CA Workload Automation CA 7® Edition

Installation Guide

Version 12.0.00

Second Edition

CA Technologies Product References

This document references the following CA Technologies products:

- CA Workload Automation CA 7® Edition, (CA WA CA 7 Edition), formerly CA Workload Automation SE and CA 7® Workload Automation
- CA 1® Tape Management (CA 1)
- CA 7® Web Client
- CA Chorus™ Software Manager (CA CSM)
- CA Chorus™
- CA Datacom/AD
- CA Easytrieve® Report Generator (CA Easytrieve)
- CA Integrated Agent Services (CA IAS)
- CA JCLCheck™ Workload Automation (CA JCLCheck)
- CA Librarian®
- CA Mainframe Software Manager™ (CA MSM)
- CA OPS/MVS® Event Management and Automation (CA OPS/MVS)
- CA Panvalet®
- CA Scheduler® Job Management (CA Scheduler)
- CA Top Secret®
- CA Workload Automation AE
- CA Workload Automation iDash
- CA Workload Automation Restart Option for z/OS Schedulers (CA WA Restart Option), formerly CA 11™ Workload Automation Restart and Tracking

Contact CA Technologies

Contact CA Support

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

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

Providing Feedback About Product Documentation

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

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

Documentation Changes

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

- Issues Identified (see page 220)—Changes to this existing topic.
- Database Validation Messages (see page 222)—Changes to this existing topic.
- CAL2DCVS Utility (see page 226)—Moved to this guide because the utility is used only during the installation process.

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Chapter 1: Overview

This section contains the following topics:

Audience

This document discusses product installation and upgrade requirements of CA Workload Automation CA 7® Edition Version 12.0. This document does not offer detailed information about implementation, product operation, interfaces, or other specific features.

After the installation is complete, see the *Security Reference Guide* for more information about the security environment.

The *Systems Programming Guide* offers the most detailed technical information about options and features of CA WA CA 7 Edition. The *Interface Reference Guide* provides guidance on the implementation and use of interfaces between CA WA CA 7 Edition and other products.

Consult the following guides for details on defining, scheduling, and controlling the workload:

- *Primer*
- *Command Reference Guide*
- *Database Maintenance Guide*
- *Interface Reference Guide*

Important! If you are upgrading from an earlier release of CA WA CA 7 Edition, pay close attention to the information in the *Release Notes*. That document discusses important differences that can affect your installation.

This document assumes that you understand:

- JCL
- TSO/ISPF
- z/OS environment and installing software in this environment

- z/OS UNIX System Services
- Your site needs

Consult with the following personnel, as required:

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

About This Version

In CA WA CA 7 Edition Version 12.0, the primary repository of scheduling data (workload definitions, active workload status records, and workload history) is a CA Datacom database. This document assumes that you use the CA Datacom/AD common component.

In earlier versions, scheduling data was stored in various formats in VSAM and direct-access files. These files were allocated to the programs needing access to the data such as CA7ONL, JFI, DBVR, and others.

CA WA CA 7 Edition programs no longer allocate the repository. Instead, they access data through a CA Datacom/AD address space known as a Multi-User Facility or MUF. The MUF allocates the database and handles requests for access using either cross-memory services or XCF depending on the location of the requesting program.

Each database that a MUF supports is assigned a number that is known as a DBID. DBID=770 identifies the database reserved for use with CA WA CA 7 Edition. A MUF contains only one such DBID 770 database; however it can be shared among multiple instances of CA WA CA 7 Edition.

Each instance is restricted to a subset of the database known as a *logical database*. The name of the logical database is a required parameter for programs that access scheduling data (this parameter is provided in the DBPARMS input). The key that the program constructs begins with this logical database name. This effectively partitions the physical database into subsets or *logical* databases.

Thus to access scheduling data in this version, a CA WA CA 7 Edition program (like UCC7) must:

- Identify the MUF that allocates the physical database containing the scheduling data. This identification is accomplished by including selected MUF data sets in the load library concatenation of the program.
- Target a subset of the physical database by providing the logical database name as an input parameter to the program (DBPARMS).

These issues are discussed in greater detail later in this document.

How the Installation Process Works

To install a mainframe product requires the following tasks:

1. **Prepare** for installation – evaluate your site's needs, resources, and the requirements of the installation.
2. **Acquire** the product – make the software available at your site.
3. **Install** the product with SMP/E – create an SMP/E environment and run the RECEIVE, APPLY, and ACCEPT steps.
4. **Deploy** the product – copy the target libraries to other destinations (LPARs, systems).
5. **Configure** the product – customize the installation to satisfy site needs.

The time and effort implied in steps 2 through 5 can be greatly reduced when you use CA Chorus™ Software Manager (CA CSM).

CA Technologies recommends that you use CA CSM - formerly known as CA Mainframe Software Manager™ (CA MSM) - to install CA Technologies products on z/OS systems. The CA CSM web-based interface lets you install products faster and with less chance of error. It also makes it easier to obtain and apply maintenance. With CA CSM, even someone with limited knowledge of JCL and SMP/E can install and maintain a product.

Note: If you do not have CA CSM, you can download it from the Download Center at http://ca.com/support. Follow the installation instructions in the CA Chorus Software Manager documentation bookshelf on the CA Chorus Software Manager product page.

If you do not use CA CSM to install CA WA CA 7 Edition Version 12.0, you can manually install the product. The same tasks are required:

1. **Prepare** for the installation by confirming that your site meets all installation requirements.
2. **Acquire** the product using one of the following methods:
   - Download the software from http://ca.com/support using CA CSM.
   - Download the software from http://ca.com/support using Pax-Enhanced Electronic Software Delivery (Pax ESD).
   - Order a product DVD. To do so, contact your account manager or a CA Technologies Support representative.

3. **Install** the product with SMP/E using one of the following methods:
   - If you used CA CSM to acquire the product, start the installation process from the SMP/E Environments tab in CA CSM.
   - If you used Pax ESD to acquire the product, you can install the product in the following ways:
     - Install the product manually.
     - Complete the SMP/E installation using the Add Product option in CA CSM.
   - If you used a 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 CSM to configure your products, a CA CSM deployment is required.
   - If you are using a manual configuration process, a manual deployment is an optional step.

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

   Note: Configuration is considered part of starting your product.

How the Upgrade Process Works

Important! This guide only discusses the upgrade process from r11.3. If you are upgrading from a release before r11.3, contact CA Support.

To upgrade CA WA CA 7 Edition, follow the steps to install the product as outlined in this guide. You will:

- **Prepare** for the upgrade
- **Acquire** the product
- **Install** the product into your SMP/E environment
- **Deploy** the product as needed
- **Configure** CA Datacom/AD for use with the product
- **Configure** the product

When you complete these steps, you have a working copy of CA WA CA 7 Edition Version 12.0 suitable for testing.

But when you upgrade, more tasks are required before you can use this release in your production environment. You must:

- **Convert** your existing scheduling data

  The scheduling data in the release you are now using is stored in various formats in VSAM and direct-access files. CA WA CA 7 Edition Version 12.0 requires that the data be converted and then loaded into CA Datacom/AD tables.

Because it is important to ensure that the scheduling information you currently have is preserved for your upgrade, the release also requires you to:

- **Validate** your converted scheduling data

These additional tasks make the upgrade experience for Version 12.0 different from the experience in previous releases. In previous releases, an upgrade was basically an installation with program and environment modifications. The scheduling data did not require modification to be used in the new release.

A Suggested Update Path

We suggest an upgrade path. Getting your existing scheduling data ready for conversion can require some manual effort. For that reason, we think that it is a good idea to try out this process in a test environment before you actually promote the release to production.

Note: This process merely supplements the guidance that is offered in the following chapters. Do not regard this topic as a substitute for that guidance.

To upgrade using this path, you perform the following tasks:

- Install the product on a test system
- Test the product on the test system using scheduling data that the installation generated
- Test the conversion of production scheduling data on your test system
- Promote to production

This process is unpacked in greater detail in the topics that follow.

Install the product on a test system

Step 1: Prepare for the upgrade--discussed in Preparing for Installation

Step 2: Acquire the product—discussed in Acquiring CA WA CA 7 Edition

Step 3: Install the product using SMP/E (this task includes applying site-specific maintenance as needed.)—discussed in Installing Your Product Using CA CSM and Installing Your Product Using Pax ESD or DVD

Step 4: Deploy the product to a test system—discussed in Starting Your Product

Test the product on the test system using scheduling data generated by install

Step 5: Configure the product for initial testing—discussed in Starting Your Product

Step 6: Start the product for initial testing—discussed in Starting Your Product

Test the conversion of production scheduling data on the test system

Step 7: Convert production data for use on test system—discussed in Database Conversion

Step 8: Start the product on test system using converted production data

Promote to production

Step 9: Deploy the product to the production system

Step 10: Configure the product for the production system

Step 11: Convert your production data

Step 12: Start the product in production

Repeat steps 9-12 for each production instance.

The following topics offer a brief overview of each step. More detailed information is provided in the other chapters that are mentioned.

Step 1: Prepare for the Upgrade

Read this guide in its entirety, the *Release Notes*, and other recommended material so that you can understand the process as a whole. This material helps you prepare for the installation. As you read this guide, pay close attention to the remarks concerning an upgrade. A number of important differences between r11.3 and the new release are discussed in Upgrade Considerations (see page 60).

Also, understanding how the product is used at your site is important. That understanding helps you ensure that the product continues to provide the functionality you have come to expect. Options and features that the new release introduced can change product behavior in ways you do not anticipate. Become familiar with the *Release Note*s. With that information, you can get a good sense of what to expect from the upgrade.

Another important part of the install preparation is finding an appropriate environment in which to test the new release. If at all possible, try to secure the use of a *test system* where you can test the new release without affecting your production environment. If you cannot use such a system and must deploy the new release on the system hosting the earlier release, consider assigning another tracking instance to use with the new release. If you are unable to use a tracking instance, you can do some product testing with a nontracking instance.

Note: For more information about tracking, see the *Systems Programming Guide*.

You also decide whether you to use CA CSM for all or part of the product installation.

Note: Even if you decide to use CA CSM to install the product, you still must convert and validate your existing scheduling data. These tasks are not strictly part of product installation. They are not included in the CA CSM installation process.

Also remember that this release requires CA Datacom/AD services. This guide discusses use of CA Datacom/AD. As you prepare to install CA WA CA 7 Edition, you want to ensure that the MUF services are available wherever you intend to run CA7ONL, Jobflow Illustrator (JFI), Jobflow Monitor (JFM), or any other program that requires access to CA WA CA 7 Edition scheduling data.

Take care to preserve your existing environment (load libraries, SYSGEN information, JCLLIB, and more) so that it is available in the unlikely event that you have to stop using the new release and return to the old one (reversion).

This step is further discussed in Preparing for Installation (see page 27).

Step 2: Acquire the Product

This step is further discussed in Acquiring CA WA CA 7 Edition (see page 67).

Step 3: Install the Product Using SMP/E

This step is further discussed in Installing Your Product Using CA CSM (see page 71) and Installing Your Product Using Pax ESD or DVD (see page 81).

CA WA CA 7 Edition Version 12.0 is installed into its own SMP/E Environment (CSI and data sets). This installation prevents any deletion of the current environment that you are using in a production environment. After you are successfully running CA WA CA 7 Edition 12.0 in your production environment (without possibility of a back out), you can remove the CA 7 r11.3 SMP/E environment by deleting the SMP/E CSI and all associated data sets.

If either of these products have already been installed due to the installation of another product (such as CA JCLCheck or CA WA Restart Option (CA 11)), remove them from the SMP/E environment that is dedicated to CA WA CA 7 Edition Version 12.0:

- CA Critical Path Monitor (CPM)
- CA Generalized Transaction Server (CA GTS)

Apply any maintenance that your site requires (USERMODs, and others).

Note: *All* tables and exits must be reassembled using the CA WA CA 7 Edition Version 12.0 macros. For more information, see the *Release Notes*.

Step 4: Deploy the Product to a Test System

This step is further discussed in Starting Your Product (see page 105).

This upgrade path assumes that you found a test system or another environment appropriate for testing the new release.

Note to NCF sites: Upgrade the NCF1 sites (where CA WA CA 7 Edition is executed) to the new release before upgrading any NCF2 sites (where CA WA CA 7 Edition is not executed). For more information about installing NCF, see the *Interface Reference Guide*.

Be aware of the placement of the CA WA CA 7 Edition elements for each release if using compatibility mode. If the elements are in system libraries, such as the linklist and PROCLIBs, ensure that jobs are pointing to the appropriate release for execution.

Step 5: Configure the Product for Initial Testing

In this step, you configure the product for *initial* testing. You are *not* using production scheduling data. Initial testing lets you try out features of the new release, verify scheduling/tracking functionality and any user exit changes that you have.

Even if you do not want to do such initial testing, you still must configure the product as discussed in Starting Your Product (see page 105).

As you follow the steps that are outlined in Starting Your Product (see page 105), you execute a SYSGEN and build a JCLLIB for the instance. This SYSGEN requires that you specify a logical database name.

When the product writes to the CA Datacom/AD database (DBID=770), it tags each element with the logical database name. That name was specified on the DBPARMS statement. This process lets multiple instances of the product to share use of the database.

In this SYSGEN, consider a name that clearly states you are doing initial product testing, like INITIAL_TEST or V12_TESTING.

In this step, you reconcile the JCLLIB created by this SYSGEN with your r11.3 JCLLIB and change accordingly.

Step 6: Start the Product for Initial Testing

Starting Your Product (see page 105) continues with more steps that you take to configure the product.

You start using the product interface to CA Datacom/AD when you execute the N220 job to define the installation verification (IVP) jobs. This process is described in Execute in Batch Mode to Define IVP Jobs (N220) (see page 144).

Starting Your Product (see page 105) discusses starting the address spaces that are required for initial product testing. The following address spaces are required for the activities that are described in Installation Verification Process (see page 155):

- ICOM
- CA Datacom/AD MUF
- CA7ONL

Some enterprises require testing these address spaces also:

- Jobflow Monitor (JFM)
- CA 7 Web Client
- NCF

This release introduces changes to the startup and shutdown behavior of CA7ONL. These changes are mentioned in *Release Notes* and are described in greater detail in the *Systems Programming Guide*.

Step 7: Convert Production Data for Use on Test System

After you finish initial product testing with the logical database described previously, you can test the conversion of scheduling data from your r11.3 production system. You can use the instance that you used in Step 6.

Follow the steps in Database Conversion (see page 163) using backups of your production data sets. If you like, you can save the output of a workload forecast before you bring your r11.3 instance down for the conversion. Then, you can request the same forecast in the next step and can compare the results.

For this step, consider a logical database name that indicates you are testing conversion such as TEST_CONVERT or CONVERSIONTEST. This name is the name that is appended to your converted production records.

Step 8: Start the Product on Test System Using Converted Production Data

You are now ready to begin testing CA7ONL with the logical database described in the previous step. You shut down the CA7ONL that you started in Step 6. Next, change the DBPARMS to specify the name of the logical database that you used in Step 7.

Remember that you are working with a copy of your production scheduling data. Take care to avoid options that could yield unintended consequences. Consider deactivating schedule scan, stopping the queues, or using options like RUNOPT=REPT to ensure that this instance does not submit production work.

Ensure that the MUF is available. Next, restart CA7ONL with the logical database containing your converted production data.

Because you ran the IVP test suite in Step 6, this step does not require it.

To test, you can issue basic monitoring commands. You can verify that the data in the queues matches what you saw in your r11.3 instance before the conversion. You can also compare the results of forecasting as mentioned in Step 7.

Step 9: Deploy the Product to Production System

You have successfully converted your production scheduling data and tested on a test system. You have a good understanding of what to expect when you promote the product to the production system.

Deploying the product is discussed in Starting Your Product (see page 105).

Be aware of the placement of the CA WA CA 7 Edition elements for each release if using compatibility mode. If any elements are in system libraries, like the linklist and PROCLIBs, ensure that jobs are pointing to the appropriate release for execution.

Note to NCF sites: Upgrade the NCF1 sites (where CA WA CA 7 Edition is executed) to the new release before upgrading any NCF2 sites (where CA WA CA 7 Edition is not executed). For more information about NCF, see the *Interface Reference Guide*.

Step 10: Configure the Product for the Production System

In this step, you configure the product for use in the production environment.

If the configuration (data sets, options, and others) that you completed earlier suffices, you can proceed to the next step. If not, review the steps that are outlined in Starting Your Product (see page 105) to complete configuration for production.

Step 11: Convert Production Data for use on Production System

Follow the steps that are discussed in Database Conversion (see page 163).

When you have successfully completed converting your existing scheduling data, you are ready to start the product in production.

Step 12: Start the Product on Production System

Start CA7ONL using the logical database name that you used in Step 11.

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:

Checklists

The Checklists (see page 175) appendix contains several checklists that you can use to plan to prepare, install, deploy, and configure. These checklists are for assistance only and are not complete by themselves.

The master preparation checklist (see page 170) describes what you do before starting the CA WA CA 7 Edition product installation.

Complete this checklist before beginning installation. Use the completed checklist to complete the other installation steps. If you already have installed the product, you can probably skip some checklist items. Some items are probably not relevant for this installation. However, all sites require the SMP/E installation, a full SYSGEN, and deployment to the production environment.

More information:

Checklists (see page 169)

Hardware Requirements

For optimal system performance, install the product on an IBM z/Series platform. IBM Communications Services requires appropriate hardware for network communications.

CA WA CA 7 Edition supports DASD device type 3390.

Memory Requirements

CA7ONL

This address space controls job scheduling. CA7ONL also provides terminal support for user requests.

On one host CPU, CA7ONL requires the following storage:

- At least 8-MB virtual storage below the line (24-bit storage)
- At least 32 MB above the line (31-bit storage)
- At least 25 GB above the bar (64-bit storage).

As product use increases, so do the virtual storage requirements.

The CA7ONL virtual storage needs also vary depending on the options in effect. The CA7ONL JCL that the STAGE I process generates specifies REGION=0M. We recommend this setting. If you specify REGION=0M, you do not have to adjust storage when you decide to exploit new options.

But if you do not code REGION=0M, consider increasing the region size when you use:

- Many terminals — Each terminal has a set of associated control blocks. The amount of storage that is used varies by terminal type.
- User exits that require extra storage — Review each exit for explicit storage requests. Also be aware of storage that is requested implicitly (usually through interfaces to other services).
- The interface with CA JCLCheck — Increase the REGION value by at least 512 KB.
- RESTART,ARF=YES or MAINT — Increase the region size by at least 1024 KB.
- Parallel Submission (PSP=Y on the OPTIONS statement) — Each submission task requires more storage for its control blocks. The value of the MAXSUBOUT keyword on the OPTIONS statement controls the number of these tasks.
- XPJOBs — CA7ONL requires more 31-bit storage to submit cross-platform jobs (XPJOBs). The amount varies depending on the number of nodes that are defined. Generally, one node table occupies 8 KB and contains 25 entries. The maximum size of the data that is transmitted to a CA Universal agent is 17024 bytes.
- CA WA System Agents — The CA IAS programs require more 31-bit storage.

  Note: For more information, see the *CA Integrated Agent Services Implementation Guide*.

You can execute CA7ONL as a started task or a batch job.

Note: Because CA7ONL issues a SYSEVENT DONTSWAP, some of the LSQA pages can be flagged as long-term page fixed. If you are partitioning the computer, recycle CA7ONL across the split. To prevent the necessity of recycling, update the SYS1.PARMLIB SCHED*xx* member. Simply add a PPT entry for CA7ONL to indicate SPREF and LPREF. If you are not partitioning, no problem probably exists, and no updates are required.

ICOM

CA WA CA 7 Edition Independent Communications Manager (ICOM) collects the execution feedback and forwards it to CA7ONL. An ICOM must run wherever a CA7ONL submitted job executes. Each instance of ICOM requires approximately 512 KB of virtual storage.

This task can be executed as a started task or a batch job.

JFM

Jobflow Monitor provides information about the CA7ONL workload to interested components such as Critical Path Monitoring (CPM), the Web Client, and iDash. Each JFM address space needs at least 256 MB of 64-bit memory. The amount of extra storage that is required depends on the size of the workload that is monitored. The storage needs also vary according to the number and scope of the queries received.

This task can be executed as a started task or a batch job.

Note: For more information about JFM storage requirements, see the *Interface Reference Guide*.

Software Requirements

The following software is required for your product:

- IBM supported release of z/OS
- IBM supported release of JES2 or JES3
- SMP/E
- IBM Communications Server (VTAM and TCP/IP)
- CA Datacom/AD
- IBM supported release of Language Environment (LE)
- CA Common Services

CA Common Services Requirements

The CA WA CA 7 Edition installation requires the following CA Common Services features at r14 or higher:

- CA LMP
- CAIRIM
- CAISSF
- CA Datacom/AD

CA WA CA 7 Edition optionally uses the following CA Common Services:

- CA-C Runtime
- CA Earl
- CA Easytrieve
- CA JCLCheck Common Component
- CAICCI
- CAIENF
- CAISDI/els - Service Desk Integration
- Cross-Platform Scheduling Common Component
- Viewpoint
- zIIP Enablement Service

Note: For more information about options and their associated services that CA WA CA 7 Edition uses, see CA Common Services Used by CA WA CA 7 Edition (see page 237).

Ensure that the services you need are available before proceeding with the installation of CA WA CA 7 Edition.

Note: For more information about installing and maintaining these services, see the *CA Common Services Getting Started*.

Install or upgrade these services as necessary and consider the following items:

- Ensure that you have a CAIRIM initialization control statement for CAISSF. See the Standard Security Facility (CAISSF) in the *CA Common Services Administrator Guide*. The CAL2OPTN member AL2RIM supplies the sample CAIRIM initialization statements for CA WA CA 7 Edition and CAISSF.
- CAIRIM requires APF authorization of some common libraries. The individual product libraries, like CA WA CA 7 Edition, also require APF authorization.

NCF2 sites require only the CAIRIM, CAISSF, and CA LMP components.

Note: For more information, see the *CA Common Services Getting Started* and *Administrator Guide*.

CA Datacom/AD

CA WA CA 7 Edition data resides in CA Datacom/AD tables. Thus, you must ensure the availability of a CA Datacom/AD environment for use with CA WA CA 7 Edition.

This release requires CA Datacom/AD Version 14.0 or higher.

- If you do not already have CA Datacom/AD Version 14.0, install it before proceeding with the CA WA CA 7 Edition installation. This installation is discussed in the section that follows, Install CA Datacom/AD (see page 31).
- If you are already using CA Datacom/AD Version 14.0, ensure that all available maintenance has been applied. This installation is discussed in Update CA Datacom/AD (see page 32).

Install CA Datacom/AD

CA WA CA 7 Edition Version 12.0 requires CA Datacom/AD Version 14.0 or higher.

The optimal configuration dedicates a CA Datacom/AD MUF (Multi-User Facility) to CA WA CA 7 Edition Version 12.0. Because some products like CA CSM or CAIENF are intensive consumers of MUF services, they should not share the MUF with CA WA CA 7 Edition.

CA Datacom/AD comes with its own installation guides.

Note: For more information, see the *CA Datacom/AD Version 14.0.0 Installation Guide for z/OS*.

Update CA Datacom/AD

If you have CA Datacom/AD installed, ensure the following PTFs are applied to the system that CA WA CA 7 Edition uses:

- RO49754
- RO50149
- RO52117
- RO54284
- RO54667
- RO55905
- RO55447
- RO59917
- RO65436

Use the CA Support Online site to download these PTFs from the CA Datacom/AD pages. Ensure that your maintenance is as current as possible for CA Datacom/AD.

More configuration of CA Datacom/AD is required after the SMP/E install of CA WA CA 7 Edition. This configuration is discussed in How to Configure CA Datacom/AD for Use with CA WA CA 7 Edition (see page 112).

The backup and recovery procedures have changed in this version of CA WA CA 7 Edition. As you prepare CA Datacom/AD for use with CA WA CA 7 Edition, review the discussion of backup and recovery in the *Systems Programming Guide*. Use the sample JCL in that discussion as a guide to creating the backup and recovery jobs you can use at your site.

Security Requirements

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

- Read authority for the system-related data sets.
- Update authority for the CA WA CA 7 Edition JCLLIB, CA Datacom/AD, and SMP/E libraries.
- Superuser authority for the PAX file access.

Storage Requirements

Ensure that you have the following storage available:

- If you install the product with Pax ESD, 18 cylinders for the downloaded files
- For installation and setup:
  - Installation = 264 cylinders
  - SMP/E temporary libraries = 56 cylinders

The following topics describe each CA WA CA 7 Edition data set as to its contents, organization, space requirements, and DASD restrictions.

Consider the following sets of files:

- Target libraries
- Distribution libraries
- Permanent libraries

SMP/E installation involves other data sets, which are not mentioned here. They are the standard data sets for use by SMP/E. Standard data sets include log and work data sets, and the temporary storage data sets used during function and fix RECEIVE and APPLY processing.

Target Libraries

The following table shows the SMP/E target libraries.

Name	Description
CAI.CAL2CLS0	CLIST library
CAI.CAL2DATV	CA Datacom/AD mini tables
CAI.CAL2EARL	CA Earl source library
CAI.CAL2ECPB	CA Earl copybook library
CAI.CAL2EMAL	Sample email templates
CAI.CAL2EVNT	Sample templates for CA Service Desk
CAI.CAL2EXP	CA Datacom/AD plan data
CAI.CAL2EZTM	CA Easytrieve macro library
CAI.CAL2EZTR	CA Easytrieve source library
CAI.CAL2HELP	Help library

Name	Description
CAI.CAL2JCL	Sample JCL library
CAI.CAL2LOAD	Load library
CAI.CAL2MAC	Macro library
CAI.CAL2OPTN	Options (sample members) library
CAI.CAL2PLD	Jobflow Monitor load library
CAI.CAL2PNL0	ISPF panel library
CAI. CAL2SCST	CA CSM Skeleton JCL library
CAI.CAL2SIDE	Jobflow Monitor side deck library
CAI.CAL2SQL	SQL queries
CAI.CAL2SRC	Source library
CAI.CAL2TBL0	ISPF table library
CAI.CAL2XML	CA CSM XML library
CAI.CIASJCL	CA IAS JCL library
CAI.CIASLOAD	CA IAS load library
CAI.CIASOPTN	CA IAS options library
CAI.CCPMCLS0	CA CPM ISPF CLIST library
CAI.CCPMJCL	CA CPM JCL library
CAI.CCPMMSG0	CA CPM ISPF message library
CAI.CCPMPNL0	CA CPM ISPF panel library
CAI.CCPMTBL0	CA CPM ISPF table library
CAI.CCPMPARM	CA CPM parameter library
CAI.CCPMPROC	CA CPM procedure library
CAI.CCPMSIDE	CA CPM side deck library
CAI.CCPMPLD	CA CPM load library
CAI.CD51OPTN	CA GTS options library
CAI.CD51LOAD	CA GTS load library
CAI.CD51JCL	CA GTS JCL library
CAI.CD51PROC	CA GTS procedure library
CAI.CD51XML	CA GTS CA CSM XML library

Distribution Libraries

The following table shows the SMP/E distribution libraries.

Name	Description
CAI.AAL2CLS0	CLIST library
CAI.AAL2DATV	CA Datacom/AD mini tables
CAI.AAL2EARL	CA Earl source library
CAI.AAL2ECPB	CA Earl copy book library
CAI.AAL2EMAL	Email template library
CAI.AAL2EVNT	CA Service Desk template library
CAI.AAL2EXP	CA Datacom/AD plan data
CAI.AAL2EZTM	CA Easytrieve macro library
CAI.AAL2EZTR	CA Easytrieve source library
CAI.AAL2HELP	Help library
CAI.AAL2JCL	Sample JCL library
CAI.AAL2MAC	Macro library
CAI.AAL2MOD0	Load library
CAI.AAL2OPTN	Options (sample members) library
CAI.AAL2PNL0	ISPF panel library
CAI.AAL2SCST	CA CSM Skeleton JCL library
CAI.AAL2SIDE	JFM side deck (binder)
CA1.AAL2SQL	CA Datacom/AD SQL queries
CAI.AAL2SRC	Source library
CAI.AAL2TBL0	ISPF table library
CAI.AAL2XML	CA CSM XML library
CAI.AIASDATA	CA IAS data library
CAI.AIASJCL	CA IAS sample library
CAI.AIASMOD0	CA IAS load library
CAI.ACPMCLS0	CA CPM CLIST library
CAI.ACPMJCL	CA CPM JCL library
CAI.ACPMMOD0	CA CPM load library

Name	Description
CAI.ACPMMSG0	CA CPM ISPF message library
CAI.ACPMPARM	CA CPM parameter library
CAI.ACPMPNL0	CA CPM ISPF panel library
CAI.ACPMPROC	CA CPM ISPF procedure library
CAI.ACPMSIDE	CA CPM ISPF side deck library
CAI.ACPMTBL0	CA CPM ISPF table library
CAI.AD51JCL	CA GTS JCL library
CAI.AD51MOD0	CA GTS load library
CAI.AD51OPTN	CA GTS options library
CAI.AD51PROC	CA GTS procedures library
CAI.AD51XML	CA GTS CA CSM XML library

Permanent Data Sets

The default sizes are shown in the Stage 1 SYSGEN macro U7SPACE and amount to approximately 2000 tracks of 3390 space. These defaults are typically sufficient to define and control from 200 through 400 jobs depending on the average number of steps and DD statements per job. Obviously, the default sizes can be inadequate for sites running large workloads.

If you do not have enough information to estimate your space requirements, use the defaults and increase your allocations as needed using backup and reload procedures.

If you plan to use the CA WA System Agent interface, CA Integrated Agent Services (CA IAS), see the *CA Integrated Agent Services Implementation Guide* for information about its permanent files. The SYSGEN generated JCL for CA7ONL allocates these files. If you are using your existing CA7ONL JCL, be sure to include these files.

The following table summarizes the data set requirements.

Data Set	Organization	Online	Est. Space on 3390	DASD Restrictions
CA Datacom/AD database	DB	yes	variable (note 1)	none
JCL or PARM data sets	PO/LIB/PAN	yes	variable (note 1)	none
Checkpoint data set	PSU	yes	1 cyl	none
Communications data set (note 2)	PS	yes	minimum 50 tracks	(note 1)

Data Set	Organization	Online	Est. Space on 3390	DASD Restrictions
Submit data sets	PS	yes	1 cyl	none
Log data sets	PS	yes	At least 10 cyls	Both primary and secondary files must reside on the same volume
Log history/archives	PS	no	variable (note 1)	none
Batch terminal data sets	PS	yes	input: 5 tracks output: 10 cyls	none
Statistics data set	PS	yes	750 records of 1024 bytes each	none
Workload planning data sets	PS	yes	variable (note 1)	none
Browse data set	PS	yes	variable (note 1)	none
Override library	PO/LIB/PAN	yes	variable (note 1)	none
JCLLIB	PO	yes	1 cyl	none
CA JCLCheck options data set	PS/PO	yes	variable (note 3)	none
CA Driver procedure library	PO	yes	variable (note 4)	none
Model Problem Management interface transaction file	PS	yes	1 track (note 5)	none
Problem Management API deferred request	PS	yes	variable (note 5)	none
Calendar PDS	PO	yes	variable (note 1)	none
Perpetual Calendar PDS	PO	yes	variable (note 1)	none
Cross-Platform Scheduling Profile	PO	no	variable (note 1)	none
Cross-Platform Checkpoint file	PS	no	1 track (note 1)	none
MSMR control file	PS	yes	variable (note 6)	none
Email address library	PO	yes	variable (note 1)	none
Sample email templates	PO	yes	variable (note 1)	none
Sample templates for CA Service Desk	PO	yes	(note 7)	none
Agent Information	VSAM	yes	Variable (note 8)	none
Agent Definition	PS	yes	(note 8)	none
Encryption Keys	PS	yes	(note 8)	none

Data Set	Organization	Online	Est. Space on 3390	DASD Restrictions
IAS checkpoint	VSAM	yes	(note 8)	none
XCF data set	PS	yes	At least 3 cyls (note 1)	none
XCF checkpoint data set	PS	yes	1 track (note 1)	none

All data sets MUST be CONTIG except for the JCL, override, and CA WA CA 7 Edition JCLLIB libraries.

Note 1:

See the individual topics later in this chapter.

Note 2:

Shared DASD if multi-CPU.

Note 3:

Used only if you want the CA WA CA 7 Edition CA JCLCheck interface.

Note 4:

Used only if you want the CA Driver component.

Note 5:

Required with the Problem Management interface.

Note 6:

Required for CA WA CA 7 Edition Master Station Message Routing.

Note 7:

Used when installing the interface to CA Service Desk.

Note: For more information, see the *Interface Reference Guide*.

Note 8:

These files are only required if CA WA CA 7 Edition is to interface with CA WA System Agent r11.3 and above.

Note: For more information about each file, see the *CA Integrated Agent Services Implementation Guide*.

CA Datacom/AD Database

The CA Datacom/AD database is the primary repository for CA WA CA 7 Edition scheduling data.

Organization:

Relational database.

Space Requirements:

The space requirements can vary greatly. If you are upgrading from a previous release, you can estimate the space the MUF needs using the CAL2DCVS utility.

Note: For more information, see the CAL2DCVS Space Estimator utility in the *Systems Programming Guide*.

DASD Restrictions:

None.

JCL or Parameter Data Sets

The JCL or Parameter data sets contain the execution JCL or PARM data for the jobs defined in the database. When CA WA CA 7 Edition submits jobs, the data submitted is taken from these data sets. PDS, CA Panvalet, and CA Librarian organizations, in any combination, are supported. See also the override library topic.

For a JCL or PARM library whose organization is PDS, LRECL must be 80.

CA WA CA 7 Edition has no other unique requirements of these data sets. Allocate space at an amount that satisfies your requirements.

In a CA WA CA 7 Edition environment that uses UID security, a separate library for each UID is sometimes wanted. For related information about this security facility, see the UID macro in the *Security Reference Guide* and the UID field on the job definition panel.

For the required definitions of these data sets, see the initialization file JCL statement. An option exists to store the JCL/PARM data set definitions in the CA Datacom/AD database. To use this method, see the initialization file RESIDENT statement, keyword JCLDEFS= and the /JCL command.

Note: For more information about other functions related to accessing JCL, see JCL management in the *Database Maintenance Guide* and general inquiry facility in the *Command Reference Guide*.

Checkpoint Data Set

The checkpoint data set is used to record checkpoints for restart purposes.

Organization

Direct data set that is accessed through EXCP.

```
DCB=(DSORG=PSU)
```

Space Requirements

One cylinder (CONTIG), unmovable. A minimum of ten tracks suffices, but allocation must begin on a cylinder boundary. The checkpoint data set is unmovable. If the checkpoint data set is reallocated, perform one of the COLD types of starting CA WA CA 7 Edition.

DASD Restrictions

None.

Communications Data Set

The communications data set is used as a collection and transfer point for CA WA CA 7 Edition data and control information. In single and multiple CPU configurations, the data set provides an area for the Independent Communications Manager (ICOM) to store SMF and trailer data.

Organization

Similar to that of the queue data sets. The access method is EXCP.

```
DCB=(RECFM=F,BLKSIZE=1024,LRECL=1024)
```

Space Requirements

The amount of space that is required depends on the number of jobs that CA WA CA 7 Edition controls. The communications data set requires a minimum of 50 contiguous tracks.

DASD Restrictions

The data set must reside on a shared DASD device in multi-CPU environments.

Cross-Platform Scheduling Checkpoint

The Cross-Platform Scheduling Checkpoint data set contains checkpoint information that the Cross-Platform Tracking System (XTRK) uses to coordinate tracking functions with non-MVS platforms. For the sample JCL to allocate this file, see member AL2XPSCK in the JCL library (CAL2JCL).

Note: Each copy of XTRK requires its own checkpoint file.

Organization

DSORG=PS

DCB=(RECFM=FB,LRECL=4096,BLKSIZE=4096)

Space Requirements

One track on a 3390 device handles checkpointing for 425 remote nodes. Most of the sites find one track is sufficient.

DASD Restrictions

None.

Submit Data Sets

In the default configuration, *direct submission* of the CPU jobs is used. CA WA CA 7 Edition submits the CPU jobs by writing JCL directly to the internal reader on the CA WA CA 7 Edition host. This process is most efficient mode of CPU job submission. This method is typically used when CA WA CA 7 Edition is running in a shared spool or single CPU environment.

Also provided is an option for the *indirect submission* of the CPU jobs. With an indirect submission, CA WA CA 7 Edition can submit jobs to a system that does not share spool with the CA WA CA 7 Edition host. In that configuration, a file that is known as a *submit data set* is used to transfer JCL between CA WA CA 7 Edition and an ICOM running on another CPU. CA WA CA 7 Edition writes the JCL for the job to the submit data set. CA WA CA 7 Edition then signals that ICOM to read the JCL and write it to an internal reader there.

Note: The additional I/O and coordination that are required for this method make it a much slower and less efficient option than direct submission. We strongly recommend using direct submission where possible.

Organization

A physical sequential data set containing 80-byte records.

BLKSIZE must also be 80 bytes.

```
DCB=(RECFM=F,LRECL=80,BLKSIZE=80)
```

Space Requirements

One cylinder contiguous space or enough space to hold the JCL for the largest job that the data set is expected to contain.

DASD Restrictions

The submit data set must reside on a device that is shared between the CA WA CA 7 Edition host and the host of the submitting ICOM. The maximum number of submit data sets supported is six.

Log Data Sets

The log data sets contain physical sequential data sets, used to store SMF data that ICOM collects. The data sets contain records of certain events within CA WA CA 7 Edition and messages to CA WA CA 7 Edition. Two DASD data sets are allocated, and CA WA CA 7 Edition alternates their use automatically much like SMF data sets. The JOB parameter of the DBASE statement has more information.

Organization

Physical sequential.

```
DCB=(RECFM=VB,BLKSIZE=2104,LRECL=2100)
```

Note: BLKSIZE can be increased; however, CA WA CA 7 Edition only writes a maximum block of 2104 bytes.

Space Requirements

The amount of space that is required for log data sets depends on the following items:

- The number of jobs that are run under control of CA WA CA 7 Edition.
- The amount of data to record.
- The frequency of backups.

A maximum of two log data sets can exist. Suggested space allocation is at least ten cylinders per log data set. Allocate the space as contiguous.

DASD Restrictions

Both log data sets must reside on the same DASD volume. The log data set can reside on tape (in unblocked format) when available for permanent allocation to CA WA CA 7 Edition; however, we do not recommend this method.

Note: Maintenance of log files is through programs SASSHIS5 and SASSHIS6.

Batch Terminal Data Sets

The batch terminal data sets are input and output data set pairs that appear as terminals to CA WA CA 7 Edition. The input data set contains commands for CA WA CA 7 Edition applications. The output data set contains responses from those applications.

Organization

The batch terminal data sets are physical sequential. The input data set is an 80 byte unblocked or blocked file. The output data set is variable blocked with a maximum record length of 137.

```
Input data set: DCB=(RECFM=FB,LRECL=80,BLKSIZE=80 * n)
```

The block size on the input data set must match BUFSIZE in the LINE statement in the initialization file.

```
Output data set: DCB=(RECFM=VB,LRECL=137,BLKSIZE=137 * n + 4)
```

Note: *n* is a user-defined value.

Space Requirements

The input data set requires five tracks minimum. The output data set requires ten cylinders minimum. Allocate each data set in a single extent.

These allocations are recommendations only. The actual requirements can be more or less depending on intended use of the batch terminal. Up to eight batch terminal pairs of data sets can be defined.

DASD Restrictions

Do not use SMS for these files. If SMS is used, a DSNTYPE=EXT can cause problems across a CA WA CA 7 Edition shutdown, with BTI data being lost.

Statistics Data Set

The statistics data set contains records with statistics related to the system operation covering a two-year period. The data set is used to produce automated performance analysis graphs.

Organization

A physical sequential data set containing 1024-byte records. BLKSIZE must also be 1024 bytes.

```
DCB=(RECFM=F,LRECL=1024,BLKSIZE=1024)
```

Space Requirements

Contiguous space for 750 records of 1024 bytes each is required for this data set.

DASD Restrictions

None.

Note: A utility to merge two statistics data sets (STAT files) is provided. While this utility is not typically needed, it is available. See member AL2STATM in the CAL2JCL library. The merge is only at the day level— no split day merging can be done.

Workload Planning Data Sets

The workload planning data sets contain records with job and resource data that the FWLP command created. These data sets are selected individually with the DDNAME keyword of the FWLP command. Any number of these data sets can be defined to CA WA CA 7 Edition with their own DD statement in the CA WA CA 7 Edition execution JCL. Those data sets defined are then available for FWLP commands.

Organization

Physical sequential data sets containing card-image, fixed-format records. Allocate this file in a single extent.

```
DCB=(RECFM=FB,LRECL=80,BLKSIZE=80 * n)
```

Note: *n* is a user-defined value.

Space Requirements

The size of the data sets varies according to the amount of data that is included in the FWLP forecast timespan. Space must be allocated before CA WA CA 7 Edition is started. Depending on the efficiency of the block size that is chosen, allocate at least one cylinder for each data set.

DASD Restrictions

None.

Browse Data Set

The browse data set contains records of print-image messages that are produced for the master station. Each record contains the equivalent of one print line, exactly as it would appear on a printer device.

Organization

Physical sequential with 80-character, fixed-length records.

`DCB=(RECFM=FB,LRECL=80,BLKSIZE=80 * n)`

Note: *n* is a user-defined value.

A large block size can cause only buffering of messages and no writing to the browse data set in a timely manner. Too small a block size can cause performance problems (and bad use of DASD space) due to the number of messages going to browse. A block size of at least 1600 is recommended.

Space Requirements

Size of the data sets varies according to the frequency of messages and the time wanted to be available for online browsing. Whenever the end of extent is reached during an execution, the space that is allocated is automatically reused from the beginning.

DASD Restrictions

None.

Note: Allocate and define this file to CA WA CA 7 Edition.

HELP Library

The help library data set contains application descriptions, command formats, and sample commands for online reference.

Organization

Standard SMP/E target library.

`DCB=(RECFM=FB,LRECL=80,BLKSIZE=80 * n)`

Space Requirements

Allocated as part of the SMP/E install process. Examine the data set attributes after installation.

DASD Restrictions

None.

Override Library

The override library data set contains execution JCL that the user places here on a temporary or as needed basis. The JCL index value that is reserved for the override library is 254. For more information, see the USE-OVRD-LIB field on the job definition panel.

Organization

Partitioned Data Set (PDS), CA Panvalet, or CA Librarian. CA Panvalet and CA Librarian data set members are not deleted after the job runs.

Space Requirements

Variable depending on the amount and frequency of use and the size of run streams. Recommended minimum allocation is two cylinders.

DASD Restrictions

None.

Note: Allocate and define this file to CA WA CA 7 Edition.

CA JCLCheck Options Data Set

The options data set is an optional data set contains runtime options for CA JCLCheck. This data set is identified through the DDNAME keyword on the JCLCHECK initialization file statement. The data set is referenced at CA WA CA 7 Edition startup. Refer to CA JCLCheck for specifications.

Organization

Sequential card-image file or PDS member.

Space Requirements

Minimal, but varies by number of statements that are used to define CA JCLCheck runtime parameters.

DASD Restrictions

None.

JCLLIB Data Set

The JCLLIB data set is created during the system generation to contain the following items:

- Installation and maintenance jobs
- Initialization file that defines the environment
- Configurations for running CA WA CA 7 Edition
- DBPARMS file that defines the database.

Organization

Partitioned Data Set (PDS).

`DCB=(RECFM=FB,LRECL=80,BLKSIZE=80 * n)`

Space Requirements

One cylinder.

DASD Restrictions

None.

CA Driver Procedure Library

The CA Driver procedure library data set contains CA Driver procedures that are added manually. The DD statement CARPROC references this library. If this DD statement is present in the CA WA CA 7 Edition JCL, the CA Driver facility is activated.

Organization

Partitioned Data Set (PDS).

`DCB=(RECFM=FB,LRECL=80,BLKSIZE=80 * n)`

Space Requirements

Dependent on the number and size of the procedures used.

DASD Restrictions

None.

Model Problem Management Interface Transaction File

The Model Problem Management interface transaction file data set contains model API transactions.

Organization

Sequential card-image file or a PDS member.

Space Requirements

Minimal. Only large enough to contain the schema for those API transactions that you plan to issue for CA WA CA 7 Edition job completions.

DASD Restrictions

None.

Problem Management Interface API Deferred Request Data Set

The Problem Management Interface API deferred request data set contains API transactions. The real-time problem management interface issues the transactions when the interface receiver was inactive.

Organization

DSORG=PS

`DCB=(RECFM=FB,LRECL=80,BLKSIZE=80 * n)`

Space Requirements

File size depends on the number of API transactions that can be issued when the problem management receiver is inactive.

DASD Restrictions

None.

Calendar Library

The calendar library is an optional data set. The library is required when you want to use online facilities to create and maintain base calendars or the perpetual calendar feature. If used, this PDS contains copies of base calendars. While this format differs from the load library versions of calendars, CA WA CA 7 Edition can use either version to perform a schedule resolution.

For the model JCL to allocate a CA WA CA 7 Edition calendar PDS, see member AL2ALCAL in the JCL library (CAL2JCL).

Organization

Partitioned Data Set (PDS).

`DCB=(RECFM=FB,LRECL=80,BLKSIZE=80 * n)`

Space Requirements

Dependent on the number of calendars used. Ten tracks on a 3390 device are typically sufficient space for approximately 200 calendars.

DASD Restrictions

None.

Perpetual Calendar Library

The perpetual calendar library is an optional data set that is required only when you want to create base calendars automatically. If used, this PDS contains the criteria members that generate base calendars.

For the model JCL to allocate the Perpetual Calendar PDS, see member AL2ALCAL in the JCL library (CAL2JCL).

Organization

Partitioned Data Set (PDS).

```
DCB=(RECFM=FB,LRECL=80,BLKSIZE=80 * n)
```

Space Requirements

Depend on the number of perpetual calendars defined.

DASD Restrictions

None.

Master Station Message Routing Control File

The Master Station Message Routing control file data set contains statements that control routing of Master Station messages to Unicenter Event Consoles. The data set is identified to CA WA CA 7 Edition with the MSGRCNTL DD statement.

Organization

DSORG=PS

```
DCB=(RECFM=FB,LRECL=80,BLKSIZE=80 * n)
```

Space Requirements

Size of the file depends on the number of control statements coded.

DASD Restrictions

None.

Email Address Library

The email address library partitioned data set contains one or more email addresses to which to send an email.

Note: For more information about the format of the members, see the *Interface Reference Guide*.

The PDS can be dynamically allocated at CA WA CA 7 Edition startup by specifying the data set name on the EMAIL initialization file statement. Optionally, allocate the PDS CA WA CA 7 Edition JCL with the ddname EADDRLIB.

Organization

DSORG=PO

`DCB=(RECFM=FB,LRECL=80,BLKSIZE=80 * n)`

Space Requirements

Size of the file depends on the number of email addresses coded. The initial recommendation is ten tracks.

DASD Restrictions

None.

Sample Email Templates

The sample email templates partitioned data set contains the contents (template) of one or more emails that you can send.

Note: For more information about the format of the members, see the *Interface Reference Guide*.

The PDS can be dynamically allocated at CA WA CA 7 Edition startup by specifying the data set name on the EMAIL initialization file statement. Optionally, allocate the PDS in the CA WA CA 7 Edition JCL with the ddname EMAILLIB.

Organization

DSORG=PO

```
DCB=(RECFM=FB,LRECL=80,BLKSIZE=80 * n)
```

Space Requirements

Size of the file depends on the number of email templates coded. The initial recommendation is ten tracks.

DASD Restrictions

None.

XCF Data Set

The XCF data set provides a backup for SMF data sent to CA WA CA 7 Edition through XCF.

Organization

Similar to the communications data set. The access method is EXCP.

```
DCB=(RECFM=F,LRECL=1024,BLKSIZE=1024)
```

Space Requirements

The amount of space that is required depends on the number of jobs that CA WA CA 7 Edition controls. The XCFDS requires a minimum of three contiguous cylinders.

DASD Restrictions

None.

XCF Checkpoint Data Set

The XCF checkpoint data set tracks the last XCF record that is processed for each ICOM.

Organization

Physical sequential.

```
DCB=(RECFM=F,LRECL=4096,BLKSIZE=4096)
```

Space Requirements

One track.

DASD Restrictions

None.

CA Service Desk Rules

The CA Service Desk rules sequential data set, which can be a member of a partitioned data set (PDS). The data set contains the rules for when CA WA CA 7 Edition creates requests in CA Service Desk. The SERVDESK rules are read at CA WA CA 7 Edition startup when the SERVICEDESK initialization file statement is processed. The data set is allocated through the SERVDESK DD statement for CA WA CA 7 Edition.

Note: For more information about the format of SERVDESK rules, see the *Interface Reference Guide*.

Organization

DSORG=PS

```
DCB=(RECFM=FB,LRECL=80,BLKSIZE=80 * n)
```

Space Requirements

Size of the file depends on the number of rules coded. The initial recommendation is ten tracks.

DASD Restrictions

None.

CA Service Desk Interface Event Templates

The CA Service Desk interface event templates data set contains the event templates that are used to send events to the CAISDI/els feature.

Note: For more information, see the *Interface Reference Guide*.

Organization

Partitioned Data Set (PDS).

`DCB=(RECFM=FB,LRECL=80,BLKSIZE=0)`

Space Requirements

Size of the file depends on how many event templates are defined.

Agent Information File

If the CA Workload Automation Agent interface is active, the agent information (or data) file contains extra data. The extra data are returned on job feedback records from the agent. This file is updated at least once for every agent job execution and thus can contain a significant amount of activity.

Note: For information about the agent interface, see cross-platform scheduling in the *Interface Reference Guide*.

Organization

This file is a key-sequenced VSAM data set.

Space Requirements

The size of the file depends on the number of agent jobs executed. The initial recommendation is at least three cylinders.

DASD Restrictions

None.

Log History/Archive Data Sets

The log history/archive data sets contain CA WA CA 7 Edition log records as they were output by the SASSHIS5 and SASSHIS6 history management jobs. We recommend that this data set reside only on tape due to the volume of records accumulated.

Organization

These data sets are physical sequential data sets with variable-length blocked records.

`DCB=(RECFM=VB,LRECL=2100,BLKSIZE=2100 * n + 4)`

Note: *n* is a user-defined value. Alternately, use a BLKSIZE of 32760 for tape data sets.

Space Requirements

If data sets are on tape, none. Otherwise the space requirements are enormous when any extended retention of data is done. Only your experience as a user can determine the amount that needed.

DASD Restrictions

None.

Cross-Platform Scheduling Profile

The Cross-Platform Scheduling Profile data set contains member (CACCENV). The member specifies environment variables that the CA7TOUNI process uses to submit cross-platform requests from CA WA CA 7 Edition to a CA scheduler or agent on non-MVS platforms. For the sample JCL to allocate this file, see member AL2XPROF in the CA WA CA 7 Edition JCL library (CAL2JCL).

Organization

DSORG=PO

`DCB=(RECFM=FB,LRECL=80,BLKSIZE=80 * n)`

Space Requirements

Minimum of one track, two directory blocks.

DASD Restrictions

None.

Work Queues

The work queues are as follows:

- The Disk queue table (DQT)
- The Scratch queue

The disk queue table (DQT) contains message controls for all CA 7 Online and batch terminals.

The scratch queue contains messages for terminals and provides space for CA WA CA 7 Edition scratch work files.

Organization:

All CA WA CA 7 Edition queues are allocated as physical sequential data sets with a block size of 1024 bytes. Access to these files, however, is through the CA WA CA 7 Edition queue access method, which uses a technique of dynamic track allocation. These queues *must* be allocated as permanent and unmovable below cylinder 65,536 with the following DCB attributes:

```
DCB=(DSORG=PSU,RECFM=F,LRECL=1024)
```

Note: The scratch and disk queue table (DQT) queues can be allocated as temporary data sets specifying UNIT=VIO. The messages are now kept in the database and are retained across a WARM start. Messages are reformatted when CA WA CA 7 Edition is restarted using TYPE=ERST.

Space Requirements:

Specific space requirements are based on an IBM 3390 unless otherwise specified. The space allocations for each queue must be contiguous and unmovable. The following space values are only recommendations for a starting point. The values can require changes later. The command /DISPLAY,Q=ALL or the CA WA CA 7 Edition Queue Allocation Usage report can be used to monitor the space use. Allocate none of the queues with less than three tracks.

DQTQ

Allocate 2 tracks per terminal for the first 50 terminals that are defined in the initialization file. If more than 50 terminals are defined, allocate 1 track for each terminal over 50.

SCRQ

Each queued message uses at least one track in the scratch queue. Allocate a minimum of 300 tracks. High terminal activity can require that you increase this number.

The DQTQ and SCRQ are used by track. Therefore, if 400 tracks are allocated on a 3380-type device, then 400 tracks would also be required to move the queue to a 3390-type device.

DASD Restrictions:

CA WA CA 7 Edition queues and the checkpoint data set *must* reside on the same device type.

USS Space Requirements

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

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

Other Requirements

Other CA WA CA 7 Edition requirements include the following items:

- Several programs including UCC7 and SASSICOM must execute APF authorized in the standard problem program protect key (usually protect key 8).
- One type 3/4 SVC is required (the default SVC number is 167).
- The IBM z/OS SMF definition must include the ACTIVE parameter. CAIRIM automatically establishes the SMF record types and exits. This method does not affect what records are written to your SMF MANx/MANy data sets.
- Verify that your site generates the SMF records that CA WA CA 7 Edition needs. The typical installation requires SMF types 15, 26 and 30. SMF types 26 and 30 track jobs. SMF type 15 monitors non-VSAM file creations. If you want CA WA CA 7 Edition to track the VSAM file closes, the SMF type 64 record is also required.

Restrictions:

- In your JCL, columns 70 and 71 of the JOB statement must be blank for CA7ONL to submit any job. If the external security with a USERID insertion is used, column 69 must be a blank or a comma.

  If CA WA CA 7 Edition NCF is used, columns 69, 70, and 71 of the JOB statement must be blank for CA7ONL to submit *any* job. If the external security with a USERID insertion is used, column 68 must be a blank or a comma.

- When CA7ONL submits a job, the job name on the JOB statement is overlaid with the job name on the DB.1 screen. If the job name on the job (DB.1) screen is 8 characters, start the word JOB in column 12, or a JCL error results.
- A JCL INCLUDE statement cannot be used for the JOB statement or the first EXEC statement.

Automation Considerations

Consider the following topics about automation as you continue the installation process.

Monitoring CA Datacom/AD

Because CA Datacom/AD is the primary repository of scheduling data, consider the steps that you can take to monitor and maintain the health of CA Datacom/AD. You will likely create new automation procedures to do this process. We strongly recommend that you implement and test these procedures before promoting CA WA CA 7 Edition Version 12.0 in production.

Start with the backup and recovery considerations in the *Systems Programming Guide* for guidance from the CA WA CA 7 Edition perspective. For more information about the CA Datacom/AD point of view, see the *CA Datacom/DB Database and Administration Guide*.

Responding to a CA Datacom/AD MUF Outage

CA WA CA 7 Edition programs must OPEN the CA Datacom/AD MUF to access scheduling data. If the MUF is unavailable, some programs simply report the error and they terminate. Other programs periodically retry the OPEN. These programs include:

- CA7ONL
- Jobflow Monitor
- Jobflow Illustrator

This section describes the retry behavior of these programs. Consider using this information to write automation procedures to respond when these programs report a MUF outage.

If the MUF is not available, a message is issued beginning with:

CAL2D022E CA Datacom OPEN failed…

A WTOR follows the CAL2D022E message:

CAL2D023R Reply END to stop OPEN retries (end with user 220 abend)

The OPEN is retried every 30 seconds until the MUF becomes available or you reply END to the CAL2D023R prompt.

You see this behavior if the MUF is unavailable during a program initialization. The behavior can also occur during normal processing if the MUF ends unexpectedly.

Most functions of these programs cannot continue without the MUF. If you do not intend to start the MUF, reply END to the outstanding WTOR, and the program terminates.

If you do not reply END, CA7ONL resumes processing when the MUF becomes available. Then, CA7ONL retries transactions that the MUF outage interrupted before continuing normal processing. This process is known as failover processing. Failover status messages are written to the CA7ONL JES job log during this process. Monitor them for a successful completion.

To avoid this behavior, try to ensure that the MUF is available before starting these programs.

Using a Shadow MUF

CA Datacom/AD supports use of a secondary or *shadow* MUF on another system in the sysplex. The Shadow MUF can take over in the event of a primary MUF outage, thus minimizing loss of functionality.

The shadow MUF users must consider that the order in which the MUF is started relative to the others in the sysplex determines the role that the MUF plays. The MUF that is started first acts as the primary MUF. The second MUF becomes the Shadow MUF.

If you are using a *dormant* copy of CA7ONL (TYPE=DORM), you can start the Shadow MUF on the LPAR where the dormant copy executes.

If you use the IBM Automatic Restart Manager (ARM) policy to redirect CA7ONL to a different LPAR in the event of an outage, consider executing a Shadow MUF on that target LPAR. Refer to your ARM policy information.

Note: For more information, see the CA Datacom/AD documentation and the *Systems Programming Guide*.

Upgrade Considerations

These topics address additional upgrade concerns.

Address Space Updates Necessary for Testing

Best practice dictates that all product programs are upgraded to the highest maintenance level. However, you can test the interface to CA Datacom/AD without updating everything. If you want to do testing, ensure that the following address spaces are updated for the new release. These address spaces require access to the CA Datacom/AD database:

- CA7ONL
- JFM (Jobflow Monitor)
- SCHSRVR (the started task that handles the communication between CA7SRVR and CA7ONL)
- JFI (Jobflow Illustrator)

You can test most functions of the new release using the r11.3 versions of the following address spaces. These address spaces have behavior that is compatible with the new release:

- ICOM
- CA7SRVR
- CA7NCF
- CAIRIM (L2C0INIT)

The CA 7 Web Client server remains at CA 7 r11.3. Expanded IDs and any fields dealing with a long job name are not displayed.

Executing a Full SYSGEN Process

Plan to execute a full SYSGEN because so much has changed in this release. Retain your existing r11.3 JCLLIB and create a separate JCLLIB for the new release. You can then compare the JCLLIBs so that you can make any necessary changes. Keep the r11.3 JCLLIB. Retain it in the unlikely event that you must fall back to r11.3.

A number of JCL and procedure members are eliminated, and some user exits. The CA Datacom/AD libraries are now included in JCL STEPLIB concatenations. Some DD statements have been dropped. Numerous changes have been made to the CA7ONL initialization file too.

Important! Ensure that the changes described here are made throughout the enterprise to ensure continuity of function.

Obsolete DD Statements

These DD statements are obsolete in the new release. Remove them from all JCL and procedures:

- CA7ARFDB
- CA7RSRC
- CA7VDMP
- UCC7ACTQ
- UCC7DLIB
- UCC7IDS
- UCC7JLIB
- UCC7PREQ
- UCC7PRNQ
- UCC7PSTQ
- UCC7QDMP
- UCC7RDYQ
- UCC7REQQ
- UCC7TRLQ

Note: The work queues, Scratch, and DQT, have not been removed. Direct these queues to a VIO data set. These queues are formatted on each initialization of CA7ONL. These queues are identified with the UCC7SCRQ and UCC7DQTQ DD statements.

Removed and Changed JCL, Procedures, and Exits

JCL and procedures (format, backup, and reload) dealing with the VSAM, ARF, and VRM files are no longer used. They include:

- CA7ARK
- CA7ARL
- CA7BKP
- CA7VBK
- CA7VRL
- CA07N510
- CA07N515
- CA07N516
- CA07N517
- CA07N518
- CA07N710
- CA07N712
- CA07N740

Note: Some sites change the CA7 and CA07 prefixes.

Review Automation

When you implement the new release, review your existing procedures that interact with CA WA CA 7 Edition programs and data sets. This release contains many differences in messages, data set use, and other program behavior that can affect automation.

Note: For more information about these differences, see the *Release Notes*.

Changes to CA7ONL JCL

When you execute the SYSGEN and create the JCLLIB for this release, review the changes to the startup JCL in member CA7ONL.

STEPLIB Changes

Ensure that the load library for this release occurs first in the STEPLIB concatenation.

Include any other product or interface libraries according to your enterprise needs.

Find the CA Datacom/AD CUSLIB and CAAXLOAD (load libraries) used by the MUF that services CA7ONL. Ensure that these libraries are added at the end of the current STEPLIB concatenation.

If you are not using STEPLIB, ensure that the appropriate changes are made to the linklist libraries.

Other DD Statement Changes

Remove any obsolete DD statements using the list in Obsolete DD Statements (see page 61).

Add the DD statements that other interfaces require according to your site needs.

The CA7ONL JCL now includes a SYSMDUMP DD statement that refers to a GDG data set. You can choose to archive the dump when CA7ONL terminates. The dump can be retrieved when needed for problem resolution. You can also see a step in the CA7ONL JCL that deletes the data set when CA7ONL ends successfully (RC=0).

Changes to Other CA WA CA 7 Edition JCL

Ensure that JCL for any of the following is updated so that STEPLIB (if STEPLIB is used) refers to the load library for the new release:

- Batch Terminal Interface (BTI) jobs
- CAICCI Terminal Interface (CTI) jobs
- TCP/IP Terminal Interface jobs
- Jobs that use U7SVC, SASSTRLR, or UCC7BCLP
- Database Transportability jobs
- Jobflow Illustrator (JFI)
- Jobflow Monitor (JFM)
- Any other jobs that execute a CA WA CA 7 Edition program

Change the STEPLIB concatenation (if STEPLIB is used) in the following to include the CUSLIB and CAAXLOAD libraries as described previously. DD statement changes are also sometimes appropriate.

- Jobflow Illustrator (JFI)
- Jobflow Monitor (JFM)
- Database Transportability Jobs
- Database Verification Jobs (DBVR)
- Jobs using utilities to convert XP to agent jobs
- Any other jobs that require access to CA WA CA 7 Edition scheduling data

Changes to CA7ONL Initialization File

When you execute the SYSGEN and create the JCLLIB for this release, review the initialization file in member ONLINE.

We recommend that you:

- Create a separate member for the CA WA CA 7 Edition Version 12.0 initialization file.
- Verify that you have a backup of the CA 7 r11.3 initialization file.

These actions make it easier for you to compare the files and update the file for the new release as needed. And you can continue using your saved r11.3 file in the unlikely event that you must revert.

Compare the initialization file that the SYSGEN created for this release with the initialization file you are using in r11.3. You may find that your r11.3 initialization file has statements and keywords that are not used in the new release. During execution, CA7ONL issues warning messages if obsolete statements or keywords are found.

As you edit the initialization file that the new SYSGEN created to accommodate your site needs, note the following:

- If DB= is specified on the DBASE statement, ensure that the value of DB is DATACOM.
- FORMAT statements are no longer needed. Remove them.

Changes to DBPARMS

When you execute the SYSGEN and create the JCLLIB for this release, review the initialization file in member DBPARMS.

We recommend that you:

- Create a separate member for the CA WA CA 7 Edition Version 12.0 DBPARMS file.
- Verify that you have a backup of the CA 7 r11.3 DBPARMS file.

In this release, the file consists of a single statement which identifies your database:

```
DATACOM (NAME(logicaldbname))
```

The DBPARMS member in the JCLLIB you created already contains the value of the NAME parameter that you specified in the SYSGEN.

Note: For more information about DBPARMS in this release, see the *Systems Programming Guide*.

Changes to Startup and Shutdown

Startup behavior has changed in this release. This behavior can require changes to the TYPE= keyword setting in the initialization file statement and the CA7ONL startup JCL.

Note: For more information about the INIT statement keyword TYPE=, see the *Systems Programming Guide*.

On a shutdown, do not use the DMPQ option. The option no longer has meaning. Select an appropriate Z*n* option for the shutdown.

Note: For more information, see the *Release Notes*.

Changes to Backup and Recovery

We strongly recommend that you review all backup and recovery procedures. Because the scheduling data now resides in CA Datacom/AD database, you must use the backup and recovery procedures that are recommended in the CA Datacom/AD guides.

Important! Test these procedures before implementing the product in a production environment.

In addition to the information in the CA Datacom/AD guides, review the backup and recovery topics in the *Systems Programming Guide*.

Chapter 3: Acquiring CA WA CA 7 Edition

This section contains the following topics:

Where to Obtain the Product

You can acquire the product using one of the following methods:

- CA CSM

  This application has a web-based user interface (UI) that does the following:

  - Helps you download, install, deploy, and maintain z/OS products.
  - Provides a unified view of the products.
  - Automates the allocations and the RECEIVE, ACCEPT, and APPLY steps. With other methods, you must complete these steps manually.

  Note: If you do not have CA CSM, you can download it from the Download Center at CA Support Online. Follow the installation instructions in the *CA Chorus Software Manager Product Guide*. This guide is available on the Documentation page of https://support.ca.com/.

- Pax Enhanced Electronic Software Delivery (ESD)

  This application lets you download the product using a Pax file from the Download Center at CA Support Online. Refer to the PAX-Enhanced ESD Process at https://support.ca.com/phpdocs/7/common/TEC342790.pdf for assistance during the installation process.

Documentation

The documentation for CA WA CA 7 Edition is available only through the Documentation page of https://support.ca.com/. Obtain the CA WA CA 7 Edition Bookshelf before starting the installation or upgrade process, because installation and upgrade steps sometimes refer to other guides contained on that bookshelf.

Note: Starting with r11.3, the documentation was no longer distributed with the product bundle.

Components Delivered with CA WA CA 7 Edition

The CA WA CA 7 Edition package comes with multiple components and products. Determine which functions you are going to use and select the products and components that fulfill those functions. We recommend that you install all items in the SMP/E environment, and then activate those functions that you want. After a time, if you decide to use another function, then it is only a matter of customization and setup instead of a complete installation.

- CA WA CA 7 Edition base product (CAL2C00): This base Workload Automation product is installed regardless of other options selected.
- CA WA CA 7 Edition JFM (CAL2C01): Jobflow Monitor monitors the current active workload and provides data to consumers of the data for display and monitoring purposes. If you plan to use CPM, the CA 7 Web Client, or both, install this function.
- CA IAS (CIASC00): CA Integrated Agent Services is the interface to CA WA Agents executing on distributed platforms. This component sends and receives messages relating CA WA CA 7 Edition submitted jobs executing on platforms that the CA WA Agents control.
- CA CPM (CCPMB00): CA Critical Path Monitoring is an ISPF application that receives data from CA WA CA 7 Edition or Jobflow Monitor to track a flow (series) of jobs. The tracking helps to meet deadlines or SLAs, and if they are not going to be met, appropriate messages are sent as alerts.
- CA GTS (CD51C00): CA Generalized Transaction Server Services selected requests between address spaces, systems, or both. CA GTS is sometimes installed with other products like CA JCLCheck or CA 11.
- CA 7 Web Client executes on USS or distributed platforms. You can download this component from Support Online.

The CA WA CA 7 Edition product installation is discussed in this guide. You can install these other items now, but the actual customization and initialization are discussed in other documents on the CA WA CA 7 Edition Bookshelf.

Concurrent Releases

You can install this release of your product and continue to use an older release in another SMP/E environment. If you plan to continue to run a previous release, consider the following points:

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

  Note: CA CSM installs a product into a new SMP/E environment by default. You can select an existing SMP/E environment from your working set. For more information, see the online help that is included in CA CSM.
- Define DDDEF entries in your new zones to point SMP/E to the proper libraries for installation. Ensure that they point to the new release libraries.

Chapter 4: Installing Your Product Using CA CSM

How to Install Your Product Using CA CSM

As a system programmer, your responsibilities include acquiring, installing, maintaining, deploying, and configuring CA Technologies mainframe products on your system.

CA CSM is an application that simplifies and unifies the management of your CA Technologies mainframe products on z/OS systems. As products adopt the CA CSM services, you can install your products in a common way according to industry best practices.

This scenario describes the steps for a system programmer to acquire, install, deploy, and configure products and maintenance. Not all tasks may apply to your organization. For example, you may decide not to deploy and configure products. In this case, do not perform the product deployment task and the product configuration task.

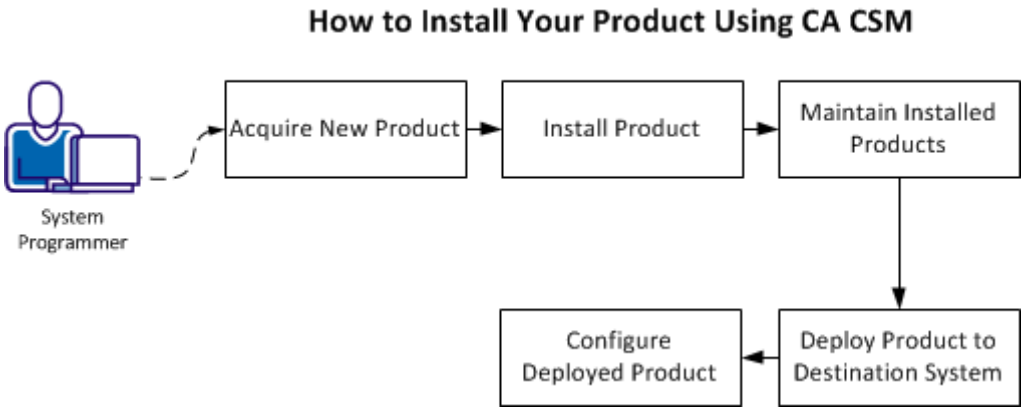
Before you use this scenario, you must have CA CSM installed at your site. If you do not have CA CSM installed, you can download it from the Download Center at http://ca.com/support. This web page also contains links to the complete documentation for CA CSM.

You access CA CSM (see page 72) from a web browser.

Note: This scenario applies to the latest version of CA CSM. If you are using an earlier version, see the appropriate bookshelf on the CA Chorus Software Manager product page.

This scenario is a high-level overview of steps that you perform using CA CSM. For more detailed information, use the online help that is included in CA CSM.

You perform the following tasks to install products and manage them on your system:



1. Acquire a new product (see page 73).
2. Install the product (see page 74).
3. Maintain the installed products (see page 76).
4. Deploy the product to the destination system (see page 77).
5. Configure the deployed product (see page 78).

Access CA CSM Using the Web-Based Interface

You access CA CSM using the web-based interface.

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

Follow these steps:

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

   The login page appears.

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

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

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

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

3. Click New.

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

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

   You are prompted to review your user settings.

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

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

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

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

Acquire a New Product

Acquisition allows you to download products and product maintenance from the CA Support Online website at http://ca.com/support to a USS directory structure on your system. The products to which your site is entitled and the releases available are displayed in the Available Products section on the Products page.

You perform the following high-level tasks to acquire a product using CA CSM:

1. Set up a CA Support Online account at http://ca.com/support.

   To use CA CSM to acquire or download a product, you must have a CA Support Online account. If you do not have an account, create one on http://ca.com/support.

2. Determine the CA CSM URL for your site.

   To access CA CSM (see page 72), you require its URL. You can get the URL from your site CA CSM administrator and log in using your z/OS credentials. When you log in for the first time, you are prompted to create a CA CSM account with your credentials that you use to access http://ca.com/support. This account enables you to download product packages.

3. Log in to CA CSM and go to the Products page to locate the product that you want to acquire.

   After you log in to CA CSM, you can see the products to which your organization is entitled on the Products tab.

   If you cannot find the product that you want to acquire, update the product list. CA CSM refreshes the product list through http://ca.com/support using the site IDs associated with your credentials.

4. Download the product installation packages.

   After you find your product in the product list, you can download the product installation packages. To do so, use the Update Product Release action.

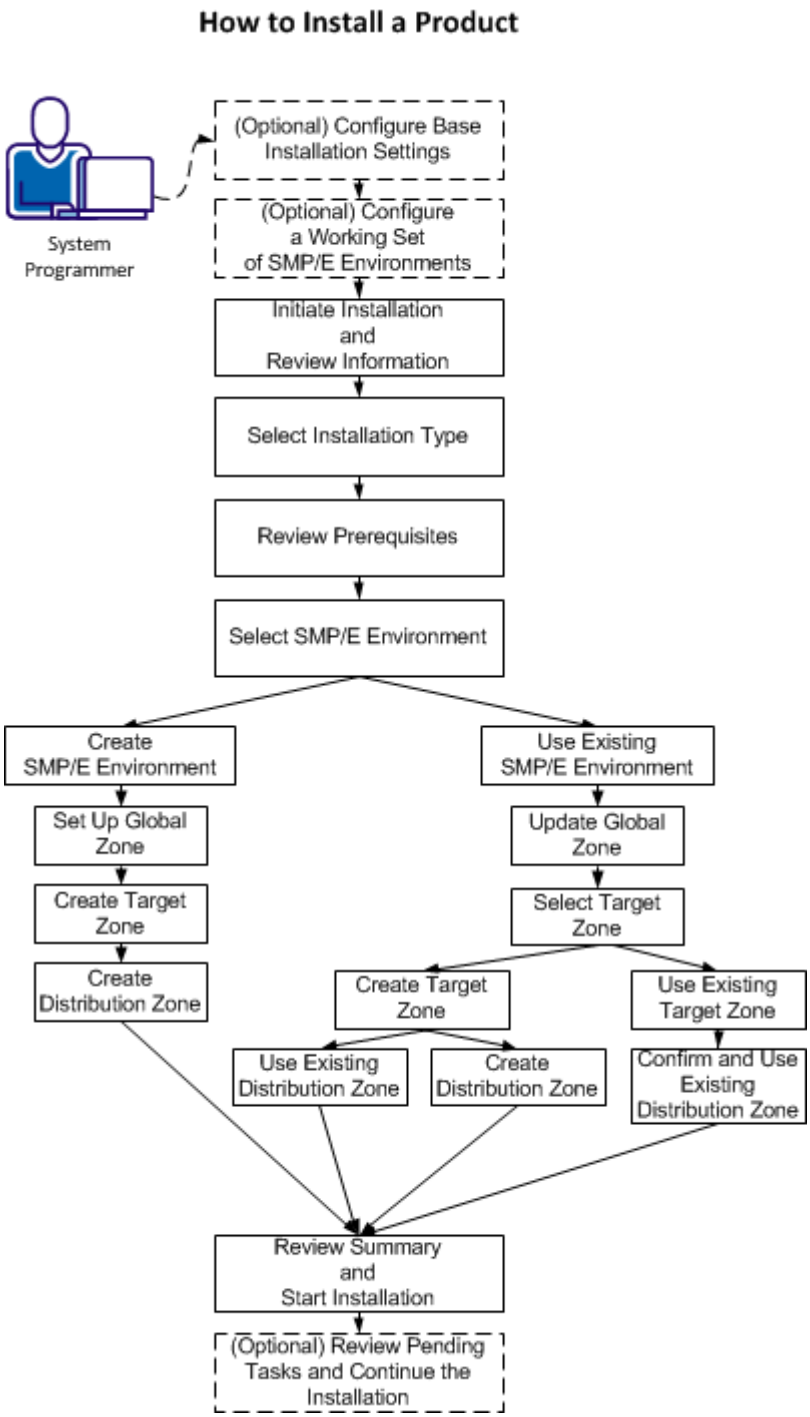
   CA CSM downloads (acquires) the packages (including any maintenance packages) from the CA Support Online website.

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

Install a Product

CA CSM simplifies and manages SMP/E installation tasks. You can browse and install a product that you acquired and that is available in the product list on the Products page. You can also install the maintenance for the products that are currently installed in a managed SMP/E environment on the driving system.

You perform the following high-level tasks to install a product using CA CSM:



1. (Optional) On the Settings tab, click Software Installation under System Settings, and configure base installation settings.
2. (Optional) Click the SMP/E Environments tab, and configure a working set of SMP/E environments.
3. Click the Products tab and select a product that you want to install. Start the installation wizard and review product information.
4. Select an installation type.
5. Review installation prerequisites if any are presented.
6. Take *one* of the following steps to select an SMP/E environment:
   - Create an SMP/E environment:
     a. Set up the global zone.
     b. Create a target zone.
     c. Create a distribution zone.
   - Use an existing SMP/E environment from your working set:
     a. Update the global zone.
     b. Set up the target zone: Create a target zone or use an existing target zone.
     c. Set up the distribution zone: Create a distribution zone or use an existing distribution zone.

     Note: If you install a product or its components into an existing target or distribution zone, older versions are *deleted* from the zone and associated data sets. We recommend that you use new target and distribution zones for this installation so that you can apply maintenance to your current version, if necessary.
7. Review the installation summary and start the installation.
8. (Optional) Review pending tasks for the SMP/E environment where you are installing your product. Continue the installation, if applicable.

   CA CSM installs the product.

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

Maintain the Installed Products

You can migrate existing SMP/E environments into CA CSM to maintain all your installed products in a unified way from a single web-based interface.

You can use CA CSM to maintain a CA Technologies product.

You perform the following high-level tasks to maintain a product using CA CSM:

1. Verify that CA CSM recognizes the SMP/E environment where your product is installed. If not, migrate the SMP/E environment to CA CSM.

   During the migration, CA CSM stores information about the SMP/E environment in the database.

2. From the Product tab, download the latest maintenance for the installed product releases.

   If you cannot find the required release, perform the following steps to download the maintenance:

   a. Add the release to the catalog manually.

   b. Update the added release.

3. Apply the maintenance.

   CA CSM applies the maintenance to your product.

After the maintenance process completes, the product is ready for you to deploy to systems that are defined in the system registry.

Deploy the Product to the Destination System

Deployment is a process of copying SMP/E target libraries to a destination system. The destination system could be the local z/OS system, a remote z/OS system, or a sysplex. You identify the destination system, deployed data set names, and the transport mechanism as part of the deployment process. Deploying a product makes it available for configuration.

Important! Before you deploy a product, set up the destination systems and remote credentials in the system registry.

You perform the following high-level tasks to deploy your products using CA CSM:

1. On the Deployments tab, set up methodologies.

   Note: You can also set up methodologies when creating a deployment, or use existing methodologies, if you have set up any previously. If you do so, you can skip this step.

2. Start the New Deployment wizard to create a deployment. Complete each of the steps in the wizard. The wizard guides you through choosing deployment settings for your site. At any point, you can save your work and come back to it later.

3. Deploy:
   a. Take a snapshot of the deployment.
   b. Transmit the deployment to a destination system.
   c. Deploy (unpack) to the mainframe environment.

   CA CSM deploys the product to the destination system.

After the deployment process completes, the product is ready for you to configure.

Configure the Deployed Product

Configuration is a process of copying the deployed libraries to run-time libraries and customizes the product for your site to bring it to an executable state. You can configure CA Technologies products that you have already acquired, installed, and deployed using CA CSM. You cannot use CA CSM to configure a product unless you have already used CA CSM to deploy the product.

You perform the following high-level tasks to configure your products using CA CSM:

1. Select a configurable deployment on the Deployments tab to view details and products for that deployment.
2. Select a product in the deployment and start the Configuration wizard to create a configuration. Complete each of the steps in the wizard. The wizard has multiple levels of detailed instructions and guides you through choosing configuration settings for your site. At any point, you can save your work and come back to it later. Configurations where you have partially completed the steps in the wizard are listed on the Configurations tab. The steps in the wizard include the following:
   a. Define a configuration name and select a system for the configuration.
   b. Select configuration functions and options.
   c. Define system preferences.
   d. Create target settings.
   e. Select and edit resources.
3. Build the configuration. The last step of the Configuration wizard lets you build the configuration. If needed, you can edit the configuration and can build the configuration again. Building the configuration closes the wizard and creates a configuration with all your settings.
4. (Optional) Validate the configuration. Validation verifies access to resources that are going to be used when you implement the configuration.

5. Implement the configuration. You implement a configuration to make your deployed software fully functional. Implementation executes on the destination system, applying the variables, resources, and operations that are defined in the configuration.

   CA CSM configures the product.

After the configuration process completes, the product is ready for you to use.

Chapter 5: Installing Your Product Using Pax ESD or DVD

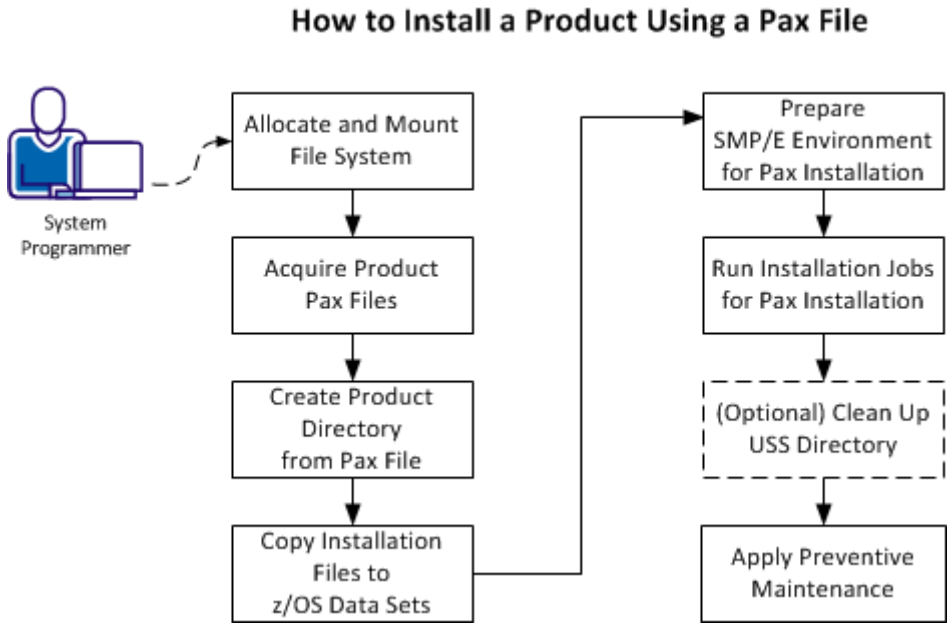
This section contains the following topics:

How to Install Your Product Using a Pax File

As a system programmer, your responsibilities include installing products on your mainframe system. With this option, you acquire a product pax file from http://ca.com/support or from a product DVD.

The DVD contains a folder that includes the pax file for the product. Product updates may have occurred after you acquired the product DVD. The files on the online site always have the most current product updates. To determine if you have the latest updates, go to http://ca.com/support and click Download Center.

You perform the following tasks to install a product with a pax file:



1. Allocate and mount the file system (see page 83).
2. Acquire the product pax files (see page 85).
3. Create a product directory from the pax file (see page 91).
4. Copy the installation files to z/OS data sets (see page 92).
5. Prepare the SMP/E environment for a pax installation (see page 94).
6. Run the installation jobs for a pax installation (see page 96).
7. (Optional) Clean up the USS directory (see page 97).
8. Apply preventive maintenance (see page 98).

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 http://ca.com/support.
- Perform utility functions to unpack the pax file into MVS data sets that you can use to complete the product installation.

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

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

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

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

Allocate and Mount a File System

The product installation process requires a USS directory to receive the pax file and to perform the unpack steps. We recommend that you allocate and mount a file system that is dedicated to the product acquisition and create the directory in this file system.

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

This procedure describes how to perform the following tasks:

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

  Note: You must have either SUPERUSER authority, or the required SAF profile setting to allow you to issue the USS mount command for the file system.
- Optionally, permit write access to anyone in the same group as the person who created the directory.

  Important! USS commands are case-sensitive.

Follow these steps:

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

   - On a zFS, use the following sample:

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

   - On an HFS, use the following sample:

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

   The file system is allocated.

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

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

   ```
   cd /u/maint/
   mkdir CA
   cd CA
   mkdir CAPAX
   ```

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

   The mount point is created.

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

   - On a zFS, use the following sample:

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

   - On an HFS, use the following sample:

     ```
     MOUNT FILESYSTEM('your_HFS_data_set_name')
           MOUNTPOINT('yourUSSpaxdirectory')
           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 Pax ESD directory and its files. For example, to allow write access to the Pax ESD directory for other users in your USS group, from the TSO OMVS shell, enter the following command:

   ```
   chmod -R 775 /yourUSSpaxdirectory/
   ```

   Write access is granted.

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

Acquire the Product Pax Files

To begin the CA Technologies product installation procedure, copy the product pax file into the USS directory that you set up.

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

Use one of the following methods:

- Download the product pax file from http://ca.com/support to your PC (see page 86), and then upload it to your USS file system.

  If you download a zip file, you must unzip it before uploading to your USS file system.

- Download the pax files from http://ca.com/support directly to your USS file system (see page 87).

- Download the pax file from the product DVD to your PC, and then upload the pax files to your USS file system. (see page 90)

This section includes the following information:

- 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
- 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 that you are using 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.

Download Files to a PC Using Pax ESD

You can download product installation files from http://ca.com/support to your PC.

Follow these steps:

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

   The Download Center web page appears.

2. Under Download Center, select Products from the first drop-down list, and specify the product, release, and gen level (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. If you download a zip file, you must unzip it before continuing.

   Note: For traditional installation downloads, see the *Traditional ESD User Guide*. For information about download methods, see the Download Methods and Locations article. Go to http://ca.com/support, log in, and click Download Center. Links to the guide and the article appear under the Download Help heading.

Download Using Batch JCL

You download a pax file from http://ca.com/support by running batch JCL on the mainframe. Use the sample JCL attached to the PDF file as CAtoMainframe.txt (see page 89) to perform the download.

Important! The PDF version of this guide includes sample JCL jobs that you can copy directly to the mainframe. To access these jobs, click the paper clip icon at the left of the PDF reader. A window displaying attachments opens. Double-click a file to view a sample JCL. We recommend that you use the latest version of Adobe Reader for viewing PDF files.

Note: We recommend that you follow the preferred download method as described on http://ca.com/support. This JCL procedure is our preferred download method for users who do not use CA CSM. We also include the procedure to download to the mainframe through a PC in the next section.

Follow these steps:

1. Replace *ACCOUNTNO* with 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 *yourUSSpaxdirectory* with the name of the USS directory that you use for Pax ESD downloads.

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

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

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

   The Download Method window opens.

7. Click FTP Request.

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

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

8. Select one of the following methods:

   Preferred FTP

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

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

   Alternate FTP

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

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

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

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

9. Submit the job.

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

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

Example: CAtoMainframe.txt, JCL

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

```
//GETPAX   JOB (ACCOUNTNO),'FTP GET PAX ESD PACKAGE',
//          MSGCLASS=X,CLASS=A,NOTIFY=&SYSUID
//*********************************************************************
//* This sample job can be used to download a pax file directly from  *
//* CA Support Online to a USS directory on your z/OS system.         *
//*                                                                   *
//* When editing the JCL ensure that you do not have sequence numbers *
//* turned on.                                                        *
//*                                                                   *
//* This job must be customized as follows:                           *
//* 1. Supply a valid JOB statement.                                  *
//* 2. The SYSTCPD and SYSFTPD JCL DD statements in this JCL may be   *
//*    optional at your site. Remove the statements that are not      *
//*    required. For the required statements, update the data set     *
//*    names with the correct site-specific data set names.           *
//* 3. Replace "Host" based on the type of download method.           *
//* 4. Replace "YourEmailAddress" with your email address.            *
//* 5. Replace "yourUSSpaxdirectory" with the name of the USS         *
//*    directory used on your system for Pax ESD downloads.           *
//* 6. Replace "FTP Location" with the complete path                  *
//*    and name of the pax file obtained from the FTP location        *
//*    of the product download page.                                  *
//*********************************************************************
//GETPAX   EXEC PGM=FTP,PARM='(EXIT TIMEOUT 120',REGION=0M
//SYSTCPD  DD   DSN=yourTCPIP.PROFILE.dataset,DISP=SHR
//SYSFTPD  DD   DSN=yourFTP.DATA.dataset,DISP=SHR
//SYSPRINT DD   SYSOUT=*
//OUTPUT   DD   SYSOUT=*
//INPUT    DD   *
Host
anonymous YourEmailAddress
lcd yourUSSpaxdirectory
binary
get FTP_location
quit
/*
```

Download Files to Mainframe through a PC

You download the product installation files to your PC and transfer them to your USS system.

Follow these steps:

1. Download the product file to your PC using one of the following methods:
   - Pax ESD (see page 86). If you downloaded a zip file, first unzip the file to use the product pax files.
   - DVD. Copy the entire product software package (or individual pax files) to your PC.

   The pax file resides on your PC.

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

2. Open a Windows command prompt.

   The command prompt appears.

3. Customize and enter the following FTP commands:

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

   mainframe

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

   userid

   Specifies your z/OS user ID.

   password

   Specifies your z/OS password.

   C:*PC\folder\for\thePAXfile*

   Specifies the location of the pax file on your PC.

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

yourUSSpaxdirectory

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

***paxfile*.pax.Z**

Specifies the name of the pax file to upload.

The pax file is transferred to the mainframe.

Create a Product Directory from the Pax File

The pax command performs the following actions:

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

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

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

Use the sample JCL that is attached to the PDF file as Unpackage.txt (see page 92) to extract the product pax file into a product installation directory.

Important! The PDF version of this guide includes sample JCL jobs that you can copy directly to the mainframe. To access these jobs, click the paper clip icon at the left of the PDF reader. A window displaying attachments opens. Double-click a file to view a sample JCL. We recommend that you use the latest version of Adobe Reader for viewing PDF files.

Follow these steps:

1. Replace *ACCOUNTNO* with a valid JOB statement.
2. Replace *yourUSSpaxdirectory* with the name of the USS directory that you use for product 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 creates the product directory.

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

Example: JCL File, Unpackage.txt, to Customize

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

```
//ESDUNPAX JOB (ACCOUNTNO),'UNPAX PAX 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 "yourUSSpaxdirectory" with the name of the USS         *
//*    directory used on your system for Pax 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,       *
//*       start entering characters in column 16 and make sure        *
//*       the 'X' continuation character is in column 72.             *
//*********************************************************************
//UNPAXDIR EXEC PGM=BPXBATCH,
// PARM='sh cd /yourUSSpaxdirectory/; pax -rvf paxfile.pax.Z'
//*UNPAXDIR EXEC PGM=BPXBATCH,
//* PARM='sh cd /yourUSSpaxdirectory/; 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.

The file UNZIPJCL in the product directory contains a sample job to GIMUNZIP the installation package. You edit and submit the UNZIPJCL job to create z/OS data sets.

Follow these steps:

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

   You have identified the product-specific installation details.

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

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

   The job is edited.

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

   Your view is of the product-specific directory.

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

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

   b. Perform one of the following steps:

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

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

5. Change all occurrences of y*ourHLQ* to the high-level qualifier (HLQ) for z/OS data sets that the installation process uses. We suggest that you use a unique HLQ for each expanded pax file to identify uniquely the package. Do *not* remove CAI after *yourHLQ*. Do *not* use the same value for y*ourHLQ* as you use for the SMP/E RELFILEs.

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

6. Submit the UNZIPJCL job.

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

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

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

Prepare the SMP/E Environment for a Pax Installation

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

1. Download external HOLDDATA.
2. Allocate product data sets and SMP/E data sets.
3. Create an SMP/E environment.
4. Receive base functions and HOLDDATA.
5. Download and RECEIVE PTFs from http://ca.com/support.
6. Run an SMP/E APPLY CHECK operation.
7. Apply base functions using SELECT GROUPEXTEND.
8. Run an SMP/E ACCEPT CHECK operation.
9. Accept base functions using SELECT GROUPEXTEND.
10. Configure the product according to your site requirements.

Note: Steps 1 through 3 of this process are documented in detail in this section. Steps 4 through 9 are documented in the section describing how to run installation jobs for a Pax installation. If applicable to your product, Step 10 is documented in the section describing starting your product.

The members that are used in this procedure prepare the data sets, initialize the zones, and create the DDDEFs for your product.

Establishing a hierarchical file system (HFS) may be required as part of the product installation or required as a feature of the product.

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

Follow these steps:

1. Customize the macro AL2SEDIT with your site-specific information and then copy the macro to your SYSPROC location. Replace the rightmost parameters for each ISREDIT CHANGE command. Each time you edit an installation member, type AL2SEDIT on the command line, and press Enter to replace the defaults with your specifications.

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

   Note: Set the DASD HLQ to the same value specified for *yourHLQ* within the JCL that is used to unzip the pax file.

   Note: The following steps include instructions to execute the AL2SEDIT macro each time you open a new SAMPJCL member. To edit all SAMPJCL members simultaneously, read and follow the instructions in the AL2AREAD member, and submit the AL2EDALL member.

2. Open the SAMPJCL member AL21HOLD in an edit session and execute the AL2SEDIT macro from the command line.

   AL21HOLD is customized.

3. Submit AL21HOLD.

   This job downloads the error and FIXCAT HOLDDATA from http://ca.com/support.

4. Open the SAMPJCL member AL22ALL in an edit session and execute the AL2SEDIT macro from the command line.

   AL22ALL is customized.

5. Submit AL22ALL.

   This job produces the following results:

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

6. If your product requires a USS file system or if you want to install a feature of the product that requires a USS file system, allocate and mount the file system:

   Note: You can customize the supplied HFS JCL to zFS, if your site requires it.

   a. Open the SAMPJCL member *ccc2*ALLU in an edit session and execute the AL2SEDIT macro from the command line.

      Note: All instances of *ccc* in this section indicate a three-character component code based on the FMID.

      *ccc2*ALLU is customized.

   b. Submit *ccc2*ALLU.

      This job allocates your HFS or zFS data sets.

   c. Open the SAMPJCL member *ccc3*MKD in an edit session and execute the AL2SEDIT macro from the command line.

      *ccc3*MKD is customized.

   d. Submit *ccc3*MKD.

      This job creates all directories and mounts the file system.

7. Open the SAMPJCL member AL23CSI in an edit session and execute the AL2SEDIT macro from the command line.

   AL23CSI is customized.

8. Submit AL23CSI.

   This job produces the following results:

   - The CSI data set is defined.
   - The SMPPTS and SMPLOG data sets are allocated.

- The global, target, and distribution zones are initialized.
- The DDDEF entries for your product are created.
- The DDDEFs for the required SMP/E data sets are created.

9. If your product requires HFS or if you want to install a feature of the product that requires HFS, add the DDDEFS that are required for the file system to your SMP/E environment:

   a. Open the SAMPJCL member *ccc*3CSIU in an edit session and execute the AL2SEDIT macro from the command line.

      *ccc*3CSIU is customized.

   b. Submit *ccc*3CSIU.

      This job customizes the CSI by adding the DDDEFs associated with the directory.

Run the Installation Jobs for a Pax Installation

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

Note: The following steps include instructions to execute the AL2SEDIT macro each time you open a new SAMPJCL member. To edit all SAMPJCL members simultaneously, read and follow the instructions in the AL2AREAD member, and submit the AL2EDALL member.

Follow these steps:

1. Open the SAMPJCL member AL24RECD in an edit session, and execute the AL2SEDIT macro from the command line.

   AL24RECD is customized.

2. Submit AL24RECD to receive SMP/E base functions and error HOLDDATA.

   Your product is received and now resides in the global zone.

3. If an FMID was placed in error, download and receive PTFs (see page 98) from http://ca.com/support.

4. Open the SAMPJCL member AL25APP in an edit session, and execute the AL2SEDIT macro from the command line.

   AL25APP is customized.

5. Submit AL25APP to apply SMP/E base functions with the CHECK option. If you find unresolved hold errors, we recommend that you note these errors and verify that resolving PTFs are applied before implementing products in production. Update the JCL to BYPASS the unresolved hold error IDs. After successful completion, rerun APPLY with the CHECK option removed.

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

6. Open the SAMPJCL member AL26ACC in an edit session, and execute the AL2SEDIT macro from the command line.

   AL26ACC is customized.

7. Submit AL26ACC to accept SMP/E base functions with the CHECK option. After successful completion, rerun APPLY with the CHECK option removed.

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

Installation Job Return Codes

The installation jobs for the pax installation should all end with a return code of 0, except for AL26ACC, which can end with a return code of 0 or 4.

Clean Up the USS Directory

This procedure is optional. If you decide to perform the procedure, do so after you complete the installation process and when you do not need the installation files anymore.

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

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

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

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

Follow these steps:

1. Navigate to your Pax ESD USS directory.

   Your view is of the applicable USS directory.

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

   `rm paxfile`

   paxfile

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

   The pax file is deleted.

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

   `rm -r product-specific_directory`

   product-specific_directory

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

   The product-specific directory is deleted.

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

Apply Preventive Maintenance

Important! We strongly recommend that you use CA CSM to maintain your CA Technologies z/OS-based products. The procedure that is discussed in this section is fully automated when you use CA CSM.

CA Support Online at http://ca.com/support has maintenance and HOLDDATA published since the installation data was created. After the maintenance process completes, the product is ready to deploy.

Use this procedure during product installation and for ongoing preventive maintenance in non-installation use cases according to your maintenance strategy.

Note: To review the CA Technologies mainframe maintenance philosophy, see your *Best Practices Guide* or visit the CA Next-Generation Mainframe Management page.

This procedure directs you to use the CAUNZIP utility. The CAUNZIP utility processes ZIP packages directly on z/OS without the need for an intermediate platform, such as a Microsoft Windows workstation. If you are not familiar with this utility, see the *CA Common Services for z/OS Administration Guide*. This guide includes an overview and sample batch jobs. To use this utility, you must be running CA Common Services for z/OS Version 14.0 with PTF RO54887 or CA Common Services for z/OS Release 14.1 with PTF RO54635 and RO58216. These PTFs are included in CA Common Services for z/OS Release 14.1 at the S1401 Service Update level.

Follow these steps:

1. Check the Download Center at http://ca.com/support for PTFs that have been published since this release was created. If the base release was created recently, no PTFs will have been published yet. If PTFs exist, add published solutions for your product to your Download Cart, and click Checkout.
2. Specify that you want a complete package.

   When processing completes, a link appears on the Review Download Requests page. You also receive an email notification.
3. Click the Alternate FTP link for your order to obtain FTP login information and the ZIP file location. Download the ZIP file into a USS directory on your z/OS system.
4. Run the CAUNZIP utility.

   CAUNZIP unzips the package of published solutions and creates a SMPNTS file structure that the SMP/E RECEIVE FROMNTS command can process. For sample JCL to run the utility that is located in *yourHLQ*.CAW0JCL(CAUNZIP), see the *CA Common Services for z/OS CAUNZIP Administration Guide*. After execution completes, the ZIPRPT data set contains the summary report. The summary report does the following:

   - Summarizes the content of the product order ZIP file.
   - Details the content of each data set and the z/OS UNIX files produced.
   - Provides a sample job to receive the PTFs in your order.
5. Review the sample job that is provided in the CAUNZIP output ZIPRPT file. Cut and paste the JCL into a data set, specify your SMP/E CSI on the SMPCSI DD statement and submit the job to receive the PTFs in your order.
6. Verify that you have the values from the base installation in the AL2SEDIT macro that was customized in the installation steps.
7. Open the SAMPJCL member AL21HOLD in an edit session and execute the AL2SEDIT macro from the command line.

   Note: Update AL21HOLD SAMPJCL to download the HOLDDATA file.

   AL21HOLD is customized.
8. Submit AL21HOLD.

   The job downloads the external HOLDDATA file.
9. Open the SAMPJCL member AL27RECH in an edit session and execute the AL2SEDIT macro from the command line.

   AL27RECH is customized.
10. Submit AL27RECH.

    The job receives the external HOLDDATA file.

11. (CA Recommended Service (CA RS)) installation only) Do the following:
    a. Determine which ASSIGN statements to download.
        - The yearly CA RS ASSIGN statements are stored in the following file:

          `ftp.ca.com/pub/ASSIGN/YEARLY/CAR`*yyyy*`.TXT`
        - The quarterly CA RS ASSIGN statements are stored in the following file:

          `ftp.ca.com/pub/ASSIGN/CAR`*yymm*`.TXT`

    b. Open the SAMPJCL member AL27CARS in an edit session, update AL27CARS SAMPJCL to download ASSIGN statements from http://ca.com/support, and execute the AL2SEDIT macro from the command line.

    AL27CARS is customized.
12. (CA RS installation only) Submit AL27CARS.

    The job downloads the CA RS ASSIGN statements.
13. (CA RS installation only) Open the SAMPJCL member AL27RECP in an edit session, manually add the data set that contains the ASSIGN statements to the SMPPTFIN DD, and execute the AL2SEDIT macro from the command line.

    AL27RECP is customized.
14. (CA RS installation only) Submit AL27RECP.

    The job receives the external HOLDDATA file and CA RS ASSIGN statements.
15. Open the SAMPJCL member AL28APYP in an edit session and execute the AL2SEDIT macro from the command line.

    AL28APYP is customized.
16. Submit AL28APYP.

    The PTFs are applied.
17. (Optional) Open the SAMPJCL member AL29ACCP in an edit session and execute the AL2SEDIT macro from the command line.

    AL29ACCP is customized.
18. (Optional) Submit AL29ACCP.

    The PTFs are accepted.

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

HOLDDATA

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

System HOLDDATA

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

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.

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.

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.

SQLBIND

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

Code a BYPASS(HOLDSYS) operand on your APPLY command to install SYSMODs that have internal holds. Code the BYPASS(HOLDSYS) 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. The HOLDDATA resides in a separate file and contains both error and FIXCAT HOLDDATA. The error HOLDDATA is used for SYSMODs that have been distributed and later are discovered to cause problems. The FIXCAT HOLDDATA helps identify maintenance that is required to support a particular hardware device, software, or function.

Download the external HOLDDATA from http://ca.com/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.

You can find JCL to download the external HOLDDATA in your SAMPJCL member. Open AL21HOLD in an edit session and execute the AL2SEDIT macro on the command line. Then, submit the JCL.

Error HOLDDATA

If a SYSMOD has unresolved error HOLDDATA, SMP/E does not install it unless you add a bypass to your APPLY command. You can bypass error HOLDDATA in situations that are not applicable to you. Error HOLDDATA that is 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 Technologies publishes a SYSMOD that resolves the error HOLDDATA, the resolving SYSMOD supersedes the error HOLDDATA. This action lets you apply the original SYSMOD in conjunction with the fixing SYSMOD.

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.

FIXCAT HOLDDATA

CA Technologies provides FIXCAT HOLDDATA to help identify maintenance that is required to support a particular hardware device, software, or function. Fix categories are supplied as SMP/E FIXCAT HOLDDATA statements. Each FIXCAT HOLDDATA statement associates an APAR and its related fixing PTF to one or more fix categories.

Chapter 6: Starting Your Product

This section contains the following topics:

Introduction

This section covers two stages before starting your product.

From the base installation system, one sometimes must deploy the product to the target system. This process basically involves copying the SMP/E target libraries to the deployment system. This method provides an execution environment for the product, but individual product configuration is not achieved.

Configuration involves applying the unique parameters, features, and modifications to the product for that system or in the case of CA WA CA 7 Edition, an instance (for example, CA71, CA72).

See the CAL2OPTN member AL2$$IDX for the index of the CA WA CA 7 Edition members in the libraries CAL2OPTN and CAL2JCL. CAL2OPTN member AL2$UPDT contains information about upgrading to this release. CAL2OPTN member AL2$BKOT contains instructions and information about falling back from Version 12.0 to your previous release.

Use your Master Preparation Checklist (see page 170) as you work through the deployment and configuration sections of this chapter.

How to Prepare for Deployment

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

Install, Update, or Configure Other Products

The installation of CA WA CA 7 Edition requires the installation of CA Common Services (see page 30) CA Datacom/AD, CAIRIM, CAISSF (a subcomponent of CAIRIM), and CA LMP on your system.

Install or upgrade the JCLCheck Common Component if you are not using the full CA JCLCheck product or the JCLCheck Common Component has been installed for another CA Technologies product. CA WA CA 7 Edition expects CA JCLCheck to be at Version 12.0 or higher.

The JCLCheck Common Component can be used only from another CA Technologies product.

The JCLCheck Common Component software is found on a separate distribution package. Use the *CA JCLCheck Common Component Installation Guide* to install the JCLCheck Common Component.

If you must install or upgrade these services, do that process now keeping in mind the following items:

- The installation/upgrade process uses some of the data sets, libraries, and JCL procedures that were allocated and created during the CA Common Services installation/upgrade.
- Add a CAIRIM initialization control statement for CAISSF. See the Standard Security Facility (CAISSF) in the *CA Common Services Administrator Guide.* The CAL2OPTN member AL2RIM supplies the sample CAIRIM initialization statements for CA WA CA 7 Edition and CAISSF.
- CAIRIM requires APF authorization of some common libraries. The individual product libraries, such as CA WA CA 7 Edition, also require APF authorization. Update the APF authorization list using the SYS1.PARMLIB member PROG*xx* or IEAAPF*xx*. The following libraries require APF authorization:

  CA WA CA 7 Edition Load library

  CA WA CA 7 Edition target load library

  CA 1 load library

  If using the interface with CA 1

  CA WA Restart Option load library

  If using the interface with CA WA Restart Option

  CA Datacom/AD Customized library (CUSLIB)

  CA Datacom/AD library that refers to the CA WA CA 7 Edition database

CA Datacom/AD load library (CAAXLOAD)

CA Datacom/AD load module library

CA GTS load library

If using the CA GTS interface (USS File Watcher or ECHO features)

CA Common Services load library

CA APF load library that CAIRIM uses

CA CPM load library

If using the CA CPM interface

CA IAS load library

If using the Agent Job interface in CA WA CA 7 Edition

Jobflow Monitor PDSE load library

If using the Jobflow Monitor feature

If you use the STEPLIB facility to point to the CA WA CA 7 Edition modules, ensure that all libraries in the STEPLIB DD concatenation are listed in the APF authorization list. If you are using a separate user table/exit library, CAL2MOD, place the CAL2MOD library ahead of the CAL2LOAD library in any STEPLIB concatenation.

If you have a facility available that can dynamically add APF entries, you can avoid an IPL. However, be certain to update your SYS1.PARMLIB so that these additions are engaged when you do IPL. Also, read through the next step and consider the implications of avoiding an IPL. Performing an IPL is sometimes easier than avoiding an IPL, depending on your circumstances.

Note: NCF2 sites require only the CAIRIM, CAISSF, and CA LMP components.

Prepare the System Configuration File (L2OPTS)

The information in the System Configuration File, also known as sysfile, establishes the following information:

- Sets the location of the CA WA CA 7 Edition SMF indicator.
- Declares which SMF records are collected.
- States the CA WA CA 7 Edition SVC number and batch security options.
- Indicates other settings.

The HEALTHCHECK keyword controls the interface to the IBM Health Checker.

Note: For more information about the System Configuration File options, see the *Systems Programming Guide*.

Use the Master Preparation Checklist (see page 170) to complete your values. The CA WA CA 7 Edition Options library CAL2OPTN member AL2INIT creates the default sysfile. If the following default options are acceptable, use this AL2INIT member to initialize the CA WA CA 7 Edition system environment with one CA 7 tracking instance. To change the default settings or to use External Tracking Tables, NCF, or both, change this AL2INIT member. This sysfile information is saved as a sequential file or a PDS member with the DCB attributes of LRECL=80 and RECFM=F or FB. This sysfile information is used in the CAIRIM process (L2OPTS DD) to set up the CA 7 system environment.

Consider the following items for the System File:

- CA WA CA 7 Edition requires one SVC number; the default is 167. If you want to use a different number, identify an available type-3/4 number.
- The last byte of the 8-byte User Identification field in the SMF common exit parameter area is used. Verify that no conflict exists with the usage of this field. If a conflict exists, another byte must be selected. This conflict would occur in the reader time field and identified by the SMFO parameter.
- The RCA, restore common area, allows the record types for which the CA 7 indicator is to be removed from the reader time field. Identify the record types for which to perform this removal.
- Determine the SMF records for which information is passed to CA WA CA 7 Edition. You must have SMF record type 30. The SMF record type 26 is job purge. The data sets have three record types:
  - SMF type 14 is for data set opened for input.
  - SMF type 15 is for data sets that are opened for update or output. Collect this type if you are using data set requirements, triggering, or both.
  - SMF type 64 is for VSAM data sets.
- CA WA CA 7 Edition can use the IBM Health Check exits to monitor CA7ONL and ICOM status. This monitoring permits the issuing of messages when the IBM Health Checker Address space determines something is not right in the CA7ONL and ICOM address spaces. This monitor can be turned off (N), set to defer for later activation (0) or set to a number of minutes to monitor. The default if not coded: HEALTHCHECK(N) and default if coded: HEALTHCHECK(15).
- More options to enforce a security policy are BSUBCHK and SVDSNCHK. BSUBCHK(N) and SVDSNCHK(N) are the defaults for the CA71 ADD statement.
- Determine what CA 7 instances to install in the sysplex. You can define up to eight CA 7 instances, CA71 through CA78. You identify these instances at the CAIRIM initialization so that appropriate system level control blocks are built.

Note: For more information, see the *Systems Programming Guide*.

Prepare for System Generation (SYSGEN)

Preparing for a system generation has three parts:

- New installation
- Upgrade installation
- Verify environments on all affected LPARs

New Installation:

Refer to the Master Preparation Checklist (see page 170) to complete values to use for the SYSGEN process. This checklist helps complete the macros that are used in generating the CA 7 JCLLIB.

The Stage I SYSGEN Macros (see page 179) appendix contains details about the macros in the SYSGEN. You can use the CAL2JCL member AL2GEN as a model.

- Three keywords on the U7PARMS macro let you control the data set name prefixes for CA WA CA 7 Edition:

  NODE

  Specifies the data set name prefix for all non-VSAM/non-SMP/E CA WA CA 7 Edition data sets (logs, and so forth).

  TARGET

  Specifies the data set name prefix for all CA WA CA 7 Edition SMP/E controlled target libraries (CAL2MAC, CAL2LOAD, and so forth). Specify the prefix that you used when you created the SMP/E data sets.

  VSAM

  Specifies the data set name prefix to use for the CA WA CA 7 Edition Agent VSAM file.

  CAI.CA7 is the default value for NODE. If the TARGET prefix, VSAM prefix, or both are not specified, they default to the NODE prefix value.

- You can specify the CA Datacom/AD dsname prefixes in the keywords CUSLIB and CAXXLOAD.
- Do you want the first four characters of the job names to be other than CA07? The default for the Stage II installation job names is CA07*xxxx*, where *xxxx* is a suffix (for example, N010, N020). (U7JOBCRD macro, JOBNAME= keyword)
- Do you require specific procedure names for the CA WA CA 7 Edition cataloged procedures, or do the defaults suffice (default = CA7*xxxx*)? (U7PNAMES)
- Are any of the CA WA CA 7 Edition data sets to reside on a volume other than the one coded on the U7PARMS macro? (U7VOL)

- Is the data set space allocation to be different from the defaults? (U7SPACE)
- Are you using a specific data set name for the tape file that contains the log data? (U7TEST)
- Does CA WA CA 7 Edition submit jobs to a system that shares DASD but does not share JES with the CA WA CA 7 Edition host? If so, a CA WA CA 7 Edition submit data set is required for each system. Indicate the number of these data sets using the NSUBMT= keyword on the U7PARMS macro.
- Names for the VTAM and ISPF definitions from the preparing for installation task are specified on the U7IFACE macro.
- Do you have CA WA Restart Option (ARTS) installed? (U7IFACE macro, U11LD keyword) Do you have CA 1 (TMS) installed? (U7IFACE macro, U01LD keyword)
- Do you plan to run the CA WA CA 7 Edition Network Communications Facility (NCF)?

  If this site is an NCF1 site (running both CA WA CA 7 Edition and NCF), specify NCF1=YES in the U7PARMS macro.

  If this site is an NCF2 site (running NCF but not CA WA CA 7 Edition), specify NCF2=YES in the U7PARMS macro.
- If you want this copy to be something other than the primary copy of CA WA CA 7 Edition, specify INSTANCE=CA7*n* on the U7GEN macro. *n* is a number from 2 through 8.

  Note: For more information about running multiple CA 7 instances, see Installing Multiple Instances (see page 215).

Upgrade Installation:

Consider generating a new CA WA CA 7 Edition JCLLIB library for Version 12.0. Many additions, deletions, and changes to the Version 12.0 JCLLIB complicate efforts to upgrade your current JCLLIB. You can compare the Version 12.0 members with the r11.3 members to highlight the changes. See Database Conversion (see page 163) for more details.

The best way to perform a Version 12.0 SYSGEN is to modify your existing SYSGEN macros. Follow the upgrade instructions in Assemble Stage I SYSGEN Macros (see page 127).

Follow the configuration steps for the process you are using. Pay attention to anything that specifically represents an "upgrade environment" in the step.

Verify Environment on All Affected LPARs

Verify that the following tasks are complete:

- If CAIRIM has not been executed to load your currently installed (pre-Version 12.0) release of the CA WA CA 7 Edition SVC and SMF exits, do so now.
- Ensure that this execution is been done on all LPARs involved in this upgrade.
- Create a job using the member AL2ENVR in the CA WA CA 7 Edition JCL library CAL2JCL. Execute this job on every LPAR involved in the upgrade and retain the output from each run. This job reports system options in effect for your currently installed copy of CA WA CA 7 Edition.
- Create a job using member AL2SC801 in the CA WA CA 7 Edition JCL library CAL2JCL. Execute this job on every LPAR involved in the upgrade and retain the output from each run. This process generates recommendations for system options that you can use later in the upgrade process.

Using Stage I SYSGEN Macros (see page 179) and the preceding coding notes, code the SYSGEN macros for your site. You can use the AL2GEN member in the CA WA CA 7 Edition JCL library CAL2JCL as a model.

How to Complete Deployment with CA CSM

Continue through the user interface to complete deployment using CA CSM.

How to Deploy Without CA CSM

The topics in this section describe the manual tasks that you perform when you are not deploying your product using CA CSM.

In a deployment, the SMP/E target libraries are copied to the target system. The CAL2JCL member AL2IDPL1 can be used to create an IEBCOPY physically sequential file suitable for sending to another system using methods such as shared DASD, a network transmission through JES, or FTP.

See the comments within the JCL to customize the data sets to be copied and the names on the installation site. Name the output files so that they can be sent to the target site.

After this job has executed, send to the files to the target site. The method of moving the file to the target system is left up to the site. Various ways are available to send the data: FTP, data transmission products such as CA XCOM, IBM NDM, TSO XMIT and more.

To restore the target libraries, use the CAL2JCL member AL2IDPL2. This job takes the physical sequential files and restores the PDS target files that are used in the configuration process. After these PDS files are restored, configuration for that site and specific instance of CA 7 can proceed.

Consider replicating some libraries, like CAL2JCL and CAL2OPTN, per CA 7 instance (CA71 compared to CA72 compared to CA73). The load module library and selected other files can be shared between CA 7 instances when nothing site- or instance-specific is placed in those libraries. Before you start the configuration, now is a good time to evaluate the CA 7 topology for the sysplex/LPAR.

How to Configure CA Datacom/AD for Use with CA WA CA 7 Edition

In the installation process, you have already ensured the availability of a CA Datacom/AD environment. More configuration is required so that it can be used with CA WA CA 7 Edition.

The tasks that are described in this section are required for each CA Datacom/AD MUF that services an instance of CA WA CA 7 Edition.

- Apply Recommended CA Datacom/AD Options (see page 112)
- Secure the CA Datacom/AD MUF (see page 113)
- CA Datacom/AD MUF Startup Options for CA 7 (see page 114)
- CA Datacom/AD DBSIDPR Values for CA 7 (see page 116)
- Initialize or Update CA Datacom/AD DBID 770 (see page 117)

Apply Recommended CA Datacom/AD Options

CA Datacom/AD MUF Startup Options for CA 7 (see page 114) details the options that you use.

To use an existing CA Datacom/AD Version 14.0 MUF for the CA WA CA 7 Edition database, ensure that these options are applied.

To determine the options that are currently set for the MUF, examine the SYSPRINT from the MUF job. The startup options are output as message DB01900I at the top. You can also execute the CAL2JCL member AL2DCINF to see information about the active CA Datacom/AD environment. The information includes the DBSIDPR settings and data about the MUFs in your system.

Compare these options in the MUF SYSPRINT to the options that CA WA CA 7 Edition requires.

Ensure that the MUF has sufficient space to accommodate CA WA CA 7 Edition scheduling data.

The amount of space varies depending on the size of the workload. The CAL2DCVS utility can help you with this estimate.

Note: For more information, see the *Systems Programming Guide.*

If you are upgrading, you use backups of your existing scheduling data to estimate the amount of space that the MUF requires. This estimation is described in Database Conversion (see page 163).

Review backup, recovery, and spill plans for use with CA WA CA 7 Edition. If you plan to use an existing MUF, consider modifying its backup and recovery procedures to meet the needs of CA WA CA 7 Edition. This topic is discussed in the *Systems Programming Guide*.

Secure the CA Datacom/AD MUF

After the CA Datacom/AD MUF is established, define the security rules to secure the MUF. Use the sample members in the CAL2OPTN library after CA WA CA 7 Edition has been laid down. We add this step here and are repeating the step in the CA WA CA 7 Edition sections too.

Set up the started task ID for the CA Datacom/AD environment that CA WA CA 7 Edition uses. Also, permit CA WA CA 7 Edition to use functions of the CA Datacom/AD environment. Because system programmers backup and restore the database as needed, grant them sufficient access to perform the necessary CA Datacom/AD functions.

Three members in CAL2OPTN contain CA Datacom/AD access rules for the following security environments:

- AL2ACF2D – CA ACF2
- AL2RACFD – IBM RACF
- AL2TSSD – CA Top Secret

CA Datacom/AD MUF Startup Options for CA 7

Review the startup options for the MUF that will service CA WA CA 7 Edition.

CA WA CA 7 Edition requires some MUF options that differ from the CA Datacom/AD installation defaults.

The options are specified in these members of the CUSMAC library for the MUF:

- AXDATIN1
- AXDATIN2

These members correspond to the CA WA CA 7 Edition CAL2OPTN library members:

- AL2MUFS1
- AL2MUFS2

These CAL2OPTN members have the option settings that CA WA CA 7 Edition needs. If you are dedicating a MUF solely to the service of CA WA CA 7 Edition, you can simply replace:

```
datacom-CUSMAC(AXDATIN1) with ca7-CAL2OPTN(AL2MUFS1)
datacom-CUSMAC(AXDATIN2) with ca7-CAL2OPTN(AL2MUFS2)
```

However, if you intend to share a MUF with other applications, examine its startup options and modify them according to these recommendations. If the option requirements of other MUF users are incompatible with the guidelines here, consider dedicating another MUF for use with CA WA CA 7 Edition. MUF startup options are discussed in the *CA Datacom/DB Database and Administration Guide*.

LOGRCV NO

Means that a LOG RECOVERY FILE is available. But no output device is permanently allocated.

Important! The default is NEVER, which CA WA CA 7 Edition must not use.

TASKS 500,60K,0,0,250

Indicates the number of tasks that are required to service all the instances of CA WA CA 7 Edition that share the MUF. If you are modifying an existing MUF to use with CA WA CA 7 Edition, increase the values on the TASKS parameter by the amounts that are mentioned here.

VIRTUAL xxxxxx,xx

Indicates how much virtual storage to reserve for temporary areas for the SQL requests. Update the VIRTUAL statements for IXX017 and TTM017.

```
VIRTUAL IXX017,1M
VIRTUAL TTM017,200M
```

COVERED

Specify the following values:

```
COVERED 0002,120%
COVERED 0015,120%
COVERED IXX0770,115%
COVERED MIN0770,100%
COVERED DFS0770,115%
COVERED JOB0770,115%
COVERED AWS0770,115%
COVERED AWL0770,115%
COVERED AWH0770,115%
COVERED HIS0770,115%
COVERED HIL0770,115%
```

XCF_FROM

CA Datacom/AD does not perform any XCF operations by default. To activate it for CA WA CA 7 Edition processing, specify:

```
XCF_FROM *,*,*,YES XCF RECEIVE FROM SYS, JOB, GROUP, ALLOW
```

SECURITY

The SECURITY statement activates external security to protect the data that is stored in CA Datacom/AD.

```
SECURITY DBDCSCI,DBDCSCQ,DBDCRCI,DBDCRCQ,DBDCRAQ
SECURITY DBDCSSR,DBDCRSR,DBDCSQL,DBDCSQQ,DBDCRAT
```

CA Datacom/AD DBSIDPR Values for CA 7

The DBSIDPR module provides information that is needed for applications using CA Datacom/AD, such as CA 7, to connect to the correct CA Datacom/AD started task (MUF). DBSIDPR also provides processing options for handling that connection.

We recommend the following settings:

DELAY68 and DELAY85

The DELAY68 and DELAY85 options determine how connection attempts are handled when the CA Datacom/AD MUF is not available. We recommend setting both of these values to 0 (zero) to let CA 7 manage the connection attempts. Setting these options to non-zero values sometimes delays certain CA 7 functions, such as a shutdown.

CONNECT_ALLOW_PRIORITY

CONNECT_ALLOW_PRIORITY determines what communication methods are used to connect with the MUF. We recommend specifying (LOCAL,XCF) to try local (cross-memory) first, then XCF.

TARGET_MUF_LIST

TARGET_MUF_LIST specifies the name of the MUF to which we are trying to connect. Use the same value from the CXXNAME keyword.

TOGROUP

TOGROUP identifies the name of the XCF group to use for communication with the MUF. The CXXNAME, which is unique in the SYSPLEX, is a good value to use.

Assemble DBSIDPR values, including changes for DELAY68, DELAY85, XCF access, TOGROUP, CONNECT_ALLOW_PRIORITY, and the TARGET MUF LIST. The DBSIDPR assembly and link are steps in the CA Datacom/AD INSTJCL(AXCUS01) member. You must replace the 7CHAR_CXX_NAME shown in the following sample with your choice of a seven character long CXXNAME that is unique to each MUF in your environment. Coordinate the values with other products using this CA Datacom/AD MUF:

```
TITLE 'DATACOM/DB - DBSIDPR FOR INDIVIDUAL LOGICAL MUF'
DBSYSID                                                          X
      SIMPLIFY_MODE=YES,                                         X
      CXXNAME=7CHAR_CXX_NAME, NAME OF THE CXX                    X
      DSN_XXX=HLQ.7CHAR_CXX_NAME.???,                            X
      FORCE_DSN_CXXNAME=NO, YES OR NO                            X
      CONSOLE_MINUTES=2, TIME BETWEEN AUTOMATIC STATUS CMDS      X
      DELAY68=0,                                                 X
      DELAY85=0,                                                 X
      DELAY_DBUTLTY_SECURITY=NO, EXTERNAL SECURE YES/NO          X
      TARGET_MUF_LIST=(7CHAR_CXX_NAME),                          X
      TOGROUP=7CHAR_CXX_NAME,                                    X
      CONNECT_ALLOW_PRIORITY=(LOCAL,XCF)
END
```

Initialize or Update CA Datacom/AD DBID 770

After CA Datacom/AD Version 14.0 or higher is installed, you can configure and initialize the environment. These steps are performed only one time per CA Datacom/AD MUF environment.

Follow these steps:

1. Determine the optimal configuration for CA Datacom/AD, CA WA CA 7 Edition, and other applications that are using the MUF (if any).

   Have CA7ONL and its associated CA Datacom/AD MUF execute on the same host so that these address spaces can communicate using cross-memory services.

   Note: CA7ONL does not perform as well when it executes on an LPAR other than its MUF host. In that event, the address spaces must communicate using XCF. If CA7ONL and the MUF cannot execute on the same LPAR, try to optimize XCF performance by ensuring that there are sufficient XCF communication paths between the two LPARs.

   Important! The optimal configuration dedicates a MUF for the sole use of CA WA CA 7 Edition. Some products like CA CSM or CAIENF are intensive consumers of MUF services. For that reason, do not have them share the MUF with CA WA CA 7 Edition.

   Multiple instances of CA WA CA 7 Edition can share the CA Datacom/AD database (DBID=770). Each record on the database begins with a 16-byte logical database name. The logical database name is supplied to CA 7 programs that access the data (typically specified on the DBPARMS statement). This method effectively partitions the single physical database so that a single MUF can serve several instances of CA 7 each using its own logical database.

   If other products, like CA 11, share the MUF used by CA WA CA 7 Edition, ensure that they have similar backup and recovery requirements.

2. Define the security rules for access to the CA Datacom/AD for CA WA CA 7 Edition systems and users.

   To define the sample rules for the security system you execute, see the sample members in CAL2OPTN:

   - AL2ACF2D for CA ACF2
   - AL2TSSD for CA Top Secret Security (TSS)
   - AL2RACFD for IBM RACF

   These samples permit the access to the database based on a role. CA7ONL needs full access, whereas the users require only read access (for the SQL reports that they want to execute). The system programmers require access to take backups and perform recovery as needed.

   Note: The security controls relate to the MUF, and thus readers of the data (through SQL reports) have access to all the data in the MUF. CA WA CA 7 Edition system security controls access within the environment.

3. Edit the ISPF edit macro that aids in the customization of sample jobs that have CA Datacom/AD libraries.

   CAL2JCL Member: AL2IEDIT

   Copy this member into your SYSPROC concatenation of your TSO userid. Change the lines with these string values for your installation values: PRODHLQ, DATACOMHLQ, CXXNAME, and TAPEUNIT.

   Although this step is optional, we recommend it for the next eight jobs and others in the CAL2JCL library. If you have performed the PAX installation, this ISPF edit macro is similar but not identical to the AL2SEDIT member. AL2IEDIT has different strings to change.

4. Increase CA Datacom/AD Data Dictionary IXX size to accommodate CA WA CA 7 Edition.

   CAL2JCL Member: AL2DCA10

   Return Code: 0

   Description: Expands the IXX size to a reasonable size. Generally, if you use the CA Datacom/AD installation default or you add CA WA CA 7 Edition to an existing MUF, the IXX size is not large enough.

5. Create the AUTHID for CA WA CA 7 Edition to use.

   CAL2JCL Member: AL2DCA20

   Return Code: 0

   Description: This one-time job (per MUF) creates the authorization ID MFWA (Mainframe Workload Automation) that CA WA CA 7 Edition uses.

6. Initialize DBID 770, the CA 7 database ID.

   CAL2JCL Member: AL2DCA30

   Return Code: 0

   Description: Creates the shell for CA Datacom/AD DBID 770. All logical databases are placed into this environment.

7. Import the CA Datacom/AD definitions for CA WA CA 7 Edition.

   CAL2JCL Member: AL2DCA40

   Return Code: 0

   Description: Identifies the various tables to CA Datacom/AD and establishes the relationships (constraints) between these tables.

8. Null-load and confirm the CA WA CA 7 Edition areas in the database.

   CAL2JCL Member: AL2DCA50

   Return Code: 0

   Description: Prepares the database for use.

9. Load mini-tables.

   CAL2JCL Member: AL2DCA60

   Return Code: 0

   Description: Initializes and loads *constant* tables. These tables are also referred to as *mini-tables* and are used to describe codes in other tables. For example, the MAINID field (SY*n* or /SY*n*) and job types (like CPU, XP, and UNIX) are data found in these mini-tables.

10. Import SQL plans.

    CAL2JCL Member: AL2DCA70

    Return Code: 0

    Description: Loads the SQL Plans for use by CA WA CA 7 Edition programs. The SQL Plans must be loaded to the database so that when CA7ONL executes the query, the program can successfully retrieve the data.

11. Allocate the GDG structures for backup and recovery files.

    CAL2JCL Member: AL2DCA80

    Return Code: 0

    Description: Creates a GDG index for the CA Datacom/AD backup files and for the Spill data sets used in forward recovery.

How to Complete Configuration with CA CSM

The topics in this section describe the manual tasks you perform when configuring your product using CA CSM (see page 78).

Select Functions and Options Panel

Select the function CA WA CA 7 Edition Version 12.0 Base Product from the checklist. The configuration options available for this function are described in the next section.

If the deployment includes Jobflow Monitor, you can select that function at the bottom of the scroll list. If you want to configure Jobflow Monitor with CA WA CA 7 Edition, click in the check box. The Install Jobflow Monitor configuration option is automatically selected.

Configuration Options

The following table lists the configuration options that are presented on the Select Functions and Options panel. Each option has a description or a reference. The reference points to a section in a CA WA CA 7 Edition Bookshelf manual. To conserve space, the manuals are abbreviated as follows:

- DBM: *CA WA CA 7 Edition Database Maintenance Guide*
- IG: *CA WA CA 7 Edition Installation Guide*
- RRG: *CA WA CA 7 Edition Report Reference Guide*
- SPG: *CA WA CA 7 Edition Systems Programming Guide*
- SRG: *CA WA CA 7 Edition Security Reference Guide*

Configuration Option	Description/Reference
Install CA WA CA 7 Edition Base	Install the CA WA CA 7 Edition base product
NCF1 Site	This site executes both CA WA CA 7 Edition and Network Communication Facility (NCF)
NCF2 Site	This site runs NCF without CA WA CA 7 Edition
Define GDGs	Define the log dump file and log history file as GDGs. Otherwise, they are non-GDGs.
Copy Procedures	Copy procedures from JCLLIB to a procedure library that you designate
Install ISPF Option	Select this option to use the CA WA CA 7 Edition TSO/ISPF interface
Install UNIX System Services Interface	Select this option to use the CA WA CA 7 Edition UNIX System Services Interface
Build calendar modules SCAL*yyxx* (AL2UM01)	Install two sample calendars used for post-installation testing
Build external data set tracking criteria table SASSXDSN (AL2UM37)	See “Define the External Data Set Tracking Criteria Table” in the SPG
Build filter table SASSEXTL (AL2UM34)	See “Define External Tasks to Track” in the SPG
Build model queue record table SASSEXTT (AL2UM35)	See “Define the SASSEXTT Module” in the SPG

Configuration Option	Description/Reference
Build statement modification exit SASSXX20 for PSP=Y CPU job submission (AL2UM46)	See “Statement Modification Exit for CPU Job Submission – SASSXX20” in the SPG
Build JCL submission exit SASSXX02 for PSP=N submission (AL2UM18)	See “JCL Submission – SASSXX02” in the SPG
Build statement modification exit SASSXX21 for XPJOB job submission (AL2UM47)	See “XPJOB Submission – SASSXX21” in the SPG
Build CLANG modification exit SASSXX22 for agent job submission (AL2UM48)	See “Agent Job Submission – SASSXX22” in the SPG
Build queue entry JCL record exit SASSXX05 (AL2UM21)	See “Queue Entry JCL – SASSXX05” in the SPG
Build logon user exit SASSXXLX (AL2UM13)	See “Logon/Password Verification – SASSXXLX” in the SPG
Build alternate resource table UIDTABLE (AL2UM32)	See “Internal Security” and “USERID Macro” in the SRG
Build internal security module SASSUID(AL2UM40)	See “Internal Security” and “USERID Macro” in the SRG
Change default workload balancing table UCC7RDFL (AL2UM10)	See “Workload Balancing” and “WLB Macros” in the SPG
Change transaction table SASSTRAN (AL2UM08)	See “Application/Command Security” in the SRG
Update panel access table SASSDSCR (AL2UM04)	See “Command/Function Panel Security” in the SRG
Build NCF node table UCC7NODE (AL2UM02)	See “NCF Node Table Definitions” in the IG
Build EBCDIC/ASCII translation tables CAL2XLAT (AL2UM45)	See “EBCDIC/ASCII Translation Tables – CAL2XLAT” in the SPG
Generate SMF 14/15/64 rec. exclusion/inclusion table for SMF U83 exit SASSXU83 (AL2UM33)	See “Define the SMF Type 14/15/64 Record Filter” in the SPG
Build internal security table SASSSEC0 (AL2UM07)	See “SECURITY Macro” in the SRG
Modify UID resource table SASSRTBL (AL2UM09)	See “UID Resources” in the SRG
Build batch interface error message table SASSXXBT (AL2UM12)	See “Batch Interface Message Table – SASSXXBT” in the SPG

Configuration Option	Description/Reference
Build VRM device code table SASSDTAB (AL2UM44)	See “VRM Device Control” in the DBM
Build command input exit SASSXX09 (AL2UM25)	See “Command Exit – SASSXX09” in the SPG
Build unit/device code table SASSUTBL (AL2UM03)	See “Generic Unit Name/Device Type Table – SASSUTBL” in the SPG
Build SMF feedback exit SASSXX13 (AL2UM29)	See “SMF Feedback – SASSXX13” in the SPG
Build job name verification exit SASSXX01 (AL2UM17)	See “Job Name Verification – SASSXX01” in the SPG
Build load processing exit SASSXX12 (AL2UM28)	See “Database Load Processing – SASSXX12” in the SPG
Change message suppression table SASSMSGS (AL2UM05)	See “Message Level Suppression – SASSMSGS” in the SPG
Change permanent ddname table SASSPMDD (AL2UM06)	See “Reserved DDname Table – SASSPMDD” in the SPG
Build logoff user exit SASSXXFF (AL2UM14)	See “Logoff Exit – SASSXXFF” in the SPG
Build utility command exit SASSXX03 (AL2UM19)	See “Utility Function Security Checking – SASSXX03” in the SPG
Build external data set access exit SASSXX07 (AL2UM23)	See “External DSN Access – SASSXX07” in the SPG
Build new CA Driver options module CA7AGENB (AL2UM36)	See “CA Driver Customization – CA7AGENB” in the SPG
Build enqueue/reserve exit SASSXX04 (AL2UM20)	See “ENQ/RESERVE – SASSXX04” in the SPG
Build forecast worksheet exit SASSXX08 (AL2UM24)	See “Forecast Worksheet – SASSXX08” in the SPG
Build job validation exit SASSXX10 (AL2UM26)	See “Job Data Verification – SASSXX10” in the SPG
Build queue entry JCL library exit SASSXX11 (AL2UM27)	See “JCL Attach Verification – SASSXX11” in the SPG
Build personal scheduling verification exit SASSXX14 (AL2UM30)	See “Personal Scheduling Verification – SASSXX14” in the SPG
Build console terminal output exit SASSXX15 (AL2UM38)	See “Console Terminal Output – SASSXX15” in the SPG

Configuration Option	Description/Reference
Build SMF WTO messages exit SASSXX16 (AL2UM39)	See “SMF WTO Message (SASSXX16)” in the SPG
Build browse message review exit SASSXX17 (AL2UM42)	See “Browse Message – SASSXX17” in the SPG
Build differential severity scale SASSDS01 (AL2UM31)	See “Differential Severity Scale” in the RRG
Change product name to 'CA WORKOAD AUTOMATION SE' in EARL reports (AL2UM49)	See “Report Titles” in the RRG
Change product name to 'CA WORKOAD AUTOMATION SE' in Easytrieve reports (AL2UM50)	See “Report Titles” in the RRG

Create Target Settings Panel

This panel controls the target settings for this configuration. Each variable is documented with a detailed description and any required action.

External Operations

The external operations are operations that you perform manually outside of CA CSM. At the appropriate time during the implementation, the process pauses, and you are asked to confirm an external operation.

To determine what action to take, place the cursor over the text balloon. A window opens containing instructions for that operation. After you have completed the necessary tasks, click the OK button to confirm the task. The implementation process continues with the next task.

If you cannot complete the task immediately, click the Stop button at the top of the window. The implementation process halts. You can restart the implementation later by going to the Configuration Tab, selecting the configuration, and clicking the appropriate action. Implementation resumes where it left off.

The external operations for CA WA CA 7 Edition are described in the following topics. The ones that you perform depend on the configuration options you select.

Note: CA CSM generates DBNAME as the name of the logical database Change this value to meet the needs of your installation. Have the logical database name in 1 to 16 characters (A-Z, 0-9, period, dash, and underscore are permitted). This value is used in all DBPARMS specifications to identify the logical database that is used. Ensure that the DBNAME is unique among all instances sharing a physical CA Datacom/AD database.

External Operations Required for Upgrade

Important! If you are upgrading, you must create a logical database that contains your existing production data. CA CSM does *not* handle this task. The manual tasks to accomplish this are detailed in Database Conversion (see page 163).

External Operations for Jobflow Monitor

If you are configuring Jobflow Monitor with CA WA CA 7 Edition, performing several more external operations is necessary. These operations are listed in the following topics.

Manually Edit or Validate JFM Configuration

CAL2OPTN members AL2JFMAS, AL2JFMIP, and AL2JBFLM must be copied and renamed to members JBFLWAS, JBFLWIP, and JBFLWMN respectively to the JFM parms data set. This data set is named on the CAJFPARM DD statement in the JFM startup JCL. Edit or verify these members to complete the configuration.

Edit or Validate the JFM Proc

Manually edit the Jobflow Monitor procedure in JCLLIB member AL2JFM. Copy the member to a PROCLIB that is in the SYS1.PROCLIB concatenation.

Install CA 7 Event for JFM

The descriptor modules and events for CAIENF r12 or higher are established dynamically at CAIENF initialization using the CAIDCM DD statement.

In the data set pointed to by the CAIDCM DD statement in the CAIENF JCL procedure, uncomment DCM(CAL2DCM3) and the related CA7LOG events.

The CA WA CA 7 Edition load library CAL2LOAD must be either in the link list or added to the CAIDCM DD statement concatenation in the CAIENF JCL procedure.

Update the Initialization File

To use Jobflow Monitor, add the following to the OPTIONS statement of the CA WA CA 7 Edition initialization file: JFM=YES. The initialization file is in JCLLIB. The member name is ONLINE.

Also in the initialization file, specify the OPTIONS parameter CPM=JFMLOAD if you are using CA CPM 3.0 or higher and you want to have JFM feed CA CPM the flow and job event information.

How to Configure Without CA CSM

These topics describe the manual tasks that you perform when you are not configuring your product using CA CSM. A configure without CA CSM (see page 174) checklist is provided.

The SMP target data sets are now copied to the target system where CA WA CA 7 Edition executes. Some target libraries can be used across multiple CA 7 instances. Consider separating some data sets by instance identifier because these contain JCL/procedures for CA 7 instances. Consider duplicating the following SMP/E libraries:

CAL2JCL

This library contains sample JCL members for various functions, such as backup, recovery, and reporting.

CAL2OPTN

This library contains sample option members. The library also has parameters, security setup, and user exits source.

CAL2CLS0

This library contains sample CLIST CA7CLIST that sometimes requires a customization that is based on your system needs.

CAL2EMAL

This library contains sample email templates. You can use this library or can establish a separate data set of your own. The data set is referenced in the CA7ONL initialization file EMAIL statement.

CAL2EVNT

This library contains sample Service Desk Templates. You can use this library or can establish a separate data set of your own. The data set is referenced in the CA CAISDI/els parameters.

CAL2SQL

This library contains sample CA Datacom SQL Queries.

If you are executing CA IAS, consider duplicating the CIASJCL and CIASOPTN to set up different agent destinations and files to go with each instance of CA 7.

The other SMP/E target libraries can be shared between multiple CA 7 instances on a system. The other library, the CA 7 JCLLIB, is created by executing the SYSGEN process. This should be separated by CA 7 instance, as this contains the specific instance information.

If you are executing multiple instances within the sysplex, duplicate these libraries now. Identify the instance associated with the library. In these topics, we refer only to the SMP/E DD definition name (like CAL2JCL or CAL2OPTN) or the JCLLIB that is produced as a result of the SYGEN process.

To configure, you:

- Create CA 7 instance JCLLIB (SYSGEN)
- Allocate and verify CA 7 system data sets
- Customize the options (initialization file)
- Customize using exits and tables (user modifications)
- Set up or update security rules
- Customize the system environment (CAIRIM/L2OPTS)

If you are installing for the first time or if you are upgrading and want to try out features of the new version before using your production database, you can:

- Test the system (batch mode and IVP tests)

Important! If you are upgrading to CA 7 Version 12.0, you must create a logical database containing your production scheduling data before you can begin using the product in production. Information about this process is discussed in Database Conversion (see page 163).

Note: If you are upgrading CA 7 from r11.3, you can use the L2OPTS file from r11.3 without changes. The CAIRIM process can still invoke the CA 7 r11.3 load modules.

Assemble Stage I SYSGEN Macros

CAL2JCL Member: AL2GEN (or AL2UGEN if an upgrade. See the note.)

Return Code: 0

Installation Type: Both new and upgrade environments

Upgrade Note: A full SYSGEN is required if you are installing the product for the first time. And we recommend a full SYSGEN even if you are upgrading from a previous release. Many things have changed in this release. If you execute a full SYSGEN, you can compare the resulting JCLLIB with the JCLLIB that you currently have. This output makes it easier to make the necessary changes.

Several JCL and procedure members have been eliminated, as have some user exits. The CA Datacom/AD libraries that are needed for execution are included in many of the JCL STEPLIB concatenations. Numerous changes have occurred in the CA7ONL initialization file also.

Create a CA WA CA 7 Edition SYSGENed JCLLIB library instead of overlaying your existing CA 7 r11.3 JCLLIB. This method provides for a fall back (reversion) and also permits a comparison for differences. For example, the Database Transportability (DBT) JCL set has changes to point to CA Datacom/AD. Several DD statements pointing to the old files have been removed.

Important! Notify the users to replace all CA WA CA 7 Edition JCL and procedures that they have in private libraries.

Description: Prepares for the generation of a CA WA CA 7 Edition JCL Library (JCLLIB). The JCL library contains installation jobs and supporting files to install CA WA CA 7 Edition on your system.

The Master Preparation Checklist (see page 170) contains a list of all the data that can assist with creating the input to the SYSGEN process.

The input for this process is a series of macros setting selected data sets, options, and parameters. The output from the CA WA CA 7 Edition Stage I assembly is a card-image IEBUPDTE job. The job contains all the required files to create the CA WA CA 7 Edition JCL library (JCLLIB), which is used in Stage II of the CA WA CA 7 Edition installation process. In the AL2GEN member, adjust the output to an appropriate location.

If you are upgrading, the best way to perform a Version 12.0 SYSGEN is to modify your existing SYSGEN macros. Locate your previous SYSGEN, which can be located in a sample JCL library (SAMPJCL or other location depending on release). Look for member L2*xx*GEN, where *xx* is the release number (L2B3GEN for r11.3, L2B1GEN for r11.1). If not renamed, the name can still be CA7GEN in the previous release.

Create a copy of the previous SYSGEN job renaming it CA7GEN. Delete *all* the JCL surrounding the CA WA CA 7 Edition macros (they begin immediately after the //SYSIN DD * statement). Use the following guidelines to update the SYSGEN macros. If you cannot locate a previous SYSGEN job, use member AL2GEN in the CA WA CA 7 Edition JCL library CAL2JCL to create one.

The SYSGEN parameters that have changed in Version 12.0 include the following:

Remove the following keywords from the macro specified:

Macro	Keywords Removed
U7PARMS	DBDYNA
U7PNAMES	ARK, ARL, BKUP, VBK, VRL
U7SPACE and U7VOL	ARF, DMPQ, DMPV, IDS, QACT, QDQT, QPRE, QPRN, QPST, QRDY, QREQ, QSCR, QTRL, SASDS, SASJOB, VRM
U7GEN	QUNIT

Add to the U7PARMS macro the following keywords related to CA Datacom/AD:

DBNAME, CAAXLOAD, and CUSLIB.

Once you have coded the Version 12.0 SYSGEN macros, copy and edit member AL2UGEN in the CA WA CA 7 Edition JCL library CAL2JCL. Follow the directions in the comment area. Run the AL2UGEN job to create the Stage I output (member STAGE1). This output contains model JCL that you use in the next job.

The following items describe the CA WA CA 7 Edition Stage I SYSGEN macros (some are optional):

U7PARMS

(Required) Specifies the system PARMs. This one must be first.

U7JCLDS

(Required) Specifies the JCL data sets that the CA WA CA 7 Edition system can use.

U7JOBCRD

(Required) Specifies the JOB statement operand information that is placed on the generated Stage II installation jobs.

U7GEN

(Required) Specifies global parameters. This one must be last.

U7DAVOLS

(Optional) Specifies the direct-access volumes that CA WA CA 7 Edition can access.

U7IFACE

(Optional) Specifies CA WA CA 7 Edition VTAM, TSO/ISPF, and other system interface parameters.

U7PNAMES

(Optional) Overrides the default names for the generated CA WA CA 7 Edition JCL procedures.

U7SPACE

(Optional) Overrides the default space allocation parameters for the CA WA CA 7 Edition files.

U7TEST

(Optional) Specifies the values that the generated sample test job stream and the log tape dump jobs use.

U7VOL

(Optional) Specifies the volume and unit parameters for the CA WA CA 7 Edition files.

These macros and their parameters are described in detail in Stage I SYSGEN Macros (see page 179).

Coding Notes

The following items are notes for coding the CA WA CA 7 Edition Stage I SYSGEN macros:

- Specify the DBNAME keyword on the U7PARMS macro to provide the logical database name for this instance in 1 to 16 characters (A-Z, 0-9, period, dash, and underscore are permitted). The keyword has no default. Ensure that the DBNAME is unique among all instances sharing a physical CA Datacom/AD database.
- Specify the CUSLIB and CAAXLOAD keywords on U7PARMS to define the high-level qualifiers for the CA Datacom/AD database for CA WA CA 7 Edition to use.

Assemble the Stage I macros and examine the output for error messages. If any errors occur, correct the problems. Next, rerun the assembly until it runs cleanly. When you have a clean Stage I assembly, continue to the next installation step.

The output is set up to go to the STAGE1 member in the library that you selected.

Create the JCLLIB

JCLLIB Member: STAGE1

Return Code: 0

Installation Type: Both new and upgrade environments

Description: Creates the CA WA CA 7 Edition JCLLIB. The JCLLIB contains the Stage II installation jobs, procedures, and files necessary to complete the CA WA CA 7 Edition installation. The output also contains jobs, procedures, and files that are used to run CA WA CA 7 Edition for production and for ongoing maintenance.

The job name the Stage I SYSGEN created is CA07N000. The SYSGEN install macros sometimes override the prefix CA07. The job contains two steps:

- Step 1: GENBLD is an IEBUPDTE step that creates a temporary PDS with all the CA WA CA 7 Edition JCLLIB members. This step also contains a DD statement defining the CA WA CA 7 Edition JCLLIB itself.
- Step 2: GENCOPY is an IEBCOPY step that copies the members from the temporary PDS to the CA WA CA 7 Edition JCLLIB library with a REPLACE option.

In CA07N000, the CA WA CA 7 Edition JCLLIB is named on the JCLLIB DD statement in the first step of the job. Keep in mind this fact if you have to make global changes in this JCL. Verify that the DSN of the Version 12.0 JCLLIB you create in this job is not the same as the name of your current CA WA CA 7 Edition JCLLIB.

The CA07N000 job is set up in two steps for a reason. If you decide to rerun the Stage I SYSGEN job generating only certain members, the IEBCOPY step replaces only those members in the original JCLLIB. If you rerun the CA07N000 job, remember to *remove* the JCLLIB DD statement from the GENBLD step to avoid a JCL error. The error occurs because the JCLLIB was allocated the first time that you ran CA07N000.

Before you submit the CA07N000 job, examine the JOB statement for proper operands. This same JOB statement (except for the job name and region) is generated for all the Stage II installation and CA WA CA 7 Edition test jobs. If a problem with the format exists, it can be easier to go back and correct the problems in the Stage I SYSGEN macros and regenerate the CA07N000 job. Remember that the U7JOBCRD macro is used to put JCL comments or statements immediately after each JOB statement generated. If you need JES control statements such as /*JOBPARM and /*ROUTE, this place is convenient to define them once and have them included in all generated jobs.

You can make any global changes to the generated output. The easier method is changing the CA07N000 job stream instead of after the JCLLIB has been built, where the jobs and files are separated into individual members.

Run the CA07N000 job and confirm the CA WA CA 7 Edition JCLLIB is properly constructed before proceeding to the next step. Most of the remaining steps involve running the Stage II installation jobs that are contained in the CA WA CA 7 Edition JCLLIB.

For the names of the JCLLIB members that the CA07N000 job created, see Generated JCLLIB Members (see page 199).

Allocate Files (Job N010)

JCLLIB Member: CA07N010 (the prefix CA07 is sometimes overridden in the SYSGEN install macros).

Return Code: 0

Installation Type: New environment. If you are upgrading, you must allocate a GDG index for the SYSMDUMP DD statement that is included in the new JCL for CA7ONL.

The JCLLIB member GDGMDECK provides the IDCAMS input to define this index.

Description: Allocates the agent databases and support files.

Edit member CA07N010 and make the following adjustments as needed.

General allocation notes:

- Using default allocations, this step requires approximately 2000 tracks of 3390 disk space. The individual files and defaults are shown in U7SPACE (see page 191). These defaults are typically adequate for defining from 200 through 400 jobs to CA WA CA 7 Edition. The number can be higher or lower for your installation depending on several variables. Variables include items like the number of steps and number of DD statements per job. For more information about determining space requirements, see storage requirements (see page 33).
- The checkpoint data set (DDCKPT) must be allocated as (CYL,1) and is unmovable.
- Both log data sets (DDLOGP and DDLOGS) must reside on the same volume.
- If GDGs are indicated for log tapes on the U7TEST macro, they are defined in the GDGDECK member of the CA WA CA 7 Edition JCLLIB. Examine these definitions for limits and change as needed.
- CA WA CA 7 Edition exploits 64-bit storage, which is not captured in a SYSUDUMP. GDGMDECK allocates a GDG index so that CA WA CA 7 Edition can take SYSMDUMPs when an abend occurs.

VSAM allocation notes:

- Specification for a catalog and its password is sometimes required.
- The IDCAMS control statements for the definition of the CA7AGNT data set are contained in the AGTALLOC member of the CA WA CA 7 Edition JCLLIB.

Run job CA07N010 and confirm the data sets are allocated before proceeding to the next step.

Note: If you experience problems with the allocations, see member CA07N005 before resubmitting CA07N010. The purpose of CA07N005 is to scratch and uncatalog the data sets allocated in CA07N010 so that it can be rerun without duplicate DSN JCL errors.

NCF Note

For NCF2 sites, only the communications data set, NCF communications data set, and undeliverable queues are allocated. No VSAM files are allocated.

Copy Procedures (Job N020)

JCLLIB Member: CA07N020 (the prefix CA07 is sometimes overridden in the SYSGEN install macros).

Return Code: 0

Installation Type: Both new and upgrade environments

Note: Version 12.0 environments must remember that some procedures are deleted in this release. For more information, see the database conversion (see page 163).

Description: Moves the CA WA CA 7 Edition JCL procedures from the CA WA CA 7 Edition JCLLIB to a PROCLIB on your system using IEBCOPY. These procedures are used in some of the remaining installation jobs. The other procedures are used for maintenance and by CA WA CA 7 Edition itself.

Ensure that the CA WA CA 7 Edition procedures reside on a PROCLIB accessible to all systems where CA WA CA 7 Edition submitted jobs are to run. If necessary, change the PROCLIB specified on the SYSUT2 DD statement to the proper library for your system. If you are still using the previous release of CA WA CA 7 Edition, be careful not to overlay these PROCs yet. If a conflict exists, copy them to a separate PROCLIB that you can use for Version 12.0 testing.

Alternately, you can use the IBM JCLLIB statement that lets a procedure resolution occur from a specific library as opposed to the system PROCLIB concatenation. The JCLLIB statement is inserted into the JCL after the JOB statement and before the first EXEC statement. The statement has the following format:

```
//    JCLLIB  ORDER=(cai.ca7.jcllib,altlibrary...)
```

The following list names all the possible CA WA CA 7 Edition procedures moved in this step with their default names. (The prefix CA7 is sometimes overridden in the Stage I SYSGEN macros.)

CA7AGBK

Agent VSAM file Backup

CA7AGRL

Agent VSAM file Reload

CA7BAT

Batch Only Execution

CA7BTI

Batch Terminal Interface

CA7ENVR

System Configuration Report

CA7FSIM

Jobflow Illustrator

CA7ICOM

Independent Communication

CA7LOAD

Load Processor

CA7LOG

Log Dump

CA7NCF

Network Communications Facility

CA7ONL

Online Execution

CA7SVC

Issues the CA WA CA 7 Edition SVC

CA7TRLR

Trailer Step

CA7XTRK

Cross-Platform Tracker

NCF Note

For NCF2 sites, only a subset of the preceding list is specified in your N020DECK because CA WA CA 7 Edition itself is not running here.

CA WA Restart Option Note

Using the interface with the CA WA Restart Option interface sometimes requires the CA11RMS procedure. The procedure can be found in the following places:

- CA WA Restart Option r11: AL7RMS in the CAL7SAMP data set
- CA 11 previous releases: CA11RMS in the CA 11 SAMPJCL data set

Format and Initialize Files (Job N030)

JCLLIB Member: CA07N030 (the prefix CA07 is sometimes overridden in SYSGEN).

Return Code: 0

Installation Type: New environments

Description: Initializes or formats CA WA CA 7 Edition files. Depending on the options that are specified in your Stage I SYSGEN, the steps necessary for your site are included. The following items are the possible steps:

1. Create first GDG of the CA WA CA 7 Edition log dump file.
2. Create first GDG of the CA WA CA 7 Edition log history file.
3. Format the CA WA CA 7 Edition browse data set.
4. Initialize the communications data set.
5. Initialize the cross-system coupling facility (XCF) data set.
6. Initialize the XCF checkpoint data set.
7. Initialize the NCF communications data set.
8. Initialize the NCF undeliverable queue.

Some of the preceding steps use JCL procedures that are copied in the previous step. Before you submit the job, ensure that these PROCs are accessible. Run job CA07N030 before proceeding to the next step.

Note: If you must reinitialize only a single data set, see the JCLLIB member in the following group for special JCL to accomplish this task.

CA07N700

CA WA CA 7 Edition communications data set (COMMDS)

CA07N705

XCF data set (XCFDS)

CA07N707

XCF checkpoint data set (XCFCKPT)

Specifications for a catalog and its password are sometimes required.

Note: For more information about the NCF DASD requirements, see the *Interface Reference Guide*.

Update VTAM Definitions (Job N120)

JCLLIB Member: CA07N120 (the prefix CA07 is sometimes overridden in the SYSGEN install macros).

Return Code: 0

Installation Type: New environments

Description: Copies the CA WA CA 7 Edition VTAM definitions from the CA WA CA 7 Edition JCLLIB to the VTAMLST library specified on the U7GEN macro. The members that job CA07N120 copied are listed in the member VTAMDECK in the CA WA CA 7 Edition JCLLIB. The following items are the CA WA CA 7 Edition VTAM definition members and their descriptions:

CA7VTAM

VTAM APPL definition

CA7ISPF

VTAM APPL definitions for the TSO/ISPF interface

If you are an existing CA WA CA 7 Edition user, you can have your VTAM definition included in a member with other VTAM definitions. If so, consider deleting that definition before copying this one to your VTAM library.

Sometimes, you must vary these VTAM members active after VTAM is initialized or must restart VTAM to get the members active.

If you do not want to enable the CA WA CA 7 Edition TSO/ISPF interface at your site, delete the IEBCOPY SELECT statement for CA7ISPF in the VTAMDECK member.

Note: For NCF sites, VTAM definitions are also required for each node in the NCF network. If you know your network configuration, see VTAM and NCF Node Table Definitions (see page 209). If you do not yet know your NCF network configuration, you can wait until after you have completed the installation testing for CA WA CA 7 Edition itself. For NCF2 sites, the CA7VTAM and CA7ISPF members are not required.

Perform TSO/ISPF Updates

Manual Process: Uses JCLLIB members

Installation Type: Both new and upgrade environments

Note: Version 12.0 environments must update the libraries that contain the CA 7 ISPF CLISTs, panels, tables, and modules.

Description: Updates the TSO/ISPF environment with CA 7 elements. If you do not plan to use the TSO/ISPF interface, you can bypass these items. The following items are required:

1. Run CA WA CA 7 Edition SMP/E USERMOD job AL2UM11 in the CA WA CA 7 Edition JCL library CAL2JCL. This job replaces the default CA WA CA 7 Edition TSO/ISPF CLIST with a copy that the CA WA CA 7 Edition Stage I SYSGEN customized.

   Note: Examine the LIB specification and ensure that you specify the correct module library that is used in CA7ONL here.

2. Add a CA WA CA 7 Edition option to your ISR@PRIM or ISR@MSTR panel. The following item is a sample selection line:

   ```
   x,'CMD(CA7PDRVR) NEWAPPL(CA7)'
   ```

3. The CA WA CA 7 Edition TSO/ISPF interface components were applied to the CA WA CA 7 Edition target libraries during the CA WA CA 7 Edition SMP/E APPLY step. These libraries must be added to your site's TSO logon procedure to use the CA WA CA 7 Edition TSO/ISPF interface. For specific library updates, see the following items:

   ***high.level*.CAL2CLS0**

   CLISTs that the CA WA CA 7 Edition TSO/ISPF interface requires. This library must be concatenated under the TSO Logon procedure SYSPROC DD statement.

***high.level*.CAL2PNL0**

Panels that are required for the CA WA CA 7 Edition TSO/ISPF interface. This library must be concatenated under the TSO Logon procedure ISPPLIB DD statement.

***high.level*.CAL2TBL0**

Command translation table that the CA WA CA 7 Edition TSO/ISPF interface requires. This library must be concatenated under the TSO/ISPF Logon procedure ISPTLIB DD statement.

***high.level*.CAL2LOAD**

TSO/ISPF panel driver module L2ADDON. This library can be added to ISPLLIB concatenation. Alternatively, the L2ADDON module can reside in the STEPLIB/JOBLIB or a linklisted data set rather than on the ISPLLIB if that is better suited to your installation.

Note: For more information about the CA WA CA 7 Edition TSO/ISPF interface, see the *Interface Reference Guide*.

This step is not needed at NCF2 sites.

Update Security Rules

CAL2OPTN Members: AL2*ssss*N or AL2*ssss*S where *ssss* is ACF2, RACF, or TSS

Manual Process

Installation Type: Both new and upgrade environments

Description: Use of commands and panels is granted through security access. For each release, new commands, changed commands, or both sometimes require updates to the security system.

For an upgrade installation, refer to the members AL2*ssss*N, which list new security definitions that are introduced in this release.

For the following installation types, refer to the members AL2*ssss* (without the N):

- Updating from a release earlier than r11.3.
- Performing a new installation.

These members help with defining security rules for new commands, panels, or both in the external security package. To exploit new commands, users must be granted the authority through the security package of your installation.

Also, this version has changes to the initialization file SECURITY statement that can be useful in your installation.

Create User Tables and Exits

JCL: Depending on installation methods, select from the following members:

- SMP/E Apply: CAL2JCL member AL2UMAPP
- Assemble and Link: CAL2JCL member AL2UMASM
- Optional Source: CAL2OPTN members AL2UM*nna*

Return Code: 0

Installation Type: Both new and upgrade environments

Important! With each new release of CA 7, you must reassemble the user modifications using the CAL2MAC macro library of the current release. Starting with Version 12.0, a verification check is performed. If the exit cannot be verified, the exit is disabled. Also, a number of user exits are not supported as of Version 12.0. For more information, see the *Release Notes* and the *Systems Programming Guide*.

Description: Installs user tables and exits. The members in CAL2OPTN that begin with AL2UM are provided to apply specific user modifications to CA WA CA 7 Edition. The CAL2OPTN member AL2$$IDX contains a brief description of each of these USERMODs. Also, user-defined tables enable the tracking of external tasks, the suppression of some messages, and more.

You can install user modifications using one the following methods:

- Using the actual SMP/E environment to receive and apply the USERMOD. Never accept USERMODs in an SMP/E environment.
- Assemble and link into a module library outside of the SMP/E environment.

Installing user modifications into an SMP/E environment

The member AL2UMAPP in the CA WA CA 7 Edition JCL library CAL2JCL is provided for the installation of the USERMODs into an SMP/E environment. This JCL references the CAL2OPTN file and can be used to install the appropriate USERMOD. Change the member name reference in the JCL to point to the specific USERMOD that you want to install.

Installing user modifications into a runtime environment

If you use a set of libraries that SMP/E does not control, you can allocate a separate module library. You can include in this library in various STEPLIB concatenations when not link-listed. Remember to add this library to the APF authorization list. For this process, use the CAL2JCL sample member AL2UMASM to assemble and link various exits and tables into the library. Keeping the user modifications separate from the CA WA CA 7 Edition main module library permits a refresh of the CA WA CA 7 Edition modules without affecting your modifications. Pay attention when you apply any maintenance for items that can affect the modifications that are done outside of SMP/E.

The AL2UM*nn*M members of CAL2OPTN represent source entries for various exits.

This step requires the following tasks:

- Calendars.

  Member AL2UM01P in JCLLIB generated as part of the SYSGEN process defines two calendars, SCAL*yy*PE and SCAL*yy*03 (where the *yy* is the current year). These calendars are referenced during post-installation test job CA07N220.

  To install the two calendars with SMP/E, the USERMOD AL2UM01 in the CA WA CA 7 Edition library CAL2JCL must be run. However, the calendars can be put into CA WA CA 7 Edition without SMP/E by using the CAL2JCL AL2UMASM to assemble and link edit the CALENDAR macro. For the appropriate CALENDAR macro, see USERMOD AL2UM01P in the CA WA CA 7 Edition JCLLIB library.

- Internal Security.

  If you do not use the internal security, continue to the next item.

  Review the internal security needs of your installation. If you have an existing table, ensure that it accurately reflects the needs of today. The SECURITY statement in the initialization file identifies this module (the default name is SASSSECI).

  Important! Reassemble and relink your security table using the Version 12.0 CAL2MAC macros library. Changes have been made to the SECURITY macro.

- NCF.

  If you do not use NCF, continue to the next item.

  If you know your network configuration or you have an existing NCF node table, you can create and apply the USERMOD to create the NCF node table. This table is required for both NCF1 and NCF2 sites.

  If you do not yet know your NCF network configuration, you can wait until after you have completed the installation testing for CA WA CA 7 Edition itself.

- USS.

  If you do not intend to use the interface with UNIX System Services (the USS interface), continue to the next item. Otherwise, see the information about this feature in the *Interface Reference Guide* and *Systems Programming Guide*.

If you have any USERMODs against CA WA CA 7 Edition, review any changes that you have made to CA WA CA 7 Edition source modules. Next, reassemble all affected modules using the Version 12.0 macros. This process is true for any user exits that you have. But it is also true for modules like SASSDSCR, SASSPROG, and SASSTRAN. CA Technologies can change distributed source code. If you have changed source that CA Technologies provides, ensure that your changes are compatible with the source provided in Version 12.0 before reassembling.

More information:

NCF Node Table Definitions (see page 210)

Prepare and Execute CAIRIM to Initialize Version 12.0

Manual Processes: Updates CA Common Services

Return Code: 0

Installation Type: Both new and upgrade environments

Note: This activity is *required* for a new install. If you are upgrading, you will eventually want to upgrade the tracking environment support programs (CAIRIM, SVC, SMF exits, etc.). However, if you want to test Version 12.0 in an existing r11.3 tracking environment, you can defer this activity until that test is complete.

Description: Using the L2OPTS(AL2INIT) file, updates CAS9 procedures to define the CA 7 environment. The CAIRIM procedure CAS9 and the parameters were created during the installation of the CA Common Services or with another CA Technologies product.

Note: For more information about the CAS9 procedure and CAIRIM parameters, see the CA Common Services documentation.

You must update the CAIRIM procedure and parameters to request the initialization of CA WA CA 7 Edition.

The following items are the four actions for this step:

- Add the L2OPTS DD statement to the CAS9 JCL Procedure
- Update the CAS9 PARMLIB DD statement for CARIMPRM
- IPL if necessary
- Execute CAIRIM to initialize Version 12.0

Add the L2OPTS DD Statement to the CAS9 JCL Procedure

Add the DD statement L2OPTS to the CAS9 JCL Procedure, referencing the AL2INIT member you created in the Prepare the System Configuration File (L2OPT DD) step (see page 107). The original sample of AL2INIT defines the global environment and initializes a single CA 7 instance.

Update the CAS9 PARMLIB DD Statement for CARIMPRM

CAL2OPTN Member: AL2RIM

The CAS9 JCL DD statement PARMLIB defines the parameters for product initializations. The default is library CAI.PPOPTION member CARIMPRM. Member AL2RIM in the CA WA CA 7 Edition JCL CAL2OPTN library contains the CAIRIM initialization statement for CA WA CA 7 Edition. Copy this statement into your CARIMPRM file in CAI.PPOPTION, ensuring that it is the last statement in the file.

Although CA WA CA 7 Edition requires no changes to the auto or user CAIRIM command files, you can update them here if necessary.

Notes

The CA WA CA 7 Edition system interface modules must be accessible when CAIRIM is executed to initialize CA WA CA 7 Edition. If you installed CA WA CA 7 Edition into a separate target load library (CAL2LOAD) from the one that CA Common Services uses, perform one of the following steps:

- Add the target load library (CAL2LOAD) to the STEPLIB concatenation of the CAS9 JCL procedure.
- Add the target load library (CAL2LOAD) to the system linklist concatenation.
- Add the load library where external tracking user tables reside when not using CAL2LOAD.

Note: At NCF sites, an additional parameter can exist in the CA WA CA 7 Edition System Configuration File.

More information:

Identify the Host NCF Node (see page 213)

IPL (If Necessary)

If you installed or upgraded CA Common Services earlier in the installation or upgrade process, an IPL is sometimes required to activate the CA Common Services system and features.

Remember to run CAIRIM (CAS9 procedure) on *all* LPARs where ICOM is to execute; therefore, be certain to examine the APF authorization lists for all affected LPARs.

Consider setting up CAIRIM (CAS9 procedure) as an automatic started task in COMMND*xx*.

Note: For more information, see the CA Common Services documentation.

Execute CAIRIM to Initialize Version 12.0

Now, run CAIRIM to initialize all of the required CA WA CA 7 Edition operating system services and intercepts. CAIRIM must run before you can execute CA WA CA 7 Edition. For the instructions about initiating CAIRIM, see the *CA Common* Services *Getting Started* or *Administrator Guide*.

Upgrade Note: Verify that the CA WA CA 7 Edition Version 12.0 load library is ahead of any other CA WA CA 7 Edition load library in the STEPLIB concatenation for your CAS9 procedure.

Execute CAIRIM to initialize the CA WA CA 7 Edition Version 12.0 system environment on every LPAR participating in the installation or upgrade that executes an ICOM.

When CAIRIM is executed to initialize CA WA CA 7 Edition, you begin to see a number of messages at the system console. Review these messages and confirm that the CA WA CA 7 Edition system environment was successfully created and that all instance initialization requests completed successfully.

Note: Assume that you set up CAIRIM to run as a started task at IPL time and you performed an IPL in the previous step. In this case, you are not required to repeat this process. But review the messages that were issued when CAIRIM ran.

The following message indicates that the CA WA CA 7 Edition system environment is successfully created:

CAL2R006I Function successful: GLOBAL INIT

When a CA WA CA 7 Edition tracking instance is initialized, you see a message similar to the following example:

CAL2R071I Instance CA71 successfully added

Examine the output of CAIRIM for the CAL2R006I message and a CAL2R071I message for each instance to add (typically only one). You also see a message from CAIRIM in the following format:

CAS9130I - Module L2*nn*INIT complete, RC=00

If you do not see the CAL2R006I and CAL2R071I messages, you can find error messages in the output. Messages beginning with CAS9 can be found in the *CA Common Services Message Guide*. The CA WA CA 7 Edition product initialization routine issues messages that start with CAL2R and are documented in the *CA WA CA 7 Edition Message Reference Guide.* If you do not see messages beginning with CAL2R, verify that the CA WA CA 7 Edition CAIRIM installation parameter was moved to the correct CAIRIM parameter file and member.

Confirm that CAIRIM has run and that CA WA CA 7 Edition is initialized before proceeding to the next step. Run CAIRIM on all LPARs that execute an ICOM or that are in the shared spool.

Execute in Batch Mode to Define IVP Jobs (Job N220)

JCLLIB Member: CA07N220 (the prefix CA07 is sometimes overridden in the SYSGEN install macros).

Return Code: 0

Installation Type: New environments. Recommended if you are testing the release with a *new* logical database (not the result of a database conversion).

Description: A batch execution of CA WA CA 7 Edition. The job defines the test job network and maintenance jobs by issuing batch commands that add information in the database.

The test job network consists of jobs CA07XX01 through CA07XX10. These test jobs reside in the CA WA CA 7 Edition JCLLIB library. When CA7ONL is executed, this test job network can be demanded to exercise the CA WA CA 7 Edition facilities and ensure that they are installed correctly.

The maintenance jobs CA07LOGP and CA07LOGS are used automatically to swap and dump log files similar to SMF processing. Consider these jobs as production jobs. CA WA CA 7 Edition automatically submits these jobs when a log file becomes full.

The JFM test job streams are defined in jobs CA07JF01 through CA07JF06. This process sets up jobs that execute as a flow to test the JFM connection. If you are also using CA CPM, the flow data is sent to CA CPM and can be monitored there.

Run job CA07N220 and confirm that it has run successfully before proceeding to the next step.

After the CA07N220 job completes execution, proceed to the next Installation Verification Process (IVP). If you already have installation verification jobs, you can use those jobs in addition to or instead of the CA 7 IVP jobs.

Note: This step is not needed at NCF2 sites.

Upgrade Note: If you are upgrading to Version 12.0, you are converting your production scheduling data. Because the IVP jobs are likely already defined in your production scheduling data, you do not need to run this job.

But if you decide to use the IVP as supplied, review JCLLIB member N220DECK. Edit the member as necessary to ensure that existing jobs are not inadvertently modified or deleted.

Post-installation Testing

The testing process, after the installation is complete, is described later in this guide. Basically, this process involves executing the CA7ONL job (job CA07N240 in JCLLIB) and the CA 7 ICOM (job CA07N500 in JCLLIB). With both CA7ONL and ICOM running, you can log in to CA7ONL and DEMAND the Installation Verification job (CA07SVCT). Next, DEMAND the test job network (jobs CA07XX01 and CA07XX08). These jobs exercise the various submission, triggering, and tracking functions of CA WA CA 7 Edition to confirm that the installation has been successful.

Included in this document is an IVP test for internal cross-platform jobs (XPJOB) when you decide to use this feature. Perform the steps that are described in the Installation Verification Process (see page 155) and confirm that the installation is successful.

The IVP tests are also provided for the interfaces to CA Critical Path Monitoring. You can test the initialization file OPTIONS, CPM=YES or CPM=JFMLOAD using jobs and flows that the batch install job CA07N220 installed.

Note: Post-installation testing uses the default CA WA CA 7 Edition internal security definitions. CA WA CA 7 Edition can use its own internal security features, or it can interface with CA ACF2, CA Top Secret, and RACF. For more information about customizing the CA WA CA 7 Edition security for your site, see the *Security Reference Guide*.

Other Initialization File Updates

JCLLIB Member: ONLINE (or the online initialization file)

Installation Type: Both new and upgrade environments

If you want the interface to the full CA JCLCheck product, see the CA JCLCheck options data set and the JCLCHECK initialization file statement in the *Systems Programming Guide* for more information about enabling the interface. If you use the JCLCheck Common Component, ensure that the load library for that component is in the linklist or the STEPLIB concatenation for CA WA CA 7 Edition.

If you use the cross-platform scheduling features, see the XPDEF initialization statement to initialize the interfaces to CA WA Agents r11.3 or above, or to CA Unicenter Agents.

We recommend using the zIIP and Metrics options.

Note: For more information about these features and options, see the *Interface Reference Guide* and the *Systems Programming Guide*.

Copy your existing initialization file into the Version 12.0 JCLLIB library that you created previously, and modify it there.

Initialization file changes introduced in Version 12.0 include the following changes:

- RESIDENT statement

  This release supports another way to indicate that JCL library definitions using a symbolic index are loaded from the database at CA7ONL initialization. JCLDEFS=DATABASE is synonymous with JCLDEFS=VSAM.

- INIT statement

  METRICS={YES|NO} indicates whether to collect metrics data in the CA 7 log data sets. This data can be formatted using the SASSHIS8 report HR25.

  TYPE=MOVQ is obsolete in this version. If specified, it is treated as TYPE=ERST.

  ZIIP={NO|YES} indicates whether CA 7 routes work to a zIIP specialty processor.

- SECURITY statement

  With this version, you can segregate the SUBMIT and CALENDAR classes by CA 7 instance. Also, changes are introduced on a default user ID (possible exit elimination) and some BSUBCHK differences. CCLASS specifies the resource name that is used for the calendar accesses, while SCLASS indicates the resource name for the SUBMIT authority. To the SUBUID hierarchy, a DEFAULT specification is added, which indicates to use the DFLTUSR user ID in the JCL submitted.

- DAIO statement

  The SWFTRK/SCRTRK keywords are obsolete. An informational message is issued at startup when you specify the obsolete keywords.

- FORMAT statement

  The statement is obsolete because a CA Datacom/AD database replaces the VSAM database and queue data sets. An informational message is issued at startup when you include the obsolete statement in the initialization file.

- OPTIONS statement

  SUBSEL={NORM|ENH} indicates how submission selection, the selection of the next job to submit to the internal reader or to the cross-platform agent, is selected.

  - NORM indicates that subsystem selection operates as it did in previous releases. NORM is the default.
  - ENH (enhanced) indicates that queries are issued to the database to select the next job for submission. If using SUBSEL=ENH, know that selected WLB parameters are changed, removed, or both.

  If SHUTDOWN=Z4, Z5, or DMPQ is coded, replace it with an appropriate shutdown option unrelated to DMPQ.

Initialization file changes introduced in r11.3 include the following changes:

- SECURITY statement
  - AGCLASS= specifies the resource class name to use when performing agent job security calls. The default is FACILITY.
  - AGUSER= specifies a hierarchy of candidate user ID sources to determine the mainframe user (MFUser) to use for authorizing job submission for agent jobs.

    Note: If you validate agent jobs through external security, default values are used for AGCLASS and AGUSER when not explicitly coded on the SECURITY initialization statement.
  - LOGOPID=ALL indicates that transaction log records for all commands must include the operator ID. ALL includes type x'72' log records.
  - MULTIJOB=REQUEUE is valid when using the Parallel Submission Processing (PSP). This option requeues any jobs to the request queue with status MJOB if the job has more than one JOB statement.

- DBASE statement - The DEFAULTAG= keyword specifies the agent job mask to use for default values. The default is DEFAULTA.
- RESTART statement - The CONDCHK={NO|YES} specifies whether to synchronize the condition code checking between CA WA CA 7 Edition and CA WA Restart Option.
- CALENDAR statement - The PCALDSN= specifies the partitioned data set (PDS) name that contains perpetual calendar definitions.
- DAIO Statement -

  Increase the IOBS parameter, which states the number of I/O blocks for concurrent queue access, to at least 10, instead of 5, the previously recommended value. If you are executing OPTIONS PSP=Y, specify at least 5 more than the value specified in the OPTIONS MAXSUBOUT value. If you are executing PSP=Y and the IOBS parameter does not specify the correct number, CA WA CA 7 Edition corrects the number internally and issues message CA-7.890 - NUMBER OF QUEUE IOBS SET TO *nnn*.
- OPTIONS statement -
  - CPM=JFM indicates that the Critical Path Monitoring feature receives its job status information from Jobflow Monitor instead of CA WA CA 7 Edition itself.
  - CTIMSG={YES|NO} indicates whether to suppress extra messages that are generated during a CAICCI terminal usage. The messages include CA-7.XTM0, CA-7.SCMK, and CA-7.822.
  - JFM={NO|YES} indicates whether CA WA CA 7 Edition generates events that are sent to Jobflow Monitor to track the active and near-future workload.
- DRMODE statement -

  The TRIGGERS= keyword permits the specification of NONEXEC. This means that triggered jobs are marked as non-executable jobs if they are not in an active DRCLASS while in DRMODE.
- XPDEF statement -
  - AGENTJOB={NO|YES} indicates whether CA WA CA 7 Edition permits the definition, submission, and tracking of jobs that are sent to CA WA System Agents. This option, if set to yes, requires the CA IAS interface.
  - AGENTDAY=1-15 specifies the number of days to keep agent job information about the Agent VSAM file when the /DELAGNT command is executed. The default is 15 days.

- SMF statement - pertains to the processing of SMF data.
  - SMFXCF={NO|YES|*xxxxxxxx*} specifies whether to use XCF and can specify the XCF group name to assign to CA WA CA 7 Edition.
  - TZDISPLAY={EXEC|CA7} specifies the default option for those commands with a TZ (time zone normalization) keyword. The default is EXEC, which is the same as previous versions of CA WA CA 7 Edition.
  - TZPREDS={EXEC|CA7} specifies the time (CA WA CA 7 Edition or EXEC) used to satisfy initial requirements. The default is EXEC, which is the same as previous versions of CA WA CA 7 Edition.

  The CA WA CA 7 Edition SYSGEN process automatically defines an XCF checkpoint data set. If you intend to use XCF, add an XCFCKPT DD statement to your CA7ONL JCL at this time. See JCLLIB member CA07ONL as a sample. The data set must be formatted before use. You can format the XCF checkpoint data set as part of running job CA07N030 or individually by running job CA07N707.
- STATEMGR statement - controls the interface between CA WA CA 7 Edition and external system state monitors.
  - ARM={NO|YES} specifies whether CA WA CA 7 Edition registers with the IBM Automatic Restart Management (ARM). If ARM=YES is coded, an ARM policy must be defined in the couple data set.
  - OPSSSM={NO|YES} specifies whether CA WA CA 7 Edition interfaces with the System State Monitor of CA OPS/MVS EMA.
- UCC7VTAM statement –
  - The TCPTPORT specifies the TCP/IP port number on which CA WA CA 7 Edition listens for TCP/IP terminal commands. The keyword has no default.
  - The TCPTMOUT specifies a time-out value in seconds in which communications must be exchanged; the default is 10 seconds.

Starting with CA WA CA 7 Edition r11.1, the internalized cross-platform scheduling job (XPJOB) enhancement requires an internal cross-platform tracker (XTRK) task be active within the CA7ONL address space. As such, you no longer run XTRK as a started task or under ICOM. Running XTRK within CA WA CA 7 Edition and as a started task (or under ICOM) simultaneously leads to unpredictable results. We strongly recommend that you run XTRK within CA WA CA 7 Edition because it supports both XPJOBs and CA7TOUNI jobs.

Running XTRK within the CA7ONL address space requires the presence of the DD statement named XCKPT. You can use the current XTRK checkpoint file or can allocate a new XCKPT file using one of the following options:

- Use the CAL2JCL member AL2XPSCK to allocate the file.
- Edit the CA07N010 (the SYSGEN install macros sometimes override the prefix CA07) to include only the DDXCKPT DD statement.
- Use ISPF option 3.2. The attributes are RECFM=F, LRECL=BLKSIZE=4096. Allocate only two tracks.

Initialization file changes introduced in r11.1 include the following changes:

- DBASE statement - the DEFAULTXPJ= keyword specifies the XPJOB job mask to use for default values.
- SECURITY statement - the MIXPW= keyword specifies whether the logon password can validly contain lowercase characters.
- SVCNO statement - the cross-platform router and server options that are stated here can be overridden by the XPDEF statement when coded.
- XPDEF statement specifies the cross-platform environmental variables, including XPJOB submission, Monitor name, and High Availability Option (HAO) name.
- OPTIONS statement
  - CAL2C900= specifies the format of the CAL2C900I message.
  - GVARLVL= specifies the number of global variables nests.
  - GVARRPFX= specifies the default global reserved variable name prefix.
  - GVARSUB= specifies whether to use global variable substitution.
  - MAXSUBOUT= specifies the number of job submission output threads when PSP=Y.
  - PSP= specifies either parallel or serial job submission processing.

Initialization file changes introduced in r11 include the following changes:

- DRCLASS statements - disaster recovery classes that will be active if CA WA CA 7 Edition is started in disaster recovery mode.
- DRMODE statement - defaults settings for the new disaster recovery mode.
- EMAIL statement - support for the new email interface.
- JCL Statement - change INDEX=255 to reference the SMP/E-controlled target CAIHELP data set.
- OPTIONS statement
  - JCLTAG= allows for either literal CA-7 or the CA WA CA 7 Edition instance name to be inserted into the JCL comment statement that is inserted when a job is submitted to the internal reader by CA WA CA 7 Edition.
  - JSOP= keyword has two more options added: 2 and 3. These two new JSOP options control when to move jobs from the request queue to the ready queue and when to submit a ready queue job to the internal reader.
- SERVICEDESK statement - support for the new CA Service Desk interface.
- SVCNO statement - multiple instance support CA7= keyword replaces TEST= keyword, which can still be used.

(Optional) Jobflow Monitor (JFM) Setup

CAL2JCL Member: AL2JFM

Return Code: 0

Installation Type: Both new and upgrade environments

Note: If you did not receive, apply, and accept Jobflow Monitor (JFM) (FMID CAL2C01), skip this step.

JFM requires the CA7LOG event notification to CAIENF. This event is mapped using the module CAL2DCM3. The CA WA CA 7 Edition JCL library CAL2JCL contains member AL2ENF that explains how to add the CA7LOG events to CAIENF.

Member AL2JFM in the JCL library (CAL2JCL) contains the sample startup JCL to execute Jobflow Monitor.

An instance of CA7ONL cannot be monitored unless JFM=YES is specified on its associated OPTIONS statement.

If you want JFM to monitor flows for CA CPM r3.0 or higher, also specify CPM=JFMLOAD on the OPTIONS statement.

Important Upgrade Considerations! If you are upgrading, the JCL for JFM has changed in Version 12.0. Remove all obsolete references to files that were used in earlier releases of CA7ONL. For a list of the DD statements that are no longer used, see Obsolete DD Statements (see page 61).

Also, Version 12.0 does not support use of the DBDDN keyword on the MONITOR statement (specified in the JBFLWMN member of the CAJFPARM library).

The STEPLIB concatenation for JFM Version 12.0 must include the CUSLIB and CAAXLOAD libraries that are in the STEPLIB concatenation of the monitored CA7ONL. An instance of JFM Version 12.0 can only monitor those instances of CA7ONL that use the same CUSLIB and CAAXLOAD libraries.

JFM Version 12.0 is not downward compatible with earlier releases of CA7ONL. In other words, JFM Version 12.0 can only monitor CA7ONL instances running Version 12.0. Similarly, JFM r11.3 cannot communicate with an instance of CA7ONL running Version 12.0.

Start Your Product

The following topics guide you through starting the product address spaces.

Execute ICOM

Review the job CA07N500 in the JCLLIB. The job starts the ICOM address space. ICOM is necessary for job tracking and command processing.

Run an ICOM job on each LPAR where:

- CA7ONL submitted jobs execute.
- Jobs using U7SVC and SASSTRLR execute.

Ensure that TIME=1440 is specified on the JOB statement.

The address space is initialized when you see the following message:

CA-7.574 (*taskname*) ENTER REQUEST FOR ICOM (*xxxx*)

Execute the CA Datacom/AD MUF

Ensure that the CA Datacom/AD MUF services are available before you start CA7ONL.

Execute CA7ONL

Review the JCL for job CA07N240 in the JCLLIB.

Ensure that TIME=1440 is specified on the JOB statement.

The following message is issued when CA7ONL is initialized:

CA-7.993 - CA-7 INITIALIZATION COMPLETE FOR *xxxx* INSTANCE NAME IS *yyyy*

Execute Jobflow Monitor (JFM)

JFM is needed when you use CA Workload Automation iDash or CA CPM.

You can find the JCL to start the JFM address space in the AL2JFM member of the CAL2JCL library.

JFM initialization is complete when the following message appears:

CAL2M003I JobFlow Monitor address space initialization complete

Execute the CA 7 Web Client (User Interface)

The CA 7 Web Client has two parts. One address space, started by CAL2JCL member AL2QSRVR, starts the mainframe interface portion. This address space receives requests from the CA 7 Web Client server. This web client server can execute in a USS environment or on a distributed platform and receives the request from users through a web browser.

Note: For more information, see the *CA 7 Web Client Product Guide*.

Execute NCF

JCLLIB member CA07N505 contains the JCL to execute the NCF address space. NCF is used to support tracking when CA7ONL submitts jobs to a JES remote node.

Chapter 7: Installation Verification Process

After starting the CA7ONL and ICOM address spaces, execute tests to ensure the features of CA WA CA 7 Edition are properly functioning. An installation verification procedure (IVP) is supplied in this chapter, or a site can create its own IVP test process. In any case, execute the CA WA CA 7 Edition functions and verify them before moving the new version to a production environment.

The N220 job (batch online execution) defined a number of jobs and maintenance jobs that you can use in the IVP. This chapter discusses the steps to follow to execute the IVP and the expected results.

This section contains the following topics:

'Demand' Installation Verification Job

This step is not required but can be helpful in debugging if tracking problems occur (see the next step).

While both CA WA CA 7 Edition and ICOM are running on the same CPU, run the installation verification job to verify that CA WA CA 7 Edition is installed correctly. The job is CA07SVCT, U7TESTSV program. CA WA CA 7 Edition must submit this job.

Log on to CA WA CA 7 Edition through the application ID defined in the preparing for installation instructions (default = CA7). When the CA WA CA 7 Edition logon panel appears, enter MASTER for the USERID and no password. MASTER logs you on to CA WA CA 7 Edition using the installation-supplied default security.

To submit the installation verification job, issue the following command:

```
DEMAND,JOB=CA07SVCT    (job name prefix may have been changed)
```

Abend Codes

The normal termination of U7TESTSV is a U0099 abend code. Otherwise a U0098 abend code is generated. If a U0098 abend occurs, look at the JES log of the job for any messages. These messages indicate the reason for the U0098 abend. In any case, if the LQ command shows that the job STATUS is abended, tracking is working correctly. Proceed to the next post-installation step.

For the NCF environments, a U0098 abend usually occurs, but sometimes a U0099 abend occurs.

Messages

All messages that the program generates are issued through WTOs.

Note: For more information about U7TESTSV messages, see the *Message Reference Guide*.

Retain the abend dumps from an execution on each CPU.

Reports

In addition to the WTOs, a report is produced if a SYSPRINT DD statement is included in the U7TESTSV JCL. This report summarizes important CA WA CA 7 Edition environment information relating to the installation. In the following sample U7TESTSV report, three instances of CA WA CA 7 Edition were initialized during CAIRIM processing: CA71, CA72, and CA73. In addition, an alias of SYS3 was assigned to instance CA73.

The following is a sample U7TESTSV report:

```
mm/dd/yy.jjj                                CA-7 rnn.n                                hh:mm

                                        ICMDSECT OPTIONS

                  INSTANCE  INSTANCE  INSTANCE  INSTANCE  INSTANCE  INSTANCE  INSTANCE  INSTANCE
                    CA71      CA72      CA73      CA74      CA75      CA76      CA77      CA78
                  --------  --------  --------  --------  --------  --------  --------  --------
     INITIALIZED:      YES       YES       YES       N/A       N/A       N/A       N/A       N/A
      ALIAS NAME:      N/A       N/A      SYS3       N/A       N/A       N/A       N/A       N/A
          JOB ID:    X'31'     X'30'     X'2F'       N/A       N/A       N/A       N/A       N/A
  INDICATOR BYTE:    X'EE'     X'ED'     X'EC'       N/A       N/A       N/A       N/A       N/A

       XU83 NAME:      N/A       N/A       N/A       N/A       N/A       N/A       N/A       N/A
       XU83 ADDR:      N/A       N/A       N/A       N/A       N/A       N/A       N/A       N/A
       XU83 LENG:      N/A       N/A       N/A       N/A       N/A       N/A       N/A       N/A

       XJOB NAME:      N/A       N/A       N/A       N/A       N/A       N/A       N/A       N/A
       XJOB ADDR:      N/A       N/A       N/A       N/A       N/A       N/A       N/A       N/A
       XJOB LENG:      N/A       N/A       N/A       N/A       N/A       N/A       N/A       N/A

       XDSN NAME:      N/A       N/A       N/A       N/A       N/A       N/A       N/A       N/A
       XDSN ADDR:      N/A       N/A       N/A       N/A       N/A       N/A       N/A       N/A
       XDSN LENG:      N/A       N/A       N/A       N/A       N/A       N/A       N/A       N/A


                                       SYSTEM INFORMATION

 SMF IS  ACTIVE ON THIS CPU
 SMF IS  RECORDING ON THIS CPU

 CA-7 COMPATIBILITY MODE IS OFF
 CA-7 SVC NUMBER IS  167
 NCF NOT INSTALLED
 USERID/RDR FIELD IS UID+7

 ADDRESS OF IGCS0XXX IS 14719090
 ADDRESS OF IGCS3XXX IS 13F6BF48
 ADDRESS OF IEFUJV   IS 0990BD48
 ADDRESS OF IEFU83   IS 07E639D0
 ADDRESS OF IEFU84   IS 08EB8798
 ADDRESS OF SASSUJV  IS 17D8C8C8
 ADDRESS OF SASSU83  IS 17D8A390
 ADDRESS OF SASSU84  IS 17D886A8
```

If U7TESTSV indicates that the installation is correct but CA WA CA 7 Edition is still not tracking jobs, validate the following items:

- The initialization file SVCNO statement indicates SASSVC=YES.
- The SMF record types needed by CA WA CA 7 Edition are being generated and the SMF interface exits are getting control. Use the OS console command D SMF,O to verify.

- If a job is submitted with a step name of CA7B$$4U, each of the CA WA CA 7 Edition SMF exits issues WTOs when they receive control. The messages are CA-7.U*xx* - SASSU*xx* ENTERED where *xx* is JV, 83, or 84.
- The control report that is issued by U7TESTSV shows the instance of CA WA CA 7 Edition as active and SMF is both active and recording on the CPU.
- All ICOMs' PARMs indicate that SMF collection is active. Also, all ICOMs' JCL points to the same communications data set as CA WA CA 7 Edition.
- Both CA WA CA 7 Edition and all ICOMs use the same STEPLIB (CAL2LOAD).

If you are scheduling for a multiple CPU environment, run this test job on each CPU to verify that tracking is functional for all machines. This can be done by issuing DEMANDH as above, then using **QJCL,***n* where *n* is the job number returned by the command. QJCL puts you in EDIT mode for the job where you can insert ROUTE statements to cause the job to execute on the target CPU. After you insert the ROUTE statement, enter **SS** that saves your update, and then issue **RELEASE,JOB**=*n* where *n* is the job number mentioned previously. Be sure that CAIRIM has been set up on each CPU and that ICOM is active on each one before DEMANDing these jobs. Save the dumps from this job after it executes on each CPU.

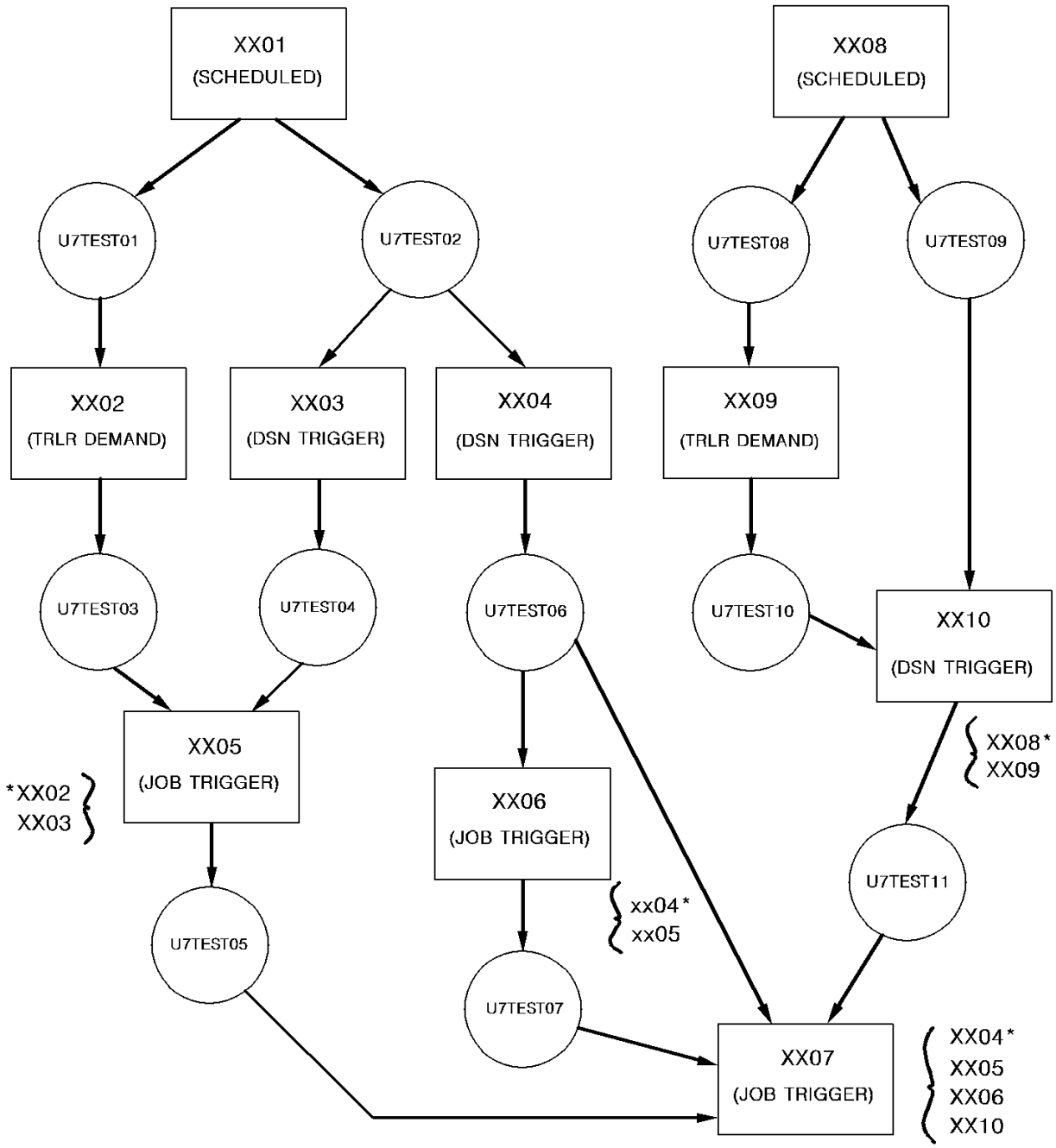
If NCF is installed, the U7TESTSV program always abends with a U0098 unless a character 7 is placed in column 69 of the JOB statement for the job that executes U7TESTSV. The modified JOB statement allows the U7TESTSV program to do checking and complete with a U0099 abend if the installation is correct. However, the jobs that execute at the remote NCF sites do not track through the CA WA CA 7 Edition queues when the JOB statement has a 7 in column 69 even if the completion is a U0099.

'Demand' the Test Network

After you have checked job tracking as described previously, you are ready to execute the test job network. The test exercises other scheduling options and lets you watch CA WA CA 7 Edition perform. To start this process, issue the following commands:

```
DEMAND,JOB=CA07XX01
       and
DEMAND,JOB=CA07XX08
```

These commands schedule two of the jobs that the installation job CA07N220 defines. These jobs in turn cause other jobs to be scheduled as noted in the following figure. Issue the LQ command every few seconds to monitor the progress of the jobs as they execute, and notice how the display changes. After all the jobs have completed, you can issue the LRLOG command to see the history of their scheduling. Also, you can issue the LPRRN command.



* Jobs in this group denote job dependencies.

You can set up your own test flows. A program that waits and sets a return code or abends is available for your use. For the sample JCL, see member AL2TSTPG in the Sample JCL library (CAL2JCL).

Create the Cross-Platform (XPJOB) IVP

The CA WA CA 7 Edition JCLLIB created in the STAGE 1 SYSGEN process contains member CA07N230. The SYSGEN install macros sometimes override the prefix CA07.

Job CA07N230 executes the Batch Terminal Interface (BTI) program. The program defines the test cross-platform (XPJOB) jobs by issuing BTI commands that add information to the database. The test XPJOB cycle consists of jobs CA07XP01 through CA07XP10. These test jobs reside in the CA WA CA 7 Edition JCL library.

Job CA07N230 uses member N230DECK as input. Update the Node and, if necessary, the file executable information in N230DECK before running CA07N230. Node is set to YOUR-AGENT-NODE by default. Change this value to a node where the CA UJMA is running. The file executable (EX1) is set to CAU9TEST. This value sometimes requires a change depending on the directory/sub-directory location that is specified during the CA UJMA installation. The CAU9TEST file is only available in the Windows environments. Sites choosing to run the IVP to a UNIX or LINUX computer must supply their own file executable.

'Demand' the Test XPJOB Cycle

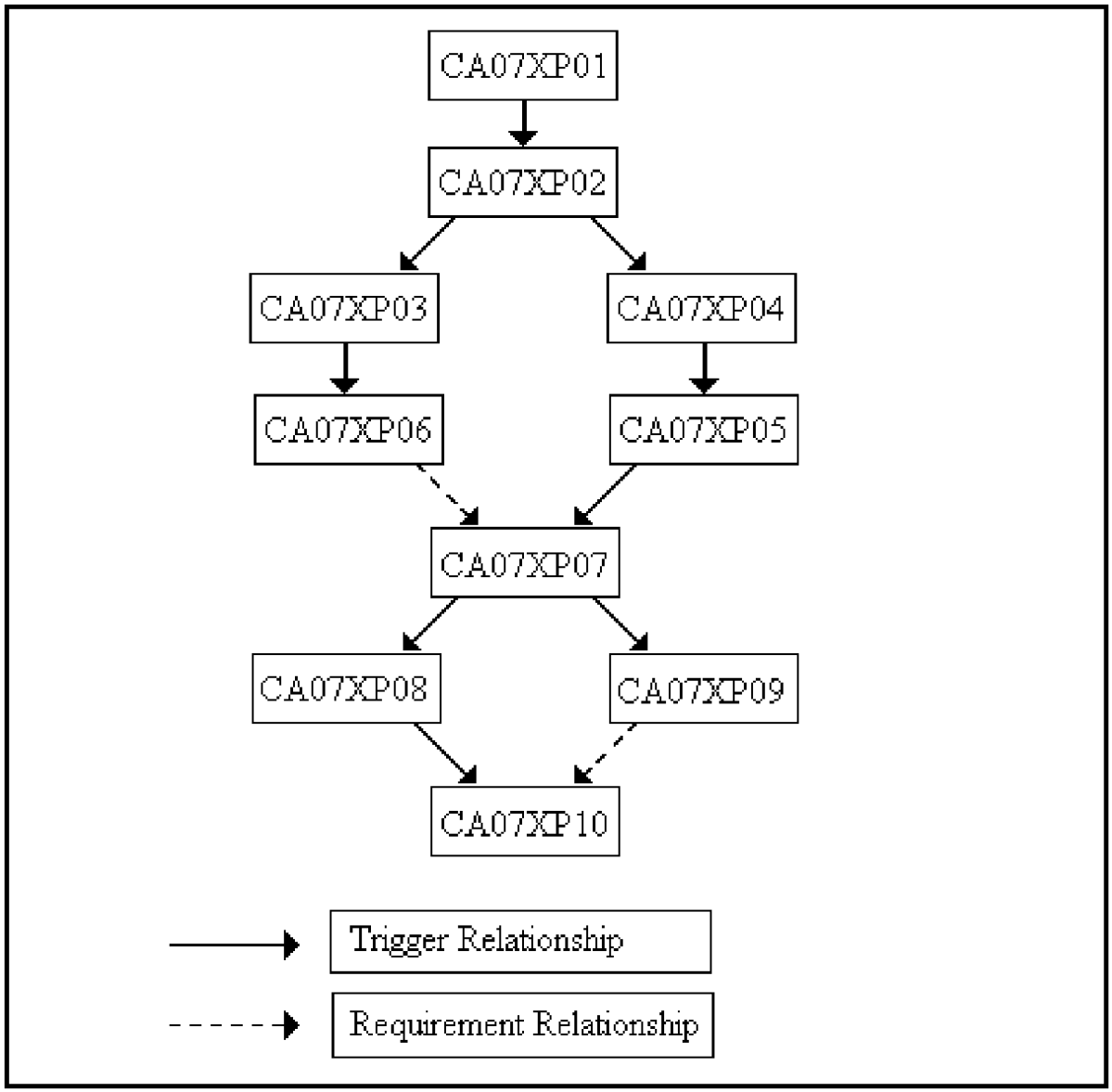
The XPDEF file initialization statement must be coded or defaulted with XSUBMIT=YES before the XPJOB cycle can run. Also, activate cross-platform tracking (CA WA CA 7 Edition XTRK). Without XTRK, the results of the file execution (CAU9TEST) cannot be sent back to CA WA CA 7 Edition, and the XPJOB cycle does not run correctly.

Note: For more information about XTRK, see the *Interface Reference Guide*.

To verify that the XPJOB environment is properly set up and working correctly, issue the following command:

```
DEMAND,JOB=CA07XP01
```

This command causes the execution of the first job in a cycle whose completion triggers subsequent jobs. You can monitor the execution of these jobs by issuing the LQ command every few seconds, noticing how the display changes. After the jobs are completed, you can issue the LRLOG command to see the history, and optionally issue the LPRRN command.



Force Log Dump

Issue the /SWAP command to force scheduling of a log dump job (CA07LOGP). This job dumps the primary log (LOGP) to the log history tape file and switches CA WA CA 7 Edition processing to the secondary log file (LOGS).

After the log dump job completes successfully, go to the next verification step.

Check Report Writing Using CA Earl

The JCL library (CAL2JCL) used in the installation process contains member AL2EARL. This member is a sample execution of the report writing facility using the CA Earl component that is distributed with CA Common Services.

Edit member AL2EARL and provide a valid JOB statement for your system. Read the comment area. Supply the procedure variables described. Submit job AL2EARL, and examine the output. The job creates a CA WA CA 7 Edition Job Scheduling/Completion Activity report. The report details the processes that are generated by running the installation test job and the test job network as described in the preceding steps.

Note: For more information about the interface with CA Earl and the standard reports available, see the *Report Reference Guide*.

'Demand' the Test JFM and CPM Cycle

If you plan to use Jobflow Monitor (JFM), CA Critical Path Monitor (CPM), or both, a flow of jobs is set up with the N220 job. The job names start with CA07JF*nn* where *nn* is 01 – 06. These jobs also have flow definitions defined such that CPM can track the execution status through the FLOW@ virtual resource definition. Demand the job CA07JF01, and then through CPM, monitor the flow execution.

Chapter 8: Database Conversion

This chapter describes how to complete an upgrade from CA 7 r11.3. Upgrading to CA WA CA 7 Edition Version 12.0 includes the following steps:

- Preparing the r11.3 database and queues for conversion to CA Datacom/AD.
- Converting the r11.3 database and queues to CA Datacom/AD.
- Conversion validation.

Important! Database conversion requires an r11.3 environment as a starting point. Instances that are not at the r11.3 level must be upgraded to r11.3 before starting the database conversion process.

Recommendations for a successful conversion:

- Read through this chapter to gain an understanding of the complete conversion process before you begin. Conversion checklists (see page 175) are provided to guide you, but if necessary, contact CA Support to resolve any outstanding questions before starting the process.
- Perform the process against a test copy of your production data before performing the actual conversion.
- Retain output from all conversion activities.

This section contains the following topics:

Prepare for Conversion

Resolving any pointer errors, out-of-sync conditions, or data problems in the r11.3 database and queues before starting the conversion process facilitates a cleaner conversion and more straightforward conversion validation process.

Both r11.3 facilities and a new facility that is provided with Version 12.0 are used to identify problems so that you can address them before performing the actual conversion.

Prepare for Conversion Using r11.3

CAL2JCL Member: AL2DCB10

Description: Executes r11.3 functions against your r11.3 database in preparation for conversion.

The first step of this job executes the XREF,TYPE=AL,UPDATE=YES command. The command updates the data set and network using-job references in the database.

The last step of this job executes the Database Verification (DBVR) facility to determine whether any database pointer problems require correction before conversion.

Important! If the DBVR step does not end with a return code 0, correct the reported errors. Rerun the step repeatedly until you receive a return code 0.

Note: The Database Verification facility is described in the *CA Workload Automation SE r11.3 Database Maintenance Guide*. The DBVR error messages are documented in the *CA Workload Automation SE r11.3 Message Reference Guide*.

Prepare for Conversion Using Version 12.0

CAL2JCL Member: AL2DCB20

Description: Executes the Version 12.0 Preconversion Data Validation utility against a backup of your r11.3 data. This process identifies the conditions the r11.3 DBVR did not identify. These conditions can cause problems during the conversion process.

Some unexpected conditions in your CA 7 r11.3 data can cause import failures during the conversion process or can affect the conversion validation process. The Preconversion Data Validation utility (see page 219) identifies any such conditions so that corrections can be applied before starting the conversion process.

Important! If this job does not end with a return code 0 or 4, correct the reported errors. Rerun the job repeatedly until you receive a return code 0 or 4.

Conversion

At this time, the conversion preparation is complete. Any issues found by r11.3 Database Verification and the Version 12.0 Preconversion Data Validation utility are corrected. Now you are ready to convert your database and queues to CA Datacom/AD. The conversion process takes r11.3 backup data sets and creates an export file that is imported into CA Datacom/AD.

Before you start the conversion process, quiesce processing and let as many jobs as possible complete successfully so that the queues are as empty as possible.

Create r11.3 Backups

Issue /SHUTDOWN,DMPQ to shut down the r11.3 system and create a DMPQ data set.

Back up the r11.3 VSAM files.

CAL2JCL Member: AL2DCC10

Description: Executes SASSBK00 (using a pre-Version 12.0 STEPLIB) to create a backup of the SASSJOB, SASSDS, and IDS data sets. The job also backs up VRM and ARF using IDCAMS REPRO.

Execute the Conversion Utility

CAL2JCL Member: AL2DCC20

Description: Executes the Conversion utility using the r11.3 backup files that the previous step created as input. The output is an export file that is imported into CA Datacom/AD in a later step.

Note: The DMPQ input file must be synchronized with the other input files. You cannot use a DMPQ file that was created from a previous CA 7 shutdown. For example, it is sometimes necessary to restart CA 7 to address errors that the Conversion utility reported. In this case, you must start the conversion process over beginning with the /SHUTDOWN,DMPQ command.

Important! If this job does not end with a return code 0, correct the reported errors and go back to the Create r11.3 Backups (see page 165) step.

Estimate Database Space Requirements

CAL2JCL Member: AL2DCC30

Description: Estimates space requirements for the database to ensure that you have sufficient space in the database for the initial load.

If you have multiple logical databases (from multiple CA 7 instances) in the same CA Datacom/AD MUF, concatenate the export data sets from all of the CA 7 instances on the EXPORT DD statement.

This job generates DD statements for the CA WA CA 7 Edition database areas that are based on the data in the exported files plus:

- A user-specified growth percentage.
- A user-specified amount to account for queues being empty or not representative of their normal operating size.

Adjust the Database Space

CAL2JCL Member: AL2DCC40

Description: Adjusts the size of the CA Datacom/AD database using DD statements that the AL2DCC30 job generates.

Use this job when your initial allocations specified in AL2DCA30 are insufficient to contain the data you are importing.

Import the Database into CA Datacom/AD

CAL2JCL Member: AL2DCC50

Description: Executes the Database Export Import utility to import the export file into CA Datacom/AD tables.

Specify the logical database name that you want assigned to this CA 7 instance using the IMPORT=*logicaldbname* parameter.

Important! If this job does not complete with return code 0, contact CA Support before continuing to the next step.

Conversion Validation

Conversion validation provides a method to validate that the Version 12.0 database is functionally equivalent to the original r11.3 database and queues.

The following conditions are required for conversion validation:

- The VSAM data sets were cleaned up before the conversion. (See CAL2JCL member AL2DCB10.)
- The Preconversion Data Validation utility was executed, and all issues were resolved before the conversion. (See CAL2JCL member AL2DCB20.)
- No activity against the Version 12.0 database has occurred. The conversion validation must be executed before CA7ONL Version 12.0 is started for the first time.

Execute Conversion Validation

CAL2JCL Member: AL2DCV10

Description: Compares the Version 12.0 database to the original r11.3 database and queues.

The Version 12.0 data and the original r11.3 data are arranged into a common format for comparison. Conversion validation reports on any items that represent a functional difference.

Important! If this job does not end with return code zero and CAL2D142I Validation successfully completed message, contact CA Support before continuing your conversion process.

Start CA7ONL

Before starting CA7ONL for the first time after the logical database of the instance has been imported, modify the initialization file. The modifications inactivate queue movement and schedule scan so that you can verify the Version 12.0 environment before starting normal operations.

- Code STOPQ=YES on the SCHEDULE statement to prevent any queue movement.
- Code RUNOPT=NSTA on the INIT statement so that schedule scan is not active when you start CA7ONL Version 12.0.

Start CA7ONL using TYPE=WARM or TYPE=ERST.

Important! Do not start with TYPE=FORM or COLD. If you do, elements on the active workload queues and possibly the prior run queue are deleted.

Note: The messages that are associated with the /MSG, /BRO, and REMIND commands are typically retained across a WARM restart. However, these messages are not converted to the CA Datacom/AD database. They are not present after starting CA 7 the first time using with the converted database.

The conversion validation process *must* be successfully completed before you start CA 7 Version 12.0 Online with the logical database.

After you are satisfied that the Version 12.0 environment is correct:

- Use the START,Q=ALL and SSCAN,SCAN=SCH commands to begin normal CA7ONL processing.
- Edit the initialization file to undo the changes you made to the SCHEDULE and INIT statements.

Appendix A: Checklists

You can print the checklists in this section and mark progress when installing the product.

This section contains the following topics:

Master Preparation Checklist

Complete this master preparation checklist before starting the installation process.

- ☐ Review the *Release Notes*
- ☐ CA Datacom/AD preparation
  - Ensure that CA Datacom/AD is installed
  - Version 14.0 PTFs applied
  - Set the options for CA 7
- ☐ Install, update, configure other products:
  - Install or upgrade required CA Common Services:
    - CAIRIM
    - CA LMP
    - CAISSF
  - Install or upgrade CA JCLCheck interface:
    - Common Component
    - The full CA JCLCheck product with the OPTIONS DD statement
  - Install or upgrade optional CA Common Services:
    - CA-C Runtime
    - CA Earl (for the CA Earl reports)
    - CA Easytrieve (for the CA Easytrieve reports)
    - CAICCI (for the CAICCI terminals and cross platform scheduling)
    - CAIENF (for Event Notification to OPS/MVS, JFM, CPM, and Event Consoles)
    - CAISDI/els (for the CA Service Desk interface)
    - Cross-Platform Scheduling Common Component (for cross-platform scheduling to and from CA AutoSys, CA Scheduler, CA Jobtrac, and to UJMA and JMO agents)
    - Viewpoint (for the CA 7 Web Client interface)
    - zIIP enablement

- ☐ Prepare the CA 7 System Configuration file (L2OPTS DD):
  - SVC 167 or _____ overridden the SVC number
  - User Identification field of the SMF Common Exit parameter list
    - Default: last byte UID field
    - SMFO option (x): SMF(___)
  - Restore the Reader Time field (RCA) for SMF record types:

    _____
  - SMF record types for CA 7 (circle desired records):

    14 15 26 30 64
  - Health Check time Interval:_____minutes
  - Security options (Y/N):
    - BSUBCHK____
    - SVDSNCHK____
  - CA 7 Instances to create:

    ___ CA71 ___ CA72 ___ CA73 ___ CA74
    ___ CA75 ___ CA76 ___ CA77 ___ CA78
- ☐ Prepare for System Generation (SYSGEN):
  - Data set high-level qualifiers for CA 7:
    - SMP/E (U7PARMS): _____
    - High-level node (non-VSAM, U7PARMS): _____
    - VSAM (if different; U7PARMS): _____
    - Log tape dsname (U7TEST): _____
    - JES Subsystem (U7PARMS): JES2 or JES3
  - CA Datacom/AD information (all on U7PARMS):
    - Logical database name: _____
    - CUSLIB prefix: _____
    - CAAXLOAD prefix: _____

- VTAM information:
  - VTAM list DSname (U7IFACE): _____
  - CA 7 APPLID (U7IFACE): _____
  - CA 7 Terminals (U7IFACE): _____
  - TSO/ISPF Interface (U7IFACE): _____
  - CA 7 NCF (U7PARMS):
  - NCF1 (Y/N)_____ NCF2: (Y/N) _____

  Note: For more information about nodes, see NCF Node Table Definitions (see page 210). You can do this later.
- TCP/IP information:
  - Email Server: _____
  - TCP/IP Terminal Port: _____
  - JFM Port: _____
- Product interfaces:
  - CA 1 STEPLIB (U7IFACE): _____
  - CA 11 STEPLIB (U7IFACE): _____
- CA 7 generated names:
  - CA 7 standard job name (CA07; U7JOBCRD): _____
  - CA 7 standard procnames: (CA7, U7PNAMES): _____
  - Override proc names (U7PNAMES): NO

    If yes, see U7PNAMES (see page 180).

- CA 7 data sets:
  - Default unit and volume (U7PARMS): _____
  - JCL Libraries:

    JCLID 0 (U7JCLDS): _____

    You can code up to 5 others with U7JCLDS
  - CA Librarian/CA Panvalet Unit/VOLSERs (U7DAVOLS): _____

    Default unit: _____

    Volume serials: _____
  - # of Submit data sets (0, U7PARMS): _____
  - Data set space and volume information (U7SPACE and U7VOL):

File (Default)	Space Allocation	Unit/VOLSER
AGENT VSAM (5,CYL)		
Batch Terminal Input (5,TRK)		
Batch Terminal Output (3,CYL)		
BROWSE (5,CYL)		
CKPT (1,CYL)		
COMM (3,CYL)		
LOGP (10,CYL)		
LOGS (10,CYL)		
QDOT (50,TRK)		
QSCR (300,TRK)		
STAT (750,1024)		
SUBMT*n* (1,CYL)		
XCFDS (3, CYL)		
XCFKPT (1,TRK)		
XCKPT (2,TRK)		

Configure Without CA CSM Checklist

Complete this SYSGEN checklist before starting the installation process.

New Install	Upgrade Install	Step Name
		Assemble Stage I SYSGEN macros (member AL2GEN)
		Create the JCLLIB (member Stage I, job N000)
	SYSMDUMP	Allocate files (job N010)
		Copy procedures (job N020)
	N/A	Format and initialize files (job N030)
	N/A	Update VTAM definitions (job N120)
		Perform TSO/ISPF updates
		Update security rules
		Create user tables and exits
		Prepare and execute CAIRIM to initialize Version 12.0
	N/A	Execute in batch mode (job N220)
		Post-installation testing
		Update initialization file
		(Optional) Jobflow Monitor setup
		(Optional) CA 7 Web Client setup (See the *CA 7 Web Client Product Guide*.)

More information:

How to Configure Without CA CSM (see page 125)

Start Your Product Checklist

The following started tasks/jobs comprise the CA 7 environment:

- ☐ Execute CA Datacom/AD for the database
- ☐ Execute ICOM
- ☐ Execute CA WA Restart Option (CA 11) if applicable
- ☐ Execute CA7ONL
- ☐ Execute JFM
- ☐ Execute the CA 7 Web Client
  - CA7SRVR
  - CA7WEBC
  - SCHSRVR tasks
- ☐ Execute CA7NCF

Conversion Checklists

The following conversion checklists are available:

- Initialize or Update CA Datacom/AD DBID 770 Checklist
- Conversion Process Checklist
- Reversion Checklist

Initialize or Update CA Datacom/AD DBID 770 Checklist

This process is done once for the database environment that CA 7 uses.

- ☐ Determine the optimal configuration for CA 7 instances.
- ☐ Define CA Datacom/AD security rules.
- ☐ Increase the IXX sizes (job AL2DCA10).
- ☐ Create CA 7 authorization ID (MFWA) (job AL2DCA20).
- ☐ Initialize DBID 770 (job AL2DCA30).
- ☐ Import CA Datacom/AD definitions for CA 7 (job AL2DCA40).
- ☐ Confirm the CA 7 areas (job AL2DCA50).
- ☐ Load mini-tables into CA Datacom/AD (job AL2DCA60).
- ☐ Import SQL plans (job AL2DCA70).
- ☐ Allocate the GDG structures for backup files (job AL2DCA80).

Conversion Process Checklist

Use this checklist to complete the database conversion process.

- ☐ Prepare your r11.3 database for conversion using r11.3 facilities (AL2DCB10).
- ☐ Prepare your r11.3 database and queues for conversion using Version 12.0 facilities AL2DCB20).
- ☐ Quiesce activity in the CA 7 Online system.
- ☐ Issue /SHUTDOWN,DMPQ to shut down the r11.3 system and create a DMPQ data set.
- ☐ Back up the VSAM files (AL2DCC10).
- ☐ Execute the Conversion utility (AL2DCC20).
- ☐ Estimate database space requirements (AL2DCC30).
- ☐ Adjust database space requirements (AL2DCC40).
- ☐ Import the database into CA Datacom/AD (AL2DCC50).
- ☐ Execute Conversion Validation (AL2DCV10).
- ☐ Edit the initialization file to inactivate queue movement and schedule scan.
- ☐ Start CA7ONL and verify the environment.
- ☐ Issue START,Q=ALL and SSCAN,SCAN=SCH commands to begin normal CA7ONL processing.
- ☐ Edit the initialization file to undo the changes you made to the SCHEDULE and INIT statements.

Reversion Checklist

If a reversion or a back off is required, follow these steps. Test the steps before implementing CA 7 Version 12.0 into a production environment.

- ☐ Call CA Support.
- ☐ Quiesce the CA 7 system.
- ☐ Execute the expanded ID query (job AL2DCR10).
- ☐ Extract data from CA Datacom/AD (job AL2DCR20).
- ☐ Locate the CA 7 r11.3 libraries and members.
- ☐ Load the CA 7 r11.3 database (job AL2DCR30).
- ☐ Restore any user tables and exits.
- ☐ Prevent any queue movement with the initialization file update.
- ☐ Start CA7ONL with MOVQ.
- ☐ Start CA 7 ICOM.
- ☐ Verify the environment, and then enter commands to resume in r11.3 mode.

Appendix B: Stage I SYSGEN Macros

This section describes the CA WA CA 7 Edition Stage I SYSGEN macros that are used to generate Stage II installation jobs and supporting files for your site. Use this section with the Installation Step Assemble Stage I SYSGEN Macros.

Specify the U7PARMS macro first, and specify the U7GEN macro last. Specify the other macros in any order. Required macros are U7GEN, U7JCLDS, U7JOBCRD, and U7PARMS.

Note: For more information about the SYSGEN macros, see member AL2$IGEN in the CA WA CA 7 Edition Options library CAL2OPTN.

This section contains the following topics:

U7PARMS Macro

The U7PARMS macro specifies the global CA WA CA 7 Edition parameters that the Stage I SYSGEN uses. The macro is required and must be the first macro coded.

All parameters are keyword parameters and can be specified in any order.

This macro has the following format:

```
[name]    U7PARMS    VOL=volser,
                   DBNAME='logical_database_name',
                   [CAAXLOAD='CAAXLOAD dataset name prefix']
                   [CUSLIB='CUSLIB dataset name prefix'],
                   [NCF1={YES|NO},]
                   [NCF2={YES|NO},]
                   [NODE='dsn.prefix',]
                   [NSUBMT=number,]
                   [SPOOLER={JES2|JES3},]
                   [TARGET='dsn.prefix',]
                   [UNIT=unitname,]
                   [VSAM='dsn.prefix']
```

name

(Optional) Indicates a one- to eight-character, user-defined label.

U7PARMS

Must be specified as shown.

VOL=*volser*

Specifies the default volume serial number for the CA WA CA 7 Edition data sets. This volser is used with the UNIT= parameter. The VOL= parameter is required and has no default.

DBNAME='*logical_database_name*'

Specifies the logical name for the CA Datacom/AD database for this instance. This name must match the name that was specified when the database was defined in the installation steps.

Limits: 1 to 16 characters (A-Z, 0-9, period, dash, and underscore are permitted).

CAAXLOAD='*CAAXLOAD dataset name prefix*'

(Optional) Specifies the data set name prefix that is used for the CA Datacom/AD CAAXLOAD data set and must match the THLQ specified during CA Datacom/AD initialization. The specified node must be less than 32 characters in length including decimal points. If decimal points are used, the parameter must be enclosed in single quotes. If not specified, the default is the NODE= prefix.

CUSLIB=*'CUSLIB dataset name prefix'*

(Optional) Specifies the data set name prefix that is used for the CA Datacom/AD CUSLIB data set and must match the NEWCHLQ specified during CA Datacom/AD initialization. The specified node must be less than 32 characters in length including decimal points. If decimal points are used, the parameter must be enclosed in single quotes. If not specified, the default is the NODE= prefix.

NCF1={YES|NO}

(Optional) If you specify YES, JCL is generated to support an NCF1 site and the basic CA WA CA 7 Edition structure. The default is NO.

NCF2={YES|NO}

(Optional) If you specify YES, JCL is generated to support an NCF2 site. The JCL to support CA WA CA 7 Edition itself is not generated. The default is NO.

Note: The keywords NCF1 and NCF2 are mutually exclusive.

NODE='*dsn.prefix*'

(Optional) Specifies the high-level qualifier for the CA WA CA 7 Edition non-VSAM data set names. The specified node must be less than 32 characters long including decimal points. If decimal points are used, enclose the parameter in single quotes. The default is 'CAI.CA7'.

NSUBMT=*number*

(Optional) Indicates the number of submit data sets. This parameter specifies the number of submit data sets to be generated (default=0, maximum=6). For shared spool environments, the use of the submit data set is *not* required. Instead, CA WA CA 7 Edition uses an internal reader. In a nonshared spool environment, each ICOM must have its own submit data set.

SPOOLER={JES2|JES3}

(Optional) Specifies the job entry subsystem at your site. The default is JES2.

TARGET='*dsn.prefix*'

(Optional) Specifies the high-level qualifier for the CA WA CA 7 Edition SMP/E target libraries. The specified node must be less than 32 characters in length including decimal points. If decimal points are used, the parameter must be enclosed in single quotes. If not specified, the default is the NODE= prefix.

Note: Specify the same DSN prefix that you used in creating SMP/E data sets.

UNIT=*unitname*

(Optional) Specifies the default unit name for the CA WA CA 7 Edition data sets. This unit name is used with the VOL= parameter. The default is 3390. The valid values are 3375, 3380, 3390, or 9345.

VSAM='*dsn.prefix*'

(Optional) Specifies the high-level qualifier for the CA WA CA 7 Edition Agent VSAM data set name. The specified node must be less than 32 characters long including decimal points. If decimal points are used, the parameter must be enclosed in single quotes. This prefix can be different from the NODE= parameter depending on how you catalog VSAM data sets on your system. If not specified, the default is the NODE= prefix.

U7DAVOLS Macro

The U7DAVOLS macro is an optional macro. The only required volumes are those volumes that contain the JCL data sets defined in the U7JCLDS macros that are not cataloged. CA WA CA 7 Edition uses dynamic allocation to access the JCL data sets unless they are CA Librarian or CA Panvalet files.

You can specify up to 50 volume/unit combinations, but only one UNIT= keyword.

This macro has the following format:

```
[name]    U7DAVOLS   (v1,u1),(v2,u2),(v3,u3),...,
                     [UNIT=unitname]
```

name

(Optional) Indicates a one- to eight-character, user-defined label.

U7DAVOLS

Must be specified as shown.

(*v*1,*u*1),(*v*2,*u*2),(*v*3,*u*3),...

Each (*vx,ux*) combination specifies the volume serial number (*v*) and unit name (*u*) for a specific pack.

UNIT=*unitname*

(Optional) Specifies the default unit name for the volumes that are specified for the current U7DAVOLS macro. The default is 3390.

Notes

- If the UNIT= parameter is not specified, the default is 3390.
- If a *u* parameter is not coded, the UNIT=*value* is used. Also, the parentheses are not needed.
- A maximum of 50 different volumes can be specified for the CA WA CA 7 Edition SYSGEN.

U7IFACE Macro

The U7IFACE macro specifies the CA WA CA 7 Edition interface options. The macro is optional.

All parameters are keyword parameters and can be specified in any order.

This macro has the following format:

```
[name]    U7IFACE   [ISPF=(prefix,number),]
                    [U01LD='dsname',]
                    [U11LD='dsname',]
                    [VTAM=(applid,terminal,number),]
                    [VTAMLST='dsname']
```

name

(Optional) Indicates a one- to eight-character, user-defined label.

U7IFACE

Must be specified as shown.

ISPF=(*prefix,number*)

(Optional) Specifies the VTAM parameters for the CA WA CA 7 Edition TSO/ISPF interface. The first parameter (*prefix*) is the application prefix that must be three characters in length. If not specified, this parameter defaults to the first three characters of the application name for CA WA CA 7 Edition itself. The second parameter (*number*) is the application suffix that must be numeric. Entries are generated for the number of VTAM APPL definitions, which denote the maximum number of interface sessions available between CA WA CA 7 Edition and TSO/ISPF. If not specified, this parameter defaults to match the third parameter of the VTAM keyword.

VTAM application minor node definitions are generated based on these parameters. If, for example, ISPF=(ABC,3) is coded, six application minor node definitions are generated: ABC0001, ABC0002, ABC0003, ABC10001, ABC10002, and ABC10003.

U01LD='*dsname*'

(Optional) This parameter is specified only if CA 1 is already installed or is being installed with CA WA CA 7 Edition. The data set name of the load library is required to execute the interface between the products.

U11LD='*dsname*'

(Optional) This parameter is specified only if CA WA Restart Option is already installed or is being installed with CA WA CA 7 Edition. The data set name of the load library is required to execute the interface between the products. This parameter is not needed if CA WA Restart Option is in a linklisted library or if both CA WA Restart Option and CA WA CA 7 Edition are installed in a common load library.

VTAM=(*applid,terminal,numbers*)

(Optional) Specifies the CA WA CA 7 Edition VTAM parameters. The first parameter (*applid*) is the application name that is identified for CA WA CA 7 Edition in the preparing for installation task (default is CA7). The second parameter (*terminal*) is the VTAM terminal ID for the terminal to be used as the CA WA CA 7 Edition master terminal (default is VTAMTERM). The third parameter (*number*) is the maximum number of virtual terminal sessions to define in the CA WA CA 7 Edition initialization file (default is 10).

VTAMLST='*dsname*'

(Optional) Specifies the name of the VTAM library to place the application definitions. The default for this parameter is VTAMLST='SYS1.VTAMLST'.

U7JCLDS Macro

The U7JCLDS macro specifies the JCL data sets that the CA WA CA 7 Edition system can use. At least one JCL data set is required.

Note: For more information about the JCL statement in the CA WA CA 7 Edition initialization file, see the *Systems Programming Guide*.

The CA WA CA 7 Edition SYSGEN process does not cause the JCL data sets to be allocated. If you do not already have an existing JCL data set, allocate one. A JCL data set must contain card-image data. Specify at least the primary JCL data set (INDEX 0).

Because the CA WA CA 7 Edition SYSGEN process automatically generates the following items, do not code these index levels:

- The Help JCL data set with an index of 255.
- The JCLLIB data set with an index code of 200.

A maximum of six JCL data sets can be specified per U7JCLDS macro. More than one U7JCLDS macro can be coded in the Stage I assembly. If any subparameters are omitted, a comma must be included to indicate omission.

This macro has the following format:

```
[name]    U7JCLDS    JCL1=('dsname',index,lterm,type),
                    [JCL2=('dsname',index,lterm,type),]
                    [JCL3=('dsname',index,lterm,type),]
                    [JCL4=('dsname',index,lterm,type),]
                    [JCL5=('dsname',index,lterm,type),]
                    [JCL6=('dsname',index,lterm,type)]
```

name

(Optional) Indicates a one- to eight-character, user-defined label.

U7JCLDS

Must be specified as shown.

JCL*n*=

Indicates a keyword where *n* is a number from one to six. The JCL1= keyword must be coded. JCL2= through JCL6= are optional.

'*dsname*'

Specifies the full data set name of the JCL data set in single quotes. This subparameter is required.

index

Specifies the CA WA CA 7 Edition JCL data set index number (0-999). Assign the primary JCL data set an INDEX value of zero. This value is the default that is used when a job is loaded (or added) to the CA WA CA 7 Edition job data set. INDEX number 254 is assumed to refer to a special override library. INDEX numbers 200 and 255 are reserved. This subparameter is required.

lterm

(Optional) Specifies the logical terminal where prompt messages about jobs that are scheduled from this JCL data set are queued. The default is MASTER, where most the CA WA CA 7 Edition messages are written.

type

(Optional) Specifies the type of data set being defined. The only supported types are the following types:

PDS

Partitioned data set. PDS is the default.

LIB

CA Librarian data set

PAN

CA Panvalet data set

Note: If CA Librarian or CA Panvalet data sets are identified here, JCL DD statements must be manually inserted in the procedure CA7ONL. These DD statements have required ddnames in the format JCL*nnn. nnn* is the index value that you defined previously and leading zeros *are* required.

U7JOBCRD Macro

The U7JOBCRD macro specifies the JOB statement operand information that appears on all the generated Stage I installation jobs. The U7JOBCRD macro is a required macro and can be specified only once. The information that is specified on this macro is used to generate the job cards for all the Stage I installation jobs.

This macro has the following format:

```
[name]    U7JOBCRD   CARD1='card 1 operands',
                     [CARD2='card 2 operands',]
                     [CHECK={YES|NO},]
                     [REG={YES|NO},]
                     [JOBNAME=xxxx,]
                     [JPARM1='jobparm or JCL comment card 1',]
                     [JPARM2='jobparm or JCL comment card 2',]
                     [JPARM3='jobparm or JCL comment card 3',]
                     [JPARM4='jobparm or JCL comment card 4']
```

name

(Optional) Indicates a one- to eight-character, user-defined label.

U7JOBCRD

Must be specified as shown.

CARD1='*card 1 operands*'

Specifies the operands to place on the first JOB statement. Enclose the operands in single quotes. JOB statement operands generally consist of accounting information, programmer name, class, msglevel, and so forth. If the operands are to continue on CARD2=, the CARD1= operands must end with a comma. This parameter has a maximum of 56 characters.

Note: If any individual operands need quotes surrounding them, use two single quotes. For example:

CARD1='(ACCTG),''JOE PGMR'',CLASS=A'

CARD2='*card 2 operands*'

(Optional) Specifies the operands to place on the second JOB statement. The operands must be enclosed in single quotes. If CARD2= is not specified, only one JOB statement is used. This parameter has a maximum of 44 characters.

CHECK={YES|NO}

(Optional) Specifies whether to perform checking for CARD1 and CARD2 information. The checking consists of the following items:

- Making sure that the operand does not begin with //.
- If CARD2 is specified, verifying that CARD1 ends with a comma.

The default is YES.

REG={YES|NO}

(Optional) Specifies whether to place REGION parameters on the generated job cards. The default is NO.

JOBNAME=*xxxx*

(Optional) Specifies the first four characters of the generated CA WA CA 7 Edition Stage I installation job names. The default for this parameter is CA07. An example of a generated job name is CA07N100. If specified, the value that is entered must be four characters, and must be valid for a job name.

JPARM*x*='*jobparm card*'

(Optional) Up to four JCL statements can be defined, which are placed after each JOB statement. These statements can specify JOBPARM, PROCLIB, JCL comment statements, or similar statements. Enclose each JPARM*x* parameter in single quotes and begin with /*, //, or //*. Parameters can be up to 72 characters.

U7PNAMES Macro

The U7PNAMES macro lets you override the JCL procedure names that CA WA CA 7 Edition uses. The procedures that CA WA CA 7 Edition generates are used for Stage I installation jobs and for CA WA CA 7 Edition execution. The CA WA CA 7 Edition procedures are moved to a PROCLIB on your system in a Stage I job (see the PROCLIB parameter on the U7GEN macro).

The U7PNAMES macro can be specified more than once. If specified more than once, and a parameter is repeated, only the last specification is used.

The U7PNAMES macro is optional. The default prefix is CA7.

This macro has the following format:

```
[name]    U7PNAMES [PREFIX=xxxx,]
                   [keyword=procname,]
                   [keyword=procname,...]
```

name

(Optional) Indicates a one- to eight-character, user-defined label.

U7PNAMES

Must be specified as shown.

PREFIX=*xxxx*

(Optional) Specifies a prefix to use for all procedures generated. The default is CA7. Value can be up to four characters with the first character alphabetic. Individual procnames can be specified to override this prefix.

keyword=procname

(Optional) The keywords, their default procnames and a description of each are provided in the following table. The procnames that are specified must conform to standard procname conventions. The procnames that are specified are *not* examined for valid naming conventions.

Notes

- If the U7PNAMES macro is coded, provide at least one parameter.
- CA WA CA 7 Edition no longer generates a procedure for RMS processing by CA WA Restart Option. Instead, the RMS procedure name is extracted from the CA WA Restart Option Options Table when it is present in the system.
- To use any name other than CA7LOAD, use the PROCLOAD keyword on the DBASE statement in the initialization file.
- The CA WA CA 7 Edition NCF procedure is only generated if NCF1=YES or NCF2=YES is specified on the U7PARMS macro.

Keyword	Default	Description
AGBK	CA7AGBK	Agent VSAM File Backup
AGRL	CA7AGRL	Agent VSAM File Reload
BAT	CA7BAT	Batch Execution
BTI	CA7BTI	Batch Terminal Interface
ENVR	CA7ENVR	System Configuration Report
SIM	CA7FSIM	Jobflow Illustrator
ICOM	CA7ICOM	Independent Communication
LOAD	CA7LOAD	Load Processor
LOG	CA7LOG	Log Dump
NCF	CA7NCF	Network Communications Facility
ONL	CA7ONL	Online Execution
SVC	CA7SVC	Execute PGM to Issue CA WA CA 7 Edition SVC
TRLR	CA7TRLR	Trailer Step
XTRK	CA7XTRK	Cross-Platform Tracker

U7SPACE Macro

The U7SPACE macro lets you override the default space allocation parameters to use for the CA WA CA 7 Edition data sets. The following defaults may not be right for your installation.

Note: For more information about the sizes of the various CA WA CA 7 Edition data sets, see the *Systems Programming Guide*.

The U7SPACE macro is optional.

This macro has the following format:

```
[name]     U7SPACE   [keyword=(p,u),]
                     [keyword=(p,u),...]
```

name

(Optional) Indicates a one- to eight-character, user-defined label.

U7SPACE

Must be specified as shown.

***keyword*=(*p*,*u*)**

(Optional) The keywords, their default values and a description of the associated CA WA CA 7 Edition data sets are provided in the following table. The format of the subparameters is (*p*,*u*), where:

p

Specifies the primary quantity of space units. (No secondary quantity is used.)

u

Specifies the space units (for example, TRK, CYL, A*nnnn*). If you allocate space by absolute track, use the A*nnnn* format. *nnnn* indicates the absolute track location.

If the U7SPACE macro is coded, provide at least one keyword. The following chart shows the keywords available.

Keyword	Default	Description
AGENT	5,CYL	Agent VSAM file
BATCHI	5,TRK	Batch input data set
BATCHO	10,CYL	Batch output data set
BROWSE	5,CYL	Browse data set
CKPT	1,CYL	Checkpoint data set

Keyword	Default	Description
COMM	4,CYL	Communications data set
LOGP	10,CYL	Primary log
LOGS	10,CYL	Secondary log
STAT	750,1024	Statistics file
SUBMT1	1,CYL	Submit data set number 1 (see note)
SUBMT2	1,CYL	Submit data set number 2 (see note)
SUBMT3	1,CYL	Submit data set number 3 (see note)
SUBMT4	1,CYL	Submit data set number 4 (see note)
SUBMT5	1,CYL	Submit data set number 5 (see note)
SUBMT6	1,CYL	Submit data set number 6 (see note)
XCFDS	3,CYL	XCF data set
XCFKPT	1,TRK	XCF checkpoint data set
XCKPT	2,TRK	Checkpoint data set for Tracker (CA WA CA 7 Edition XTRK)

Note: Submit data sets are only required for shared DASD, nonshared JES spool environments. Most installations use the internal reader. See the U7PARMS macro, NSUBMT keyword.

U7VOL Macro

The U7VOL macro allows you to specify the volume and unit parameters to be used for the CA WA CA 7 Edition data sets. The default volume and unit parameters are taken from the VOL and UNIT parameters specified in the U7PARMS macro.

The U7VOL macro can be specified more than once. If specified more than once, and a parameter is repeated, only the last specification is used.

The U7VOL macro is optional.

This macro has the following format:

```
[name]    U7VOL    [keyword=(v,u),]
                   [keyword=(v,u),...]
```

name

(Optional) Indicates a one- to eight-character, user-defined label.

U7VOL

Must be specified as shown.

***keyword*=(*v*,*u*)**

(Optional) The keywords and a description of the associated CA WA CA 7 Edition data sets are the same as those values defined for the U7SPACE macro. The format of the subparameters is (*v*,*u*), where:

v

Specifies the volume serial number.

u

Specifies the unit name (for example, 3390).

If only the volume serial number is coded, enclosing in parentheses is not required.

If the U7VOL macro is coded, at least one keyword must be provided.

U7TEST Macro

The U7TEST macro specifies values that the sample test job stream and the log tape dump jobs use.

The U7TEST macro can be specified more than once. If specified more than once, and a parameter is repeated, only the last specification is used.

The U7TEST macro is optional.

This macro has the following format:

```
[name]     U7TEST    [LOGTAPE='dsname',]
                     [VOL=volser,]
                     [YEAR=year]
```

name

(Optional) Indicates a one- to eight-character, user-defined label.

U7TEST

Must be specified as shown.

LOGTAPE='*dsname*'

(Optional) Specifies the data set name for the CA WA CA 7 Edition log file dumps. The data set can be a GDG. If a GDG format is wanted, place a plus sign (+) at the end of the name. The data set name cannot exceed 32 characters. This parameter is optional and defaults to GDGs using the NODE= parameter in the U7PARMS macro.

VOL=*volser*

(Optional) Specifies the volume that the CA WA CA 7 Edition test jobs use. If not specified, the VOL parameter is not generated in the DD statements. This parameter is required if no volumes are available with an attribute of storage.

YEAR=*year*

(Optional) Specifies the year to use to generate the sample CA WA CA 7 Edition base calendars. The default is the current year (for example, 2012).

Note: Indicating a GDG for LOGTAPE causes the GDG to be defined and the first generation to be created by the installation jobs.

U7GEN Macro

The U7GEN macro specifies various values that do not fall under the specific domain of another SYSGEN macro.

The U7GEN macro can be specified only once, and it must be the last macro in the Stage I SYSGEN assembly.

The U7GEN macro is required even if it has no keywords.

This macro has the following format:

```
[name]    U7GEN    [CUST='company name',]
                   [DRIVER='dsname',]
                   [DUNIT=unitname,]
                   [GENTYPE={ALL|ALLOC|PROCS|TEST|INISH},]
                   [INSTANCE=instancename,]
                   [PRINTCL=class,]
                   [PROCLIB='dsname',]
                   [SMFID=(smf1,smf2,smf3,smf4),]
                   [SUBMCL=class,]
                   [TUNIT=unitname]
```

name

(Optional) Indicates a one- to eight-character, user-defined label.

U7GEN

Must be specified as shown.

CUST='*company name*'

(Optional) Specifies your company name. The specification cannot exceed 44 characters. This character string appears on the CA WA CA 7 Edition Logon panel and on the APA graph reports. The default is YOUR COMPANY NAME.

DRIVER='*dsname*'

(Optional) Specifies the CA Driver procedure library to use during job submission for JCL expansion. The assumption is that this data set is *already allocated*. If a value is specified, a //CARPROC DD for this data set is generated in the CA WA CA 7 Edition execution JCL.

Note: For more information, see the *Interface Reference Guide*.

DUNIT=*unitname*

(Optional) Specifies the unit name for temporary disk data sets. The default is DUNIT=3390.

GENTYPE={ALL|ALLOC|PROCS|TEST|INISH}

(Optional) Specifies the type of output to generate. For a new installation, specify ALL. The following options and their meanings are available:

ALL

Generates all jobs, steps, and files. ALL is the default.

ALLOC

Generates jobs N005 and N010 (scratch/allocate CA WA CA 7 Edition data sets).

PROCS

Generates CA WA CA 7 Edition JCL procedures.

TEST

Generates jobs N220 and N230 (test job set definitions).

INISH

Generates batch and online initialization files.

If more than one type is coded, enclose them in parentheses and separate them with commas. If ALL is coded, code no other types.

INSTANCE=*instancename*

(Optional) Specifies the one- to four-character CA WA CA 7 Edition instance name. Valid instances are *CA7n*. *n* is an integer from 1 through 8, PROD or UC07 (that map to instance CA71), and TEST or UCT7 (that map to instance CA72). Any other value is interpreted as an alias. The default is INSTANCE=CA71.

PRINTCL=*class*

(Optional) Specifies the SYSOUT class to use in generated jobs (for SYSPRINT, and so forth). The default for this parameter is PRINTCL=*.

PROCLIB='*dsname*'

(Optional) Specifies the name of the JCL procedure library on your system where you want to mover the CA WA CA 7 Edition JCL PROCs. Ensure that the library is a PROCLIB accessible to all systems where CA WA CA 7 Edition is installed and run. The default for this parameter is PROCLIB='SYS1.PROCLIB'.

SMFID=(*smf1,smf2,smf3,smf4*)

(Optional) This keyword is only needed if you are using submit data sets (see the U7PARMS macro, NSUBMT keyword). This keyword specifies the four-character SID names for each local CPU to receive CA WA CA 7 Edition submitted jobs. Separate the names with commas and enclose in parentheses. If only one CPU is specified, the parentheses are not required. If you have more than four CPUs, specify the first four here.

SUBMCL=*class*

(Optional) Specifies the submit class to use in the CA7ICOM and CA7ONL procedures to communicate with the HOST system for job submission. The default for this parameter is SUBMCL=A.

TUNIT=*unitname*

(Optional) Specifies the unit name for tape or cartridge devices on your system. The name is used for the CA WA CA 7 Edition log history and archive data sets. The default for this parameter is TUNIT=TAPE.

SYSGEN Sample

A sample CA WA CA 7 Edition SYSGEN member is found in the CAL2JCL member AL2GEN. This member requires editing before submission, as the macros do not accept some values. Direct the output member, STAGE1 on the DD statement SYSPUNCH, to a PDS where more updates can occur if necessary.

Appendix C: Generated JCLLIB Members

These topics contain lists of the members created by the Stage I generation task. The members are placed in the CA WA CA 7 Edition Installation JCL library (JCLLIB) for use by the remaining installation tasks and for execution and maintenance of CA WA CA 7 Edition.

This section contains the following topics:

Generated JCL Procedures

The following lists the catalog procedures that the Stage I task generates. CA WA CA 7 Edition uses the procedures for execution and maintenance. The default procedure prefix is CA7. If you changed the prefix in the Stage I task, the members are generated using the specified prefix.

CA7AGBK

Backup procedure for the agent VSAM file.

CA7AGRL

Reload procedure for the agent VSAM file.

CA7AL

Assemble and link-edit CA WA CA 7 Edition modules.

CA7BAT

Procedure that is used for the batch execution of CA WA CA 7 Edition.

CA7BTI

Batch terminal interface procedure. The job can issue commands to CA WA CA 7 Edition in batch.

CA7ENVR

CA 7 System Configuration Report.

CA7FSIM

Jobflow Illustrator flowchart print procedure. The procedure uses the members SIMINIT, SIMPARM, and SIMSYSIN in the JCLLIB library to contain the initialization parameters, the table building parameters, and the flowchart print command, respectively.

CA7ICOM

Procedure that is used to execute ICOM. ICOM collects SMF data for job tracking in CA WA CA 7 Edition.

CA7L

Link-edit CA WA CA 7 Edition modules.

CA7LOAD

CA WA CA 7 Edition load procedure. The job is used to load jobs to the CA WA CA 7 Edition database. Issuing the load command under CA WA CA 7 Edition generates a load step for the job. The job is added to the database or updated when the job exists.

CA7LOG

Log dump procedure. The job is used to dump the CA WA CA 7 Edition logs (primary and secondary) to tape.

CA7NCF

Procedure that is used for CA WA CA 7 Edition NCF. The job is generated if you specify NCF1 or NCF2 on the SYSGEN macros.

CA7ONL

Procedure that is used for online execution of CA WA CA 7 Edition.

CA7SVC

CA WA CA 7 Edition SVC procedure. Used to notify CA WA CA 7 Edition of an external event such as a data set creation that a CA WA CA 7 Edition controlled job requires.

CA7TRLR

CA WA CA 7 Edition trailer step procedure. Trailer steps are used to process CA WA CA 7 Edition commands from within jobs. The trailer steps can perform any commands belonging to the queue posting application.

CA7UAL

Update, assemble, and link-edit CA WA CA 7 Edition modules.

CA7XTRK

Cross-platform tracker procedure for cross-platform scheduling

CA7ZAP

Change CA WA CA 7 Edition modules using AMASPZAP.

Generated Installation Jobs

The following lists the generated installation jobs.

CA07N005

Scratch/uncatalog CA WA CA 7 Edition data sets job stream. If problems are encountered running the allocate job (CA07N010), use this job to "clean up" any allocated data sets so that N010 can be rerun without duplicate DSN JCL errors.

CA07N010

Allocate CA WA CA 7 Edition data sets job stream. The job allocates the CA WA CA 7 Edition agent databases and support files. The job defines generated data group definitions for log and archive files.

CA07N020

Moves the procedures that the Stage I task generates to a user-specified PROCLIB. Uses member N020DECK as SYSIN input for IEBCOPY.

CA07N030

Allocate and format the communications data set, and other files.

CA07N120

Copies the application definitions that are used for CA WA CA 7 Edition to the system library for VTAM. This job stream uses the member VTAMDECK as SYSIN input for IEBCOPY.

CA07N220

JCL for execution of CA WA CA 7 Edition in batch. The job stream uses the member BATCH as the initialization file for this execution. The member N220DECK is used as command input to define test and maintenance jobs, their schedules, and requirements to the CA WA CA 7 Edition database in preparation for online testing. Additionally, several inquiry commands are issued to demonstrate the capabilities of CA WA CA 7 Edition and the format of its batch commands.

CA07N230

JCL for using the Batch Terminal Interface to define the installation verification cycle for XPJOB job types.

CA07N240

JCL for execution of CA7ONL. The job stream uses the member ONLINE, in the JCLLIB library, as the initialization file for this execution. Remember to use the TIME=1440 parameter on the JOB statement so that CA WA CA 7 Edition does not time out.

CA07N500

JCL for execution of ICOM. ICOM processes SMF data that CA WA CA 7 Edition uses for job tracking. Remember to use the TIME=1440 parameter on the JOB statement so that ICOM does not time out.

CA07N505

JCL for execution of NCF (Network Communications Facility). The job is only generated if you specified NCF in the Stage I macros.

Generated Special Purpose Jobs

The following lists the special purpose jobs that the Stage I task generates. The jobs are samples or special jobs that are sometimes required after the installation of CA WA CA 7 Edition. The default job name prefix is CA07. If you changed the prefix in the Stage I task, the members were generated using that prefix.

CA07N513

Job stream to back up the CA WA CA 7 Edition agent VSAM file.

CA07N514

Job stream to delete, reallocate, and reload the CA WA CA 7 Edition agent VSAM file.

CA07N520

JCL to link several modules for CA WA CA 7 Edition. Use this job only at the direction of CA Support because SMP/E maintains all CA WA CA 7 Edition modules.

CA07N525

JCL to execute the batch terminal interface. Most commands that can be entered in the online mode can be used with the batch terminal. See member N220DECK for examples.

CA07N530

Sample history reporting job stream. Uses the log history tapes, dumped from the CA WA CA 7 Edition logs for the reporting of certain events. The sample reports are the 02 Transaction Detail report and the 08 Master Station Messages report.

Note: For more information about the types of reporting available, see the *Report Reference Guide*.

CA07N533

Sample history HR25 comparison report job stream. Uses two SASSHIS8-HR25 reports for comparing the metrics data side-by-side.

Note: For more information about the types of reporting available, see the *Report Reference Guide*.

CA07N535

Sample history purge job. Use to purge history data from the log history tape files to an archive tape file.

CA07N540

Sample archive purge job. Use to purge old records that you no longer require from the archive tape files.

CA07N550

Sample CA WA CA 7 Edition CAICCI terminal interface batch execution. The job accepts any CA WA CA 7 Edition batch terminal commands.

Note: For more information about the CAICCI terminal interface, see external communicators in the *Interface Reference Guide*.

CA07N560

Sample CA WA CA 7 Edition TCP/IP terminal interface batch execution. The job accepts any CA WA CA 7 Edition batch terminal commands.

Note: For more information about the TCP/IP terminal interface, see external communicators in the *Interface Reference Guide*.

CA07N600

Sample workload planning job. Use workload planning to simulate and report on certain workload processing activities for your data center.

Note: For more information about workload planning, see the *Report Reference Guide*.

CA07N610

Sample database verification job to report inconsistencies with records in the database.

Note: For more information, see the *Systems Programming Guide.*

CA07N700

Sample job to reinitialize the communications data set (COMMDS).

CA07N705

Sample job to reinitialize the cross-system coupling facility data set (XCFDS).

CA07N707

Sample job to reinitialize the XCF checkpoint data set (XCFCKPT).

CA07N715

Special job to allocate and initialize the CA WA CA 7 Edition agent VSAM file.

CA07N720

Special job to copy the CA WA CA 7 Edition help members from the CA WA CA 7 Edition help library to another data set.

CA07N730

Sample job to reset batch terminal flags in the communications data set.

CA07N810

Sample job SASSDT10 for the database transportability (DBT).

CA07N820

Sample job SASSDT20 for the database transportability (DBT).

CA07N830

Sample job SASSDT30 for the database transportability (DBT).

CA07N840

Sample job to extract VRM data from the database for the database transportability (DBT).

CA07N841

Sample job to extract XNODE and XPSWD information from the database for the database transportability (DBT).

CA07N845

Sample job to populate VRM data to the database for the database transportability (DBT).

CA07N850

Sample database transportability job (DBT) to extract ARF data from the database.

CA07N855

Sample BTI job to populate ARF data to the database for the database transportability (DBT).

Generated Installation Decks

The following lists the installation files that the Stage I task generates. The installation jobs use the files as input to the tasks for CA WA CA 7 Edition.

AGTALLOC

IDCAMS SYSIN input to define the CA WA CA 7 Edition agent VSAM file.

AGTDEL

IDCAMS SYSIN input to delete the CA WA CA 7 Edition agent VSAM file.

AL2UM01P

Input for SMP/E USERMOD to receive and apply sample CA WA CA 7 Edition calendars. Used by AL2UM001 in the CA WA CA 7 Edition options library CAL2JCL.

AL2UM11P

Input for SMP/E USERMOD to replace the default CA WA CA 7 Edition TSO/ISPF CLIST with a copy customized by the Stage I SYSGEN. Used by AL2UM011 in the CA WA CA 7 Edition options library CAL2JCL.

BATCH

Initialization file for the sample batch execution of CA WA CA 7 Edition.

CA7ISPF

Contains the VTAM definitions for the CA WA CA 7 Edition TSO/ISPF interface.

CA7VTAM

Contains the VTAM application definitions for CA WA CA 7 Edition.

CDSIDECK

SYSIN input member for the N030 job stream. Used to initialize the communications data set.

DBPARMS

SYSIN input member containing the CA Datacom/AD database logical database name. Used by all jobs that reference the CA WA CA 7 Edition database.

GDGDECK

Contains the generation data group indexes definitions for the log and history GDGs. Used by the N010 allocate job stream.

GDGDEL

Contains the delete statements for the log and history generation data group indexes. Used by the N005 scratch job stream.

GDGMDECK

Contains the generation data group index definitions for the SYSMDUMP GDG. Used by the N010 allocate job stream.

GDGMDEL

Contains the delete statement for the SYSMDUMP generation data group. Used by the N005 scratch job stream.

L2C0RIM

Member that is used to define CA WA CA 7 Edition to CAIRIM. Used by CAIRIM to initialize the system components for CA WA CA 7 Edition.

N020DECK

SYSIN input member for copying the JCL procedures that CA WA CA 7 Edition requires. Used by the Move CA WA CA 7 Edition Procedures task in the N020 job stream.

N220DECK

Input member for the sample batch execution of CA WA CA 7 Edition (N220 job).

N230DECK

Input member for a sample BTI execution of CA WA CA 7 Edition to define the CA WA CA 7 Edition XPJOB IVP cycle (N230 job).

N520DECK

Input member for the N520 job to link edit the CA WA CA 7 Edition nucleus and other composite modules.

ONLINE

Initialization file for the sample online execution of CA WA CA 7 Edition (N240 job).

REPRO

SYSIN input member for IDCAMS copy functions.

SIMINIT

Contains the INITDEF initialization parameters that the sample batch execution of Jobflow Illustrator (CA7FSIM procedure) uses.

SIMPARM

Contains the PARMDEF table building parameters that the sample batch execution of Jobflow Illustrator (CA7FSIM procedure) uses.

SIMSYSIN

Contains the SYSIN flowchart print command that the sample batch execution of Jobflow Illustrator (CA7FSIM procedure) uses.

VTAMDECK

SYSIN input member for copying the VTAM definitions that CA WA CA 7 Edition requires. The Update VTAM task in the N120 job stream uses the member. The following members are copied from JCLLIB:

CA7VTAM

Specifies the application definition for CA WA CA 7 Edition.

CA7ISPF

Specifies the definition for the CA WA CA 7 Edition TSO/ISPF interface.

Generated Test and Maintenance Jobs

The Stage I task generates test and maintenance jobs that are used during the installation of CA WA CA 7 Edition. The default prefix for these jobs is CA07. If you changed the one- to four-character prefix in the Stage I task for these jobs, they reside in the JCL library with the specified prefix. These jobs are defined to the CA WA CA 7 Edition database in job N220. After you test the installation, you can delete the test jobs from the database, but the maintenance jobs are used for production processing by CA WA CA 7 Edition. The following items are the generated test and maintenance jobs:

CA07CLEN

Test job uncatalogs and scratches the data sets created by the other test jobs that are used during testing of the installation.

CA07ENV

Maintenance job to display all the system control blocks and ICMDSECT options.

CA07JF*xx*

Test jobs that are used to exercise various JFM functions related to monitoring.

CA07LOGP

Maintenance job that is used to dump the primary log file (LOGP) to tape.

CA07LOGS

Maintenance job that is used to dump the secondary log file (LOGS) to tape.

CA07SIM

Test job that uses the installation verification jobs CA07XX*nn* to test the basic functions of Jobflow Illustrator.

Note: For more information about Jobflow Illustrator, see the *Interface Reference Guide*.

CA07SVCT

Maintenance job that is used to test the installation of the CA WA CA 7 Edition SVC, System Configuration File options, and the SMF exits. Though seldom used, retain and demand it when problems occur with tracking of CA WA CA 7 Edition submitted jobs.

CA07XP*nn*

Although these jobs are not directly generated as part of the N220 execution, these jobs are defined through job N230. These jobs are used to exercise various cross-platform functions. The diagram of these jobs is similar to the CA07XX*nn* jobs.

CA07XX*nn*

Test jobs that are used to exercise various functions related to scheduling, job submission, and tracking.

Appendix D: VTAM and NCF Node Table Definitions

These topics include information for the installation and implementation of a CA 7 NCF network.

This section contains the following topics:

VTAM Definitions for the NCF Network

The VTAM definitions for each CA WA CA 7 Edition NCF site must be set up at each site. The definitions are dependent on the environment. The user's system programming area responsible for VTAM should be contacted to establish the necessary definitions. After the definitions are completed, the VTAM members may need to be varied active after VTAM is initialized, or VTAM may be restarted to get the definitions active.

As a guide, see the example definition in member AL2UM02 in the CA WA CA 7 Edition options library (CAL2OPTN). This example table is listed in the next topic. For the Dallas site, the SYS1.VTAMLST data set could be changed as follows:

1. Member ATCCON*xx* would need to include three new members NCFCDRSC, NCFCDRM and NCFDEF.
2. Member NCFCDRSC would be:

```
         VBUILD  TYPE=CDRSC
NCFDEN   CDRSC CDRM=DENVER
NCFSF    CDRSC CDRM=SANFRAN
NCFTOKYO CDRSC CDRM=TOKYO
```

3. Member NCFCDRM would be:

```
         VBUILD  TYPE=CDRM
DALLAS   CDRM  SUBAREA=x1,CDRDYN=YES,CDRSC=OPT
DENVER   CDRM  SUBAREA=x2,CDRDYN=YES,CDRSC=OPT
SANFRAN  CDRM  SUBAREA=x3,CDRDYN=YES,CDRSC=OPT
TOKYO    CDRM  SUBAREA=x4,CDRDYN=YES,CDRSC=OPT
```

   where *x*1, *x*2, *x*3 and *x*4 are installation dependent.

4. Member NCFDEF would be:

```
         VBUILD  TYPE=APPL
NCFDAL   APPL  ACBNAME=NCFDAL,AUTH=ACQ
```

NCF Node Table Definitions

The CA WA CA 7 Edition NCF node table for each site must be built using the UNCNOD macro. The required load module name of the table is UCC7NODE. Each node in the network may be specified. However, it is only necessary to include all nodes with which this node will be communicating. Other nodes may be included as wanted. *The local node should be the first entry in the table*.

Member AL2UM02 in the CA WA CA 7 Edition options library (CAL2OPTN) contains model JCL to receive and apply the modified node table.

More information:

Node Table Definition Example (see page 212)
Identify the Host NCF Node (see page 213)

UNCNOD Macro Format

The UNCNOD macro has the following format:

```
nnnnnnnn UNCNOD NODNAME=aaaaaaaa,
                UCC7ID=ii,
                JESNODE=jjjjjjjj,
                SMFID=ssss,
                TYPE={ENTRY|LAST}
```

nnnnnnnn

Defines an optional parameter that further identifies the entry in the assembly. The parameter has no meaning in the resulting object code.

NODNAME=*aaaaaaaa*

Defines the unique application identifier (ACBNAME) for the node as specified in the VTAM APPL definition. This parameter is required.

UCC7ID=*ii*

Defines the unique CA WA CA 7 Edition identifier for the node. This parameter is required. The parameter is converted to a one-byte unique hex code for use within CA WA CA 7 Edition NCF. This parameter must *not* contain the values 00, 40, or E0 through FF. Each ID must represent only one node.

JESNODE=*jjjjjjjj*

Defines the JES assigned identifier for the node and is required.

SMFID=*ssss*

Defines the SMF system ID of the CPU where NCF will be running. The parameter is only used during CAIRIM initialization to determine the host entry in the table. Use this optional keyword only when all SMF IDs across the system are unique. See identifying the host node in the next section.

TYPE=ENTRY|LAST

Specifies an entry to the node table. LAST must be specified on the last entry of the table. ENTRY is the default.

Note: The unique relationship between each NODNAME, UCC7ID, and JESNODE must be maintained across all node tables in the NCF VTAM network.

Node Table Definition Example

```
UCC7NODE CSECT
DALLAS   UNCNOD  NODNAME=ADL0101,UCC7ID=01,JESNODE=DAL (local node)
CHICAGO  UNCNOD  NODNAME=ACH0201,UCC7ID=02,JESNODE=CHI
NEWYORK  UNCNOD  NODNAME=ANY0301,UCC7ID=03,JESNODE=NY
SANFRAN  UNCNOD  NODNAME=ASF0401,UCC7ID=04,JESNODE=SF,TYPE=LAST
         END
```

When a communications link is established between two nodes in a network, this "bind" process automatically includes a verification of the compatibility of the node tables at each of the two sites. Transmission of the node table to the other node with which communications are to be established is handled by the NCF VTAM task automatically.

Once the remote node table has been received, the following verification is performed against the two tables.

- The first entry in the node table must point to the local node. Thus, this implies that the node tables at two different sites are different, since each table has as its first entry its own local node name. You can use the same node table at all sites if you initialize NCF with the NCF(*nn*) option in the sysfile on the CA71 ADD statement during the CAS9 CAIRIM initialization with *nn* identifying the UCC7ID of the node where the initialization occurs.
- The first node in each table must be in the other table (in any position other than the first position).
- The node name and identifier byte, as defined with the UNCNOD macro parameters NODNAME and UCC7ID respectively, must be consistent between the two node tables for any node that appears in both tables.

See Messages CA-7.NC502 and CA-7.NC503 for possible errors. If one node can communicate with some nodes with which the other cannot communicate, extra entries may reside in that node table.

Identify the Host NCF Node

It is critical for the implementation of NCF that each CPU where CA WA CA 7 Edition submitted jobs execute is able to identify its own entry in the NCF node table (host node). Three methods are available. The different methods are explained below followed by a discussion of their relative merits.

- First Entry in the Table is the Host Node

  Each site has its own unique node table with the host node as the first entry. This means that each site has a different source for its node tables. This is the default method for assigning the host node.

- Host Node Set by CAIRIM Based on User Parameter

  You can specify the host node in the CA WA CA 7 Edition System Configuration file when you add the CA71 instance. Using this method allows you to keep one copy of the node table that can be that can be distributed to all sites. This is illustrated in the following example:

  ```
  CA71 ADD NCF(xx)
  ```

  where *xx* matches the UCC7ID= parameter of the host node entry in the NCF node table definition. When the CAIRIM initialization process loads the node table into CSA, it adjusts the table so that the designated entry is first. A full discussion of the CAIRIM parameters available is in CAIRIM Initialization Considerations in the chapter "Execution" in the *Systems Programming Guide*.

- Host Node Set by CAIRIM Based on System SMF ID

  Specifying an SMF system ID on the node table definitions themselves also allows you to keep one copy of the node table that can be distributed to all sites. However, all SMF IDs across the network must be unique, and if you have sites with multiple CPUs, you will have to use methods 1 or 2 above to handle the CPUs which do not match the SMF ID listed in the node table. When the CAIRIM initialization process loads the node table into CSA, it adjusts the table so that the entry matching that system's SMF ID is first.

Usage Notes

The determination of which method to use should be based on your own situation. If you are unsure of which method is best for you, start with the first option (first entry in the node table is the Host Node). This method has the advantage of simplicity. Once you have it set up, you do not have to worry about parameters to CAIRIM or changing SMF IDs when you add or move CPUs within your NCF sites.

If your network is very dynamic and you find yourself having trouble keeping all of the node tables synchronized, consider using the second method (Host Node Set by CAIRIM Based on User Parameter). This allows you to maintain one copy of the node table. However, you must ensure that the CAIRIM parameters for CA WA CA 7 Edition at each site (and every CPU or LPAR that executes CA WA CA 7 Edition submitted jobs) specify the correct host node.

Also, if you have sites where only one CPU executes CA WA CA 7 Edition submitted jobs, you can consider the third method (Host Node Set by CAIRIM Based on System SMF ID). If these SMF IDs are specified in the node table, the selection of the host is done automatically by CAIRIM without any parameters. It is valid to specify SMFID= keywords on some of the NCF Table entries without specifying them on all entries.

Appendix E: Installing Multiple Instances

Install Multiple Instances

You can define multiple instances to execute a test copy of CA 7, separate job scheduling and control by customer or internal systems, or applying and testing maintenance before introducing into the production environment. The flexibility exists for CA7ONL and ICOM, but anything that is set up using the CAIRIM processes can be restricted, as only one copy of the CA 7 SVC and SMF exits exist in an LPAR.

Follow these steps:

1. Allocate all new CA WA CA 7 Edition data sets for the additional instance of CA WA CA 7 Edition (the SMP/E target libraries do *not* have to be duplicated). The easiest way to do this allocation is to run an additional CA WA CA 7 Edition SYSGEN to create another version of JCLLIB.
2. This description describes how to install an instance named CA74.
   a. In CA WA CA 7 Edition JCL (CAL2JCL), make a copy of AL2GEN naming it AL2GEN4. On the SYSPUNCH DD statement, change the name of the SAMPJCL member from STAGE1 to STAGE14. Make the following changes to the SYSGEN macros:

      U7GEN macro

      Add an INSTANCE= keyword as follows: **INSTANCE=CA74**

      U7PARMS macro

      If you have a TARGET= keyword, do not change it. If you do not have one, code one using the DSN prefix of your production target libraries (CAL2LOAD, CAL2HELP, CAL2SRC, and so forth).

      Add/change the NODE= data set name prefix to one different from your production prefix. For example: **NODE='CAI.CA74'**

      If you have a VSAM= keyword, change the data set name prefix to one different from your production prefix. For example: **VSAM='CAI.CA74.VSAM'**

      U7PNAMES macro

      If you want to generate another set of JCL procedures automatically, add/change the U7PNAMES macro with a different prefix. For example: **'U7PNAMES PREFIX=CA74'**

U7IFACE macro

Add/change the VTAM= keyword to specify a different application ID for this instance. For example: **'U7IFACE VTAM=(CA74)'**

U7VOL and U7SPACE macros

If you want to change the DASD packs or sizes of the instance set, you can use these macros to change those settings.

b. Run the AL2GEN4 job to generate the STAGE14 SYSGEN file. Verify that the data set name for JCLLIB in the first step is different from your production copy.

c. Run the STAGE14 job (CA07N000) to create a copy of the JCLLIB library.

d. Run the following jobs from your new JCLLIB:

CA07N010 - Allocates instance copy files

CA07N030 - Allocate / initialize instance files

Copy the VTAM definition members from the new JCLLIB to your system VTAMLST library. Copy member CA7VTAM *renaming it to CA7VTAM4*. Copy member CA7ISPF *renaming it CA7ISPF4*. Vary these active before you can use the new instance of CA WA CA 7 Edition (that is, **V NET,ACT,ID=CA7VTAM4**).

After the previous steps have been performed, run CAIRIM to add this tracking instance to the CA WA CA 7 Edition system environment. Run CAIRIM on every LPAR hosting an ICOM for the instance. This example assumes that the CA WA CA 7 Edition system environment has already been created with a GLOBAL INIT statement. When CAIRIM runs with the following System Configuration File statement, the CA74 instance is added with an alias of SYS4:

```
ADD CA74 ALIAS(SYS4)
```

If the instance is added successfully, the following messages are issued:

CAL2R057I L2OPTS/0001: CA74 ADD ALIAS(SYS4)

CAL2R071I - Instance CA74 successfully added

To run the new instance, you need separate PROCs and initialization file. You can use the members in the new version of JCLLIB created in the preceding second step. Run job CA07N020 from the new JCLLIB to copy them to a system or user PROCLIB.

Following is a summary of the differences between production and CA74 CA WA CA 7 Edition JCL procedures and options.

1. CA74 CA7ONL

   Code the SVCNO statement of the new initialization file as follows:
   SVCNO,SASSVC=YES,CA7=CA74

2. CA74 CA WA CA 7 Edition ICOM JCL Procedure

   On the CA74 ICOM PROC, set the CA7= PROC variable to CA7=',CA7=CA74'. Note the leading comma.

3. CA74 CA WA CA 7 Edition Trailer JCL Procedure

   On the CA74 TRAILER PROC (or through a PROC variable override), set the CA7= PROC variable to CA7='CA7=CA74,'. Note the trailing comma. If you are executing a test trailer step without using a JCL procedure, add 'CA7=CA74' to the EXEC statement PARM= *string*.

4. CA74 CA WA CA 7 Edition U7SVC JCL Procedure

   On the CA74 U7SVC PROC (or through a PROC variable override), set the CA7= PROC variable to CA7='CA7=CA74;'. Note the trailing semicolon. If you are executing a test U7SVC step without using a JCL procedure, add 'CA7=CA74;' at the beginning of the EXEC statement PARM= *string*.

5. CA74 CA WA CA 7 Edition Batch Card Load Program

   If you want to use the Batch Card Load Program (SASSBCLP) to run under CA74, add a 'CA7=CA74' parameter to the EXEC statement PARM= *string*.

6. CA74 CA WA CA 7 Edition Batch Terminal Interface Program

   If you want the BTI Program (SASSBSTR) to point to instance CA74, add a 'CA7=CA74' parameter to the EXEC statement PARM= *string*.

7. CA74 CA WA CA 7 Edition CA7XTRK Cross-Platform Tracker

   If you want to submit cross-platform jobs from this system, tailor the associated CA7XTRK Cross-Platform Tracker to route the cross-platform feedback to that CA 7 instance. Add 'CA74' as the second positional value in the EXEC statement PARM= *string*.

8. CA74 CA WA CA 7 Edition CAICCI Interface

   If you want to use the interface with CAICCI to communicate with this system, specify 'CA74' as the 'CA-7 SSCT Name' in the invocation. The CAICCI Interface can be invoked from batch, REXX, and program-to-program modes. For the specifics on how to specify the instance name, see the *Interface Reference Guide*. Also, while the instance name is the default identifier for the CA WA CA 7 Edition CAICCI terminal that can be overridden in the initialization file.

9. If you have any user-coded routines or jobs that reference the following JCL procedures or programs, verify that the CA7=CA74 parameter is specified on all calls that are to communicate with the CA74 instance of CA WA CA 7 Edition.

PROC Name	Program Executed
CA7BTI	SASSBSTR
CA7ICOM	SASSICOM
CA7TRLR	SASSTRLR
CA7SVC	U7SVC
(none)	SASSBCLP

Appendix F: Conversion Utilities

This section contains the following topics:

Preconversion Data Validation Utility - CAL2DCVP

The CAL2DCVP utility inspects r11.3 data for conditions that can cause problems when converting to Version 12.0. This utility uses the following items to create preconversion reports:

- CA Workload Automation SE r11.3 backup files from CA Workload Automation SE r11.3 SASSBK00.
- IDCAMS REPRO for ARF and VRM.
- The DMPQ file that is taken at CA Workload Automation SE r11.3 shutdown.

Purpose:

Identify the issues in r11.3 data that can cause problems during the conversion process.

Narrative:

Some unexpected conditions in your CA 7 r11.3 database can prevent r11.3 data from importing into the CA Datacom/AD database, can prevent a successful validation of the Version 12.0 database, or both. The Preconversion Data Validation utility identifies issues in r11.3 data that can cause problems during the conversion process.

Input:

The sequential backup files that SASSBK00 (“ALLVSAM”), IDCAMS (ARF and VRM), and the dump queues create.

Output:

The Preconversion Data Validation Issue and Warning reports.

Issues Identified

The Preconversion Data Validation utility identifies the following r11.3 data issues that can cause problems during the conversion process:

- Invalid dates and times

  Some columns in the CA Datacom/AD tables are defined as a data type that must contain a valid date, time, or both. If the r11.3 data contains invalid dates, times, or both, an error occurs during the import process. The row containing the invalid data is not included in the CA Datacom/AD database.

- Constraint violations

  Foreign keys constrain some columns in the CA Datacom/AD tables. That is, a constrained column in one table must match a key in another table for a successful import. Constraint violations cause errors during the import process and prevent rows from being included in the CA Datacom database. The following types of constraint issues are identified:

  - r11.3 record fields that correspond to a 'mini-table' foreign key but do not contain valid data.

    Note: During the installation process, constant data is imported into mini-tables. Mini-tables contain codes for use as foreign keys by other tables that are created from your CA 7 r11.3 database.

  - IDS data set and network names that do not have a matching data set/network name in the SASDS data set.
  - Jobs that have VRM resources defined but do not exist in the SASJOB data set.
  - Job directories and members that are out-of-sync with XP or agent definitions.
  - Unresolvable DSNBRs

    If the Conversion utility cannot determine the data set name associated with a DSNBR, the entry containing the unresolvable DSNBR is not included in the EXPORT file. That DSNBR is not included in the CA Datacom/AD database.

- Duplicates

  - Duplicate VRM Resource Count Resource Name Definitions

    Previous releases let a job have the same resource count resource name defined multiple times for the same schedule ID or for both zero and non-zero schedule IDs when the numeric component (/*nnnn*) was different.

    Note: Previous releases erroneously considered the numeric component of a resource count resource name (/*nnnn*) as part of the resource name. In Version 12.0, the numeric component is no longer part of the resource name.

    This release does not permit duplicate resource definitions. Duplicates are not included in the CA Datacom/AD database.

- Duplicate DSNBR/SCHID Requirement Definitions

  In a previous release, CA 7 erroneously let you define multiple requirements with the same DSNBR/SCHID for a single job. This release does not permit duplicate requirement definitions. Duplicates are not included in the CA Datacom/AD database.

- Duplicate unsatisfied requirements

  In previous releases, CA 7 let you add multiple temporary requirements for the same job or user requirement to a job in the request queue using the ADDRQ command. This release does not permit a job to have duplicate requirements. Duplicates are not included in the CA Datacom/AD database.

  Note: For more information, see the ADDRQ command in the *Release Notes*.

JCL

Sample JCL is found CAL2JCL member AL2DCB20.

Return Codes

The Preconversion Data Validation utility can issue the following return codes:

0

Indicates that the validation is complete with no issues.

4

Indicates that the validation is complete with only warnings reported. No action is required.

8

Indicates that the validation is complete with issues and possibly warnings reported. Issues identified require action before continuing the conversion process.

12

Indicates unable to open DBCTLRPT or DBWARN DD statement.

Preconversion Reports

The Preconversion Data Validation utility produces two reports. The warning report (ddname DBWARN) identifies invalid dates and times that are automatically corrected during the conversion process. The issue report (ddname DBCTLRPT) identifies items that require attention before executing the Conversion utility.

The reports are organized by validation type. Both reports contain a Database Field Validation section. The issue report also contains VRM RCT Validation, Index Validation for Datasets, Index Validation for Networks, and Job Validation sections.

A beginning and completed message is displayed for each validation type.

If no additional messages are displayed between the beginning and completed messages, no issues of that type are identified. In many cases, it is necessary to contact CA Support to help with resolving identified issues.

The following topics contain descriptions of messages that can be displayed in each section of the reports.

Database Field Validation Messages

The following messages are issued for database field validation:

001 Validation failed for DDNAME: *xxxxxxxx* DSECT/Field: *ddddddddd.ffffffff*

xxxxxxxx

Specifies UCC7JLIB, UCC7VRM, UCC7ARF, or UCC7DMPQ and indicates the file from which the record was read.

ddddddddd.ffffffff

Identifies the internal r11.3 identifier for the field that did not pass the validation.

Sometimes, simply updating the element that is identified in the first part of the dumped record corrects this type of issue.

002 Invalid SCBDATE detected in IDS for DSN: *ddddddddddddddddddd*

ddddddddddddddddddd

Identifies the data set name in the IDS entry that has one or more invalid creation dates.

Note: This message is also issued for networks.

You can issue an LCTLG command to display the invalid entry and provide more information about any entries to delete.

To update the SCBDATE field, use the CTLG command with TYPE=REPL for the DSN.

Note: For more information about CTLG and LCTLG, see the *Command Reference Guide*.

Contact CA Support for assistance.

003 Schedule Member has invalid ISE SSTYPE

A schedule member whose type and number are identified in the dumped record has an invalid ISE schedule class.

Contact CA Support for assistance.

010 Schedule Member has invalid workstation due out time

A schedule member whose type and number are identified in the dumped record has an invalid ISE schedule class.

Update the workstation schedule due out time on the DB.2.3-E panel.

013 Job *jjjjjjj* includes requirement and/or DDE references to undefined DSNBR *nnnnnnnn*

jjjjjjj

Identifies the job that references an undefined data set number.

nnnnnnnn

Identifies the undefined DSNBR that is referenced.

You can correct this type of issue by removing the references to the identified DSNBR from the job. This correction includes updating job DSN requirements, reloading the job's JCL, or both.

015 Job *xxxxxxxx* has duplicate requirements for DSNBR *xxxxxxxx* and SCHID *yyyyyyyy*

Job *xxxxxxxx* has multiple requirements for the same DSNBR and SCHID. Use the DB.3.1 panel to remove the duplicate requirement.

016 Job# *nnnn* **has multiple unsatisfied requirements for JOB|USR** *yyyyyy*

nnnn

Identifies the CA 7 job number that references an unsatisfied requirement.

yyyyyy

Identifies the CA 7 JOB or USR requirement that is a duplicate.

You can correct this issue by posting all but one of the duplicate requirements using the XQ command.

999 ***xxxxxx*** **will be changed to** ***yyyyyyyy*** **for** ***zzzzzzzz***

A date/time field is automatically corrected during the conversion process.

xxxxxxxx

Identifies the type of field (such as last maintenance date) that is changing.

yyyyyyyy

Identifies the value that is assigned to the field.

zzzzzzzz

Identifies the object (such as a job name or a data set name) of the object that is corrected during the conversion.

Index Validation for Data Sets and Networks Messages

The following messages are issued for data set and network validation:

004 Multiple Dataset|Network IDS entries have DSNBR ***nnnnnnn***

Multiple IDS entries refer to DSNBR *nnnnnnn*.

The IDS data set names or network names that refer to this DSNBR are printed after this message.

Contact CA Support for assistance.

005 Dataset|Network name in IDS and SASDS conflict for DSNBR ***nnnnnnn***

The data set or network name in the IDS data set for DSNBR *nnnnnnn* does not match the data set or network name for DSNBR *nnnnnnn* in the SASDS data set.

The IDS and SASDS data set or network names are printed after this message.

Contact CA Support for assistance.

006 No SASDS member for Dataset|Network IDS DSNBR *nnnnnnn*

The IDS data set contains an entry for DSNBR *nnnnnnn*, but DSNBR *nnnnnnn* is not in the SASDS data set.

The IDS data set or network name is printed after this message.

Issue a CA 7 command UNC,CVOL=*UCC7*,DSN=data set or network name to remove the *orphaned* IDS entry.

014 AUTO.DS|NW references undefined DSNBR *nnnnnnnn*

The IDS data set contains an AUTO entry for DSNBR *nnnnnnn*, but no dataset|network is defined with this DSNBR.

Issue a CA 7 command UNC,CVOL=*UCC7*,DSN=AUTO.DS*nnnnnnn* (no leading zeros in the *nnnnnnn*) to remove the orphaned IDS trigger entry.

Job Validation Messages

The following messages are issued for job validation:

007 VRM resource(s) defined for undefined jobname: *jjjjjjjj*

The *jjjjjjjj* is the undefined job name. To correct this issue, use the following commands:

- DB.1 to Add the job name that *jjjjjjjj* specified.
- RM.1 to Delete all resources that are associated with the job.
- DB.1 to Delete the job name that you added in Step 1.

011 Job directory and member out of sync for job: *jjjjjjjj*

The *jjjjjjjj* is the job name whose directory and member conflict about whether the job is an XP or agent job. To correct this issue, delete and redefine the job.

012 Duplicate XP / Agent segments found for job: *jjjjjjjj*

The *jjjjjjjj* is the job whose member contains duplicate XP or agent segments. To correct this issue, delete and redefine the job.

VRM RCT Validation Messages

The following messages are issued when a job has duplicate resource count resources defined:

008 Job *jjjjjjj* has zero and non-zero SCHIDS defined for *ttttt* resource: *rrrrrrr*

Job *jjjjjjj* has the same resource count resource name defined for both schedule ID zero and at least one other schedule ID.

- If *ttttt* = *defined*, edit the defined resources for the job using RM.1 so that either schedule ID zero or other schedule IDs are defined for the resource name, but not both.
- If *ttttt* = *active*, let the job run to its completion before starting the conversion process.

009 Job *jjjjjjj* has multiple definitions for SCHID *nnn* for *ttttt* resource: *rrrrrrr*

Job *jjjjjjj* has the same resource count resource name defined multiple times for the same schedule ID.

- If *ttttt* = *defined*, edit the defined resources for the job using RM.1 so that only one definition remains for the resource name and schedule ID combination.
- If *ttttt* = *active*, let the job run to its completion before starting the conversion process.

CAL2DCVS Utility

The Datacom Space Estimator Utility CAL2DCVS can estimate the sizes to allocate for the CA Datacom/AD areas. The utility estimates sizes that are based on the conversion file output from CAL2DCV1 with estimates of the CA Datacom/AD compression for each table. The estimates are based on experiences from a limited number of actual conversions. Your installation can require changes from these estimates.

CAL2JCL member AL2DCVS has some sample JCL for using the CAL2DCVS utility.

AL2DCVS has the following input, output, and control statements.

EXPORT

The export file that CAL2DCV1 or CAL2DBEI created. Multiple data sets can be concatenated together.

SYSPUNCH

Example DD card images are written to this DD. Can use DUMMY when you want only the report.

SYSPRINT

Report of results. If DUMMY or unable to open, the error message "CAL2D128E - SYSPRINT OPEN ERROR OR DUMMY" and a program abort result.

SYSIN

These parameters are the variable values for the program. SYSIN of DUMMY runs with default values. An * in the first column is considered a comment. All commands begin in column 1. The valid parameters are as follows:

GROWTH=

Percentage of estimated value to add for anticipated growth. The permissible value range is 0 through 200 with a default value of 50.

REQUIREMENTS=

Values of LOW, MEDIUM and HIGH specify levels that assign space for record counts in addition to those present in the export file. LOW adds 100, MEDIUM adds 250, and HIGH adds 500. The purpose of this parameter is to account for the active queues being empty during the conversion.

JCL=

Values of LOW, MEDIUM and HIGH specify levels that assign space for record counts in addition to those present in the export file. LOW adds 1000, MEDIUM adds 4000, and HIGH adds 9000. The purpose of this parameter is to account for the active queues being empty during the conversion.

ARF=

Values of LOW, MEDIUM and HIGH specify levels that assign space for record counts in addition to those present in the export file. LOW adds 1000, MEDIUM adds 4000, and HIGH adds 9000. The purpose of this parameter is to account for the active queues being empty during the conversion.

VRM=

Values of LOW, MEDIUM and HIGH specify levels that assign space for record counts in addition to those present in the export file. LOW adds 1000, MEDIUM adds 4000, and HIGH adds 9000. The purpose of this parameter is to account for the active queues being empty during the conversion.

NETWORKS=

Values of NONE, LOW, MEDIUM and HIGH specify levels that assign space for record counts in addition to those present in the export file. LOW adds 25, MEDIUM adds 100, and HIGH adds 200. The purpose of this parameter is to account for the active queues being empty during the conversion.

FILEHLQ=

CA Datacom/AD file high level qualifier. This value is for building the DD statement output. The default is 'YOUR-HLQ'.

VOL=

Volume to use in the DD statements. The default is string 'SER=(VOL1,VOL2,VOL3)'. 46 byte max.

UNIT=

Unit to use in the DD statements. The default is 3390.

Database Conversion Utility - CAL2DCV1

The CAL2DCV1 utility converts r11.3 data to Version 12.0 data. This utility uses the following items to create a CA WA CA 7 Edition Version 12.0 export file:

- CA Workload Automation SE r11.3 backup files from CA Workload Automation SE r11.3 SASSBK00.
- IDCAMS REPRO for ARF and VRM.
- The DMPQ file that is taken at CA Workload Automation SE r11.3 shutdown.

This export file is used as input for the utility CAL2DBEI.

Name:

CA 7 r11.3 Database Conversion

Purpose:

The utility converts the CA Workload Automation SE r11.3 VSAM database, including ARF, VRM, and queues to an exported file. The Database Export Import utility, CAL2DBEI, can import the file.

Input:

The sequential backup files that SASSBK00 (“ALLVSAM”), IDCAMS (ARF and VRM), and the dump queues create.

Output:

A CA WA CA 7 Edition Version 12.0 export file and a report indicating the amount of data that is converted.

Narrative:

CAL2DCV1 reads the various backup files, sorts the data into the correct sequence, and builds a Version 12.0 export file. The export file can then be imported into the CA Datacom/AD database.

To convert an existing CA 7 r11.3 database to the new CA WA CA 7 Edition Version 12.0 CA Datacom/AD format, use this utility.

PARM Operand

The PARM operand of the EXEC statement allows a required logical database name and an optional keyword of DEBUG as follows:

```
PARM='databasename,DEBUG'
```

databasename

Defines the 1-16 byte CA Datacom/AD logical database name. This parameter is used as the high-order field of the key for each CA Datacom/AD database element. The DBPARMS member for the CA7ONL instance references this logical database name. Determine this name not by CA WA CA 7 Edition instance name but perhaps by CA WA CA 7 Edition *application* names. In this way, when the data is moved from one CA Datacom/AD environment to another, no conflicts exist. Examples of logical database names include CA7PAYROLL, CA7ACCOUNTA, and CA7APPLHEALTH.

DEBUG

This keyword is a diagnostic option to use when working with CA Support. The option suppresses some items in the sort process so that better diagnostics are available for debugging any problems that occur.

File Descriptions

The following table contains file descriptions for CAL2DCV1:

Filename	DDname	Description
VSAM database	UCC7JLIB	The CA Workload Automation SE sequential backup file created by CA 7 r11.3 version of SASSBK00.
ARF file	UCC7ARF	A sequential backup of the ARF file created by IDCAMS VRM file.
VRM file	UCC7VRM	A sequential backup of the VRM file created by IDCAMS.
Queue data	UCC7DMPQ	A sequential file created by the DMPQ command at CA WA CA 7 Edition shutdown time.
Database Report	DBCTLRPT	A report indicating the files that were converted and how many records of each type were processed.
Export file	EXPORT	The output file created to be used to place data in the CA Datacom/AD database.
Sort work areas	SORTWK*nn*	Sort work areas used for sorting the various input files

JCL

For an example of the conversion JCL, see the AL2DCC20 CAL2JCL sample member.

Return Codes

The utility can issue the following return codes:

0

Indicates a successful execution.

04

Indicates that a warning WTO message was issued, but the export file was successfully created.

1177

Indicates that an error occurred that prevented successful creation of the export file.

You can determine the nature of the error by looking at the WTO messages issued. Look for either a message number that is suffixed with E or messages CAL2D315I or CAL2D316I.

nn

Indicates a number 04-24 accompanied by WTO message CAL2D104E. This number is the return code from the sort. For the specific description, see the sort documentation.

Expanded ID Usage Report

This version permits values greater than 255 for schedule IDs, UIDs, and JCL IDs. Earlier releases limited these numbers to a maximum of 255.

If you encounter problems with this version, you can fall back to the prior release. We recommend that you run the ID255 report. The report identifies objects (jobs, schedules, triggers, and so on) with one or more ID values greater than 255. Then change or delete these objects so that the ID value is less than or equal to 255 before proceeding with the reversion.

You can use the sample JCL member AL2DCR10 to execute the report. In the JCL, provide the name of the logical database to be searched and the CA WA CA 7 Edition and CA Datacom/AD load libraries.

The report ends with RC=0 when no objects with IDs greater than 255 are found.

The report ends with RC=4 when at least one object with IDs greater than 255 is found.

The report can be run as often as necessary. We recommend that you run the report, fix some of the reported objects, and run the report again.

The CA WA CA 7 Edition task does not need to be available for the report to run. The task is required for you to update the objects that the report lists.

Report Output

The Expanded IDs Usage report lists each type of object (job, schedule, triggers, and so on) in a separate section of the report. Each section begins with a header line that explains what is contained in that section. The report includes a section only when objects of that type contain IDs greater than 255. For example, the report does not include the Schedules section when none of the schedules have a schedule ID greater than 255.

The report can display the following sections:

Section Header	Action to Take
ARF Queue	This temporary situation is resolved as CA WA CA 7 Edition Version 12.0 continues execution.
Active ARFSETs, Active ARFSET Conditions, Active ARFSET Actions	Let all jobs using the ARFSET complete successfully.
Active CPM Flows	Let the job stream to complete successfully or use the FLOWD command.
Active Networks	Let the networks complete by using the LOGIN and LOGOUT commands, or use the Queue Maintenance Cancel command.
Active Virtual Resources	Let the job complete successfully, or use the CANCEL command, or use the PRSCF command
Active Workload	Let the job complete successfully or use the CANCEL command.
ARFSET Definitions, ARFSET Conditions, ARFSET Actions	Use AR.3 to update the ARFSET.
Global Variables	Use the /GVAR command to update the global variable.

Section Header	Action to Take
Job Definition	Use DB.1 to update the job definition.
Manual Virtual Resources	Use the PRSCF command.
Prior-Run Queue	Use the PRRNDEL command.
Requirements	Use DB.3.x to update the requirement.
Run Log	The reversion utility updates or deletes this record.
Schedules	Use DB.2.1, DB.2.2, or DB.2.3 to update the schedule definition.
Triggers	Use DB.2.4, DB.2.5, or DB.2.6 to update the trigger definition.
Virtual Resources	Use RM.1 to update the virtual resource and job relationship.

Database Reversion Utility - CAL2DCV2

Name:

Revert Version 12.0 CA Datacom/AD data to r11.3 backup files.

Purpose:

You can back off from the CA WA CA 7 Edition Version 12.0 with CA Datacom/AD after conversion. This utility uses the Version 12.0 CA Datacom/AD database to create CA Workload Automation SE r11.3 backup files. Once the CA 7 r11.3 backup files are created, the CA 7 r11.3 utilities use these files to reload the database and queues before executing CA 7 r11.3 again.

The reversion utility can change schedule IDs, user IDs, and JCL IDs that are greater than 255 using the reversion options (see page 235). We strongly recommend that you run the Expanded ID Usage report to identify and change IDs that are greater than 255 before running the reversion utility.

Input:

CA Datacom/AD logical database.

Output:

CA Workload Automation SE r11.3 backup files:

- UCC7JLIB – the SASSBK00 backup file.
- UCC7ARF – an IDCAMS repro file.
- UCC7VRM – an IDCAMS repro file.
- UCC7DMPQ – The CA 7 sequential queue data.

Narrative:

CAL2DCV2 reads the CA Datacom/AD logical database and creates the various backup files. The SASSBK00 backup file requires an additional sort step.

PARM Operand

The PARM operand of the EXEC statement allows a required 1-16 byte database name as follows:

PARM='*databasename*'

databasename

Defines the CA Datacom/AD database name. This parameter is used as the high-order field of the key for each database element.

Reversion Options

The OPTIONS DD contains statements to control how the reversion utility handles schedule IDs, user ID, and JCL IDs that are greater than 255. CA WA CA 7 Edition Version 12.0 permits these ID values as large as 999, but previous releases of CA 7 only permit values up to 255.

Statements with an asterisk in column 1 are comments and are ignored.

Each option must start in column 1 and must be in uppercase.

JCLID=*xx…xx*

Objects with a JCL library ID greater than 255 are changed to a JCL library name of &*xx…xxnnn* where *xx…xx* is a 1 through 12 character value from the JCLID option and *nnn* is the original JCL library ID. If JCLID is not specified, the default is REVERT. For example, a JCL library ID of 440 is changed to a JCL library name of &REVERT440.

SCHID=*nnn*

Objects in the active workload with a schedule ID greater than 255 are changed to have the schedule ID specified on the SCHID option. Specify a value from 1 to 255. If a SCHID is not entered, the default is 255. See also the QUEUE option. Definitions with schedule IDs greater than 255 are deleted.

UID=*nnn*

Objects with a user ID number greater than 255 are changed to have the user ID specified on the UID option. Specify a value from 1 to 255. If UID is not entered, the default is 000.

QUEUE=KEEP|DELETE

The QUEUE option determines what action the reversion utility takes when an object in the active workload has a schedule ID greater than 255. By default (QUEUE=KEEP), the schedule ID of the object is changed to the SCHID option value (see SCHID). Assume that the object (job or network) is updated during reversion and later completes in the prior release of CA 7. In this case, it acts like it was brought into the queue with the updated schedule ID. Specifically, the job triggers successor jobs based on the new schedule ID. Alternately you can specify QUEUE=DELETE to remove objects from the active workload when their schedule IDs are greater than 255. These objects are not tracked, but neither do they trigger anything upon completion. Definitions with schedule IDs greater than 255 are always deleted.

File Descriptions

The following table contains file descriptions for CAL2DCV2:

Filename	DDname	Description
ALLVSAM database	UCC7JLIB	The CA Workload Automation SE r11.3 ALLVSAM database.
ARF file	UCC7ARF	A sequential backup of the ARF file as created by IDCAMS VRM file.
VRM file	UCC7VRM	A sequential backup of the VRM file as created by IDCAMS.
Queue data	UCC7DMPQ	A sequential file created by the DMPQ command.

JCL

For an example of the conversion JCL, see the AL2DCR20 CAL2JCL sample member.

Appendix G: CA Common Services for CA WA CA 7 Edition

This section contains the following topics:

CA Datacom/AD

CA Datacom/AD Version 14.0 is a common database component that several CA Technologies products like CA 7, CA 11, and CA CSM use. CA 7 uses CA Datacom/AD as the major component of its database, containing both the Definition database and the Active Workload (Queues) database. Both parts are saved into one *logical database* within Database ID (DBID) 770. Each logical database represents a CA 7 instance. DBID 770 can support several logical databases and thus multiple CA 7 instances. When planning for the database sizing and backup/recovery, remember that multiple CA 7 instances can reside within this single DBID 770.

Note: To support CA 7, apply the following PTFs to CA Datacom/AD Version 14.0. These PTFs address several CA 7 specific issues.

- RO49754
- RO50149
- RO52117
- RO54284
- RO54667
- RO55905
- RO55447
- RO59917
- RO65436

Use the CA Support Online site to download these PTFs from the CA Datacom/AD pages. Ensure that your maintenance is as current as possible for CA Datacom/AD.

LMP Key Requirements

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

Your product is licensed with an LMP key. You acquire the LMP key with one of the following methods:

- From your product media
- With Pax ESD
- From http://ca.com/support

Note: For more information about LMP keys, see the CA Common Services for z/OS documentation.

CAIRIM

CAIRIM, CAI Resource Initialization Manager, is a required service and the common driver for a collection of dynamic initialization routines. The routines eliminate the need for user SVCs, SMF exits, subsystems, and other installation requirements that are commonly encountered when installing systems software.

CAISSF

CAISSF, CAI Standard Security Facility, is a required service and lets CA Technologies software offer standardized security interfaces regardless of the underlying access control software. CAISSF offers user authentication and resource access validation facilities. CAISSF can interface with CA Technologies security products, CA ACF2 or CA Top Secret, or compatible security products other than CA Technologies. CAISSF is a subservice that is contained within the CAIRIM service.

CAICCI

CAICCI, CAI Common Communications Interface, is a communications facility that offers a simple yet flexible approach enabling CA Technologies solutions to communicate with one another. This facility provides a layer that isolates your application software from the specifics of the communications environment.

This service is required for a number of interfaces, including:

- Cross-platform communication facilities
- Interface with CAICCI
- Jobflow Illustrator
- Jobflow Monitor
- Master Station Message Routing (MSMR)
- CA Service Desk interface
- CA 7 Web Client

Note: For more information about the individual interface requirements, see the *Interface Reference Guide*.

CAIENF

CAIENF, CA Technologies Event Notification Facility, is an operating system interface service. CAIENF offers a simple yet flexible approach for CA Technologies solutions to obtain data from the operating system. By centralizing operating system interfaces within CAIENF, many features that were formerly available within a single solution can be shared across the entire product line.

This service is required for a number of interfaces including:

- Jobflow Monitor
- CAICCI interface
- CA 7 Web Client
- Most forms of cross-platform scheduling

Note: For more information about the individual interface requirements, see the *Interface Reference Guide*.

CA-C

CA-C Runtime is a runtime facility with reentry capabilities. Its modular architecture insulates the CA-C Runtime programs from system and version dependencies. Little, if any, system-dependent code is linked with the user program. This method allows for smaller user programs and easier maintenance. CA-C Runtime uses a memory manager to handle the dynamic allocation requests for small pieces of storage. This manager enables fewer calls to be made on the operating system resulting in faster allocation and deallocation.

A number of the CA Common Services require the CA-C Runtime service , and it is required when you use the CA 7 Web Client.

Note: For more information, see the CA Common Services documentation.

CA Earl Reporting Service

The CA Earl (Easy Access Report Language) Reporting Component is a user-friendly report definition facility with the power of a comprehensive programming system. CA Earl lets you modify and print the contents and layout of a predefined CA Technologies product report using English-like statements.

The CA Earl Service is required to produce CA WA CA 7 Edition reports using the CA Earl facilities.

Note: For more information, see the *Report Reference Guide*.

CA Easytrieve

CA Easytrieve is a user-friendly report definition facility with the power of a comprehensive programming system. CA Easytrieve lets you modify and print the contents and layout of a predefined CA Technologies product report using English-like statements.

CA Easytrieve is required to produce CA WA CA 7 Edition reports using the CA Easytrieve facilities.

Note: For more information, see the *Report Reference Guide*.

CA JCLCheck Common Component

The JCLCheck Common Component is a reduced version of CA JCLCheck. The JCLCheck Common Component provides the z/OS JCL statement syntax and execution validation functions to other CA Technologies products.

Some sites have the full CA JCLCheck product or the JCLCheck Common Component installed for another CA Technologies product. CA WA CA 7 Edition expects CA JCLCheck to be at Version 12.0 or higher.

For the sites other than those sites with the full CA JCLCheck product, the JCLCheck Common Component is provided without charge. The JCLCheck Common Component can be used only from another CA Technologies product.

The JCLCheck Common Component software is found in a separate distribution package.

Cross-Platform Scheduling Common Component

The Cross-Platform Scheduling Common component lets CA WA CA 7 Edition receive cross-platform scheduling requests from other CA Technologies solutions like CA Scheduler and CA Workload Automation AE. The Cross-Platform Scheduling Common component is also described as the Cross-Platform Router or XPS Router. The XPS Router is designed to work with the CA Workload Automation and job management systems that use CAICCI as the form of cross-system communication.

On z/OS systems, the cross-platform scheduling router receives all requests for work from other systems. The router then routes each request to the appropriate CA scheduling solution on that system. The CA scheduling solution generates the feedback information (job initiation, termination, failure) that is used to create CAIENF cross-platform feedback events (CAXPSFBK). The cross-platform scheduling router intercepts these events and sends the feedback to the original requester. Logging this information in CAIENF also prevents the loss of feedback data when communications problems interrupt the links among platforms. When the link is reestablished, the cross-platform scheduling router can retrieve the logged feedback events from CAIENF. The cross-platform scheduling router sends them to the system that originated the request.

Cross-platform scheduling communication is performed by using the CA Common Communications Interface (CAICCI). A copy of CAICCI runs on each system where a CA Technologies solution requires it. The copies of CAICCI on each system communicate with each other using various protocols based on CAICCI control parameters. The gateway communication protocol is used for cross-platform scheduling (host-to-host connection).

This service is required for a number of interfaces, including:

- Cross-platform communication facilities
- Interface with CAICCI
- Jobflow Illustrator
- Jobflow Monitor
- Master Station Message Routing (MSMR)
- CA Service Desk interface
- CA 7 Web Client

Note: For more information about using the cross-platform router, see the Interface Reference Guide.

CAISDI/els - Service Desk Integration

CAISDI provides a set of services that open CA Service Desk requests from the z/OS environment. CA Technologies products can open the requests directly, or they can be opened on their behalf. The method of opening requests depends on the requirements of each specific product using the interface. Three main components are involved in this interface. Depending on each individual CA Technologies product using CAISDI, one or more of these components is required. We recommend that you install all three components. In the configuration steps, you can decide to configure only the components you currently need.

This service is required for the CAISDI/els (Event Library Support) component of the CA Service Desk integration feature.

Note: For more information about this feature, see the *Interface Reference Guide* and the *CA Common Services Getting Started*.

Viewpoint

Viewpoint is a windowed execution environment for mainframe systems. Viewpoint uses SAA/CUA standards to enhance the integration of your CA Technologies products.

The Viewpoint service is required when you have CA 7 Web Client.

zIIP Enablement Service

The zIIP Enablement Service supplies low-level routines to let specific tasks become zIIP-enabled. These tasks are eligible to execute on a zIIP processor. This offloading lets other work execute on the main CP processors while CA WA CA 7 Edition code executes on the zIIP processor. Although there is some overhead in setting up to use zIIP processors, moving CA WA CA 7 Edition processing to zIIP usually decreases overall costs. This service is required when you specify ZIIP=YES on the INIT initialization statement.

This service is required when you plan to offload certain CA 7 subtasks onto a zIIP processor.

Note: This feature requires CA Common Services v14 or higher.

Appendix H: Reversion

These topics describe how to revert to a CA 7 r11.3 environment when you must back off CA 7 Version 12.0. Reversion is only valid for logical databases that were created by converting r11.3 data.

We recommend that you test the reversion process in your installation after doing a test conversion. This testing makes you familiar with the process in case you require it in a production environment.

Contact CA Support before attempting reversion in a production environment. CA Support can sometimes help you fix the Version 12.0 problem in a timely manner and alleviate the need for reversion.

This section contains the following topics:

Prepare for Reversion

Preparing for reversion includes stopping database tasks and identifying elements with expanded IDs.

Stop Database Tasks

Quiesce processing and let as many jobs as possible complete successfully so that the queues are as empty as possible.

Stop all tasks accessing the *logical database* of the CA 7 instance you are reverting:

- Shut down CA7ONL and all the CA 7 ICOM (CA7ICOM) tasks.
- If using CA 7 Jobflow Monitor (JFM), stop that task too.
- Cancel or let complete any batch jobs, including Database Transportability jobs, that are referencing the *logical database* of the CA 7 instance you are reverting.

Note: Leave the CA Datacom/AD MUF up and active because it must be active to extract the data that is needed for reversion.

Identify Elements with Expanded IDs

CAL2JCL Member: AL2DCR10

Description: Queries the CA WA CA 7 Edition Version 12.0 database for elements that contain expanded IDs.

CA WA CA 7 Edition Version 12.0 lets the SCHID, UID, and JCLID fields contain values greater than 255. Because CA 7 r11.3 does not permit values greater than 255, elements with higher values require special handling during a reversion.

During a reversion, elements containing expanded IDs are assigned an alternate value or not included in the reverted file. Identifying these elements before reversion lets you have more control over what action a reversion takes.

For more information, see the Expanded ID Usage Report (see page 231).

Note: The Agent VSAM file contains UID information but does not undergo conversion or reversion. If you used expanded UIDs in Version 12.0, the AGFILE command uses a UID of zero for security checks after reversion.

Revert to r11.3 Data

UID information is also maintained in the Agent VSAM file. This file does not undergo a conversion or reversion. Some sites run agent jobs using expanded UIDs in Version 12.0. For a reversion, these sites are advised that the AGFILE command uses a UID of zero for security checks in releases before Version 12.0.

CAL2JCL Member: AL2DCR20

Description: Creates CA 7 r11.3 files from the CA Datacom/AD database.

This job executes the Reversion Utility to extract data for the specified logical database name. The job also creates the files that are necessary for CA Workload Automation SE r11.3.

Note: For more information, see the Database Reversion Utility (see page 234).

CAL2JCL Member: AL2DCR30

Description: Loads the VSAM files for CA 7 r11.3.

This job uses the r11.3 version of SASSBK00 and IDCAMS to load the SASJOB, SASDS, IDS, ARF, and VRM files that AL2DCR20 created.

Prepare to Start CA 7 r11.3

Ensure that the r11.3 environment has been restored. This environment includes:

- JCLLIB and the initialization file
- JCL PROCs
- User modifications and exits
- Database backup and restore procedures
- Automation procedures
- CA 7 startup and shutdown procedures

Modify the r11.3 initialization file to inactivate queue movement and schedule scan so that you can verify the restored environment before resuming normal operations.

- Code STOPQ=YES on the SCHEDULE statement to prevent any queue movement.
- Code RUNOPT=NSTA on the INIT statement so that schedule scan is not active when you start CA 7 r11.3 Online.

Run the LOGP/S dump jobs.

Start CA7ONL r11.3

Start CA7ONL r11.3 with MOVQ pointing to the UCC7DMPQ and CA7VDMP files that AL2DCR20 created.

Start the ICOM on each system using the r11.3 libraries.

After you are satisfied that the r11.3 environment is correct, use the START,Q=ALL and SSCAN,SCAN=SCH commands to resume CA7ONL processing.

Monitor to ensure that jobs are brought into the system and flow through the active workload queues as expected.

Edit the initialization file to undo the changes you made to the SCHEDULE and INIT statements.