB9.*rname*.JCL(S04LDVSM).

4. Restart the product region.

Apply Maintenance to RAMDB

You can apply maintenance directly to your RAMDB. The maintenance can then propagate to all connected regions, if any. If necessary, you can restore the maintenance using your RAMDBd as input (if the maintenance has not yet been applied to RAMDBd).

Follow these steps:

1. Log on to your product region and enter CMD.

   The command entry panel appears.

2. Apply-check the RAMDB fix by entering the following command:

   ```
   $RMDB04D OPT=APPLY FIX=fix-name CHECK=YES
   ```

   fix_name

   Is RAM@UPDT for published solutions or TZ*ddddd* for test fixes.

   When the APPLY CHECK finishes, a report appears. The report shows whether an APPLY of the fix will be successful, and also exactly what changes will result from the APPLY.

   Note: Perform this step for the following reasons:

   - To see what happens if a fix is applied to a RAMDB
   - To see whether a fix has been applied to a RAMDB

3. Apply the RAMDB fix by entering the following command:

   ```
   $RMDB04D OPT=APPLY FIX=fix_name
   ```

Note: If a RAMDB fix does not apply correctly or if you want to restore a fix, restore the RAMDB maintenance (see page 60).

Restore RAMDB Maintenance

Note: This step is optional.

The RESTORE option can be used to remove an applied fix from the RAMDB by using RAMDBd as input. The fix is effectively reversed, that is, any added objects are deleted and any deleted or replaced objects are copied from RAMDBd back to the RAMDB.

To restore the fix, enter the following command:

```
$RMDB04D OPT=RESTORE FIX=fix_name DDBDSN=?RAMDBd-dataset-name DDB=?RAMDBd
```

?RAMDBd

Specifies the ddname for the backup RAMDB.

?RAMDBd-dataset-name

Specifies the full data set name of the backup RAMDB.

RAMDB Maintenance Utility Syntax

This section describes the syntax of the RAMDB maintenance utility.

$RMDB04D OPT=APPLY

Use this procedure to apply a fix to a RAMDB or check a fix against a RAMDB.

This procedure has the following format:

```
$RMDB04D OPT=APPLY
          FIX=fix-number
         [DDNAME=ddname | DATASET=dataset-name]
         [CHECK={NO | YES]
         [DIFF={YES | NO}]
         [FORCE={NO | YES}]
         [CONFIRM={YES | NO}]
         [DB=file-id [DBDSN=db-dataset-name]]
```

OPT=APPLY

Specifies that a fix is being applied to a RAMDB.

FIX=*fix-number*

Specifies the fix number. This number is used as the member name of the input partitioned data set.

[DDNAME=*ddname* | DATASET=*dataset-name*]

Specifies the DDNAME parameter if the data set containing the fix is already allocated to the system, or the DATASET parameter if the data set containing the fix is to be allocated and freed after the fix has been retrieved. These two parameters are mutually exclusive and, therefore, you cannot specify both of them. If neither is specified, the COMMANDS DD concatenation in the region is used.

[CHECK={NO | YES}]

Specifies whether the fix is checked. If you specify YES, the fix is checked only for compatibility with the database and is not applied to the database. The check phase is always performed regardless of the value specified. However, this parameter determines whether the check phase is the only phase to be performed.

[DIFF={YES | NO}]

Specifies whether differences are displayed. If you specify YES (the default), the differences between the target objects and the new objects contained in the fix are displayed for each updated object. This applies to any SET (update) and CREATE (add) actions in the fix member where the target objects already exist.

[FORCE={NO | YES}]

Specifies whether the fix is applied regardless of the success or failure of the check phase. However, if CHECK=YES is specified, the FORCE parameter has no effect.

[CONFIRM={YES | NO}]

Specifies whether the fix is retrieved and the syntax checked before being presented as a panel for browsing. The panel enables you to view the fix and confirm the application. After you confirm, the fix is applied, and the message log displays another panel for browsing. If you specify NO, the fix is applied without presenting any confirmation panel and the message log is written to the terminal rather than being displayed as a panel.

The message log is always written to the activity log regardless of the options specified.

[DB=*file-id* [DBDSN=db-*dataset-name*]]

Specifies the DB parameter to apply the fix to a database other than the currently allocated RAMDB. This parameter specifies the file ID of the target database. If you also specify the DBDSN parameter, the specified data set is allocated a ddname that is the same as the specified file ID, and is opened and started. The database is not freed after the fix is applied. If the database is already allocated, the specified data set name is verified as allocated to the ddname (that is the same as the specified file ID) and opened to the same file ID.

$RMDB04D OPT=RESTORE

Use this procedure to reverse the effect of a fix.

This procedure has the following format:

```
$RMDB04D OPT=RESTORE
         FIX=fix-number
        [DDNAME=ddname | DATASET=dataset-name]
        [CONFIRM={YES | NO}]
        [TDB=target-file-id [TDBDSN=target-dataset-name]]
        [DDB=source-file-id [DDBDSN=source-dataset-name]]
```

OPT=RESTORE

Specifies that a fix, which has been applied to the target RAMDB, is being reversed.

FIX= *fix-number*

Specifies the fix number to back out of the RAMDB. This number is used as the member name of the fix data set and is verified against the contents of the member for the correct fix.

[DDNAME=*ddname* | DATASET=*dataset-name*]

Specifies the DDNAME parameter if the data set containing the fix is already allocated to the system, or the DATASET parameter if the data set containing the fix is to be allocated and freed after the fix has been retrieved. These two parameters are mutually exclusive and, therefore, you cannot specify both of them. If neither is specified, the COMMANDS DD concatenation in the region is used.

[CONFIRM={YES | NO}]

Specifies whether the fix is retrieved and the syntax checked before being presented as a panel for browsing. The panel lets you view the fix and confirm the restoration process. After you confirm, the fix is removed and the original data restored. The message log is presented as another panel for browsing. If you specify NO, the restoration process proceeds without presenting any confirmation panel, and the message log is written to the terminal rather than being displayed as a panel.

The message log is always written to the activity log regardless of the options specified.

[TDB=*target-file-id* [TDBDSN=*target-dataset-name*]]

Reverses a fix in a database other than the currently allocated RAMDB. This parameter specifies the file ID of the target database. If you also specify the TDBDSN parameter, the specified data set is allocated a ddname that is the same as the specified file ID, and is opened and started. The database is not freed after the restoration process. If the database is already allocated, the specified data set name is verified as allocated to the ddname (that is the same as the specified file ID) and opened to the same file ID.

DDB=*source-file-id* [DDBDSN=*source-dataset-name*]

Specifies the file ID of the source database.

Note: Restoration requires the specification of the distribution (source) database through the DDB parameter.

The source database must be a copy of the original database. If you also specify the DDBDSN parameter, the specified data set is allocated a ddname that is the same as the specified file ID, and is opened and started. The database is not freed after the restoration process. If the database is already allocated, the specified data set name is verified as allocated to the ddname (that is the same as the specified file ID) and opened to the same file ID.

Chapter 6: Configuring Your Product

You use the Install Utility to set up the regions required by this product.

Important! You must put the *dsnpref*.OPB9.CC2DLINK data set in your system LNKLST before you start setting up regions. You can also create a STEPLIB to the data set name (DSN) in your TSOPROC (that is, allocate it to ISPLLIB).

This section contains the following topics:

How Region Setup Works

You can have more than one region on a system. Each region runs as a started task.

The Install Utility uses the site-specific information you collected during preinstallation (see page 145) to generate the jobs that build the regions. If you need additional regions, you can reuse the Install Utility to create them.

Important! After you have run a setup job, you cannot alter the results using the setup software. You can use the setup software to create a region, or you can manually customize the JCL for the existing region.

Region Contents

Your product is comprised of the following regions:

SOLVE Subsystem Interface (SOLVE SSI) Region

Provides communication between the product region and other software on a system. One SOLVE SSI can serve multiple product regions.

Product Region

Specifies where you log in and use your product. You can have more than one product region on a system.

SOLVE SSI as Common Component

The SOLVE SSI is a common component for multiple CA product families and can serve multiple product regions on a system. The following methods are available:

- One shared SSI to serve all product families.
- A separate SSI for each product family (CA Mainframe Network Management, CA SOLVE:Operations Automation, and CA SOLVE:Access).
- A mix of the first two methods, for example, CA SOLVE:Access has its own SSI and CA Mainframe Network Management and CA SOLVE:Operations Automation share an SSI.

Note: If your site has any CA Mainframe Network Management product installed, and you have a SOLVE SSI running on a supported release of that product, you can share that SOLVE SSI region.

Specify the SOLVE SSI Region

Use this procedure to provide communication between the product region and other software on a system.

Follow these steps:

1. At the ISPF/PDF TSO Command Shell prompt, execute the following command:

   `EXEC 'dsnpref.OPB9.CC2DJCL(INSTALL)'`

   The Install Utility panel appears.

   Note: On each of the Install Utility panels, you can use the following keys:

   - Enter to proceed to the next panel
   - F1 to display the online help
   - F3 to return to the previous panel
   - F4 to exit and return to the main menu

2. Press Enter.

   The Install Utility Primary Menu panel appears.

3. (Optional) If you have installed the product using CA MSM, perform the following steps:

   a. Enter **1**.

      The Software Delivery Method panel appears.

   b. Complete the panel:

      - Enter **S** next to CA MSM.
      - Specify the name of the CSI data set used during product installation in the SMP/E CSI Used field.

   c. Press Enter.

4. Enter **4**.

   A panel appears listing several approaches to implement your SOLVE SSI environment.

   Note: For more information, press F1 (Help).

5. Press Enter.

   The SETUP SOLVE SSI Primary Menu panel appears.

6. Enter **1** (Add a Region).

   The SETUP Specify SOLVE SSI Name panel appears.

7. Enter the name (*ssiname*) and description of the SOLVE Subsystem Interface region you are setting up.

   The setup software uses the name to generate the started task JCL. For example, if the name is SOLVESSI, your started task JCL is named SOLVESSI.

8. Complete each of the SETUP panels as they appear. Accept the default values, or specify site-specific values.

   Note: Install Utility lets you configure a SOLVE SSI to work with other products, enabling the SSI to be shared.

   The Install Utility generates a series of setup jobs into the *dsnpref*.OPB9.*ssiname*.JCL library.

9. Record the name of the data set into which the JCL was generated in your post-installation worksheet (see page 154).

   Note: If you are setting up a new SSI, continue with these steps. Otherwise, skip the remaining steps in this procedure, verify that the required SSI parameters are present in your existing shared SSI, and update them as necessary.

10. Submit and run the following:

    S01SSIAL

    Allocates the SOLVE SSI data sets if the value in the Enable the Packet Analyzer field on the SETUP Region Parameters panel is set to YES.

    S02SSILD

    Copies the PDS members to *dsnpref*.OPB9.SSIPARM.

    S03MIGRT

    Copies data from earlier releases.

    This job is only generated if the value in the Enable the Packet Analyzer field on the SETUP Region Parameters panel is set to YES.

11. Press F3.

    The Install Utility Primary Menu panel appears.

Specify the Product Region

The Install Utility lets you set up a region with the products you installed. If you need additional product regions, you can reuse the Install Utility to create them.

Follow these steps:

1. At the ISPF/PDF TSO Command Shell prompt, execute the following command:

   `EXEC 'dsnpref.OPB9.CC2DJCL(INSTALL)'`

   The Install Utility panel appears.

   Note: On each of the Install Utility panels, you can use the following keys:

   - Enter to proceed to the next panel
   - F1 to display online help
   - F3 to return to the previous panel
   - F4 to exit and return to the main menu

2. Press Enter.

   The Install Utility Primary Menu panel appears.

3. Enter **5** (Setup a NetMaster/SOLVE Product Region).

   The SETUP Product Region Primary Menu panel appears.

4. Enter **1** (Add a Region).

   The SETUP Specify Product Region Name panel appears.

   Note: If you want to add this product to an existing region, enter **4** (Add Products and Additional Features to a Region) and select the appropriate region.

5. Enter the name (*rname*) and description of the region you are setting up.

   The Install Utility uses the name that you entered to generate local data set names and the started task JCL. For example, if you enter REGION01 as the region name, your started task JCL is REGION01 and a local region file, such as the Virtual File System (VFS), is *dsnpref*.REGION01.VFS.

   The SETUP Product Selection panel appears.

6. Enter **S** next to the products you are licensed to include in the region.

7. Complete each of the SETUP panels as they open. Accept the default values, or specify site-specific values.

   Note: For information about the fields, press F1 (Help).

   Note: On the SETUP Region Information panel, ensure that the value of the Subsystem Interface Identifier matches the value of the SOLVE SSI you intend to use.

   The setup software generates a series of setup jobs in the *dsnpref*.OPB9.*rname*.JCL library.

8. Record the name of the data set into which the JCL was generated in your post-installation worksheet (see page 154).

9. Submit and run the following jobs in sequence. Do not proceed with any job until the previous job has completed successfully.

   S01LCALC

   Allocates the region-specific (local) data sets. If you are upgrading and have increased the size of a particular file, modify the JCL to increase the space allocation as required.

   S02SHALC

   Allocates the shared run-time data sets.

   S03LDVIP

   Populates the MODS, PANELS, and OSCNTL files.

   S04LDVSM

   Populates the other VSAM files.

   S05LDPDS

   Copies some PDS members to *dsnpref.rname*.TESTEXEC or *dsnpref.*PARMLIB for use by the product region. If this product is being added to an existing region, the RUNSYSIN and IIAPARMS are overwritten.

   Note: The member names for IIAPARMS and SXPARMS include the domain ID, so they appear as IIA*dmid* and SXP*dmid*.

   S06MIGRT

   Copies site-specific VSAM data from an earlier release.

   Note: The utility also generates the following two jobs to help you deploy the configuration files for your region to a target system if a shared DASD is not available: S10DUMP and S11REST. The S10DUMP job creates a backup data set that includes the configuration files for the region, which you deploy to the target system. The S11REST job, when submitted on the target system, restores the configuration files from the backup data set. In addition to deploying the configuration files, you also need to deploy the target libraries. CA MSM can help you with this deployment.

   Note: After your product is installed, it monitors the size of your VSAM data sets. For more information about tuning VSAM data sets, see the *Reference Guide*.

10. Press F3.

    The Install Utility Primary Menu panel appears.

Create VTAM Definitions and Tables

The Create VTAM Definitions and Tables facility builds the VTAM major node, which contains application definition statements for all ACBs required by your product regions. Perform this task initially when all product regions have been set up. If changes are made to any regions or if additional regions are added later, perform the task again.

Note: You use the major node that you create in this procedure to activate your VTAM applications (see page 100).

Follow these steps:

1. At the ISPF/PDF TSO Command Shell prompt, execute the following command:

   `EXEC 'dsnpref.OPB9.CC2DJCL(INSTALL)'`

   The Install Utility Primary Menu panel appears.

2. Enter **7** (Create VTAM Definitions and Tables).

   The VTAM Primary Menu panel appears.

3. Enter **1** (Create VTAM Definitions and Tables).

   The VTAM Data Sets panel appears.

4. Enter the VTAM major node name (*vtamname*) and data set names of the requested IBM data sets.

   The VTAM NetMaster/SOLVE ACBs panel appears and displays the prefix for External Interface Package (EIP) ACBs and the names of all product regions and the ACBs associated with them.

   Note: If >>> appears, you can use F10 (right) to display all ACBs.

5. Enter the prefix for EIP ACBs.

6. Complete each of the remaining panels as they appear. Accept the default values, or specify site-specific values.

   Note: For information about the fields, press F1 (Help).

   The Install Utility generates a series of jobs in the *dsnpref*.OPB9.VTAM.JCL library.

7. Record the name of the data set into which the JCL was generated in your post-installation worksheet (see page 154).

8. Submit and run the following jobs in sequence:

   V01LDVTM

   Copies major node into SYS1.VTAMLST.

   V02ASMOD

   Assembles VTAM MODE table.

   This job is required only if you want to provide users with access to external applications. Your product uses VTAM mode tables that are assembled and linked into a load library available to VTAM, and the tables lets users access external applications.

   Each job should return condition code 0 unless otherwise indicated.

9. Press F3.

   The Install Utility Primary Menu panel appears.

10. Enter **X**.

    The Install Utility closes.

Note: Press F1 (Help) for information about any panel.

Chapter 7: Preparing to Start Your Product

Before CA SOLVE:Operations Automation for CICS can be started and used, preparation tasks are required.

This section contains the following topics:

Started Task JCL Setup

The Install Utility places the following SYSIN and parameter members into default data sets:

- SSIPARMS and SSISYSIN—for SOLVE SSI
- RUNSYSIN—for the product region

If you move these members into a more secure data set, update the started task JCL and SYSIN members to point to the new data set.

Started Task Parameter Members

The Install Utility generates the following members, based on the values you entered during the installation and setup process. Review these members to ensure that they meet your site-specific requirements; if necessary, reapply any previous customization that is still required:

- SOLVE SSI started task members *dsnpref*.OPB9.SSIPARM:
  - SSISYSIN—To assist you in planning future deployment, you can update the SSISYSIN started task member to use z/OS static system symbols if you have set SUBS=YES in the member.
  - SSIPARMS—An SSIPARMS member is present only if you created it when you specified the SOLVE SSI region (see page 84).

  Note: If you are using an existing shared SOLVE SSI region, you do not have to review these members.
- Product region started task member *dsnpref.rname*.TESTEXEC(RUNSYSIN)

  To assist you in planning future deployment, you can update the RUNSYSIN started task members to use z/OS static system symbols if you have set SUBS=YES in the member.

  Note: For more information about JCL parameters, see the *Reference Guide*.

  If you do not want SYS1.DUMP data sets for dumps, remove the parameter PPREF='XOPT=SDUMP' and add the SYSMDUMP DD statement to the generated task in *dsnpref*.OPB9.*rname*.JCL(*rname*).

  If you want to use a migrated INI file (see page 20), uncomment the PPREF='INIFILE=*????????*' parameter and replace the question marks with the name of the INI file.
- Product region parameter members in *dsnpref.rname*.TESTEXEC:
  - NMREADY
  - NMINIT

  Customizer sets the region parameters. Adhere to the following guidelines:
  - Do not code any SYSPARMS commands in the NMINIT or NMREADY procedures.
  - Do not activate or modify links, or use commands such as DEFLINK, DEFTRANS, and ISR in NMINIT or NMREADY. In a multisystem network, the region uses link definitions during initialization. Defining DEFLINK, DEFTRANS, and ISR in these procedures may interfere with region linkage.

  You can activate these links now or later.

  Note: For more information about the INMC feature and INMC LINK definition parameters, see the *Reference Guide*.

TESTEXEC Data Set

The install utility populates the TESTEXEC data set based on the values entered during the installation and setup process.

Review the members in TESTEXEC to:

- Ensure that they meet your site-specific requirements
- Reapply any previous customization that is still required

Review the following members in *dsnpref.rname.*TESTEXEC:

NMREADY

Is the NCL procedure that is executed as part of system initialization after the VTAM ACBs have been opened successfully.

NMINIT

Is the NCL procedure that is executed as part of system initialization before the VTAM ACBs are opened.

Do not:

- Code any SYSPARMS commands in the NMINIT or NMREADY procedures.
- Activate or modify links, or use commands such as DEFLINK, DEFTRANS, and ISR in NMINIT or NMREADY. In a multisystem network, the region uses link definitions during initialization. Defining DEFLINK, DEFTRANS, and ISR in these procedures can interfere with region linkage.

Started Task Product Region Parameter Member

The Install Utility generates the RUNSYSIN member based on the values entered during the installation and setup process.

RUNSYSIN specifies the product region parameters.

Review RUNSYSIN to:

- Ensure that it meets your site-specific requirements
- Reapply any previous customization that is still required

If you have set SUBS=YES in the member, you can update the RUNSYSIN started task members to use z/OS static system symbols. System symbols assist in the planning of future deployment.

Review the following parameters in *dsnpref.rname*.TESTEXEC(RUNSYSIN):

PPREF='XOPT=SDUMP'

Specifies that ABEND dumps are written to the SYS1.DUMP data set.

If you do not want SYS1.DUMP data sets for dumps, remove the parameter and add the SYSMDUMP DD statement to the generated task in *dsnpref*.OPB9.*rname*.JCL(*rname*).

PPREF='INIFILE=????????'

Specifies the INI file used for parameter customizations.

To use a migrated INI file, uncomment the parameter and replace the question marks with the name of the INI file.

SOLVE SSI Started Task Parameter Member

The Install Utility generates the SSIPARM data set based on the values entered during the installation and setup process.

SSIPARM specifies the SOLVE SSI started task parameters.

Review the data set to:

- Ensure that the members meet your site-specific requirements
- Reapply any previous customization that is still required

Review the following members in *dsnpref*.OPB9.SSIPARM:

SSISYSIN

(Optional) (If you are using an existing shared SOLVE SSI region, you do not have to review this member.)

If SUBS=YES is set, you can update the SSISYSIN started task member to use z/OS static system symbols. System symbols assist in the planning of future deployment.

SSIPARMS

(Optional) (If you are using an existing shared SOLVE SSI region, you do not have to review this member.)

This member is present only if you created it when you specified the SOLVE SSI region.

Parameters can be shared with any other products using this SOLVE SSI. Review these parameters, and ensure that they are set correctly for the products (these parameters can be in SSISYSIN or SSIPARMS).

Note: For more information about sharing a SOLVE SSI, see the *SOLVE Subsystem Interface Guide*.

Review and Copy the SOLVE SSI Started Task

The Install Utility generates a SOLVE SSI started task that you must review to ensure that it meets your site-specific requirements; if necessary, reapply any previous customization that is still required.

Note: If you are using an existing shared SOLVE SSI region, skip this procedure.

Use this procedure to review, update, and copy the SOLVE SSI started task to a procedure library.

Note: To assist you in the planning of future deployment, you can update the SOLVE SSI started task to use z/OS static system symbols.

Follow these steps:

1. Review and update the DD statements in the SOLVE SSI started task member *dsnpref*.OPB9.*ssiname*.JCL(*ssiname*) for your site-specific requirements.
2. Copy the reviewed member to SYS*x*.PROCLIB.

Review and Copy the Product Region Started Task

The Install Utility generates a product region started task that you must review to ensure that it meets your site-specific requirements; if necessary, reapply any previous customization that is still required.

Use this procedure to review, update, and copy the started task to a procedure library.

Note: To assist you in the planning of future deployment, you can update the product region started task to use z/OS static system symbols.

Follow these steps:

1. Review and update the DD statements in the product region started task member *dsnpref*.OPB9.*rname*.JCL(*rname*) for your site-specific requirements.
2. Copy the reviewed member to SYS*x*.PROCLIB.

Set Up the SOLVE PPI

SOLVE SSI provides several functions including the SOLVE Program-to-Program Interface (SOLVE PPI).

Note: If you specified PPI=YES for the SOLVE SSI, you must set up the SOLVE PPI.

To use the SOLVE PPI, make the CNMNETM module available for execution using *one* of the following options:

- Add the *dsnpref*.OPB9.CC2DLPA library to LNKLST, which is defined in SYS1.PARMLIB(LNKLST*xx*).
- Copy CNMNETM, including the aliases CNMCNETV and CNMNETV, from the *dsnpref*.OPB9.CC2DLPA library to a data set in LNKLST.

  For a list of data sets in LNKLST, see SYS1.PARMLIB(LNKLST*xx*).

  If you are replacing Tivoli NetView PPI with SOLVE PPI, remove the Tivoli NetView CNMNETV module from the Pageable Link Pack Area (PLPA) data set.
- Use the VTAM First Failure Data Capture (FFDC) facility.

  To use this facility:

  1. Ensure that the relevant modules are in LPA.
  2. Copy CNMNETM, including the aliases CNMCNETV and CNMNETV, from the *dsnpref*.OPB9.CC2DLPA library to a PLPA data set.

     For a list of data sets in the LPA, see SYS1.PARMLIB(LPALST*xx*).
  3. Perform an IPL, specifying Clear Link Pack Area (CLPA).

Note: You can make the CNMNETM module available for dynamic execution using the SETPROG LNKLST command or the SETPROG LPA command. To make these modules available for dynamic execution, ask a z/OS systems programmer for assistance.

NetView PPI

If you want to use the Tivoli NetView PPI, ensure the following:

- CNMNETV module is in the PLPA.
- CNMNETM module is not in a library specified by the STEPLIB DD statement in the startup JCL member.
- Tivoli NetView region is active. If you use CA SOLVE:Operations Automation for CICS to automate the startup of the Tivoli NetView and CICS regions, make the Tivoli NetView region the parent of the CICS regions.

Subsystem Identifier Setup

The setup of your product environment usually requires the following subsystem identifier (SSID) values that were defined during the setup process (see page 83):

- An SSID value for the subsystem identifier for the SOLVE SSI—The SOLVE SSI started task automatically identifies this SSID value to the system.
- An SSID value to enable the use of z/OS commands and messages—This SSID is named the AOM subsystem interface ID (AOM SSID). The product region started task automatically identifies this SSID value to the system.

If you want the SSID values to be set permanently and available at system IPL time, you can set them in the SYS1.PARMLIB(IEFSSN*xx*) member. If you use this member, ensure that you add the AOM SSID for the region first (after JES) in the list of subsystem names, because the first region listed in the SYS1.PARMLIB(IEFSSN*xx*) member controls the processing of messages by the subsystem interface.

Load Libraries

Most products have their own load library but also require the load libraries of supporting services. The following load libraries must be APF-authorized:

- CC2DLOAD
- CDHDCICS
- CC2DPLD (If SSL is installed)

Authorization of the Load Libraries

To APF-authorize your load libraries, add the run-time load libraries to the SYS1.PARMLIB(IEAAPF*xx*) APF list.

To dynamically APF-authorize the load libraries, issue the following z/OS command:

```
SETPROG APF,ADD,DSNAME=?loadlib,VOLUME=?volser
```

?loadlib

Specifies the name of the load library.

?volser

Specifies its volume serial number.

To dynamically APF-authorize load libraries controlled by SMS, issue the following z/OS command:

```
SETPROG APF,ADD,DSNAME=?loadlib,SMS
```

Assign Consoles

Your product needs a pool of consoles (either JES or extended MCS consoles) to issue system commands. As delivered, this product uses extended MCS consoles that are dynamically defined.

To use JES consoles instead of the default MCS consoles, define at least six consoles that are *not* used by other products.

Follow these steps:

1. Open the SYS1.PARMLIB(CONSOL*xx*) member.
2. Add the following statement for each console you want to define:

   ```
   CONSOLE DEVNUM(SUBSYSTEM)...
   ```

An IPL is required to activate the updated CONSOL*xx* member. To start using JES consoles, you must also update the $RM CONSOLES Customizer parameter group (see page 109).

License the Product

You code CA Common Services CA License Management Program (LMP) statements to license this product on each system that uses this product.

Follow these steps:

1. Ensure that CA Common Services CA Resource Initialization Manager (CAIRIM) is installed on the system.
2. Add product license LMP codes from the product's Key Certificate as CA LMP statements in the CAIRIM KEYS member.

   Note: For more information, see the *CA Common Services for z/OS Administration Guide*.
3. Start the CAS9 procedure at the next IPL. Alternatively, if you do not want to wait for the next IPL, do the following:

   a. Create a special CAS9 procedure under a different name with the following settings:

      - PARMLIB and AUTOCMDS DD statements set to DUMMY
      - KEYS DD statement set to the KEYS member with the newly added LMP key statements

   b. Start the special procedure.

   The product is licensed on the system.

Activate VTAM Applications

You must activate VTAM applications for your regions. The Create VTAM Definitions and Tables facility builds a VTAM major node that contains APPL definitions for all product regions. The member V01LDVTM copies *vtamname* to SYS1.VTAMLST, which is the VTAM library that contains all the major node and application definitions used by your product.

Follow these steps:

1. Add *vtamname* to the startup list in SYS1.VTAMLST(ATCCON*xx*).
2. Activate the VTAM major node by entering the following VTAM command:

   `V NET,ACT,ID=`*`vtamname`*

3. Check that all of the applications are defined to VTAM after the activation. To do this, display the major node by entering the following VTAM command:

   `D NET,ID=`*`vtamname`*`,E`

Enable Auditing by CA Auditor

If your auditors require CA Auditor or CA Common Inventory Service to know of this product running on your system, put a load module in your system LNKLST.

To define the load module to the system LNKLST, include the library *dsnpref*.OPB9.CC2DLINK in the system LNKLST SYS1.PARMLIB(PROG*xx*), for example:

```
LNKLST ADD NAME(LNKLST00) DSNAME(dsnpref.OPB9.CC2DLINK)
```

Note: Common load modules are used for all CA SOLVE:Operations Automation products. You only need to include one copy of this *dsnpref*.OPB9.CC2DLINK library in the system LNKLST.

Chapter 8: Performing Initial Migration

When you specify your regions, the Install Utility migrates some of your data from the earlier release. You perform some additional migration tasks before you start your product region.

This section contains the following topics:

NPF and SAF Security Members (see page 101)

More information:

Migration Preparation (see page 19)

Note: If you are migrating from a release earlier than r11, contact Technical Support (see page 4).

NPF and SAF Security Members

The Install Utility generates Network Partitioning Facility (NPF) and System Authorization Facility (SAF) security members. If you have previously customized any of these security members, update the regenerated members with your changes.

Chapter 9: Starting Up

This section contains the following topics:

Note: If you want to run other products in the CA SOLVE:Operations Automation family in this region, before proceeding, complete the tasks described in the *Installation Guide* for the other products.

Start the SOLVE SSI Region

You perform this procedure only if you use a new SOLVE SSI region.

Notes:

- If you are using an existing shared SOLVE SSI region and did not make any changes when specifying the SOLVE SSI region (see page 84), skip this procedure.
- If you are using an existing shared SOLVE SSI region and have made changes, skip this procedure and proceed to restarting the SOLVE SSI region (see page 104).

To start the SOLVE SSI region, issue the following command from the MVS console:

```
S ssiname,REUSASID=YES
```

ssiname is the name you specified for the SOLVE SSI during the setup process.

Note: If you use cross memory services but do *not* specify REUSASID=YES, and SOLVE SSI terminates, the address space ID is not available until after the next IPL.

To stop the SOLVE SSI started task, issue the following command from the MVS console:

```
P ssiname
```

Restart the SOLVE SSI Region

You perform this procedure only if you are using an existing shared SOLVE SSI region and made changes when specifying the SOLVE SSI region (see page 84).

Follow these steps:

1. Stop the SOLVE SSI started task, issue the following command from the MVS console:

   P *ssiname*

2. Start the SOLVE SSI region, issue the following command from the MVS console:

   S *ssiname*,REUSASID=YES

   Note: If you use cross memory services but do *not* specify REUSASID=YES, and SOLVE SSI terminates, the address space ID is not available until after the next IPL.

Start the Product Region

To start the product region, issue the following command:

S *rname*,REUSASID=YES

rname is the name you specified for the region during the setup process.

Note: If you use cross memory services but do *not* specify REUSASID=YES, and the region terminates, the address space ID is not available until after the next IPL.

Note: To stop the started task, issue the following command from the MVS console: P *rname*.

Perform the Initial Logon

Note: If your region is using an existing UAMS data set, you will already have an administrator user ID available for the region. You can use that ID to log on to the region.

Follow these steps:

1. Log on to the product region. You can use the VTAM logon command:

   `LOGON APPLID(priacbnm)`

   priacbnm is the name of the primary VTAM ACB application nominated in the *PPREF='PRI=priacbnm*' command in *dsnpref.rname*.TESTEXEC(RUNSYSIN).

   The region logon panel appears.

2. Enter the user ID **INSTALL** and password **99999999,** and press Enter.

   The UAMS : Primary Menu appears.

   The INSTALL 99999999 is a special user ID and password combination that can be used once only, and is accepted if the USERID data set is empty. The only functions that the INSTALL user ID can perform are those associated with user ID maintenance.

Add the Initial Administrator User ID

The only functions that the INSTALL user ID can perform are those functions associated with user ID maintenance. Therefore, you must add an initial administrator user ID.

Note: If you are using a full security exit, user authorities are not specified through UAMS. Specify these authorities as structured fields in your security exit. For more information, see the *Security Guide*.

To define an initial user with full authority to UAMS

1. At the UAMS : Primary Menu, type the initial administrator user ID in the User field, **USER** in the Definition Type field, and select the **A – Add User Definition** option.

   The UAMS : User Details panel appears.

2. Type the initial password and user details for this initial user ID.

   Important! The user must change the password again at first logon.

3. Go to the UAMS definition panels and ensure that you give full authority to this initial user to perform future administration tasks. Set the following minimum values:

   User Authorities panel, page 2

   Authority Level: 255

   APPC Access Key: ALL

   APPC Access Lock: ALL

   Access Authorities panel, page 3

   Set all fields to Y.

   AOM MVS Details panel, page 11

   Console Authority: M

   Print Services Manager Details panel, page 12

   For all fields, set the maximum authority (1 through 4).

   Report Writer Details panel, page 13

   For all fields, set the maximum authority (1 through 4).

4. Press F3.

   The user definition is saved.

Perform Subsequent Logon

You are now ready to log on to your product and begin using it as an authorized user.

Follow these steps:

1. Press F3 to log off the product region.
2. Log on using your new initial administrator user ID and password.
3. If necessary, change your password by typing **U.P**, confirm your change, and press F3 (File) to save the change.

   Notes:

   - If you set SEC=PARTSAF or SEC=NMSAF in the RUNSYSIN member, you are not required to change your password.
   - (Optional) To enable users to logon to the product from TSO, add the:
     - *dsprefix*.OPB9.CC2DLMD0 data set to LNKLST or STEPLIB concatenation for the appropriate TSO procedure
     - *dsprefix*.OPB9.CC2DSAMP data set to the SYSHELP concatenation for the appropriate TSO procedure

Chapter 10: Customizing Your Product

Note: After completing customization, you can use product system variables and z/OS static system symbols to help you plan future deployment to multiple regions. You generate an initialization (INI) file where you can use these variables and symbols. For information about setting up the INI file, see the *Administration Guide*.

This section contains the following topics:

Initial Customization Requirements

You must set various parameters for your site-specific requirements. Use Customizer to review and update the parameter groups in your product region.

Note: Customizer is used to set the majority of your region parameters. If you need to permanently change any SYSPARMS values that are not handled by Customizer, contact Technical Support (see page 4).

Important! Setting certain SYSPARMS to values other than the defaults can render certain product features inoperable.

Customization can only be performed by a user with UAMS maintenance authority (see page 105). That user's UAMS definition should have an APPC Access Key and Lock value of ALL.

Customizer Setup Types

From the Customizer : System Parameters panel, you can select the following options:

Fast Setup

Customizes the required parameter groups and quickly implements your region. It provides default values wherever possible, but lets you review all the required parameter groups to ensure that they match your installation standards. You can customize other parameters at a later time.

Note: You must review all the parameter groups in this option for the region to become operational.

Custom Setup

Customizes the required parameter groups and additional file and data set names, to bring the system operation closer to your installation standards. This option quickly implements your region and still lets you perform some extra customization. It provides some default values, lets you specify names for certain files and data sets, and lets you review the required parameter groups (which are highlighted).

Complete Setup

Customizes all initialization and customization parameters.

Customize Parameter Values

You can use the provided default values or customize the parameter values to suit the requirements of your site.

Note: All parameters have default values.

Follow these steps:

1. Enter **U** next to the parameter group that you want to review, and make the necessary changes for your site.
2. Press F6 (Action) to apply the change immediately. You can view the results by pressing F5 (ILog).

   Note: The F6 option is not available for some parameters.
3. Press F3 (File) to save your changes and indicate that you have reviewed the group.

The value you assign to a parameter is associated with one or more actions, such as setting SYSPARMS or allocating data sets. You can action some parameter groups as soon as you enter appropriate values on the parameter panel. However, when you change the value of some parameters, for example, MODS file names, these parameter values can only be applied by restarting the product region.

Note: If you change a parameter, perform an action, and then cancel that action, the new value will be in effect for that action; but when you restart, the value will return to the last saved value. In addition, you can change a value and save it without applying it to have it take effect on the next startup.

Interrupted Customization

If you exit the customization process before reviewing all required parameter groups, you are presented with a confirmation panel. You can log off and continue with the customization later. Alternatively, another authorized user can log on and complete the customization process. Users cannot access the region until all the required parameter groups have been reviewed.

Update and Review the Fast Setup Customization Parameters

To begin the process of updating and reviewing the Fast Setup Customization parameters, select the Fast Setup Customization Parameters option. The Customizer : Fast Setup panel appears.

Implement System Identification Parameters

Use this procedure to implement system identification parameters.

Follow these steps:

1. Enter **U** next to the System Identifications parameter group.

   The SYSTEMID - System Identifications panel appears. The parameter group has two panels.

2. Complete the fields on the panels. For information about the fields, press F1 (Help).
3. Press F6 (Action) to action the entries.
4. Press F3 (File) to save your settings.

   The Customizer : Fast Setup panel appears with the Reviewed column marked Yes for the parameter group.

Note: The system ID does not take effect until the next system initialization.

Implement Operating System Identifiers Parameters

Use this procedure to implement the operating system identifiers.

Follow these steps:

1. Enter **U** next to the Operating System Identifiers parameter group.

   The OPSYSIDS - Operating System Identifiers panel appears.

   Complete the fields on this panel. If the system uses the JES3 job entry subsystem, ensure that information about the job entry subsystem is updated.

   Note: Press F1 (Help) for more information.

2. Press F6 (Action) to action the entries.
3. Press F3 (File) to save your settings.

   The Customizer : Fast Setup panel appears with the Reviewed column marked Yes for the parameter group.

Additional Parameter Groups

Depending on which product features you want to implement, you may want to review other parameter groups and add any values that you saved from your old product region.

You can review these parameter groups now or later, as follows:

- **Now**—Select the Complete Setup Customization Parameters option to list all parameter groups and review the relevant groups. When you complete the review, exit the list and the Customizer : System Parameters panel.
- **Later**—Exit the Customizer : System Parameters panel. (When you are ready to review these parameter groups, enter **/PARMS** to list the groups.)

Implement the TCP/IP Sockets Interface Parameters

Use this procedure to enable TCP/IP support.

Access to sockets interfaces requires UNIX System Services authorization (see page 157) provided by an OMVS segment security definition.

To implement the TCP/IP sockets interface parameters

1. Enter **U** next to the TCP/IP Sockets Interface parameter group.

   The first SOCKETS - TCP/IP Sockets Interface panel appears.

2. Tab to the TCP/IP Software Type input field, and enter the required value.

   Only one type of TCP/IP software can be configured as the sockets interface in each region.

3. Complete the remaining fields on the first panel.

   Note: For more information, press F1 (Help).

   The Inbound Connections Port field contains a default port number. If another region on this system is already using that number, tab to the field and change it.

   Important! The port number must be unique on a system.

4. Press F8.

   The second panel for this parameter group appears.

5. Complete the fields on the panel.

   Specify the details of the TCP/IP software as follows:

   - If you are using the IBM Communications Server, enter your TCPIP.DATA data set name in the TCPIP.DATA DSN field and review the Domain Name Resolution fields.
   - If you are using CA TCPaccess CS, tab to the CA TCPaccess CS SSID field and enter the required SSID. If you are unsure of the CA TCPaccess CS subsystem ID, access the CA TCPaccess CS startup procedure and check the value of the SSN parameter.

6. Press F6 (Action) to set the specified values and start the interface.
7. Press F3 (File) to save your settings.

   The Customizer : Complete Setup panel appears with the TCP/IP Sockets Interface Reviewed field marked as YES.

8. Press F3 (Exit).

   The Customizer : System Parameters panel appears.

If you enabled TCP/IP support using CA TCPaccess CS, see the following section.

Ensure CA TCPaccess CS DNR Members Translate Subsystem Name

Use this procedure to enable your CA TCPaccess CS Domain Name Resolver (DNR) members translate the CA TCPaccess CS subsystem name into an IP address and a fully qualified host name.

Follow these steps:

1. Enable translation from subsystem name to fully qualified domain name.

   For example, if your CA TCPaccess CS subsystem name is ACSS and its fully qualified domain name is MVS.SITE1.COM, enter a line like the following into your DNRALC*xx* member:

   ```
   ACSS MVS.SITE1.COM.
   ```

   Note: Specify the domain name (rather than an IP address), and end it with a period (.).

2. Enable local translation of the fully qualified host name to an IP address.

   For example, if the IP address of MVS.SITE1.COM. is 172.16.140.117, enter a line like the following into your DNRHST*xx* member:

   ```
   MVS.SITE1.COM. 172.16.140.117
   ```

Note: This DNR configuration is recommended in the *CA TCPaccess CS Customization Guide*, which contains further details about the DNR members of the CA TCPaccess CS PARM data set. Ensure that the HOSTTABLE statement in the DNRCFG*xx* member points to the correct DNRHST*xx* member. You do not need to restart CA TCPaccess CS to introduce changes to the DNR tables. You can restart DNR, for example:

```
F TCPICS,STOP DNR
F TCPICS,START DNR
```

Implement the WebCenter Parameters

Use this procedure to implement access to the WebCenter interface.

Follow these steps:

1. Enter **U** next to the WebCenter Web Interface parameter group.

   The WEBCENTER - WebCenter Web Interface panel appears.

2. Tab to the Web Interface Port input field, and enter a unique value.

3. Complete the fields on the panel.

   Note: For more information, press F1 (Help).

4. To use SSL to encrypt WebCenter traffic, press F11.

   The panel that sets SSL parameters appears.

5. When you have completed all the fields, press F6 (Action) to set the specified values.

   If you specified a WebCenter port number, note the generated WebCenter Access URL because you use this URL to access your product region using WebCenter.

6. Press F3 (File) to save your settings.

   The Customizer : Complete Setup panel appears with the Reviewed column marked Yes for the WebCenter web interface parameters.

7. Press F3 (Exit).

   You are returned to the Customizer : System Parameters panel, and the WebCenter parameters are implemented.

Web Browser Settings

If you are using WebCenter, instruct all users to take the following actions:

- Clear the cache of their web browser to prevent them from getting a mix of old and new web files.
- Disable pop-up blocker, or define WebCenter as an allowed website.

Discover CICS Resources

You can discover your CICS resources using Auto Populate.

Run Auto Populate

If you select this option immediately after completing the initialization procedure, the Auto Populate Menu appears.

Follow these steps:

1. Select an Auto Populate Menu option.

   A panel appears prompting you to create a system image definition.

2. Add and define a system image.

   Note: For information about adding a system image, see the *Reference Guide*.

3. After you define the image, you can use the Auto Populate facility to add definitions of selected resources to the image.

If you have exited the initial System Parameters Customization dialog, enter **/RADMIN.CA** to access this facility.

Note: For more information, see the *Administration Guide*.

Resource Definition Updates

When you finish with the Auto Populate facility, you can exit to the Resource Administration menu, which lets you select the **R** - Resources option and update resource definitions.

Note: For information about how to update resource definitions and parameter values, see the *Reference Guide*.

Load a System Image

After you have created a system image, make it available to the region so that the region can follow the operations policies and methods contained in the image.

You make an image available to the region by loading the image.

Follow these steps:

1. Enter **/RADMIN.I** to access the system image definitions.
2. When you have displayed the list of images, enter **L** next to the required image to load it.

Set Up the System Image to Load on Restart

Use this procedure to ensure that a system image is loaded during initialization.

Follow these steps:

1. Enter **/PARMS** at the command prompt.

   The Customizer : Parameter Groups panel appears.

2. Enter **U** next to the $RM AUTOIDS parameter group.

   The AUTOIDS - Automation Identifiers panel appears.

3. Enter **?** in the System Image Name field.

   The ResourceView : System Image List panel appears.

4. Select the System Image and Version you specified during Express Setup.

5. Press F6 (Action) if the system image is not already loaded.

   Important! F6 (Action) replaces the currently loaded system image. If you do not want to load the system image now, skip this step.

6. Press F3 (File).

   The system image loads each time the product region starts.

Initialization Failures

Fatal errors occur (for example, you are unable to log on) if either or both of the following are unavailable:

- Panel libraries
- MODS control files

Note: If the Panel libraries are missing, the system may display the N59005 message, which says that the $MHMENU panel is not found. To retry, press F3, or to log off, press F4.

A Customizer parameter group always produces initialization log messages. The messages are echoed to the activity log. If a parameter group fails to initialize and you cannot log on to the region to display error messages, use CA SYSVIEW, SDSF, or an equivalent utility to display the activity log SYSOUT DD. The ddnames are LOG1 through to LOG9.

Resolve Initialization Failures

If you log on to a region where the initialization of a parameter group has failed, Customizer displays the System Initialization In Progress dialog. This dialog indicates progress and assists you with identifying and rectifying any problems by displaying the current initialization status and whether actions associated with parameter groups have failed.

Follow these steps:

1. Enter **S** next to List Only Failed Parameters.
2. Enter **L** next to a failed parameter group to view its log and look for error messages.
3. Use the message online help and the full activity log to determine the cause of the failure.
4. Make the necessary changes to the parameter group and press F6.

   The parameter group changes are applied.
5. Press F3 to save the changes.

Parameter Group Actions

You can apply the following actions to listed parameter groups:

- **S** or **B** (Browse) to browse parameter group details.
- **H** (Help) to view the online help for a parameter group.
- **U** (Update) to update parameter group details.
- **AC** (Action) to action a parameter group.
- **L** (Log) to view the associated initialization and customization log.
- **I** (Ignore) to tell the system to ignore a failed parameter group and proceed to run dependent parameter groups. This action is not available when initializing for the first time.

  Important! Ignoring parameter groups is not recommended. Consider carefully before applying this action.
- **SD** (Set Default) to reset the parameter group values to the default values.

Note: Press F1 (Help) for more information.

An action can only be performed against an already completed parameter group or a failed parameter group.

When you correct an error by updating an incorrect parameter group record, you must action that parameter group before processing can continue (unless you apply the Ignore action). To action the parameter group, do *one* of the following:

- Press F6 (Action) when you finish updating the parameter group.
- Apply **AC** (Action) to the listed parameter group.

Perform Additional Customization

You have now completed the initial customization tasks for your product.

The *Administration Guide* describes other ways that you can customize your product.

Chapter 11: Completing Migration

The process to complete the migration includes tasks that you perform after you start your new product region.

This section contains the following topics:

Note: If you are migrating from a release earlier than r11, contact Technical Support (see page 4).

Knowledge Base Migration

The knowledge base is where you store your resource definitions. System images, in which you define the resources a region manages, are part of the knowledge base.

Note: For more information about the knowledge base, see the *Reference Guide*.

As part of region setup, a knowledge base is created, comprising the following data sets:

- RAMDB
- ICOPANL

Migrate any existing data that you want to keep to this knowledge base.

Important! The IDCAMS REPRO command must never be used to manage the definitions in the knowledge base.

Migrate Your Existing Knowledge Base

If you are migrating multiple synchronized regions, you only perform this task for the first focal region. You do not have to perform this task when migrating subsequent regions because when you link the regions, the knowledge base is synchronized.

Important! Keep the old knowledge base until your new product regions are performing correctly.

Follow these steps:

1. Shut down the region using your existing knowledge base.
2. From the new product region, enter **/RAMUTIL.M**.

   The RAMDB Migration Utility panel appears.
3. Perform the following steps:
   a. Specify the data set name for your existing RAMDB in the Old RAMDB Data Set Name field.

      The data set name is *dsnpref.rname*.RAMDB.

   b. Specify **NO** in the Selective Migration field to migrate all definitions.

      The utility migrates only customized definitions from the old knowledge base to the knowledge base in the new product region. Definitions that are not migrated are listed for further action.

   c. Press F6 (Action) to display the Migration Statistics panel.
4. After migration has completed, perform the following steps:
   a. Look for the components that have a non-zero value in the Not Copied column. (The utility does not copy a component if the component exists in the new knowledge base.)

      You might have customized some of these components and want to copy them.

   b. Enter **R** next to the components that you want to copy, and copy the records.

      The copying options depend on whether a component contains multiple objects (see page 123), such as a system image, or is the object itself (see page 123), such as a user profile definition.
5. After you have copied the components, exit the migration utility.

Note: If you do not want to move directly from your established regions to the new product regions, you can run the two releases in parallel.

How to Copy Multi-Object Components

Important! The products use template images $TEMPLAT 0001 through 0009 for the distribution of new and updated template definitions. Do not overwrite or replace them in the knowledge base.

If a component contains multiple objects, you operate on the component as a whole. You can perform the following actions:

- Merge the component in the old knowledge base into the component in this knowledge base. Only objects that do not exist in this knowledge base are migrated. Existing objects are unchanged.
- Overwrite the existing objects in this knowledge base with the objects in the old knowledge base. This operation does not affect any objects that are not in the old knowledge base.
- Replace the component in this knowledge base with the component in the old knowledge base.

Note: To migrate specific objects, see the activity log and use the RMMUAD05 messages to determine which objects have not been copied. You can then delete the appropriate objects and redo the migration by merging (to list only the RMMUAD05 messages in the log, enter **TEXT RMMUAD05**).

How to Copy Single-Object Components

For a component that is the object, do *one* of the following:

- Rename the component to create a copy of the component in this knowledge base using a different name.
- Overwrite the existing component in this knowledge base with the component in the old knowledge base.

Apply Updated Templates

After you have migrated your knowledge base, review the distributed templates.

Note: For information about changes to the distributed knowledge base, see the *Release Notes*.

Follow these steps:

1. Review the new templates to determine whether they are suitable for your requirements.
2. Enter **/RADMIN.T**.

   The Template Definition menu appears.
3. Select the appropriate option to list the definitions you want to review.
4. If you use any template image except the default (as specified in the OPSYSIDS parameter group), copy the required definitions to your working template images.

   Important! When you copy definitions from the distributed template images to your working template images, you can replace your working definition with a distributed definition of the same name. If you want to retain your working definition, make a copy of the definition beforehand.

   If you want to copy all the new definitions, perform the following steps:

   a. Copy the template image (enter **/RADMIN.T.I**).

   b. Enter **C** next to the distributed image to merge the distributed template image with the target image.

   c. Specify **YES** in the Enter 'YES' to OVERLAY Like-named Components field.

   If you want to copy changed definitions, copy them one by one.
5. If you want to apply a new template to all the resource definitions (in one or more system images) that use it, use the **AP** (Apply Template) action code. Specify **RESET** and **REPLACE** to ensure that the template is applied in full. If you want to retain an old definition, make a copy of the definition before you apply the template.

MODS Migration

Note: If you have not created your own MODS file, or individual MODS entities, do not perform this step.

MODS File

The format of the MODS file is unchanged. If you have a MODS file containing only user-defined MODS entities that you want to keep, copy the entire file to the file for the new region using the IDCAMS REPRO command.

Note: The MODSFILES parameter group in Customizer controls the allocation of MODS data sets. For more information, enter **/PARMS** on any panel, select $NM MODSFILES, and press F1 (Help).

Copy MODS Definitions

The following entities are stored in the MODS file:

- Application definitions
- Command definitions
- Criteria definitions
- Help definitions
- List definitions
- Menu definitions
- Message definitions
- Print Services definitions
- Report definitions
- Table definitions

Note: Help alias entities are no longer supported. If you have installation-defined help aliases, convert them to a help page, and code the .cp macro to copy the original member. For more information about help macros, see the *Managed Object Development Services Guide*.

To copy MODS entities from your previous MODS file to your current one

Important! Copy only installation-defined entities. Do not copy distributed entities.

1. Enter **/MODSADE** from any panel.

   The MODS : Entity Administration Menu appears.

2. Type **C** at the prompt, specify the information to copy your entities from the MODSUSR data set used by the old region to the MODSUSR data set used by this region, and press Enter.

   The MODS : Entity List panel appears.

3. Select the entities that you want to copy, and press Enter.

Panel Migration

Note: If you have not created your own panel file, or individual panel entities, do not perform this step.

Installation-Defined Panel Library

The format of the panel library is unchanged. If you have a panel library that contains only user-defined panel definitions that you want to keep, copy the entire file to the file for the new region. Use the IDCAMS REPRO command to copy the file.

Notes:

- You do not need to migrate installation-defined icon panels in the ICOPANL file. These panels are recreated during the knowledge base migration.
- The PANELLIBS parameter group in Customizer controls the allocation of panels data sets. For more information, enter **/PARMS** from any panel, select $NM PANELLIBS, and press F1 (Help).

Individual Panels

If you have installation-defined panel definitions in the same panel library as distributed panel definitions, you can copy the individual panel definitions to a panel library for the new region.

Important! Only copy installation-defined panel definitions. Do not copy distributed panel definitions.

Copy Panel Definitions

You must copy the required panel definitions to the panel library in your new product region.

Follow these steps:

1. Define a temporary panel library for your old panels using the following steps:
   a. Enter **/MODSAD.P**.

      The MODS : Panel Library Maintenance Menu appears.

   b. Select **L - Library Definitions**.

      The MODS : Library Definition Menu appears.

   c. Select **A - Allocate, Open, and Define Library**, and specify a library name (for example, OLDPANLS) and the data set name where your old panels are located. Optionally, specify a description.

      A temporary panels library is defined.

   d. Press F3 (Exit) to return to the MODS : Panel Library Maintenance Menu.
2. Copy the panels using the following steps:
   a. Select **C - Copy Panel(s)**, and specify the From library as the library name you just defined (for example OLDPANLS) and the To library as the target panels library name.

      If you leave the Panel Name field empty, the MODS : Panel Copy List appears, showing the panels in the From library.

   b. Use the **C** (Copy) or **R** (Replace) action against the panels you want to copy.

      Note: For more information, press F1 (Help).

   c. When all requested panels have been copied, press F3 (Exit) to return to the MODS : Panel Library Maintenance Menu.
3. Delete the temporary panel library definition using the following steps:
   a. Select **L - Library Definitions**.

      The MODS : Library Definition Menu appears.

   b. Select **U - Remove Library Definition, Close and Unallocate**, and specify the library name (for example OLDPANLS).

      The temporary panels library definition is removed.

Note: For more information about the MODS Panel Library Maintenance facility, see the *Managed Object Development Services Guide*.

OSCNTL File Migration

The format of the OSCNTL file is unchanged. If your existing OSCNTL file contains installation-defined ASN.1 maps, recompile them in the new product region.

Add the data set containing the map source to the COMMANDS concatenation in your new region. To compile a map, use the Compile Map option of Mapping Services. To access the Mapping Services Primary Menu, enter **/MAPMENU** from any panel.

Note: For more information about Mapping Services, see the *Managed Object Development Services Guide*.

Region Links to a Multisystem Network

If the region you are migrating is to be synchronized with other regions (see page 21), review the sections that follow.

Important! Unlink your existing region from the multisystem network before upgrading it. Then, relink the upgraded region to the multisystem network.

Important Considerations Prior to Linking

Consider the following before linking:

- The first region linked in migration mode must be used to perform all monitoring, command, and control functions across the entire multisystem environment.
- Migration mode does not support database synchronization between the old and new product regions. We recommend that you do not perform database maintenance while operating in migration mode.
- If database maintenance is unavoidable, make changes in an old region, and again in a new region so that all linked regions have the changes propagated to them.

Link in Migration Mode

You can link your first migrated product region to your existing product regions in migration mode.

Migration mode lets you migrate your existing product regions in an orderly fashion while maintaining visibility and control of your entire multisystem environment.

Notes:

- Apply the relevant maintenance to your product region, including checking software requirements (see page 15) and multisystem network migration (see page 22).
- If you have specified the NMSUP parameter in the RUNSYSIN member for your existing product region, specify this parameter in the RUNSYSIN member for your new product region. The NMSUP parameter can be used to decrease the number of unique background user IDs that must be defined if you are using an external security package.

  Note: For more information, see the *Security Guide*.

Follow these steps:

1. Enter **=/MADMIN.MM** in the new product region.
2. Specify the name of an existing focal region in your multisystem network.
3. Press F6 (Action).

Migrate Subsequent Regions

When a subsequent product region is migrated to the new release, you can use this procedure to link it to the first migrated product region.

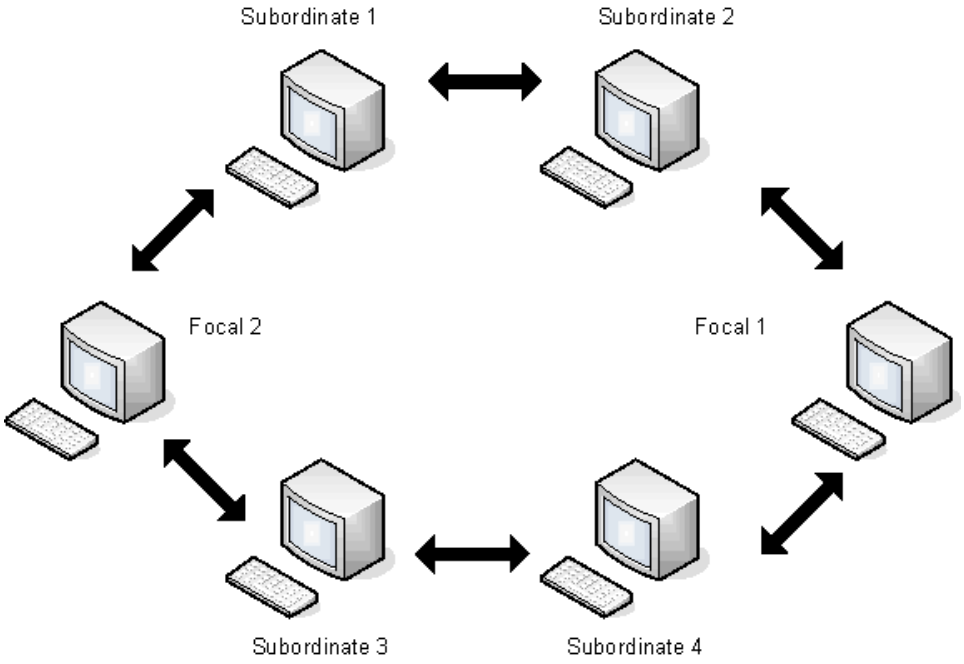
Follow these steps:

1. Enter **=/MADMIN.SD**.
2. Specify the first Release 11.9 product region as the remote region.
3. Specify the role for this region (focal or subordinate).
4. Press F6 (Action).
5. Repeat these steps for all of the remaining subordinate and focal regions. Migrate is the focal region that you first linked using migration mode last.

   This migration sequence retains the visibility to the multisystem network throughout the migration process.

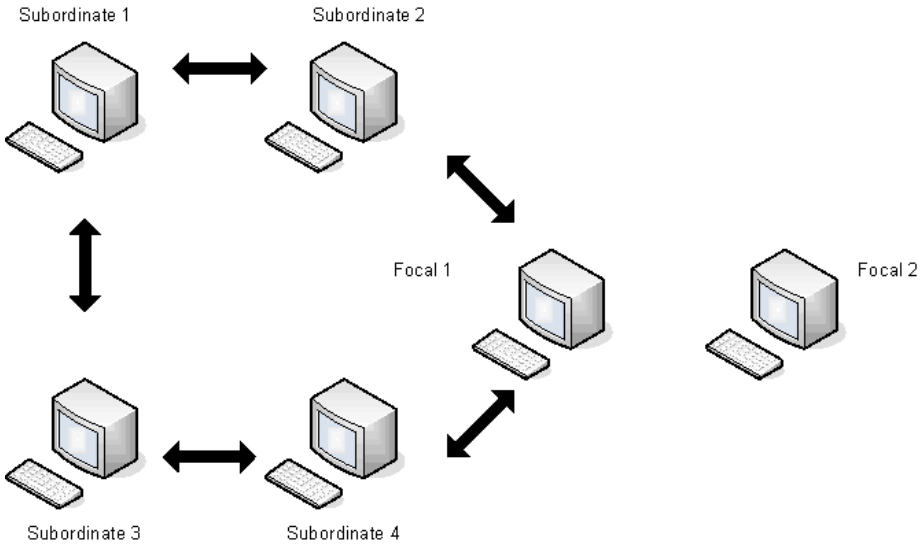
A Multisystem Network Migration Example

The following diagram shows a multisystem network with two focal regions and four subordinate regions:



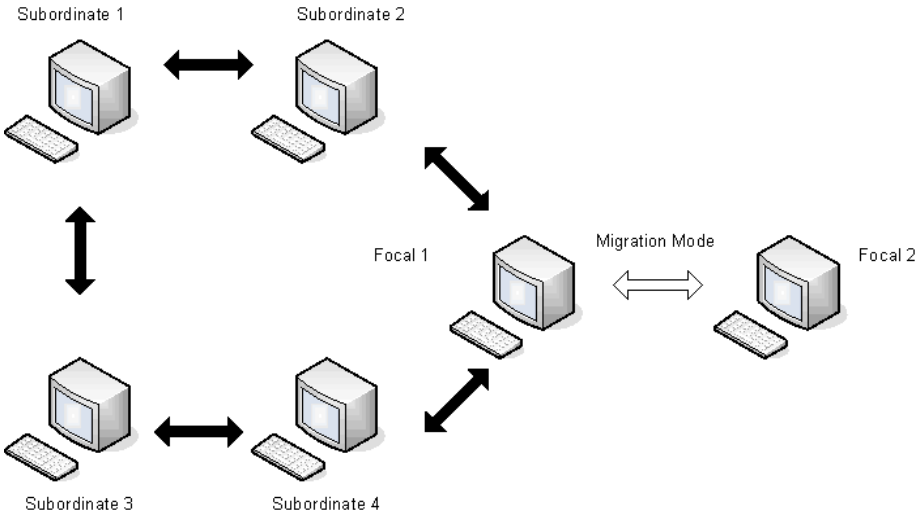
To migrate a multisystem network

1. Unlink Focal 2 from the existing multisystem network, as shown in the following diagram:

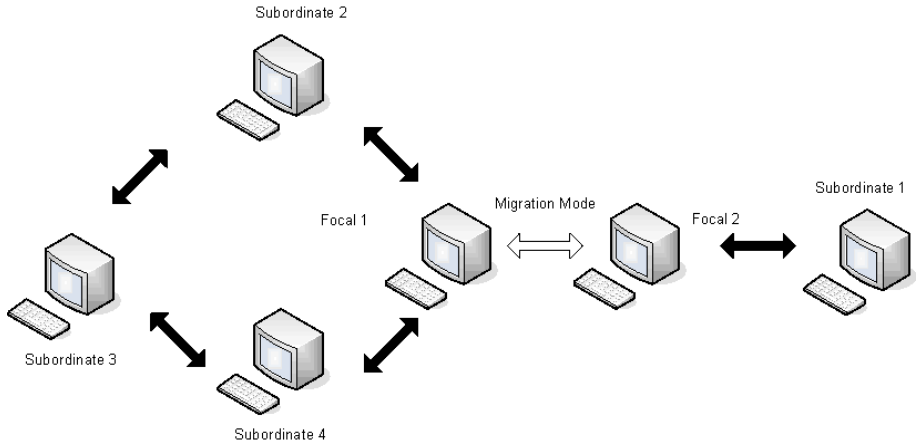


2. Upgrade Focal 2 to Release 11.9.

3. Link Focal 2 to Focal 1 in migration mode, as shown in the following diagram:



4. Unlink Subordinate 1 from the multisystem network and upgrade it to Release 11.9.
5. Link and synchronize Subordinate 1 to Focal 2, as shown in the following diagram:



6. Repeat Steps 4 and 5 for Subordinates 2-4 and Focal 1.

Scenario: Run Your Old Region in Parallel with the New Region

If your existing region uses global mode AUTOMATED to perform desired state management, you can ease your new product regions into production as described in this section.

If you do not want to move directly from your existing regions to the new regions, you can do the following:

1. Create an equivalent region for each of your existing regions, so that you have a mirrored pair on each system.
2. Initially, have the existing region performing automation, and the new region running in the global mode of MANUAL (that is, merely monitoring) but using the same data.
3. Gradually, reverse the global mode of operation between the mirrored pairs until the new regions are performing automation.

This suggested scenario provides you with a hot backup, letting you instantly swap from a new region to the established region if you experience any problems. You can then correct the problem before swapping back to try the new region again.

Chapter 12: Setting Up a Region That Supports CICS Resources

This section contains the following topics:

CICS Connections Implementation

You set up the CA SOLVE:Operations Automation for CICS–CICS PPI using the CICSCNTL Customizer parameter group.

To access the list of parameter groups, enter the **/PARMS** shortcut.

CICSCNTL sets up the following:

- The PPI connections
- The CICS message filters

PPI Connection Definitions

The first page of the CICSCNTL parameter group specifies:

- How to establish PPI connections
- The name of the queue for receiving unsolicited CICS messages

The following is an example of the panel:

```
.- CICSCNTL - CICS Connections ------------------------------------------------.
|                                                                               |
| Dynamic CICS Registration? ........... NO   (YES or NO, see note below)      |
|                                                                               |
| PPI Queue ID for Unsolicited Message Receipt:                                 |
|   Queue ID Prefix ..................... DE1N  (Default is DE1N)              |
|   Queue ID Suffix ..................... USMQ  (Default is USMQ)              |
```

The parameters establish the PPI connections to the different CICS regions and set up a queue for the unsolicited message flow.

Generally, you specify YES in the Dynamic CICS Registration? field. By using dynamic registration, this product automatically establishes the connection when a CICS region that contains a CICS agent becomes active.

If you want to establish PPI connections in more than one CA SOLVE:Operations Automation for CICS region on the same system, only one region can use dynamic CICS registration. In the other regions, you define the connections explicitly.

PPI Explicit Connection Definitions

You define explicit PPI connections for one of the following reasons:

- A region on the same system is already using dynamic registration.
- The region is using dynamic registration, but you want to change the characteristics of specific connections.

Explicit PPI connections are defined on the third page of the CICSCNTL parameter group. The following is an example of the panel:

```
     Specific CICS Link Definitions: These statements define which specific
     CICS systems are to be linked to SOLVE and allow the specification of
     filters other than the DEFAULT filter. The syntax for CICS definitions is:

     < CICS JOBNAME= jobname  SYSID= system-id
            < FILTER= { DEFAULT | name } >
            < UNSOL= { YES | NO } >
            < CACHE= { YES | NO } > >

LINE   ----+----10---+----20---+----30---+----40---+----50---+----60---+----70-
****** ***************************** TOP OF DATA ******************************
000001 CICS JOBNAME=CICSA SYSID=SC01
****** **************************** BOTTOM OF DATA ****************************
```

Press F10 or F11 to scroll through the panels. When you are defining filters or explicit connections, press F7 or F8 to scroll the lines.

You can set the following characteristics in an explicit connection definition:

- Filter to use for unsolicited CICS messages
- Whether to receive unsolicited CICS messages

  Notes:

  - If you are supporting CICS on more than one region on the same system, only one of these regions can specify UNSOL=YES, which is the default.
  - If more than one region specified UNSOL=YES, only the first region that turns on the unsolicited message flow receives the messages. The other regions do not receive these messages.
- Whether to use a cache to speed up the discovery of CICS resource statuses when the connection is first established. The cache is useful only if all or most of the resources defined in CICS are also defined in this product. Do not use the cache if only a small percentage of the CICS resources is defined.

Example: PPI Connection with CICSA

The following example defines a PPI connection between this product and CICSA. The connection uses the DEFAULT filter to pass unsolicited CICS messages.

```
CICS JOBNAME=CICSA
SYSID=SC01
```

Note: This product uses the system ID of the CICS region to derive the PPI receiver ID of the CICS agent.

Example: PPI Connection Using CICSAMSG Filter

The following PPI connection uses the CICSAMSG filter to pass unsolicited messages from CICSA.

```
CICS JOBNAME=CICSA
SYSID=SC01 FILTER=CICSAMSG
```

Example: CICS Command and Response Flow

The following PPI connection supports CICS command and response flow only.

```
CICS JOBNAME=CICSB
SYSID=SC02 UNSOL=NO
```

PPI Connection Resource Definitions

This product creates the following dynamic INTNL class resource definitions for PPI connections:

- PC(*cics-region-name*) is the resource that enables the CICS command and response flow. *cics-region-name* is the name of the CICS job or started task.
- PR(SOLVCICS) is the resource that enables dynamic registration of CICS regions.
- PU(*message-queue-id*) is the resource that enables the unsolicited CICS message flow. *message-queue-id* is the queue identifier (ID) built from the values in the Queue ID Prefix and the Queue ID Suffix fields on the first page of the CICSCNTL parameter group.

  Note: Unsolicited messages from all CICS regions that are connected to the CA SOLVE:Operations Automation for CICS region are sent to this queue.

You can monitor these resources from the status monitor.

Receiver IDs

This product uses the following IDs when assigning PPI receivers:

SOLVCICS

Is the ID for dynamic CICS registration.

xxxxyyyy

Is the ID for a CA SOLVE:Operations Automation for CICS region.

xxxx

Is the domain ID of the region. The domain ID is specified by the NMDID parameter in the RUNSYSIN JCL control member.

yyyy

Is the system ID of the CICS region.

SOCS*yyyy*

Is the ID for a CICS agent.

yyyy

Is the system ID of the CICS region.

CICS Message Filters

With CICS support, a region receives CICS messages by using a PPI connection. The region then processes these messages for use by the ResourceView and EventView features.

A CICS message filter is a statement that can limit the message flow by using the following criteria:

- CICS transient data queue names
- CICS message identifiers (IDs)

You must have a filter named DEFAULT (which is the supplied default), but you can customize its criteria. You can define other filters to customize the filtering requirements.

When you start a region that supports CICS resources, the region applies the default filter to the CICS message flow.

Important! This product supplies templates that help you create definitions of CICS resources so that those resources can be managed. These templates use a set of messages to detect the status of the managed resources. Review those messages to help ensure that your filters do not block them.

Filter Definition

You define the filters by specifying filter criteria on the second page of the CICSCNTL parameter group. An example is shown in the CICS Message Filters Specification Panel.

```
     CICS Transient Data Queue (TDQ) and Message Filtering: These statements
     define the DEFAULT TDQ and message filtering for ALL connected CICS'.
     Additionally, specific filtering can be specified for one or more CICS
     if their requirements are not the same as the DEFAULT.  The syntax is:
     < FILTER NAME= { DEFAULT | name } < JOBNAME= mask > < SYSID= mask >
        < TDQINC= 'queue-id1  <queue-id2 > ...' >
        < TDQEXC= 'queue-id1  <queue-id2 > ...' >
        < MSGINC= 'msgid1  < ,msgid2 > ...' >
        < MSGEXC= 'msgid1  < ,msgid2 > ...' >

LINE   ----+----10---+----20---+----30---+----40---+----50---+----60---+----70-
****** ***************************** TOP OF DATA ******************************
000001 FILTER NAME=DEFAULT +
000002    TDQINC='CSMT CSCS CSNE CDBC' +
000003    MSGINC='DFH'
****** **************************** BOTTOM OF DATA ****************************
```

You specify the filter criteria in a filter statement. Each statement represents one filter. The filter name can be up to 12 characters long. If the statement requires more than one line, use the plus (+) sign to indicate continuation.

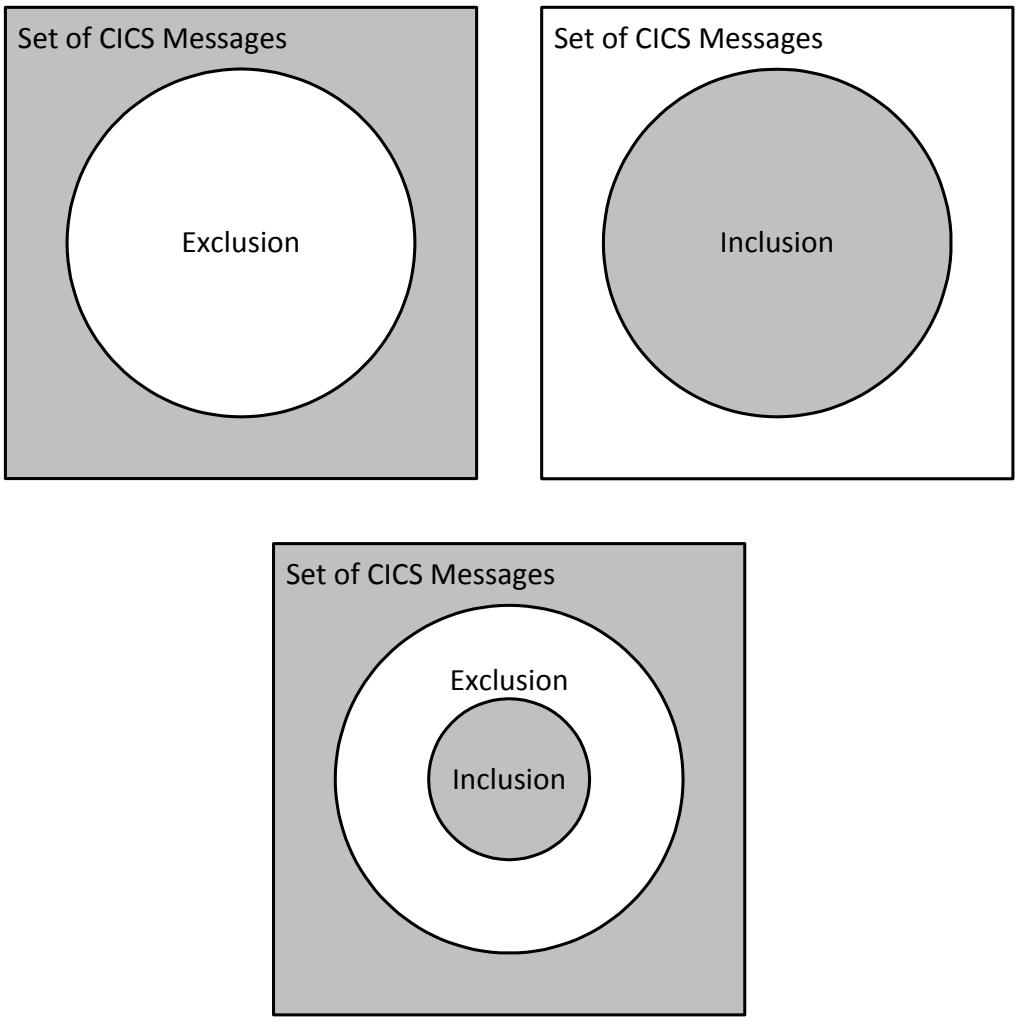
Exclusions and Inclusions

You can exclude and include CICS transient data queues and message IDs. The exclusion keywords are TDQEXC and MSGEXC; the inclusion keywords are TDQINC and MSGINC.

The application of the exclusion and inclusion keywords to transient queues is similar to the application of the keywords to message IDs:

- If only an exclusion keyword is used, then only the messages *not* explicitly excluded are delivered.
- If only an inclusion keyword is used, then only the messages explicitly included are delivered.
- If both exclusion and inclusion keywords are used, then the following messages are delivered:
  - Messages not explicitly excluded
  - Excluded messages that are explicitly re-included

The following illustration shows a graphical representation of the application of the keywords. The shaded area represents the messages that are delivered to this product.



Example: All CSMT Messages

The following filter passes all CSMT transient data messages to this product.

```
FILTER NAME=DEFAULT TDQINC=CSMT
```

Example: CSMT Messages with Conditions

The following filter passes all CSMT transient data messages in dynamically registered CICS regions with names that start with CICS to this product.

```
FILTER NAME=CICSAMSG JOBNAME=CICS* TDQINC=CSMT
```

Note: When a filter is used by an explicit PPI connection, the JOBNAME and SYSID keywords in the FILTER statement are ignored.

Example: DFHTC-Prefixed CSMT Messages

The following filter passes all DFHTC-prefixed CSMT transient data messages to this product.

```
FILTER NAME=TERMCNTLCSMT TDQINC=CSMT MSGINC=DFHTC
```

The value you specify for an MSGEXC or an MSGINC keyword is the beginning part of a message ID.

Filter Selection for a PPI Connection

If you define more than one filter, this product uses the following rules to select the filter for a PPI connection:

- If the PPI connection is defined explicitly with a filter, then the specified filter is used.
- If the PPI connection is defined explicitly without specifying a filter, then the DEFAULT filter is used.
- If the PPI connection is defined by using dynamic registration, then the filter that has the appropriate CICS job name and CICS system ID masks is used. If no match is found, the DEFAULT filter is used.

How to Install the CICS Agent

To enable a CICS region to communicate with CA SOLVE:Operations Automation for CICS regions, you install an agent in CICS. The agent and the CA SOLVE:Operations Automation for CICS regions can then establish PPI connections.

The steps are outlined here and then described in detail in following sections.

To install the CICS agent

1. Add the CICS agent load library to the CICS DFHRPL library concatenation.
2. Customize and run the supplied RCICSDUP job.
3. Customize the program list tables (PLTs).
4. Ensure that the CSMT transient data queue is defined in the CICS destination control table (DCT).
5. Shut down and restart the CICS region to complete the installation.

Add the CICS Agent Load Library

The CICS agent load library contains the CICS agent programs.

To add the library to the CICS DFHRPL library concatenation, include the following statement in the CICS startup JCL member:

```
DFHRPL DD DSN=dsnpref.OPB9.CDHDCICS,DISP=SHR
```

Customize and Run the RCICSDUP Job

The RCICSDUP job uses the DFHCSDUP CICS System Definition (CSD) utility program to create CICS agent program and transaction definitions in the CSD.

Follow these steps:

1. Copy the job from the *dsnpref*.OPB9.CC2DJCL data set to the *dsnpref*.OPB9.*rname*.JCL data set, and customize the copy.
2. Update the STEPLIB and DFHCSD DD statements to name the correct data sets for the CICS region.
3. Update the LIST keyword of the ADD command to name a list specified in the GRPLIST parameter specified for CICS startup.
4. If the CICS region is not currently set up for LU 1 sessions, uncomment the DEFINE TYPETERM(MAITERM) and the DEFINE TERMINAL(MAI) statements.

   Note: If the CICS region is at least Version 4.1, the CICS-supplied TYPETERM and TERMINAL definitions for the 3767 Communication Terminal are suitable as the LU 1 terminal model.
5. Run the customized job.

   The job creates the definitions in the SOLVEOPS group.

You can now use the CEDA transaction to install the SOLVEOPS group to your CICS region. After you install the SOLVEOPS group, you can use the following transactions to get the status of the agent components:

```
CEMT INQUIRE PROGRAM(NM000CI*)
CEMT INQUIRE TRANSACTION(SVCI,SVCM)
```

Customize the PLTs

You list the NM000CII program in the CICS initialization and shutdown PLTs.

To customize the PLTs, add the following macro:

```
DFHPLT TYPE=ENTRY,PROGRAM=NM000CII
```

- In the CICS initialization PLT, add the macro *after* the DFHDELIM entry.
- In the CICS shutdown PLT, add the macro *before* the DFHDELIM entry.

Note: If either of the PLTs is not generated for the CICS region, generate it. Also, ensure that the following parameters are specified in the DFHSIT*xx* CICS system initialization table:

- PLTPI=*ii*, where *ii* is the suffix of the initialization PLT
- PLTSD=*jj*, where *jj* is the suffix of the shutdown PLT

CSMT Transient Data Queue

The CICS agent uses the CSMT transient data queue. Ensure that the queue is defined in the DCT.

Note: For CICS Transaction Server 1.3, the CSMT transient data queue is included in the CICS-supplied DFHLIST group list, which must be specified in the GRPLIST parameter for CICS startup.

Complete the Installation

To make the customization effective and to initialize the SVCI transaction, shut down and restart the CICS region.

Appendix A: Worksheets

This section contains the following topics:

Preparation Worksheets

During the installation and setup process, you enter values that are used to do the following:

- Allocate data sets.
- Set initial parameters.
- Prepare for the use of your product.

You can print out the worksheets in this section to record the values needed for your site when installing the product.

Installation

This worksheet helps you gather information required for installation.

Job Information

Gather the following job information:

Batch job class

Record the value that your site uses here:

Class = _____

Default: A

Batch job class for tape mounts

(Tape only) Record the value that your site uses here:

Class = _____

Instructions to operator

Record any instructions here:

_____

_____

_____

Tape Unloading

If you are installing from tape, gather the following information related to tape unloading:

Tape unit

Record the value that your site uses for UNIT=*?device_in* here:

UNIT = _____

Example: CART

Tape volume serial number

Record the value that your site uses for VOL=SER=*?tapeser* here:

VOL=SER = _____

Example: C2D710

Tape expiry date

Record the values that your site uses here:

Expiry Date = _____

Example: 98000

Gather the following information related to the DASD to which the software is unloaded:

Data set prefix

Do not include the name of your planned product region.

Limits: Maximum 29 characters

Record the value that your site uses here:

?dsnpref = _____

DASD unit

Record the value that your site uses here:

?device_out = _____

DASD volume serial number

Record the value that your site uses here:

?volser = _____

Installation Parameters

Gather the following information related to installation parameters:

Allocation Parameters

Use these prefixes for high-level qualifiers for the different data set groups.

Record the values that your site uses here:

SMP/E Target

Data Set Prefix = _____

Management class = _____

Storage class = _____

Volume serial number = _____

Unit = _____

SMP/E Distribution

Data Set Prefix = _____

Management class = _____

Storage class = _____

Volume serial number = _____

Unit = _____

SMP/E Libraries

Data Set Prefix = _____

Management class = _____

Storage class = _____

Volume serial number = _____

Unit = _____

SMP/E CSI

Data Set Prefix = _____

Management class = _____

Storage class = _____

Volume serial number = _____

SMPTLIB

Data Set Prefix = _____

Volume serial number = _____

Unit = _____

Language Environment Parameters

Record these language environment values:

Language Environment link-edit input 2

Record the value that your site uses here:

SCEEBND2 = _____

Default: CEE.SCEEBND2

Language Environment link-edit input

Record the value that your site uses here:

SCEELIB = _____

Default: CEE.SCEELIB

Language Environment library

Record the value that your site uses here:

SCEELKED = _____

Default: CEE.SCEELKED

System Programmer C routines

Record the value that your site uses here:

SCEESPC = _____

Default: CEE.SCEESPC

IBM macros

Record the value that your site uses here:

MODGEN = _____

Default: SYS1.MODGEN

Data set that contains the GIMZPOOL member

Record the value that your site uses here:

_____

Default: SYS1.MACLIB

Region Setup

This worksheet helps you gather information required for region setup.

SOLVE Subsystem Interface Region

Gather the following information related to the SOLVE Subsystem Interface region:

Name of the SOLVE SSI started task (*ssiname*)

Record the value that your site uses here:

_____

Default: SOLVESSI

Name of the SOLVE SSI SYSIN member

This member contains control statements for starting the SOLVE SSI.

Record the value that your site uses here:

SYSIN = _____

Default: SSISYSIN

Name of the optional SOLVE SSI parameter member

This member contains startup parameters for the SOLVE SSI. If omitted, startup parameters are included in the SOLVE SSI SYSIN member previously described.

Record the value that your site uses here:

PARAMETER = _____

Subsystem ID for a SOLVE SSI started task

Record the value that your site uses here:

SSID = _____

Default: SOLV

Prefix for SOLVE SSI data sets

Record the value that your site uses here:

_____

Default: *dsnpref*

Product Region

Gather the following information related to the product region:

Product region started task name (*rname*)

Record the value that your site uses here:

_____

Default: NM

Product region SYSIN member name

Record the value that your site uses here:

SYSIN = _____

Default: RUNSYSIN

Primary VTAM ACB name for the product region

Record the value that your site uses here:

PRI = _____

Default: NM

Mixed case passwords

Specifies whether case is preserved (YES) or forced to uppercase (NO):

___

Default: NO

Security exit setting (NO|PARTSAF|NMSAF|*lmname*)

Record the value that your site uses here:

SEC = _____

Default: NO

Note: For more information about setting your security exit, see the *Security Guide*.

SYSOUT

Specifies SYSOUT subparameters. You can specify a class, a writer, and a form.

_____

Default: *

Prefix for VSAM data sets local to the product region

Record the value that your site uses here:

_____

Default: *dsnpref.rname*

Prefix for sequential data sets local to the product region

Record the value that your site uses here:

_____

Default: *dsnpref.rname*

Prefix for TESTEXEC

Record the value that your site uses here:

_____

Default: *dsnpref.rname*

Prefix for UAMS or full name of existing UAMS

Record the value that your site uses here:

_____

Default: *dsnpref*

Prefix for shareable VSAM data sets

Record the value that your site uses here:

_____

Default: *dsnpref*.OPB9

Prefix for shareable PARMLIB data sets

Record the value that your site uses here:

_____

Default: *dsnpref*.OPB9.PARMLIB

AOM subsystem interface ID

Record the value that your site uses here:

AOMSSID = _____

Default: Domain ID of the region

Note: Verify that this value does not conflict with other subsystems. The AOM subsystem interface enables system message flow to the region.

AOM message suppression character

Record the value that your site uses here:

_____

Default: /

AOM SSI command prefix string

Record the value that your site uses here:

_____

Default: d*omain_id>*

Note: If you use a command string prefix for other tasks, verify that this value is not in conflict with them.

External application ACB pool names

Full-screen terminal prefix

Record the value that your site uses here:

_____

Default: NMMAF

LU1 terminal prefix

Record the value that your site uses here:

_____

Default: NMMAV

VTAM Definitions

Gather the following information related to VTAM definitions:

VTAM major node name

Record the value that your site uses here:

_____

Default: VTAMAPPL

System macro library

Record the value that your site uses here:

_____

Default: SYS1.MACLIB

VTAM network definitions library

Record the value that your site uses here:

_____

Default: SYS1.VTAMLST

VTAM macro library

Record the value that your site uses here:

_____

Default: SYS1.SISTMAC1

VTAM load library

Record the value that your site uses here:

_____

Default: SYS1.VTAMLIB

(Optional) External Interface Package (EIP) ACB Prefix

Record the value that your site uses here:

_____

Default: NMTSO

Startup Tasks

This worksheet helps you gather information related to the startup tasks.

Initial administrator user ID

Record the value that your site uses here:

_____

Initial administrator password

Record the value that your site uses here:

_____

Port number for WebCenter

Record the value that your site uses here:

_____

Default: NONE

Post-installation Worksheet

After you have completed the installation and setup processes, you can record the data set names generated by the Install Utility for future reference.

You can print out the following worksheet now, and record this information as you progress through this guide.

Installation data set

Record the value generated by the Install Utility here:

_____

Default: *dsnpref*.OPB9.CC2DJCL

Installation JCL data set

Record the value generated by the Install Utility here:

_____

Default: *dsnpref*.OPB9.INSTALL.JCL

SOLVE SSI setup JCL data set

Record the value generated by the Install Utility here:

_____

Default: *dsnpref*.OPB9.*ssiname*.JCL

Product region setup JCL data set

Record the value generated by the Install Utility here:

_____

Default: *dsnpref*.OPB9.*rname*.JCL

VTAM JCL data set

Record the value generated by the Install Utility here:

_____

Default: *dsnpref*.OPB9.VTAM.JCL

Appendix B: Defining UNIX System Services Authorization

This section contains the following topics:

USS Authorization Requirements

To complete this task you must have the following:

- Administrative access to your security package
- OMVS shell write privileges

To authorize a user, you can use one of the following:

- Default OMVS segment
- Specific OMVS segment

Set Up OMVS Segment

Use this procedure to set up an OMVS segment.

Follow these steps:

1. Assign an OMVS UID number to each user ID. Your security administrator may have a policy for assigning OMVS UID numbers. If not, use a unique number.

   Note: For more information about OMVS UID numbers, see IBM's *UNIX System Services Planning* guide.

2. Define the OMVS segment for the user. For a user ID *uuuuuuu* and UID number *nnn*, enter the following commands:

   - For CA ACF2 for z/OS systems, enter the following commands:

     ```
     SET PROFILE(USER) DIV(OMVS)
     INSERT uuuuuuu UID(nnn) HOME(/) PROGRAM(/bin/sh)
     ```

   - For CA Top Secret for z/OS systems, enter the following commands:

     ```
     TSS ADD(uuuuuuu) HOME(/) OMVSPGM(/bin/sh) UID(nnn)
     GROUP(OMVSGRP)
     ```

   - For RACF systems, enter the following command:

     ```
     ALU uuuuuuu OMVS(UID(nnn) HOME(/) PROGRAM(/bin/sh))
     ```

   Note: The OMVS segment must contain the following:

   - A home directory (HOME)
   - A login shell (PROGRAM or OMVSPGM)

3. Complete this process for each user ID that you want to authorize. To confirm the contents of the OMVS segment enter the following commands:

   - For CA ACF2 for z/OS systems, enter the following commands:

     ```
     SET PROFILE(USER) DIV(OMVS)
     LIST uuuuuu
     ```

   - For CA Top Secret for z/OS systems, enter the following command:

     ```
     TSS LIS(uuuuuu) DATA(ALL)
     ```

   - For RACF systems, enter the following command:

     ```
     LISTUSER uuuuuu OMVS NORACF
     ```

4. Assign a home directory to each user ID, and ensure that it exists and that the UID has at least READ access to it.

   You can use the UNIX root directory (/) as shown in Step 2, or you can use a customized home directory name.

   For example, to set up a directory named /u/name for UID*nnn*, issue the following commands in the OMVS UNIX shell:

   ```
   mkdir /u/name
   chown nnn /u/name
   chmod 777 /u/name
   ```

5. Confirm the owner and access to the directory by using the following command:

   ```
   ls -ld /u/name
   ```

   The following result appears:

   ```
   drwxrwxrwx   2 user  group  8192 Sep  31 14:58 /u/name
   ```

6. If you have previously installed this product and have authorized the UNIX shell, remove the previous authorization by using the following command:

   ```
   extattr -a/bin/sh
   ```

Appendix C: Tape Format

The following topics provide information about the function modification identifiers (FMIDs) and details about the format of the tapes that you receive to install your product.

Note: The tapes contain all files for all products in the CA SOLVE:Operations Automation family of products. Only some of the files apply to your product, and therefore, only the files necessary to install your product are unloaded.

This section contains the following topics:

FMID Descriptions

This product has the following FMIDs, which are codes that identify the release levels of a product:

CC2D710

Is the FMID for Management Services (MS).

CC2D71E

Is the FMID for PDSE Services (ME).

CC2D71H

Is the FMID for Health Checker (HC).

CC2HB90

Is the FMID for Operations Services (SS).

CDHDB90

Is the FMID for Operations CICS Services.

Format of Cartridge VOLSER C2D710

This table lists the file sequence numbers, data set names, and data set contents for the first tape.

Files	DSN	Contents
1	CAI.SAMPJCL	Installation and maintenance JCL members
2	CAI.SMPMCS	Modification control statements (MCSs) containing functions and all published SYSMODs for those functions
3	CAI.CC2D710.F1	JCLIN for CC2D710
4	CAI.CC2D710.F2	NCAL-linked MODS for CC2D710
5	CAI.CC2D710.F3	++MAC for CC2D710 (RECFM=FB)
6	CAI.CC2D710.F4	++DATA for CC2D710 (RECFM=VB)
7	CAI.CC2D71H.F1	JCLIN for CC2D71H
8	CAI.CC2D71H.F2	NCAL-linked MODS for CC2D71H
9	CAI.CC2D71H.F3	Installation and maintenance JCL members
10	CAI.CC2D71E.F1	JCLIN for CC2D71E
11	CAI.CC2D71E.F2	NCAL-linked MODS for CC2D71E
12	CAI.CC2HB90.F1	++MAC for CC2HB90 (RECFM=FB)
13	CAI.CC2HB90.F2	++DATA for CC2HB90 (RECFM=VB)
14	CAI.CC2HB90.F3	XML data for CA MSM
15	CAI.CDHDB9.F1	JCLIN for CDHDB90
16	CAI.CDHDB9.F2	NCAL-linked MODS for CDHDB90
17	CAI.CDHDB9.F3	++MAC for CDHDB90 (RECFM=FB)
18	CAI.CDHDB9.F4	++DATA for CDHDB90 (RECFM=VB)
19	CAI.CDHDB9.F5	XML data for CA MSM

Index

R

S

T

U

V

W

Z