

CA InterTest™ and CA SymDump® - 11.0

Installing

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Installing

This section describes the required procedure to acquire and install CA InterTest™ and CA SymDump®.



Important: After you complete the steps in this section, ensure that you complete the steps in [Configuring](https://docops.ca.com/display/CAITSD11/Configuring) (<https://docops.ca.com/display/CAITSD11/Configuring>) before you activate and use your product.

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

- **Acquisition**
Transports the software to your z/OS system.
- **Installation using SMP/E**
Creates an SMP/E environment and runs the RECEIVE, APPLY, and ACCEPT steps. The software is untailored.
- **(For CA CSM Release 5.1 and earlier only) Deployment**
Copies the target libraries to another system or LPAR.



Note: This step is optional for CA CSM Version 6.0. For more information, see [Configuring Products Using CA CSM](https://docops.ca.com/display/CCSM61/Configuring+Products) (<https://docops.ca.com/display/CCSM61/Configuring+Products>).

- **Configuration**
Creates customized load modules, bringing the software to an executable state.
- **(For staging system configurations in CA CSM Version 6.0 only) Deployment**
Makes configured run-time libraries available to a remote location where that software can be activated, bringing it to an executable state.

[CA Chorus™ Software Manager \(CA CSM\)](https://support.ca.com/irj/portal/prddtlshome?prdhmpgform=p&productID=8319) (<https://support.ca.com/irj/portal/prddtlshome?prdhmpgform=p&productID=8319>) is an intuitive web-based tool that can automate and simplify many CA Technologies product installation activities on z/OS systems. This application also makes obtaining and applying corrective and recommended maintenance easier. A web-based interface enables you to install and maintain your products faster and with less chance of error. As a best practice, we recommend that you install mainframe products and maintenance using CA CSM. Using CA CSM, someone with limited knowledge of JCL and SMP/E can install a product.



Note: If you do not have CA CSM, you can download it from the [Download Center](https://support.ca.com/us/download-center.html?r=1) (<https://support.ca.com/us/download-center.html?r=1>). Follow the [installation instructions](https://docops.ca.com/display/CCSM61/Installing) (<https://docops.ca.com/display/CCSM61/Installing>).

You can also complete the standardized installation process manually using pax files that you download from [CA Support](http://support.ca.com) (<http://support.ca.com>).

To install your product, do the following tasks:

1. Prepare for the installation by confirming that your site meets all installation requirements.
2. Verify that you acquired the product using one of the following methods:
 - From CA Support using CA CSM.
 - From CA Support using Pax-Enhanced Electronic Software Delivery (Pax ESD).
3. Perform an SMP/E installation 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.



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

4. (For CA CSM Release 5.1 and earlier only) Deploy the target libraries.



Note: This step is optional for CA CSM Version 6.0. For more information, see [Configuring Products Using CA CSM](https://docops.ca.com/display/CCSM61/Configuring+Products) (<https://docops.ca.com/display/CCSM61/Configuring+Products>).

5. Configure your product using CA CSM or manually.

6. (For staging system configurations in CA CSM Version 6.0 only) Deploy configured run-time libraries, and activate your product.



Note: Configuration is considered part of starting your product.

Product Requirements

This article describes the requirements needed to install and use the CA InterTest and CA SymDump products.

- [Hardware Requirements \(see page 11\)](#)
- [Software Requirements \(see page 12\)](#)
- [Common Services Requirements \(see page 17\)](#)
- [Target Libraries \(see page 17\)](#)
- [Distribution Libraries \(see page 19\)](#)

Hardware Requirements

Storage Requirements

Ensure that you have the following storage available:

- For ESD installations, 915 cylinders for the downloaded files
- For installation and setup:
 - Installation: 1,750 cylinders
 - SMP/E temporary libraries: 60 cylinders



Note: Many installation library names have been updated with new naming conventions. Review existing CLISTs, JCL, and procedures from prior product releases, and update the new data set names, if needed.

Data Monitoring

The data monitoring feature of CA InterTest for CICS requires a significant amount of storage over and above the storage required by the programs being monitored. Compute the storage requirements as follows:

500 bytes times the number of transaction entries as defined by the STMTTRCE option plus the size of mirror area for each program in the transaction for which data monitoring is active, where the mirror area is equal to the size of storage for the monitored program.

If you encounter storage problems while using the data monitoring feature, perform one or more of the following actions:

- Reduce the use of data monitoring in the region.
- Make the STMTTRCE value smaller in the default options table, IN25OPTS.
- Increase the EDSALIM for the CICS region.

Security Requirements

To complete the tasks in this section, you need the following security privileges:

- Read authority for all the SMP/E target data sets.
- Update authority for the PROTSYM, ALIB (optional), and INCLUDE file (optional).
- Superuser authority for installing and configuring the GUI. To mount a ZFS, you must have either superuser authority or read access to the SUPERUSER.FILESYS.MOUNT resource (in the UNIXPRIV class).

Software Requirements

The following software is required:

- Supported release of the following IBM products and features:
 - z/OS
 - SMP/E
 - COBOL, PL/I, and Assembler compilers
 - LE Runtime

Eclipse User Interface

The Eclipse UI needs access to the CA Testing Tools server. The CA Testing Tools server requires IBM 32-bit Java 5.0 (at or above SR5A) or IBM 32-bit Java 6.0 (at or above SR4).

UTF-16 Support for COBOL

The CA InterTest Batch mainframe ISPF user interface can display UTF-16 (Unicode) data in the Keep window and Display panel when debugging a COBOL program. You must have z/OS Unicode Services installed to convert and display UTF-16 data. These services come standard with z/OS and are located in SYS1.CSSLIB.

PL/I Programs

When linking PL/I with Language Environment, CEESTART must be the first CSECT and the object module of the main procedure must be included before any object modules of subroutines. The products assume that these procedures are followed.

CICS Temporary Storage Model Restriction

The products use a temporary storage queue prefixed with a lower case "i" when starting. Because of this, you cannot have a CICS-defined TSMODEL prefixed with a lower case "i" defined as recoverable. This will cause the start of the product to wait endlessly for a syncpoint to be taken by the starting task.

Terminal Input/Output Area Compression Routine Users

Exclude the products' transactions and programs from any Terminal Input/Output Area (TIOA) compression packages or routines, such as 3270 Super Optimizer/CICS and CTOP. Failure to do so produces unpredictable results because CA InterTest for CICS uses saved TIOAs. In addition, the CA InterTest for CICS FILE facility does not work properly with data files that have been put through data compression routines.

TSO Logon Requirements for Foreground Debugging

The TSO logon requirements for foreground debugging in CA InterTest Batch are region size (when logging on) and the number of DD statements that can be dynamically allocated at any one time during the session (DYNAMBR).

- The application uses about 1 MB of virtual storage, so you should log on with a region large enough for this product and the program being debugged. A region of 4 MB is sufficient for most processing.
- The DYNAMBR number should be high, especially when running IMS/BTS applications in foreground. Allocation checks to see if the number in DYNAMBR has been exceeded and has no other effect on the TSO session.
- Because the product has a dynamic STEPLIB facility, it is not necessary to allocate libraries containing dynamically called modules at logon time.

CA ACF2

To use CA InterTest for CICS with CA ACF2, add the transactions IPLX, ISER, VTAT, LIST, and VIRC to your ACF2 SAFELIST. For additional information on these CA InterTest for CICS transactions, see [IN25OPTS Keywords \(https://docops.ca.com/display/CAITSD11/IN25OPTS+Keywords\)](https://docops.ca.com/display/CAITSD11/IN25OPTS+Keywords).

RACF Users

To use CA InterTest for CICS with RACF, define the CA InterTest for CICS transactions IPLX, ISER, VIRC, LIST, and VTAT to CICS with CMDSEC(NO) and RESSEC(NO). All CA InterTest for CICS transactions and programs require UACC(READ) for EXEC CICS INQUIRE commands to give all users RACF READ access. Using these settings makes the symbolics for a source listing breakpoint display available to users. If RACF file level security is in use, add the following statements to the xCICSFCT resource class:

```
PROTSYM, PROTHLF ...UACC(READ)
PROTCPF, PROTUHF, PROTMLOG ...UACC(UPDATE)
```

CICS Startup Parameter Considerations

If you are running CA SymDump for CICS on a CICS Transaction Server release earlier than 5.1, you might need to increase the value of your MAXOPENTCB SIT parameter. For CICS regions which run small workloads, we recommend a minimum value of 64. For CICS regions with large workloads, you might want to set MAXOPENTCB to the same value as MXT.

CICS Global User Exits

This CA InterTest for CICS release requires the use of the following global user exits:

- **XPCFTCH and XPCTA**
Required for the CNTL=START and CNTL=END commands to operate CA InterTest for CICS and control monitoring.
- **XDUREQ**
Required for dump suppression and dump capture.
- **XMEOUT**
Required for suppression of abend messages.
- **XRMIOUT**
Support for the CORE=LASTSQL command. Collects DB2-related call information for every DB2 call done in the system. This can have significant performance implications in some DB2 shops. The parameter XRMIO=YES/NO IN25OPTS controls the use of this exit. The default is XRMIO=YES.

When monitoring programs, observe the following rules:

- Do not disable the previous global user exits in any way. This action causes CA InterTest for CICS to stop functioning.

- The CA InterTest for CICS global user exits honor the return codes set by previous exits, which might have an impact on whether CA InterTest for CICS successfully monitors a program. If you have problems caused by other CICS global user exits setting a return code before CA InterTest for CICS exits receive control, you can ensure that the CA InterTest for CICS exits are first to receive control by adding the program entry IN25PLTX to the CICS startup PLT. IN25PLTX is required as the first program entry in Phase 1 (prior to the DFHDELIM entry) of the PLT.
- If you are installing CA SymDump for CICS with CA InterTest for CICS, always place the CA SymDump for CICS IN25INST program after the CA InterTest for CICS IN25PLT in the PLT.
- If other exits receive control after CA InterTest for CICS, they must not change the return code or entry point fields in the user exit parameter list.

To disable CA InterTest for CICS you must use the CNTL=END command.

Failure to observe these rules will cause monitoring to be disabled. For example, CA InterTest for CICS monitoring is not performed if another exit receives control before CA InterTest for CICS and passes on a modified return code or entry point.

CICSplex Support

CA InterTest for CICS provides optional support for CICS regions participating in a CICSplex environment. When you install CA InterTest for CICS with CICSplex support, participating CICS regions propagate CA InterTest for CICS commands and breakpoints automatically to all regions in the CICSplex. This automatic propagation lets you easily debug dynamically routed transactions and programs.

CICSplex command propagation is accomplished mainly through CAICCI for z/OS, a CA Common Services for z/OS. Other than installing CAICCI for z/OS and setting the following customization options, you do not need anything else to obtain CICSplex support.

To install CA InterTest for CICS with CICSplex support, follow these steps:

1. Install CAICCI in all participating CICSplex regions as discussed in the section CA Common Services for z/OS Requirements.
2. Follow the CA InterTest for CICS installation instructions. You can install using one of the following methods:
 - CA CSM
 - Pax-Enhanced Electronic Software Delivery
3. Use the following IN25OPTS customization options in each participating CICSplex region:
 - CICSplex=YES
 - CPLXFMID=a CICSplex family name
 - CPLXCKPI=hhmm (a checkpoint interval)

For details on setting these options, see [IN25OPTS Keywords \(https://docops.ca.com/display/CAITSD11/IN25OPTS+Keywords\)](https://docops.ca.com/display/CAITSD11/IN25OPTS+Keywords).



Note: Obtain support for multiple CICSplex families within or across multiple z/OS regions by changing the CPLXFMID family name that is associated with each region.

Startup and Termination with CICSplex Support

CA InterTest for CICS regions that you installed with CICSplex=YES are affected during startup and termination in the following ways:

- The CNTL=START and CNTL=RESTART commands automatically have CA InterTest for CICS resynchronize monitoring with any active regions in the CICSplex upon startup.
- The CNTL=END, SCOPE=GLOBAL command can be issued to terminate concurrently all CA InterTest for CICS processing in all connected regions in the CICSplex.

Dynamic Symbolic Support for CA Endeavor SCM

All CA InterTest and SymDump products provide optional support for CA Endeavor SCM users to load dynamically the application program symbolic information from CA Endeavor SCM when the footprint option is in use. This feature allows debugging or fault analysis to proceed when application program symbolics are not found in the PROTSYM files.

To support this feature, the following products are required:

- A supported release of CA Endeavor SCM.
- CA Endeavor SCM AUTHLIB, CONLIB, and the data set containing C1DEFLT5 must be in the LNKLIST.
- C1DEFLT5. Add the keyword COMPLISTWD=.LIST to the C1DEFLT5 TYPE=MAIN section. This keyword identifies the text string that CA Endeavor SCM looks for in an element's component list to identify the listing data set for the print element listing function. The period (.) before the variable LIST is used as a wildcard to denote anywhere within the DSN (LISTLIB, LISTING, COBLIST, for example). Change the variable LIST to conform to your DSN naming conventions for compiler and assembler output files.

Note the following rules:

- Create the listings using a CA Endeavor SCM generate process.
- Use CA Endeavor SCM with the following DD statement coded to monitor the listing data set the CA Endeavor SCM generate process that is created:

```
MONITOR=COMPONENT , FOOTPRINT=CREATE
```
- The object and load module libraries must use the footprint feature with the following coded on their respective DD statements:

```
FOOTPRINT=CREATE
```


If your installation has defined multiple C1DEFLT, additional customization steps are necessary. For more information about defining multiple C1DEFLT, see [Interfaces and Compatibility](https://docops.ca.com/display/CAITSD11/Interfaces+and+Compatibility) (<https://docops.ca.com/display/CAITSD11/Interfaces+and+Compatibility>) .

You might also need to install and customize CA CCI.



Note: The dynamic symbolic support for the CA Endeavor SCM feature, hereafter referred to as the dynamic symbolic support feature, cannot differentiate between multiple listing outputs created by a single CA Endeavor SCM processor for the same element. Therefore, dynamic symbolic support using listing outputs from multiple compiles or assemblies from a single CA Endeavor SCM GENERATE or MOVE action for the same element might produce unpredictable results.

Common Services Requirements

CA InterTest and SymDump uses the following CA Common Services for z/OS components:

- CAI Resource Initialization Manager (CAIRIM)
- CA License Management Program (CA LMP)
- CAI Common Communications Interface (CAICCI)
- Event Management
- CA Health Checker Common Service



Notes:

- If other CA Technologies products are installed at your site, some of these services may already be installed. For more information, see [CA Common Services for z/OS](https://docops.ca.com/display/CCSZOS141/CA+Common+Services+for+zOS+Home) (<https://docops.ca.com/display/CCSZOS141/CA+Common+Services+for+zOS+Home>).
- We recommend that you stay current on CA Common Services maintenance.

Target Libraries

The following list contains target libraries used by CA InterTest and SymDump. These libraries must be allocated if they do not already exist for some other CA product at your site:

- **CAI.CAVHAUTH**
Target Authorized load library

- **CAI.CAVHCLS0**
Target CLIST library
- **CAI.CAVHDBRM**
Target DBRM library
- **CAI.CAVHDATV**
Target GUI/server executables library
- **CAI.CAVHHELP**
Target CA SymDump Batch help library
- **CAI.CAVHHLF**
Target CICS help library
- **CAI.CAVHJCL**
Target sample JCL library
- **CAI.CAVHLOAD**
Target load library
- **CAI.CAVHMAC**
Target macro library
- **CAI.CAVHMSG0**
Target ISPF message library
- **CAI.CAVHOPTN**
Target common options library
- **CAI.CAVHPNLO**
Target ISPF panel0 library
- **CAI.CAVHPNL1**
Target CA InterTest Batch ISPF panel1 library
- **CAI.CAVHPROC**
Target procedure library
- **CAI.CAVHRPF**
Target CA InterTest Batch ROSCOE RPF library
- **CAI.CAVHSAMP**
Target sample source library
- **CAI.CAVHSKL0**
Target CA SymDump Batch skeleton library
- **CAI.CAVHSRC**
Target CA InterTest Batch source library
- **CAI.CAVHSYM**
Target sample CICS symbolic library

- **CAI.CAVHTBLO**
Target CA SymDump Batch table library
- **CAI.CAVHXML**
Target installation XML

Distribution Libraries

The following list contains the distribution libraries used by CA InterTest and SymDump. These libraries must be allocated if they do not already exist for some other CA product at your site:

- **CAI.AAVHCLS0**
Sample REXX and CLIST
- **CAI.AAVHDBRM**
Distribution DBRM library
- **CAI.AAVHDATV**
Distribution GUI/Server executables library
- **CAI.AAVHHELP**
Distribution CA SymDump Batch help library
- **CAI.AAVHHLF**
Distribution CICS help library
- **CAI.AAVHJCL**
Distribution sample JCL library
- **CAI.AAVHMAC**
Distribution macro library
- **CAI.AAVHMOD0**
Distribution load library
- **CAI.AAVHMSG0**
Distribution ISPF message library
- **CAI.AAVHOPTN**
Distribution common options library
- **CAI.AAVHPNL0**
Distribution panel0 library
- **CAI.AAVHPNL1**
Distribution CA InterTest Batch panel1 library
- **CAI.AAVHPROC**
Distribution procedure library

- **CAI.AAVHRPF**
Distribution CA InterTest Batch ROSCOE RPF library
- **CAI.AAVHSAMP**
Distribution sample library
- **CAI.AAVHSKLO**
Distribution CA SymDump Batch skeleton library
- **CAI.AAVHSRC**
Distribution CA InterTest Batch source library
- **CAI.AAVHSYM**
Distribution CICS symbolic library
- **CAI.AAVHTBLO**
Distribution CA SymDump Batch table library
- **CAI.AAVHXML**
Distribution installation XML

Installation Considerations

This article identifies some items to consider and best practices to follow as you install your product.

- [Concurrent Releases \(see page 21\)](#)
- [Symbolic Files \(see page 22\)](#)
- [CICS Products \(see page 22\)](#)
- [Batch Products \(see page 22\)](#)
- [Installation Best Practices \(see page 23\)](#)

If you are upgrading from an earlier release, we recommend that you completely replace the previous product. However, retain your ALIB files and any JCL that you converted for batch link.

Concurrent Releases

You can install this release of your product and can 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:

- If you run Version 9.1 of the product and CAVHINIT initialized the product with a higher release, Batch link is not able to select the job from the queue for debugging.
- 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.



CA Chorus Software Manager 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.

If you execute the application from LINKLIST, review your LINKLIST to ensure that the most recent version of your Common Symbolic Component executables (defined to the Common Symbolic Component FMID) are highest in the concatenation. For more information about FMID names, see [FMID Table \(see page 116\)](#).

Symbolic Files

Symbolic files from previous releases are upward compatible with the current product release.

CICS Products

- For detailed instructions on setting up your CA InterTest for CICS to support MRO, see [Special Considerations for MRO Support \(https://docops.ca.com/display/CAITSD11/CICS+Interfaces+and+Compatibility#CICSInterfacesandCompatibility-SpecialConsiderationsforMROSupport\)](https://docops.ca.com/display/CAITSD11/CICS+Interfaces+and+Compatibility#CICSInterfacesandCompatibility-SpecialConsiderationsforMROSupport).
- If you require CA InterTest for CICS to support database system calls other than IBM's DB2 and DL/I, or CA IDMS and Datacom, or calls to software that should not be monitored by CA InterTest for CICS, see [Calls to Software and User Macro Support \(https://docops.ca.com/display/CAITSD11/CICS+Interfaces+and+Compatibility#CICSInterfacesandCompatibility-CallstoSoftwareandUserMacroSupport\)](https://docops.ca.com/display/CAITSD11/CICS+Interfaces+and+Compatibility#CICSInterfacesandCompatibility-CallstoSoftwareandUserMacroSupport).
- If you plan to debug Hogan programs with CA InterTest for CICS, see [CICS Interfaces and Compatibility \(https://docops.ca.com/display/CAITSD11/CICS+Interfaces+and+Compatibility\)](https://docops.ca.com/display/CAITSD11/CICS+Interfaces+and+Compatibility).
- To use CA InterTest for CICS with IBM's Omegamon product, start Omegamon before you start CA InterTest for CICS and exclude the CA InterTest transactions from the Omegamon Resource Limit (Time Out) Specification.
- To use CA InterTest for CICS with ASG's TMON product, exclude transactions from the TMON Resource Limit (Time Out) Specification.

Batch Products

- If you use CA File Master Plus and you want to use the CA SymDump Batch FM viewer command, perform the following additional steps:
 - Set up the CA File Master Plus to use LIBDEFs (LIBALLOC='Y').
 - Ensure that the FM1 exec exists in a data set allocated to SYSPROC or SYSEXEC.
 - Allocate CAI.CAVHCLS0 to SYSPROC or SYSEXEC.
- If you are using Compuware's AbendAid and CA SymDump Batch on the same LPAR, execute CAIRIM after AbendAid's initialization procedure. Also set the DUMP option to ON in the default options member CAOETABL.
- If you are using Macro4 DumpMaster and CA SymDump Batch on the same LPAR, call the DumpMaster support group for the required PTF that lets DumpMaster pass control to other dump formatting products. If you initialize DumpMaster before executing CAIRIM to initialize your product, set the DUMP option to ON in the default options member CAOETABL.

Installation Best Practices

Use CA Chorus Software Manager for Installation

Use CA CSM to acquire, install, deploy, and maintain your product. Although CA CSM is the preferred method for installing CA Technologies mainframe products, some sites may decide to use the Electronic Software Delivery (ESD) installation method instead.

Business Value:

CA CSM provides a web interface, which works with ESD and standardized installation, to provide a common way to manage CA Technologies mainframe products. You can use it to download, install, and deploy your product.

CA CSM lets you download product and maintenance releases over the Internet directly to your system from the CA Support website. After you use CA CSM to download your product or maintenance, you use the same interface to install the downloaded software packages using SMP/E. After installation, deployments allow system objects to be deployed across your enterprise's different environments.

For more information about CA CSM, see the *CA Chorus Software Manager Product Guide*. For more information about installation, see *Installing*.

Use Electronic Software Delivery

Although CA CSM is the preferred method for installing your CA Technologies mainframe products, some sites may decide to use the Electronic Software Delivery (ESD) method instead. For sites who have decided to use ESD, download the installation files from ca.com/support (<http://ca.com/support>) and install directly from your disk.

Business Value:

Using electronic software delivery (ESD) avoids ordering, shipping, and processing physical tape media to install the application. It is more timely, more cost-effective, and environmentally friendly. It uses standard z/OS utilities to prepare the product installation image on your system.

For information about how to download your CA Technologies products from the CA Support Online web site for installation using the enhanced ESD pax process, see *Installing*.

IBM APARs

No IBM APARs are required at this time.

Business Value:

There are no known IBM APARs that impact the operation or performance of the product. You may apply the most recent IBM APARs appropriate for your environment as needed.

Installation in a Test Environment

Perform your installation and initial evaluations of a new release of the product and its components on a test system.

Business Value:

New releases of CA Technologies testing tools can always co-exist with previous releases, letting you test a new release on a test system while still running the older version on a production system. Evaluating the product in a test environment lets you detect any possible problems before you roll out the product to a production system.

Additional Considerations:

Always be sure to review any migration considerations in Installing before upgrading your CA Technologies product.

Common Symbolic Component

When installing more than one of the CA Technologies mainframe testing tools, we recommend that you install and maintain only one version of CA Technologies common symbolic component that is shared by all of the testing tool products.

Several testing tool products (CA InterTest Batch, CA InterTest for CICS, CA SymDump for CICS, CA SymDump Batch, CA Optimizer/II, and CA Mainframe Application Tuner) each distribute the common symbolic component in the VH FMID. This FMID was named CVHrr00 in versions before Version 10 and is now named CAVHrr0. The *rr* portion of the FMID contains the version number.

When installing any of these CA Technologies testing tool products, first query your Consolidated Software Inventory (CSI) to determine whether you already have a version of CVHrr00 or CAVHrr0 installed. If you use one CSI for all of your testing tool products then you need to perform only one query for these FMIDs. If you have one CSI for each testing tool product then you will need to query each CSI.

If you locate an installed version of CVHrr00 or CAVHrr0 during your query, compare the *rr* in your installed version of that FMID with the *rr* in the FMID provided with the product you are installing. Replace your existing FMID only if the *rr* in the product you are installing is higher than the *rr* in your existing function.

Business Value:

By installing and maintaining a single version of the CA Technologies common symbolic component, you reduce your maintenance effort, save disk space, and eliminate the possibility of executing symbolic utilities that are not up to date with the latest maintenance.

Additional Considerations:

The APPLY job of the installation places an SMP/E copy of the CAVHrr0 function in a library; however, many companies do not execute the testing tool products from this library. Therefore, always be sure to make the executables for the common symbolic component available for the testing tools products to use.

There are many ways to make the executables for the common symbolic component available, including:

- LNKLIST
Always update your LNKLIST library after applying maintenance to CAVHrr0 if you have copied the executables for the common symbolic component from CAVHrr0 into a separate load library that you have added to your LNKLIST for all products to share.
- STEPLIBs
- CLISTs (for ISPF interfaces)

We recommend using the LNKLIST method because it has the specific advantage of making the executables available to all CA Technologies products with no additional changes to any JCL or CLISTs. If you cannot use LNKLIST for some reason (for example, your company has issues with updating LNKLIST or has specific rules prohibiting or limiting the use of LNKLIST), it is acceptable to add these executables to your STEPLIB or CLIST allocations. However, using STEPLIB or CLIST requires more initial setup and can be difficult to maintain if library names change.

CA InterTest Batch JCLCheck Function CAZ2C00

If you are already licensed for CA JCLCheck on the CPU where you are installing your product, do not install function CAZ2C00 containing the CA JCLCheck common component.



Note: If you are not licensed for CA JCLCHECK, install function CAZ2C00. For more information, refer to the [CA JCLCHECK Common Component \(https://docops.ca.com/display/CJWA/CA+JCLCheck+Workload+Automation\)](https://docops.ca.com/display/CJWA/CA+JCLCheck+Workload+Automation) installation documentation.

Business Value:

The CA JCLCHECK Common Component installation package includes the materials necessary to install the CA JCLCheck common component function CAZ2C00. However if you have already licensed and installed the CA JCLCheck product, you can save installation time, maintenance effort, and disk space by using your existing version instead.

Additional Considerations:

This common component is used to create ALIB members from your JCL for online allocations and to prepare JCL for use with the Batch Link facility. For the Batch Link facility, this JCL conversion is a convenience rather than a requirement, since JCL can be easily prepared manually for use with the Batch Link facility as described in Batch Debugging.



Note: When converting a PROC needed for use with DB2-stored procedures, a manual conversion is required and the JCL conversion feature is not used.

If you do not already have function CAZ2C00 installed on the same CPU, you must install it so you can convert JCL with your product. The materials needed to install that function have been provided as part of the CA JCLCHECK Common Component installation package.

If you decide to install a second copy of function CAZ2C00 on the same CPU, be sure to maintain both copies when applying maintenance. Solutions required for this function will be provided to the application and CA JCLCheck customers. As a result of this condition you may have two different releases of function CAZ2C00 installed, one with the CA JCLCheck product and the other with the CA InterTest Batch product. This is acceptable and fully supported provided that the version used with your product meets the minimum release number requirements as described in Installing.

Install Your Product Using CA CSM

CA Chorus Software Manager (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.

If you do not have CA CSM installed, download it from the [Download Center \(http://ca.com/support\)](http://ca.com/support). This web page also contains links to the complete [CA CSM documentation \(https://docops.ca.com/csmzos\)](https://docops.ca.com/csmzos).

Use the following scenarios to guide you through the product installation process using CA CSM:

- [Acquire Products Using CA CSM \(see page 27\)](#)
- [Install Products Using CA CSM \(see page 46\)](#)
- [Maintain Products Using CA CSM \(see page 67\)](#)
- [Configure Product Using CA CSM \(see page 34\)](#)

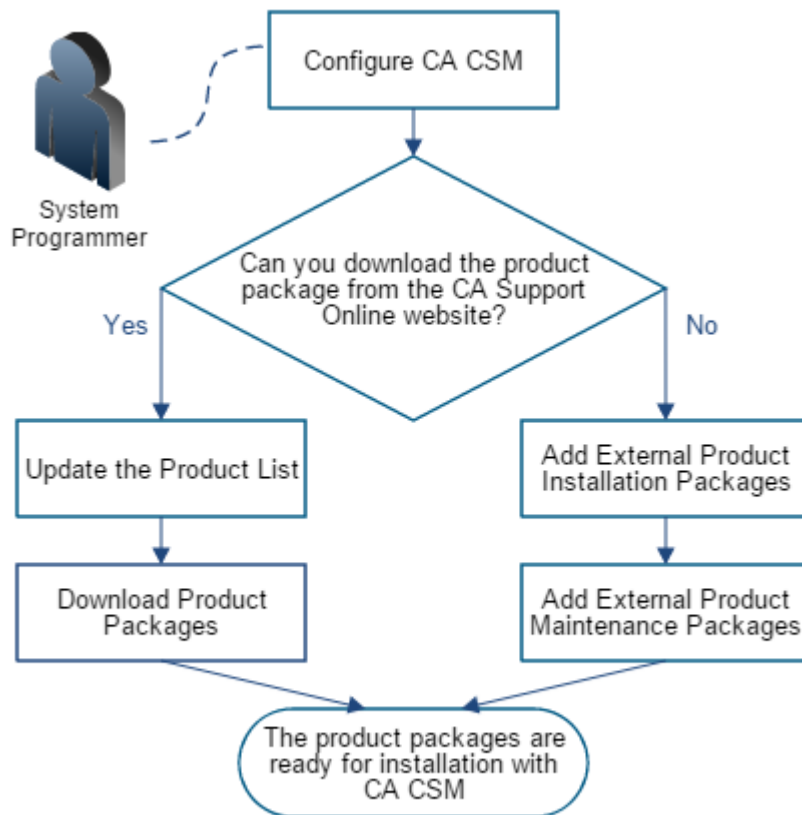


Note: For additional information about how to use CA CSM, use the CA CSM online help.

Acquire Products Using CA CSM

CA Chorus™ Software Manager (CA CSM) can help automate acquiring, installing, maintaining, deploying, and configuring mainframe software. As a system programmer, you maintain an up-to-date repository of acquired product packages that are ready for installation in your mainframe environment. CA CSM provides a product list that lets you display the list of licensed product installation and maintenance packages and to download these packages. Also, you can add to the product list external product packages that you acquired outside of CA CSM so that they are ready for installation using CA CSM.

This diagram shows the product acquisition process:



1. [Configure CA CSM \(see page 29\).](#)
2. If you can download the product package from CA Support:
 - a. [Update the product list \(see page 30\).](#)
 - b. [Download product packages \(see page 31\).](#)
3. If you cannot download the product package from CA Support:
 - a. [Add external product installation packages \(see page 31\).](#)
 - b. [Add external product maintenance packages \(see page 32\).](#)

After you complete this process, the product packages are ready for installation with CA CSM.



Note: For more information about acquiring products, see the CA CSM online help.

Configure CA CSM

Before you start acquiring product packages, configure a CA Support Online account, a CA CSM account, and the required download settings. If you have previously configured these settings, update the product list.

Follow these steps:

1. Start your Web browser, and enter the CA CSM access URL, which you can get from your system administrator.



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

2. Enter your z/OS login user name and password, and log in.
The initial page appears. You are prompted to perform configuration.
3. Configure the following settings:
 - Proxies that CA CSM uses to communicate with CA Support.
If proxies are not used, CA CSM uses HTTPS Port Number 443 and FTP Port Number 21.



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

- The USS path to the temporary directory for downloaded software packages
If you do not specify the directory, CA CSM sets it up using default settings that you can change later.



Note: These settings are also available on the System Settings, Software Acquisition page.

Select **Next**.

You are prompted to define your account on CA Support.

4. Select **New**.
You are prompted for the credentials to use on CA Support.
5. Specify the credentials, select **OK**, and then **Next**.
You are prompted to review your user settings.



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

6. Change the settings or keep the defaults, and then select **Finish**.
A dialog opens, which shows the progress of the configuration task.
7. Select the **Settings** tab, and review other settings, as needed.

You have configured CA CSM to acquire products.

Update the Product List

The product list displays a list of downloadable licensed product packages. To see the current list of available product packages for download, update the **Available Products** tree.

Follow these steps:

1. Log in to CA CSM using your credentials.
2. Select the **Products** tab.
3. (Optional) Update the product list only with packages that belong to specific site IDs.
 - a. Select the **Edit** button in the **Filter** section and associate one or more site IDs to a filter in the **Edit Filter** window.
 - b. Select the filter in the **Filter** section.
 - c. Right-click the **Products** link at the top of the product tree and select **Update Product List**.
4. Select the **Update Product List** link in the **Actions** section on the left side.
Updating of the product list with all products for all site IDs starts.



Note: Skip this step if you already updated the product list only for a selected filter.

5. Confirm the update.
A dialog that shows the progress of the task opens. When the task completes, select **Show Results** on the **Progress** tab to close this dialog. The task output browser opens, and you can view the action details. Select **Close** to close the task output browser.





Note: While a task is in progress, you can perform other work. Select **Hide** to exit the dialog and view the task status later on the **Tasks** tab.

The product list is updated.

Download Product Packages

You can download product installation and maintenance packages from the updated product catalog so they are ready for installation.

Follow these steps:

1. Log in to CA CSM using your credentials.
2. Select the **Products** tab.
3. Select the product name on the **Available Products** tree.
The product releases are listed in the **Releases** table on the right.
4. Select *one* of the following options:
 - To download product packages for all product releases, right-click the product name in the list, and select **Update Product**.
 - To download packages only for specific releases, select one or more releases in the **Releases** table on the right and select the **Update Product Releases** link.
5. To view the downloaded packages, you have the following options:
 - To display the downloaded maintenance packages, select the product release icon  in the product list.
 - To display the downloaded base installation packages, select the product gen level icon  below the product release in the product list.

The product packages are downloaded and ready for installation.

Add External Product Installation Packages

Sometimes you have product installation packages that you downloaded outside of CA CSM. For example, you do not have an HTTP or an FTP access in your mainframe environment, or the required packages are not available from the [CA Support \(http://www.ca.com/support\)](http://www.ca.com/support) Online website. You can use CA CSM to install these external packages according to your organization policy. If you are using this installation option, first add the external packages to the CA CSM software catalog.

Follow these steps:

1. Log in to CA CSM using your credentials.
2. Select the **Products** tab.
3. Select the **Add Product** link in the **Actions** section.

4. Specify the name, release, and gen level of the product, and select **OK**.
The product is added to the product list.
5. Select the gen level of the product that you want to download on the product tree.
The **Base Install Packages** section appears on the right.
6. Select the **Add External Package** button.
7. Specify *one* of the following package types and package details, and select **OK**.
 - **UNIX File**
Adds an installation package that is located in a USS directory in binary mode.
 - **FTP File**
Adds a product package that is not published on [CA Support \(http://www.ca.com/support\)](http://www.ca.com/support), for example, a beta version of a product.
 - **FTP Host**
Specifies the FTP server where the installation package is located. Select a server from the list, or provide your FTP server host.
 - **FTP Port**
Specifies the FTP port number for the FTP server.
 - **FTP Path**
Defines the FTP path where the installation package is located. Start the path with a forward slash (/). Enter only a forward slash to specify the root directory.
Example: /outgoing/
 - **Package Name**
Defines the package name.
Example: 0111.pax.Z
Note: You can use an asterisk (*) for the package name.
 - **User Name**
Defines a valid user name to access the FTP location.
 - **Password**
Defines a valid password to access the FTP location.
8. Refresh the page to see the added product package.
The product installation package is now listed in the product list and is available for installation with CA CSM.

Add External Product Maintenance Packages

Sometimes you have maintenance packages, for example, unpublished maintenance or a program temporary fix (PTF), that you downloaded outside of CA CSM. You can use CA CSM to install these external maintenance packages per your organization policy. For this installation option, first add the packages to the CA CSM software catalog.

Usually, the maintenance is placed as a single package. However, some CA Technologies products have older aggregated maintenance packages that were released before December 31, 2013. An *aggregated package* is a file that comprises several single maintenance packages (nested packages). When you add an aggregated package, CA CSM inserts all the nested packages and the aggregated package itself. In the list of maintenance packages, the aggregated package is marked with the CUMULATIVE type.

Follow these steps:

1. Log in to CA CSM using your credentials.
2. Select the **Products** tab.
3. Select the product release for which the maintenance applies.
The maintenance packages for the release are listed.
4. Select the **Add External Maintenance** button.
You are prompted to specify the package.
5. Specify *one* of the following package types and package details:
 - **Data Set**
Adds a maintenance package that is located in a z/OS data set with a logical record length of 80 and with a record format of fixed blocks.
 - **UNIX File**
Adds a maintenance package that is located in a USS directory in binary mode.
 - **FTP File**
Adds a maintenance package that is not published on [CA Support \(http://www.ca.com/support\)](http://www.ca.com/support). This option is intended for downloading a PTF to validate it.
 - **FTP Host**
Specifies the FTP server where the maintenance package is located. Select a server from the list, or provide your FTP server host.
 - **FTP Port**
Specifies the FTP port number for the FTP server.
 - **FTP Path**
Defines the FTP path where the maintenance package is located. Start the path with a forward slash (/). Enter only a forward slash to specify the root directory.
Example: /outgoing/
 - **Maintenance Name**
Defines the maintenance package name.
Example: RO01111.bin
 - **User Name**
Defines a valid user name to access the FTP location.
 - **Password**
Defines a valid password to access the FTP location.

- **Solution**

Adds a published solution from [CA Support \(http://www.ca.com/support\)](http://www.ca.com/support).

6. Refresh the page to see the added maintenance package.

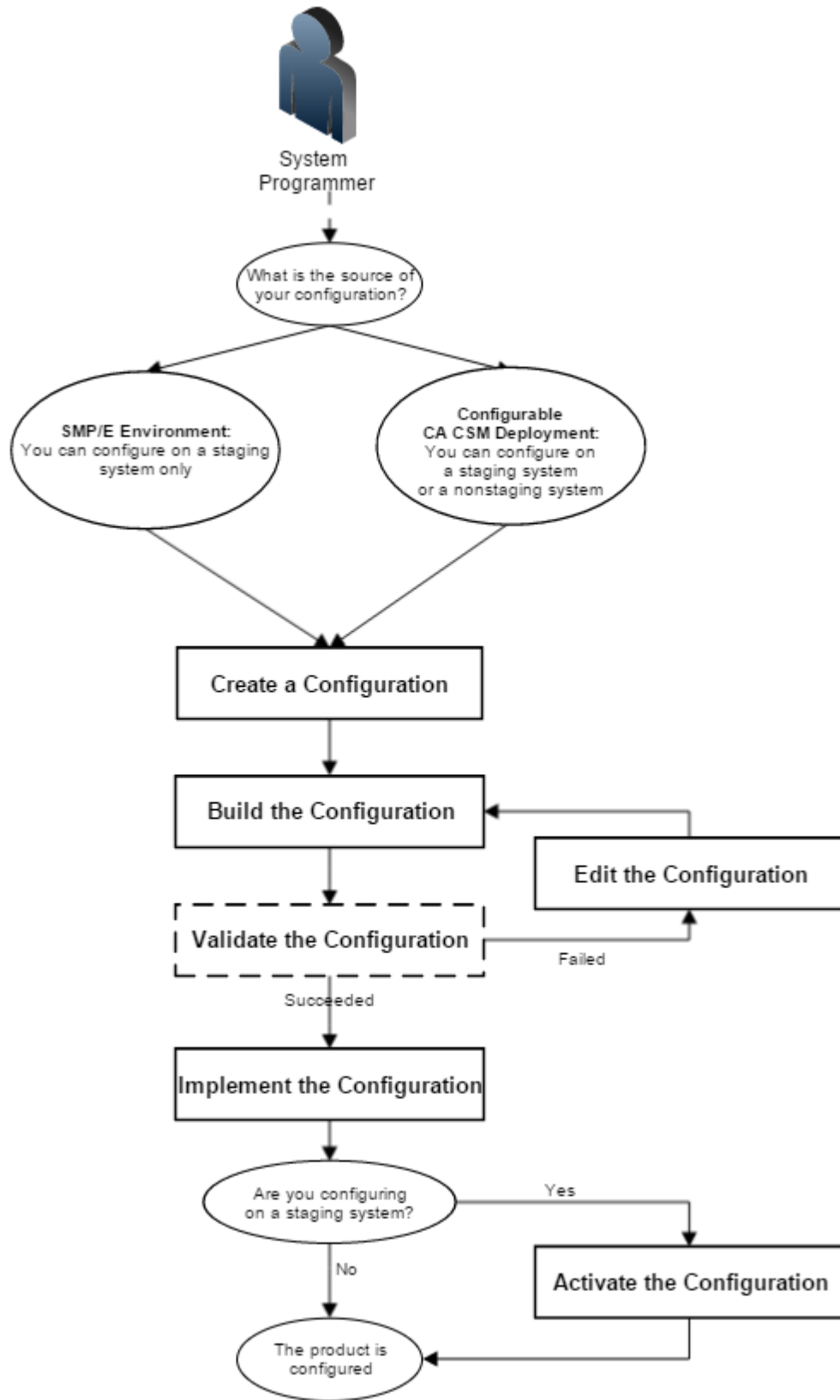
The product maintenance package is now listed in the product catalog and is available for installation with CA CSM.

You completed the acquiring process. The product packages are ready for installation with CA CSM.

Configure Your Product Using CA CSM

CA Chorus™ Software Manager (CA CSM) can help automate acquiring, installing, maintaining, deploying, and configuring mainframe software. As a system programmer, your responsibilities include configuring products using CA CSM. A *configuration* is a CA CSM object that you create to tailor your installed software or CA CSM deployed software. Configuration makes your software usable in your environment. A configuration contains the profiles, variables, and resources specific to your environment.

This diagram explains the configuration process.



1. Determine the source of your configuration based on your site environment:
 - If you configure a product from an SMP/E environment, you can only configure it on a staging system.
 - If you configure a product from a configurable CA CSM deployment, you can configure it on a staging system or a nonstaging system.
2. [Create a configuration \(see page 36\)](#).
3. [Build the configuration \(see page 39\)](#).
4. (Optional) [Validate the configuration \(see page 39\)](#).



Note: Although validation is optional, we recommend that you validate the configuration before implementation.

- If validation fails, [edit the configuration \(see page 41\)](#) and repeat the process from step 3.
- If validation succeeded, [implement the configuration \(see page 41\)](#).

5. (Staging systems only) [Activate the configuration \(see page 45\)](#).

The product configuration process completes.



Note: Perform any manual configuration steps outside of CA CSM now if needed.

For more information about configuring products, see the CA CSM online help.

Create a Configuration

You can create a configuration for a product that is installed in an SMP/E environment, or a product from an existing configurable CA CSM deployment.

The configuration wizard consists of several steps that let you set up your configuration as you prepare to implement it. When you go through the wizard, you define a set of properties for your configuration. For example, you define the product that you want to configure and the system you are targeting for the configuration. Optionally, you can select to import product configuration settings and variable values from a previous configuration for the selected product.

Each product configuration includes various settings, such as:

- The functions and options for the product

- Settings and preferences that are associated with the specified target system
- Resources for the product



Note: To avoid a conflict of resources between two or more configurations of a product, SCS manages the resources that are associated with previously defined configurations. To resolve conflicting (not unique) resources in your configuration, perform one of the following actions:

- Change the appropriate target setting to create a unique resource name.
- Delete the older configuration containing the existing resource name and release the conflicting resource.

If you import values from another configuration, you can optionally delete the configuration that you are importing the values from to avoid conflicts.

Follow these steps:

1. From the **Configurations** tab, select **Create Configuration** from the **Actions** section. The configuration wizard opens to step 1.



Note: You can also start the configuration wizard from the following locations:

- The **SMP/E Environments** tab - for a product in an SMP/E environment.
- The **Deployments** tab - for a product from an existing configurable CA CSM deployment. Starting the configuration wizard from the **Deployments** tab opens it to step 2.

2. Follow the instructions on the wizard to navigate through the wizard steps.
3. From the Review and Build step, review the configuration summary. You are ready to [build the configuration \(see page 39\)](#).



Note: If you do not want to build configuration now, save the configuration and close the wizard. You can build it later.

Configuring to a Staging System

Configuring a product that targets a staging system implies the DASD resources that are created as part of a product implementation will be local to the CA CSM driving system. The CA CSM driving system is the system where the CA CSM is running.

Configurations that you create for a staging system are implemented in the following phases:

1. CA CSM creates and customizes the product run-time data sets on the CA CSM driving system. When a configuration targets a staging system, the configuration wizard provides a set of catalog preference variables as part of the target settings. You can determine whether the customized run-time data sets that are created in the first phase should be cataloged in the catalog that is associated with the CA CSM driving system. This setting is default. If you decide not to catalog the data sets to the CA CSM driving system catalog, you can optionally specify the name of a user catalog where the customized run-time data sets are to be cataloged. If you do not provide the user catalog name, the data sets are uncataloged.



Note: The support for creating uncataloged run-time data sets assumes that the following statements are true:

- The volume that is specified for the run-time data sets is not SMS-managed.
- The rules that are established at your site allow the run-time data sets to be created as uncataloged data sets.

When an optional user catalog name is specified, you can specify optional alternate, or indirect, system residence volumes (SYSRES). By default, no SYSRES preference is specified.

- If no SYSRES preference is specified, the user catalog entries are created with the actual volume serial numbers of the run-time data sets.
- If a SYSRES preference is specified, the user catalog entries are created with an indirect reference to a system residence volume (or its logical extensions). Specifying a SYSRES preference lets you change the volume serial numbers of the system residence volume (or its logical extensions) later without having to recatalog the run-time data sets on those volumes.



Note: For more information about non-VSAM user catalog entries and indirect volume serial references, see the description of the DEFINE NONVSAM command in *IBM DFSMS Access Method Services for Catalogs (SC26-7394)*.

2. You make the data sets accessible and activate the configuration. Systems that do not share DASD with the CA CSM driving system do not have access to the run-time data sets. For those systems, move the run-time data sets to DASD that is accessible to the remote system. For moving the data sets, use a method that is appropriate for your site and environment. CA CSM does not endorse a specific technique or support transmitting the customized run-time data sets that are created when configuring a product to a staging system. After making the data sets accessible, [activate the configuration \(see page 45\)](#).

Build the Configuration

You can build a previously saved configuration, or you can rebuild your configuration (for example, if there is a problem with the build).

You can only build configurations with a status of Under Construction (8) (resume the configuration first), or Build failed.

Follow these steps:

Perform one of the following actions:

- If you are on the **Review and Build** step of the wizard, select **Build**.
- If your configuration is saved in a step before the **Review and Build** step, resume the configuration from the **Configurations** tab. Follow the instructions on the wizard to navigate through the wizard steps. From the **Review and Build** step, select **Build**.
- If your configuration is in Build failed status, select the Actions drop-down list to the right of the configuration, and select **Build**.
Optionally, you can [edit the configuration \(see page 41\)](#) before you build it again. Navigate to the **Review and Build** step of the wizard, and select **Build**.

A dialog that shows the progress of the task opens. When the task completes, select **Show Results** on the **Progress** tab to close this dialog. The task output browser opens, and you can view the action details.



Note: While a task is in progress, you can perform other work. Select **Hide** to exit the dialog and view the task status later on the **Tasks** tab.

The configuration is built.

Built configurations are ready to be optionally [validated \(see page 39\)](#) or [implemented \(see page 41\)](#). Before you start implementing a configuration, you can still [edit the configuration \(see page 41\)](#).

You can build your configuration again later (for example, if there is a problem with the build).

Validate the Configuration

Before you implement a configuration, you can validate it. Validation verifies access to resources that are going to be utilized when you [implement the configuration \(see page 41\)](#).



Note: Although validation is optional, we recommend that you validate the configuration before implementation.

You can only validate configurations with a status of Build completed, Validated, Validation error, Implementation stopped, or Implementation error.

While validation of a configuration is in progress, do not use the configuration data sets that are outside of CA CSM. Doing so helps avoid data set contention between the CA CSM validate processing and data sets being accessed outside of CA CSM.

Follow these steps:

1. Select the **Configurations** tab and locate the configuration that you want to validate.
2. Select the **Actions** drop-down list to the right of the configuration, and select **Validate**.
The validation dialog opens. This dialog contains status information and a table of numbered configuration steps.
The validation process is started and continues until it has successfully completed or fails. The steps in this dialog automatically update as operation data changes.
3. Review the operation steps. You can perform the following actions:
 - Select the link of a step name to [display information about the actions \(see page 43\)](#) that are associated with this step.
 - Select the icon in the **Text** column to see details about the processing that is associated with this step. If this step is manual, you can use this information to perform the step manually. Select **Show Details** to open a detailed summary for all steps in the configuration.
 - For the steps with prerequisites, hold the mouse over the icon in the **Prereq** column to review prerequisites details.

When the validation is completed, a message appears confirming that the validation succeeded or failed.



Note: While a validation is in progress, you can perform other work. Select Hide to exit the dialog without stopping the validation process. Select the configuration status link to bring back the validation dialog while the validation is still in progress, or view the status of the validation task later from the Tasks tab.

After the validation finishes and before you start implementing, you can still [edit the configuration \(see page 41\)](#).

After a validation has finished successfully for a configuration on a staging system, review the [activation instructions \(see page 45\)](#), if any. Select Activation Instructions from the validation dialog. Doing so opens the required steps that you will have to complete after you [implement the configuration \(see page 41\)](#) to [activate this configuration \(see page 45\)](#).

Edit the Configuration

You can edit configurations that you have previously created and built. You can edit a configuration if the build fails, or when validation fails because of an errant value.

You can only edit configurations in a status of Build complete, Build failed, Validated, or Validation error.

You can only edit a configuration that has not started implementing yet. After a configuration has started implementing, you cannot edit it.

You can only edit one configuration at a time.

Follow these steps:

1. Select the **Configurations** tab and locate the configuration that you want to edit.



Note: Select the **Status** column to sort by status and identify all configurations that you can edit.

2. Select the **Actions** drop-down list to the right of the configuration, and select **Edit**.
3. Change data on this step as needed, and navigate and make edits to the remaining steps in the wizard.

Implement the Configuration

When you start the implementation, CA CSM evaluates the defined steps and determines what steps to execute. The selected steps are presented as a list. Release them so that they can be eligible to execute after their prerequisite steps have successfully completed.



Note: Validation and implementation of a configuration may require exclusive access to data sets that the configuration specifies. Using data sets outside of CA CSM, such as ISPF edit and browse data sets, can introduce data set contention. Data set contention can result in validation and implementation errors. Therefore, while validation or implementation of a configuration is in progress, do not use the configuration data sets that are outside of CA CSM.

Implementation completes the configuration process for configurations on a nonstaging system. For configurations on staging systems, you may be required to perform extra steps to activate your configuration.

Implementation executes on the target system, applying the variables, resources, and operations that are defined in the configuration.

You can only implement configurations with a status of Build completed, Validated, Validation error, Implementation stopped, or Implementation error.

Follow these steps:

1. Select the **Configurations** tab and locate the configuration that you want to implement.
2. Select the **Actions** drop-down list to the right of the configuration, and select **Implement**. The **Implementation** dialog opens. This dialog contains status information, and a table of numbered operation steps.
3. Review the operation steps. You can perform the following actions:
 - Select the link of a step name to [display information about the actions \(see page 43\)](#) that are associated with this step.
 - Select the icon in the **Text** column to see details about the processing that is associated with this step. If this step is manual, you can use this information to perform the step manually.
 - For the steps that have prerequisites, hold the mouse over the icon in the **Prereq** column to see details about the prerequisites.
4. (Optional) Select one or more steps and perform the following actions using the action links:
 - **Set Automatic**
Changes the mode of the selected manual steps so that CA CSM automatically performs them when they are released and all prerequisites are satisfied.
You cannot change the mode of external steps. CA CSM cannot perform them automatically.
 - **Set Manual**
Changes the mode of the selected automatic steps so that they become manual steps that you must perform outside of CA CSM.
 - **Release**
Releases the selected steps. The steps become eligible for execution when all prerequisite steps are complete.
 - **Bypass**
Skips the selected steps. These steps are not released when you select Release All. If the bypassed steps are prerequisites for other steps, the prerequisites are considered satisfied. The dependent steps are executed when they are released.
5. For manual or external steps, select the **Actions** drop-down list to the right of a step, and select **Confirm**.
The step is confirmed as completed successfully. Any prerequisites that other steps within the implementation define are satisfied.
6. Perform one of the following actions:

- Select **Release All** to release all steps at once and execute them. However, steps do not execute if they have prerequisite steps that have not completed. Perform and confirm manual and external steps.
- Select **Release Next** to release and execute the next step in sequence. However, the step does not execute if it has prerequisite steps that have not completed. Select **Release Next** for each subsequent step, and confirm manual and external steps.

The implementation process is started and continues until it has successfully completed, is stopped manually, or fails. The steps in this dialog automatically update as operation data changes.



Note: While an implementation is in progress, you can perform other work. Select **Hide** to exit the dialog without stopping the implementation process. Select the configuration status link to bring back the implementation dialog while the implementation is still in progress, or view the status of the implementation task later from the **Tasks** tab.

You can select **Stop** to stop the implementation process. Non-executing steps are not started. You can start another run of the implementation from the **Configurations** tab by selecting the configuration and selecting **Implement**.

When the implementation is completed, a message appears confirming that the implementation succeeded or failed.

7. (For successful configurations on staging systems) Select **Activation Instructions** to open the required steps that you must complete next to [activate this configuration \(see page 45\)](#).



Note: If the configuration fails, [address implementation failures \(see page \)](#).

View Step and Action Details

The validation and implementation dialogs contain links that let you drill down for more information about steps and actions that are associated with each step.

Follow these steps:

1. On the **Validate Configuration** or **Implement Configuration** dialog, select the link for the step you want to view details.

An **Actions** dialog opens. The dialog contains the actions that are associated with this step as links if more information is available. This dialog contains the following columns:

- **Name**
Identifies the name of an action.
- **Type**
Identifies one of the following types for this action:

- **Action**
This type is an actual action.
- **Backup**
This action performs a backup operation if the action is recoverable.
- **Commit**
This action makes the changes from previous actions permanent.
- **Rollback**
This action reverts the changes from previous actions.
- **Group**
Identifies one of the following groups that are associated with this action:
 - **Operation action**
Describes the set of actions that perform the function of the operation.
 - **Preop recovery**
Describes the set of actions to be performed before all other actions in the operation.
 - **Postop recovery success**
Describes the set of actions to be performed if all actions complete successfully.
 - **Postop recovery failure**
Describes the set of actions to be performed if any action completes unsuccessfully.
 - **Cleanup**
Describes the set of actions to be performed after all other actions in the operation.
- **SRVC-CC**
Identifies the CA CSM services completion code for this action.



Note: This code is an internal CA CSM completion code that is returned from the executed service in the SCS address space.

- **SRVC-RC**
Identifies the CA CSM services return code for this action.



Note: This code is similar to the z/OS completion code.

- **Status**
Identifies the status for this action.

2. Select the link for the action you want to view details for.
Another dialog that contains details about this action opens.

Activate the Configuration

Activation of a configuration may be required when you configure a product on a staging system.

Configuring a product on a staging system can help:

- Create a customized set of run-time data sets that you then move to a target system for the final activation
- Create a fully implemented version of the product and test it locally

Activating the configuration makes your configuration fully functional on the target system.

You perform the following high-level process to activate the configuration:

1. (In CA CSM) Configure a product on a staging system.
2. (In CA CSM) Obtain the activation instructions that are available after the configuration is successfully built, validated, or implemented on a staging system. The activation instructions include extra steps that you have to perform on the configuration outside of CA CSM. For example, update data set members, or APF-authorize data sets.
3. (Outside of CA CSM) Perform one of the following actions:
 - If you activate a configuration on a staging system, follow the activation instructions on the staging system. Doing so activates the configuration and completes the configuration process.
 - If you activate a configuration on a remote system, deploy the configuration to the remote location. To do so, select and use a method that is appropriate for your site and environment. Follow the activation instructions on the remote system to activate the configuration and complete the configuration process.

Follow these steps:

1. Select the **Configurations** tab and locate the configuration that you want to activate.
2. Select the **Actions** drop-down list to the right of the configuration, and select **Activation Instructions**.
A dialog that shows activation instructions opens. This dialog contains information about steps that you have to perform to activate the configuration.
3. Review the steps.
4. (Optional) Select **Export** to print the activation instructions, or export them to a TXT file or a ZIP file.
5. Close the dialog.
6. Perform the steps that are described in the activation instructions.
Your configuration is activated and fully functional.

Address Implementation Failures

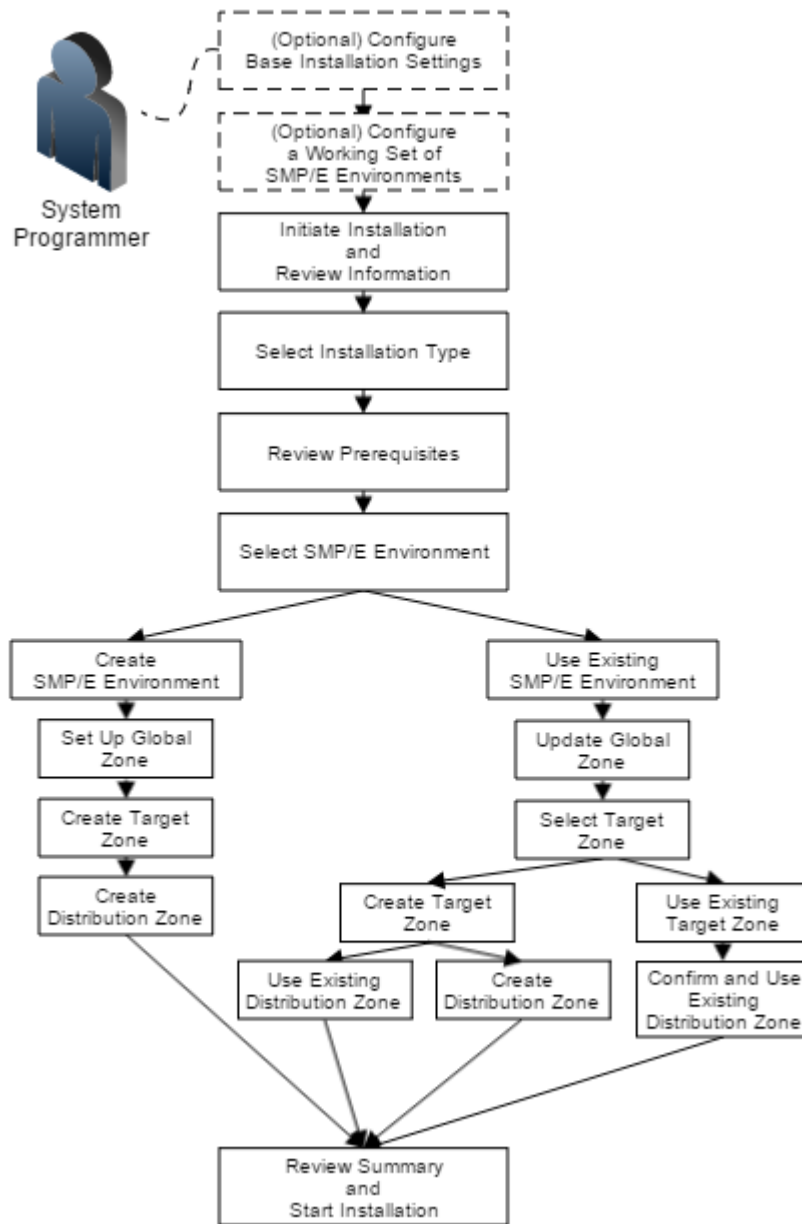
Follow these steps:

1. Determine the cause of the failure. [Drill down into the step and action details \(see page 43\)](#), and analyze the details.
2. If the error is related to a problem in your environment, make the necessary changes to your environment to correct the issue. [Implement this configuration \(see page 41\)](#) again.
3. If the error is related to the configuration settings in CA CSM, [create a new configuration \(see page 36\)](#) and import values from the failed configuration:
 - a. When in step 3 (Import Values), select **Import from Previous and Delete**. Doing so imports the values from the failed configuration, and deletes the failed configuration. This action prevents duplicate resource problems.
 - b. Modify the values in the new configuration as you need.
 - c. Complete the remaining wizard steps.
4. [Build the configuration \(see page 39\)](#).
5. [Validate the configuration \(see page 39\)](#) to discover and clean up any data sets that may have been created as part of the failed implementation attempt.
6. [Implement the configuration \(see page 41\)](#).
7. (Optional: Staging systems only) [Activate the configuration \(see page 45\)](#).

Install Products Using CA CSM

CA Chorus™ Software Manager (CA CSM) can help automate acquiring, installing, maintaining, deploying, and configuring mainframe software. As a System Programmer, your responsibilities include installing products in your z/OS environment using CA CSM.

This diagram shows the major steps to install your product using CA CSM.



1. (Optional) [Configure base installation settings \(see page 48\).](#)
2. (Optional) [Configure a working set of SMP/E environments \(see page 50\).](#)
3. [Initiate product installation \(see page 50\)](#) and [review product information \(see page 51\).](#)
4. [Select an installation type \(see page 51\).](#)
5. [Review installation prerequisites \(see page 52\)](#) if any are presented.
6. Take *one* of the following steps to [select an SMP/E environment \(see page 53\)](#):

- Create an SMP/E environment:
 - a. [Set up the global zone \(see page 53\).](#)
 - b. [Create a target zone \(see page 59\).](#)
 - c. [Create a distribution zone \(see page 63\).](#)
- Use an existing SMP/E environment from your working set:
 - a. [Update the global zone \(see page 56\).](#)
 - b. Set up the target zone: Either [create a target zone \(see page 59\)](#) or [use an existing target zone \(see page 61\)](#).
 - c. Set up the distribution zone: Either [create a distribution zone \(see page 63\)](#) or [use an existing distribution zone \(see page 65\)](#).



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. Doing so means that you can apply maintenance to your current version, if necessary.

7. [Review the installation summary and start the installation \(see page 67\).](#)



Note: For more information about installing products, see the CA CSM online help.

Configure Base Installation Settings

You can configure base installation settings on the System Settings, Software Installation page.

Follow these steps:

1. Select the Settings tab, and select the Software Installation link under System Settings in the Settings section on the left side.
2. In the **SIS Base Install - File System** section, select the file system type that is used when installing a product that allocates file systems. You select one of the following options:
 - **Product Specific File System**
 - **z/OS Distributed File Service zSeries File System (zFS)**





Note: If you select **Product Specific File System**, the file system that is used for installing a product is defined according to the product metadata. Otherwise, the product metadata is overwritten.

3. In the **Execute Checks During Base Installation** section, configure the following settings by selecting or clearing corresponding checkboxes:

- **Execute Apply Check During Base Installation**

Verifies that all requirements for the Apply step are satisfied before the Apply step executes. If the Apply Check step fails, installation stops and all the previous steps are undone.

- **Suspend Base Installation After Apply Check**

Suspends the base installation process after Apply Check is completed and generates pending installation actions for the SMP/E environment where the product is being installed.



Note: This check box is enabled if you enable the **Execute Apply Check During Base Installation** checkbox.

- **Execute Accept Check During Base Installation**

Verifies that all requirements for the Accept step are satisfied before the Accept step executes. If the Accept Check step fails, installation stops and all the previous steps are undone.

- **Suspend Base Installation After Accept Check**

Suspends the base installation process after Accept Check is completed and generates pending installation actions for the SMP/E environment where the product is being installed.



Note: This check box is enabled if you enable the **Execute Accept Check During Base Installation** checkbox.

4. Select **Apply**.

A dialog that shows the progress of the task opens. When the task completes, select **Show Results** on the **Progress** tab to close this dialog. The task output browser opens, and you can view the action details.



Note: While a task is in progress, you can perform other work. Select **Hide** to exit the dialog and view the task status later on the **Tasks** tab.

The base installation settings are configured.



Note: If you configure the base installation settings to execute checks during base installation, CA CSM creates a pending installation for the SMP/E environment. For more information about the pending installation, see the CA CSM online help.

Configure a Working Set of SMP/E Environments

If you plan to install a product in an existing SMP/E environment, add this SMP/E environment to your working set. A *working set* is a selected group of SMP/E environments with which you want to work. Although you can have only one working set, you can have as many SMP/E environments in it as you need.



Note: CA CSM does not have a default working set.

If you do not have the SMP/E environment in your working set, you can only create a new SMP/E environment during [product installation \(see page 53\)](#). In this case, exit the installation wizard, configure your working set and then [restart the wizard \(see page 50\)](#).

Follow these steps:

1. Select the **SMP/E Environments** tab, and select the SMP/E environments that you want to include in a working set.
An information text area under the list of SMP/E environments displays the number of environments you selected.
2. Select **Use as Working Set**.
3. Select **OK**.
The working set is configured.
The new working set replaces a previously defined working set.

You can display only those SMP/E environments that are in your working set by selecting **Show Working Set Only**.

Initiate Product Installation

You can install a downloaded product from the **Products** tab. The process starts a wizard that guides you through the installation. At the end of the wizard, a task dynamically invokes the SMP/E and other utilities that are required to install the product.

Follow these steps:

1. Select the **Products** tab.
2. Perform *one* of the following steps:

- If the package was acquired using CA CSM:
From the product list on the left side, select the required product gen level (the innermost level in the product list under the release level of a product; for example, SP0 or 0110). Locate the product package that you want to install, select **Actions** to the right of the package, and select Install.
- If the package was acquired outside of CA CSM:
In the Actions section in the left pane, select the Install External Package link. Enter the location of the package. Select OK.

The [Introduction](#) step of the wizard appears (see page 51).

Review Product Information

Review the information about the product that you are installing.

Follow these steps:

1. On the **Introduction** step, review the information about the installation.



Note: If the product license agreement appears, review it. If you agree, accept it. If you do not accept the license agreement, you cannot proceed with the installation.

2. Select **Next**.
You are prompted to [select the type of installation](#) (see page 51).



Note: An information text area can appear at the bottom of the wizard. The area provides information that helps you progress through the wizard. For example, if a field is highlighted (indicating an error), the information text area identifies the error.

Select an Installation Type

When you install a product, you select an installation type. There can be one or more installation types, according to the product.

When you select the custom installation type, you are prompted to select the features that you want to install. If your selected features require installation of other features, the installation wizard includes the required features to the installation process. If your selected features are mutually exclusive, the installation wizard excludes any features conflicting with the features you selected last from the installation process. For example, you select feature 1 and then select feature 2 that is mutually exclusive with feature 1. The wizard then automatically excludes feature 1.

Follow these steps:

1. On the **Features** step, select the type of installation, and select **Next**.
2. (Optional) If you select the custom installation type, select the features to install, and select **Next**.
A summary of the features to install appears, with [prerequisites \(see page 52\)](#).

Review Installation Prerequisites

Some products require an installation of other products first.

Review the summary of installation prerequisites to verify that all prerequisites are satisfied on the **Prerequisites** step.

- If no prerequisites exist, select **Next**.
You are prompted to [select an SMP/E environment for the installation \(see page 53\)](#).
- If all prerequisites exist and are satisfied, you are prompted to locate the installed prerequisites. Install the product to the same SMP/E environment and the target zone where the product prerequisites are installed.
 1. From the **SMP/E environment** drop-down list, select an SMP/E environment with the installed prerequisites. This drop-down list represents all CA CSM-managed SMP/E environments where the prerequisites are installed.
A list of target zones for the selected SMP/E environment where the prerequisites are installed is populated.
 2. From the **target zone** drop-down list, select a target zone within the selected SMP/E environment where the prerequisites are installed.
 3. Select **Next**.
You are prompted to [confirm the selected SMP/E environment for the installation \(see page 53\)](#).
- If prerequisites are not satisfied, perform one of the following actions:
 - Select **Cancel** to exit the wizard. Install the prerequisites or migrate an SMP/E environment to CA CSM where the prerequisites are installed. [Restart the installation. \(see page 50\)](#)
 - Open CA CSM in another browser window and install the prerequisites, or migrate an SMP/E environment to CA CSM where the prerequisites are installed. After you complete, select **Refresh** on the **Prerequisites** step of the wizard. Then, select the SMP/E environment and a target zone where the prerequisites are installed. Select **Next** to continue the product installation.
You are prompted to [confirm the selected SMP/E environment for the installation \(see page 53\)](#).

Select an SMP/E Environment

You select the SMP/E environment where you want to install your product in. You can create an SMP/E environment, or you can select an existing SMP/E environment from your working set. You can [configure your working set \(see page 50\)](#) from the SMP/E Environments tab.

While you work with an SMP/E environment, the environment is locked and other CA CSM users cannot perform any action against it. When the task finishes, logging out from CA CSM, or a CA CSM session is inactive for more than 10 minutes, the lock releases.

If you select an SMP/E environment being used in CA CSM by another user, a notification message appears. You are prevented from performing any actions on the SMP/E environment. You can wait until the notification message disappears and the SMP/E environment becomes available or can select Cancel to select another SMP/E environment.

Follow these steps:

1. On the **SMP/E Environment** step, substep 1, take one of the following steps:
 - Select **Create a New SMP/E Environment** to create an SMP/E environment.
 - Select an existing SMP/E environment from your working set.
 - If no existing SMP/E environment appears, exit the wizard, [configure your working set \(see page 50\)](#), and [restart the wizard \(see page 50\)](#).
 - If your product has the [installed prerequisites \(see page 52\)](#), the SMP/E environment with the installed prerequisites that you selected at the **Prerequisites** step of the wizard is preselected for you. You cannot select another SMP/E environment. You cannot create a new SMP/E environment.



Note: When you install a product in an existing SMP/E environment where HOLDDATA is received, the product installation may fail. For more information, see the online help.

2. Select Next.
You are prompted to set up the SMP/E environment.

Create an SMP/E Environment

You can create an SMP/E environment while you are installing a product. During the process, you are asked to specify the following information:

- The SMP/E environment name and the prefix of the CSI data set in CA CSM
- Data set allocation parameters

You can specify data set allocation parameters collectively for all SMP/E data sets, target libraries, and distribution libraries that are allocated during product installation. You allocate data sets using one of the following methods:

- Allocate data sets using SMS parameters.
- Allocate cataloged data sets using UNIT and optionally VOLSER.
- Allocate uncataloged data sets using UNIT and VOLSER.

If you allocate uncataloged data sets, specify a VOLSER. Based on the value that you enter, CA CSM performs the following validations to ensure integrity of the installation:

- The value of VOLSER must specify a mounted volume.
- You must have ALTER permissions for the data sets with the entered high-level qualifier (HLQ) on the volume that VOLSER defines.
- To test allocation, CA CSM temporarily allocates one of the uncataloged data sets that are allocated during the installation.
 1. The data set is allocated with one track for both primary and secondary space.
 2. CA CSM verifies that the data set has been allocated on the specified volume.
 3. The data set is deleted.

If the data set allocation fails or the data set cannot be found on the specified volume, you cannot proceed with the product installation wizard.

Follow these steps:

1. On the **SMP/E Environment** step, substep 2, review and specify the following parameters as applicable:
 - **SMP/E Environment Name**
Defines the SMP/E environment name.
 - **Data Set Name Prefix**
Defines the prefix for the name of the CSI VSAM data set.
 - **Catalog**
Defines the name of the SMP/E CSI catalog.
 - **Cross-Region**
Identifies the cross-region sharing option for SMP/E data sets.



Note: This parameter is set to its default value, and you cannot edit it.

- **Cross-System**

Identifies the cross-system sharing option for SMP/E data sets.



Note: This parameter is set to its default value, and you cannot edit it.

- **High-Level Qualifier**

Specifies the high-level qualifier (HLQ) for all SMP/E data sets that are allocated during installation. Product packaging defines the low-level qualifiers (LLQ). The low-level qualifiers cannot be changed.

- **DSN Type**

Specifies the DSN type for allocating SMP/E data sets.

- **SMS Parameters / Data Set Parameters**

Specifies if this SMP/E environment is using SMS or data set parameters.

- **Storage Class (SMS Parameters only)**

Defines the SMS storage class for SMP/E data sets.

- **Management Class (SMS Parameters only)**

Defines the management class for SMP/E data sets.

- **Data Class (SMS Parameters only)**

Defines the data class for SMP/E data sets.

- **VOLSER (Data Set Parameters only)**

Defines the volume serial number on which to place data sets. The volume must have enough space for allocating the data sets.



Note: This field is mandatory if you set Catalog to No.

- **Unit (Data Set Parameters only)**

Defines the type of the DASD on which to place data sets.

- **Catalog (Data Set Parameters only)**

Specifies if you want SMP/E data set to be cataloged.



Note: An information text area can appear at the bottom of the wizard. The area provides information that helps you progress through the wizard. For example, if a field is highlighted (indicating an error), the information text area identifies the error.

2. Select Next.

Work DDDEF allocation parameters and a list of the data sets to be created for the SMP/E environment appear (see page 57).

Review Parameters of an Existing SMP/E Environment

When you use an existing SMP/E environment to install your product, you review the SMP/E environment parameters. If applicable, you also specify parameters for any new data sets to be allocated while installing a product. During the process, you are asked to review allocation parameters for new data sets, which you can customize for each data set. The existing data sets remain intact.

The Software Installation Service (SIS) determines which data sets exist and which must be allocated for the installation using an existing SMP/E environment. If the SIS determines that new data sets must be allocated, you are prompted to specify the data set allocation parameters. The data set allocation parameters are prepopulated with the values from the existing data set that was found first.

Follow these steps:

1. On the **SMP/E Environment** step, substep 2, review the current SMP/E environment parameters and allocation parameters for data sets that must be added to the SMP/E environment. Update the information as applicable:



Note: You cannot change the current SMP/E environment parameters.

- **SMP/E Environment Name**
Identifies the SMP/E environment name.
- **Data Set Name Prefix**
Identifies the prefix for the name of the CSI VSAM data set.
- **Catalog**
Identifies the name of the SMP/E CSI catalog.
- **Cross-Region**
Identifies the cross-region sharing option for SMP/E data sets.
- **Cross-System**
Identifies the cross-system sharing option for SMP/E data sets.
- **High-Level Qualifier**
Specifies the high-level qualifier (HLQ) for all SMP/E data sets that are allocated during installation. Product packaging defines the low-level qualifiers (LLQ). The low-level qualifiers cannot be changed.
- **DSN Type**
Specifies the DSN type for allocating SMP/E data sets.

- **SMS Parameters / Data Set Parameters**

Specifies if this SMP/E environment is using SMS or data set parameters.

- **Storage Class (SMS Parameters only)**

Defines the SMS storage class for SMP/E data sets.

- **Management Class (SMS Parameters only)**

Defines the management class for SMP/E data sets.

- **Data Class (SMS Parameters only)**

Defines the data class for SMP/E data sets.

- **VOLSER (Data Set Parameters only)**

Defines the volume serial number on which to place data sets. The volume must have enough space for allocating the data sets.



Note: This field is mandatory if you set Catalog to No.

- **Unit (Data Set Parameters only)**

Defines the type of the DASD on which to place data sets.

- **Catalog (Data Set Parameters only)**

Specifies if you want SMP/E data set to be cataloged.



Note: An information text area can appear at the bottom of the wizard. The area provides information that helps you progress through the wizard. For example, if a field is highlighted (indicating an error), the information text area identifies the error.

2. Select **Next**.

[Work DDDEF allocation parameters and a list of the data sets to be created for the SMP/E environment, if any, appear \(see page 57\).](#)

Set Up SMP/E Environment Parameters

When creating an SMP/E environment for your product installation, you specify SMP/E environment parameters. When using an existing SMP/E environment for installing your product, you review and, if necessary, update its SMP/E environment parameters.

You can assign different prefixes to each newly allocated data set during the installation process.

Follow these steps:

1. On the SMP/E Environment step, substep 3, specify whether to use SMS or Unit parameters for allocating work DDDEFs for the SMP/E environment. Complete the appropriate fields. The following fields are available depending on your selection:

- **Storage Class (SMS only)**
Defines the SMS storage class for work DDDEFs.
- **Management Class (SMS only)**
Defines the management class for work DDDEFs.
- **Data Class (SMS only)**
Defines the data class for work DDDEFs.
- **Unit (Unit only)**
Defines the type of the DASD on which to place work DDDEFs.

The allocation parameters that you specify for work DDDEFs are applied only to new work DDDEFs that are created during the installation. The existing work DDDEFs, if any, remain intact.



Note: The settings for allocating work DDDEFs are globally defined on the **System Settings, Software Installation** tab. You must have the appropriate access rights to be able to modify these settings.

2. Review the data set names if any appear. Select the **Override** link to change the high-level qualifier of the data set name and the allocation parameters. Select **OK**.
3. (Optional) If any additional parameters appear, review the parameters that already have the default values assigned. Edit the parameters if necessary and specify any missing parameters.
4. Select **Next**.
You are prompted to [select a target zone to use \(see page 58\)](#).

Select a Target Zone

You select a target zone in the SMP/E environment where you want to install your product. You create a target zone or select an existing target zone in the SMP/E environment (if you use an existing SMP/E environment).

Follow these steps:

1. On the **Target Zone** step, substep 1, perform one of the following actions:
 - Select **Create a New Target Zone** to create a target zone.
 - Select an existing target zone in the SMP/E environment.
This option is available only if you selected to use an existing SMP/E environment.



- 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.

- If your product has the [installed prerequisites \(https://docops.ca.com/display/CCSM61/Review+Installation+Prerequisites\)](https://docops.ca.com/display/CCSM61/Review+Installation+Prerequisites), the target zone of the SMP/E environment with the installed prerequisites that you selected at the **Prerequisites** step of the wizard is preselected for you. You cannot select another target zone. You cannot create a new target zone.

2. Select **Next**.
You are prompted to set up the target zone.

Create a Target Zone

You can create a target zone in a new or an existing SMP/E environment where you install your product. The target zone parameters are prepopulated with the values that are entered for the SMP/E environment. You can change data set allocation parameters.

You can specify a different SMP/E environment data set to be used for a new target zone.

Follow these steps:

1. On the **Target Zone** step, substep 2, review and specify the following parameters as applicable:

- **Target Zone Name**
Defines the name for the target zone.
- **Create New CSI Data Set**
Specifies that a new CSI data set will be created for the target zone.
- **Data Set Name Prefix**
Defines the prefix for the name of the target zone data set.



Note: This field is only enabled when you have the **Create New CSI Data Set** check box selected.

- **Catalog**
Defines the name of the SMP/E target zone catalog.



Note: This field is only enabled when you have the **Create New CSI Data Set** check box selected.

- **Cross-Region**
Identifies the cross-region sharing option for SMP/E data sets.



Note: This parameter is set to its default value, and you cannot edit it.

- **Cross-System**

Identifies the cross-system sharing option for SMP/E data sets.



Note: This parameter is set to its default value, and you cannot edit it.

- **High-Level Qualifier**

Specifies the high-level qualifier (HLQ) for all target zone data sets that are allocated during installation. Product packaging defines the low-level qualifiers (LLQ) and they cannot be changed.

- **DSN Type**

Specifies the DSN type for allocating target zone data sets.

- **SMS Parameters / Data Set Parameters**

Specifies if this target zone uses SMS or data set parameters.

- **Storage Class (SMS Parameters only)**

Defines the SMS storage class for target zone data sets.

- **Management Class (SMS Parameters only)**

Defines the management class for target zone data sets.

- **Data Class (SMS Parameters only)**

Defines the data class for target zone data sets.

- **VOLSER (Data Set Parameters only)**

Defines the volume serial number on which to place data sets. The volume must have enough space for allocating the data sets.



Note: This field is mandatory if you set Catalog to No.

- **Unit (Data Set Parameters only)**

Defines the type of the DASD on which to place data sets.

- **Catalog (Data Set Parameters only)**

Specifies if you want SMP/E data set to be cataloged.



Note: An information text area can appear at the bottom of the wizard. The area provides information that helps you progress through the wizard. For example, if a field is highlighted (indicating an error), the information text area identifies the error.

2. Select **Next**.

A list of the data sets to be created for the target zone appears (see page 62).

Use an Existing Target Zone

When using an existing target zone for installing your product, you review and, if necessary, update its parameters.

Follow these steps:

1. On the **Target Zone** step, substep 2, review the current target zone parameters and allocation parameters for data sets that must be added. Update as applicable:



Note: You cannot change the current SMP/E environment parameters.

- a.
 - **Target Zone Name**
Identifies the name for the target zone.
 - **Data Set Name Prefix**
Identifies the prefix for the name of the target zone data set.
 - **Catalog**
Identifies the name of the SMP/E target zone catalog.
 - **Cross-Region**
Identifies the cross-region sharing option for SMP/E data sets.
 - **Cross-System**
Identifies the cross-system sharing option for SMP/E data sets.
 - **High-Level Qualifier**
Specifies the high-level qualifier (HLQ) for all target zone data sets that are allocated during installation. Product packaging defines the low-level qualifiers (LLQ) and they cannot be changed.
 - **DSN Type**
Specifies the DSN type for allocating target zone data sets.
 - **SMS Parameters / Data Set Parameters**
Specifies if this target zone uses SMS or data set parameters.
 - **Storage Class (SMS Parameters only)**
Defines the SMS storage class for target zone data sets.
 - **Management Class (SMS Parameters only)**
Defines the management class for target zone data sets.
 - **Data Class (SMS Parameters only)**
Defines the data class for target zone data sets.

- **VOLSER (Data Set Parameters only)**

Defines the volume serial number on which to place data sets. The volume must have enough space for allocating the data sets.

Note: This field is mandatory if you set Catalog to No.

- **Unit (Data Set Parameters only)**

Defines the type of the DASD on which to place data sets.

- **Catalog (Data Set Parameters only)**

Specifies if you want SMP/E data set to be cataloged.



Note: An information text area can appear at the bottom of the wizard. The area provides information that helps you progress through the wizard. For example, if a field is highlighted (indicating an error), the information text area identifies the error.

2. Select **Next**.

If there are any data sets to be created for the target zone, [a list of data sets appears \(see page 62\)](#). If the list is empty, no new data sets are going to be allocated.

Set Up Target Zone Parameters

When creating a target zone in the SMP/E environment for your product installation, specify target zone parameters.

Follow these steps:

1. On the **Target Zone** step, substep 3, review the data set names if any appear. Select the **Override** link to change the high-level qualifier of the data set name and the allocation parameters. Select **OK**.
2. (Optional) If more parameters appear, review the parameters that have the default values assigned. Edit the parameters if necessary and specify any missing parameters.
3. Select **Next**.
You are prompted to [confirm the distribution zone \(see page 62\)](#).

Confirm a Distribution Zone

You must confirm a distribution zone of the SMP/E environment where you want to install your product. Depending on whether you created a target zone or you selected an existing target zone, create a distribution zone or select an existing distribution zone in the SMP/E environment.

Follow these steps:

1. On the **Distribution Zone** step, substep 1, review the selected option for the distribution zone.

- If you are using an existing target zone, the related distribution zone is automatically selected. You cannot select other distribution zones or cannot create a new one.



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.

- If you are creating a target zone, you can create a distribution zone or you can select an existing distribution zone.



Note: Using an existing distribution zone with a new target zone relates the existing distribution zone to the new target zone. This action breaks the relationship from the previous target zone that was related to this distribution zone. You cannot accept maintenance packages from the previous target zone to this distribution zone using CA CSM.

2. Select **Next**.

You are prompted to set up the distribution zone.

Create a Distribution Zone

You can create a distribution zone that is related to the newly created target zone. The distribution zone parameters are prepopulated with the values that are entered for the SMP/E environment. You can change data set allocation parameters.

You can specify a different SMP/E environment data set to be used for the new distribution zone.

You can also specify the same SMP/E environment data set as the one that you specified for the target zone. In that case, the target and distribution zones share the SMP/E environment data set. The SMP/E environment data set will be allocated using the parameters that you have defined when specifying the target zone.

Follow these steps:

1. On the **Distribution Zone** step, substep 2, review and specify the following parameters as applicable:
 - **Distribution Zone Name**
Defines the name for the distribution zone.
 - **Create New CSI Data Set**
Specifies that a new CSI data set will be created for the distribution zone.
 - **Data Set Name Prefix**
Defines the prefix for the name of the distribution zone data set.



Note: This field is only enabled when you have the **Create New CSI Data Set** check box selected.

- **Catalog**

Defines the name of the SMP/E distribution zone catalog.



Note: This field is only enabled when you have the **Create New CSI Data Set** check box selected.

- **Cross-Region**

Identifies the cross-region sharing option for SMP/E data sets.



Note: This parameter is set to its default value, and you cannot edit it.

- **Cross-System**

Identifies the cross-system sharing option for SMP/E data sets.



Note: This parameter is set to its default value, and you cannot edit it.

- **High-Level Qualifier**

Specifies the high-level qualifier (HLQ) for all distribution zone data sets that are allocated during installation. Product packaging defines the low-level qualifiers (LLQ) that cannot be changed.

- **DSN Type**

Specifies the DSN type for allocating distribution zone data sets.

- **SMS Parameters / Data Set Parameters**

Specify if this distribution zone is to use SMS or data set parameters. Complete the applicable fields.

- **Storage Class (SMS Parameters only)**

Defines the SMS storage class for distribution zone data sets.

- **Management Class (SMS Parameters only)**

Defines the management class for distribution zone data sets.

- **Data Class (SMS Parameters only)**

Defines the data class for distribution zone data sets.

- **VOLSER (Data Set Parameters only)**

Defines the volume serial number on which to place data sets. The volume must have enough space for allocating the data sets.



Note: This field is mandatory if you set Catalog to No.

- **Unit (Data Set Parameters only)**
Defines the type of the DASD on which to place data sets.
- **Catalog (Data Set Parameters only)**
Specifies if you want SMP/E data set to be cataloged.



Note: An information text area can appear at the bottom of the wizard. The area provides information that helps you progress through the wizard. For example, if a field is highlighted (indicating an error), the information text area identifies the error.

2. Select **Next**.

A list of the data sets to be created for the distribution zone appears (see page 67).

Use an Existing Distribution Zone

You can use an existing distribution zone that is related to the existing target zone you selected, or with a new target zone. The distribution zone parameters are prepopulated with the values that are entered for the SMP/E environment. You can change data set allocation parameters.



Note: Using an existing distribution zone with a new target zone relates the existing distribution zone to the new target zone. This action breaks the relationship from the previous target zone that was related to this distribution zone. You cannot accept maintenance packages from the previous target zone to this distribution zone using CA CSM.

Follow these steps:

1. On the **Distribution Zone** step, substep 2, review the current distribution zone parameters and allocation parameters for data sets that you want to add. Update as applicable:



Note: You cannot change the current SMP/E environment parameters.

- **Distribution Zone Name**
Identifies the name for the distribution zone.
- **Data Set Name Prefix**
Identifies the prefix for the name of the distribution zone data set.

- **Catalog**
Identifies the name of the SMP/E distribution zone catalog.
- **Cross-Region**
Identifies the cross-region sharing option for SMP/E data sets.
- **Cross-System**
Identifies the cross-system sharing option for SMP/E data sets.
- **High-Level Qualifier**
Specifies the high-level qualifier (HLQ) for all distribution zone data sets that are allocated during installation. Product packaging defines the low-level qualifiers (LLQ) that cannot be changed.
- **DSN Type**
Specifies the DSN type for allocating distribution zone data sets.
- **SMS Parameters / Data Set Parameters**
Specify if this distribution zone is to use SMS or data set parameters. Complete the applicable fields.
 - **Storage Class (SMS Parameters only)**
Defines the SMS storage class for distribution zone data sets.
 - **Management Class (SMS Parameters only)**
Defines the management class for distribution zone data sets.
 - **Data Class (SMS Parameters only)**
Defines the data class for distribution zone data sets.
 - **VOLSER (Data Set Parameters only)**
Defines the volume serial number on which to place data sets. The volume must have enough space for allocating the data sets.



Note: This field is mandatory if you set Catalog to No.

- **Unit (Data Set Parameters only)**
Defines the type of the DASD on which to place data sets.
- **Catalog (Data Set Parameters only)**
Specifies if you want SMP/E data set to be cataloged.



Note: An information text area can appear at the bottom of the wizard. The area provides information that helps you progress through the wizard. For example, if a field is highlighted (indicating an error), the information text area identifies the error.

2. Select **Next**.

If there are any data sets to be created for the distribution zone, [a list of data sets appears \(see page 67\)](#). If the list is empty, no new data sets are going to be allocated.

Set Up Distribution Zone Parameters

When creating a distribution zone in the SMP/E environment where you want to install your product, specify distribution zone parameters.

Follow these steps:

1. On the **Distribution Zone** step, substep 3, review the data set names if any appear. Select the **Override** link to change the high-level qualifier of the data set name and the allocation parameters. Select **OK**.
2. (Optional) If any additional parameters appear, review the parameters that already have the default values assigned. Edit the parameters if necessary and specify any missing parameters.
3. Select **Next**.
You see a [summary of the installation task \(see page 67\)](#).

Start the Installation

After you complete setting up the SMP/E environment and its zones, you are ready to start the installation.

To start the installation, review the summary on the **Summary** step, and select **Install**.

A dialog that shows the progress of the task opens. When the task completes, Select **Show Results** on the **Progress** tab to close this dialog. The task output browser opens, and you can view the action details.



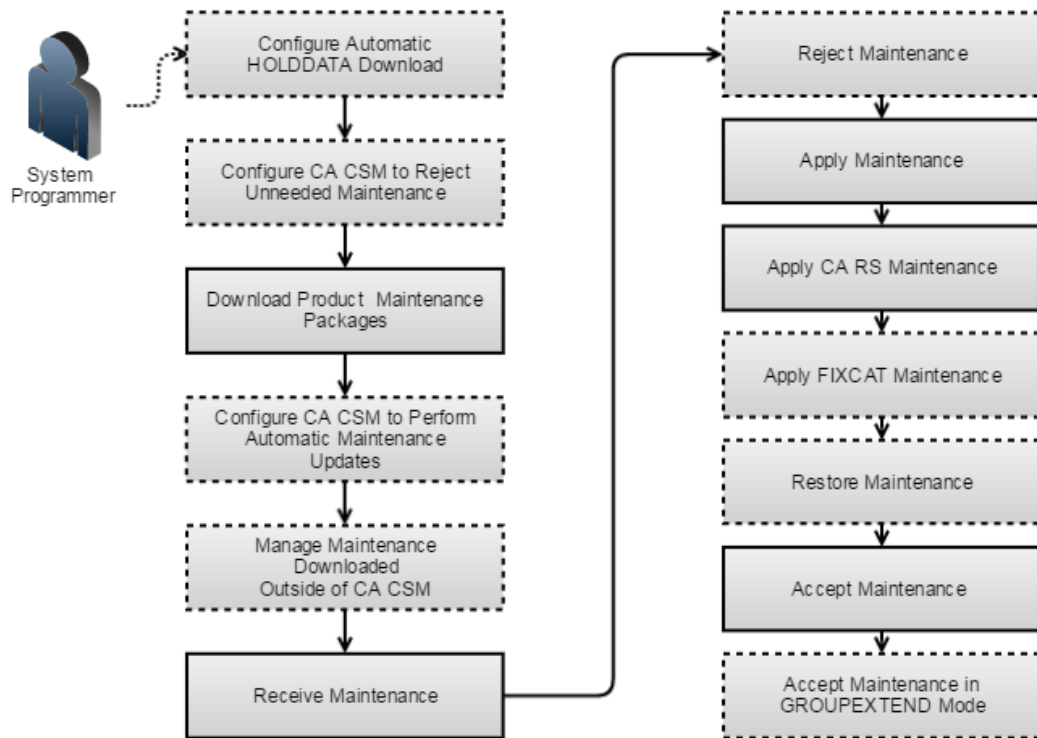
Note: While a task is in progress, you can perform other work. Select **Hide** to exit the dialog and view the task status later on the **Tasks** tab.

You completed the product installation. You can now start maintaining the installed products.

Maintain Products Using CA CSM

CA Chorus™ Software Manager (CA CSM) can help automate acquiring, installing, maintaining, deploying, and configuring mainframe software. As a System Programmer, your responsibilities include maintaining products and maintenance packages in your mainframe environment. CA CSM provides a product list that enables you to display the list of licensed product maintenance packages and to download these packages. Also, you can manage external maintenance packages that you acquired outside of CA CSM so that they can be applied using CA CSM.

This diagram shows the maintenance process.



1. (Optional) [Configure automatic HOLDDATA download \(see page 69\).](#)
2. (Optional) [Configure CA CSM to reject unneeded maintenance \(see page 70\).](#)
3. [Download product maintenance packages \(see page 71\).](#)
 - (Optional) [Configure CA CSM to perform automatic maintenance updates \(see page 72\).](#)
4. (Optional) [Manage maintenance downloaded outside of CA CSM \(see page 72\).](#)
5. [Receive maintenance \(see page 74\).](#)
6. (Optional) [Reject maintenance \(see page 76\).](#)
7. [Apply maintenance \(see page 77\).](#)
 - a. [Apply CA RS maintenance \(see page \).](#)
 - b. (Optional) [Apply FIXCAT maintenance \(see page \).](#)
8. (Optional) [Restore maintenance \(see page 84\).](#)
9. [Accept maintenance \(see page 85\).](#)
 - (Optional) [Accept maintenance in GROUPEXTEND mode \(see page \).](#)

After you complete this process, the maintenance packages for your products are accepted.



Note: You have deployed and configured a product across your enterprise. Now you are applying maintenance to this product. Create a deployment and a configuration for this product to get this maintenance to your target systems.

Configure Automatic HOLDDATA Download

You can configure CA CSM to download automatically the available HOLDDATA that it uses for each maintenance installation. You then have current information about what maintenance packages are marked as PE (PTF in Error).

Follow these steps:

1. Select the **Settings** tab, and select the **Software Catalog** link under **System Settings** in the **Settings** section on the left side.
2. In the **HOLDDATA Settings** section, select the **Enable Automatic Updates** checkbox.
3. Set up values for the following fields, and select **Apply**:

- **Owner of Update Task**

Specifies the TSO user ID under which the update task is run.

- **Recurrence**

Specifies how often the task recurs.

- **Update Software Catalog Every *number of Days***

or

- **Update Software Catalog On *day of week* Every *number of Weeks***

Specifies the frequency of downloading HOLDDATA to your software catalog, in days or weeks, depending on the value of **Recurrence**.



Note: Imagine you set the recurrence for a specific number of days and you set the time that precedes the current time. Then the first update occurs in the specified number of days at the specified time. For example, on Monday at 10.30am, you set the number of days to 3 and time to 07.00. The first update then occurs on the third day, Thursday, at 7.00am. When you set the time past the current time, the first update occurs on the same day at the time set. For example, on Monday at 10.30am, you set the number of days to 3 and time to 11.00. The first update then occurs on that Monday at 11.00am.

- **System Time**

Specifies the system time when an automatic update occurs. The system time reflects your CA CSM application server time zone. The TZ parameter within Tomcat startup libraries defines the time zone. If the TZ parameter is not defined, the CA CSM application server time zone defaults to GMT - Greenwich Mean Time.



Note: Local time is calculated based on the system time that you set.



Note: To download available HOLDDATA to the software catalog immediately, select **Update Immediately**.

The automatic HOLDDATA download is configured.

Configure CA CSM to Reject Unneeded Maintenance from the SMP/E Environment

During the regular, FIXCAT, or CA RS maintenance wizard execution, CA CSM may receive maintenance. Some maintenance packages may not be directly associated with the maintenance that you want to apply.

You can configure CA CSM to reject the maintenance that was received but not applied during the wizard execution.

- If you exit the wizard before the maintenance installation started, CA CSM rejects the maintenance that has been received during the wizard execution. The SMP/E environment is restored to the state that it had before you started the wizard.
- If you navigated through the wizard steps, started the maintenance installation task, and the task completed successfully, CA CSM rejects the received but not applied maintenance that is not directly associated with the maintenance that you have applied.

This process ensures that your SMP/E environments do not contain unneeded received maintenance.

Follow these steps:

1. Select the **Settings** tab, and select the **Software Installation** link under **System Settings** on the left side.
2. In the **Maintenance Installation** section, select the **Reject Received Maintenance** checkbox.
3. Select **Apply**.
A dialog that shows the progress of the task opens. When the task completes, select **Show Results** on the **Progress** tab to close this dialog. The task output browser opens, and you can view the action details.



Note: While a task is in progress, you can perform other work. Select **Hide** to exit the dialog and view the task status later on the **Tasks** tab.

CA CSM is configured to reject unneeded maintenance.

Download Product Maintenance Packages

You can download maintenance packages for installed products through the Products tab. You can download:

- All maintenance packages for a product
- Only maintenance packages that have been released from the time the product release was updated last



Note: The information for HIPERs and new maintenance on the Software Status tab is based on the current information in your software catalog. We recommend that you update the product list on a daily or weekly basis to keep it current.



Important! You can also download maintenance using the CA SMP/E Internet Service Retrieval. This option uses the IBM SMP/E RECEIVE ORDER command to download CA Mainframe product maintenance over the Internet, by securely submitting an order for PTFs and HOLDDATA to a remote CA server. This service eliminates the manual steps that are required to download maintenance from CA Support Online. The orders are fulfilled based on the status of your SMP/E environments. Based on your order criteria, all PTFs and their requisites are downloaded automatically and received to your system.

To use this download option, complete the procedures in [CA SMP/E Internet Service Retrieval \(https://docops.ca.com/mainframe-common-maintenance/en\)](https://docops.ca.com/mainframe-common-maintenance/en). After you set up this service, you can use CA CSM to apply and accept your maintenance.

Follow these steps:

1. Verify that your CA CSM login user name is associated with a registered user of CA Support online on the **Software Acquisition Settings** page.
CA CSM uses the credentials to access CA Support.
2. Select the name of the product for which you want to download maintenance in the product list on the left side.
Maintenance information about the product appears in the Releases section on the right side.
3. For the product release for which you want to download maintenance, select the **Actions** drop-down list to the right of the release. Complete one of the following steps:
 - Select **Update Product Release** to download all maintenance packages for the product release.

- Select **Get Latest Maintenance** to download only maintenance packages that have been released from the time the product release was updated last.

A dialog that shows the progress of the task opens. When the task completes, select **Show Results** on the **Progress** tab to close this dialog. The task output browser opens, and you can view the action details.



Note: While a task is in progress, you can perform other work. Select **Hide** to exit the dialog and view the task status later on the **Tasks** tab.

The maintenance packages are downloaded.

Configure CA CSM to Perform Automatic Maintenance Updates

You can configure CA CSM to perform automatic maintenance updates (downloading and receiving maintenance) for products that are installed in an SMP/E environment.



Note: For more information about automatic maintenance updates, see Configuring CA CSM to Perform Automatic Maintenance Updates at [CA Chorus Software Manager documentation \(https://docops.ca.com/docops.ca.com/csmzos\)](https://docops.ca.com/docops.ca.com/csmzos).

Manage Maintenance Downloaded Outside of CA CSM

Sometimes you acquire maintenance packages, such as unpublished maintenance, PTF, APARs, and USERMODs, outside of CA CSM. For example, you are validating a test PTF released for a product. You can add information about these maintenance packages to CA CSM from the Products tab.

Adding these maintenance packages to CA CSM provides you with a complete view of all the maintenance for a product release. After a package is migrated, you can use CA CSM to [apply the maintenance \(see page 77\)](#).

Usually, the maintenance is placed as a single package. However, some CA Technologies products still have older aggregated maintenance packages that were released before December 31, 2013. An *aggregated package* is a file that comprises several single maintenance packages (nested packages). When you add an aggregated package, CA CSM inserts all the nested packages and the aggregated package itself. In the list of maintenance packages, the aggregated package is marked with the CUMULATIVE type.

When you insert an aggregated package, CA CSM assigns a fix number to it. The fix number is unique and contains eight characters. The first two characters are AM (for Aggregated Maintenance) and a unique six-digit number follows. The number value increases by 1 with each added aggregated package.



Note: If the aggregated maintenance package has the same fix number as one of its nested packages, only the nested package is added. The aggregated package itself is not available in the list of maintenance packages.

Follow these steps:

1. Select the **Products** tab, and select the product release for which the maintenance applies.
2. Select the **Add External Maintenance** button.
3. Specify one of the following package types and package details:
 - **Data Set**
Adds a maintenance package that is located in a z/OS data set with an LRECL of 80 and RECFM of FB.
 - **UNIX File**
Adds a maintenance package that is located in a USS directory in binary mode.
 - **FTP File**
Adds a maintenance package that is not published on CA Support. This option is intended for downloading a PTF to validate it.
 - **FTP Host**
Specifies the FTP server where the maintenance package is located. Select a server from the list, or provide your FTP server host.
 - **FTP Port**
Specifies the FTP port number for the FTP server.
 - **FTP Path**
Defines the FTP path where the maintenance package is located. Start the path with a forward slash (/). Enter only a forward slash to specify the root directory.
Example: /outgoing/
 - **Maintenance Name**
Defines the maintenance package name.
Example: RO01111.bin
 - **User Name**
Defines a valid user name to access the FTP location.
 - **Password**
Defines a valid password to access the FTP location.
 - **Solution**
Adds a published solution on [CA Support \(http://www.ca.com/support\)](http://www.ca.com/support).



Note: To add several data sets or UNIX file packages from the same location, use masking.

4. Select **OK**.

A dialog that shows the progress of the task opens. When the task completes, select **Show Results** on the **Progress** tab to close this dialog. The task output browser opens, and you can view the action details.



Note: While a task is in progress, you can perform other work. Select **Hide** to exit the dialog and view the task status later on the **Tasks** tab.

The maintenance package with the related information is saved in the CA CSM database.



Note: To see the added package, refresh the page.

View Aggregated Package Details

You can view which nested packages are included in the aggregated package. The information includes the fix number, package type, and package description.



Note: Aggregated maintenance packages were discontinued December 31, 2013. However, some CA Technologies products have aggregated maintenance packages that were released before this date.

Follow these steps:

1. Select the **Products** tab, and select the product release that has the aggregated package whose details you want to view.
2. Select the **Fix #** link for the aggregated package.
The **Maintenance Package Details** dialog opens.
3. Select the **Nested Packages** tab.
A list of nested packages that the aggregated package contains appears.

Receive Maintenance

After maintenance has been downloaded for a product, you can receive the maintenance to the global zone of an SMP/E environment where the related products are installed. Once received, maintenance packages can be applied.





Note: While you work with an SMP/E environment, the environment is locked and other CA CSM users cannot perform any action against it. When the task finishes, logging out from CA CSM, or a CA CSM session is inactive for more than 10 minutes, the lock releases.

Follow these steps:

1. Select the **SMP/E Environments** tab, and select the SMP/E environment where you want to receive maintenance packages.
2. Select Maintenance.



Note: If you do not see any maintenance package listed, verify that you have maintenance view criteria defined.

3. Select the maintenance packages that you want to receive, and select the Receive link. The maintenance wizard opens to the Introduction step.



Note: If you select an SMP/E environment being used in CA CSM by another user, a notification message appears. You are prevented from performing any actions on the SMP/E environment. Wait until the notification message disappears and the SMP/E environment becomes available, or select Cancel to select another SMP/E environment.

4. Review the information about the receiving, and select **Next**.
5. Review and adjust the receive list selections as required, and select **Next**.
6. Review the summary, and select **Receive**.
A dialog that shows the progress of the task opens. When the task completes, select **Show Results** on the **Progress** tab to close this dialog. The task output browser opens, and you can view the action details.



Note: While a task is in progress, you can perform other work. Select **Hide** to exit the dialog and view the task status later on the **Tasks** tab.

The maintenance packages are received to the SMP/E environment global zone.

Reject Maintenance

You can reject a received maintenance package. Information about the maintenance package is removed from the SMP/E environment global zone.



Note: While you work with an SMP/E environment, the environment is locked and other CA CSM users cannot perform any action against it. When the task finishes, logging out from CA CSM, or a CA CSM session is inactive for more than 10 minutes, the lock releases.

Follow these steps:

1. Select the **SMP/E Environments** tab, and select the SMP/E environment from which you want to reject maintenance.
2. Select **Maintenance**.



Note: If you do not see any maintenance package listed, verify that you have maintenance view criteria defined.

3. Select the maintenance packages that you want to reject, and select the **Reject** link.



Note: You can filter out only received packages.

The maintenance wizard opens to the Introduction step.



Note: If you select an SMP/E environment being used in CA CSM by another user, a notification message appears. You are prevented from performing any actions on the SMP/E environment. Wait until the notification message disappears and the SMP/E environment becomes available, or select Cancel to select another SMP/E environment.

4. Review the information about the rejection, and select **Next**.
5. Review and adjust the rejected list selections as required, and select **Next**.

6. Review the summary, and select **Reject**.

A dialog that shows the progress of the task opens. When the task completes, select **Show Results** on the **Progress** tab to close this dialog. The task output browser opens, and you can view the action details.



Note: While a task is in progress, you can perform other work. Select **Hide** to exit the dialog and view the task status later on the **Tasks** tab.

The maintenance packages are rejected. Information about the maintenance packages is removed from the SMP/E environment global zone.

Apply Maintenance

After maintenance has been downloaded for a product, you can apply the maintenance to products that are installed in an SMP/E environment.

As an option, CA CSM lets you verify that the maintenance packages can be applied to the selected target zones without applying the packages.



Note: While you work with an SMP/E environment, the SMP/E environment is locked and other CA CSM users cannot perform any action against it. When the task finishes, logging out from CA CSM, or a CA CSM session is inactive for more than 10 minutes, the lock releases.

Follow these steps:

1. Select the **SMP/E Environments** tab, and select the SMP/E environment whose products you want to apply maintenance to.
2. Select **Maintenance**.



Note: If you do not see any maintenance package listed, verify that you have maintenance view criteria defined.

3. Select the maintenance packages that you want to apply, and select the **Apply** link.



Note: If you select an SMP/E environment being used in CA CSM by another user, a notification message appears. You are prevented from performing any actions on the SMP/E environment. Wait until the notification message disappears and the SMP/E environment becomes available, or select Cancel to select another SMP/E environment.

4. Follow the instructions on the wizard to navigate through the wizard steps.
5. From the **Summary** step, review the summary, and select **Check and Apply**.
A dialog that shows the progress of the task opens. When the task completes, select **Show Results** on the **Progress** tab to close this dialog. The task output browser opens, and you can view the action details.



Note: While a task is in progress, you can perform other work. Select **Hide** to exit the dialog and view the task status later on the **Tasks** tab.

CA CSM verifies and applies the maintenance packages to the selected target zones.

If the task fails, navigate to the Tasks tab and review SMPOUT in the task output to identify and correct problems. Rerun the wizard.

You have completed acquiring and applying maintenance. You can accept the applied maintenance (except USERMODs) from the SMP/E Environments, Maintenance tab.

USERMODs

A product USERMOD can be provided as a published maintenance package downloaded during the Update Product process. When CA CSM downloads a package including a ++USERMOD statement, it is loaded under the product with a USERMOD type. You can install these packages using CA CSM but cannot accept them because they are not intended to be permanent.

You can create a USERMOD manually, or we can provide an unpublished maintenance package as a USERMOD. In this case, the USERMOD file, which contains the ++USERMOD statement and the body of the USERMOD, must be [managed as an externally downloaded package \(see page 72\)](#).

Unresolved HOLDDATA Processing

When you apply maintenance, review and process any unresolved HOLDDATA for the applied maintenance and its prerequisites. The maintenance wizard displays all unresolved HOLDDATA and lets you review the HOLDDATA and details about the HELD maintenance. You can then bypass the HOLDDATA or exclude the HELD maintenance. CA CSM determines unresolved HOLDDATA by running SMP/E APPLY GROUP/GROUPEXTEND CHECK.

In the maintenance wizard, you can perform the following actions:

- Select HOLDDATA (HOLDDATA TYPE, REASON, or maintenance) to bypass it.

- Leave HOLDDATA unselected to exclude it. If you do not select a HOLDDATA entry checkbox, CA CSM excludes the HELD maintenance from the processing.

If you exclude at least one HELD maintenance package, CA CSM runs an appropriate SMP/E APPLY GROUP/GROUPEXTEND CHECK command to verify the processing. CA CSM verifies whether other maintenance requires the excluded maintenance. If so, CA CSM also excludes it from processing.

If the SMP/E APPLY GROUP/GROUPEXTEND CHECK command discovers further unresolved HOLDDATA, you are notified about all unresolved HOLDDATA again. Select what HOLDDATA to bypass and what HELD maintenance to exclude.

This iterative process repeats until all HOLDDATA is resolved or bypassed. You can then proceed to the next step.

A list of maintenance packages that are excluded during the processing of unresolved HOLDDATA is displayed in the Summary step.

Apply CA RS Maintenance

CA CSM lets you track and apply CA Recommended Services (CA RS) maintenance for your products.

CA Recommended Service (CA RS) is a set of maintenance packages that have been tested in a mainframe integrated system test environment. We recommend that you install CA RS maintenance to keep your products current. CA Technologies releases CA RS maintenance regularly. The release date determines the CA RS maintenance level.

To learn about new CA RS maintenance available, download the CA RS files that are listed for published CA RS maintenance. You can configure CA CSM to download CA RS files [automatically \(see page 79\)](#), or [add CARS files manually \(see page 81\)](#).

Based on information in CA RS files, you can filter CA RS maintenance in the SMP/E Environments, Maintenance section. You can also select the packages that are applicable for within the CA RS level that you want to install.

You can apply particular CA RS maintenance packages. You can update all products in an SMP/E environment.



Note: A CA RS file can list a maintenance package that the HOLDDATA marked as PE (PTF in Error). The CA RS file can also reflect a corrective maintenance package for this PE that is not listed in this CA RS file. This situation can occur if a maintenance package is found in error after the CA RS file is published. The CA RS processing continues as expected, and the maintenance package that is marked as PE is not applied. However, the CA RS level for the product is not updated to the current level until you apply the corrective maintenance package to the SMP/E environment.

Configure Automatic CA RS File Download

You can configure CA CSM to download available CA RS files automatically. After download, the CA RS files are stored in a USS directory under the software catalog.

Follow these steps:

1. Select the **Settings** tab, and select the **Software Catalog** link under **System Settings** in the **Settings** section on the left side.
2. In the **CA RS Settings** section, select the **Enable Automatic Updates** checkbox.
3. Set up values for the following fields, and select **Apply**:

- **Owner of Update Task**

Specifies the TSO user ID under which the update task is run.

- **Recurrence**

Specifies how often the task recurs.

- **Update Software Catalog Every *number of Days***

or

- **Update Software Catalog On *day of week* Every *number of Weeks***

Specifies the frequency of downloading CA RS files to your software catalog, in days or weeks, depending on the value of **Recurrence**.



Note: Imagine you set the recurrence for a specific number of days and you set the time that precedes the current time. Then the first update occurs in the specified number of days at the specified time. For example, on Monday at 10.30am, you set the number of days to 3 and time to 07.00. The first update then occurs on the third day, Thursday, at 7.00am. When you set the time past the current time, the first update occurs on the same day at the time set. For example, on Monday at 10.30am, you set the number of days to 3 and time to 11.00. The first update then occurs on that Monday at 11.00am.

- **System Time**

Specifies the system time when an automatic update occurs. The system time reflects your CA CSM application server time zone. The TZ parameter within Tomcat startup libraries defines the time zone. If the TZ parameter is not defined, the CA CSM application server time zone defaults to GMT - Greenwich Mean Time.



Note: Local time is calculated based on the system time that you set.



Note: To download available CA RS files to the software catalog immediately, select **Update Immediately**.

The automatic CA RS download is configured.

Add a CA RS File

If you cannot automatically download available CA RS files, add them to the software catalog manually. Use the Add CA RS File link. The CA RS files added manually are stored in the same USS directory as other CA RS files.

Follow these steps:

1. Download the CA RS file using FTP from the CA Technologies file server directly to your USS directory.

- a. Connect to the FTP site at the following location:

`ftp://ftp.ca.com`

- b. Log in to ftp.ca.com as follows:

user name: anonymous
password: *your-email-address*

- c. Change to the following directory:

`/pub/ASSIGNS`

- d. Change your download mode to ASCII.

- e. Download the CA RS file. CA RS files appear in the format:

`CARymm.TXT`

2. In the CA CSM web-based interface, select the Products tab, and select the Add CA RS File link in the Actions section on the left side.
3. Specify the USS path to the CA RS file you want to add, and select OK.
Information about the CA RS file is saved in the CA CSM Software Catalog USS database.

Apply CA RS Maintenance to an SMP/E Environment

You can upgrade products that are installed in an SMP/E environment to a specific CA RS level. During processing, CA CSM verifies that maintenance packages associated with the selected CA RS level can be applied to the products, and then applies the packages.

As an option, CA CSM lets you verify that the maintenance packages can be applied to the selected target zones without applying the packages.



Note: While you work with an SMP/E environment, the environment is locked and other CA CSM users cannot perform any action against it. When the task finishes, logging out from CA CSM, or a CA CSM session is inactive for more than 10 minutes, the lock releases.

Follow these steps:

1. Select the **SMP/E Environments** tab.
2. From the list on the right, locate the SMP/E environment whose products you want to upgrade the CA RS level for. Select the **Actions** drop-down list to the right of the SMP/E environment, and select **Upgrade CA RS Level**.



Note: If you select an SMP/E environment being used in CA CSM by another user, a notification message appears. You are prevented from performing any actions on the SMP/E environment. Wait until the notification message disappears and the SMP/E environment becomes available, or select **Cancel** to select another SMP/E environment.

3. Follow the instructions on the wizard to navigate through the wizard steps.
4. From the **Summary** step, review the summary and select **Check and Apply**. A dialog that shows the progress of the task opens. When the task completes, select **Show Results** on the **Progress** tab to close this dialog. The task output browser opens, and you can view the action details.



Note: While a task is in progress, you can perform other work. Select **Hide** to exit the dialog and view the task status later on the **Tasks** tab.

CA CSM verifies and applies the CA RS maintenance packages to the selected target zones.

If the task fails, navigate to the Tasks tab and review SMPOUT in the task output to identify and correct problems. Rerun the wizard.

You can accept the applied maintenance (except USERMODs) from the **SMP/E Environments, Maintenance** tab.

Apply FIXCAT Maintenance

CA CSM lets you select and apply maintenance for your products according to FIXCAT.

FIXCAT (fix category) associates a maintenance package to one or more categories of PTFs (for example, installation, function, z/OS version, or communication).

FIXCAT data is provided in the same file as error HOLDDATA. Error HOLDDATA contains FIXCAT HOLDDATA statements that assign a maintenance package to a category. Select a category, and CA CSM determines and applies associated maintenance packages to the selected products installed in an SMP/E environment.

Masking Maintenance Categories

When you select maintenance categories in the wizard, you can use masking.

Use an asterisk (*), or a percent sign (%), or both to specify naming masks. An asterisk substitutes for any number of symbols. A percent sign substitutes for one symbol.

For example:

- **CA.System.z/OS.***
Selects all the categories whose names start with CA.System.z/OS.
- **CA.System.z/OS.%% S**
Selects all the categories under CA.System.z/OS whose last segment consists of two symbols.

Apply FIXCAT Maintenance

You can select and apply maintenance for your products based on FIXCAT using CA CSM.

As an option, CA CSM lets you verify that the maintenance packages can be applied to the selected target zones without applying the packages.



Note: While you work with an SMP/E environment, the environment is locked and other CA CSM users cannot perform any action against it. When the task finishes, logging out from CA CSM, or a CA CSM session is inactive for more than 10 minutes, the lock releases.

Follow these steps:

1. Select the **SMP/E Environments** tab.
2. From the list on the right, locate the SMP/E environment whose products you want to apply FIXCAT maintenance. Select the **Actions** drop-down list to the right of the SMP/E environment, and select **Update Using Fix Categories**.



Note: If you select an SMP/E environment being used in CA CSM by another user, a notification message appears. You are prevented from performing any actions on the SMP/E environment. Wait until the notification message disappears and the SMP/E environment becomes available, or select **Cancel** to select another SMP/E environment.

3. Follow the instructions on the wizard to navigate through the wizard steps.
4. From the **Summary** step, review the summary, and select **Check and Apply**.
A dialog that shows the progress of the task opens. When the task completes, select **Show Results** on the **Progress** tab to close this dialog. The task output browser opens, and you can view the action details.



Note: While a task is in progress, you can perform other work. Select **Hide** to exit the dialog and view the task status later on the **Tasks** tab.

CA CSM verifies and applies the FIXCAT maintenance packages to the selected target zones.

If the task fails, navigate to the Tasks tab and review SMPOUT in the task output to identify and correct problems. Rerun the wizard.

You can accept the applied maintenance (except USERMODs) from the SMP/E Environments, Maintenance tab.

Restore Maintenance

You can restore (back out) an applied maintenance package (but not an accepted maintenance package).



Note: While you work with an SMP/E environment, the environment is locked and other CA CSM users cannot perform any action against it. When the task finishes, logging out from CA CSM, or a CA CSM session is inactive for more than 10 minutes, the lock releases.

Follow these steps:

1. Select the **SMP/E Environments** tab, and select the SMP/E environment from which you want to restore maintenance.
2. Select **Maintenance**.



Note: If you do not see any maintenance package listed, verify that you have maintenance view criteria defined.

3. Select the maintenance packages that you want to restore, and select the **Restore** link.



Note: You can filter out only applied packages.



Note: If you select an SMP/E environment being used in CA CSM by another user, a notification message appears. You are prevented from performing any actions on the SMP/E environment. Wait until the notification message disappears and the SMP/E environment becomes available, or select **Cancel** to select another SMP/E environment.

4. Review the information about the restoring, and select **Next**.
5. Review and adjust the list selections as required. Select Zones to review and adjust the zones where the maintenance is restored from. You can only perform maintenance actions on zones you select here. Select **OK** to confirm the selection and return to the wizard, and select **Next**.
6. Review the prerequisites if they exist, and select **Next**. CA CSM restores these prerequisites as part of the maintenance restoring process.
7. Review the summary, and select **Restore**.
A dialog that shows the progress of the task opens. When the task completes, select **Show Results** on the **Progress** tab to close this dialog. The task output browser opens, and you can view the action details.



Note: While a task is in progress, you can perform other work. Select **Hide** to exit the dialog and view the task status later on the **Tasks** tab.

The maintenance packages are restored.

Accept Maintenance

After maintenance has been applied, you can accept the maintenance for products that are installed in an SMP/E environment. You cannot accept USERMODs.

Use this procedure to accept the maintenance in GROUP mode.



Important! Before you start, update the HOLDDATA in your software catalog. To do so, select Update HOLDDATA in the Actions section on the Software Catalog page. You can also set up the automatic HOLDDATA download as described previously in this article.



Note: While you work with an SMP/E environment, the environment is locked and other CA CSM users cannot perform any action against it. When the task finishes, logging out from CA CSM, or a CA CSM session is inactive for more than 10 minutes, the lock releases.

Follow these steps:

1. Select the **SMP/E Environments** tab, and select the SMP/E environment whose products you want to accept maintenance.
2. Select **Maintenance**.



Note: If you do not see any maintenance package listed, verify that you have maintenance view criteria defined.

3. Select the maintenance packages that you want to accept, and select the **Accept** link.



Note: If you select an SMP/E environment being used in CA CSM by another user, a notification message appears. You are prevented from performing any actions on the SMP/E environment. Wait until the notification message disappears and the SMP/E environment becomes available, or select **Cancel** to select another SMP/E environment.

4. Review the information about the maintenance, and select **Next**.
5. Review and adjust the accept list selections as required. Select **Zones** to review and adjust the zones where the maintenance is accepted. You can only perform maintenance actions on zones you select here. Select **OK** to confirm the selection and return to the wizard, and select **Next**.
6. Select the installation mode for the selected maintenance, and select **Next**.
7. Perform one of the following actions to address prerequisites:
 - If no prerequisites exist, select **Next**. A list of HOLDDATA appears.
 - If prerequisites exist and are available, review them, and Select **Next**. A list of HOLDDATA appears. The prerequisites are accepted as part of the process.
 - If a prerequisite is *not* available, the wizard cannot continue. Select **Cancel** to exit the wizard. Acquire the prerequisite and restart the process.
8. Review HOLDDATA entries, if they exist. Select **Export Table** to open all HOLDDATA information for all selected maintenance in a separate browser window. Selecting **Export Table** is similar to running the LIST SYSMODS HOLDDATA command within your SMP/E environment.
9. Select **Next**.
SMP/E work DDDEFs of SMPWRKx and SYSUTx, with their allocation parameters, are listed.



Note: For more information about SMPWRKx and SYSUTx data sets, see *IBM SMP/E for z/OS Reference*.

10. Review the work DDDEF allocation parameters, and edit them, if necessary, to verify that sufficient space is allocated for them during the maintenance acceptance:



Note: Changes in the allocation parameters apply to the current maintenance processing only.

- a. Select **Override** for a DDDEF to edit its allocation parameters.

A pop-up window opens.

- b. Make the necessary changes, and select **OK** to confirm.

The pop-up window closes, and the DDDEF entry is selected in the list indicating that the allocation parameters have been overridden.

To update allocation parameters for the DDDEFs automatically, select **Resolve Overrides**. CA CSM provides values for all DDDEFs based on the total size of the selected maintenance packages being accepted. All DDDEF entries are selected in the list indicating that the allocation parameters have been overridden.

- To cancel a parameter update for any DDDEF, clear its checkbox.
- To edit the allocation parameters for a DDDEF after you automatically updated them using the **Resolve Overrides** button, select **Override**. Make the necessary changes. Select **OK** to confirm and return to the wizard.

11. (Optional) Select **View SMP/E Work DDDEFs** to review SMP/E work DDDEF and their allocation parameters for the selected SMP/E environment zones. Select **Close** to return to the wizard.



Note: Sometimes, the allocation parameters differ from the allocation parameters that you obtained using the **Resolve Overrides** button.

Select **Next**.

12. Review the summary, and select **Accept**.
A dialog that shows the progress of the task opens. When the task completes, select **Show Results** on the **Progress** tab to close this dialog. The task output browser opens and you can view the action details.





Note: While a task is in progress, you can perform other work. Select **Hide** to exit the dialog and view the task status later on the **Tasks** tab.

The maintenance packages are accepted.

Accept Maintenance in GROUPEXTEND Mode

CA CSM lets you invoke the SMP/E utility with the GROUPEXTEND option enabled for accepting maintenance.



Note: For more information about GROUP and GROUPEXTEND modes, see IBM *SMP/E for z/OS Commands*.

When you accept maintenance in GROUPEXTEND mode, the following installation modes are available:

- **Accept Check**
Checks if the maintenance can be accepted to the selected SMP/E environment in GROUPEXTEND mode.
- **Accept**
Accepts the maintenance to the selected SMP/E environment in GROUPEXTEND mode.
- **Accept Check and Accept**
Checks if the maintenance can be accepted to the selected SMP/E environment in GROUPEXTEND mode. Then accepts it if possible.

For the GROUPEXTEND option, CA CSM does not automatically receive and display maintenance or HOLDDATA prerequisites that must be bypassed when accepting the maintenance. Accept check mode lets you check if any prerequisites or HOLDDATA exist and report them in the task output.

How Maintenance in GROUPEXTEND Mode Works

We recommend that you accept maintenance in GROUPEXTEND mode in the following sequence:

1. Apply all maintenance packages that you want to include by the GROUPEXTEND option.
2. Run the maintenance in Accept check mode.
 - If the task fails, review SMPOUT in the task output. Review if there are missing (not applied) maintenance packages or HOLDDATA that must be resolved or bypassed.
 - If the task succeeds, review SMPRPT in the task output. Review what maintenance packages were found and accepted.
3. Run the maintenance in Accept mode. Specify the maintenance packages that you want to exclude and HOLDDATA that you want to bypass, if any exist.
The followings options are available for bypassing HOLDDATA:

- HOLDSYSTEM
- HOLDCLASS
- HOLDERROR
- HOLDUSER



Note: For more information about the BYPASS options, see *IBM SMP/E for z/OS Commands*.

You can run the maintenance in Accept mode in the same CA CSM session after Accept check mode is completed. The values that you entered for Accept check mode are then prepopulated on the wizard dialogs.

Accept Maintenance in GROUPEXTEND Mode

You can accept maintenance (except USERMODs) with the GROUPEXTEND option enabled.



Note: While you work with an SMP/E environment, the environment is locked and other CA CSM users cannot perform any action against it. When the task finishes, logging out from CA CSM, or a CA CSM session is inactive for more than 10 minutes, the lock releases.

Follow these steps:

1. Select the **SMP/E Environments** tab, and select the SMP/E environment holding the maintenance packages that you want to accept in GROUPEXTEND mode.
2. Select **Maintenance**.
Maintenance packages available for the products are listed.



Note: If you do not see any maintenance package listed, verify that you have maintenance view criteria defined.

3. Select the maintenance packages that you want to accept in GROUPEXTEND mode, and select the Accept GROUPEXTEND link.



Note: If you select an SMP/E environment being used in CA CSM by another user, a notification message appears. You are prevented from performing any actions on the SMP/E environment. Wait until the notification message disappears and the SMP/E environment becomes available, or select **Cancel** to select another SMP/E environment.

4. Review the information about the maintenance, and select **Next**.
The packages that you want to accept are listed.



Note: Select a link in the Status column for a maintenance package, if available, to review a list of zones. The zones indicate where the maintenance package is already received, applied, or accepted. Select **Close** to return to the wizard.

5. Review the packages, and select **Next**.



Important! For the GROUPEXTEND option, CA CSM does not automatically receive and display maintenance or HOLDDATA prerequisites that must be bypassed when accepting the maintenance. Accept check mode lets you review if any prerequisites or HOLDDATA exist and report them in the task output. We recommend that you run the maintenance in Accept check mode first.

6. Read the information that is displayed on this tab, and select **Next**.
The installation options appear.
7. Specify installation options as follows, and select **Next**:
 - a. Select the installation mode for the selected maintenance.
 - b. Review the GROUPEXTEND options and select the ones that you want to apply to the maintenance:
 - **NOAPARS**
Excludes APARs that resolve error reason ID.
 - **NOUSERMODS**
Exclude USERMODs that resolve error reason ID.
 - c. (Optional) Enter maintenance packages that you want to exclude in the Excluded SYSMODs field. You can enter several packages, separate them by a comma.

The Bypass HOLDDATA step of the wizard appears.

8. (Optional) Enter the BYPASS options for the HOLDDATA that you want to bypass during the maintenance installation. You can enter several BYPASS options, separate them by a comma.

9. Select **Next**.
10. Review the summary, and select **Accept GROUPEXTEND**.
A dialog that shows the progress of the task opens. When the task completes, select **Show Results** on the **Progress** tab to close this dialog. The task output browser opens, and you can view the action details.



Note: While a task is in progress, you can perform other work. Select **Hide** to exit the dialog and view the task status later on the **Tasks** tab.

- If you run the maintenance installation in Accept check mode and the task succeeds, review SMPRPT in the task output. Review what maintenance packages were found and accepted.
- If you run the maintenance installation in Accept check mode and the task fails, review SMPOUT in the task output. Review if there are missing (not accepted) maintenance packages or HOLDDATA that must be resolved or bypassed.

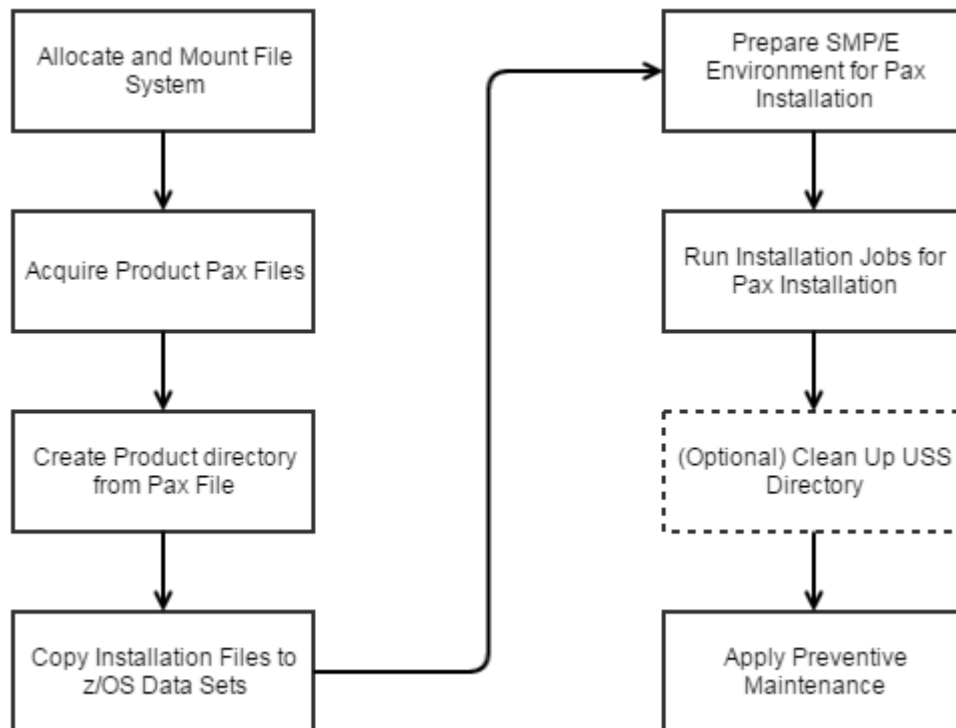
You completed maintaining products with CA CSM.

Install Your Product from Pax-Enhanced ESD

You can acquire a product pax file from [CA Support Online \(http://ca.com/support\)](http://ca.com/support) or from a product DVD.

Product updates may have occurred after you acquired the product DVD. The online files are always the most current. To determine if you have the latest updates, go to <http://ca.com/support> and click Download Center.

Perform the following tasks to install a product with a pax file:



1. [Allocate and mount the file system \(see page 93\).](#)
2. [Acquire the product pax files \(see page 95\).](#)
3. [Create a product directory from the pax file \(see page 98\).](#)
4. [Copy the installation files to z/OS data sets \(see page 100\).](#)
5. [Prepare the SMP/E environment for a pax installation \(see page 101\).](#)
6. [Run the installation jobs for a pax installation \(see page 102\).](#)
7. (Optional) [Clean up the USS directory \(see page 102\).](#)

8. [Apply preventive maintenance \(see page 104\).](#)

UNIX System Services Environment

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

- Receive product pax files from [CA Support \(http://ca.com/support\)](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. 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

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

This procedure describes how to perform the following tasks:

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



Note: You must have SUPERUSER authority or the required SAF profile setting so you can 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 zFS by customizing 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=*
/*
```

The zFS is allocated.



Note: Ensure that the zFS 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.

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

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



Note: Further references to this mount point appear as *yourUSSpaxdirectory*.

The mount point is created.

3. Mount the file system by customizing the following sample:

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

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 USS pax directory and its files. For example, to allow write access to the USS pax 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 *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! FTP procedures vary due to local firewall and other security settings. To determine the appropriate FTP procedure to use at your site, consult your local network administrators.

This procedure explains how to transfer a product pax file from CA Support Online to the mainframe.

Follow these steps:

1. Confirm the following UNIX System Services (USS) requirements:
 - You have write authority to the USS directories that are used for the pax installation process.
 - You have available USS file space.



Note: In the file system that contains the pax 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 directory.

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
```

2. Log in to [CA Support Online \(https://support.ca.com/us.html\)](https://support.ca.com/us.html).
3. Select **DOWNLOAD MANAGEMENT**.
4. Locate your product in the download management tool.
Your product entry opens at the **Product Downloads** tab.
5. Locate the appropriate software package.



Tip: To change the release, select the package and use the release drop-down.

If applicable, agree to the end user license agreement (EULA).

6. Select a download method:



Tip: Review the CA Support Online [download \(https://support.ca.com/us/product-content/recommended-reading/product-related-technical-information/download-methods-and-locations.html\)](https://support.ca.com/us/product-content/recommended-reading/product-related-technical-information/download-methods-and-locations.html) and [FTP \(https://support.ca.com/us/product-content/recommended-reading/product-related-technical-information/downloading-via-ftp.html\)](https://support.ca.com/us/product-content/recommended-reading/product-related-technical-information/downloading-via-ftp.html) **Help** topics.

- If you select **Enhanced Download Manager**, a dialog opens. Follow the prompts to download the installer.
The installer then downloads your product files to the location on your PC, as specified in the installer. Go to Step 10.
 - If you select **FTP**, you are redirected to **Cart History**.
You receive an email notification when your files are ready. The email includes a link to your **Cart History**. Go to Step 7.
 - If you have previously set your download preference, the installer begins the download process. Go to Step 7 or 10 based on your download setting.
7. Select **PREFERRED FTP** (recommended) next to your package in **Cart History**.
Your FTP download details appear.
 8. Copy the following sample JCL into a data set member and update it with your FTP details:



Tip: Use the guidance in the job to update each variable. Also, replace *ACCOUNTNO* with a valid JOB statement. Replace *yourTCPIP.PROFILE.dataset* with the name of the TCP/IP profile data set for your system. Consult your local network administrators, if necessary.

```
//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
/*
```

9. Submit the job.



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

After you run the JCL job, the pax file resides in the specified mainframe USS directory. Go to [Create a Product Directory from the Pax File \(https://docops.ca.com/display/MFINST2017/Create+a+Product+Directory+from+the+Pax+File\)](https://docops.ca.com/display/MFINST2017/Create+a+Product+Directory+from+the+Pax+File).

10. If you downloaded a zip file, unzip the file to prepare the product pax files for use. The pax file is ready for FTP.



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

11. Open a Windows command prompt.
The command prompt appears.
12. 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 downloads.
- **paxfile.pax.Z**
Specifies the name of the pax file to upload.

The pax file is transferred to the mainframe. Go to [Create a Product Directory from the Pax File](https://docops.ca.com/display/MFINST2017/Create+a+Product+Directory+from+the+Pax+File) (<https://docops.ca.com/display/MFINST2017/Create+a+Product+Directory+from+the+Pax+File>).

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 following sample JCL to extract the product pax file into a product installation directory.

```
//ESDUNPAX JOB (ACCOUNTNO),'UNPAX PAX FILE',
// 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=*
```

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, comment out the first UNPAXDIR. Then 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.

Copy Installation Files to z/OS Data Sets

Use this procedure to invoke the SMP/E GIMUNZIP utility to create the SAMPJCL data set.

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 SAMPJCL 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 outcomes occurs: ICSF is active or you are using Java.
5. Change *yourHLQ* to the high-level qualifier (HLQ) for z/OS SAMPJCL data set. We suggest that you use a unique HLQ for each expanded pax file to identify uniquely the package.
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 the SAMPJCL data set with the HLQ that you specified in the UNZIPJCL job.
You use this data set to perform the product installation.



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

Prepare the SMP/E Environment for a Pax Installation

To prepare the SMP/E environment for installation, you must submit the following jobs:

- **AVH00ALL**
Creates target and distribution data sets.
Creates unique SMPLTS, SMPMTS, SMPSCDS, and SMPSTS data sets for this target zone
- **AVH10CSI**
Defines the CSI data set.
Allocates the SMPPTS and SMPLOG data sets
Initializes the global, target, and distribution zones.
Creates the DDDEF entries for your product.

Follow these steps:

1. Navigate to the library yourHLQ.CAI.SAMPJCL that was created by the UNZIPJCL job.
2. Follow the instructions in AVHAREAD to update AVHSEEDIT with your site-specific information.
Replace the rightmost parameters for each ISREDIT CHANGE command.



Note: If you are installing the DB2 FMIDs, you must do the following. No changes are needed for non-DB2 installers, because the following DDDEFs are never referenced.

- The SDSNLOAD DDDEF must point at a DB2 *hlq*.SDSNLOAD library. Select the only or oldest one used by your shop.
- The RESLIB DDDEF will point at your oldest or only IMS *hlq*.SDFSRESL library if you have IMS. If you do not have IMS use the same library selected for the SDSNLOAD DDDEF.
- The SDFHLOAD DDDEF must point at a CICS *hlq*.SDFHLOAD library. Select the only or oldest one used by your shop.

3. Submit AVH00ALL.
4. Submit AVH10CSI.

The SMP/E environment is now ready for installation.

Run the Installation Jobs for a Pax Installation

Run installation jobs AVH20RCB, AVH30APB, and AVH40ACB to receive, apply, and accept your products to the target and distribution libraries in the global zone. Follow the instructions in AVHAREAD to customize the jobs to meet your site specifications. Comment out the FMIDs for the tools or components that you do not want to install. If you want to skip the installation of an unlicensed component, modify the CAVHCONF member during configuration to start only the products that you are installing. For more information on modifying CAVHCONF, see [Options](https://docops.ca.com/display/CAITSD11/Options) (<https://docops.ca.com/display/CAITSD11/Options>).



Note: You must comment out the DB2 components if you do not have DB2. You must install the Common Symbolic Component if you do not already have it installed.

For more information about the FMIDs that are used for installing the CA InterTest and CA SymDump products and components, see [FMID Table \(see page 116\)](#).

Customize the installation jobs and submit them in order. Wait until each job has completed successfully before submitting the next job. Run the Installation Jobs

Follow these steps:

1. Navigate to the library yourHLQ.CAI.SAMPJCL that was created by the UNZIPJCL job.
2. Follow the instructions in AVHAREAD to update each member with your site-specific information. In each member, comment out the FMIDs for the products or components that you do not want to install.
3. Submit AVH20RCB.
Your products are received and now reside in the global zone.
4. Submit AVH30APB.
The APPLY CHECK is run. If errors occur, correct the errors and resubmit the job.
5. When the check returns no errors, comment out the CHECK command, and resubmit AVH5APP.
Your products are applied and now reside in the target libraries.
6. Submit AVH40ACB.
The ACCEPT CHECK is run. If errors occur, correct the errors and resubmit the job.
7. When the check returns no errors, comment out the CHECK command, and resubmit AVH6ACC.
Your products are accepted and now reside in the distribution libraries.



Note: Save all of your installation materials and all installation-generated output. This material is essential for timely and accurate CA Technologies maintenance and support of the product.

Clean Up the USS Directory

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

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 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 Preventative Maintenance

To apply preventive maintenance, you download, receive, apply, and accept maintenance. Preventive maintenance lets you apply PTFs that CA Technologies has created and made public. You may or may not have experienced the issue that each PTF addresses. We recommend that you apply preventive maintenance regularly so that known issues with published and tested fixes are not encountered.

- [Receive Maintenance and Error HOLDDATA \(see page 104\)](#)
- [Apply and Accept Maintenance \(see page 106\)](#)
- [Apply CA Recommended Service \(CA RS\) Maintenance \(see page 107\)](#)



Important! We strongly recommend that you use CA Chorus Software Manager (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.

Receive Maintenance and Error HOLDDATA

Maintenance and HOLDDATA is available at CA Support. 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: We recommend that you review the [CA Technologies mainframe maintenance philosophy \(http://www.ca.com/us/services-support/ca-support/ca-support-online/product-content/recommended-reading/product-related-technical-information/maintenance-philosophy-for-cas-zos-based-products.html\)](http://www.ca.com/us/services-support/ca-support/ca-support-online/product-content/recommended-reading/product-related-technical-information/maintenance-philosophy-for-cas-zos-based-products.html).

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 [CA Common Services \(CCS\) for z/OS CAUNZIP \(https://docops.ca.com/display/CCSZOS141/CAUNZIP+Utility\)](https://docops.ca.com/display/CCSZOS141/CAUNZIP+Utility). The utility resides in *yourCCSHLQ.CAW0JCL* (CAUNZIP).

This article includes an overview and sample batch jobs. **To use this utility, you must be running CCS Version 14.0 with PTF RO54887 or CCS Release 14.1 with PTF RO58216.** These PTFs are included in Release 14.1 at the S1401 Service Update level.

Follow these steps:

1. Select your download option:



Important! We recommend that you use the CA SMP/E Internet Service Retrieval option, which significantly simplifies the download process.

- a. **Download maintenance using the CA SMP/E Internet Service Retrieval**

This option uses the IBM SMP/E RECEIVE ORDER command to download CA Mainframe product maintenance over the Internet, by securely submitting an order for PTFs and HOLDDATA to a remote CA server. This service eliminates the manual steps that are required to download maintenance from CA Support Online. The orders are fulfilled based on the status of your SMP/E environments. Based on your order criteria, all PTFs and their requisites are downloaded automatically and received to your system.

To use this download option, complete the procedures in [CA SMP/E Internet Service Retrieval \(https://docops.ca.com/mainframe-common-maintenance/en\)](https://docops.ca.com/mainframe-common-maintenance/en).

- b. **Download maintenance manually from CA Support Online**

With this option, you manually select PTFs and build a package for all applicable PTFs and requisites. You then use the CAUNZIP utility to unpackage and receive the files. This utility processes ZIP packages directly on z/OS without the need for an intermediate platform, such as a Microsoft Windows workstation. The utility resides in *yourCCSHLQ.CAW0JCL(CAUNZIP)*. To use this download option, you must be running CA Common Services Release 14.1 with PTF RO58216. Review the CAUNZIP requirements [here \(https://docops.ca.com/mainframe-common-maintenance/en/maintain-your-products/download-and-receive-maintenance/review-download-options\)](https://docops.ca.com/mainframe-common-maintenance/en/maintain-your-products/download-and-receive-maintenance/review-download-options) and complete the following procedures.

2. Log in to [CA Support Online \(https://support.ca.com/us.html\)](https://support.ca.com/us.html).
3. Select **DOWNLOAD MANAGEMENT**.
4. Locate your product in the download management tool.
Your product entry opens at the **Product Downloads** tab.
5. Select the **Solution Downloads** tab.
6. Select the applicable product and software release.
7. Select the applicable solutions and download them using the **Cart** or **Download Now** option.



Tip: Review the CA Support Online [download \(https://support.ca.com/us/product-content/recommended-reading/product-related-technical-information/download-methods-and-locations.html\)](https://support.ca.com/us/product-content/recommended-reading/product-related-technical-information/download-methods-and-locations.html) and [FTP \(https://support.ca.com/us/product-content/recommended-reading/product-related-technical-information/downloading-via-ftp.html\)](https://support.ca.com/us/product-content/recommended-reading/product-related-technical-information/downloading-via-ftp.html) **Help** topics.

8. Run the CAUNZIP utility (<https://docops.ca.com/mainframe-common-maintenance/en/maintain-your-products/download-and-receive-maintenance/review-download-options>).

CAUNZIP unzips the package of published solutions and creates an SMPNTS file structure that the SMP/E RECEIVE FROMNTS command can process. 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.

9. Review the sample job that is provided in the CAUNZIP output ZIPRPT file.

10. Cut and paste the JCL into a data set.

11. Specify your SMP/E CSI on the SMPCSI DD statement.

12. Submit the job to receive the PTFs in your order.

13. Verify that you have the values from the base installation in the AVHSEDIT macro that was customized in the installation steps.

14. Open the SAMPJCL member AVH60RCH in an edit session and execute the AVHSEDIT macro from the command line.



Note: Update AVH60RCH SAMPJCL to download the HOLDDATA file.

AVH60RCH is customized.

15. Submit AVH60RCH.

The job downloads the external HOLDDATA file.

16. (Optional) Apply CA Recommended Service (CA RS) maintenance.

Apply and Accept Maintenance

Use this procedure to apply and optionally accept CA Technologies corrective maintenance.



Note: To review the CA Technologies mainframe maintenance philosophy, see best practices for your product or visit the [CA Data Center Management page \(https://support.ca.com/phpdocs/0/8319/mainframe20_support.html\)](https://support.ca.com/phpdocs/0/8319/mainframe20_support.html).

Follow these steps:

1. Open the SAMPJCL member AVH80APM in an edit session and execute the AVHSEDIT macro from the command line.
AVH80APM is customized.
2. Submit AVH80APM.
The PTFs are applied.
3. (Optional) Open the SAMPJCL member AVH90ACM in an edit session and execute the AVHSEDIT macro from the command line.
AVH90ACM is customized.
4. (Optional) Submit AVH90ACM.
The PTFs are accepted.



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

Apply CA Recommended Service (CA RS) Maintenance

Use this procedure to apply CA RS maintenance as a part of managing preventive maintenance.



Note: We recommend that you review the [CA RS overview \(http://www.ca.com/us/services-support/ca-support/ca-support-online/product-content/recommended-reading/product-related-technical-information/ca-recommended-service-ca-rs-for-zos.html\)](http://www.ca.com/us/services-support/ca-support/ca-support-online/product-content/recommended-reading/product-related-technical-information/ca-recommended-service-ca-rs-for-zos.html).

Follow these steps:

1. 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/YEAR](ftp://ftp.ca.com/pub/ASSIGN/YEARLY/YEAR) (<http://ftp.ca.com/pub/ASSIGN/YEARLY/YEAR>)
yyyy.TXT
 - The monthly CA RS ASSIGN statements are stored in the following file:
[ftp.ca.com/pub/ASSIGN/CAR](ftp://ftp.ca.com/pub/ASSIGN/CAR) (<http://ftp.ca.com/pub/ASSIGN/CAR>)
yymm.TXT
 - b. Open the SAMPJCL member AVH50CAR in an edit session, update AVH50CAR SAMPJCL to download ASSIGN statements from [CA Support \(http://ca.com/support\)](http://ca.com/support), and execute the AVHSEDIT macro from the command line.
AVH50CAR is customized.

2. Submit AVH50CAR.
The job downloads the CA RS ASSIGN statements.
3. Open the SAMPJCL member AVH70RCM in an edit session, manually add the data set that contains the ASSIGN statements to the SMPPTFIN DD, and execute the AVHSEDIT macro from the command line.
AVH70RCM is customized.
4. Submit AVH70RCM.
The job receives the external HOLDDATA file and CA RS ASSIGN statements.
5. Open the SAMPJCL member AVH80APM in an edit session and execute the AVHSEDIT macro from the command line.
AVH80APM is customized.
6. Submit AVH80APM.
The PTFs are applied.
7. (Optional) Open the SAMPJCL member AVH90ACM in an edit session and execute the AVHSEDIT macro from the command line.
AVH90ACM is customized.
8. (Optional) Submit AVH90ACM.
The PTFs are accepted.



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

Deployment

This article contains information about deploying your product.

Prepare for Deployment

Apply IBM APARs

The informational APAR or Product Information Bulletin (PIB) is official information relative to a product. Download PIBs from [CA Support Online \(http://support.ca.com/\)](http://support.ca.com/).

The naming convention for PIBs is RIxxxxx. RI identifies an informational APAR. xxxxx is an identification number.

Program Temporary Fixes

A Program Temporary Fix (PTF) is an official replacement module or modules that fixes one or more problems. The naming convention for PTFs is ROxxxxx, where xxxxx is a unique identifier. Download PTFs from [CA Support Online \(http://support.ca.com/\)](http://support.ca.com/).

Deploy Using CA CSM

A *deployment* is a CA CSM object that you create to deploy libraries and data sets using a process that copies target libraries defined to SMP/E and user data sets across both shared DASD and networked environments. A deployment helps automate the creation of libraries in a target environment. Use a deployment to deploy your product in multiple environments, for example in a staging and non-staging (production) environment.

Each deployment must have a *methodology*. You use a methodology as a template to specify how data sets are named on the target system. A methodology provides the *what* of a deployment, that is, what you want to call your data sets. A methodology is a named object with a description that is assigned to an individual deployment.

When setting up data set names, use your company naming standards and conventions. A methodology lets you copy products and data sets to the target system and rename them as you copy. The methodology also lets you specify a disposition, which means you can overwrite the data set if it exists. Conversely, you can create data sets on the target system.

Follow these steps:

1. Set up the system registry:
 - a. Determine the systems you have at your enterprise.

- b. Set up remote credentials for those systems.
 - c. Set up the target systems (non-sysplex, sysplex or monoplex, shared DASD cluster, and staging), and validate them.
 - d. Add network information, including data destination information, to each system registry entry.
2. Set up methodologies.
3. Create the deployment, which includes completing each step in the New Deployment wizard. After creating the deployment, you can save it and change it later by adding and editing systems, products, custom data sets, and methodologies, or you can deploy directly from the wizard.



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

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

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

Deploy Without CA CSM

Follow the procedures in [Configure Your Product Without CA CSM \(https://docops.ca.com/display/CAITSD11/Configure+Your+Product+Without+CA+CSM\)](https://docops.ca.com/display/CAITSD11/Configure+Your+Product+Without+CA+CSM) before starting any of the products.

To complete deployment for CA InterTest and SymDump, deploy a runtime copy of all target libraries specified in [Product Requirements \(see page 11\)](#).

Installing the Eclipse User Interface

You can use the CA InterTest and CA SymDump applications through the traditional green screen interface or through an Eclipse-based graphical user interface (Eclipse UI). The Eclipse UI runs on any Windows computer as either an Eclipse plug-in or as a standalone executable built on the Eclipse rich client platform (Eclipse RCP). This article describes how to install the Eclipse UI for all of the CA InterTest and CA SymDump products.

Install Mainframe Support

Mainframe support consists of a Testing Tools server to provide interface support to various mainframe InterTest and SymDump facilities such as symbolic and listing information. This server consists of files that support running a job in the z/OS UNIX System Services (USS) address space. The CA Testing Tools server requires IBM Java 6.0 (at or above SR4) or newer releases. Both 31-bit and 64-bit versions are supported.

You can implement the server as a started task. These steps guide you through installing mainframe support for the Eclipse User Interface.



Important!

Ensure you install mainframe support before installing either the Eclipse plug-in or the standalone RCP.

Install Apache Tomcat

You can install the Eclipse UI only in environments where the Apache Tomcat server is installed. This server implements specific instances for the Testing Tools server. Refer to the [CA Common Services documentation \(http://docops.ca.com/CCSZOS\)](http://docops.ca.com/CCSZOS) for Apache Tomcat installation instructions.



Note: If you install Tomcat Version 8, the minimum requirement for the CA Testing Tools server is IBM Java 7.0.

Modify the Sample JCL Library

Follow these steps:

1. Modify CAVHJCL data set member CAVHALOC as described within the JCL and execute to successful completion. This job allocates, initializes, and mounts a CA Testing Tools server instance file system and creates the starting directory within it. If this step is not needed and you do not have restricted privileges, ignore the error that is generated.
This attribute is not needed unless your STEPLIB is PROGRAM CONTROLLED, but setting it will do no harm.
2. Modify CAVHOPTN data set member CAVHUOPT as described within the member. This file is used as the input to the server providing product and runtime directory information.
3. Modify CAVHPROC data set member CAVHSRVR to your site standards and copy to a system procedure library. This is the JCL that is used to start the CA Testing Tools server. The owner of the CAVHSRVR job requires access to IBM SURROGAT class BPX.SRV. The owner also needs read access to the following IBM BPX facilities:
 - BPX.DAEMON.HFSCTL
 - BPX.FILEATTR.APF
 - BPX.FILEATTR.PROGCTL
 - BPX.SERVER
 - BPX.SUPERUSER



Note: If you configure your product using CA CSM, note that this manual operation replaces the CA InterTest Common User Interface server procedure, CAHVSRRV, in your system PROCLIB. If you have already customized CAHVSRRV and do not want to replace it, then Confirm this operation when you implement the configuration.

To have CA CSM execute this step automatically during the implementation process, change the default value of Manual operation to Automatic operation before releasing it.

4. Modify CAVHJCL data set member CAVHDPLY as described within the JCL and execute to successful completion. This job deploys the CA Testing Tools server components to the file system allocated by the previous step.

Activate the IP CICS Sockets

If you are installing the Eclipse UI for CA InterTest for CICS or CA SymDump for CICS, you need to activate the IP CICS sockets in the CICS region. For more information, see the IBM *z/OS Communications Server IP CICS Sockets Guide*.

Follow these steps:

1. Update the CICS startup JCL to include TCP/IP data sets.

a. Add your site's TCP/IP.SEZATCP data set to the DFHRPL concatenation.

b. Add a TCPDATA DD statement:

```
//TCPDATA DD SYSOUT=*,DCB=(DSORG=PS,RECFM=V,BLKSIZE=136)
```

c. Add an EZACONFG DD pointing to your configuration data set.

d. Add a SYSTCPT DD statement:

```
//SYSTCPT DD SYSOUT=*
```

2. Define the TCP/IP resources to CICS.

a. Use TCP/IP.SEZAINST(EZACICCT) to add RDO definitions to your CICS region.

b. Set SIT option TCP/IP= to YES:

```
TCP/IP=YES
```

3. Define the CICS region to TCP/IP. Define the CICS region and ports your CICS region will use in CAI.PROFILE.TCPIP.

4. Build the TCP/IP configuration data set.

a. Use IBM sample JCL member TCP/IP.SEZAINST(EZACICFG) to define TCP/IP in your CICS region.

b. Update the APPLID= and TCPADDR= parameters to your site specific names.

c. Define a FORMAT=ENHANCED listener for the user interface.

d. Specify a CSTRAN= parameter of ICDB. This parameter should match the value specified in the InterTest IN25OPTS macro for parameter ICDBT=. The default is ICDB.

```
CSTRAN=ICDB
```

e. If security validation is required for users connecting to CICS through the common user interface, you must set these parameters as follows:

```
MSGLEN=035, PEEKDAT=YES, SECEXIT=IN##TCPX
```



Note: Replace ## with your two-digit CICS release number (66 for CICS 4.1, 67 for CICS 4.2, 68 for CICS 5.1, 69 for CICS 5.2, 70 for CICS 5.3, and 71 for CICS 5.4).



Note: These steps are the minimum requirements to activate IP CICS sockets for the common user interface. See the *IBM z/OS Communications Server IP CICS Sockets Guide* if you are setting up IP CICS sockets for the first time. The IBM manual details all the available EZACICD parameters and additional functionality of IP CICS sockets you may consider for your implementation.

Install the Eclipse Plug-In

The application requires a 32-bit version of Eclipse 4.4.2 or Eclipse 4.6. Before you install the Eclipse plug-in, follow the procedures to install mainframe support and verify that the Testing Tools server is running.

Follow these steps:

1. In Eclipse, go to Help, Install New Software.
2. Select Add, and enter `http://host:port/software`, (<http://hostport/>) using the host system name and the port that is defined in CAVHDPLY. If you do not have this information, contact your system administrator.
3. Select CA InterTest™ and CA SymDump® and click Next.
4. Accept the license agreement that appears, and click Finish.

You have added the application plugin and can now access the application as a new perspective.



Notes:

- When you install the Eclipse plug-in for any of the CA InterTest and CA SymDump products you may receive a provisioning error in the Eclipse error log. Ignore this message. It does not impact the product functionality.
- You can install the plug-ins for multiple CA InterTest and CA SymDump products, but you should only install one instance of the CA Testing Tools Eclipse Runtime Components.

Install the Eclipse RCP

The Eclipse RCP is built on the Eclipse rich client platform and is installed as a standalone executable from a network install image that was created by running CAVHALOC and CAVHDPLY. The administrator must point the user to a shared resource on a network to which the user has access.

Wizard Driven Installation

Follow these steps:

1. Download the Windows installer file from <http://host:port/software>, using the host system name and the port that is defined in CAVHDPLY. If you do not have this information, contact your system administrator.
2. Open the windows installer file to execute the CA InterTest and CA SymDump Setup wizard.
3. Click Next, and follow the instructions in the wizard until you reach the Custom Setup page.
4. Select your product or products on the Custom Setup page. By default all CA InterTest and CA SymDump products are installed.
5. Click Next.
The Ready to Install page appears.
6. Click Install.
When the installation is complete, the setup wizard displays the Install Wizard Completed page.
7. Click Finish.
Your installation is complete. You can launch the Eclipse UI from the CA folder in your Windows start menu.

Silent Installation

Follow these steps:

1. Download the Windows installer file from <http://host:port/software>, where host and port are defined by your CA product administrator.
2. Open the Windows command line.
3. Run the following command:

```
msiexec /qn /i path_to_msi
```


Your installation is complete.

FMID Table

The following table contains all version dependent FMID names:

FMID	Description	CA InterTest Batch	CA InterTest for CICS	CA SymDump Batch	CA SymDump for CICS
CAVHB00	Common Symbolic Component	Required	Required	Required	Required
CAVHB01	Common Eclipse UI Component	Optional	Optional	Optional	Optional
CABAB00	Common CICS Component		Required		Required
CABAB01	Common CICS DB2 Component		Optional		Optional
CABQB00	CA SymDump for CICS Component				Required
CAMRB00	CA InterTest Batch Component	Required			
CARXB00	CA SymDump Batch Component			Required	
CARXB01	CA SymDump Batch DB2 Component			Optional	
CCSAB00	CA InterTest for CICS Component		Required		