CA Chorus™

Site Preparation Guide

Version 03.0.00, Ninth Edition

CA Technologies Product References

This document references the following CA Technologies products:

- CA ACF2™ for z/OS (CA ACF2)
- CA Chorus™
- CA Chorus™ for DB2 Database Management
- CA Chorus™ Infrastructure Management for Networks and Systems
- CA Chorus™ for Security and Compliance Management
- CA Chorus™ for Storage Management
- CA Chorus™ Software Manager (CA CSM)
- CA Common Services for z/OS (CA Common Services for z/OS)
- CA Datacom®/AD (CA Datacom/AD)
- CA Datacom/DB®
- CA Easytrieve
- CA Top Secret® for z/OS (CA Top Secret)

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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

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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 list details the changes that have been made since the eighth edition:

- Global—Noted that CAMFC resource class is an immutable security definition which the user cannot modify.
- Software Requirements (see page 32)—Noted a change in Service Release support. Version 4.0 also supports IBM 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 (5655-W44) in addition to IBM JDK mentioned previously.

The following list details the changes that have been made since the seventh edition:

Pre-Installation Planning (see page 21)—Noted that you should verify that you are using the most current documentation before performing site preparation or installation tasks.

How the Installation Process Works (see page 14)—Updated the installation diagram to note the steps that require the use of CA CSM.

The following list details the changes that have been made since the sixth edition:

Port Requirements (see page 39)—Noted that you can now set the TSF relay monitor port using the MONPORT parameter in CETJOPTN(TSFRPRMS). (PTFs RO71593 and RO71594 required.)

Global—Noted that Recommended Reading is now listed under Content Type on the CA Chorus product page.

The following list details the changes made since the fifth edition:

Installation Methods (see page 18)—Clarified the platform only installation method.

Security Considerations (see page 22), Data Set and Path Considerations (see page 28), Started Task Considerations (see page 30)

- Made the Value columns of these tables editable in the PDF version of this guide. You can now enter and save the values that you use for each site.
- Clarified that the values that do not lead with % or & must be entered as-is. Noted that CAMFC and CAWEBSVR must be used as-is.

Software Requirements (see page 32)

- Noted a change in Service Release support. Version 3.0 now supports IBM 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 0 Modification 0 **Service Release 2, 5, or 7** (5655-W44), including optional JZOS batch launcher. Support for Service Release 7 is new.

- Clarified the CA Datacom Server JDBC/ODBC requirements for CA Chorus for Security and Compliance Management.

Installer Security Privileges (see page 41)—Changed BPX.FILEATTR.APF, BPX.FILEATTR.PROGCTL, and BPX.FILEATTR.SHARELIB from optional to required.

The following list details the changes made since the fourth edition:

Server Requirements (see page 35)—Noted the new feature to automatically configure heap memory.

Installer Security Privileges (see page 41)—Noted that the CA Datacom/AD USS directory requires READ and EXECUTE permissions for CHORADM and CHORGRP

Install the Prerequisite Validator (see page 68)

- Corrected the location for where the Prerequisite Validator pax file is stored.
- Added a step to change to the directory where you downloaded the Prerequisite Validator pax file.

Run the Prerequisite Validator (see page 68)—Added a step to change to the ChorusPreValidator subdirectory.

Real Storage Recommendations (see page 38)—Clarified LFAREA performance and noted the SCS behavior based on RO67899.

The following list details the changes made since the third edition:

Legal Notices (see page 2)—Updated to reflect public documentation legal disclaimer.

CA Chorus Architecture (see page 13)—Moved this topic to this guide from the *Product Guide*.

How the Installation Process Works: (see page 14)

- Clarified that you must configure all installed disciplines.
- Clarified in the configuration step that to configure using CA CSM, you must deploy using CA CSM.
- Added reference to the Prerequisite Validator.

Installation Methods (see page 18)

- Clarified the new discipline installation method.
- Added "Platform" to the applicable headers.
- Renamed the topic.

Security Considerations (see page 22), Data Set and Path Considerations (see page 28), and Started Task Considerations (see page 30)—Simplified the checklist format and noted a recommendation to move them to a spreadsheet.

Security Considerations (see page 22)

- Under Passtickets, noted that we share a demo value for SESSKEY and KEYMASKED; however, we recommend that you use a site-specific value.
- Under Program Control, noted that the following statement is for IBM RACF only: Data sets named in the steplibs of the started tasks must be under program control.

Software Requirements (see page 32)

- Reformatted to emphasize the need to record the MUF name, which you will need for the installation.
- Noted a change in Service Release support. Version 3.0 now supports IBM 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 0 Modification 0 **Service Release 2 or 5** (5655-W44), including optional JZOS batch launcher. Support for Service Release 5 is new.
- Removed release-specific FIXCAT references and added a variable instead.
- Noted support for all IBM-supported releases of z/OS.
- Reformatted the 31-bit entry so it is clear that it is a requirement, not an option.

Server Requirements (see page 35)—Removed extraneous Target and Distribution library content.

Data Set and Path Consideration (see page 28)—Added row for the CA Chorus home directory path and CA Chorus Java dump files.

System Requirements (see page 37)—Removed irrelevant size recommendation and listed installation recommendation first (before deployment).

CA CSM Dynamic Temporary Storage Requirements (Installation and Deployment) (see page 37)—Revised this topic to describe dynamic temporary storage to state explicitly that this topic applies to deployment and installation.

CA CSM Deployment Process Storage Requirement (see page 38)—Added to topic.

Real Storage Recommendations (see page 38)—Added to topic to note the LFAREA option, which can improve system performance.

Installer Security Privileges (see page 41)—Noted that the installer user ID must not use UID = 0. You must use a non-zero value.

Run the CA Chorus Platform Security Job (see page 42)

- Clarifed that the security jobs reside under Recommended Reading on the product page.

- Clarified that this job only applies to security for the platform.
- Added a reminder that when you update the PARMFILE (for CA Top Secret), you must use the same facility number that you used for the ETJI095T job.

Using the Prerequisite Validator (see page 67)—Added this scenario.

The following list details the changes made since the second edition:

Software Requirements (see page 32)—Clarified the FIXCAT requirements for CCS and CA CSM and corrected the sequence of jobs to create the CA Datacom/AD MUF.

The following list details the changes made since the first edition:

Sample: Authorize a User with IBM RACF (see page 55)—Corrected the CA Chorus for DB2 Database Management reference in step 1. It now says DB2DBA.

Server Requirements (see page 35)—Added revised heap values and a new example with all disciplines selected.

Software Requirements (see page 32)—Clarified the browser requirements and updated IBM z/OS support to 1.12 or above.

The following list details changes from content that previously appeared in the Installation Guide:

General—Created this guide to identify tasks that the system programmer and security administrator can complete before the day of product installation.

How the Installation Process Works (see page 14)—Added this topic and diagram to explain how to use this guide and the *Installation Guide*.

Pre-Installation Planning (see page 21)—Updated this topic to account for this new guide and the new HLQ Requirements topic.

Security Administrator and System Programmer Checklists (see page 22)—Added this topic to outline the details that the two roles must agree to before using this guide.

Security ID Reuse Considerations (see page 27)—Added this topic for clients reusing 2.0 and 2.5 security IDs.

System Requirements (see page 37)—Removed the heap memory requirements.

CA Chorus Server Requirements (see page 35)—Revised and moved the heap memory requirements to this new topic.

Memory Limits (see page 36)—Added this topic.

Software Requirements (see page 32)

- Clarified CCS Release 14.1 and CA Datacom/AD Version 14 requirements and updated "IBM 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 0 Modification 0 Service **Release 2** (5655-W44), including optional JZOS batch launcher."
- Updated the CA CSM requirement to indicate that the required PTF is RO56614.
- Added the FIXCAT label to use for CA Datacom/AD maintenance.

Target Libraries

- Removed CETJDATV, CETJSIDE, CETJZFS1.
- Updated the values for CETJJCL, CETJTOPN, CETJXML, and TPV.AETJHFS.

Distribution Libraries

- Removed TPV.AETJJAR, AETJDATV, and TPV.AETJSHSC.
- Updated values for AETJJCL, AETJOPTN, AETJXML, and TPV.AETJHFS.

Port Requirements (see page 39)—Updated the maximum requirement from 17 to 12.

(Optional) SMTP Email Requirements (see page 39)—Added this topic to explain the data that you can gather for later use during platform configuration.

USS Parmlib Requirements (see page 40)—Added the command to check this setting.

Installer Security Privileges (see page 41)—Defined the FSACCESS option.

Run the CA Chorus Security Job (see page 42)—Added this topic and removed the formerly manual topics that this job automates.

How to Authorize Users to Work in CA Chorus (see page 47)

- Moved this scenario to this guide from the *Administration Guide*.
- Added CA Chorus Infrastructure Management for Networks and Systems and autorefresh resources.
- Removed Review User Software Requirements. This information appears in Software Requirements (see page 32).
- Moved (Optional) Authorize Secondary Authorization ID Usage with the EXPLAIN Command to the *CA Chorus for DB2 Database Management Site Preparation Guide*.

Authorize CA Chorus Users to Access z/OS UNIX System Services Resources (see page 48)—Added a precheck step to confirm if these settings already exist.

How to Configure CA CSM PassTickets for CA Chorus (see page 58)—Updated this scenario to account for the steps that are covered by the ETJI095*x* security job.

How to Configure CA CSM PassTickets for CA Chorus (see page 58)—Added this scenario.

Sample: Authorize a User with IBM RACF (see page 55)—Added a new step 1 to add each discipline resource to CAMFC.

Run the CA Chorus Security Job (see page 42)—Updated this scenario to add the PassTickets for CA CSM Users subtopic.

System Requirements—Added information about disk space requirements for CA Chorus installation.

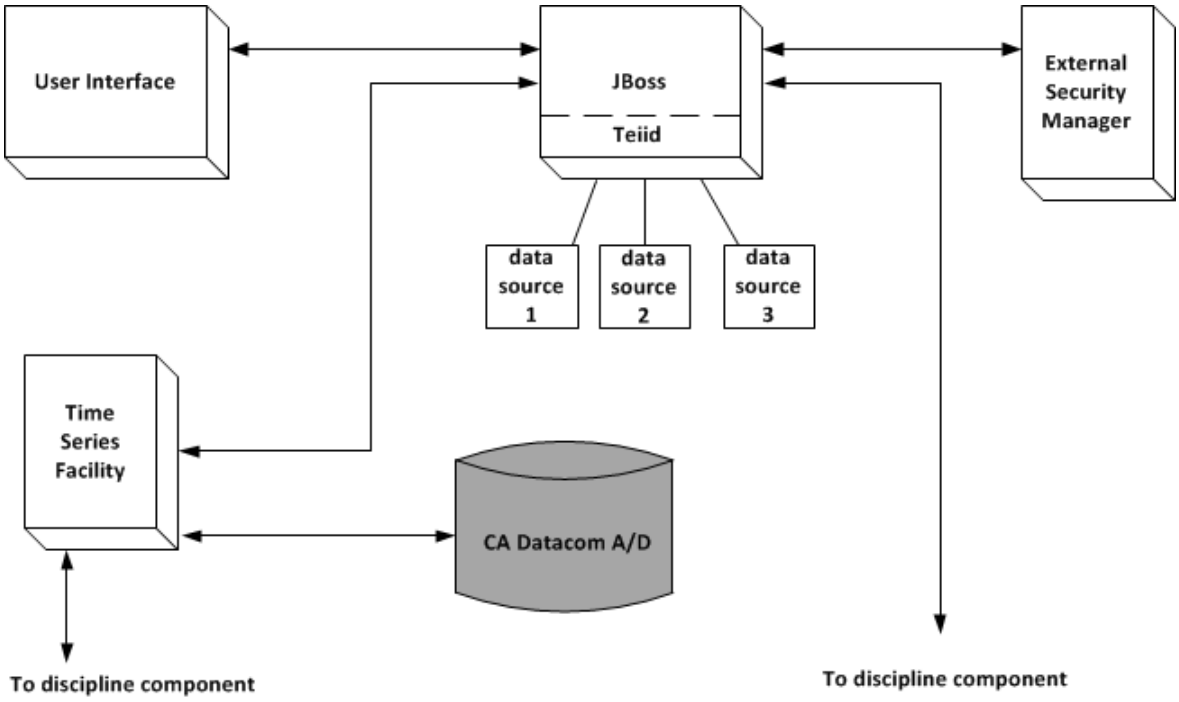
Contents

Chapter 1: Architecture and Installation Overview

This section contains the following topics:

CA Chorus Architecture

The following diagram details the architecture and data flow for CA Chorus components:



The following list details the components and products that you use with CA Chorus:

User Interface

Provides product access using a browser (Firefox or Internet Explorer). The user interface (UI) uses SQL queries to fetch data using Teiid and different data sources.

JBoss

Hosts the CA Chorus application. JBoss is an open source Java-based application server that operates cross-platform. JBoss is usable on any operating system that supports Java.

Teiid

Translates data source content for the JBoss server. Teiid is a data virtualization system that lets applications use data from multiple, heterogeneous data stores. Teiid includes tools, components, and services for creating and executing bi-directional data services. Through abstraction and federation, data is accessed and integrated in real time across distributed data sources. This process occurs without copying or otherwise moving data from its system of record.

Data source

Supplies discipline-specific data to Teiid. Your configuration can employ multiple data sources. Examples of a viable data source include a comma-separated value (CSV) file, a database, and a web service.

Time Series Facility (TSF)

Stores the data that is collected and provided by CA mainframe products. TSF provides a single point for collection, storage, management, and organization of product performance and other TSF data.

CA Datacom/AD

Supplies the database for TSF.

External Security Manager

Protects resources and access rights to CA Chorus and its disciplines. Each discipline interoperates with CA ACF2, CA Top Secret, and IBM RACF to provide user ID, resource access, and PassTicket security.

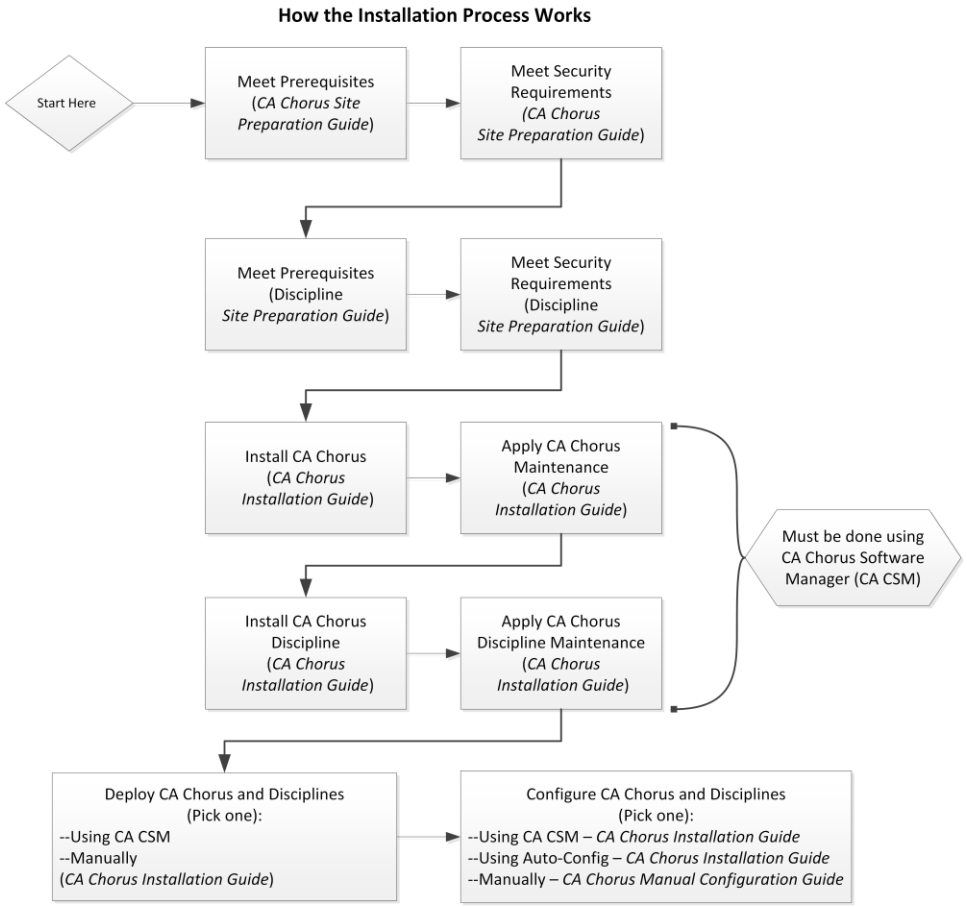
How the Installation Process Works

This guide details the tasks that a system programmer and security administrator can complete before starting the installation, deployment, and configuration tasks that are described in the *Installation Guide*. The following diagram provides a high-level overview of the CA Chorus and discipline installation, deployment, and configuration process and the guides that you use.

Important! You must use CA Chorus Software Manager to install CA Chorus and its disciplines.

Important! If you install a discipline, you must deploy and configure it.

Note: For the boxes that indicate work from the discipline *Site Preparation Guide*, repeat this step for each discipline that you are installing.



To install, deploy, and configure your CA Chorus and its disciplines, complete the following steps:

1. Meet the software, system, port, and other prerequisites as described in the *CA Chorus Site Preparation Guide*.
2. Meet the security requirements as described in the *CA Chorus Site Preparation Guide*.
3. Use the Prerequisite Validator to confirm that you have set up your system correctly as described in the CA Chorus *Site Preparation Guide*.

4. Meet the software, system, port, and other prerequisites as described in the applicable discipline *Site Preparation Guide*. Repeat this step for each discipline that you are installing.

5. Meet the security requirements as described in the applicable discipline *Site Preparation Guide*. Repeat this step for each discipline that you are installing.

6. Install CA Chorus and the applicable disciplines using CA CSM as described in the *CA Chorus Installation Guide*. This step involves acquiring the CA Chorus software (transporting to your z/OS system) and installing using SMP/E. The installation process creates a CSI environment and runs the RECEIVE, APPLY, and ACCEPT SMP/E steps. The software is untailored.

7. Deploy CA Chorus and the applicable disciplines using CA CSM or a manual process. The *CA Chorus Installation Guide* details both methods.

   This step copies the target libraries to another system or LPAR.

   Important! For deployments from CA CSM, you must deploy CA Chorus and your disciplines at the same time. For example, installing CA Chorus, DBA, and Security, and then deploying only CA Chorus and DBA is not supported.

   Important! To use the CA CSM Software Configuration Service, CA CSM deployment is required.

8. Configure CA Chorus and the disciplines. This step creates customized load modules, bringing the CA Chorus software to an executable state. You configure the product using one of the following methods:

   Note: We recommend one of the first two options as the most efficient method to configure your products.

   CA CSM

   This method lets you use the wizard-based CA CSM tools to configure the product. For this configuration method, a deployment using CA CSM is required.

   The *Installation Guide* includes the CA Chorus and discipline steps for this method.

   Automated Configuration

   This method lets you edit one batch job (ETJICUST) and one configuration file. A Java program then propagates your changes to the applicable members. You then manually submit each job. For this option, we recommend that you configure the platform and disciplines at the same time.

   The *Installation Guide* includes the CA Chorus and discipline steps for this method.

   Manual

   This method lets you manually edit and run each configuration job.

   For this method, configure CA Chorus and its disciplines using the *Manual Configuration Guide*.

   Your CA Chorus system is installed, deployed, and configured.

Installation Methods

Before you begin an installation, review each method. Identify the method that applies to your site and then continue to the next topic for an installation overview.

Important! You must use CA Chorus Software Manager to install CA Chorus and its disciplines.

Important! The CA Chorus platform and each discipline must share the same CSI.

CA Chorus Platform + Discipline Installation

You are installing a new instance of CA Chorus, and you want to install at least one discipline at the same time. Follow the installation instructions and ensure that you install all components into the same CSI name.

New Discipline Installation

You have previously installed the CA Chorus platform, and possibly one or more disciplines, and you now want to install another discipline.

Note the following rules:

- You must use the same CSI as the existing CA Chorus platform (and disciplines, if any). You must redeploy and reconfigure this one CSI as one segment.
  - If you use CA CSM to deploy and configure the discipline using CA CSM SCS, redeploy and reconfigure the platform at the same time using the same CSI.
  - If you use the automatic configuration method, you need only install, deploy, and configure the new discipline.
- After all discipline configuration steps are completed, run ETJI0150 to enable the new discipline, and restart JBoss.

Applying Maintenance to existing CA Chorus Platform and Discipline(s)

You have previously installed the CA Chorus platform, and possibly one or more disciplines, and you now want to apply maintenance to both.

The rules noted in New Discipline Installation apply.

Upgrade CA Chorus with or without a Discipline

The *Upgrade Guide* explains the steps for both scenarios. For the upgrade, you must install a new environment, which means you complete the steps in the *Site Preparation Guides* (platform and discipline) and the *Installation Guide*. You then finalize the configuration and migrate the data based on the steps in the *Upgrade Guide*.

CA Chorus Platform Installation Only - Software Development Kit Implementation

You are installing CA Chorus to use the Software Development Kit (SDK). This list details the high-level tasks to install CA Chorus and view sample SDK data in the Investigator.

Important! As you use the guides to install and configure CA Chorus for SDK-only usage, ignore all discipline steps.

a. Go to the *CA Chorus Site Preparation Guide* and complete all platform tasks.

b. Go to the *CA Chorus Installation Guide*, and complete all platform installation, deployment, and configuration tasks. Do not start JBoss yet or attempt to log in to the product.

c. Go to the *Software Development Kit Guide* and complete *How to Add Your Data and Metadata to the Investigator*.

d. Grant access to this SDK using the user authorization steps in the *CA Chorus Site Preparation Guide*.

e. Start JBoss (CHORJBOS started task) as noted in the *CA Chorus Installation Guide.*

f. Complete the Verify the Installation and Configuration steps as noted in the *CA Chorus Installation Guide*.

Chapter 2: Addressing General Prerequisites

This section contains the following topics:

Pre-Installation Planning

The CA Chorus installation is a detailed process that requires personnel in several areas of expertise. We suggest that you meet with each of the following team members before the installation begins and review the roles of each person:

- Systems programmer for z/OS
- Storage administrator for DASD allocations
- Security administrator for access permissions and security configuration
- Database administrator for DB2 and/or CA Datacom/AD configuration

For this meeting, we recommend that you use the following items:

- Security Administrator and System Programmer Checklists (see page 22)
- Platform and applicable discipline *Site Preparation Guides*
- *Installation Guide*
- Applicable security job ETJI095*x*, where x equals A for CA ACF2, T for CA Top Secret, and R for IBM RACF. These jobs reside on the CA Chorus product page under Recommend Reading.

Important! Do not begin the installation until all team members have a clear understanding of their installation responsibilities. Failure to do so can impact your ability to complete the installation in a timely manner.

Download the Latest Documentation

We continually update our documentation to provide the most up-to-date information. Verify that you are using the most current documentation, available on CA Support Online, before continuing with your site preparation and installation tasks.

Security Administrator and System Programmer Checklists

Each table in this section outlines high-level installation details. We recommend that the security administrator and the system programmer review each table together. After the review, the administrators must agree to certain details or must be aware of others before either person begins their work in this guide and the *Installation Guide.*

For some entries in the tables, specify the agreed upon value. For other entries, simply coordinate the implementation details.

Important! Do not start any preparation or installation procedures until you have completed the work in these checklists. For example, you need the values in these tables for the security setup and product configuration.

Security Considerations

In the following table, security symbolics lead with & or %. These symbolics appear in the ETJI095*x* security job that the security administrator runs.

%

Indicates a default value.

&

Indicates that you must determine a value.

If a value in the following checklist does not include one of these symbols, you cannot change the value. For example, you must use CAMFC.

Important! For this checklist and the ones in Data Set and Path Considerations (see page 28) and Started Task Considerations (see page 30), you can fill in the Value fields in the PDF. To do so, use Adobe Reader. You can also copy each checklist into a single spreadsheet.

ID or Security Entity (Symbolic)	Definition	Value
CHORGRP (%CHORGRP)	CA Chorus Administrative Group (optional) Specifies the default group name.	
CHORUGRP (&CHORUGRP)	CA Chorus Users Group (optional) Aids administration by assigning resources to the group rather than to individual users.	

ID or Security Entity (Symbolic)	Definition	Value
CA Chorus Discipline Groups (&CHRD*x*GRP (where x identifies the discipline))	Aids administration by assigning resources to the group rather than to individual users. Users will be connected to the discipline groups which they need for their job function. We recommend using names that follow your site's naming standards and organization.	
CHORADM (%CHORADM)	Administrative (Started Task Owner): ■ Owns started tasks. ■ Must have an OMVS segment. ■ Used to generate PassTickets for users. **Note:** We recommend that the home directory be the same location as the CA Chorus USS installation.	
CHORTHD (%CHORTHD)	Ancillary User: ■ Used only as the User ID to access back-end functions when no user is logged in. Primarily used during startup to obtain configuration data. ■ Used in PassTicket generation. The User ID is never used directly for jobs or online access. No one should have access to the password for this user ID. For RACF, a password is required. CA ACF2 or CA Top Secret do not use a password. ■ CHORJBOS must be able to generate PassTickets for CHORTHD, and CHORTHD must be given access to the appropriate applications (APPLID). ■ Requires the same security permissions as a CA Chorus user, except for the following items: -- CAMFC -- CETJOPTV CETJEZTR for CA Easytrieve report execution ■ Some disciplines may need CHORTHD authorization for access to back-end products. For details, see the applicable discipline *Site Preparation Guide*.	

ID or Security Entity (Symbolic)	Definition	Value
Installer ID (&INSTALLER)	The user ID of the installer must have update access to the new HLQ and data sets. After installation, update authority can be revoked. For complete details, see Installer Security Privileges (see page 41).	
PassTickets	A PassTicket resource is needed by the CA Chorus platform. The disciplines require additional PassTicket definitions. Will PassTicket access be defined on a group or individual basis? ■ Groups are easier to manage and probably permit more decentralization. Group authority remains with central security, but a local (group) administrator controls membership. ■ Some sites may prefer to have the access explicitly shown per user.	value not required
	The security administrator must select a KEYMASKED or SESSKEY value for each application. However, because it must be protected the values will not be entered here. The same value must be used for the application on all systems. **Note:** We supply a demo KEYMASKED and SESSKEY value that you can use for the installation; however, we recommend that you use a site-specific value.	value not required
	CHORWEBS (%CHORWEBS): Default application ID for which PassTickets are generated for users. If you intend to use a different APPL, confirm and record that value.	
	CSMAPPLM (&CSMAPPLM): Default application ID for which PassTickets are generated for users launching CA CSM from the Quick Links module. If you intend to use a different APPL, confirm and record that value. These steps do not reside in ETJI095*x*. See How to Configure CA CSM PassTickets (see page 58). If you are not adding CA CSM as a quick link, ignore this option.	

ID or Security Entity (Symbolic)	Definition	Value
CAMFC	CAMFC is a resource class specifically for CA Chorus. The name of the class and entries are fixed. The platform has one entry—CHORUS.SETTINGS.KNOWLEDGECENTER: Only users who will update or maintain the user documents in the Knowledge Center need this entry. Each discipline has an entry in this class. The group for the discipline should be permitted read access to the entry for the discipline. **Note:** CAMFC is a resource class specifically for CA Chorus. The name of the class and entries cannot be modified.	You must use CAMFC.
CAWEBSVR Master Facility	CA Top Secret Only: You must define and add users to this master facility.	You must use CAWEBSVR.
Program Control (APF Authorization)	Data sets named in the steplibs of the started tasks must be under program control (IBM RACF only). For sites using CA ACF2 or CA Top Secret, these libraries must be APF authorized.	n/a
	Libraries with HLQ for Runtime Environment: ■ CETJPLD: Includes the CA Chorus library. ■ CETJLOAD: Includes the CA Chorus library. ■ CC2DLOAD: Includes the Time Series Facility (TSF) library.	
	As part of meeting the CA Datacom/AD prerequisite, the following libraries should be APF-authorized: *datacomad_adthlq*.CAAXLOAD (CA Datacom/AD load library) and *datacomad_adchlq.*CUSLIB (CA Datacom/AD customization library).	

ID or Security Entity (Symbolic)	Definition	Value
	(IBM RACF only) Non-CA Chorus Libraries Libraries used by CA Chorus must be in program control even though they are in Linklist and not explicitly named in CA Chorus. These libraries may have been added to program control when their product was installed, but now the system administrator must verify this configuration. The system programmer must supply the site-specific name. ■ Java v7 m0 library: &JAVALIB ■ CCS.CAW0LINK: CA CCS library - Release 14.1 (for Release 2.5 CA Chorus) ■ TCPIP.SEZALOAD - ■ SYS1.CSSLIB: A C++ library from IBM	

More information:

Run the CA Chorus Platform Security Job (see page 42)

Security ID Reuse Considerations

Note the following changes for the Version 3.0 security ID implementation. If you reuse security IDs from Version 2.0 or Release 2.5, add the following objects to your 3.0 implementation. To see the sample commands that are related to these changes, see the applicable ETJI095*x* job. In this job, *x* equals A for CA ACF2, T for CA Top Secret, or R for IBM RACF.

Important! Version 3.0 requires an external CA Datacom/AD Multi-User Facility (MUF). Therefore, be cognizant of the data sets running your MUF.

CA ACF2

User ID CHORTHD: Secondary login ID for logins using a PassTicket

CAMFC: CA Chorus platform resource for the new SETTINGS.AUTOREFRESH feature

Rule: CA Datacom/AD library CUSLIB

CA Chorus Software Manager Quick Links (Optional)

CA Top Secret

ACID %CHORTHD: Secondary login ID for logins using a PassTicket

PROFILE %CHORUPF: Profile for CA Chorus users (Optional)

CAMFC: CA Chorus platform resource for the new SETTINGS.AUTOREFRESH feature

Dataset: CA Datacom/AD library CUSLIB

CA Chorus Software Manager Quick Links (Optional)

IBM RACF

USERID %CHORTHD: Secondary login ID for logins using a PassTicket

GROUP %CHORUGRP: Group for CA Chorus users (Optional)

CAMFC: CA Chorus platform resource for the new SETTINGS.AUTOREFRESH feature

Dataset: CA Datacom/AD library CUSLIB

Generic Data Set Profiles for specific libraries

CA Chorus Software Manager Quick Links (Optional)

More information:

Run the CA Chorus Platform Security Job (see page 42)

Data Set and Path Considerations

In the following table, security symbolics lead with & or %. These symbolics appear in the ETJI095*x* security job (see page 42) that the security administrator runs.

%

Indicates a default value.

&

Indicates that you must determine a value.

If a value in the following checklist does not include one of these symbols, you cannot change the value. For example, you must use CAMFC.

Before completing this checklist, review the following points:

- If data sets have not previously been defined in your security product, a group and profile may also need to be defined, before permitting access by CA Chorus IDs.
- Team must agree to the HLQ for CA Chorus installation. The installation HLQ is different than the runtime environment. Both may need to be defined. No default values are provided for these entries. The sample JCL provides commands for establishing the runtime environment.

Data Sets (Symbolic)	Considerations	Value
TCP (&TCPDATA)	The data set or member of a library as named in the SYSTCPD DD statement of the TCP/IP started task must be available to CHORADM (read only). This data set varies by system.	
Java Library (&JAVALIB)	Fully qualified data set name of the PDS/E that contains the JVMLDMnn module installed with JZOS. The Java v7 library must be available to CHORADM and CHORUGRP (read only).	

Data Sets (Symbolic)	Considerations	Value
Java Home (@JAVA_HOME **Note:** You do not need this value for security, but you may need the data set which is mounted to it.)	The UNIX System Service (USS) Java Home directory must be read accessible to CHORADM. This may require also read FSACCESS to the mounted filesystem (if FSACCESS is enabled).	
Installation Environment	HLQ: installation environment	
Runtime Environment ($CAI @RT_HLQ)	HLQ: runtime environment	
Time Series Facility Runttime ($TSF)	HLQ for VSAM data sets. If site standards indicate that VSAM files should have particular allocation requirements, a different HLQ can be assigned to VSAM data sets.	
Runtime Database Files ($ADHLQ)	HLQ for Database files. You may want to differentiate the CA Datacom/AD data files used by CA Chorus. These files are used in a MUF created specifically for CA Chorus.	
CA Datacom/AD (&ADTHLQ)	CA Datacom/AD system library including CAAXLOAD. Record the HLQ.	
CA Chorus (&ADCHLQ)	CA Chorus instance-specific library (CUSLIB) for CA Datacom/AD. Record the HLQ.	
CA Chorus Home Directory Path (&XWORKDIR)	Complete path to the CA Chorus home directory in USS (USS directory where the CA Chorus runtime filesystem will be mounted) The default is /cai/cetjr3m0.	

Data Sets (Symbolic)	Considerations	Value
CA Chorus Java Dump Files	Replace &JDMPHLQ with the HLQ used for the JVM SYSDUMP output data set. Modify the following change commands with your site values. Execute them in the following order: F '&JDMPHLQ' ALL C * HLQ_of_your_chorus_dump_file ALL	

Started Task Considerations

In the following table, security symbolics lead with & or %. These symbolics appear in the ETJI095*x* security job (see page 42) that the security administrator runs.

%

Indicates a default value.

&

Indicates that you must determine a value.

If a value in the following checklist does not include one of these symbols, you cannot change the value. For example, you must use CAMFC.

Note: Disciplines may also require jobs or started tasks of their associated products to also be executing. These items are described in the respective product guides.

CA Chorus has multiple started tasks and one spawned task. You may name them according to your site standards and preferences. The default names are as follows:

Item (Symbolic)	Definition	Value
CHORJBOS (CHORJBOS)	Hosts the CA Chorus application. JBoss is an open source Java-based application server that operates cross-platform. JBoss works on any operating system that supports Java.	

Item (Symbolic)	Definition	Value
CA Datacom/AD Multi User facility (MUF) (&AD_MUF_STCID)	The MUF is the manager of the system and functionally acts as an operating system for the data. It receives a request from the application and determines how it should be processed. It coordinates the activities that must take place to service the request. You build a new and dedicated MUF as a prerequisite to installing CA Chorus. Record the MUF name that you create.	
MUF OWNER (&AD_MUF_OWNER)	User ID that owns the MUF started task.	
CHORTSF (%CHORTSF)	Time Series Facility (TSF) TSF lets you view performance data in line graphs.	
CHORTSFR (%CHORTSFR)	Time Series Facility Relay Task A TSF data relay lets you send data collected on a remote LPAR to TSF.	
CHORJBOS for DSI	CHORJBOS spawns another task for CA DSI security verification. If you want this task to have a different name from the one chosen for CHORJBOS, grant the CA Chorus administrative user ID read access to BPX.SUPERUSER and BPX.DAEMON facilities.	not applicable

Software Requirements

The following software is required for CA Chorus:

- CA Technologies Software—The following software is required:
  - CA Common Services for z/OS (CCS) Release 14.1 with CAIRIM and CAMASTER service components, and CA Easytrieve Release 11.6.
  - Apply all CCS maintenance with the following FIXCAT label: CA.ProductInstall-RequiredService.CA-Mainframe-Chorus.*, where * indicates the version of CA Chorus that you are installing.

    CCS: The service components are delivered and installed with CCS. If other CA Technologies products are installed at your site, these services and others may be installed. If these services have not been installed, install them now. For more information about the installation and configuration of these components, see the CCS documentation.

    Important! The CAMASTER address space must be running. If it is running, the following message is in the z/OS syslog as part of the IPL portion of messages:
    CAMS101I CAMASTER INITIALIZATION COMPLETE.
    CAMASTER is a noncancelable started task that provides system services and storage resources for various CA products and CCS. CAMASTER uses minimal CPU, and cannot be stopped or restarted.

    Note: As part of meeting the CCS prerequisite, the CAW0LOAD load library must be APF-authorized.

    CA Easytrieve: Before CCS Release 14.1, CA Easytrieve was delivered as the Easytrieve Service CDX8E00. Starting with CCS Release 14.1, CA Easytrieve is delivered as a stand-alone pax installation. A single installation of CA Easytrieve can operate in CCS mode or full functionality mode without requiring multiple installations of CA Easytrieve. CCS 14.1 ships CA Easytrieve Release 11.6 in its package. If you have CA Easytrieve 11.6 installed, you do not need to install the copy that is distributed with CCS 14.1; they are the same. If you do not have CA Easytrieve Release 11.6 installed, follow the instructions that are listed in Appendix B of the *CA Easytrieve Release 11.6 Installation Guide*.

- CA Chorus Software Manager (CA CSM) Release 5.1: You must use CA CSM to install CA Chorus.
- Apply all CA CSM maintenance with the following FIXCAT label: CA.ProductInstall-RequiredService.CA-Mainframe-Chorus.*, where * indicates the version of CA Chorus that you are installing.

  Important! Confirm that CA CSM is configured with the system setting to use Product Specific File System. Use the Settings tab in CA CSM to verify this setting. Click Software Installation, scroll to SIS Base Install-File System in the right pane, and verify that the bullet for Product Specific File System is selected.

  Important! CA Chorus supports only zFS file systems. HFS file systems are not supported.

- CA Datacom/AD Version 14

  Note: CA Chorus does not support CA Datacom/DB. If you have CA Datacom/DB installed, install CA Datacom/AD and reference those libraries when installing CA Chorus.

  - A full CA Datacom/AD installation and configuration are required. See the *CA Datacom/AD Installation Guide*.
  - Apply all CA Datacom/AD maintenance with the following FIXCAT label: CA.ProductInstall-RequiredService.CA-Mainframe-Chorus.*, where * indicates the version of CA Chorus that you are installing.
  - **For CA Chorus for Security and Compliance Management sites using CA Datacom/AD for Compliance Information Analysis (CIA) and/or CA Compliance Manager data:**
    CA Datacom Server includes a JDBC/ODBC component that runs under UNIX System Services (USS). These components are required for this discipline. To install these required components, including the CA Datacom Server, from the CA CSM install wizard, select Base Install + USS Client for DBSRV, FMID CAYTE02.

  Important! The CA Datacom USS directory for CHORADM and CHORGRP require read and execute permissions.

  - New and empty CA Datacom/AD MUF: You must run the following members to build the CA Datacom/AD MUF. For the exact steps to create MUF, see the INSTJCL member topic in the *CA Datacom/AD Installation Guide*.

  Important! Record the MUF name. You will need this name when you are directed to configure your product in the *Installation Guide*. Failure to record this name could slow your installation process.

  Note: As part of the CA Datacom/AD prerequisite, the following libraries should be APF-authorized: *datacomad_adthlq*.CAAXLOAD (CA Datacom/AD load library) and *datacomad_adchlq*.CUSLIB (CA Datacom/AD customization library).

  AXCUS00: Builds, populates, and mass-edits the installation JCL data set.

  AXCUS01: Includes all customization for the CA Datacom/AD MUF.

  AXAPFADD: Includes a CA SYSVIEW example to dynamically add libraries to be APF listed.

  AXRIM01: Installs the PC CALLS.

  AXNEW01: Allocates and populates data sets that the MUF needs.

  AD14STRT: Sample JCL to start the MUF.

  AXIVP01: Sample installation verification JOB.

  Note: You can share target runtime libraries, but you cannot share the MUF.

- IBM Software—The following software must be available on the systems where you install CA Chorus:
  - IBM z/OS - All IBM-supported releases
  - IBM z/OS UNIX System Services (USS) support for zFS file systems
  - IBM z/OS system logger
  - IBM 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 0 Modification 0 Service Release 2, 5, or 7 (5655-W44) or IBM 64-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 (5655-W44), including optional JZOS batch launcher
  - IBM 31-bit SDK for z/OS, Java Technology Edition, Version 7 Release 0 Modification 0 (5655-W43) or IBM 31-bit SDK for z/OS, Java Technology Edition, Version 7 Release 1 (5655-W43), is required to generate batch reports in CA Chorus.
- PC software that is required for each user:
  - Adobe Flash Player 9.0.124 or above
  - At the release of Version 3.0, CA Chorus supports Microsoft Windows Internet Explorer 9 and Mozilla Firefox 13 through 19. As new browsers are released, we will validate them and post compatibility on the CA Chorus product page under Content Type, Recommended Reading.

  Note: CA Chorus requires a minimum screen resolution of 1024 x 768. If your screen resolution does not meet this requirement, use full screen mode (F11 in most browsers) to include the scroll bar on the display.

CA Chorus Server Requirements

CA Chorus requires 2450 MB of heap memory with the following additional heap requirements for each discipline:

- 200 MB for CA Chorus for DB2 Database Management
- 200 MB for CA Chorus Infrastructure Management for Networks and Systems
- 100 MB for CA Chorus for Security and Compliance Management
- 200 MB for CA Chorus for Storage Management

CA Chorus automatically configures the heap memory size based on the disciplines that you install at JBoss startup.

Examples

CA Chorus with all disciplines requires: 2450 MB + 200 MB + 200 MB + 200 MB + 100 MB = 3150 MB.

CA Chorus with the Storage and Security disciplines requires: 2450 MB + 200 MB + 100 MB = 2750 MB.

Note: To modify the heap memory size, see the Java heap size (Java SDK Option) setting in the ENVETJ member of *chorus_runtime_hlq*.CETJOPTN. For the heap range, -Xms is the starting value, and -Xmx is the ending value.

Memory Limits

z/OS sets memory limits which are based on the values of the REGION= and MEMLIMIT= parameters that are specified for the job. However, several installation exits can be used to override the limits, such as IEFUJV, IEFUSI, IEALIMIT, JES2 Exit 6, or JES3 Exit IATUX03. When a GETMAIN request is made, it must be satisfied within the available limits. That is, contiguous free space within the limits must be available or the request fails.

CA Chorus is designed to run with REGION=0M, which is distributed as the default. IBM defines this scenario to mean that "there are no limits". Therefore, if z/OS defaults are not overridden, all memory below the line, above the line but below the bar, and above the bar is available for allocation. Any other value for the REGION results in limits for memory that is below the bar, and a default of no memory above the bar. To get memory that is above the bar in these cases, a nonzero value for MEMLIMIT must be specified.

An installation can specify a default value for MEMLIMIT in the SMFPRMxx member of SYS1.PARMLIB. If one is not specified, the z/OS default is MEMLIMIT(00000M), and memory above the bar is not available (unless REGION=0M is specified as previously explained). MEMLIMIT=nnnnnM can also be specified on the JOB or EXEC statement in the JCL. A value in the JCL always overrides the default from the SMFPRMxx member. The IEFUSI exit is the only one that can be used to override MEMLIMIT. To find the active default value, display the active SMF options by entering the following console command:

```
D SMF,O
```

System Requirements

Confirm that your site addresses the following system requirements:

Processor

CA Chorus uses a JavaVM environment on z/OS. So, we *strongly* recommend that you use a zIIP specialty processor for the best performance and better use of resources.

Disk

Note: All space allocations are approximated values and are described for 3390 DASD.

- For the Installation of CA Chorus Platform: 9500 cylinders.
- For the Deployment of CA Chorus Platform: 5000 cylinders.
- For the Configuration of CA Chorus Platform using Auto-Configuration: 12000 cylinders.
- For the Configuration of CA Chorus Platform using CSM Software Configuration Service (SCS): 16500 cylinders.

  Note: After you complete the installation, you can delete the pax file to free space.
- Secondary space allocation on the DASD must be available.

Note: For post-installation disk space recommendations for the Time Series Facility, see the *Administration Guide*.

CA CSM Dynamic Temporary Storage Requirements (CA Chorus Installation and Deployment)

During a CA CSM installation and deployment of CA Chorus, approximately 2000 cylinders of CA CSM dynamic temporary file system space is required.

Note: CA CSM allocates temporary file systems as required during product acquisition, installation, deployment, and other tasks. By default, CA CSM keeps a temporary file system for 60 minutes. After the file system has been idle for 60 minutes, CA CSM de-allocates and releases it. By default, the size of the temporary file system is 1000 tracks for primary and secondary. The CA CSM global startup environment variables define the idle time value and allocation settings of the dynamic temporary storage. If the default size values are not sufficient to allow installation or deployment of CA Chorus in your environment, contact CA Support.

A CA CSM user can override where the non-USS storage is allocated by using the CA CSM Software Installation User Settings:

- Approximately 300 cylinders are needed for the data sets that are created using the Temporary Data Set Prefix.
- Approximately 700 cylinders are needed for the data sets that are created using the GIMUNZIP. These cylinders are allocated using the specified GIMUNZIP Data Set Prefix.

CA CSM Deployment Process Storage Requirement

For a CA CSM deployment of CA Chorus, CA CSM requires approximately 2000 cylinders of USS space on the target system to process a deployment.

This storage is not dynamic and must be set up before a CA Chorus deployment. For more information, see the CA CSM product documentation.

Real Storage Recommendations

Implementation of the LFAREA z/OS parameter improves CA Chorus performance. We recommend but do not require its use.

This parameter specifies the amount of real storage to be made available for 1 MB pages. The value that is specified for this parameter indicates the amount of online real storage at IPL to back large pages.

Important! For LFAREA parameter details, see the *IBM z/OS MVS Initialization and Tuning Reference*. If you set or change this value, an IPL is required.

CA Chorus Usage

- As you configure the product manually or automatically, the ENVETJ member includes details about how to let CA Chorus leverage the MVS LFAREA feature. If the LFAREA is set to a value other than none, the JVM -Xlp attribute will be set.
- When using CA CSM SCS, the CA Chorus large page setting is derived from the CA CSM system registry for LFAREA. Therefore, for CA Chorus to use this feature, the LFAREA located in the MVS System profile must be set to a value other than none.

Port Requirements

CA Chorus has the following port requirements for the JBoss server and Time Series Facility (TSF) components:

- 12 consecutive ports for the CA DSI Server and JBoss server. The JBoss ports consist of one DSI two-way (connecting and listening) port, and 11 server (listening) ports.
- Three one-way ports for TSF (These ports do not need to be consecutive with each other or with the 12 ports from the previous bullet).

  Note: If TSF instances are being used on a remote LPAR, two more one-way ports are required for the instance.

  Note: The TSF Remote Relay uses a third port for monitoring the connection from the TSF relay to the TCP/IP stack. By default, this port is dynamically allocated. To specify this port value instead of having it dynamically allocated, edit the MONPORT parameter in the TSFRPRMS member in *your_chorus_hlq*.CETJOPTN.

These ports are configured later in the installation during the JBoss server and TSF configuration.

To confirm that the ports you intend to use are available, consult your network management team.

(Optional) SMTP Email Requirements

In the Investigator, which resides within the CA Chorus interface, you can specify an email action so that you are notified when a performance policy is met.

For example, you can create a policy in the Investigator to be notified when *x* number of users unsuccessfully attempt to log into the product in a specified time interval. If you have configured SMTP with the product, you can then receive an email that the policy criteria were met. Doing so automates this type of notification.

If you want your site to use this feature, identify the following information. You use this information later when you configure CA Chorus:

SMTPHOST

Name/IP Address of the SMTP mail server.

SMTPPORT

Port number of the SMTP mail server (1024 through 65535).

USS Parmlib Requirements

In the z/OS parmlib member BPXPRM*xx*, CA Chorus requires MAXFILEPROC(64000).

To verify the settings, enter the following command from an MVS console:

```
D OMVS,OPTIONS
```

Chapter 3: Addressing Security Requirements

This section contains the following topics:

Installer Security Privileges

Before you begin the installation process, verify that the CA Chorus installer user ID has the following security privileges defined:

- For UNIX System Services:
  - (Optional) Ability to manipulate zFS data sets. This ability requires UPDATE authority to the appropriate entities within the FSACCESS class. Commented out by default.
    - FSACCESS lets you secure access to a ZFS file system container (that is, a data set). The resource name is the ZFS file system name.
    - For example, if you defined a ZFS file system named OMVS.ZFS.WEBSRV.TOOLS and then created directories U1 and U2 with files in the directories, a resource check for class FSACCESS resource OMVS.ZFS.WEBSRV.TOOLS would occur when a user tries to access a file in directory U1 or U2 in the ZFS file system. For more details, see the applicable security product documentation.
  - A valid OMVS definition and the installer user ID has a valid UID that is *not* UID(0).
  - Superuser authority.
  - READ and EXECUTE permissions on the CA Datacom/AD USS directory for CHORADM and CHORGRP.
  - READ access to the following resources in the FACILITY class:
    - (Optional) BPX.SUPERUSER
    - BPX.FILEATTR.APF
    - BPX.FILEATTR.PROGCTL
    - BPX.FILEATTR.SHARELIB

    - (Optional) BPX.SERVER
    - SUPERUSER.FILESYS.PFSCTL profile in UNIXPRIV resource class
- For z/OS:
    - Authority to create, update, and execute from the CA Chorus installation data sets and libraries.
    - Authority to execute commands to manipulate the external security manager (CA ACF2, CA Top Secret, or IBM RACF) database.

APF authorization and other security requirements that must be performed through an external security product are defined during the CA Chorus configuration process, as described in the *Installation Guide*. You complete those tasks during the installation because you need to access various jobs and members from the installation package.

Run the CA Chorus Platform Security Job

The ETJI095*x* security job simplifies how you meet many security requirements. The security job is identified as follows: ETJI095*x*, where x equals A for CA ACF2, T for CA Top Secret, or R for IBM RACF. These jobs reside on the CA Chorus product page under Content Type, Recommended Reading.

This job and section apply only to CA Chorus platform security. The discipline *Site Preparation Guides* address additional security.

The following list details the security requirements that the job addresses.

Important! Review the following conceptual material before you proceed to the steps at the *end of this topic*.

(CA Top Secret only) Master Facility

If you are using CA Top Secret, define a master facility and associate it with the CA Chorus started task. Use CAWEBSVR as the master facility. The master facility (MASTFAC keyword) lets users access the CAWEBSVR facility. Before you can use the facility as a master facility, define it to CA Top Secret as a user facility in the system facilities matrix.

Important! Perform this task only once. If you have added CAWEBSVR to the facilities matrix and you have activated the definition, do not repeat this task.

You then give permission to the CA Top Secret facility CAWEBSVR for every user ACID accessing CA Chorus.

Administrator User ID and Group ID

You run CA Chorus using one user ID (CHORADM by default), which has a defined UNIX System Services (USS) segment, so that the following conditions are met:

- The user ID has a valid UID that is *not* UID(0).
- The shell is specified as the default shell, typically /bin/sh.
- The user ID has a valid OMVS group.

Note: We recommend that the home directory be the same as the CA Chorus installation path.

The following security user IDs are created when you run the ETJI095*x* job. If the default values are not used, change all occurrences of CHORADM and CHORGRP in the security job.

CHORADM

Started task user ID that is used to run CA Chorus.

CHORGRP

Default group name. This group creates a relationship among all relevant security objects.

CHORTHD

User ID for PassTicket requests related to applications.

Note: Unique USS UIDs and GIDs (user ID and group ID numbers) must be used for the CA Chorus started task user IDs. Select a UID and GID that numerically match to track them easier.

Important! All users, including the installer, must have access to the group specified in this member. The default group is CHORGRP.

Started Tasks

The following started tasks are defined when you run the ETJI095*x* job. The default values are shown. If you do not use default names for the started tasks, change the names in the security job.

Note: We recommend that all CA Chorus tasks run as a started task with REGION=0M. If your site restricts the REGION=0M parameter, we recommend that you run with the maximum region size permitted.

your_muf_name

Started task name that is associated with the CA Datacom/AD MUF for CA Chorus. The name depends on the name that you previously assigned to the MUF.

CHORTSF

Started task name that is associated with the Time Series Facility (TSF).

CHORTSFR

Started task name that is associated with the remote TSF configuration. This started task is created only if TSF data relays are defined.

CHORJBOS

Started task name that is associated with the JBoss server.

Resource Class

CA Chorus defines security resources in class CAMFC, which you define using your security product. You then assign permissions for users to the discipline-specific resources as applicable. For more information about the required user permissions, see the discipline-specific installation guides.

Note: CAMFC is a resource class specifically for CA Chorus. The name of the class and entries cannot be modified.

PassTickets for General Users

PassTickets are required for users to access the z/OS components and products that CA Chorus and its supported disciplines use. A *PassTicket* is a temporary encoded and encrypted substitute for the user password that can be used to access a specific application. The PassTicket must be used within 10 minutes of the time it is generated.

Using PassTickets enables the z/OS components and products to authenticate a user ID without sending z/OS passwords through the network. Instead, the user is authenticated after they first log in with a valid z/OS user ID and password. The following process occurs when the user selects a function that accesses a z/OS component:

- The CA Chorus web service calls the z/OS security product to generate a PassTicket for access authorization.
- The PassTicket is sent with the user request to the component, possibly on a different z/OS system.

  The component calls the z/OS security product to authenticate the user using the PassTicket as a password substitute before processing the request.

The CA Chorus server generates PassTickets that permit users to access the various back-end products that the CA Chorus disciplines use. As users access components, PassTickets are generated to validate the requests.

The CA Chorus PassTicket configuration includes the following systems:

- One z/OS system running the JBoss server and the back-end products (like CA Detector, CA Compliance Manager, CA Vantage SRM, and CA NetMaster NM for TCP/IP) that are required for the CA Chorus disciplines on the same system. This type of system is a CA Chorus server system.
- Additional z/OS systems running only the products and components that the CA Chorus disciplines require. This type of system is known as a CA Chorus remote system.

The CA Chorus server system provides the entry point for CA Chorus users. Users can then access all of the CA Chorus remote systems that they have been authorized to use in your network of z/OS systems.

The PassTicket configuration for the security product must be done on each z/OS system that is hosting a component that CA Chorus uses. Configure PassTickets in your z/OS security products to enable the generation and validation of connections that are required for CA Chorus disciplines. If your site meets the following criteria, no additional security setup is required on the remote systems:

- The security products in your z/OS configuration are using a shared security database.
- You want to add one or more remote systems, only the CA Chorus server system setup is required.

If the requisite products and components exist on a remote system that does not share the security database, additional security setup is required on the remote systems.

PassTickets for CA CSM Users

CA Chorus uses PassTicket security to let users launch CA CSM from the Quick Links module without requiring another user login. All systems using Passtickets must have identical application names and session keys for all nodes on the network. Note the following requirements:

- If your CA Chorus instance and CA CSM instance reside on *different* machines, after you run this job, complete the applicable steps in How to Configure CA CSM Passtickets for CA Chorus (see page 58).
- If your CA Chorus instance and CA CSM instance reside on the *same* machines, after you run this job, CA CSM passticket configuration is complete, with one exception. If you are using CA ACF2, complete the one CA Chorus server side and CA CSM side step in Sample: Use CA ACF2 to Configure PassTickets for Connecting to CA CSM from CA Chorus (see page 59).

Follow these steps:

1. Retrieve the ETJI095*x* job that applies to your external security manager. These jobs reside on the CA Chorus product page under Content Type, Recommended Reading.
2. Review member ETJI095*x* in its entirety.
3. Edit the job according to the member comments.
4. Submit the member.

   The noted security requirements are met.
5. (CA Top Secret only) Add the following lines to the applicable CA Top Secret parameter file (PARMFILE):

   ```
   FACILITY(USERxx=NAME=CAWEBSVR)
   FACILITY(CAWEBSVR=PGM=********)
   FACILITY(CAWEBSVR=ACTIVE,SHRPRF,MULTIUSER,AUTHINIT)
   ```

   xx

   User facility number. Use any available user facility number on your system.

   Important! The xx value must match the value that you specified when you ran ETJI095T.

More information:

Security Considerations (see page 22)
Security ID Reuse Considerations (see page 27)

How to Authorize Users to Work in CA Chorus

This scenario shows how a security administrator authorizes users to work in CA Chorus (Platform and disciplines). For CA Chorus, the security administrator must perform the following tasks:

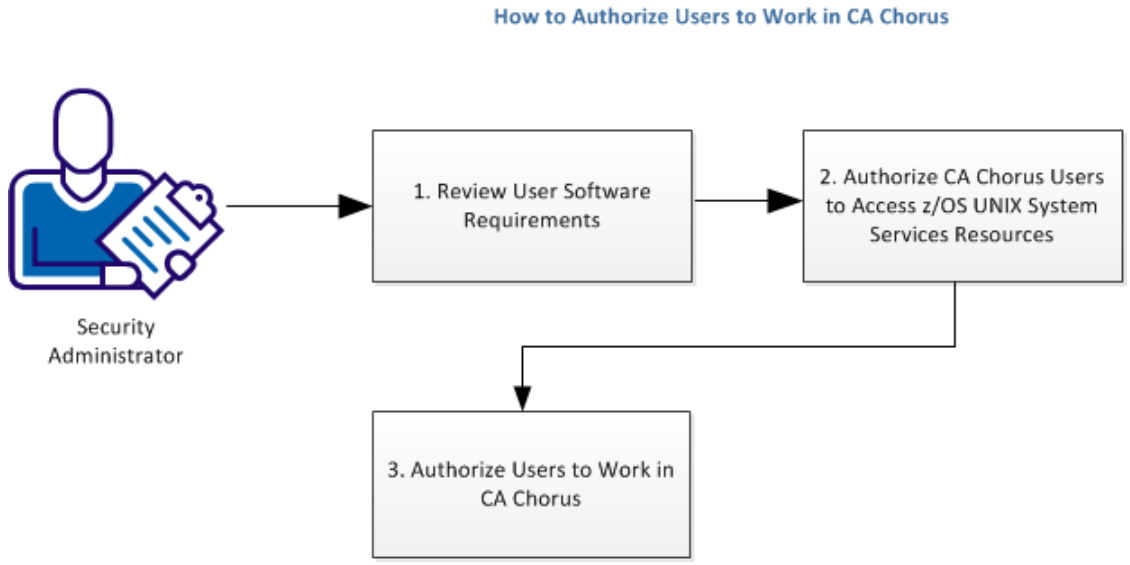
- Authorize and confirm each user UNIX System Services (USS) environment.
- Authorize users to work in CA Chorus and its disciplines using the applicable External Security Manager (ESM).

Note: CAMFC is a resource class specifically for CA Chorus. The name of the class and entries cannot be modified.

To perform these authorizations, the security administrator uses CA ACF2, CA Top Secret, or IBM RACF.

The following illustration describes the tasks to authorize users to work in CA Chorus and its supported disciplines:

Note: You can complete the tasks in any order; however, we recommend that you perform the tasks in the order that is shown in this diagram.



Complete the following tasks to authorize users to work in CA Chorus:

1. Review User Software Requirements.
2. Authorize CA Chorus Users to Access z/OS UNIX System Services Resources. (see page 48)
3. Authorize Users to Work in CA Chorus.

Review User Software Requirements

- PC software that is required for each user:
  - Adobe Flash Player 9.0.124 or above
  - At the release of Version 3.0, CA Chorus supports Microsoft Windows Internet Explorer 9 and Mozilla Firefox 13 through 19. As new browsers are released, we will validate them and post compatibility on the CA Chorus product page under Content Type, Recommended Reading.

Note: CA Chorus requires a minimum screen resolution of 1024 x 768. If your screen resolution does not meet this requirement, use full screen mode (F11 in most browsers) to include the scroll bar on the display.

Authorize CA Chorus Users to Access USS Resources

The CA Chorus components and disciplines use z/OS TCP/IP communications services and z/OS UNIX System Services (USS). Define an OMVS segment for each user so that they can access z/OS USS resources when working in CA Chorus. Use CA ACF2, CA Top Secret, or IBM RACF to enable this access.

To authorize CA Chorus users to access z/OS USS resources, define an OMVS segment for each user that contains the following options:

- A default shell program specification (PROGRAM or OMVSPGM)
- A numeric z/OS USS user ID (UID)

  Note: A policy could exist at your site for assigning OMVS UID numbers. If not, use a unique number.
- A numeric z/OS USS group ID (GID)

Follow these steps:

1. Confirm whether the user has access to the OMVS segment:

   - CA ACF2:

     `LIST *userid* profile(all) section(all)`

   - CA Top Secret:

     `TSS LIST(*userid*) DATA(ALL)`

   - IBM RACF:

     `LISTUSER *userid* OMVS NORACF`

   If the user does not have this access, go to the next step.

2. Create a home directory to associate with each user ID (UID).

   For example, to set up a directory named /u/name for UID*nnn*, issue the following commands in the OMVS UNIX shell:

   ```
   mkdir /u/name
   chown nnn /u/name
   chmod 775 /u/name
   ```

3. Confirm the owner and access to the directory:

   `ls -ld /u/name`

   The following sample results appear:

   drwxrwxr-x 2 **user** group 8192 Sep 31 14:58 **/u/name**

   The bold areas show that the correct owner and read/write access exists.

4. Define the OMVS segment using your security product:

   Note: A valid group record must exist before executing these commands.

   - CA ACF2:

     `CHANGE *userid* UID(*uid*) HOME(*path_name*) OMVSPGM(/bin/sh) GROUP(*ggggg*)`

   - CA Top Secret:

     `TSS ADD(*userid*) HOME(*path_name*) OMVSPGM(/bin/sh) UID(*uid*) GROUP(*ggggg*) DFLTGRP(*ggggg*)`

   - IBM RACF:

     `ALU *userid* OMVS(UID(*uid*) HOME(*path_name*) PROGRAM(/bin/sh)) GROUP(*ggggg*) DFLTGRP(*ggggg*)`

The following syntax variables apply to all three security products:

userid

Identifies the user ID.

path_name

Identifies the home directory to associate with each user ID.

uid

Identifies the user identification (UID) number.

ggggg

Identifies the OMVS group.

5. Confirm the contents of the OMVS segment:
   - CA ACF2:

     `LIST userid profile(all) section(all)`
   - CA Top Secret:

     `TSS LIST(userid) DATA(ALL)`
   - IBM RACF:

     `LISTUSER userid OMVS NORACF`

The user now has a defined OMVS segment and can access USS, which is required for users to work in CA Chorus.

Authorize Users to Work in CA Chorus

You can add or remove access permissions to CA Chorus supported disciplines. These permissions ensure that users have access to the disciplines and functions that they need. CA Chorus uses a resource name high-level qualifier of CHORUS for all the permissions that are required. CA Chorus checks that users have READ access to applicable resources. Also, you can modify the permissions to manage content in the Knowledge Center and to use the auto-refresh option. To do so, you authorize users to work in CA Chorus according to the functionality in CA ACF2, CA Top Secret, or IBM RACF.

- Authorize a User with CA ACF2 (see page 51)
- Authorize a User with CA Top Secret (see page 53)
- Authorize a User with IBM RACF (see page 55)

Note: The Knowledge Center is a repository for all the documentation in CA Chorus. Knowledge Center content can include CA product documentation, user-generated documentation, Chicago-Soft MVS/Quick-Ref, websites, and links to third-party documentation.

Sample: Authorize a User with CA ACF2

Use this procedure to identify the users that can log in to CA Chorus and can use specific disciplines. Additionally, you can authorize users to do the following tasks:

- Index content in the Knowledge Center. Indexing the content lets the user add or remove documentation from this repository.
- Use the auto-refresh option. This option refreshes the data that appears in the CA Chorus UI whenever the back-end data changes.

Note: The commands in this procedure are samples. For detailed information about using these commands, see the *CA ACF2 Administration Guide*.

To define user access permissions, enter the following commands:

```
SET RESOURCE(MFC)
RECKEY CHORUS ADD(resource-name UID(uid-of-userid1) SERVICE(READ)
ALLOW)
RECKEY CHORUS ADD(resource-name UID(uid-of-userid2) SERVICE(READ)
ALLOW)
...
RECKEY CHORUS ADD(resource-name UID(uid-of-useridn) SERVICE(READ)
ALLOW)
```

resource-name

Identifies the CA Chorus resource that the user is permitted to access.

ROLE.DB2DBA

Controls access to CA Chorus for DB2 Database Management functions. CA Chorus Infrastructure Management for Networks and Systems offers data from CA Insight, but the resource is not required for this discipline.

ROLE.INFRASTRUCTURE

Controls access to CA Chorus Infrastructure Management for Networks and Systems functions.

ROLE.SECURITY

Controls access to CA Chorus for Security and Compliance Management functions (UI and batch).

ROLE.SDK*instance*

Controls access to an SDK. CA Chorus can support multiple SDKs. Work with the system administrator and application developer to define and share this name. We recommend that the application developer use this name to build the files necessary to support the SDK. For more details, see the *Software Development Kit User Guide*.

instance

An alphanumeric string to identify this resource for your SDK.

ROLE.STORAGE

Controls access to CA Chorus for Storage Management functions.

SETTINGS.KNOWLEDGECENTER

Indicates that the user can index content in the Knowledge Center.

SETTINGS.AUTOREFRESH

Indicates that the user can use the auto-refresh option.

uid-of-userid1, uid_of_userid2, ..., uid_of_useridn

Identifies the UID of the CA Chorus user requesting access.

READ

Indicates that the user has READ access.

The user has access to the specified resources and can log in and work in CA Chorus.

Example

The following commands grant user ABC1 the following abilities:

- Log in to CA Chorus.
- Use the functions of CA Chorus for DB2 Database Management.
- Modify the documentation in the Knowledge Center.
- Use the auto-refresh option.

```
SET RESOURCE(MFC)
RECKEY CHORUS ADD(ROLE.DB2DBA UID(************ABC1) SERVICE(READ)
ALLOW)
RECKEY CHORUS ADD(SETTINGS.KNOWLEDGECENTER UID(************ABC1)
SERVICE(READ) ALLOW)
RECKEY CHORUS ADD(SETTINGS.AUTOREFRESH UID(************ABC1)
SERVICE(READ) ALLOW)
```

Sample: Authorize a User with CA Top Secret

Use this procedure to identify the users that can log in to CA Chorus. Additionally, you can authorize users to do the following tasks:

- Index content in the Knowledge Center. Indexing the content lets the user add or remove documentation from this repository.
- Use the auto-refresh option. This option refreshes the data that appears in the CA Chorus UI whenever the back-end data changes.

Note: The commands in this procedure are samples. For detailed information about using these commands, see the *CA Top Secret Command Functions Guide* and *CA Top Secret Control Options Guide*.

As you set up user authorizations, consider the following points:

- Longer entity names where a single level is longer than 8 bytes do not lend themselves to using an asterisk mask. We recommend a floating point mask.
- Be careful when using prefixed permissions because you can impact multiple calls and not just the discipline login itself.

To define user access permissions, enter the following commands:

```
TSS PERMIT(acid1) CAMFC(resource-name) ACCESS(READ)
TSS PERMIT(acid2) CAMFC(resource-name) ACCESS(READ)
...
TSS PERMIT(acidn) CAMFC(resource-name) ACCESS(READ)
```

resource-name

Identifies the CA Chorus resource that the user is permitted to access.

CHORUS.ROLE.DB2DBA

Controls access to CA Chorus for DB2 Database Management functions. CA Chorus Infrastructure Management for Networks and Systems offers data from CA Insight, but the resource is not required for this discipline.

CHORUS.ROLE.INFRASTRUCTURE

Controls access to CA Chorus Infrastructure Management for Networks and Systems functions.

CHORUS.ROLE.SECURITY

Controls access to CA Chorus for Security and Compliance Management functions (UI and batch).

CHORUS.ROLE.STORAGE

Controls access to CA Chorus for Storage Management functions.

CHORUS.ROLE.SDK*instance*

Controls access to an SDK. CA Chorus can support multiple SDKs. Work with the system administrator and application developer to define and share this name. We recommend that the application developer use this name to build the files necessary to support the SDK. For more details, see the *Software Development Kit User Guide*.

instance

An alphanumeric string to identify this resource for your SDK.

Important! Use *unique* names for your SDK instance. Be aware of like-named SDK instances because you can erroneously apply permissions. For example, CHORUS.ROLE.SDKROLE1 and CHORUS.ROLE.SDKROLE123 would have the same permissions. The same masking restrictions apply for letters and numbers.

CHORUS.SETTINGS.KNOWLEDGECENTER

Indicates that the user can index content in the Knowledge Center.

CHORUS.SETTINGS.AUTOREFRESH

Indicates that the user can use the auto-refresh option.

acid1, acid2, ..., acidn

Identifies the ACID of the CA Chorus user requesting access. The ACID can be a user or a profile.

READ

Indicates that the user has READ access.

The user has access to the specified resources and can log in and work in CA Chorus.

Example

The following commands grant user ABC1 the following abilities:

- Log in to CA Chorus.
- Use the functions of CA Chorus for DB2 Database Management.
- Modify the documentation in the Knowledge Center.
- Use the auto-refresh option.

```
TSS PERMIT(ABC1) CAMFC(CHORUS.ROLE.DB2DBA) ACCESS(READ)
TSS PERMIT(ABC1) CAMFC(CHORUS.SETTINGS.KNOWLEDGECENTER)
ACCESS(READ)
TSS PERMIT(ABC1) CAMFC(CHORUS.SETTINGS.AUTOREFRESH) ACCESS(READ)
```

Sample: Authorize a User with IBM RACF

Use this procedure to identify the users that can log in to CA Chorus. Additionally, you can authorize users to do the following tasks:

- Index content in the Knowledge Center. Indexing the content lets the user add or remove documentation from this repository.
- Use the auto-refresh option. This option refreshes the data that appears in the CA Chorus UI whenever the back-end data changes

Note: The following commands are samples. For detailed information about using these commands, see the IBM RACF product documentation.

Follow these steps:

1. Add each discipline resource to CAMFC:

   Note: This step is not required for feature-based resources (for example, auto-refresh). You need only perform this step one time. If you have defined the resource to CAMFC, go to step 2.

   ```
   RDEFINE CAMFC CHORUS.ROLE.discipline UACC(NONE)
   ```

   discipline

   DB2DBA

   INFRASTRUCTURE

   SECURITY

   STORAGE

   Note: For a detailed explanation of each discipline resource, see step 2.

   The applicable discipline resource is assigned to CAMFC. You can now give users access to the discipline.

2. Permit user access to specific resources by entering the following commands:

   ```
   PERMIT resource-name ID(uid-of-userid1) AC(READ) CLASS(CAMFC)
   PERMIT resource-name ID(uid-of-userid2) AC(READ) CLASS(CAMFC)
   ...
   PERMIT resource-name ID(uid-of-useridn) AC(READ) CLASS(CAMFC)
   ```

   resource-name

   Identifies the CA Chorus resource the user is permitted to access.

   CHORUS.ROLE.DB2DBA

   Controls access to CA Chorus for DB2 Database Management functions. CA Chorus Infrastructure Management for Networks and Systems offers data from CA Insight, but the resource is not required for this discipline.

   CHORUS.ROLE.INFRASTRUCTURE

   Controls access to CA Chorus Infrastructure Management for Networks and Systems functions.

   CHORUS.ROLE.SECURITY

   Controls access to CA Chorus for Security and Compliance Management functions (UI and batch).

CHORUS.ROLE.STORAGE

Controls access to CA Chorus for Storage Management functions.

CHORUS.ROLE.SDK*instance*

Controls access to an SDK role. CA Chorus can support multiple SDKs. Work with the system administrator and application developer to define and share this name. We recommend that the application developer use this name to build the files necessary to support the SDK. For more details, see the *Software Development Kit User Guide*.

instance

An alphanumeric string to identify this resource for your SDK.

CHORUS.SETTINGS.KNOWLEDGECENTER

Indicates the user can index content in the Knowledge Center.

CHORUS.SETTINGS.AUTOREFRESH

Indicates that the user can use the auto-refresh option.

uid-of-userid1, uid_of_userid2, ..., uid_of_useridn

Identifies the UID of the CA Chorus user requesting access.

READ

Indicates the user has READ access.

3. Activate the changes that are made to the CAMFC resources:

   ```
   SETROPTS RACLIST(CAMFC) REFRESH
   ```

   The changes are activated.

The user has access to the specified resources and can log in and work in CA Chorus.

Example

The following commands grant user ABC1 the following abilities:

- Log in to CA Chorus.
- Use the functions of CA Chorus for Security and Compliance Management.
- Modify the documentation in the Knowledge Center.
- Use the auto-refresh option.

```
PERMIT CHORUS.ROLE.SECURITY ID(ABC1) AC(READ) CLASS(CAMFC)
PERMIT CHORUS.SETTINGS.KNOWLEDGECENTER ID(ABC1) AC(READ)
CLASS(CAMFC)
PERMIT CHORUS.SETTINGS.AUTOREFRESH ID(ABC1) AC(READ) CLASS(CAMFC)
SETROPTS RACLIST(CAMFC) REFRESH
```

How to Configure CA CSM PassTickets for CA Chorus

CA Chorus uses PassTicket security to let users launch CA CSM from the Quick Links module without requiring an additional user login. All systems using PassTickets must have identical application names and session keys for all nodes on the network.

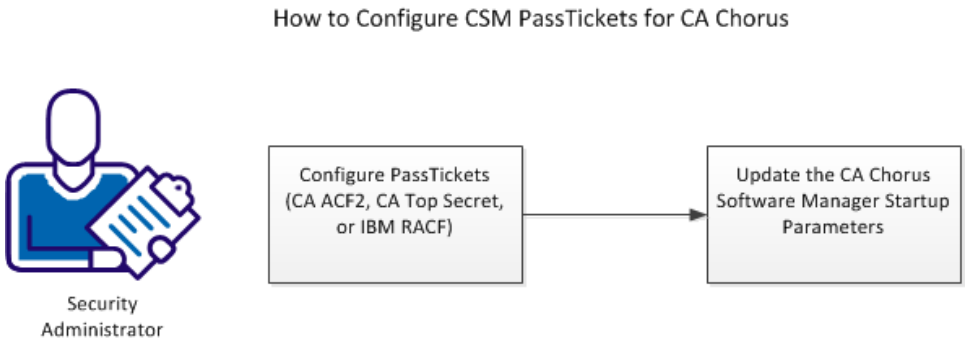
This scenario shows how a security administrator and system administrator configure PassTickets to let users use CA CSM without requiring an additional user login.

Important! The procedures in this scenario assume that you have run the ETJI095x security job. If you have not done so, complete that step first.

A *PassTicket* is a temporary encoded and encrypted substitute for the user password that can be used to access a specific application. The PassTicket must be used within a few minutes of the time it is generated. Using PassTickets enables the z/OS components and products to authenticate a user ID without sending z/OS passwords through the network. Instead, the user is authenticated after they first log in with a valid z/OS user ID and password. The following process occurs when the user selects a function that accesses a z/OS component:

- The CA Chorus web service calls the z/OS security product to generate a PassTicket for access authorization.
- The PassTicket is sent with the user request to the component, possibly on a different z/OS system.
- The component calls the z/OS security product to authenticate the user using the PassTicket as a password substitute before processing the request.

Note: Examples are provided for using CA ACF2, CA Top Secret, and IBM RACF to configure PassTickets to connect to CA CSM. These examples are provided as a guideline. For detailed information about using CA ACF2 commands, see the *CA ACF2 Administration Guide*. For detailed information about using CA Top Secret, see the *CA Top Secret Command Functions Guide*. For detailed information about using IBM RACF, see the IBM documentation.



To launch and use CA CSM from CA Chorus, complete the following tasks:

1. Configure your security system to use PassTickets. Choose *one* of the following options:
   - Use CA ACF2 to Configure PassTickets for Connecting to CA CSM from CA Chorus (see page 59)
   - Use CA Top Secret to Configure PassTickets for Connecting to CA CSM from CA Chorus (see page 61)
   - Use IBM RACF to Configure PassTickets for Connecting to CA CSM from CA Chorus (see page 62)
2. Update the CA CSM startup parameters (see page 65).

Important! Verify that you use the same CA CSM applid that is used in CA Chorus.

Sample: Use CA ACF2 to Configure PassTickets for Connecting to CA CSM from CA Chorus

This sample shows how a security administrator configures PassTickets for connecting to CA CSM from CA Chorus after they have run the ETJI095*x* security job.

Note: The commands in this procedure are samples. For detailed information about using these commands, see the *CA ACF2 for z/OS Administration Guide*.

This procedure requires that you set up security on the CA Chorus server and the CA CSM server. The following procedure highlights where you are working and when your focus shifts to a new server. Note the following definitions that apply to both servers:

applid

Defines the application ID used for PassTicket validation for the CA Chorus Quick Links module. Replace *applid* with your CA CSM applid. For CA CSM configuration details, see Update the CA CSM Startup Parameters (see page 65).

Default: CSMAPPLM

MULT-USE

Lets you reuse the same PassTicket multiple times.

SSKEY

Defines an encryption key for the application in the format of 16 random hexadecimal digits that are different from the values shown in the example.

Note: This example demonstrates a complete key SESSKEY value of 16 hexadecimal digits (creating an 8-byte or 64-bit key). Each application key must be the same on all systems in the configuration and the values must be kept secret and secured.

CA Chorus Server Side Steps

1. Allow individual users to access CA CSM:

   ```
   SET RESOURCE(SAF)
   RECKEY applid ADD(UID(chorus_userid) SERVICE(READ) ALLOW)
   F ACF2,REBUILD(SAF)
   ```

   chorus_userid

   Users who need to access CA CSM through the Quick Links module.

   PassTickets are configured on the CA Chorus server side.

(Optional) CA CSM Server Side Steps

Note: If you inserted a GSO CLASMAP record to change the type code for the APPL class to APL, use APL instead of SAF for TYPE in the following commands.

Important! If CA Chorus and CA CSM are not on the same machine, steps 1 and 2 are required. Step 3 is required in all situations.

1. Define the CA CSM connection application session key:

   ```
   SET PROFILE(PTKTDATA) DIV(SSIGNON)
   INSERT applid SSKEY(0123456789ABCDEF) MULT-USE
   F ACF2,REBUILD(PTK),CLASS(P)
   ```

2. Permit the CA CSM started task user ID to generate and evaluate PassTickets on behalf of CA CSM users:

   ```
   SET RESOURCE(PTK)
   RECKEY IRRPTAUTH ADD(applid.- UID(uid-of-csm_stc_userid)
   SERVICE(UPDATE,READ) ALLOW)
   F ACF2,REBUILD(PTK)
   ```

   uid_csm_stc_userid

   Specifies the CA CSM application server started task user ID. This ID must be able to generate PassTickets for any user.

   Default: MSMSERV

3. Allow individual users to access CA CSM:

   ```
   SET RESOURCE(SAF)
   RECKEY applid ADD(UID(uid-csm_userid) SERVICE(READ) ALLOW)
   F ACF2,REBUILD(SAF)
   ```

   PassTickets are configured on the CA CSM server side.

   To complete PassTicket setup, go to Update the CA CSM Startup Parameters (see page 65).

Sample: Use CA Top Secret to Configure PassTickets to Connect to CA CSM from CA Chorus

This sample shows how a security administrator configures PassTickets for connecting to CA CSM from CA Chorus after they have run the ETJI095*x* security job.

Note: This procedure assumes that the PTKTDATA class and IRRPTAUTH resource ownership have been defined.

This procedure requires that you set up security on the CA Chorus server and the CA CSM server. The following procedure highlights where you are working and when your focus shifts to a new server. Note the following definitions that apply to both servers:

applid

Defines the application ID used for PassTicket validation for the CA Chorus Quick Links module. Replace *applid* with your CA CSM applid. For CA CSM configuration details, see Update the CA CSM Startup Parameters (see page 65).

Default: CSMAPPLM

department

Identifies a preexisting department. The application is defined to this department. This ownership lets a department administrator (or higher) define permissions for PassTicket generation and validation.

SESSKEY

Defines an encryption key for the application in the format of 16 random hexadecimal digits that are different from the values shown in the example.

Note: This example demonstrates a complete key SESSKEY value of 16 hexadecimal digits (creating an 8-byte or 64-bit key). Each application key must be the same on all systems in the configuration and the values must be kept secret and secured.

SIGNMULTI

Permits reuse of the same PassTicket multiple times.

CA Chorus Server Side Steps

When you ran the ETJI095*x* job, you configured passtickets for this server.

(Optional) CA CSM Server Side Steps

Important! If CA Chorus and CA CSM are not on the same machine, complete this procedure.

1. Define the CA CSM connection application session key:

   ```
   TSS ADDTO(NDT) PSTKAPPL(applid) SESSKEY(0123456789ABCDEF) SIGNMULTI
   ```

2. Permit the CA CSM started task user ID to generate and evaluate PassTickets on behalf of CA CSM users:

   ```
   TSS PERMIT(csm_stc_userid) PTKTDATA(IRRPTAUTH.applid.) ACCESS(READ,UPDATE)
   ```

   csm_stc_userid

   Specifies the CA CSM application server started task user ID. This ID must be able to generate PassTickets for any user.

3. Add the applid to the applicable department:

   ```
   TSS ADDTO(department) APPLICATION(applid)
   ```

4. Allow individual users to access CA CSM:

   ```
   TSS PERMIT(csm_stc_userid) APPL(applid)
   ```

   PassTickets are configured on the CA CSM server side.

   To complete PassTicket setup, go to Update the CA CSM Startup Parameters (see page 65).

Sample: Use IBM RACF to Configure PassTickets to Connect to CA CSM from CA Chorus

This sample shows how a security administrator configures PassTickets for connecting to CA CSM from CA Chorus after they have run the ETJI095*x* security job.

Note: Before you begin this procedure, verify that the PTKTDATA class and ownership for the PassTicket resource (IRRPTAUTH) have been defined.

This procedure requires that you set up security on the CA Chorus server and the CA CSM server. The following procedure highlights where you are working and when your focus shifts to a new server. Note the following definitions that apply to both servers:

applid

Defines the application ID used for PassTicket validation for the CA Chorus Quick Links module. Replace *applid* with your CA CSM applid. For CA CSM configuration details, see Update the CA CSM Startup Parameters (see page 65).

Default: CSMAPPLM

KEYMASKED

Defines an encryption key for the application using values that are different from the values in the sample syntax.

Note: The sample syntax demonstrates a complete key value of 16 hexadecimal digits (creating an 8-byte or 64-bit key). Each application key must be the same on all systems in the configuration and the values must be kept secret and secured.

APPLDATA('NO REPLAY PROTECTION')

Lets you use the same PassTicket multiple times.

CA Chorus Server Side Steps

When you ran the ETJI095*x* job, you configured passtickets for this server.

(Optional) CA CSM Server Side Steps

Important! If CA Chorus and CA CSM are not on the same machine, complete this procedure.

1. Define the CA CSM connection application session key:

   ```
   SETROPTS CLASSACT(PTKTDATA) RACLIST(PTKTDATA)
   RDEFINE PTKTDATA applid SSIGNON(KEYMASKED(FEDCBA9876543210)) APPLDATA('NO
   REPLAY PROTECTION')
   ```

2. Permit the CA CSM started task user ID to generate and evaluate PassTickets on behalf of CA CSM users:

   ```
   SETROPTS GENERIC(PTKTDATA)
   RDEFINE PTKTDATA IRRPTAUTH.applid.* CLASS(PTKTDATA) UACC(NONE)
   PERMIT IRRPTAUTH.applid.* CLASS(PTKTDATA) ID(csm_stc_userid)
   ACCESS(READ,UPDATE)
   ```

   csm_stc_userid

   Specifies the CA CSM application server started task user ID. This ID must be able to generate PassTickets for any user.

   Default: MSMSERV

3. Allow individual users to access CA CSM:

   ```
   RDEFINE APPL applid UACC(NONE)
   PERMIT applid CLASS(APPL) ID(csm_stc_userid) ACCESS(READ)
   SETROPTS CLASSACT(APPL)
   ```

4. Refresh the PTKTDATA class and activate the APPL class:

   ```
   SETROPTS RACLIST(PTKTDATA) REFRESH
   SETROPTS CLASSACT(APPL)
   ```

   PassTickets are configured on the CA CSM server side.

   To complete PassTicket setup, go to Update the CA CSM Startup Parameters (see page 65).

Update the CA CSM Startup Parameters

This procedure shows how the system administrator starts the CA CSM application server with the created CA CSM application ID.

Follow these steps:

1. Add the following statement in the SAMPLIB(MSMLIB) member to specify the CA CSM application ID:

   `IJO="$IJO -DmsmApplid=`*`applid`*`"`

   applid

   Defines the CA CSM application ID used for PassTicket validation to authenticate connections to the server.

   Default: CSMAPPLM

2. Restart the CA CSM application server.

   The changes take effect.

Users can now access CA CSM from the Quick Links module.

Chapter 4: Using the Prerequisite Validator

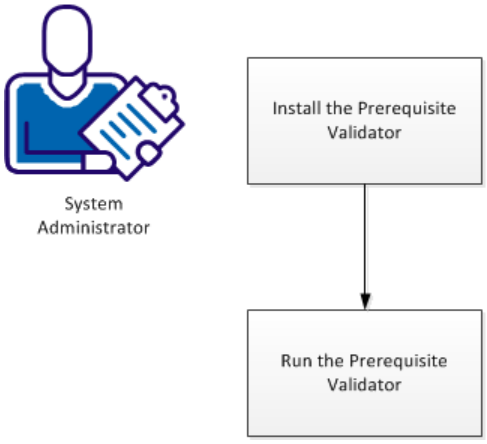
How to Use the CA Chorus Prerequisite Validator

This scenario shows how a system administrator installs and maintains many products at their site. You want to install products quickly and efficiently. Using the Prerequisite Validator, you can confirm that your site is ready for a CA Chorus installation. If your site fails the validation, you can update your site software before the installation instead of during an installation. The latter can be time consuming and troublesome.

The tool is designed to confirm that you have configured key items correctly, including but not limited to:

- Java version
- z/OS version
- port availability
- SAF resource access
- root access

How to Use the CA Chorus Prerequisite Validator



Complete these steps:

1. Install the Prerequisite Validator
2. Run the Prerequisite Validator (see page 68)

Install the Prerequisite Validator

The packed CA Chorus Prerequisite Validator product package is available on the product page in the Download Center on the CA Support Online website. You can download and unpack it in the same way you download and unpack other mainframe pax files.

Follow these steps:

1. Log in to CA Support Online, and navigate to the Download Center.

   Note: The Prerequisite Validator pax file appears under the CA Chorus Version 3.0 Product list.

2. Download the Prerequisite Validator pax file (DVD09153504E.pax.Z). You can use a zOS FTP client in batch mode to download the file.

3. Open an OMVS session and change to the directory (using a 'cd' command) where you downloaded the pax file. This directory is the same one that you used in the FTP batch job in the previous step.

4. Unpax ChorusPreValidator.pax.Z using the exact case for the full pax file name:

   ```
   pax -rvf DVD09153504E.pax.Z
   ```

5. Change to the new ChorusPreValidator subdirectory:

   ```
   cd ChorusPreValidator
   ```

6. Review the license text file. By running this utility, you accept the license agreement.

7. Review the parameters in the SITE PARAMETERS section in ChrPreval.sh. Change the defaults as is necessary. Use an EBCDIC editor to modify this file.

   Note: You can use the USS oedit command to start an ISPF edit session. Enter 'oedit ChrPreval.sh' at the OMVS command line.

Run the Prerequisite Validator

You can execute the Prerequisite Validator utility directly from the native USS command prompt.

Follow these steps:

1. If your OMVS session is still running, skip this step. Otherwise, open an OMVS session, and change to the ChorusPreValidator subdirectory:

   ```
   cd downloadDir/ChorusPreValidator
   ```

   downloadDir

   Directory where you downloaded the Prerequisite Validator pax file.

2. Run the utility:

   ```
   sh ChrPreval.sh
   ```

   Upon successful execution, the Prerequisite Verification report appears in browse mode and the following files are generated:

   - ChorusValidatorReport.txt
   - ChorusPre-ValidationLog*yyyy-mm-dd,hh-mm-ss,ttt*.log

3. If the utility output meets all required acceptance criteria, you can now install and configure the product.
4. Choose one of the following options:
   - If you are only installing the CA Chorus Platform, go to the *Installation Guide*.
   - If you are installing a discipline, go to the applicable *Site Preparation Guide*.