# Table of Contents

**Welcome to ChangeMan® ZMF** ................................................. 9

- Guide to ChangeMan ZMF Documentation .................................. 10
  - ChangeMan ZMF Documentation Suite .................................. 10
  - Using the Manuals ......................................................... 11
  - Searching the ChangeMan ZMF Documentation Suite .................. 12
  - Choosing the Right Installation/Upgrade Manual ....................... 12
  - ChangeMan ZMF Release Notes ......................................... 13

- Online Help ................................................................. 13
  - Online Tutorial ............................................................. 13
  - Online Help Screens ...................................................... 13
  - Online Error Messages .................................................. 13

- Typographical Conventions ................................................. 14

- Notes ................................................................. 14

---

**Chapter 1**  
**Introduction** .......................................................... 15

- ChangeMan ZMF ............................................................ 16
- Protecting Production and Development ................................. 16
- Change Package ............................................................ 16
- Change Package Life Cycle .............................................. 17
- SERNET ........................................................................ 19

**Chapter 2**  
**Installation Requirements** ............................................. 23

- System Requirements ..................................................... 24
  - Operating System ......................................................... 24
  - Software Requirements .................................................. 24
  - Memory Requirements .................................................... 24
  - DASD Space Requirements .............................................. 25
  - ISPF Profile Library Allocation ........................................ 25
  - REXX Runtime Environment ............................................ 26
- ChangeMan ZMF Product Compatibility ................................... 26
- CA Panvalet® and CA Librarian® Compatibility ......................... 26
- Software Conflicts .......................................................... 27
  - Library Concatenations .................................................. 27
  - Abend-AID® (from Compuware Corporation) .......................... 27
  - PDSFAST (from Software Engineering of America) ................ 27
  - CA PDSMAN® (from Computer Associates) .......................... 27
  - MAINVIEW® SRM StopX37/II™ (from BMC Software) ............. 28
  - VSAM Performance Tools ............................................... 28
- Load Library APF Authorization ............................................ 28
- IPL ................................................................. 28
# Table of Contents

## Chapter 3

**Installation Considerations** .................................................. 31  
Upgrading From Earlier Versions ................................................. 32  
System Considerations .......................................................... 32  
  z/OS Subsystem ............................................................... 32  
  Updating the System Linkage Index ...................................... 32  
  Non-Swappable ............................................................... 32  
  Reusable Address Space Identifiers (ASID) ............................ 32  
  Libraries and LINKLIST .................................................... 33  
VSAM Performance ............................................................. 33  
  Defining VSAM file characteristics .................................... 33  
  AMP Parameters ............................................................. 33  
  VSAM I/O Optimization of ZMF Master Files ........................... 33  
VSAM Linear Data Sets ....................................................... 34  
SERNET and ChangeMan ZMF JCL ............................................. 35  
  Subsystem ID ............................................................... 35  
  SERNET Started Task Names ............................................. 35  
  Parameters for SERNET and ChangeMan ZMF .......................... 36  
  SER#PARM DD Statement ................................................ 37  
  SERLIC DD Statement ................................................... 39  
  SYSMDUMP DD Statement ................................................ 39  
  SYSTCPD DD Statement .................................................. 39  
Started Procedures for File Tailoring ...................................... 39  
Security Considerations ...................................................... 40  
  Exclusive Access to Libraries .......................................... 40  
  Access to ChangeMan ZMF Functions ................................... 40  
  Security Entities and Required Authority ............................. 42  
  SAF and Your Security System .......................................... 43  
  Security for File Tailoring Started Procedures ..................... 43  
  Access to TCP/IP Functions ............................................. 43  
Data Set Considerations ....................................................... 44  
  Temporary List Data Sets ................................................ 44  
  Utility Data Sets .......................................................... 44  
  Staging Library Model Data Set Name ................................. 45  
Batch Job Name Considerations .............................................. 46  
  User Job Names ............................................................ 47  
  Install Job Names ........................................................ 47  
  Viewing Job SYSOUT ..................................................... 47  
Staging Versions ............................................................... 48  
Customizing ChangeMan ZMF Components ................................ 48  
Console Log Messages ........................................................ 49  

## Chapter 4

**Unloading the Software** ....................................................... 51  
Introduction ................................................................. 52  
  ChangeMan ZMF Libraries ................................................ 52  
  Documentation ............................................................. 53  
  Unload Process ........................................................... 53  
  Requirements .............................................................. 53  
Step 1: Unload the ChangeMan ZMF Files ................................. 53
Step 2: Transfer Files to the Mainframe ........................................ 55
Step 3: Expand PDS Libraries with RECEIVE ................................. 57

Chapter 5

Installing ChangeMan ZMF Components ................................. 59
Step 1: Allocate CUSTOM Libraries. ............................................. 60
Step 2: APF Authorize Delivered and CUSTOM Load Libraries ....... 60
Step 3: Apply ChangeMan ZMF License ........................................ 61
Step 4: Define ChangeMan ZMF VSAM Files ............................... 61
Step 5: Define XMLSPACE VSAM LDS ......................................... 63
Step 6: Define Staging Versions VSAM Files ............................... 65
Step 7: Store SVPARM Control Member ....................................... 69
Step 8: Allocate the SER#PARM TCP/IP Address Library .......... 70
Step 9: Create ISPF Keylist for EXPAND .................................... 71
Step 10: Build SERNET JCL for ChangeMan ZMF .................... 72
Step 11: Build Default File Tailoring Procedure ....................... 75
Step 12: Build the Logon CLIST ............................................... 76
Step 13: Modify Exit Program CMNEXINS ................................. 77
Step 14: APF Authorize Other Load Libraries ......................... 78

Chapter 6

Configuring Security .......................................................... 79
Introduction ............................................................................. 80
Step 1: Customize SERLCSEC .................................................... 80
  CA Top Secret Security Violations ........................................ 80
  CA ACF2 Batch LOGONID ..................................................... 81
  Assembling SERLCSEC ......................................................... 81
  Stubbing ChangeMan ZMF Security ....................................... 82
Step 2: Add ChangeMan ZMF to Your Security System ............ 82
  Add ChangeMan ZMF to CA ACF2 ........................................ 82
  Add ChangeMan ZMF to IBM Security Server RACF ............. 85
  Add ChangeMan ZMF to CA Top Secret ................................ 87
Step 3: Define Security Entities ................................................ 88
Step 4: Define Data Set Access ................................................ 91
  Libraries and Data Sets in the SERNET Started Procedure .... 91
  Other Libraries and Data Sets .............................................. 92
Step 5: Add OMVS Segment To Use TCP/IP .............................. 93
Step 6: Add PassTicket Support In Sernet ................................. 93
  RACF Administration Required .......................................... 94
  The SERSET Utility .......................................................... 94
  Generating a PassTicket .................................................... 94
  Failures in PassTicket Generation ....................................... 94
  TOKEN =Operand of SERSET ............................................. 95
  Refreshing SERXPTIK ......................................................... 95
Step 7: Set Security for USS File Systems ............................... 96

Chapter 7

Starting, Connecting, and Stopping ....................................... 97
Start SERNET ....................................................................... 98
# Table of Contents

## Installation Guide

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ChangeMan ZMF Logon CLIST</td>
<td>142</td>
</tr>
<tr>
<td>CMNxADSP Default File Tailoring Procedure.</td>
<td>142</td>
</tr>
<tr>
<td>ChangeMan ZMF P Instance</td>
<td>143</td>
</tr>
</tbody>
</table>

## Appendix C

### Applying Maintenance Releases ................................. 145
- Introduction                                                | 146  |
- Updating Delivered Libraries                                  | 146  |
- Updating Custom Libraries                                     | 147  |
- Managing Copybook Changes                                     | 148  |
- Binding Db2 DBRM                                              | 148  |
- Managing XML Services Changes                                  | 149  |
- Synchronizing Impact Analysis Data                             | 149  |
- Updating Housekeeping Jobs                                     | 150  |

## Appendix D

### SERNET Keyword Options ........................................... 151

## Appendix E

### Modify Commands .................................................. 167
- Introduction                                                | 168  |
- Standard Modify Commands                                     | 168  |
- Restricted Modify Commands                                    | 181  |

## Appendix F

### Technical Notes .................................................. 187
- TCP/IP Trouble Shooting                                       | 188  |
- Trusted User ID For ALM Logon To ChangeMan ZMF                | 189  |

## Appendix G

### ZDDOPTS: ChangeMan ZDD XML Options ................................ 191
- Introduction                                                | 192  |
- ZDDOPTS Members                                              | 192  |
- XML Syntax                                                   | 193  |
- Multiple Attribute Values                                     | 193  |
- Wildcard Patterns                                             | 194  |
- Translating Comments in ZDDOPTS Members                       | 194  |
- AUDIT, DEMOTE, and PROMOTE Options                           | 196  |
- Elements                                                     | 197  |
- Attributes for <options> Element                              | 197  |
- Attributes for <profile> Element                             | 197  |
- Attributes for <field> Element                                | 197  |
- Name Values for <field> Element                              | 199  |
- Example                                                      | 199  |
- BUILD Options                                                | 199  |
- Elements                                                     | 200  |
- Attributes for <options> Element                              | 200  |
- Attributes for <multiple> Element                             | 201  |
- Attributes for <profile> Element                             | 201  |
- Attributes for <field> Element                                | 201  |
- Name Values for <field> Element                              | 203  |
- Example                                                      | 204  |
- COMMAND Options                                              | 205  |
# Table of Contents

- Elements .................................................. 205
- Attributes for `<options>` Element .................. 205
- Attributes for `<profile>` Element .................. 206
- Attributes for `<command>` Element ................. 206
- Example ...................................................... 207

**LIBTYPE Options** ........................................ 207
- Elements .................................................. 208
- Attributes for `<options>` Element .................. 208
- Attributes for `<profile>` Element .................. 209
- Attributes for `<libtype>` Element .................. 209
- Example ...................................................... 209

**PKGCREAT Options** ........................................ 209
- Elements .................................................. 210
- Attributes for `<options>` Element .................. 210
- Attributes for `<profile>` Element .................. 210
- Attributes for `<field>` Element ..................... 211
- Name Values for `<field>` Element ................... 212
- Example ...................................................... 212

**PKGPROP Options** ........................................ 213
- Elements .................................................. 213
- Attributes for `<options>` Element .................. 213
- Attributes for `<profile>` Element .................. 214
- Attributes for `<field>` Element ..................... 214
- Example ...................................................... 214

**Index** .................................................... 217
Welcome to ChangeMan® ZMF

Before you Begin

See the Readme for updates and corrections for this manual. For the latest Readme, go to the Micro Focus SupportLine website at https://supportline.microfocus.com/.

Audience and scope

This manual is intended for system administrators responsible for administering and installing ChangeMan ZMF.

Use this manual to accomplish the following:
- Install ChangeMan ZMF for the first time in your environment
- Build a new environment to run the current release of ChangeMan ZMF

Use this document if you are responsible for any of these tasks:
- Installing ChangeMan ZMF components
- Providing Global or Application Administration for ChangeMan ZMF
- Managing mainframe change control or configuration management
- Providing technical support for mainframe started tasks
- Managing the mainframe security system at your data center

This manual assumes that you are familiar with your mainframe operating system and experienced with your security system.

Components

Components for ChangeMan ZMF are delivered in two sets of libraries.
- The libraries with names that include CMNZMF as a node contain the ChangeMan ZMF base product and all selectable options
- The libraries with names that include SERCOMC as a node contain components for the following enabling technologies:
  - SERNET (known previously as Serena/Network), which manages communication and Serena XML Services for Serena mainframe products
  - Serena® License Manager™, which enables licensed Serena mainframe software on authorized CPUs
  - Common components used in multiple Serena products and enabling technologies

Navigating this book

This manual is organized as follows:
- Chapters 1-3 cover things to think about, things to decide, and things to do before you install ChangeMan ZMF.
- Chapters 4-7 provide step-by-step instructions for Installing ChangeMan ZMF components, configuring security, starting the SERNET started task where your ChangeMan instance runs, and connecting to ChangeMan ZMF in an ISPF environment.
- Chapters 8-10 provide instructions for making required modifications to ISPF skeletons, installing other tools, and setting up housekeeping jobs like VSAM file backup.

NOTE If you are upgrading from a previous version of ChangeMan ZMF, you must use the appropriate ChangeMan ZMF Migration Guide.
The Appendixes provide examples, reference material, and other supplemental information.

Change Bars  Change bars in the left margin of a page identify changes that have been made to this manual in this release.

### Guide to ChangeMan ZMF Documentation

The following sections provide basic information about ChangeMan ZMF documentation.

#### ChangeMan ZMF Documentation Suite

The ChangeMan ZMF documentation set includes the following manuals in PDF format.

<table>
<thead>
<tr>
<th>Manual</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator’s Guide</td>
<td>Describes ChangeMan ZMF features and functions with instructions for choosing options and configuring global and application administration parameters.</td>
</tr>
<tr>
<td>ChangeMan ZMF Quick Reference</td>
<td>Provides a summary of the commands you use to perform the major functions in the ChangeMan ZMF package life cycle.</td>
</tr>
<tr>
<td>Customization Guide</td>
<td>Provides information about ChangeMan ZMF skeletons, exits, and utility programs that will help you to customize the base product to fit your needs.</td>
</tr>
<tr>
<td>Db2 Option Getting Started Guide</td>
<td>Describes how to install and use the Db2 Option of ChangeMan ZMF to manage changes to Db2 components.</td>
</tr>
<tr>
<td>ERO Concepts</td>
<td>Discusses the concepts of the ERO Option of ChangeMan ZMF for managing releases containing change packages.</td>
</tr>
<tr>
<td>ERO Getting Started Guide</td>
<td>Explains how to install and use the ERO Option of ChangeMan ZMF to manage releases containing change packages.</td>
</tr>
<tr>
<td>High Level Language Functional Exits Getting Started Guide</td>
<td>Provides instructions for implementing and using High Level Language (Cobol, PL/1, and REXX) exits, driven consistently by all clients to enforce local business rules in ZMF functions.</td>
</tr>
<tr>
<td>IMS Option Getting Started Guide</td>
<td>Provides instructions for implementing and using the IMS Option of ChangeMan ZMF to manage changes to IMS components.</td>
</tr>
<tr>
<td>INFO Option Getting Started Guide</td>
<td>Describes two methods by which ChangeMan ZMF can communicate with other applications:</td>
</tr>
</tbody>
</table>
### Using the Manuals


This section highlights some of the main Reader features. For more detailed information, see the Adobe Reader online help system.

The PDF manuals include the following features:

- **Bookmarks.** All of the manuals contain predefined bookmarks that make it easy for you to quickly jump to a specific topic. By default, the bookmarks appear to the left of each online manual.

- **Links.** Cross-reference links within a manual enable you to jump to other sections within the manual with a single mouse click. These links appear in blue.

<table>
<thead>
<tr>
<th>Manual</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Installation Guide</strong></td>
<td>Provides step-by-step instructions for initial installation of ChangeMan ZMF. Assumes that no prior version is installed or that the installation will overlay the existing version.</td>
</tr>
<tr>
<td><strong>Java / zFS Getting Started Guide</strong></td>
<td>Provides information about using ZMF to manage application components stored in USS file systems, especially Java application components.</td>
</tr>
<tr>
<td><strong>Load Balancing Option Getting Started Guide</strong></td>
<td>Explains how to install and use the Load Balancing Option of ChangeMan ZMF to connect to a ZMF instance from another CPU or MVS image.</td>
</tr>
<tr>
<td><strong>M+R Getting Started Guide</strong></td>
<td>Explains how to install and use the M+R Option of ChangeMan ZMF to consolidate multiple versions of source code and other text components.</td>
</tr>
<tr>
<td><strong>M+R Quick Reference</strong></td>
<td>Provides a summary of M+R Option commands in a handy pamphlet format.</td>
</tr>
<tr>
<td><strong>Messages</strong></td>
<td>Explains messages issued by ChangeMan ZMF, SERNET, and System Software Manager (SSM) used for the Staging Versions feature of ZMF.</td>
</tr>
<tr>
<td><strong>Migration Guides</strong></td>
<td>Provides guidance for upgrading ChangeMan ZMF. Refer to the Readme for more information.</td>
</tr>
<tr>
<td><strong>OFM Getting Started Guide</strong></td>
<td>Explains how to install and use the Online Forms Manager (OFM) option of ChangeMan ZMF.</td>
</tr>
<tr>
<td><strong>SER10TY User’s Guide</strong></td>
<td>Gives instructions for applying licenses to enable ChangeMan ZMF and its selectable options.</td>
</tr>
<tr>
<td><strong>User’s Guide</strong></td>
<td>Describes how to use ChangeMan ZMF features and functions to manage changes to application components.</td>
</tr>
<tr>
<td><strong>XML Services User’s Guide</strong></td>
<td>Documents the most commonly used features of the XML Services application programming interface to ChangeMan ZMF.</td>
</tr>
<tr>
<td><strong>ZMF Web Services User’s Guide</strong></td>
<td>Documents the Web Services application programming interface to ChangeMan ZMF.</td>
</tr>
</tbody>
</table>
Welcome to ChangeMan® ZMF

- **Comments.** All PDF documentation files that Serena delivers with ChangeMan ZMF have enabled commenting with Adobe Reader. Adobe Reader version 7 and higher has commenting features that enable you to post comments to and modify the contents of PDF documents. You access these features through the Comments item on the menu bar of the Adobe Reader.

- **Printing.** While viewing a manual, you can print the current page, a range of pages, or the entire manual.

- **Advanced search.** Starting with version 6, Adobe Reader includes an advanced search feature that enables you to search across multiple PDF files in a specified directory.

**Searching the ChangeMan ZMF Documentation Suite**

There is no cross-book index for the ChangeMan ZMF documentation suite. You can use the Advanced Search facility in Adobe Acrobat Reader to search the entire ZMF book set for information that you want. The following steps require Adobe Reader 6 or higher.

1. Download the ZMF All Documents Bundle ZIP file and the *ChangeMan ZMF Readme* to your workstation from the My Downloads tab on the Serena Support website.

2. Unzip the PDF files in the ZMF All Documents Bundle into an empty folder. Add the *ChangeMan ZMF Readme* to the folder.

3. In Adobe Reader, select **Edit | Advanced Search** (or press **Shift+Ctrl+F**).

4. Select the **All PDF Documents in** option and use **Browse for Location** in the drop down menu to select the folder containing the ZMF documentation suite.

5. In the text box, enter the word or phrase that you want to find.

6. Optionally, select one or more of the additional search options, such as **Whole words only** and **Case-Sensitive**.

7. Click **Search**.

8. In the **Results**, expand a listed document to see all occurrences of the search argument in that PDF.

9. Click on any listed occurrence to open the PDF document to the found word or phrase.

**Choosing the Right Installation/Upgrade Manual**

Choose the manual that fits your situation when installing or upgrading ChangeMan ZMF.

<table>
<thead>
<tr>
<th>Your task</th>
<th>Manual to use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installing ChangeMan ZMF for the first time,</td>
<td><em>ChangeMan ZMF Installation Guide</em></td>
</tr>
<tr>
<td>Building a new ChangeMan ZMF instance from scratch</td>
<td><em>ChangeMan ZMF Installation Guide</em></td>
</tr>
<tr>
<td>Upgrading from a prior ChangeMan ZMF</td>
<td><em>ChangeMan ZMF Migration Guides as listed in the Readme</em></td>
</tr>
</tbody>
</table>

**IMPORTANT!** Always see the most current *Readme* for your ChangeMan ZMF release in case it contains documentation updates for the installation/upgrade manual you use.
ChangeMan ZMF Release Notes

High-level descriptions of the enhancements that are delivered in ChangeMan ZMF 8.1 and later releases are included in the "Features and Fixes" section of the latest ChangeMan ZMF Readme.

Online Help

Online help is the primary source of information about ChangeMan ZMF. Online help is available as a tutorial, through Help screens, and in ISPF error messages.

Online Tutorial

ChangeMan ZMF includes an online tutorial that provides information about features and operations, from high-level descriptions of concepts to detailed descriptions of screen fields.

To view the tutorial table of contents, select option T from the Primary Option Menu, or jump to it from anywhere in ChangeMan ZMF by typing =T and pressing ENTER.

Press PF1 from anywhere in the Tutorial for a complete list of Tutorial navigation commands and PF keys.

Online Help Screens

If you have questions about how a ChangeMan ZMF screen works, you can view a help panel by pressing PF1 from anywhere on the screen.

Online Error Messages

If you make an invalid entry on a ChangeMan ZMF screen, or if you make an invalid request for a function, a short error message is displayed in the upper right corner of the screen. Press PF1 to display a longer error message that provides details about the error condition.

Remember that the long message does not display automatically. Request the long message by pressing PF1.
Typographical Conventions

The following typographical conventions are used in the online manuals and online help. These typographical conventions are used to assist you when using the documentation; they are not meant to contradict or change any standard use of typographical conventions in the various product components or the host operating system.

<table>
<thead>
<tr>
<th>Convention</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>italics</td>
<td>Introduces new terms that you may not be familiar with and occasionally indicates emphasis.</td>
</tr>
<tr>
<td><strong>bold</strong></td>
<td>Emphasizes important information and field names.</td>
</tr>
<tr>
<td><strong>UPPERCASE</strong></td>
<td>Indicates keys or key combinations that you can use. For example, press the ENTER key.</td>
</tr>
<tr>
<td>monospace</td>
<td>Indicates syntax examples, values that you specify, or results that you receive.</td>
</tr>
<tr>
<td><strong>monospaced italic</strong></td>
<td>Indicates names that are placeholders for values you specify; for example, filename.</td>
</tr>
<tr>
<td>vertical rule</td>
<td>Separates menus and their associated commands. For example, select File</td>
</tr>
</tbody>
</table>

Notes

Sterling Connect:Direct® is an IBM® point-to-point file transfer software product that can be used to transfer files between two ChangeMan ZMF instances. The original name of the product was Network Data Mover (NDM). The "NDM" mnemonic persists, embedded in Connect:Direct and ChangeMan ZMF component names, options, and JCL examples.
Chapter 1
Introduction

This chapter provides information about ChangeMan ZMF.

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ChangeMan ZMF</td>
<td>16</td>
</tr>
<tr>
<td>Protecting Production and Development</td>
<td>16</td>
</tr>
<tr>
<td>Change Package</td>
<td>16</td>
</tr>
<tr>
<td>Change Package Life Cycle</td>
<td>17</td>
</tr>
<tr>
<td>SERNET</td>
<td>19</td>
</tr>
<tr>
<td>Implementation Strategy</td>
<td>20</td>
</tr>
</tbody>
</table>
ChangeMan ZMF

ChangeMan® ZMF protects corporate software assets by automating the development process, resulting in higher application quality and increased application availability. It’s a comprehensive solution that provides reliable and streamlined implementation of software changes in a z/OS environment.

Since ChangeMan ZMF controls every code change, it guarantees source-to-load integrity and makes sure that only successfully tested programs make it into production. By moving code through an automated life cycle with strict accountability every step of the way, ChangeMan ZMF reduces regression errors and maintenance costs.

Protecting Production and Development

ChangeMan ZMF answers the question, “What is production?” by including all development and test environments within the controls traditionally applied only to production execution libraries.

ChangeMan ZMF is granted exclusive update access by your security system to baseline and production libraries, and exclusive update access to libraries in controlled test environments. ChangeMan ZMF creates and manages the staging libraries where developers check out and modify application components.

The components in all of these libraries are protected by restricting access to the ChangeMan ZMF functions that can change the contents of these libraries. Developers, approvers, testing coordinators, ChangeMan ZMF administrators, and others can execute only those functions in ChangeMan ZMF for which they have been granted authorization by your security system.

All functions in ChangeMan ZMF are subject to rules defined in ChangeMan ZMF administration. Processes are consistent and repeatable to the extent that your ChangeMan administrators define rules that constrain user choices and options.

Change Package

A ChangeMan ZMF change package is a unit of work for application component changes being made for a project.

A change package consists of descriptive information, control parameters, and history information stored in ChangeMan ZMF VSAM master files. A set of staging libraries that belong exclusively to the change package contain application source, load, and other components that are being changed.

A change package is a secure development environment for project components. Access to a package and to package components is managed by ChangeMan ZMF using rules stored in your security system.

Rules in ChangeMan ZMF administration set constraints on options for managing components in change packages. Other administration rules restrict options for managing change packages through the change package life cycle.
Package components remain in package staging libraries throughout the ChangeMan ZMF package life cycle. Components are copied from package staging libraries to test libraries for testing, and components are copied from staging libraries to production libraries for installation.

**Change Package Life Cycle**

The change package life cycle is rules-based process consisting of:

- Actions that developers, approvers, testing coordinators, and others perform on change packages and change package components
- Processes that are automatically initiated by ChangeMan ZMF when certain conditions are met

Authority to perform actions in the package life cycle is controlled by ChangeMan ZMF and defined in your security system. Rules in ChangeMan ZMF administration define what options are available in the change package life cycle.

The steps in the change package life cycle include the following:

- **Create Package** is the first step in the change package life cycle. Using a series of input panels, screens, or windows, you enter information that describes the change package, and you set control parameters that determine how the package behaves during the rest of the package life cycle.

- **Checkout Component** copies components from a baseline or promotion library into a staging library allocated exclusively to your package. You can also check out components to a personal library, which is tracked by ChangeMan ZMF.

- **Stage Component** is where you edit and build package components to meet project requirements. Source components are processed through predefined build processes to create executables and build listings. You can also stage components into your package from libraries outside of ChangeMan ZMF to bring those components under the control of ChangeMan ZMF.

- **Package Audit** detects problems that will occur in production if you install your package in its current condition. Audit detects synchronization problems between components in your change package, and it detects synchronization problems between package components, components in participating packages, components in promotion, and baseline components.

- **Freeze Package** locks package information and package components to prevent further changes and to ensure that the components you install into production are the same as the components you tested. You can selectively unfreeze, change, audit, and refreeze components to fix problems found in testing.

- **Promote Package** copies package components from staging libraries into test libraries. As a package is promoted from one testing level to the next, package components are removed from libraries in the prior level and copied from staging libraries into test libraries for the next level.

- **Demote Package** removes package components from test libraries.

- In **Approve Package**, predefined approvers review package information, components, and test results and approve or reject the package for install. If an approver rejects the package, they enter text Reject Reasons.
- **Revert Package** removes all previously entered approvals, unlocks package information and components, and opens the package back up to development.

- **Distribute Package** occurs if you are installing a package through another ChangeMan ZMF instance at a remote site. It starts automatically when all package approvals are entered for a package. The package is transmitted to the remote site where package records are added to the ChangeMan ZMF instance running there, package staging libraries are allocated and populated, and the package is added to the internal scheduler.

- **Install Package** starts automatically, either when the package install date and time arrive, when the last approval is entered, or when an external job scheduling system triggers the first installation job. If the application has production libraries that are separate from baseline libraries, current production modules are backed up and new versions are copied from package staging libraries into the production libraries.

- **Baseline Package** starts automatically after a package is installed. This process ripples current and prior versions of package components down in a stack of prior baseline versions, and then copies package components into the baseline libraries as the new current version.

- **Backout Package** removes package components from production libraries and restores the backups made when the package was installed. Package components that are the current version in baseline libraries are removed, and components are reverse rippled up the stack of prior baseline versions to restore the old current version.
SERNET

SERNET (previously called SERENA/Network) provides communication and other services on the enterprise server for Serena products. SERNET runs as a started task on an LPAR.

ChangeMan ZMF runs as an application under a SERNET instance. Other products, such as ChangeMan® ZDD, run on other platforms and use a SERNET instance to gain access to mainframe files and services.

The diagram below is a logical view of the SERNET architecture. It shows two SERNET instances on separate LPARs, each managing a ChangeMan ZMF instance. Users access these ChangeMan ZMF instances from TSO sessions in the z/OS environment, ChangeMan ZDD running on a Windows workstation, or from ChangeMan ZMF for Eclipse running on an Eclipse workstation. The TSO user in the last LPAR is using the Load Balancing Option of ChangeMan ZMF to work from a mainframe environment where there is no SERNET or ChangeMan ZMF instance.
Chapter 1 Introduction

Serena Software SERNET Architecture

IBM Mainframe z/OS LPAR Complex with Shared DASD

<table>
<thead>
<tr>
<th>LPAR 1</th>
<th>LPAR 2</th>
<th>LPAR 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERNET Server &quot;B&quot;</td>
<td>SERNET Server &quot;A&quot;</td>
<td>SERCLUIEN</td>
</tr>
<tr>
<td>TSO ID</td>
<td>TSO ID</td>
<td>TSO ID</td>
</tr>
<tr>
<td>XMS</td>
<td>XMS</td>
<td>XMS</td>
</tr>
<tr>
<td>ChangeMan ZMF P Subsystem &quot;B&quot;</td>
<td>ChangeMan ZMF DP Subsystem &quot;A&quot;</td>
<td></td>
</tr>
<tr>
<td>XCH</td>
<td>XCH</td>
<td></td>
</tr>
<tr>
<td>z/OS File I/O and Queue Requests XCH=(port)</td>
<td>ChangeMan ZMF Requests CMN=(port)</td>
<td></td>
</tr>
<tr>
<td>TCP/IP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows</td>
<td>Windows</td>
<td>Eclipse Client</td>
</tr>
</tbody>
</table>

Serena ChangeMan ZDD
Direct access to ChangeMan ZMF components in a change package from a workstation running Windows.

Serena ChangeMan ZMF for Eclipse
Direct access to ChangeMan ZMF components in a change package from a workstation running Eclipse.

Implementation Strategy

ChangeMan ZMF is designed to be flexible so that it can serve customers who have a broad range of data center standards and change management requirements. A by-product of that flexibility is that there are choices you must make before you configure ChangeMan ZMF to manage components in your development and production environments.
These choices include:

- How you will define applications in ChangeMan ZMF
- How you will configure baseline and production libraries in relation to those applications
- What kind of package approval process you need
- What roles you want people to play, and what authority they will require to access ChangeMan ZMF functions
- Whether you will create multiple ChangeMan ZMF instances to manage production application components across your enterprise

These issues are discussed in the first few chapters of the ChangeMan ZMF Administrator’s Guide, and additional details are found in the Administrator’s Guide chapters that tell you how to configure Global and Application Administration. Your organization needs to examine these issues and find consensus among developers, development managers, testing groups, data center operations, security, EDP audit, IT management, and business partners.

You can help these groups understand the issues and the alternatives available by installing ChangeMan ZMF and bringing up a test or demonstration ChangeMan ZMF instance where you can show them how ChangeMan ZMF works. As you reach tentative decisions about the configuration you want to use, you can change your initial settings in administration, create new applications, or build new ChangeMan ZMF instances to test your design.

You can also use information in the ChangeMan ZMF Customization Guide to explore exit programs and skeleton modifications to satisfy your requirements.

This Installation Guide tells you how to install ChangeMan ZMF components and make entries in your security system so that you can bring up a ChangeMan ZMF instance.

When you get a ChangeMan ZMF instance running, it is recommended that you use the instructions in chapter "Setting Up Global Administration" and chapter "Setting Up Application Administration" in the ChangeMan ZMF Administrator’s Guide to set up the simplest ChangeMan ZMF configuration possible, accepting system defaults where they are available and using the most liberal parameter settings possible.

When you have configured global and application administration in ChangeMan ZMF, create some simple JCL and source components in the new baseline libraries. These components do not need to be executable, but the source code must compile successfully.

Use the instructions in the ChangeMan ZMF User’s Guide to create a change package with no components, and process this empty package through the change package life cycle. Next, create a package and check out components into the package. Stage some simple source components so you can see compile and link edit processing. Process the package through the life cycle.

Use this incremental approach to exercise more and more features of ChangeMan ZMF as you gain knowledge of how you can implement ChangeMan ZMF to meet your requirements.

If you license one or more ChangeMan ZMF selectable options, use the installation instructions in the Getting Started Guide for each of those options to add those facilities to your test or demonstration instance of ChangeMan ZMF. Experiment with those options to decide how you want to implement them.
Chapter 2

Installation Requirements

This chapter describes requirements for installing Serena® ChangeMan® ZMF in your mainframe environment.

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Requirements</td>
<td>24</td>
</tr>
<tr>
<td>ChangeMan ZMF Product Compatibility</td>
<td>26</td>
</tr>
<tr>
<td>CA Panvalet® and CA Librarian® Compatibility</td>
<td>26</td>
</tr>
<tr>
<td>Software Conflicts</td>
<td>27</td>
</tr>
<tr>
<td>Load Library APF Authorization</td>
<td>28</td>
</tr>
<tr>
<td>IPL</td>
<td>28</td>
</tr>
</tbody>
</table>
System Requirements

This section defines operating system and software requirements, memory requirements, and disk storage requirements.

Operating System

ChangeMan ZMF runs without modification on all IBM and plug-compatible mainframes running z/OS®. See the Readme for a link to current information about OEM software compatibility testing.

Software Requirements

Refer to the current platform matrix on the support website to determine what system software to run ChangeMan ZMF in your mainframe environment.

- You will need one of the following external security systems:
  - IBM Security Server RACF®
  - CA ACF2®
  - CA Top Secret®
- The MVS SAF (System Authorization Facility) is used to interface to your security system.

If you intend to use ChangeMan ZMF to distribute components to remote CPUs for testing or installation, you need one of the following data transport systems:

- Bulk Data Transfer (BDT)
- Connect:Direct® (formerly NDM)
- NetMaster
- Netview® FTP
- XCOM 6.2

Memory Requirements

SERNET runs as a started task on each CPU that employs SERNET services. You may run multiple SERNET instances on a single processor to test SERNET or its applications, to run different products at different release levels of SERNET, or to achieve separation of control.

The recommended region size for a SERNET instance is zero megabytes (REGION=0M), which provides the absolute maximum memory above and below the line. SERNET does virtually all work in memory above the line, without spilling to DASD. To support hundreds
of concurrent users, a large amount of virtual memory is used. The symptom of insufficient memory is abend S878.

**NOTE** If there are system exits that disallow REGION=0M, then set the SERNET region size to at least 48 megabytes (REGION=48M). Consider removing exits that limit memory acquisition, such as IEALIMIT, which limits an address space from acquiring more than 32 megabytes above the line, or increase the maximum allowed to at least 48 megabytes.

Each SERNET instance obtains 64 bytes of CSA (Common System Area subpool 245) to hold a SubSystem Communications Vector Table (SSCVT) control block. One SSCVT is required for each SERNET started task on a processor. To avoid fragmenting memory, this short piece of memory is never released (FREEMAIN). When SERNET is shut down and restarted, it reuses the same anchor block until the next IPL clears it out.

Almost all SERNET mainframe programs are written in reentrant assembly language. Most load modules have been given the RENT attribute at link-edit time as well as AMODE=31. Some load modules reside below the line using RMODE=24, but most reside above the line using RMODE=ANY. All memory that can be managed above the line is acquired there for memory constraint relief.

**DASD Space Requirements**

Eight VSAM KSDS files and two VSAM LDS files are created during the installation process. The recommended minimum total primary allocation is 94 cylinders of 3390 disk.

**ISPF Profile Library Allocation**

When you use the ISPF interface to ChangeMan ZMF, it creates up to three members in your ISPF profile library (ISPPROF).

<table>
<thead>
<tr>
<th>Name</th>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>xxxxPROF</td>
<td>ZMF ISPF profile</td>
<td>Used to store ZMF user variables from the ISPF profile variable pool between ZMF sessions. Panel variables like job card images and package create fields are saved to the profile at the end of a ZMF session (VPUT) and retrieved at the start of a new session (VGET) so that panel fields can be pre-filled.</td>
</tr>
<tr>
<td>xxxxEDIT</td>
<td>ISPF edit</td>
<td>Transparent to ZMF</td>
</tr>
<tr>
<td>xxxxEDRT</td>
<td>ISPF edit recovery</td>
<td>Transparent to ZMF</td>
</tr>
</tbody>
</table>

If you license the ChangeMan ZMF M+R Option, it creates an additional ISPF profile library member.

<table>
<thead>
<tr>
<th>Name</th>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDFPROF</td>
<td>M+R ISPF profile</td>
<td>Used to store M+R user variables from the ISPF profile variable pool between ZMF sessions.</td>
</tr>
</tbody>
</table>

The profile name prefix xxxx is set by the NEWAPPL parameter in the ZMF logon CLIST. If prefixes are made unique for each ZMF instance, your profile library will contain up to four members for the first ZMF instance that you use, and up to three more members for each additional ZMF instance you use.
ISPF profile libraries for users of ChangeMan ZMF must be allocated with sufficient primary, secondary, and directory space to allow ZMF to create and update the profile members discussed here. This applies to all ISPF applications that run with ISPF NEWAPPL(xxxx).

**REXX Runtime Environment**

XMLSERV is an XML page prototype tool delivered with ChangeMan ZMF that you can use to experiment with XML Services.

A REXX runtime environment is required to execute this program. If you have not installed a REXX runtime environment in your z/OS system, and you attempt to execute program XMLSERV, the program will fail with this message:

```
IRX0159E The run time processor EAGRTPRC is not available
```

See the IBM TSO/E Customization manual for information about setting up a REXX runtime environment.

**ChangeMan ZMF Product Compatibility**

The Software Compatibility topic in the ChangeMan ZMF Readme tells you how to identify what versions of OEM software products are compatible with the base ChangeMan ZMF product.

You can avoid many compatibility problems between ChangeMan ZMF and other products by using JOBLIB and STEPLIB instead of adding ChangeMan load libraries to the LINKLIST.

If you want to run ChangeMan ZMF with other products under one SERNET instance, examine the compatibility chart to see whether there is a potential conflict. Contact Technical Support if you have questions about how to resolve compatibility issues.

**CA Panvalet® and CA Librarian® Compatibility**

SERNET includes program SERIFACE as an interface to CA Panvalet and CA Librarian. The source for SERIFACE is delivered in the SERCOMC ASMSRC library, but you do not need to customize SERIFACE to use CA Panvalet or CA Librarian with ChangeMan ZMF.

CA Panvalet must be at Release 12 or 14. Missing PTFs can cause problems. If the PAM module has been link-edited with the RENT option, SERIFACE abends with an S0C4. PAM is not reentrant and must be link-edited with the NORENT parameter.

The CA Panvalet or CA Librarian product library must be available for calls from SERNET. If the product library is not in the LINKLIST, then add the library to the STEPLIB in the SERNET started task JCL, the STEPLIB in ChangeMan ZMF cataloged procedures, and your custom JOBLIB skeleton, CMN$$DSN.

At startup, SERNET tries to load modules LIBR for CA Librarian and PAN#1 for CA Panvalet. If the load is successful, the interface to these products is enabled. If you have renamed program LIBR, use SERNET keyword parameter LIB to tell SERNET the new name. See "LIB" on page 159.
Software Conflicts

If you use any of the software products described in this section, read the information provided to determine if you must take action to prevent conflicts with ChangeMan ZMF or SERNET.

Library Concatenations

SER* modules are delivered with all Serena mainframe products. Use STEPLIB and JOBLIB with Serena mainframe products instead of LINKLIST concatenations to avoid problems with software release compatibility.

Abend-AID® (from Compuware Corporation)

If an abend occurs, Abend-AID generates a formatted dump. However, some SERNET problems cannot be solved without a full dump, so Support accepts only full dumps when helping you with abends.

If your installation uses Abend-AID and you always want full dumps from SERNET, code the following DD statement in the SERNET started task procedure and any JCL that executes SERNET programs.

```
//ABNLIGNR DD DUMMY
```

PDSFAST (from Software Engineering of America)

At one time, PDSFAST would enqueue the temporary data set created during a SERCOPY reallocate function, preventing SERCOPY from renaming the data set and finishing the recovery. This problem has been fixed by the vendor.

PDSFAST and SERCOPY contain compression facilities that interfere with each other. Since you cannot suppress the SERCOPY compression facility when SERCOPY is executed by the SERNET started task (parameters are generated internally), you must suppress the compression facility in PDSFAST for copy tasks initiated by SERNET.

Suppress PDSFAST compression for ChangeMan ZMF by adding this DD statement to the SERNET started task procedure:

```
//NPDSFAST DD DUMMY
```

CA PDSMAN® (from Computer Associates)

If ChangeMan ZMF manages a very active production load library as a baseline, and CA PDSMAN option ISPF STATS is set to NO, you may receive the following messages from Audit:

```
+IKJ56225I DATA SET PRODT.CMNT.BASE.ACTP.LOD ALREADY IN USE, TRY LATER+
+IKJ56225I DATA SET IS ALLOCATED TO ANOTHER JOB OR USER
```

These messages may indicate that Audit is unable to get a shared enqueue on a baseline library because the CA PDSMAN puts a very brief exclusive enqueue on a library to update directory statistics when a member is accessed. If there is no evidence that another job has an exclusive enqueue on the library, the problem may be resolved by setting CA
PDSMAN option ISPF STATS to YES. You may also define a separate library to use as a baseline and use the active library as a ChangeMan ZMF production library.

**MAINVIEW® SRM StopX37/II™ (from BMC Software)**

StopX37/II intercepts DASD space abends and reallocates data sets. SERCOPY executed from the SERNET started task compresses and reallocates PDS libraries. If both StopX37/II and SERCOPY attempt to fix a space problem, the results are unpredictable.

Suppress StopX37/II for ChangeMan ZMF by coding the following DD statement in the SERNET started task procedure:

```
//X37IGN DD DUMMY
```

**VSAM Performance Tools**

There are several software products that enhance VSAM performance. These products may improve VSAM performance under SERNET and ChangeMan ZMF. However, there may be conditions where SERNET is unable to coexist with these tools.

If program CMNVINIT in install job INITIAL2 hangs in a DETECTED WAIT (DW) state, and there are no messages indicating the cause of the problem, try suppressing any VSAM performance tools that you may have running. These DD statements can be used in step JCL to suppress two popular VSAM performance products:

SST-HiperLoad Plus for VSAM (Performance Essential from Softworks)

```
//PSPOFF DD DUMMY
```

HIPER-CACHE™ (from BMC Software)

```
//VVHC$OFF DD DUMMY
```

If these DD statements solve the problem, code them in the following places:

- In the SERNET started task procedure.
- In the default file tailoring started procedure CMNxADSP and in any clones that you create and specify in ChangeMan ZMF administration.

**Load Library APF Authorization**

Some SERNET and ChangeMan ZMF load modules have an Authorization Code of 1 (AC=1). Load libraries containing these modules must be APF authorized. APF authorize all libraries in a JOBLIB or STEPLIB concatenation when one library in the concatenation is APF authorized.

**IPL**

When you install SERNET and ChangeMan ZMF, IPL your system if you need to accomplish the following:
- APF authorize ChangeMan ZMF load libraries if you only use a static APF list.
- Permanently APF authorize ChangeMan ZMF load libraries if you use a dynamic APF list.
- Pick up new entries in your security system, such as the following in IBM Security Server RACF:
  - Static Class Descriptor Table
  - Started Procedure Table.

**NOTE** The License Manager gives you a choice of storing licenses for mainframe products in CSA or in a PDS. If you choose to store licenses in CSA, reload the licenses to CSA when you IPL. See the latest *SER10TY User Guide* for information about applying licenses.
Chapter 3
Installation Considerations

This chapter describes issues you must consider before installing ChangeMan ZMF.

NOTE The information in this chapter is provided to help you plan for your installation. Do not execute any installation or configuration tasks until you get to Chapter 4, "Unloading the Software" on page 51 and Chapter 5, "Installing ChangeMan ZMF Components" on page 59.

Upgrading From Earlier Versions 32
System Considerations 32
VSAM Performance 33
VSAM Linear Data Sets 34
SERNET and ChangeMan ZMF JCL 35
Started Procedures for File Tailoring 39
Security Considerations 40
Data Set Considerations 44
Batch Job Name Considerations 46
Staging Versions 48
Customizing ChangeMan ZMF Components 48
Console Log Messages 49
Upgrading From Earlier Versions

See "Choosing the Right Installation/Upgrade Manual" on page 12 to ensure that this Installation Guide is the correct manual for your installation or upgrade of ChangeMan ZMF.

System Considerations

This section describes system issues that you must consider before you start the ChangeMan ZMF installation process.

z/OS Subsystem

While each SERNET instance is identified by a "subsystem ID," SERNET is not a formal z/OS subsystem like JES or Db2®; do not define SERNET in the subsystem name table in SYS1.PARMLIB(IEFSSNxx). If you define it in the subsystem name table, SERNET may abend with an SOC4 when it tries to update the subsystem communication vector table with the identifying address space (ASID).

Updating the System Linkage Index

Each SERNET instance uses a system linkage index (a z/OS resource). The system linkage index is not released when a SERNET started task is shut down. However, the next time the same subsystem ID (a SERNET instance identifier) is initialized, it uses the same system linkage index.

The NSYSLX parameter in IEASYSxx defines the number of linkage indexes (in addition to those in the system function table) to be reserved as system linkages. The default number is 55. If your environment has a number of subsystems defined that use system linkage indexes (for example, Db2 and IMS V5), you might need to increase the value of NSYSLX if you define multiple SERNET instances on the same LPAR.

Non-Swappable

The SERNET address space must be available at all times for asynchronous requests coming from client desktops and from other z/OS address spaces. Each SERNET instance makes itself non-swappable by internally issuing the following:

SYSEVENT TRANSWAP

TRANSWAP is IBM’s preferred method of making an address space non-swappable for long periods of time.

Reusable Address Space Identifiers (ASID)

SERNET, ChangeMan ZMF, and all selectable options for ChangeMan ZMF except the Enterprise Release Option (ERO) are compatible with reusable ASIDs. Ensure that reusable ASIDs are enabled on your z/OS system.
For information about ERO and reusable ASIDs, see the *ChangeMan ZMF ERO Getting Started Guide*.

**Libraries and LINKLIST**

It is recommended that you do not add load libraries for its mainframe products to the LINKLIST. Instead, include a STEPLIB statement in the JCL for each SERNET instance, and include a JOBLIB or STEPLIB statement in the JCL for each batch job submitted by the product.

STEPLIB and JOBLIB are preferred because:

- If you license more than one product and you do not keep the products at compatible release levels, common load modules in a LINKLIST library might interfere with the proper function of some of these products.

- You should segregate delivered (vendor) versions of load modules in libraries separate from customized programs such as exits. It is easier to maintain the proper concatenation of custom and delivered load libraries if they are in STEPLIB or JOBLIB statements in started procedures and batch JCL.

**VSAM Performance**

ChangeMan ZMF uses VSAM files to store information about application components and change packages. The ChangeMan ZMF package master, component master, long name component master, activity log, and recovery files are active KSDS VSAM files. This section provides information about enhancing VSAM and ChangeMan ZMF performance.

**Defining VSAM file characteristics**

Model JCL to define VSAM KSDS files for ChangeMan ZMF includes DEFINE CLUSTER parameter settings that are intended to optimize performance. It is recommended that you use the delivered settings for CISZ, FREESPACE, and SHAREOPTIONS.

**AMP Parameters**

Model JCL for ChangeMan ZMF files in a SERNET started procedure is delivered with AMP parameters to optimize VSAM performance. It is recommended that you use the delivered AMP subparameter values for STRNO, BUFND, and BUFNI. These subparameters can be adjusted when you have performance data that suggests different settings.

As delivered, ChangeMan ZMF obtains all VSAM buffers and control blocks above the line (RMODE31=ALL). No GSR or LSR buffer pools are used.

**VSAM I/O Optimization of ZMF Master Files**

Customers have the option of using BLSR (Batch Local Shared Resources), SMB (System Managed Buffers), or no buffering on their started task JCL. There are sample JCL cards which can be commented in/out to pick the desired method.
SMB only applies to extended VSAM datasets, it has no effect otherwise.

The SMB parameter SMBVSP, can be tweaked to improve performance, ACCBIAS and SMBDFR should not be changed. For more information on tuning SMB, see the IBM manual ‘Z/OS DFSMS Using Datasets’.

BLSR is a subsystem of MVS that improves performance by allowing programs that use VSAM non-shared resources (NSR) to use VSAM local shared resources (LSR) without changing application source code or link-editing application load modules.

BLSR can be used with ChangeMan ZMF Version 5 and above. The required JCL changes are included as comments in the model JCL for a ChangeMan ZMF instance.

See the MVS Programming Batch Local Shared Resources Subsystem Guide for complete information on the application of BLSR in your environment. It is recommended that one of the supported VSAM I/O optimization methods be enabled as it has shown to dramatically improve VSAM I/O performance with the ZMF instance.

**VSAM Linear Data Sets**

ChangeMan ZMF stores some data in VSAM Linear Data Sets (LDS). An LDS contains data but no control information. IDCAMS is used to define a linear data set. An LDS has only a data component. An LDS is just a physical sequential VSAM data set comprised of 4 KB physical records.

When a ChangeMan ZMF program opens an LDS, the entire file is read into a data space. The data is accessed by the program as a byte-addressable string in virtual storage. When a program updates the data space, the LDS is updated asynchronously by data-in-virtual services.

To a ChangeMan ZMF program, an LDS looks like a table in virtual storage that requires no physical I/O for processing. ChangeMan ZMF employs VSAM LDS files to improve the performance of files that are accessed non-sequentially in an unpredictable pattern. Only programs running under the SERNET/ ChangeMan ZMF started tasks are allowed to dynamically update VSAM LDS files.

In ChangeMan ZMF 8.1, there are two sets of data that are stored in VSAM LDS files:

- An impact analysis LDS contains multiple tables, such as baseline unique number (BUN) data, component identification data, and component relationship data. Impact analysis data is updated as component relationships are added, updated, and deleted, and as library types, applications, and baseline libraries are added and deleted.
- Relationships between XML schemas and DSECTS used for fixed-format control blocks and copybooks are stored in the XMLSPACE LDS. These relationships are static between updates to ChangeMan ZMF software.

**LDS Space Utilization**

The ChangeMan ZMF impact analysis LDS is defined with extents. The physical space is logically formatted as it is filled with data. You can determine the space utilization of the impact analysis LDS by running an IDCAMS LISTCAT.
The contents of the XMLSPACE LDS do not change between software releases. Space utilization is managed by with changes to the delivered JCL that creates and populates the LDS.

**SERNET and ChangeMan ZMF JCL**

Expect to run at least two instances of ChangeMan ZMF:

- A production ChangeMan ZMF instance that manages application components in production libraries.
- A test ChangeMan ZMF instance that the ChangeMan ZMF Administrator uses to test upgrades and modifications before they are installed into the libraries running the production ChangeMan ZMF.

Each instance of ChangeMan ZMF runs as an application under a separate SERNET instance. Before building SERNET and ChangeMan ZMF JCL, consider the issues described in the following subsections.

**Subsystem ID**

Each instance of SERNET is identified by a unique one-character subsystem ID. Valid values for a subsystem ID are:

- Blank (space)
- Numeric 0-9
- Alphabetic A-Z
- Special characters @, #, and $.

**NOTE** Although a null (blank) subsystem ID is valid, it is strongly recommended that you avoid using a null subsystem ID.

A subsystem ID is assigned through SERNET keyword option SUBSYS=subsysID, which is input to program SERVER.

**SERNET Started Task Names**

As stated previously, you will have at least two ChangeMan ZMF instances: a test instance and a production instance. You may also have multiple ChangeMan ZMF instances running on other LPARs to manage production libraries.

Each ChangeMan ZMF instance runs under a separate SERNET started task. Each SERNET started task must be assigned a unique identity in z/OS for console commands, automated data center management tools, and SMF. There are three ways to establish a unique z/OS identity for a SERNET started task:

- Member name - Build a separate procedure (member) for each started task. Use only the member name in the START command.
Chapter 3 Installation Considerations

The SERNET started task *jobname* and *identifier* is SERPROC1.

- **Identifier** - Append an identifier to the procedure member name in the START command.

  S SERPROC.SERTASK2.ID=2

  The SERNET started task *jobname* is SERPROC and the *identifier* is SERTASK2.

- **Jobname** - Use the JOBNAME parameter in the START command.

  S SERPROC.JOBNAME=SERTASK3.ID=3

  The SERNET started task *jobname* and *identifier* are both SERTASK3.

If you use a common procedure for several SERNET instances, then you must use an identifier or a JOBNAME parameter in the START command.

**NOTE** When you assign a started task identity that is different from the started procedure member name, IBM recommends that you use the JOBNAME parameter because it provides an identity that is available to the most z/OS services.

### Parameters for SERNET and ChangeMan ZMF

SERNET behavior, and the behavior of applications like ChangeMan ZMF that run under SERNET are controlled by keyword options input to program SERVER.

#### Passing Parameters to SERNET

Keyword options may be passed to SERNET in two ways:

- In the EXEC statement for program SERVER, as subparameters in the PARM= parameter.

  **Example 1:**

  ```
  //SERVER PROC ID=1,OPT='XCH=1234'
  //SERVER EXEC PGM=SERVER,                     *Started Task
  //             REGION=0M,                      *Maximum Region
  //             DYNAMNBR=200,                   *High allocations
  //             PARM='SUBSYS=&ID,&OPT'          *Execution Parms
  ```

  **Example 2:**

  Override the SERVER parameters in Example 1 by setting symbolic parameters in the START command.

  S SERPROC.ID=2,XCH=2345

- In a data set read by program SERVER at a DD statement referred to by the keyword option DDNAME=ddname coded as a PARM= subparameter.

  **Example:**

  ```
  //SERVER PROC
  //SERVER EXEC PGM=SERVER,                     *Started Task
  //             REGION=0M,                      *Maximum Region
  //             DYNAMNBR=200,                   *High allocations
  //             PARM='DDNAME=ANYNAME'           *Execution Parms
  ```

  ```
  . . .
  ```

  ```
  //ANYNAME DD DSN=SERCOMC.PARMS(SERPARM)
  ```

  PDS member SERPARM contains:
SUBSYS=3  /* SERNET SUBSYS ID  
XCH=3456   /* TCP/IP PORT #  

Keyword Options For ChangeMan ZMF

There are many SERNET keyword options. Options listed in this section are required or
are commonly used with ChangeMan ZMF.

See Appendix D, "SERNET Keyword Options" on page 151 for detailed descriptions of the
options listed here.

To find other SERNET keyword options that can be used with ChangeMan ZMF, look for
"CMN" in the "Application(s)" row of the description tables in Appendix D.

Required Options

These options must be specified for a SERNET instance running ChangeMan ZMF.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBSYS</td>
<td>SUBSYS on page 163</td>
</tr>
<tr>
<td>CMN=port or CMN</td>
<td>apl on page 152</td>
</tr>
</tbody>
</table>

Common Options

You may code these options for a SERNET instance running ChangeMan ZMF depending
on the functions you use.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDNAME</td>
<td>DDNAME on page 156</td>
</tr>
<tr>
<td>SDNOTIFY</td>
<td>SDNOTIFY on page 162</td>
</tr>
<tr>
<td>TIMEOUT</td>
<td>TIMEOUT on page 163</td>
</tr>
<tr>
<td>STAX</td>
<td>STAX on page 162</td>
</tr>
</tbody>
</table>

Special Case Options

These options are used only in special situations.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCPIP</td>
<td>TCPIP on page 163</td>
</tr>
<tr>
<td>XML</td>
<td>XML on page 165</td>
</tr>
<tr>
<td>LIB</td>
<td>LIB on page 159</td>
</tr>
</tbody>
</table>

SER输#PARM DD Statement

Each SERNET started task can optionally create a reference table of application TCP/IP
addresses and port numbers for the application. Alternatively the DD may be omitted
from the started task JCL and manually edited. This will allow the use of VIPA rather than
real IP addresses. This reference table is stored in a PDS member named #SERx, where x
is the subsystem ID of the SERNET started task.

The information in a #SERx member is used to communicate with a ChangeMan ZMF
instance using TCP/IP rather than cross memory services from the following:
Chapter 3  Installation Considerations

- ChangeMan ZMF ISPF client
- ZMF programs in batch jobs
- ZMF File tailoring started procedures

The library containing a #SERx member usually has a DSN low level node of TCPIPORT and is referenced by:

<table>
<thead>
<tr>
<th>JCL</th>
<th>CLIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>//SER#PARM DD DSN=...</td>
<td>ALLOC DD (SER#PARM) DSN(...)</td>
</tr>
</tbody>
</table>

This example shows the format of member #SER6 in a SER#PARM library:

```
******************************** Top of Data ***********************
****** This is member "#SER6" created 2017/08/16 - 20:33:06 ******
* The purpose of this member is to track the relationship
* between this SerNet subsystem, applications, and associated
* TCP/IP address or DNS name & port number.
* The member is created/updated by SERVER/SERXMSIP as needed.
* It may be manually (careful) edited but this is not recommended.
* *== asterisk in column one denotes comment.
* SMF-ID (SMFI) uniquely identifies the LPAR. Multiple APPs possible.
* SMFI S APP TCPIPROC PORT# ADDR
  Q001 6 XCH          06122 Q001
  Q001 6 CMN          06121 Q001
******************************** Bottom of Data *********************
```

SERNET creates a #SERx member (if the SER#PARM DD is allocated) from the location of the started task (SMFID, DNS name) and from SERNET keyword parameters (SUBSYS=x, apl=port). SERNET cannot update an existing #SERx member. If you want to refresh the information in a #SERx member, SHUTDOWN the started task where the member was created, delete the member from the SER#PARM library, and START the procedure to recreate the member. - remove this??

**NOTE** Prior to ChangeMan ZMF 7.1.3, #SERx members were generated with dotted decimal IP addressees. Starting with ZMF 7.1.3, they are generated with DNS names of 16 characters or less. The maximum length of a DNS name will be extended in future ZMF versions.

The SER#PARM DD statement is no longer required in the JCL for the started task that runs ChangeMan ZMF.

If there is a TCP/IP address space on the LPAR where SERNET runs, SERNET will automatically create a #SERx member in the SER#PARM file (if it is allocated). If there is no TCP/IP address space on the same image, you must manually create a member in this file and manually code a dummy table entry. Instructions for manually creating this member are provided in Chapter 5, "Installing ChangeMan ZMF Components".

**CAUTION!** A library containing #SERx members can be shared by multiple SERNET started tasks as long as those started tasks have unique subsystem IDs. However, do not use a SER#PARM library for any other purpose, such as passing SERNET keyword parameters to a started task. SERNET opens this library for output, which can interfere with other uses of the file.
SERLIC DD Statement

The SER10TY License Manager gives you a choice of storing licenses for the mainframe products in CSA or in a PDS.

If you store licenses in a PDS, that library must be named in DD statement SERLIC included in:

- Started procedures that run ChangeMan ZMF
- CLISTs you use to connect to ChangeMan ZMF instances

See the SER10TY 4.3 User Guide for information about applying licenses.

SYSMDUMP DD Statement

The preferred means of gathering diagnostic information for a program interrupt in a SERNET started task is through a data set allocated to a SYSMDUMP DD statement. The data set should have these attributes:

```plaintext
//SYSMDUMP DD DISP=(MOD,CATLG,CATLG), * SYSMDUMP
// DSN=somnode.SERCOMC.SYSMDUMP(+1),
// UNIT=SYSDA,SPACE=(CYL,(200,100),RLSE),
// DCB=(DSORG=PS,RECFM=FBS,LRECL=4160,BLKSIZE=4160)
```

It is recommended that you define a GDG index for the SYSMDUMP data set to prevent diagnostic information in the data set from being overwritten when the SERNET instance is restarted after an abend.

SYSTCPD DD Statement

If you use TCP/IP to communicate with ChangeMan ZMF and there are multiple TCP/IP started tasks running on the same LPAR, you may need to code DD name SYSTCPD in the SERNET started task JCL. See topic “Considerations for Multiple Instances of TCP/IP” in the IBM publication z/OS Communications Server IP Configuration Guide.

Started Procedures for File Tailoring

A SERNET started task running ChangeMan ZMF initiates started procedures to perform ISPF file tailoring to create JCL for the following functions:

- Package installation
- Stage
- Promotion
- Other batch activities

These procedures run like started tasks in their own address space. They are not regular batch jobs and they do not require an initiator. They run only as long as it takes to perform file tailoring for the ChangeMan ZMF function that started them, and then they terminate. Multiple copies of these procedures may be started, and multiple started tasks may execute at the same time.
The default name for these started procedures is CMNxADSP, where \( x \) is the subsystem ID of the of the SERNET started task where ChangeMan runs. However, up to four separate file tailoring started procedure names may be specified in ChangeMan ZMF administration, one for each of the four file tailoring functions listed above.

Instructions for creating and implementing the default file tailoring started procedure CMNxADSP are provided in subsequent topics and chapters in this manual. As your requirements become clear later in your implementation of ChangeMan ZMF, you can clone procedure CMNxADSP to create additional started procedures, repeating the installation steps executed for CMNxADSP, and then enter the name of the new procedures in ChangeMan ZMF administration.

## Security Considerations

ChangeMan ZMF maintains the integrity of production components by managing production libraries and all libraries that contain components in any stage of development.

ChangeMan ZMF answers the questions, “What is production?” by including all development and test environments within the controls traditionally applied only to production execution libraries and source libraries. These controls include:

- Physical access to development and production libraries.
- Access to the automated change management functions that change development and production libraries.

### Exclusive Access to Libraries

To exercise such broad control, ChangeMan ZMF must have:

- Exclusive update access to baseline (production) libraries
- Exclusive update access to libraries in controlled test (promotion) environments
- Exclusive create, update, and scratch access to ChangeMan ZMF staging libraries that are dynamically allocated for each change package
- Read access to all system libraries involved in the development process.

All of this data set access is granted to the SERNET started task where ChangeMan ZMF runs. ChangeMan ZMF performs on-line functions using this security access, and it submits batch jobs that inherit the security access of the started task, even when the jobs run with the user’s TSO ID as the job name.

### Access to ChangeMan ZMF Functions

Once exclusive update access to production and development libraries has been granted to ChangeMan ZMF, the components in these libraries are protected by limiting access to the ChangeMan ZMF functions that can change these libraries.

These restrictions are defined in your security system.

- You define a new resource class for ChangeMan ZMF.
You define security entities under that resource class that represent ChangeMan ZMF functions.

You define security entities that represent applications in ChangeMan ZMF.

You grant access for each security entity to individual TSO IDs or to groups.

When someone attempts to use a ChangeMan ZMF function, ChangeMan ZMF queries the security system with the name of the security entity for that function and the TSO ID of the user.

If your security system determines that the TSO ID has sufficient access to the security entity, ChangeMan ZMF permits the user to execute the function.

If the TSO ID does not have sufficient access, ChangeMan prohibits execution of the function.

**Administrator and Change Manager Security Entities**

Five security entities have fixed format names and control administrator and change manager functions. These security entities are always required for a ChangeMan ZMF implementation.

**NOTE** Some ChangeMan ZMF selectable options require additional security entities. If you license a selectable option, see the *Getting Started Guide* for that option.

<table>
<thead>
<tr>
<th>Security Entity</th>
<th>ChangeMan ZMF Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMNGBADM or CMNxGBAD</td>
<td>Configure/change global administration</td>
</tr>
<tr>
<td>CMNLADM or CMNxLCAD</td>
<td>Configure/change application administration</td>
</tr>
<tr>
<td>CMNREVRT or CMNxREV</td>
<td>Revert packages to DEV status after the approval process has started</td>
</tr>
<tr>
<td>CMNBKOUT or CMNxBKOU</td>
<td>Back out packages in BAS or INS status</td>
</tr>
<tr>
<td>CMNMON or CMNxMON</td>
<td>Monitor failed package installs or packages in the ChangeMan ZMF scheduler</td>
</tr>
</tbody>
</table>

The x imbedded in the security entity name represents the one-character subsystem ID of the SERNET started task where ChangeMan runs. A security entity with an embedded subsystem ID controls authority only for the ChangeMan ZMF instance with that subsystem ID.

**Default Security Entities**

Normally, ChangeMan ZMF searches for the subsystem-specific entity with the embedded subsystem ID, and if that entity is not found, the search looks for the entity without the subsystem ID.

For example, the search for the global administrator entity for ChangeMan ZMF running under subsystem ID 3 is:

1. CMN3GBAD, and if not found, then...
2. CMNGBADM
Implicitly, the security entities without the embedded subsystem ID become the default set that are used when you have not defined subsystem-specific entities.

**CAUTION!** If you use a null (blank) subsystem ID, the security entities for that ChangeMan ZMF instance become the default entities for all other instances. That is one reason why it is strongly recommended that you avoid using a null subsystem ID.

### Mandatory System-Specific Security Entities

If your security administrator uses one of the following parameters in your security system, and the ChangeMan ZMF subsystem-specific security entity is not found, there is no search for the default entity, and authorization is denied.

<table>
<thead>
<tr>
<th>Security System</th>
<th>Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>RACF</td>
<td>PROTECTALL</td>
</tr>
<tr>
<td>CA ACF2</td>
<td>MODE(ABORT)</td>
</tr>
<tr>
<td>CA Top Secret</td>
<td>MODE(FAIL)</td>
</tr>
</tbody>
</table>

If one of these parameters is used, you must create a set of system-specific security entities with embedded subsystem ID for each ChangeMan ZMF instance.

### Security Entities and Required Authority

This table lists the security entities that control execution of ChangeMan ZMF functions, and it shows the level of security access that is required to execute each function.

**NOTE** Some ChangeMan ZMF selectable options require additional security entities. If you license a selectable option, see the *Getting Started Guide* for that option.

The first five rows in the table describe five security entities with fixed format names. To grant authority to execute other functions, you define your own security entity name in your security system, and then associate that entity name with a ChangeMan ZMF function by making an entry in ChangeMan ZMF administration.

<table>
<thead>
<tr>
<th>ChangeMan ZMF Function</th>
<th>Primary Authorization</th>
<th>Additional Authorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configure/change global administration</td>
<td>UPDATE access to entity CMNGBADM or CMNxGBAD</td>
<td>None</td>
</tr>
<tr>
<td>Browse global administration</td>
<td>READ access to entity CMNGBADM or CMNxGBAD</td>
<td>None</td>
</tr>
<tr>
<td>Configure/change application administration</td>
<td>UPDATE access to entity CMNLCADM or CMNxLCAD</td>
<td>UPDATE access to the application entity you define</td>
</tr>
<tr>
<td>Browse application administration</td>
<td>READ access to entity CMNLCADM or CMNxLCAD</td>
<td>READ access to the application entity you browse</td>
</tr>
<tr>
<td>Revert packages to DEV status after the approval process has started</td>
<td>UPDATE access to entity CMNREVRT or CMNxREVR</td>
<td>READ access to the application entity you define</td>
</tr>
<tr>
<td>Back out packages in BAS or INS status</td>
<td>UPDATE access to entity CMNGBKOUT or CMNxBKOU</td>
<td>READ access to the application entity you define</td>
</tr>
</tbody>
</table>
When you define a ChangeMan ZMF security entity in your security system, you define it with no universal access. When you grant a TSO ID or group access to the security entity, you give them READ or UPDATE authority.

### SAF and Your Security System

You define security rules and authorizations for ChangeMan ZMF users in your security system. ChangeMan ZMF is compatible with IBM Security Server RACF, CA ACF2, and CA Top Secret.

SAF is an acronym for System Authorization Facility, an interface defined by z/OS that enables programs to use system authorization services to protect access to resources such as data sets and system commands. SAF provides a common interface for IBM Security Server RACF, CA ACF2, and CA Top Secret where you define the security rules for an LPAR.

### Security for File Tailoring Started Procedures

Special security definitions are required for file tailoring started procedure CMNxADSP and any clones you may create and specify in ChangeMan ZMF administration.

These definitions are detailed in Chapter 6, "Configuring Security".

### Access to TCP/IP Functions

Access to TCP/IP Services in z/OS Communications Server requires a z/OS UNIX security context, referred to as an OMVS segment, for the user ID associated with a SERNET instance.

See the section "Requirement for an OMVS Segment" in the IBM publication z/OS Communications Server: IP Configuration Guide.
Additionally, RACF PassTickets are a requirement for mainframe clients (not ChangeMan ZDD or ChangeMan ZMF for Eclipse) connecting via TCP/IP. Instructions for generating RACF PassTickets are detailed in Chapter 6, “Configuring Security”.

Data Set Considerations

ChangeMan ZMF uses several data set types that impose unique requirements on your DASD management tools and/or your data set security rules.

Temporary List Data Sets

ChangeMan ZMF stage jobs write SYSOUT data sets to z/OS temporary files named &&LIST*. At the end of the job, utility program SERPRINT reads these temporary files, combines them into a single file, writes the file in compressed format to a package staging library member, and then writes this same information to SYSOUT at DD name PRINT2 in eye-readable format.

Program SERPRINT cannot find &&LIST* files that are written to virtual I/O (VIO) files because these files exist only in paging storage.

In ChangeMan ZMF administration, you can specify an esoteric device group or generic device type that applies only to &&LIST* data sets. Consult with your storage administrator or system programmer to identify an esoteric device group or generic type that is ineligible for VIO and would be appropriate for &&LIST* data sets.

Utility Data Sets

ChangeMan ZMF uses “temporary” cataloged utility data sets when performing functions such as:

- Expanding compressed listings for the Browse Listing function
- ISPF file tailoring to create job JCL from ChangeMan ZMF skeletons
- Opening package components for edit (You edit the component in a utility data set rather than in the staging library member.)

ChangeMan ZMF utility data sets are created by:

- SERNET started tasks running ChangeMan ZMF
- File tailoring started procedures initiated by ChangeMan ZMF
- ChangeMan ZMF users (automatically) as they connect to ChangeMan ZMF through the ISPF interface

ChangeMan ZMF deletes the utility data set when the function is completed.

The same data set name format is used for all ChangeMan ZMF utility data sets. The DSN format for ChangeMan ZMF utility data sets is defined in exit program CMNEXINS. Comments in the source code for CMNEXINS describe the default DSN format.
Data Set Considerations

Utility Data Set Security

When you first install ChangeMan ZMF, you must:

- Choose a data set naming convention for ChangeMan ZMF utility data sets.
- Code that DSN format in exit program CMNEXINS.
- Define rules in your security system that grant ALTER/CREATE access to:
  - SERNET started tasks running ChangeMan ZMF
  - File tailoring started procedures initiated by ChangeMan ZMF
  - Users who access ChangeMan ZMF though the ISPF interface

In some data centers, there is an existing high-level qualifier like TEST that has universal ALTER/CREATE security access.

If you do not have such a high-level qualifier already defined, work with your DASD manager and security administrator to set up a high-level qualifier that ChangeMan ZMF can use for utility data sets.

TIP Comments in the source for exit program CMNEXINS describe several examples that can help you choose a high-level qualifier.

DASD Management for Utility Data Sets

ChangeMan ZMF deletes utility data sets when users exit the function that created the data set. When a ChangeMan ZMF function or session does not end normally, utility data sets are not deleted. For example, if your TSO session times out when you are editing a package component, the utility data set allocated for your edit session is not deleted.

You can create an ACS routine for DFHSMS to delete old utility data sets based on the naming convention code in exit program CMNEXINS. However, you should not let DFHSMS delete utility data sets while they can still be used to recover edit changes from an interrupted edit-in-stage session.

For example, if your TSO session times out while you are editing a ChangeMan ZMF package component on a Friday afternoon, you can recover your edit changes after the weekend if the utility data set you were editing is still cataloged. (See topics "Automatic Edit Recovery" and "Manual Edit Recovery" in the ChangeMan ZMF User’s Guide.)

Staging Library Model Data Set Name

Your global administrator defines a Staging Library Model Data Set Name in Global Administration Parameters. This model is used to create data set names when ChangeMan ZMF allocates these data sets for a change package:

- Package staging libraries
- Dot X libraries for package installation job JCL
- PACKAGE data set for package installation processing at ZMF production instances
- Dot B data set for package blackout processing in a ZMF DP/P environment
- Dot R data set for package revert processing in a ZMF DP/P environment

The Staging Library Model Data Set Name must include:
Chapter 3 Installation Considerations

- A three- or four-character node for application mnemonic
- A seven-character node for the package number preceded by #
- A node to distinguish development staging libraries from production staging libraries that are used to install a package at a remote site

The longest library name that is constructed using the minimal staging library model data set name is:

...aaaa.#nnnnnn.e.X.sssssss

where:
- aaaa is the 3-4 character application mnemonic
- nnnnnn is the six digit package number
- e indicates whether the data set is a development or production staging library
- X is a literal that denotes a library containing package installation JCL
- ssssssss is a 1-8 byte site name

ChangeMan ZMF allocates these data sets under the authority of the user ID for the SERNET started task that runs ChangeMan ZMF. ChangeMan ZMF automatically reallocates these data sets if they run out of extents or directory space, and the data sets are deleted by a housekeeping job submitted by the started task.

You can add a high level qualifier and other nodes to the Staging Library Model Data Set Name as long as the longest name does not exceed the 44 character maximum. Define a Staging Model Data Set Name that allows you to satisfy these security access requirements and DASD management requirements:

- The SERNET started task must have exclusive ALTER/CREATE, UPDATE, and DELETE access to data sets created with the Staging Model Data Set Name.
- DFHSM can migrate these data sets to a secondary storage format or media. SERNET will issue an HRECALL command when it needs a data set that has been migrated, or it will issue an HDELETE if it wants to delete a migrated data set.
- Data sets created with the Staging Model Data Set Name should not be compressed unless the development and production instances of ChangeMan ZMF are down and no ChangeMan ZMF installation or promotion jobs are running.

Batch Job Name Considerations

ChangeMan ZMF submits batch jobs to perform functions like component stage (build), package promote, and package install. These jobs may manipulate components in libraries under ChangeMan ZMF control and update ChangeMan ZMF master files.

For these batch jobs submitted by ChangeMan ZMF:

- The job owner is the user ID of the SERNET started task where ChangeMan ZMF runs.
- The job runs with the security authority of the started task user ID.

Job names and other JOB statement information depend on whose behalf the job is run.
User Job Names

ChangeMan ZMF submits batch jobs on behalf of ChangeMan ZMF users who work with packages and components.

For example, when a user stages a like-source component, ChangeMan ZMF builds stage job JCL from ISPF skeletons and submits a job to compile and link edit the component, update the component status and component history, and put newly generated components into package staging libraries.

The user enters JOB Statement Information, including a job name, on an ISPF panel in the online process that initiates batch processing.

You can validate or change the JOB statement information entered by users for jobs submitted by ChangeMan ZMF on their behalf by customizing exit program CMNEX008.

Install Job Names

ChangeMan ZMF submits a series of batch jobs to install and baseline ripple a package. Even if you use an external job scheduler like CA 7® Workload Automation or CA Scheduler® Job Management to submit the first install job for a change package, ChangeMan ZMF submits all following install jobs for the package.

ChangeMan ZMF builds JCL for install jobs from ISPF skeletons. JOB statement information for these jobs, except for job name, is taken from an ISPF panel in Application Administration. The job name is constructed as follows:

For an application with a four-character application mnemonic, the install job name is:

//aaaattnn

where

aaaa = application name
 tt = transaction code
nn = last 2 characters of package number

For an application with a three-character application mnemonic, the install job name is:

//aaattnnn

where

aaa = application name
 tt = transaction code
nnn = last 3 characters of package number

You can validate or change the job name for install jobs submitted by ChangeMan ZMF by customizing exit program CMNEX008.

Viewing Job SYSOUT

ChangeMan ZMF users will want to view the sysout from jobs submitted on their behalf by ChangeMan ZMF, and they need authority to purge such job output. Developers, project managers, change control staff, and operations staff may need to view sysout from ChangeMan ZMF install jobs.
You may have to make adjustments to the following to provide the necessary access to sysout from jobs submitted by ChangeMan ZMF:

- Job access rules in your sysout management tool
- Job access rules in your security system
- JES rules for access to job output
- Job name overrides in ChangeMan ZMF exit program CMNEX008

### Staging Versions

The staging versions facility can save an unlimited number of versions of a package component that a developer might create in a staging library between the time the component is first added to the package and the time the package is baselined.

Staging versions are stored as full copies in a compressed format in a VSAM file. Each version may be labeled with an optional 35-character description.

Some features of staging versions are available if the staging versions facility is installed by defining three VSAM files and by including the HPSPLIB and HPSIN DD statements in the SERNET started procedure.

All features of staging versions are available for package components in a library type if the staging version facility is installed, and if the application administrator enables staging versions for the library type.

All staging versions processing is bypassed if the HPSPLIB and HPSIN DD statements are deleted from the SERNET started procedure.

Issues to consider when deciding whether to install the staging versions facility:

- If the staging versions facility is installed, ChangeMan ZMF reads one of the staging version VSAM files whenever a user performs a function that replaces a member in a staging library. This VSAM read might have an adverse effect on ChangeMan ZMF response time.

- If the staging versions facility is installed and enabled for a library type, ChangeMan ZMF writes to the staging version VSAM files whenever a user saves a staging version. This VSAM write might have an adverse effect on ChangeMan ZMF response time.

For a full description of the Staging Versions facility, see topic "Staging Versions" in Chapter 3 "Pre-Implementation Decisions" in the ChangeMan ZMF Administrator Guide.

### Customizing ChangeMan ZMF Components

ChangeMan ZMF is designed to be flexible so that it can serve customers with different change management processes and different data center standards. Within the constraints of best practices for change management, you can adapt ChangeMan ZMF to your environment using:

- Configuration in Global and Application Administration
- Modifications to ISPF skeletons that are file tailored into JCL for batch processes
- Code in exit programs that are provided with Changeman ZMF

Even if you do not need to customize ChangeMan ZMF components to fit your change management practices, you must modify some components to fit your local data set naming conventions.

When you modify ChangeMan ZMF components, preserve the original components that were delivered. Never edit components in the libraries you unloaded from the ZMF installer, and never link edit load modules into the delivered libraries.

Allocate a separate set of custom libraries for ChangeMan ZMF components that you change. Copy the component you want to modify from the delivered library into your custom library, then make you changes in the custom library.

"Step 1: Allocate CUSTOM Libraries" on page 60 contains a sample list of delivered and custom libraries.

When you modify a delivered component, keep the name of the custom component the same as the delivered component so that you can use a file compare tool or code merge tool to help you reapply your modifications for a ChangeMan ZMF upgrade.

When you create an new custom component for ChangeMan ZMF, use an abbreviation or acronym for your company or organization in the first three characters of the component name to differentiate your component from components delivered with ChangeMan ZMF.

Console Log Messages

SERNET and ChangeMan ZMF write certain messages to the console log (WTO) to make them available to your automated operations tools. You can configure your automated operations tools to recognize the messages and issue notifications or execute remedial tasks.
Chapter 4

Unloading the Software

This chapter lists tasks you perform to unload ChangeMan ZMF components from the ZMF installer and create libraries on the mainframe.

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>52</td>
</tr>
<tr>
<td>Step 1: Unload the ChangeMan ZMF Files</td>
<td>53</td>
</tr>
<tr>
<td>Step 2: Transfer Files to the Mainframe</td>
<td>55</td>
</tr>
<tr>
<td>Step 3: Expand PDS Libraries with RECEIVE</td>
<td>57</td>
</tr>
</tbody>
</table>
Chapter 4 Unloading the Software

Introduction

Components for ChangeMan ZMF are delivered in compressed binary format in a ZMF installer. This chapter tells you how to unload files from the installer to your workstation or network drive, copy component files to the mainframe, and expand those files into PDS libraries.

In this chapter:

\[ v = \text{Version number for ChangeMan ZMF} \]
\[ r = \text{Release number} \]
\[ m = \text{Maintenance release number} \]

ChangeMan ZMF Libraries

The libraries installed by the ZMF installer contain all of the components necessary to install and run the ChangeMan ZMF base product and all selectable options.

This table shows the libraries that are unloaded from the ZMF installer and created on the host.

<table>
<thead>
<tr>
<th>Libraries</th>
<th>Library Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMNZMF.VvRrMm.ASMCPY</td>
<td>ChangeMan ZMF copybooks for exit programs</td>
</tr>
<tr>
<td>CMNZMF.VvRrMm.ASMSRC</td>
<td>ChangeMan ZMF source for exit programs</td>
</tr>
<tr>
<td>CMNZMF.VvRrMm.CLIST</td>
<td>CLIST to connect to ChangeMan ZMF</td>
</tr>
<tr>
<td>CMNZMF.VvRrMm.CNTL</td>
<td>ChangeMan ZMF JCL</td>
</tr>
<tr>
<td>CMNZMF.VvRrMm.DBRMLIB</td>
<td>ChangeMan ZMF Db2 Option and ERO DBRM</td>
</tr>
<tr>
<td>CMNZMF.VvRrMm.ERR</td>
<td>ChangeMan ZMF ERO Release Audit error descriptions</td>
</tr>
<tr>
<td>CMNZMF.VvRrMm.LOAD</td>
<td>ChangeMan ZMF load modules</td>
</tr>
<tr>
<td>CMNZMF.VvRrMm.MESSAGES</td>
<td>ChangeMan ZMF ISPF messages</td>
</tr>
<tr>
<td>CMNZMF.VvRrMm.PANELS</td>
<td>ChangeMan ZMF ISPF panels</td>
</tr>
<tr>
<td>CMNZMF.VvRrMm.REX</td>
<td>ChangeMan ZMF REXX program source</td>
</tr>
<tr>
<td>CMNZMF.VvRrMm.SAMPLES</td>
<td>ChangeMan ZMF samples</td>
</tr>
<tr>
<td>CMNZMF.VvRrMm.SKELS</td>
<td>ChangeMan ZMF ISPF skeletons</td>
</tr>
<tr>
<td>SERCOMC.VvRrMm.ASMCPY</td>
<td>SERNET/Common/SER10TY exit copybooks</td>
</tr>
<tr>
<td>SERCOMC.VvRrMm.ASMSRC</td>
<td>SERNET/Common/SER10TY exit source</td>
</tr>
<tr>
<td>SERCOMC.VvRrMm.CEXEC</td>
<td>SERNET/Common/SER10TY compiled REXX modules</td>
</tr>
<tr>
<td>SERCOMC.VvRrMm.CLIST</td>
<td>SERNET/Common/SER10TY CLIST</td>
</tr>
<tr>
<td>SERCOMC.VvRrMm.CNTL</td>
<td>SERNET/Common/SER10TY JCL</td>
</tr>
<tr>
<td>SERCOMC.VvRrMm.LOAD</td>
<td>SERNET/Common/SER10TY load modules</td>
</tr>
<tr>
<td>SERCOMC.VvRrMm.PANELS</td>
<td>SERNET/Common/SER10TY ISPF panels</td>
</tr>
<tr>
<td>SERCOMC.VvRrMm.SAMPXML</td>
<td>ChangeMan ZDD XML parameters for ChangeMan ZMF</td>
</tr>
<tr>
<td>SERCOMC.VvRrMm.SKELS</td>
<td>SERNET/Common/SER10TY ISPF XML page models</td>
</tr>
<tr>
<td>SERCOMC.VvRrMm.XML</td>
<td>SER10TY NAMES XML page</td>
</tr>
</tbody>
</table>
Documentation

ChangeMan ZMF documentation is available for download at the Customer Support website. See "Accessing the Documentation" in the ChangeMan ZMF Readme.

Unload Process

The automated and manual steps in the unload procedure perform the following actions:

- Copy and decompress files from the ZMF installer to a work station or network drive.
- Build an FTP command file.
- Build JCL on the work station or network drive for a mainframe job to execute TSO RECEIVE commands.
- Edit the FTP command file.
- Execute FTP with the command file to transfer files from the work station or network drive to the host mainframe computer.
- Edit the RECEIVE job JCL on the mainframe.
- Submit the RECEIVE job on the mainframe to expand the binary XMIT files into PDS libraries.

Requirements

To execute the unload process you need:

- TCP/IP FTP connectivity from your work station to the mainframe computer
- The dotted decimal IP address or domain name of the LPAR on the mainframe
- A mainframe user ID and password
- Security authorization to allocate the required files on the mainframe

Step 1: Unload the ChangeMan ZMF Files

Execute this procedure to copy files from the ZMF installer to a work station or network drive, build an FTP command file, and create JCL for a mainframe job to execute TSO RECEIVE commands.

1. Download ZMFvrmSetup.exe from the Support tab on the web site to any directory on your workstation. Double-click ZMFvrmSetup.exe.

2. If this version of ChangeMan ZMF is already installed on this workstation, the ChangeMan ZMF v.r.m Removal dialog box is displayed.
   a. Click Remove on this dialog box and the next dialog box.
   b. Click Finish on the Completed the ChangeMan ZMF v.r.m Setup Wizard dialog box.
   c. Restart the unload procedure from #1 on page 53.
3 Read the text in the **End-User License Agreement** scroll box. If you agree to the terms stated in the End-User License Agreement, check "I accept the terms in the License Agreement" and click **Next**.

**NOTE** Two or three installation options, (FULL, FIX and DELTA) may be provided when executing the installer. Refer to the Readme section entitled 'installation' to decide which best suits your specific requirements. See "[Updating Delivered Libraries](#)" on page 146 to help you decide which option to choose.

The example continuing below is from the 8.1.4 installer.

After checking your choice, click **Next**.

4 On the **Installation Options** dialog, click **Next** to accept the default folder, or click **Change Installation Target** to select a different folder, then click **OK** and **Next**.

5 On the **Host FTP and Transmission Information** dialog box, type the following information:

- Host Name or IP - The dotted decimal IP address or DNS name of the mainframe host
- Host Logon ID - Your host logon (TSO) ID
- Transmitted File HLQ - High level qualifiers for the host data set names of the binary XMIT files transmitted from your workstation
- PDS Library HLQ - High level qualifiers for the host data set names of the PDS libraries expanded via RECEIVE from the binary XMIT files
- zFS Directory - Directory for the Jython script that ZMF uses to deploy Java applications to WebSphere on z/OS. If you do not intend to use the Jython script, you can leave it as the default directory.
Step 2: Transfer Files to the Mainframe

Click **Next**.

6 On the **Ready to install ChangeMan ZMF v.r.m** dialog box, click **Install**.

7 The **Setup Status** dialog box is displayed as files are decompressed and copied to your desktop or network destination folder, the FTP command file is built, and JCL for the mainframe RECEIVE job is created.

8 When the unload process is completed, the **Completed the ChangeMan ZMF v.r.m Setup Wizard** dialog box is displayed. Check the "Open Read Me for ChangeMan ZMF v.r.m", click **Finish**.

**Step 2: Transfer Files to the Mainframe**

Your work station must be connected to the network to transfer files to the host

**Execute this procedure to transfer ChangeMan ZMF files from your work station or network drive to the mainframe using FTP.**

**NOTE** If you want to use 3270 emulator software instead of FTP to transfer the files to the host, go to Appendix A, "Manual File Transfer and Expand" on page 135.

1 On the **Start** menu on your work station, go to All Programs > Serena > ChangeMan ZMF v.r.m > Edit FTP Input. This will open a Notepad window and display the FTP command file used to transfer the ChangeMan ZMF XMIT format files to the mainframe.

2 Overtype `<PASSWORD>` in the third line of the file with your mainframe password, making sure that the case matches what z/OS expects.

3 If you do not intend to use the Jython script to deploy Java applications to WebSphere on z/OS, you can delete the **put** command for the **JYTHON** file at the bottom.

4 Save the file under the same name.
5 Initiate the FTP transfer from the Start menu at Programs > Serena > ChangeMan ZMF v.r.m > FTP files to host.
   (this executes FTP.bat).
   When the transfer starts, a command prompt window opens and shows:
     FTP process has begun.
   When the transfer is completed, the command prompt window shows:
     FTP process has completed.
     FTP Execution Log: ...
     Press any key to continue . . .

6 View the Ftp.log file using the path displayed in the command prompt window.
   Verify that the files were transferred to the mainframe host.
   If you see the following errors in the FTP Log, make the recommended corrections to the FTP.Input file, then restart the process at #4 above.

<table>
<thead>
<tr>
<th>Message</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown host...</td>
<td>Edit the FTP.Input file and verify the IP address or domain name of your mainframe host.</td>
</tr>
<tr>
<td>530 PASS command failed</td>
<td>Edit the FTP.Input file and verify that you entered the correct user ID and password.</td>
</tr>
</tbody>
</table>
| Block size specified for the host [binary] data set is invalid for the record length | Edit the FTP.Input file:
   a Delete these four command lines:
     literal site cylinders
     literal site blocksi=3120
     literal site lr=80
     literal site recfm=fb
   b Replace the deleted lines with this command (on a single line):
     literal site recfm=fb lr=80 blocksi=3120 cylinders
| Not connected                                    | The FTP connection was lost so files were not transferred. Reconnect and restart the FTP process. |

7 Remove your mainframe logon password in the FTP command file:
   a On the Start menu, go to Programs > Serena > ChangeMan ZMF v.r.m > FTP.Input.
   b Overtype your password in the third line with <PASSWORD>.
   c Save the file under the same name.

**NOTE** If you have difficulty with this automated FTP process, you can transfer ChangeMan ZMF files manually from your work station to the mainframe and expand the files into PDS libraries with the manual procedure in Appendix A, "Manual File Transfer and Expand" on page 135.
Step 3: Expand PDS Libraries with RECEIVE

The Setup Wizard process creates a batch mainframe job to execute the RECEIVE command on binary XMIT files transferred to the host. The RECEIVE job is transferred to the mainframe along with the binary XMIT files.

**Execute this procedure to submit the RECEIVE job on the mainframe to expand the ChangeMan ZMF component files into PDS libraries.**

1. Log on to the mainframe host.
2. Edit the file named node.RECEIVE.ZMFvrm.JCL, where node is the Transmitted File HLQ you entered in the Setup Wizard.
3. Replace the four //JOBCARD lines at the top of the file with your JOB statements.
4. Make global changes to the DATASET parameter of the RECEIVE commands to change the low-level nodes in the library data set names to match your local requirements. Retain the last node name. For example:

   **Original**
   ```
   //SYSTSIN DD *
   RECEIVE INDATASET('hlq1.CMNZMF.V8R1M3.ASMCPY')
   DATASET('hlq2.CMNZMF.V8R1M3.ASMCPY')
   ```

   **After change**
   ```
   //SYSTSIN DD *
   RECEIVE INDATASET('hlq1.CMNZMF.V8R1M3.ASMCPY')
   DATASET('hlq2.CMN813.ASMCPY')
   ```
5. If you did not transfer the JYTHON file from your workstation to the mainframe because you do not intend to use the Jython script, delete job step JYTHON.
6. Submit the job.
7. Examine each of the output PDS libraries created with the host high level qualifier to ensure that they are PDS libraries.

   **NOTE** The RECEIVE job can give a Return Code 00, and the job SYSOUT can show the message "Restore successful to data set...", even when the RECEIVE process did not complete successfully.

8. Save the RECEIVE job JCL.
Chapter 5

Installing ChangeMan ZMF Components

This chapter lists tasks you perform to install ChangeMan® ZMF.

**CAUTION!** Do not execute the steps in this chapter to upgrade an existing ChangeMan ZMF instance to the current version. If you run the jobs described in this chapter and use existing ChangeMan ZMF data set names, you will destroy the data in those files. Use the appropriate ChangeMan ZMF Migration Guide to upgrade a ChangeMan ZMF instance to the current version.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Allocate CUSTOM Libraries</td>
<td>60</td>
</tr>
<tr>
<td>2</td>
<td>APF Authorize Delivered and CUSTOM Load Libraries</td>
<td>60</td>
</tr>
<tr>
<td>3</td>
<td>Apply ChangeMan ZMF License</td>
<td>61</td>
</tr>
<tr>
<td>4</td>
<td>Define ChangeMan ZMF VSAM Files</td>
<td>61</td>
</tr>
<tr>
<td>5</td>
<td>Define XMLSPACE VSAM LDS</td>
<td>63</td>
</tr>
<tr>
<td>6</td>
<td>Define Staging Versions VSAM Files</td>
<td>65</td>
</tr>
<tr>
<td>7</td>
<td>Store SVPARM Control Member</td>
<td>69</td>
</tr>
<tr>
<td>8</td>
<td>Allocate the SER#PARM TCP/IP Address Library</td>
<td>70</td>
</tr>
<tr>
<td>9</td>
<td>Create ISPF Keylist for EXPAND</td>
<td>71</td>
</tr>
<tr>
<td>10</td>
<td>Build SERNET JCL for ChangeMan ZMF</td>
<td>72</td>
</tr>
<tr>
<td>11</td>
<td>Build Default File Tailoring Procedure</td>
<td>75</td>
</tr>
<tr>
<td>12</td>
<td>Build the Logon CLIST</td>
<td>76</td>
</tr>
<tr>
<td>13</td>
<td>Modify Exit Program CMNEXINS</td>
<td>77</td>
</tr>
<tr>
<td>14</td>
<td>APF Authorize Other Load Libraries</td>
<td>78</td>
</tr>
</tbody>
</table>
Step 1: Allocate CUSTOM Libraries

Allocate a set of libraries for customized ChangeMan ZMF components so you can preserved delivered components. See "Customizing ChangeMan ZMF Components" on page 48.

Recommendations for allocating CUSTOM libraries:

- Choose data set names that comply with your data center standards.
- Use the same RECFM and LRECL as the corresponding delivered library.
- For simplicity, allocate SPACE=(CYL,(1,1,50)).
- You may optimize the BLKSIZE parameter.
- It is not necessary to allocate a SERCOMC CUSTOM CNTL library. You can keep all customized JCL in the CMNZMF CUSTOM CNTL library.
- It is not necessary to allocate a SERCOMC CUSTOM CLIST library. You can keep all customized CLISTS in the CMNZMF CUSTOM CLIST library.

1 Allocate CUSTOM libraries for the delivered libraries shown in this table.

<table>
<thead>
<tr>
<th>Delivered Libraries</th>
<th>Custom Libraries</th>
</tr>
</thead>
<tbody>
<tr>
<td>...CMNZMF.VvRrMm.ASMSRC</td>
<td>...CMNZMF.VvRrMm.CUSTOM.ASMSRC</td>
</tr>
<tr>
<td>...CMNZMF.VvRrMm.CLIST</td>
<td>...CMNZMF.VvRrMm.CUSTOM.CLIST</td>
</tr>
<tr>
<td>...CMNZMF.VvRrMm.CNTL</td>
<td>...CMNZMF.VvRrMm.CUSTOM.CNTL</td>
</tr>
<tr>
<td>...CMNZMF.VvRrMm.LOAD</td>
<td>...CMNZMF.VvRrMm.CUSTOM.LOAD</td>
</tr>
<tr>
<td>...CMNZMF.VvRrMm.MESSAGES</td>
<td>...CMNZMF.VvRrMm.CUSTOM.MESSAGES</td>
</tr>
<tr>
<td>...CMNZMF.VvRrMm.PANELS</td>
<td>...CMNZMF.VvRrMm.CUSTOM.PANELS</td>
</tr>
<tr>
<td>...CMNZMF.VvRrMm.REX</td>
<td>...CMNZMF.VvRrMm.CUSTOM.REX</td>
</tr>
<tr>
<td>...CMNZMF.VvRrMm.SKELS</td>
<td>...CMNZMF.VvRrMm.CUSTOM.SKELS</td>
</tr>
<tr>
<td>...SERCOMC.VvRrMm.ASMSRC</td>
<td>...SERCOMC.VvRrMm.CUSTOM.ASMSRC</td>
</tr>
<tr>
<td>...SERCOMC.VvRrMm.LOAD</td>
<td>...SERCOMC.VvRrMm.CUSTOM.LOAD</td>
</tr>
</tbody>
</table>

2 Allocate a "delivered" TABLES library and a CUSTOM TABLES library. Allocate these PDS libraries with minimal primary and secondary space, minimal directory space, and DCB attributes RECFM=FB, LRECL=80, and any BLKSIZE.

...CMNZMF.VvRrMm.TABLES
...CMNZMF.VvRrMm.CUSTOM.TABLES

Step 2: APF Authorize Delivered and CUSTOM Load Libraries

Add these libraries to the APF list:

- Delivered CMNZMF and SERCOMC LOAD libraries that you unloaded from the ChangeMan ZMF installer.
- Custom LOAD libraries that you allocated in the previous step.
You can use the SETPROG system command to add these libraries to a dynamic APF list until the next IPL. If you use a static APF list, you must IPL before you can execute some of the subsequent steps in the installation process.

### Step 3: Apply ChangeMan ZMF License

Apply the license you received to enable ChangeMan ZMF and any of the selectable options you licensed.

**NOTE** ChangeMan ZMF 8 requires a new license key.

See the *SER10TY User’s Guide* for instructions on how to apply the license. The load modules, JCL, and other components that run SER10TY are included in the SERCOMC libraries unloaded by the ZMF installer.

### Step 4: Define ChangeMan ZMF VSAM Files

ChangeMan ZMF base system data is at least seven VSAM files and two QSAM files.

- Package Master VSAM KSDS File
- Component Master VSAM KSDS File
- Long Name Component Master VSAM KSDS File
- Package and Component Master Forward Recovery VSAM KSDS File
- Activity Log VSAM KSDS File
- Delay VSAM KSDS File
- Impact Analysis VSAM LDS File
- Impact Analysis Forward Recovery QSAM Log File

All of these data sets are referenced by DD statements in the ChangeMan ZMF started procedure.

**Execute this procedure to define and initialize ChangeMan ZMF VSAM files and to allocate sequential log recovery files.**

1. Copy member *INITIAL1* and *INITIAL2* from the delivered CMNZMF CNTL library to your custom CMNZMF CNTL library.
2. Edit member INITIAL1 in your custom CNTL library.
   
   a. Code your JOB statement at the top.
   
   b. Change all occurrences of DSN node placeholder `somnode` to create data set names that comply with your local naming conventions. Remember to change DSN names on the IDCAMS DELETE as well as DEFINE commands for VSAM files.
   
   c. Code primary and secondary space allocations in the CYLINDERS and MEGABYTES space parameters.
Chapter 5 Installing ChangeMan ZMF Components

The amount of space you need depends on the number of components you manage with ChangeMan ZMF, how often they are changed, how many change packages you create, how many relationships between components are tracked, and aging and archiving criteria.

It is recommended that you start with these allocations.

<table>
<thead>
<tr>
<th>VSAM File</th>
<th>Unit</th>
<th>Pri</th>
<th>Sec</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMNPMAST (Package Master)</td>
<td>CYL</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>CMNCMPNT (Component Master)</td>
<td>CYL</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>CMNCMPNL (Long Name Component Master)</td>
<td>CYL</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>IADSP (Impact Analysis)</td>
<td>MB</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>CMNLOG (Log File)</td>
<td>CYL</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>CMNDELAY (Delay File)</td>
<td>CYL</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>CMNRECV (Recovery File)</td>
<td>CYL</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

**NOTE** If you do not anticipate managing any components with names longer than 8 characters, you can use a minimum space allocation for the CMNCMPNL long name component master.

3 Submit INITIAL1.

4 Examine the job output for problems.

5 Edit member INITIAL2 in your custom CNTL library.
   a Code your JOB statement at the top.
   b Change the JOBLIB statement to concatenate your delivered CMNZMF and SERCOMC LOAD libraries.
   c Change all occurrences of DSN node placeholder *somnode* to match the files that you defined with INITIAL1.
   d Use the following table to determine the execution parameter values for program CMNINTPM in job step INITPM.

<table>
<thead>
<tr>
<th>Keyword Parameter</th>
<th>Purpose and Valid Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSRCCCL</td>
<td>Defines the name of the resource class under which ChangeMan ZMF security entities are defined in your security system.</td>
</tr>
<tr>
<td>$CHGMAN</td>
<td>Suggested if your security system is IBM Security Server RACF.</td>
</tr>
<tr>
<td>CMN</td>
<td>Suggested if your security system is CA ACF2.</td>
</tr>
<tr>
<td>UR1</td>
<td>Suggested if your security system is CA Top Secret.</td>
</tr>
</tbody>
</table>
Step 5: Define XMLSPACE VSAM LDS

XML Services uses a VSAM Linear Data Set (LDS) to map the relationships between XML schemas and DSECTS used for fixed-format control blocks and copybooks. This data set is referenced by the XMLSPACE DD statement in the ChangeMan ZMF started procedure.
Chapter 5  Installing ChangeMan ZMF Components

One XMLSPACE LDS can be used for all ChangeMan ZMF instances running at the same maintenance release level on the same LPAR.

Execute this procedure to define and populate the XMLSPACE VSAM LDS.

NOTE This step also creates a sequential MAPDATA data set used by the XML prototype tool XMLSERV.

1 Copy member XMLLOAD from the delivered SERCOMC CNTL library to your custom CMNZMF CNTL library.

2 Edit member XMLLOAD in your custom CNTL library.
   a Code your JOB statement at the top.
   b In step RECEIVE, change DSN node placeholder somnode in the RECEIVE command INDS parameter to point to your delivered SERCOMC CNTL library.
   c Change all other occurrences of DSN node placeholder somnode to create data set names that comply with your local naming conventions. Keep the last node names MAPDATA and XMLSPACE.

3 Submit JCL member XMLLOAD.

4 Examine the job output for problems:
   a Example of SYSTSPRT from job step RECEIVE:

   READY
   DELETE 'CMNTP.S6.SERCOMC.MAPDATA'
   IDC3012I ENTRY CMNTP.S6.SERCOMC.MAPDATA NOT FOUND+
   IDC3009I ** VSAM CATALOG RETURN CODE IS 8 - REASON CODE IS IGG0CLEG-42
   IDC0551I ** ENTRY CMNTP.S6.SERCOMC.MAPDATA NOT DELETED
   IDC0014I LASTCC=8
   READY
   RECEIVE INDS('CMNTP.S6.V814.SERCOMC.CNTL(XMLDATA)')
   INMR901I Dataset DDNAME.MAPDATA from BATCHTSO on NODENAME
   INMR906A Enter restore parameters or 'DELETE' or 'END' +
   INMR908A The input file attributes are: DSORG=SEQUENTIAL, RECFM=F, BLKSIZE=4096,
   INMR909A You may enter DSNAME, SPACE, UNIT, VOL, OLD/NEW, or RESTORE/COPY/DELETE
   INMR908I Restore successful to dataset 'CMNTP.S6.SERCOMC.MAPDATA'
   READY
   END

   b Browse member XMLDATA in your SERCOMC CNTL library. Note the date and time in this line of text near the top of the data set:

   SERNET Xml Dsect Cross Reference. Created: dd mmm yyyy hh:mm:ss

   Browse the new MAPDATA file and look for the same text at the top of that file. The date and time should be the same as in the XMLDATA member.

   c Examine the job JESMSGGLG to verify that job step LOAD completed with RC=00.
Step 6: Define Staging Versions VSAM Files

The staging versions facility of ChangeMan ZMF retains multiple versions of edited components. This facility is supported by three VSAM files, which are included in the ChangeMan ZMF started procedure.

NOTE If you do not intend to use staging versions to keep prior versions of staged package components, then skip this step.

Execute this procedure to define and initialize three staging versions VSAM files.

1. Copy members INITIAL3 and SVPARM from the delivered CMNZMF CNTL library to your custom CMNZMF CNTL library.
2. Edit member INITIAL3 in your custom CNTL library.

a. Code your JOB statement at the top.

b. Change the JOBLIB statement to concatenate your delivered CMNZMF and SERCOMC LOAD libraries.

c. Change all occurrences of somnode.CMNZMF.CNTL to point to your custom CMNZMF CNTL library.

CAUTION! Follow these instructions for editing INITIAL3 exactly as they are written. The staging versions facility is based on ChangeMan® SSM technology. Some control statements and security definitions are included in this job, even though they serve no function in staging versions under ChangeMan ZMF. If you change these control statements and security definitions, this job will not process successfully.

d. Change all remaining occurrences of DSN node placeholder somnode to create data set names that comply with your local naming conventions. Remember to change DSN names on the IDCAMS DELETE as well as DEFINE commands for VSAM files.

e. Code primary and secondary space allocations in the CYLINDERS space parameter in the IDCAMS DEFINE statements. The amount of space you need depends on the number and size of components for which staging versions is enabled, and the level of development activity at your site. It is recommended that you start with these allocations:

<table>
<thead>
<tr>
<th>VSAM File</th>
<th>Cylinders</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMNVSAM (Staging Versions Archive Master)</td>
<td>10</td>
</tr>
<tr>
<td>CMNSVDM (Staging Versions Delta Master)</td>
<td>10</td>
</tr>
<tr>
<td>CMNSVOM (Staging Versions Object Master)</td>
<td>10</td>
</tr>
<tr>
<td>CMNSVSM (Staging Versions Site Master)</td>
<td>10</td>
</tr>
</tbody>
</table>

f. If you use a PDS to store licenses applied with License Manager, add DD statement SERLIC to the four job steps that execute PGM=HPSTRACK, job step five that executes PGM=HPSMAINT and code the DSN= with your license PDS.
If you use CSA to store licenses, do not add DD statement SERLIC to the job JCL. See "Step 3: Apply ChangeMan ZMF License" on page 61 and "SERLIC DD Statement" on page 39.

**g** In STEP1, change placeholder *installer* to your TSO ID in the following HPSIN control statement for program HPSTRACK:

```
OMADMADD=(ID=installer,NAME='Installer')
```

**h** In STEP4, change placeholder *your.source.library* to the data set name of any source code library that contains members that are typical of source that will be managed by ChangeMan ZMF.

This step generates a compression table to optimize text compression in the CMNSVDM VSAM file. The library you specify is used only to generate the table. No data from the library is loaded to the compression table.

**3** Edit SVPARM in your custom CNTL library.

**a** In the SITEMASTER, OBJECTMASTER, and DELTAMASTER parameters, code the VSAM data set names that you used in CNTL member INITIAL3. (See the DELETE statements in job step STEP0.)

**b** In the SITEADMINS parameter, change placeholder *installer* to your TSO ID.

**c** Save member SVPARM.

**4** Submit INITIAL3.

**5** Examine the job output for problems.

**a** Review JESMSGLG for messages from program HPSTRACK.
**Step 6: Define Staging Versions VSAM Files**

**Example of CMNPRINT from program HPSTRACK in job step STEP1:**

```
... Example of CMNPRINT from program HPSTRACK in job step STEP1:

************************************************************************************************************************
*                                                                                                                      *
*                                   Serena ChangeMan SSM   (V8.5.2.00)                                    PAGE 0000001 *
*                                   SERENA SOFTWARE, INC                                                                 *
*                     PROPRIETARY SOFTWARE PRODUCT OF Serena Software, Inc.  ALL RIGHTS RESERVED.                      *
*   Mon 2017/07/31_20:04:59    JOBNAME = USER015A    STEPNAME = STEP1       PGMNAME = HPSTRACK    JULDATE = 2017212 *
************************************************************************************************************************

HPS0022I HPSINIT 20:04:59 Parmlib in effect: CMNTP.CMNZMF.CNTL(SVPARM)
Security Userid  : USER015

HPS0037I HPSINIT 20:04:59 M-lrecl = 20,200
M-datsi = 20,145

HPS0029I HPSINIT 20:05:00 Successful open of Site Master: CMNTP.CMNZMF.CMNSVSM

HPS0334I HPSOINIT 20:05:01 Max-lrecl = 4,084
Max-data = 4,009

HPS0329I HPSOINIT 20:05:01 Successful open of Object Master: CMNTP.CMNZMF.CMNSVOM

Command    Column  10        20        30        40        50        60        70        80                             PAGE 0000002
Count-seg  ....+....+....+....+....+....+....+....+....+....+....+....+....+....+....+....+
1     "TRACE=OFF                                                                       
2     "OMADMADD=(ID=********,NAME='Universal Admin')                                   
3     "OMADMADD=(ID=USER015,NAME='Installer')                                          

HPS1300I HPSTRACK 20:05:01 EOF HPSIN: Cards read=4 with 3 Commands.
HPS1361I HPSTRACK 20:05:01 ADMADD (******** ) function successful.
HPS1361I HPSTRACK 20:05:01 ADMADD (USER015 ) function successful.

HPS0000I HPSTRACK 20:05:01 Job Started: 2017/07/31_20:04:59
Job Ended  : 2017/07/31_20:05:01
Warning cnt: 0
Severe msgs: 0

************************************************************************************************************************
*                                                                                                                      *
*                                   Serena ChangeMan SSM   (V8.5.2.00)                                    PAGE 0000001 *
*                                   SERENA SOFTWARE, INC                                                                 *
*                     PROPRIETARY SOFTWARE PRODUCT OF Serena Software, Inc.  ALL RIGHTS RESERVED.                      *
*   Mon 2017/07/31_20:05:02    JOBNAME = USER015A    STEPNAME = STEP2       PGMNAME = HPSTRACK    JULDATE = 2017212 *
************************************************************************************************************************

HPS0022I HPSINIT 20:05:02 Parmlib in effect: CMNTP.CMNZMF.CNTL(SVPARM)
Security Userid  : USER015

HPS0037I HPSINIT 20:05:02 M-lrecl = 20,200
M-datsi = 20,145

HPS0029I HPSINIT 20:05:03 Successful open of Site Master: CMNTP.CMNZMF.CMNSVSM

HPS0334I HPSOINIT 20:05:03 Max-lrecl = 4,084
Max-data = 4,009

HPS0329I HPSOINIT 20:05:03 Successful open of Object Master: CMNTP.CMNZMF.CMNSVOM

Command    Column  10        20        30        40        50        60        70        80                             PAGE 0000002
Count-seg  ....+....+....+....+....+....+....+....+....+....+....+....+....+....+....+....+
1     "TRACE=OFF                                                                       
2     "GRPADMADD=(ID=*******,NAME='Universal Admin') for CMN SV                        

HPS1300I HPSTRACK 20:05:03 EOF HPSIN: Cards read=3 with 2 Commands.
HPS1336I HPSTRACK 20:05:03 DEPTADD/GRPADMADD - Department added: *******

HPS0000I HPSTRACK 20:05:03 Job Started: 2017/07/31_20:05:02
Job Ended  : 2017/07/31_20:05:03
Warning cnt: 0
Severe msgs: 0
```
Example of CMNPRINT from program HPSTRACK in job step STEP3:

```
HPS0022I HPSINIT  20:05:05 Parmlib in effect: CMNTP.CMNZMF.CNTL(SVPARM)
Security Userid  : USER015
HPS0029I HPSINIT  20:05:05 Successful open of Site Master:   CMNTP.CMNZMF.CMNSVSM
HPS0329I HPSOINIT  20:05:05 Successful open of Object Master: CMNTP.CMNZMF.CMNSVOM
Command        Column  10        20        30        40        50        60        70        80             ...      PAGE 0000002
Count-seg      ....+....+....+....+....+....+....+....+....+....+....+....+....+....+....+....+
1   "TRACE=OFF                                                                       
2   "GRPADD=(GROUP=CMNGROUP)                                                         
HPS1300I HPSTRACK  20:05:05 EOF HPSIN:  Cards read=2   with 2 Commands.
HPS0329I HPSOINIT  20:05:06 Successful open of Object Master: CMNTP.CMNZMF.CMNSVOM
HPS1338I HPSTRACK  20:05:06 GRPADD - Group Added: ********         .CMNGROUP
```

Example of CMNPRINT from program HPSTRACK in job step STEP4:

```
HPS0022I HPSINIT  22:43:58 Parmlib in effect: CMNTP.CMNZMF.CNTL(SVPARM)
Security Userid  : JPRESTO
HPS0029I HPSINIT  22:43:58 Successful open of Site Master:   CMNTP.CMNZMF.CMNSVSM
Command        Column  10        20        30        40        50        60        70        80             ...      PAGE 0000002
Count-seg      ....+....+....+....+....+....+....+....+....+....+....+....+....+....+....+....+
1-1   "  IDVTABLE=(TABLENAME=TEXT,                                                     
-2   "            REFDSN=CMNTP.CMN814T4.CNTL)                                         
HPS1300I HPSTRACK  22:43:58 EOF HPSIN:  Cards read=2   with 2 Commands.
HPS0502I HPSTRACK  22:43:58 Delta Master cluster has been initialized.Max-lrecl = 22,520
Max-data size = 22,506
Job Ended  : 2017/07/31_20:05:06
Warning cnt: 0
Severe msgs: 0
```
Example of CMNPRINT from program HPSTRACK in job step STEP5

```
Exec parm = "LIC=SSV.ARCHIVE"
```

Options in effect:
- Purge=None
- Level=None
- Trace=OFF
- Archive

**Step 7: Store SVPARM Control Member**

**NOTE** If your INITIAL3 job fails, compare your JCL to the original job in the delivered CNTL library. If you have made a change to any JCL statement or control statement that was not explicitly described in this section, restore the statement to its delivered state and submit INITIAL3 again.

Copy member **SVPARM** from your custom CNTL library into a production or systems control member library. You created member SVPARM in your custom CNTL library in "Step 6: Define Staging Versions VSAM Files" on page 65.
Step 8: Allocate the SER#PARM TCP/IP Address Library

SERNET optionally can update and use a PDS or PDSE library to store TCP/IP addresses and port numbers for ChangeMan applications if it is not manually updated. See “SER#PARM DD Statement” on page 37.

**CAUTION!** Do not use the SER#PARM library for any other purpose. The SERNET started task opens this library for output (if in the JCL), which can interfere with other uses of the file.

Allocate the PDS(E) with these characteristics:

```
DSN=somnode.SERCOMC.TCPIPORT      * Recommended last node
DCB=(RECFM=FB,LRECL=80,BLKSIZE=0) * Let SMS set BLKSIZE
SPACE=(TRK,(2,5,30))
```

If there is a TCP/IP address space on the LPAR where SERNET and ChangeMan ZMF run, and the SER#PARM DD is defined in the started task, SERNET automatically creates a #SERx member, if none exists, where "x" is the subsystem ID of the SERNET started task, to store TCP/IP addresses and port numbers. If not allocated to the started task, then you may manually define the SERx member in order to control what is used for TCP/IP connections. The logon CLIST will use cross memory services automatically if the CON value is blank or if X is defined, and the SER#PARM dataset need not be allocated in the logon CLIST.

**No TCP/IP Address Space**

If there is no TCP/IP address space on the image where the SERNET started task will run, manually create a member in the SER#PARM file and code a dummy TCP/IP address and port number:

1. Create member #SERx, where “x” is the subsystem ID of the SERNET started task.
2. Edit member #SERx and code these lines to set the TCP/IP address and port number to zero. (You may omit the scale.)

```
* --+----1----+----2----+----3----+----4----+----5----+----6----+
* SMFI S APP TCPIPROC PORT# ADDR
smfi x XCH          00000 D001
smfi x CMN          00000 D001
```

Where:

- `smfi` Four character SMFID of the system.
- `x` SERNET started task subsystem ID.

If you do not know the SMFID of the system, execute the following REXX:

```
/* REXX */ say mvsvar(syssmfid)
```

You can also browse SYS1.PARMLIB(SMFPRMxx) and look for the SID= parameter.
Step 9: Create ISPF Keylist for EXPAND

ChangeMan ZMF panels reference a special keylist that includes a PF key assignment for EXPAND.

Execute this procedure to generate keylist member CMNKEYS.

1. Copy member CMNDTL from the delivered CMNZMF CNTL library to your custom CMNZMF CNTL library. Note this now has three ISPSTART commands.

2. Edit member CMNDTL in your custom CNTL library.
   a. Code your JOB statement at the top.
   b. Code DD name DTLGML with the delivered CMNZMF SAMPLES library.
   c. Code DD name DTLTAB with the "delivered" TABLES library you allocated in "Step 1: Allocate CUSTOM Libraries" on page 60.
   d. Change all remaining occurrences of placeholder somnode to the high level qualifier you use for ISPF system libraries.

3. Submit JCL member CMNDTL.

4. Examine the job output for problems.
   a. Example of ISPLOG from job step DTL:

```
Time    *** ISPF transaction log ***    Userid: USER015 Date: 17/07/31 Page: 1
21:26   Start of ISPF Log - - - - - Session # 1 -------------------------------------------------------
21:26    TSO     - Command  -  - ISPDTLC CMNELSK (PROFDDN=* CUASUPP REPLACE)
21:27                            - ISPC028AI: Total of 2 message(s) have been suppressed.
21:27                            - ISPC029AI: Total of 2 warning(s) and 0 error(s) found.
21:27    End of ISPF Log - - - - - Session # 1 -------------------------------------------------------

Time    *** ISPF transaction log ***    Userid: USER015 Date: 17/07/31 Page: 1
21:27   Start of ISPF Log - - - - - Session # 2 -------------------------------------------------------
21:27    TSO     - Command  -  - ISPDTLC CMNEROK (PROFDDN=* CUASUPP REPLACE)
21:27                            - ISPC028AI: Total of 2 message(s) have been suppressed.
21:27                            - ISPC029AI: Total of 2 warning(s) and 0 error(s) found.
21:27    End of ISPF Log - - - - - Session # 2 -------------------------------------------------------

Time    *** ISPF transaction log ***    Userid: USER015 Date: 17/07/31 Page: 1
21:27   Start of ISPF Log - - - - - Session # 3 -------------------------------------------------------
21:27    TSO     - Command  -  - ISPDTLC CMNREK (PROFDDN=* CUASUPP REPLACE)
21:27                            - ISPC028AI: Total of 2 message(s) have been suppressed.
21:27                            - ISPC029AI: Total of 2 warning(s) and 0 error(s) found.
21:27    End of ISPF Log - - - - - Session # 3 -------------------------------------------------------
```
Example of SYSTSPRT from job step DTL (ensure it runs on an SMS managed dataset or there will be LIBDEF RC=20 and a failure):

```
ISPC021I: ISPDTLC ISPF 7.2 Dialog Tag Language Conversion Utility
ISPC020A: ISPDTLC ISPF 7.2 Dialog Tag Language Conversion Utility for ISPF 7.2. Current
APAR level: PID. Current PTF number: 3 Sep 2013.
ISPC022I: Converting source file "CMNTP.CMN814T3.SAMPLES(CMNELSK)"
ISPC028I: 2 message(s) have been suppressed.
ISPC029I: 2 warning(s) and 0 error(s) found.
ISPD117
The initially invoked CLIST ended with a return code = 1
USER015.USER015B.J0676094.D0000103.? was preallocated (no free was done).
```

**Step 10: Build SERNET JCL for ChangeMan ZMF**

The procedure for a SERNET started task that runs ChangeMan ZMF is built from two JCL members delivered on the ZMF installer.

See "SERNET Started Procedure With ChangeMan ZMF" on page 142 for an example of a finished procedure.

**Execute this procedure to build JCL for a SERNET instance that runs ChangeMan ZMF.**

1. In your custom CNTL library, create a member for the SERNET started task procedure. Name the member according to the convention that you established in "SERNET Started Task Names" on page 35.
2. Copy in member SERVER from the delivered SERCOMC CNTL library. This is the model JCL for a SERNET started task.
3. After the SERVER model JCL, copy in member STARTJCL from the delivered CMNZMF CNTL library. This is the model for ChangeMan ZMF DD statements.
4. Code the STEPLIB DD statement to concatenate these libraries in the stated order:
   - Custom LOAD libraries that you allocated for customized CMNZMF and SERCOMC load modules. See "Step 1: Allocate CUSTOM Libraries" on page 60.
Step 10: Build SER#PARM JCL for ChangeMan ZMF

b Delivered CMNZMF LOAD library and delivered SERCOMC LOAD library that you unloaded from the ZMF installer. See Chapter 4, "Unloading the Software" on page 51.

c CA Librarian product library or CA Panvalet product library if the library is not in the LINKLIST and you intend to use these products for ChangeMan ZMF baseline libraries. See "CA Panvalet® and CA Librarian® Compatibility" on page 26.

5 If you don’t want to manage the SER#PARM dataset manually, then you may code the SER#PARM DD statement to point the PDS(E) that you created in "Step 8: Allocate the SER#PARM TCP/IP Address Library" on page 70.

6 Code the XMLSPACE DD statement to point to the VSAM LDS that you created and populated with JCL member XMLLOAD in "Step 5: Define XMLSPACE VSAM LDS" on page 63.

7 If you use a PDS to store licenses applied with License Manager, add DD name SERLIC to point to your license PDS.

If you use CSA to store licenses, do not add DD name SERLIC to the started task JCL. See "Step 3: Apply ChangeMan ZMF License" on page 61 and "SERLIC DD Statement" on page 39.

8 If you will store SER#PARM keyword options in a PDS or PDSE library member (see "Passing Parameters to SERNET" on page 36), do the following:

a Code keyword option DDNAME=ddname in the PARM parameter for program SERVER.

b Allocate the PDS or PDSE library with LRECL=80

c Code a corresponding ddname DD statement that points to the library that you allocated and the member where you will store SER#PARM keyword options.

9 Create a GDG index for SYSDUMP data sets. (See "SYSMDUMP DD Statement" on page 39.) Code the GDG data set name at the SYSMDUMP DD statement.

10 Code the following DD names to point to the VSAM clusters that you created with JCL member INITIAL1 in "Step 4: Define ChangeMan ZMF VSAM Files" on page 61. The last node in the VSAM cluster name that you created should be the same as the DD name.

   CMNPMAST
   CMNCPNT
   CMNCMPNL

NOTE If you will use Batch Local Shared Resources (BLSR) for ChangeMan ZMF VSAM files (see "VSAM I/O Optimization of ZMF Master Files" on page 33), follow the instructions in the JCL comments to use an alternate DD statement for CMNPMAST, CMNCPNT, and CMNCMPNL.

11 Code the CMNIMPCT and CMNILOG DD statements to point to the VSAM LDS and the sequential log file that you created with JCL member INITIAL1 in "Step 4: Define ChangeMan ZMF VSAM Files" on page 61.
Chapter 5 Installing ChangeMan ZMF Components

ChangeMan ZMF VSAM Files" on page 61. These DD names do not match the last node of the data set names that you created:

<table>
<thead>
<tr>
<th>DD Name</th>
<th>Last DSN Node</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMNIMPCT</td>
<td>IADSP</td>
</tr>
<tr>
<td>CMNIALOG</td>
<td>IALOG</td>
</tr>
</tbody>
</table>

12 Code the following DD names to point to the VSAM clusters that you created with JCL member INITIAL1 in "Step 4: Define ChangeMan ZMF VSAM Files" on page 61. The last node in the VSAM cluster name that you created should be the same as the DD name.

    CMNLOG
    CMNRECVV
    CMNDELAY

13 If you intend to use the staging versions facility of ChangeMan ZMF, code the HPSPLIB DD statement to point to the SVPARM control member that you edited and saved in "Step 7: Store SVPARM Control Member" on page 69. SERLIC DD statement must be added to this job and any procedure using DD statement HPSPLIB.

    NOTE If you do not intend to use staging versions to keep prior versions of staged package components, then delete the HPSPLIB and HPSIN DD statements. Do not use DD DUMMY or DSN=NULLFILE.

14 Change placeholder somnode in the following ISPF system libraries to conform to your standards:

    somnode.SISPMENU
    somnode.SISPTENU

15 Change placeholder somnode in the ISPF libraries at the following ISPF DD statements to match the library names for delivered libraries you created in "Step 3: Expand PDS Libraries with RECEIVE" on page 57 and CUSTOM library names you created in "Step 1: Allocate CUSTOM Libraries" on page 60:

    ISPPLIB
    ISPLIB
    ISPSLIB
    ISPLLIB
    ISPTLIB

16 Code required SERNET keyword options in the PARM parameter for program SERVER, or code them in the library member referred to by the DD name specified in the DDNAME=ddname keyword option. See "Parameters for SERNET and ChangeMan ZMF" on page 36.

    NOTE If you code keyword option SUBSYS=subsysID as a record in the library member referred to by DDNAME=ddname, then remove all references to the symbolic parameter &ID in the started procedure.

17 If you do not use the symbolic parameter OPT, delete it from the PROC statement at the top of the JCL, and remove it from the PARM statement for program SERVER.

18 Add DD statements that are required to resolve conflicts between ChangeMan ZMF and other software tools in use at your site. See "Software Conflicts" on page 27.
Step 11: Build Default File Tailoring Procedure

ChangeMan ZMF starts a file tailoring procedure to run in a separate address space to create JCL for package installation jobs, stage build jobs, promotion jobs, and other batch processes.

See "CMNxADSP Default File Tailoring Procedure" on page 142 for an example of a finished procedure.

**Execute this procedure to build a default file tailoring started procedure for the ChangeMan ZMF instance that you built in "Step 10: Build SERNET JCL for ChangeMan ZMF" on page 72.**

1. In your custom CNTL library, create a new member named CMNxADSP, where $x$ is the subsystem ID of the SERNET started task.

2. Copy in member CMNADSP from the delivered CNTL library. Edit CMNxADSP in your CUSTOM CNTL library.

3. Copy the library concatenations for following DD statements from the SERNET started procedure (and the SER#PARAM dataset if managed outside the started task) you created in "Step 10: Build SERNET JCL for ChangeMan ZMF" on page 72 into the corresponding DD statements in CMNxADSP:

   ```
   STEPLIB
   SER#PARAM
   ISPPLIB
   ISPMLIB
   ISPSLIB
   ISPTABL
   ```

4. At the SYSEXEC DD statement, change placeholder `somnode` in the REX and CEXEC libraries to match the library names for delivered libraries you created in "Step 3: Expand PDS Libraries with RECEIVE" on page 57 and CUSTOM library names you created in "Step 1: Allocate CUSTOM Libraries" on page 60.

5. In the ISPTLIB DD statement, concatenate the same libraries you coded in the SERNET started procedure at the ISPTLIB DD statement, leaving the first library as a temporary library without a DSN.

6. Change the high level qualifier on the library in the ISPTABL DD statement to conform to your standards for system ISPF libraries.

**NOTE** If you intend to enforce local business rules in ChangeMan ZMF functions, you must establish a separate HLLX started task which will be controlled by ZMF only. Follow the instructions detailed in the *ChangeMan ZMF 8.1 High Level Language Functional Exits Getting Started Guide* for this feature.
Add the same DD statements that you added to the SERNET started task JCL to resolve conflicts between ChangeMan ZMF and other software tools in use at your site.

**CAUTION!**
- Do not code any values for symbolic parameters. The calling programs resolve symbolic parameters.
- Do not change any other JCL statements such as the PROC name, step name, or DD names.

Install started procedure CMNxADSP in a system PROCLIB.

**Step 12: Build the Logon CLIST**

Users and administrators execute a CLIST to connect to SERNET and ChangeMan ZMF.

**Execute this procedure to build a CLIST to connect to the ChangeMan ZMF instance that you built in "Step 10: Build SERNET JCL for ChangeMan ZMF" on page 72.**

1. In your custom CMNZMF CLIST library, create a member for the logon CLIST. For your first ChangeMan ZMF instance, name the CLIST the same as the started procedure.
2. Copy in member CMN from the delivered CMNZMF CLIST library.
3. Set the default value for parameter SS to the subsystem ID that you specified for the SERNET started procedure. Example for subsystem ID 0:
   
   ```
   SS(0)
   ```
4. A default value for the CON parameter is not recommended. Set parameter CON to default value T for TCP/IP or X for Cross Memory Services only if communication to the SERNET started task is exclusively one or the other.
5. If you are using the SER#PARM dataset, then in the ALLOC DD (SER#PARM) statement, code the library that you coded in the SER#PARM DD statement in the SERNET started procedure. If you are only using Cross Memory Services, then it may be omitted.
6. If you coded a SERLIC DD statement in the SERNET started procedure, code an ALLOC DD (SERLIC) statement with the same library name. Example:
   
   ```
   ALLOC DD (SERLIC) DSN(  +
     'somnode.LICENSE.DATA' +
   ) SHR REU
   ```
7. In the ALLOC DD (SERPRINT) statement, code a SYSOUT class.
8. Change all remaining occurrences of placeholder somnode to create data set names that match the library names for delivered libraries you created in "Step 3: Expand PDS Libraries with RECEIVE" on page 57 and CUSTOM library names you created in "Step 1: Allocate CUSTOM Libraries" on page 60.
9 In the LIBDEF ISPTLIB statement, ensure that the TABLES library that you populated in "Step 9: Create ISPF Keylist for EXPAND" on page 71 is included in the concatenation.

10 Modify the ISPEXEC SELECT statement to add the subsystem ID to two parameters:
   a NEWAPPL - This parameter specifies a 1- to 4-character application code that is prefixed to the user and edit profile names. By including the subsystem ID in NEWAPPL, separate profiles are maintained for each ZMF instance that you use. Example:

   NEWAPPL(CMN&SS)

   b SCRNAME - This ISPF command sets the 2- to 8-character screen name that is displayed in the upper left corner of ChangeMan ZMF panels when you manually issue the command SCRNAME ON. Adding the subsystem ID to the screen name makes it easy to identify which ZMF instance you are working on from any ZMF panel. Example:

   SCRNAME(CMN&SS)

11 Test the CLIST syntax in the ISPF Command Shell panel:

   EX 'somnode.CMNZMF.CUSTOM.CLIST(CMNx)' 

   The ChangeMan Down panel (CMNSTDWN) is displayed if you have no errors.

12 Copy the CLIST into a SYSTEM or user CLIST library.

**Step 13: Modify Exit Program CMNEXINS**

Follow these steps to modify exit program CMNEXINS to define the DSN that ChangeMan ZMF uses for utility data sets.

1 Copy the source for program CMNEXINS from the delivered CMNZMF ASMSRC library to your custom ASMSRC library.

2 Edit CMNEXINS to set the high level qualifiers for ChangeMan ZMF utility data sets. See "Utility Data Sets" on page 44.

**TIP** The exit program source contains comments and several samples that can help you code your DSN naming and allocation conventions.

3 Copy member ASSEMBLE from the delivered SERCOMC CNTL library to your custom CMNZMF CNTL library.

4 Edit the assemble and link JCL.
   a Code your JOB statement at the top.
   b Change the assembler program name and the linkage editor program name to comply with your local standards.
   c Change the SYSLIB concatenation for the ASM step to include the delivered CMNZMF and SERCOMC copybook and source libraries.
   d Change the SYSLIB concatenation for the LKED step to include the delivered CMNZMF and SERCOMC LOAD libraries.
Chapter 5  Installing ChangeMan ZMF Components

- **e** Change the SYSLMOD data set name in the link step to point to your custom LOAD library. Do not link-edit into a delivered LOAD library.

- **f** Code the symbolic parameters on the EXEC statement, which follows the PEND statement at the bottom of the in-line procedure. Set MBR to the program name CMNEXINS. Code AC=0 for the authorization code symbolic parameter.

**5** Submit the ASSEMBLE job JCL.

**6** If the return code is zero, compare the directory entries for CMNEXINS in your custom LOAD library to the directory entries in the delivered CMNZMF LOAD library. If they are not identical, adjust the ASSEMBLE job JCL and submit the job again.

**7** If you are changing exit CMNEXINS after you have brought up the SERNET started task, stop and start the started task to enable your changes.

### Step 14: APF Authorize Other Load Libraries

All load libraries in the STEPLIB concatenation in the SERNET started task JCL must be APF authorized.

In "Step 2: APF Authorize Delivered and CUSTOM Load Libraries" on page 60, you added the ChangeMan ZMF delivered and custom LOAD libraries to the APF list.

If there are other libraries in the STEPLIB concatenation, such as custom promotion load libraries in a test ChangeMan ZMF instance, add those libraries to the APF list now.

You can use the SETPROG system command to add libraries to a dynamic APF list until the next IPL. If you use a static APF list, an IPL is required before you can bring up ChangeMan ZMF and before you can test some of the housekeeping jobs you build in Chapter 10, "Setting Up Housekeeping" on page 121.
Chapter 6
Configuring Security

This chapter tells you how to define a SERNET started task running ChangeMan ZMF to your security system and define security entities that grant authorization to execute ChangeMan ZMF functions.

Introduction 80
Step 1: Customize SERLCSEC 80
Step 2: Add ChangeMan ZMF to Your Security System 82
Step 3: Define Security Entities 88
Step 4: Define Data Set Access 91
Step 5: Add OMVS Segment To Use TCP/IP 93
Step 6: Add PassTicket Support In Sernet 93
Step 7: Set Security for USS File Systems 96
Introduction

See "Security Considerations" on page 40 for a description of how ChangeMan ZMF works with your security system.

This chapter includes instructions for configuring security in the three security systems that are compatible with ChangeMan ZMF: IBM Security Server RACF, CA ACF2, and CA Top Secret. Regardless of the security system you use, these are the tasks you perform.

- Set switches in security interface program SERLCSEC.
- Identify each SERNET instance to your security system as a started task.
- Assign a User ID to each SERNET started task. One User ID may be assigned to several SERNET started tasks if their data set access needs are identical.
- Set up a security resource class under which ChangeMan ZMF security entities can be defined.
- Define security entities to grant authorization to execute ChangeMan ZMF functions.
- Permit data set access to the SERNET started tasks.
- Add an OMVS segment for access to TCP/IP facilities in Unix System Services.

Step 1: Customize SERLCSEC

Program SERLCSEC establishes the security environment for the user's subtask in SERNET so that the subtask runs with the authority of the logged on user.

If your security system is IBM Security Server RACF, no changes to SERLCSEC are required.

If you use CA Top Secret or CA ACF2 as your security system, see the topics below for changes you might make to SERLCSEC.

Before you modify the source code for SERLCSEC, copy the source for program SERLCSEC from the delivered SERCOMC ASMSRC library to your custom ASMSRC library, and make your changes in the custom library.

To assemble and link edit SERLCSEC, See "Assembling SERLCSEC" on page 81.

CA Top Secret Security Violations

Many CA Top Secret customers can run with the delivered switch settings in SERLCSEC. However, if you are using CA Top Secret and there are too many security violations for
users to connect to ChangeMan ZMF, set the bit switch for &LOGSVIO to zero, as shown in the SERLCSEC code fragment below:

```
&VERFYID SETB 1 (YES)     SAF user ID verification
I - &LOGSVIO SETB 0 (YES) security violation logging
D - &LOGSVIO SETB 1 (YES) security violation logging
&LOGSEL SETB 1 (NO)        selective logging (by calling pgm)
&SSTUB SETB 0 (NO)          nullify security checking

*ACF2 batch ids are specified in a user modifiable table
* ‘F ACF2BAT WORD 1’ will find the start of this table.
* Please modify it as necessary.
```

CA ACF2 Batch LOGONID

Customers who use CA ACF2 for their security system may need to define alternate user IDs for the LOGONID in batch JCL submitted by ChangeMan ZMF through the SERNET started task. Batch LOGONIDs are included but commented out in ZMF JOB statement skeletons:

```
)CM */LOGONID CMNBATCH   <--- UNCOMMENT FOR ACF2
```

Alternate user IDs are specified in a table in SERLCSEC. Alternate user IDs may be assigned globally across all SERNET instances, or an alternate user ID can be assigned to a specific SERNET instance by specifying a subsystem ID.

See the comments at label ACF2BAT in program SERLCSEC for details about coding entries in the LOGONID table.

**NOTE** The table at ACF2BAT was created to provide alternate user IDs in CA ACF2. However, user IDs coded in this table are also authorized in IBM Security Server RACF and CA Top Secret.

Assembling SERLCSEC

If you modified the source for program SERLCSEC, follow these steps to assemble the custom source to create a custom load module.

1. Copy member **ASSEMBLE** from the delivered SERCOMC CNTL library to your custom CMNZMF CNTL library.

2. Edit the assemble and link JCL.
   a. Code your JOB statement at the top.
   b. Change the assembler program name and the linkage editor program name to comply with your local standards.
   c. Change the SYSLIB concatenation for the ASM step to include the delivered CMNZMF and SERCOMC copybook and source libraries.
d Change the SYSLIB concatenation for the LKED step to include the delivered CMNZMF and SERCOMC LOAD libraries.

e Change the SYSLMOD data set name in the link step to point to your ChangeMan ZMF custom LOAD library. Do not link-edit into a delivered LOAD library.

f Code the symbolic parameters on the EXEC statement, which follows the PEND statement at the bottom of the in-line procedure. Set MBR to the program name SERLCSEC. Code AC=0 for the authorization code symbolic parameter.

3 Submit the ASSEMBLE job JCL.

4 If the return code is zero, compare the directory entries for SERLCSEC in your custom LOAD library to the directory entries in the delivered LOAD library. If they are not identical, adjust the ASSEMBLE job JCL and submit the job again.

5 If you are changing SERLCSEC after you have brought up the SERNET started task, shut SERNET down and restart it to enable your changes.

**Stubbing ChangeMan ZMF Security**

If you have difficulty gaining access to ChangeMan ZMF administration because of security problems, you can temporarily code SERLCSEC to disable security checking. Set the &STUB switch to 1 and set &VERFYID switch to 0.

> CAUTION! Only use the STUB switch in SERLCSEC temporarily and with extreme caution because it allows all users access to all ChangeMan ZMF functions. This gives them the authority to update all libraries managed by ChangeMan ZMF. Stubbing security also allows anyone to connect to ChangeMan ZMF and make changes to global and application administration.

**Step 2: Add ChangeMan ZMF to Your Security System**

Set up entities and grant privileges in your security system to restrict access to ChangeMan ZMF functions. For a general discussion of security and ChangeMan ZMF, see "Security Considerations" on page 40.

**Add ChangeMan ZMF to CA ACF2**

The steps listed here provide examples specific to CA ACF2 for accomplishing the security setup tasks listed in the "Introduction" on page 80. The following conventions are used in these examples:

- **CMN** is the CA ACF2 resource type.
- **SERUSER** is the SERNET logon ID.
- **SERPROC** is the started procedure name.
- **CMNBATCH** is the batch LOGONID. ChangeMan ZMF JOB statement skeletons contain CMNBATCH for the LOGONID.
Step 2: Add ChangeMan ZMF to Your Security System

**CMNxADSP** is the started procedure name for the default file tailoring started task, where x is the subsystem ID of the SERNET started task that initiates CMNxADSP.

**IMPORTANT!** Resource type CMN was suggested when you initialized the package master VSAM file in "Step 4: Define ChangeMan ZMF VSAM Files" on page 61. If you use a different resource type here to satisfy local requirements, code the same resource type in initialization subparameter "RSRCCL" on page 62.

This section is not intended to be an authoritative reference for CA ACF2 command syntax. Your security administrator should be aware of the intent of each step and should adjust the sample command syntax if necessary.

1. Change the ACF2 Global System Options (GSO) to associate a logon ID with started tasks. Set up a default logon ID to allow all started tasks to come up successfully. From the TSO command processing option, enter the following commands:

   ```
   ACF2
   SET CONTROL(GSO)
   INSERT ACFSTCID (Set up default logon ID for started tasks)
   OPTS STC (To have privilege of started task)
   ```

2. Set up SERUSER as unique logon ID for SERNET. From the TSO command processing option enter the following commands:

   ```
   ACF2
   SET CONTROL(GSO)
   INSERT SERUSER (To insert a new logon ID)
   OPTS STC (To have privilege of started task)
   ```

   To give ChangeMan ZMF enough data set access to perform its functions, add non-cancel authority NONCNCL or PREFIX(********).

3. Add two TSO IDs to enable SERNET to submit batch jobs:

   a. Add one TSO ID with the started task option:

   ```
   ACF
   SET LID
   INSERT SERPROC JOB STC ACC-SRCE(STCINRDR) MUSASS
   ```

   MUSASS means multiple-user single address space system.

   b. Add a second ID with the TSO and batch option. Define this ID so that it can be invoked with /**LOGONID by SERNET programs SERVMDUH and SERUSER:

   ```
   ACF
   SET LID
   INSERT CMNBATCH JOB TSO PROGRAM(SER-)
   RESTRICT SUBAUTH
   ```

   **CAUTION!** Verify that neither of these IDs is assigned to users as a TSO logon ID.

4. Create an ACF2 GSO record type STC for the default file tailoring started procedure CMNxADSP, where x is the subsystem ID of the SERNET started task:

   ```
   ACF2
   SET CONTROL(GSO)
   INSERT STC.CMN LOGONID(SERUSER) STCID(CMNxADSP)
   ```
Assign the same user ID as the SERNET started task that initiates the file tailoring started task.

Make additional entries when you create other file tailoring started procedures and enter them in global administration.

5 Add the following version-dependent definitions to the environment:

a For ACF2 Version 4:

```
SAFMAPS MAPS(CMN/CMN)
SAFPROT SUBSYS(SVC109)
CNTLPTS(SER-)
CLASSES(CMN, DATA SET)
```

b For ACF2 Version 6.x:

```
SET C(GSO)
INSERT CLASMAP.CMN
RESOURCE(CMN)
RSRCCLASS(CMN)
INSERT SAFDEF.CMN001
ID(CMN001)
PROGRAM(SER-)
RB(SVC109)
RACROUTE REQUEST=AUTH CLASS=C MN
```

6 Copy member #ACF2 from the delivered CMNZMF CNTL library to your custom CMNZMF CNTL library. This member contains model code to create a CA ACF2 rule base for ChangeMan ZMF security entities under the CMN resource class.

7 Edit PDS member #ACF2 to create CA ACF2 rules for the five administrative security entities. You will define more entities and rules later, but these definitions allow you to get ChangeMan ZMF running.

a Code your JOB statement at the top.

b Code a valid output data set name for the rule base PDS.

c Change IEBUPDTE control characters from "$/" to "./"

d Code CA ACF2 rules for the five administrative security entities listed in "Administrator and Change Manager Security Entities" on page 41. Remember that if you want rules specific to one subsystem ID, imbed the subsystem ID in the fixed format security entity name.

e Move the code for all other security entities outside of the IEBUPDTE JCL, then submit the job to create thesomnode.CMNZMF.ACF2 PDS.

8 Activate the resource type CMN and compile the members you just created in the custom CNTL member #ACF2. Enter the following commands from the TSO command processing option:

```
ACF2
SET RESOURCE(CMN)
COMPILE 'somnode.CMNZMF.ACF2' ALL STORE
```

9 Check for any super IDs to verify that there are no other logon ID’s that have authority to update libraries managed by ChangeMan ZMF. If an ID has NONCNCL authority, it can access any data set or authority level secured for ChangeMan ZMF.
If you use the ACF2 TSO Command Limiting feature to restrict execution access to TSO commands, add the following [Product Name Short No Marks] programs to the ACF2 Command Limiting Table:

- CMNINIT
- CMNCISPF

This is the format of the table entries:

```
TSOtable CSECT *       REGIONAL ACF2 TABLE
TSOCST ,              TSO RESTRICTED COMMANDS LIST
$TSOCMD CLS           CLEAR SCREEN
$TSOCMD CMNINIT        CHAMGEMAN ZMF INITIALIZATION
$TSOCMD CMNCISPF      SECURE PROGRAM NAMES TABLE
$TSOCEND ,           INDICATE END OF LIST
END
```

If you use the ACF2 Command Limiting Feature and do not make the table entries above, and you attempt to use ZMF, the following message results:

IKJ565001I COMMAND XXXXXXXX NOT FOUND

**CAUTION!** Do not add these modules to the TSO Command Table IKJTSOnn in SYS1.PARMLIB. If you do and you attempt to use ZMF, your session will freeze and this message is displayed:

ISPS118L SERVICE NOT INVOKED. A VALID ISPF ENVIRONMENT DOES NOT EXIST.

### Add ChangeMan ZMF to IBM Security Server RACF

The steps listed here provide examples specific to IBM Security Server RACF for accomplishing the security setup tasks listed in the "Introduction" on page 80. The following conventions are used in these examples:

- **$CHGMAN** is the general resource class.
- **SERPROC** is the member name of the started procedure.
- **SERTASK** is the jobname assigned to the started task when procedure member **SERPROC** is started. See "SERNET Started Task Names" on page 35.
- **SERUSER** is the RACF user ID for all SERNET instances. If you want different RACF authority for different SERNET instances, assign a unique user ID to each.
- **CMNxADSP** is the procedure member name of the default file tailoring started task, where x is the subsystem ID of the SERNET started task that initiates CMNxADSP. See "Step 11: Build Default File Tailoring Procedure" on page 75.

**IMPORTANT!** Resource class name **$CHGMAN** was suggested when you initialized the package master VSAM file in "Step 4: Define ChangeMan ZMF VSAM Files" on page 61. If you use a different resource class name here to satisfy local requirements, do the following:

- Follow the rules for class name syntax in the z/OS Security Server RACF Security Administrator’s Guide.
- Code the same resource class name in initialization subparameter "RSRCCL" on page 62.
This section is not intended to be an authoritative reference for RACF command syntax. Your security administrator should be aware of the intent of each step and should adjust the sample command syntax if necessary.

1. Define $CHGMAN as a RACF resource class by adding an entry to the dynamic class descriptor table (CDT).

   Use this job to execute commands to define the class to the CDT. You can also enter the commands under TSO or through RACF administrative panels.

   ```
   //jobname  JOB (account), 'CHGMAN/RACF',
   //             CLASS=? NOTIFIER=?,
   //             MSGCLASS=?
   /* RACF class descriptor table - sample assembly */
   //CDTDEF   EXEC  PGM=IKJEFT01,REGION=0M
   //SYSTSPRT DD    SYSOUT=*  
   //SYSTSIN  DD    *
   RDEFINE CDT $CHGMAN UACC(NONE) CDTINFO(DEFAULTUACC(NO) +
             FIRST(ALPHA) OTHER(ALPHA NUMERIC NATIONAL +
             SPECIAL) MAXLENGTH(39) POSIT(25) +
             RACLIST(REQUIRED) OPERATIONS(NO))
   SETROPTS CLASSACT($CHGMAN)
   SETROPTS GENERIC($CHGMAN)
   SETROPTS RACLIST($CHGMAN)
   SETROPTS RACLIST(CDT) REFRESH
   ```

   In this example:
   - The RDEFINE statement declares $CHGMAN as class to RACF and specifies its characteristics.
   - The first SETROPTS statement activates the class.
   - The second SETROPTS statement allows the specification of generic profiles in this class.
   - The third SETROPTS statement activates these definitions immediately.

2. Define the user ID that will be assigned to the SERNET started task:

   ```
   ADDUSER SERUSER NAME('SERNET') OWNER(owner userid) +
   DFLTGRP(group name) DATA('SERNET STARTED TASK')
   ```

3. Add each SERNET instance to the STARTED class to associate the started task with the user ID.

   ```
   NOTE With RACF 2.1 and higher, you may define started procedures to the STARTED class rather than adding them to the RACF Started Procedure Table, which requires an IPL. The STARTED class must be active at your site.
   ```

   Use the following command:

   ```
   RDEF STARTED SERPROC.SERTASK STDOUT(USER(SERUSER) +
   GROUP(groupname))
   SETROPTS RACLIST(STARTED) REFRESH
   ```

   In the STARTED class, you specify both the started procedure member name and the jobname assigned in the START command. (See "SERNET Started Task Names" on page 35.) You can use a wild card for the jobname:
Step 2: Add ChangeMan ZMF to Your Security System

RDEF STARTED SERPROC.** STDATA(USER(SERUSER) GROUP(groupname))

or

RDEF STARTED SERPROC.SER* STDATA(USER(SERUSER) GROUP(groupname))

4 Make an additional entry in the STARTED class for the default file tailoring started procedure CMNxADSP, where x is the subsystem ID of the SERNET started task. Issue the following command:

RDEF STARTED CMNxADSP.** STDATA(USER(SERUSER) +
  GROUP(groupname))

Assign the same user ID as the SERNET started task that initiates the file tailoring started task.

NOTE Make additional entries in the STARTED class when you create other file tailoring started procedures besides CMNxADSP and enter their names in global administration.

Add ChangeMan ZMF to CA Top Secret

The steps listed here provide examples specific to CA Top Secret for accomplishing the security setup tasks listed in the "Introduction" on page 80. The following conventions are used in these examples:

- **SERPROC** is the member name of the started procedure.
- **SERACID** is the name of ACID associated with the SERNET instance.
- **SERFAC** is the name of the Multiuser Facility created for the SERNET instance.
- **CMNxADSP** is the procedure member name of the default file tailoring started task, where x is the subsystem ID of the SERNET started task that initiates CMNxADSP.

This section is not intended to be an authoritative reference for CA Top Secret command syntax. Your security administrator should be aware of the intent of each step and should adjust the sample command syntax if necessary.

1 Define the SERNET server as a Multiuser Facility, using one of the dummy facility entries in the Facilities Matrix Table. See the CA Top Secret USER GUIDE for information on how to add a new facility.

Example:

FACILITY(USERxx=NAME=SERFAC)
FACILITY(SERFAC=PGM=SER)
FACILITY(SERFAC=NOASUBM)
FACILITY(SERFAC=LCFCMD)
FACILITY(SERFAC=UIDACID=7)

2 Execute a TSS refresh to implement this parameter change, or perform a temporary change until the next refresh or IPL by executing this command:

TSS MODIFY FACILITY(USERxx=NAME=SERFAC)

3 After the above TSS command has been completed, query Top Secret to verify that the definition is correct.
Chapter 6  Configuring Security

TSS MODIFY FAC(SERFAC)

The following messages are from a successful installation.

TSS9550I FACILITY DISPLAY FOR SERFAC
TSS9551I INITPGM=SER ID=T TYPE=013
TSS9552I
  ATTRIBUTES=INUSE,ACTIVE,SHRPRF,NOASUBM,NOABEND,MULTIUSER,NOXD
  EF
TSS9552I ATTRIBUTES=LUMSG,STMSG,SIGN(M),INSTDATA,RNDPW,AUTHINIT
TSS9552I ATTRIBUTES=NOPROMPT,NOAUDIT,RES,WARNPW,NOTSOC,LCFCMD
TSS9552I
  ATTRIBUTES=MSGLC,NOTRACE,NOEDINIT,IJU,NODORMPW,NONPWR,NOIMSX
  TND
TSS9553I MODE=FAIL DOWN=GLOBAL LOGGING=INIT,MSG
TSS9554I UIDACID=8 LOCKTIME=000 DEFACID=*NONE* KEY=8
TSS9556I MAXUSER=03000 PRFT=003
TSS0300I MODIFY FUNCTION SUCCESSFUL

4  Create a CA Top Secret started task (STC):

TSS CREATE(SERACID) TYPE(USER) NAME('SERACID STC FOR CHGMAN')
  FACILITY(STC,BATCH,SERFAC)  DEPT(NAME) PASS(NOPW,0)

5  Add the new STC to the Started Task Table:

TSS ADD(STC) ACID(SERACID) PROCNAME(SERPROC)

6  Make an additional entry in the Started Task Table for the default file tailoring started
  procedure CMNxADSP, where x is the subsystem ID of the SERNET started task:

TSS ADD(STC) ACID(SERACID) PROCNAME(CMNxADSP)

Assign the same user ID as the SERNET started task that initiates the file tailoring
started task.

Make additional entries when you create other file tailoring started procedures and
enter them in global administration.

7  Add access to the facility (SERFAC) for the started task user ID (SERACID) and
  anyone who will use ChangeMan ZMF:

TSS ADD(SERACID) FACILITY(SERFAC)

**NOTE**  Repeat this command for each user that requires this access, or put it in a
profile to which users are attached.

For more information, refer to the *CA Top Secret OS Reference Guide Volume 3*, Section:
TSS Command Function.

Step 3: Define Security Entities

Define security entities used to authorize administrative and package management
functions as described in topic "Access to ChangeMan ZMF Functions" on page 40,
including the two subtopics "Administrator and Change Manager Security Entities" and "Mandatory System-Specific Security Entities".

The examples in this section use the values described in this table.

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Subsystem ID of the SERNET instance running ChangeMan ZMF. The subsystem ID is imbedded in the fixed format security entities, such as CMN3GBAD.</td>
</tr>
<tr>
<td>$CHGMAN</td>
<td>General resource class for ChangeMan ZMF</td>
</tr>
<tr>
<td>ACTP</td>
<td>Four-character ChangeMan application mnemonic for the Accounts Payable application</td>
</tr>
<tr>
<td>APBUSMGR</td>
<td>Security entity for approval of ACTP change packages by the business manager</td>
</tr>
<tr>
<td>APPRJMGR</td>
<td>Security entity for approval of ACTP change packages by the project manager</td>
</tr>
<tr>
<td>TESTQA</td>
<td>Security entity for promotion to a QA test environment</td>
</tr>
<tr>
<td>TESTUT</td>
<td>Security entity for promotion to a unit test environment</td>
</tr>
<tr>
<td>USER111</td>
<td>TSO user ID of the ChangeMan ZMF Global Administrator</td>
</tr>
<tr>
<td>USER222</td>
<td>TSO user ID of the ChangeMan ZMF Application Administrator for the Accounts Payable application</td>
</tr>
<tr>
<td>USER333</td>
<td>TSO user ID of the Accounts Payable Department Manager</td>
</tr>
<tr>
<td>USER444</td>
<td>TSO user ID of the IT Project Manager for the Accounts Payable application</td>
</tr>
<tr>
<td>USER555</td>
<td>TSO user ID of the QA Test Coordinator who promotes packages to the QA test environment libraries</td>
</tr>
<tr>
<td>USER666</td>
<td>TSO user ID of a developer on the Accounts Payable application who creates ACTP packages and changes ACTP components</td>
</tr>
<tr>
<td>USER777</td>
<td>TSO user ID of a business analyst in the Accounts Payable department who is allowed to query packages, browse Accounts Payable programs, but not make changes</td>
</tr>
<tr>
<td>USER888</td>
<td>TSO user ID of the Operations Supervisor</td>
</tr>
</tbody>
</table>

The steps listed here show you how to define ChangeMan ZMF security entities in IBM Security Server RACF.

**NOTE** When you define a ChangeMan ZMF security entity in your security system, you define it with no universal access. READ or UPDATE access is established when you grant a user ID or group access to the security entity.

1. Define the five fixed-format ChangeMan ZMF administrative security entities under the $CHGMAN resource class.

```bash
RDEFINE $CHGMAN CMN3GBAD OWNER($CHGMAN) +
   UACC(NONE) APPLDATA('GLOBAL ADMINISTRATOR')
RDEFINE $CHGMAN CMN3LCAD OWNER($CHGMAN) +
   UACC(NONE) APPLDATA('LOCAL ADMINISTRATOR')
RDEFINE $CHGMAN CMN3REVR OWNER($CHGMAN) +
   UACC(NONE) APPLDATA('CHANGEMAN ZMF REVERT')
```
2 Permit ChangeMan ZMF administrators and application project managers access to the administration functions. In this example, access is granted to TSO user IDs, but you will permit access to groups for easier maintenance.

```
PE CMN3GBAD CLASS($CHGMAN) ID(USER111) + ACCESS(UPDATE)
PE CMN3LCAD CLASS($CHGMAN) ID(USER222) + ACCESS(UPDATE)
PE CMN3REVR CLASS($CHGMAN) ID(USER444) + ACCESS(UPDATE)
PE CMN3BKOU CLASS($CHGMAN) ID(USER444) + ACCESS(UPDATE)
PE CMN3BKOU CLASS($CHGMAN) ID(USER888) + ACCESS(UPDATE)
PE CMN3MON CLASS($CHGMAN) ID(USER222) + ACCESS(UPDATE)
PE CMN3MON CLASS($CHGMAN) ID(USER888) + ACCESS(UPDATE)
```

3 Define security entities for applications under the $CHGMAN resource class.

```
RDEFINE $CHGMAN ACTP OWNER(@$CHGMAN) UACC(NONE) + APPLDATA('ACCOUNTS PAYABLE APPLICATION')
```

4 Define security entities for package approvals under the $CHGMAN resource class.

```
RDEFINE $CHGMAN APPRJMGR OWNER(@$CHGMAN) + UACC(NONE) + APPLDATA('ACCOUNTS PAYABLE PROJECT MANAGER')
RDEFINE $CHGMAN APBUSMGR OWNER(@$CHGMAN) + UACC(NONE) + APPLDATA('ACCOUNTS PAYABLE BUSINESS MANAGER')
```

5 Permit package approvers access to approval security entities.

```
PE APPRJMGR CLASS($CHGMAN) ID(USER444) + ACCESS(UPDATE)
PE APBUSMGR CLASS($CHGMAN) ID(USER333) + ACCESS(UPDATE)
```

6 Define security entities for package promotion under the $CHGMAN resource class.

```
RDEFINE $CHGMAN TESTUT OWNER(@$CHGMAN) + UACC(NONE) + APPLDATA('UNIT TEST COORDINATOR')
RDEFINE $CHGMAN TESTQA OWNER(@$CHGMAN) + UACC(NONE) + APPLDATA('QA TEST COORDINATOR')
```

7 Permit developers and test coordinators access to promotion security entities.

```
PE TESTUT CLASS($CHGMAN) ID(USER666) + ACCESS(UPDATE)
PE TESTQA CLASS($CHGMAN) ID(USER555) +
```
Step 4: Define Data Set Access

Because ChangeMan ZMF manages all development and production libraries, you may want to use the OPERATIONS attribute when you define the user ID for SERNET started tasks that run ChangeMan ZMF.

If you do not use the OPERATIONS attribute, the following sections show what authority is required for libraries and data sets that are required to run SERNET and ChangeMan ZMF or that are managed by ChangeMan ZMF.

Libraries and Data Sets in the SERNET Started Procedure

This table shows you what authority is required for libraries and data sets that are coded in the SERNET started procedure.

<table>
<thead>
<tr>
<th>Access</th>
<th>Data Set Name</th>
<th>DD Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPDATE</td>
<td>somnode.CMNZMF.CMNPMAST</td>
<td>CMNPMAST</td>
</tr>
<tr>
<td>UPDATE</td>
<td>somnode.CMNZMF.CMNRECV</td>
<td>CMNRECV</td>
</tr>
<tr>
<td>UPDATE</td>
<td>somnode.CMNZMF.CMNCPNT</td>
<td>CMNCMPNT</td>
</tr>
<tr>
<td>UPDATE</td>
<td>somnode.CMNZMF.CMNCPNL</td>
<td>CMNCMPNL</td>
</tr>
<tr>
<td>UPDATE</td>
<td>somnode.CMNZMF.CMNLOG</td>
<td>CMNLOG</td>
</tr>
<tr>
<td>UPDATE</td>
<td>somnode.CMNZMF.CMNDELAY</td>
<td>CMNDELAY</td>
</tr>
<tr>
<td>UPDATE</td>
<td>somnode.CMNZMF.IADSP</td>
<td>CMNIMPCT</td>
</tr>
<tr>
<td>UPDATE</td>
<td>somnode.CMNZMF.IALOG</td>
<td>CMNIALOG</td>
</tr>
<tr>
<td>UPDATE</td>
<td>somnode.SERCOMC.TCPIPORT</td>
<td>SER#PARM</td>
</tr>
<tr>
<td>READ</td>
<td>somnode.SERCOMC.XMLSPACE</td>
<td>XMLSPACE</td>
</tr>
<tr>
<td>READ</td>
<td>somnode.SERCOMC.LICENSE¹</td>
<td>SERLIC</td>
</tr>
<tr>
<td>READ</td>
<td>somnode.SERCOMC.PARMLIB²</td>
<td>PARMLIB²</td>
</tr>
</tbody>
</table>

See "Access to ChangeMan ZMF Functions" on page 40 to see how execution of a ChangeMan ZMF function in an application may require access to both the functional security entity and to the application.
Chapter 6  Configuring Security

The LICENSE library and SERLIC DD statement are used only if licenses are not stored in CSA or a load module.

This ddname may be specified in the DDNAME= keyword parameter.

Some of these libraries and data sets are also coded in file tailoring started procedures and in batch job JCL created from ChangeMan ZMF skeleton file tailoring.

For information about the libraries and data sets coded in the SERNET started procedure, see "Step 10: Build SERNET JCL for ChangeMan ZMF" on page 72.

Other Libraries and Data Sets

This table shows you what authority is required for other libraries and data sets that ChangeMan ZMF uses or manages.

<table>
<thead>
<tr>
<th>Access</th>
<th>Data Set</th>
<th>DD Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>READ</td>
<td>somnode.CMNZMF.LOAD</td>
<td>STEPLIB</td>
</tr>
<tr>
<td>READ</td>
<td>somnode.SERCOMC.LOAD</td>
<td>STEPLIB</td>
</tr>
<tr>
<td>READ</td>
<td>somnode.CMNZMF.PANELS</td>
<td>STEPLIB</td>
</tr>
<tr>
<td>READ</td>
<td>somnode.CMNZMF.MESSAGES</td>
<td>ISPMLIB</td>
</tr>
<tr>
<td>READ</td>
<td>somnode.CMNZMF.SKELS</td>
<td>ISPMLIB</td>
</tr>
<tr>
<td>READ</td>
<td>somnode.CMNZMF.TABLES</td>
<td>ISPTLIB</td>
</tr>
<tr>
<td>READ</td>
<td>somnode.CMNZMF.CUSTOM.LOAD</td>
<td>STEPLIB</td>
</tr>
<tr>
<td>READ</td>
<td>somnode.SERCOMC.CUSTOM.LOAD</td>
<td>STEPLIB</td>
</tr>
<tr>
<td>READ</td>
<td>somnode.CMNZMF.CUSTOM.PANELS</td>
<td>ISPPLIB</td>
</tr>
<tr>
<td>READ</td>
<td>somnode.CMNZMF.CUSTOM.MESSAGES</td>
<td>ISPMLIB</td>
</tr>
<tr>
<td>READ</td>
<td>somnode.CMNZMF.CUSTOM.SKELS</td>
<td>ISPSLIB</td>
</tr>
<tr>
<td>READ</td>
<td>somnode.CMNZMF.CUSTOM.TABLES</td>
<td>ISPTLIB</td>
</tr>
<tr>
<td>READ</td>
<td>somnode.SISPMENU</td>
<td>ISPMLIB</td>
</tr>
<tr>
<td>READ</td>
<td>somnode.SISPTENU</td>
<td>ISPTABL</td>
</tr>
<tr>
<td>READ</td>
<td>CA Librarian or CA Panvalet product library (if required)</td>
<td>STEPLIB</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Access</th>
<th>Data Set</th>
<th>DD Name</th>
</tr>
</thead>
</table>
| ALTER/CREATE/UPDATE/DELETE | [Product Name Short No Marks] utility data sets
|                       | See "Utility Data Sets" on page 44.                                    |                |
| ALTER/CREATE/UPDATE/DELETE | ChangeMan ZMF package staging libraries
|                       | See "Staging Library Model Data Set Name" on page 45.                  |                |
| ALTER/CREATE         | [Product Name Short No Marks] Baseline libraries
|                       | These libraries are specified in ChangeMan ZMF application administration. See the ChangeMan ZMF Administrator's Guide. |                |
Step 5: Add OMVS Segment To Use TCP/IP

TCP/IP Services in z/OS Communications Server requires a z/OS UNIX security context, referred to as an OMVS segment, for the user ID associated with a SERNET instance.

For instructions on satisfying the requirement for an OMVS segment in RACF, see topic "Requirement for an OMVS Segment" in the IBM publication z/OS Communications Server: IP Configuration Guide.

Failure to add an OMVS segment results in the following error message during SERNET initialization:

```
SERAO00E XCH TCP/IP INITAPI: RC=00001,ERRNO=00156
```

Step 6: Add PassTicket Support In Sernet

RACF PassTickets are a requirement for mainframe clients connecting via TCP/IP.

**NOTE** RACF PassTickets are not a requirement for ChangeMan ZDD or ChangeMan ZMF for Eclipse. These PassTickets are the result of the RACF Secure Signon Function and eliminate the need for clients to provide a password or passphrase that needs to be sent over a network. Additional information on PassTickets can be found in the 'Using the Secure Signon Function' section of the IBM-supplied 'Security Server RACF Security Administrator's Guide'.

PassTickets are application-specific so a Sernet-generated PassTicket is only valid for connecting to a Sernet started task. If you don’t specify in your RDEFINE the parameter APPLDATA('NO REPLAY PROTECTION') then each PassTicket is valid for approximately ten minutes from the time it is issued and can only be used once. For that reason you must specify the APPLDATA('NO REPLAY PROTECTION') parameter.
RACF Administration Required

- Activate the PTKTDATA class by entering:
  
  SETROPTS CLASSACT(PTKTDATA) RACLIST(PTKTDATA)

- Refresh the PTKTDATA class by entering:
  
  SETROPTS RACLIST(PTKTDATA) REFRESH

- Create a profile in the PTKTDATA class by entering:
  
  RDEFINE PTKTDATA SERNET SSIGNON(user_must_choose) APPLDATA('NO REPLAY PROTECTION')

For further information, refer to the appropriate IBM RACF manual for further information, for example "Defining Profiles in the PTKTDATA Class", in the manual z/OS Security Server RACF Security Administrator's Guide.

**NOTE** The value of SERNET in the above RDEFINE command is mandatory and should not be altered. You must provide the SSIGNON specification.

The SERSET Utility

Support for PassTickets in Sernet is provided via the execution of the SERSET utility. Each time a ChangeMan started task is brought up, during the initialization process, the SERSET utility gets invoked. This caters for the case where clients connect to a started task running on the same LPAR.

However the SERSET utility can also be executed as a batch utility. We provide a new member called SERSET in the delivered SERCOMC CNTL library. If you have a situation where users are signing onto ZMF from an LPAR which does not host a ZMF started task, you need to run the SERSET batch job on this LPAR. This must be done after each IPL to enable a remote connection to ZMF.

Generating a PassTicket

Sernet generates PassTickets when SERCLIEN calls SERXPTIK. The generation process requires authorization (key zero) so SERXPTIK executes as a PC routine and the sole purpose of the SERSET utility is to implement this routine.

For SERCLIEN to generate a PassTicket SERCLIEN only needs to know the PC number associated with SERXPTIK. To find this number SERCLIEN retrieves two system-level tokens, as follows:

SerNet.PTickTok – this contains the SerNet.PTickX value.
SerNet.PTickX – this contains the PC number.

**NOTE** The X in this token name corresponds directly to the TOKEN= value established when SERSET runs.

Failures in PassTicket Generation

SERXPTIK calls the routine anchored in field RCVTPTGN of the RACF CVT. Errors will be returned to the caller of SERCLIEN with the following message:
SER6035E Passticket generation failed, RCVPTGN RC=nnnn

RCVPTGN and its accompanying return codes are documented under "Using the service to generate a PassTicket" in the RACF Macros and Interfaces manual.

**TOKEN **=Operand of SERSET

The SERSET member of the SERCOMC CNTL library contains an EXEC card that reads:

```
PTICKET EXEC PGM=SERSET,REGION=2M,PARM='TOKEN= '
```

The default value for TOKEN is `A` so this effectively reads:

```
PTICKET EXEC PGM=SERSET,REGION=2M,PARM='TOKEN=A'
```

When the JCL executes one of two message sequences will normally ensue:

```
SER1704I CSVDYLPA loaded SERXPTIK @ xxxxxxxx
SER1708I SerNet.PtickA token created
SER1708I SerNet.PtickTok token created
SER1709I Passticket support enabled
```

This sequence will appear when SERSET first executes after an IPL. It shows the loading of SERXPTIK and the creation of the two system-level tokens.

```
SER1701I Passticket support previously enabled under 'A' suffix
```

This message will appear if SERSET executes any subsequent time after the first execution following each IPL. It signifies that SerNet.PTickTok points at SerNet.PTickA and that the latter contains the PC number associated with SERXPTIK.

**Refreshing SERXPTIK**

SERXPTIK is loaded into common storage by SERSET. By design, it’s a very small piece of code that should rarely change but, even so, on occasion it may need to be refreshed without an IPL.

To do this, rerun SERSET ensuring it will pick up the new version of SERXPTIK from STEPLIB and specifying a different TOKEN= value. For example, specifying TOKEN=B will result in the following message sequence:

```
SER1704I CSVDYLPA loaded SERXPTIK @ xxxxxxxx
SER1708I SerNet.PtickB token created
SER1708I SerNet.PtickTok token created
SER1709I Passticket support enabled
```

Once this has executed SerNet.PTickTok will point at SerNet.PTickB and this will cause SERCLIEN to invoke the new version of SERXPTIK [via a different PC number].

The TOKEN= parameter will accept any value from A-Z and 0-9 but any use beyond A and, rarely, B would be highly unusual.
Chapter 6  Configuring Security

Step 7: Set Security for USS File Systems

If you want to use ChangeMan ZDD to access zFS files in Unix System Services on the mainframe, you must make additional entries in your security system.

The instructions here describe commands for z/OS Security Server RACF. If you use CA ACF2 or CA Top Secret, consult with your security administrator to determine the actions they must take in those security systems to accomplish the same objectives.

In the commands that follow, the following conventions are used:

- SERUSER is the user-id assigned to the SERNET/ZMF started task.
- SERGRP is the RACF group assigned to the SERNET/ZMF started task.

1. Assign a non-zero UID to SERUSER by manually assigning the next available value:

   ALTERUSER SERUSER OMVS(UID(xxx))

2. Permit access for SERUSER to two resources so it can manage zFS in USS:

   PERMIT BPX.SERVER CLASS(FACILITY) ID(SERUSER) ACCESS(UPDATE)
   PERMIT SUPERUSER.FILESYS CLASS(UNIXPRIV) ID(SERUSER) ACCESS(READ)
   SETROPTS RACLIST(FACILITY) REFRESH
   SETROPTS RACLIST(UNIXPRIV) REFRESH

3. Ensure that the SERUSER default group SERGRP has a GID:

   ALTERGROUP SERGRP OMVS(GID(YYY))
Chapter 7

Starting, Connecting, and Stopping

This chapter describes how to start a SERNET started task and how to connect to ChangeMan ZMF. It also describes how to stop SERNET, giving ChangeMan ZMF users a grace period to end their sessions.

Start SERNET 98
Connect to the ChangeMan ZMF Primary Option Menu 100
Stop SERNET and ChangeMan ZMF 101
Start SERNET

Use a START command to start a SERNET instance and initialize ChangeMan ZMF. Variations of the START command are:

- START SERPROC1
- S SERPROC.SERTASK2,ID=2
- S SERPROC,JOBNNAME=SERTASK3,ID=3

See "SERNET Started Task Names" on page 35 for a discussion of the START command and SERNET started task names.

**NOTE** You may use z/OS START command parameter REUSASID=YES unless you intend to use ChangeMan ZMF ERO. Example:

S SERPROC,JOBNNAME=SERTASK3,REUSASID=YES,ID=3

See "Reusable Address Space Identifiers (ASID)" on page 32.

SERPRINT Messages

SERNET messages, License Manager messages, and some ChangeMan ZMF messages are displayed in the SERPRINT sysout data set for the SERNET started task. SERNET messages are explained in the *ChangeMan ZMF Messages Guide*.

In a SERNET instance running ChangeMan ZMF, messages in SERPRINT have the following formats:

- SERnnnnt
- LICnnnnt
- CMNnnnnt

*nnnn* is a unique number among all SERNET messages.
SERPRINT Message Example

The date/time stamp at the left of each line is not shown.

(continued on next page)
Chapter 7  Starting, Connecting, and Stopping

Each SERNET instance started on an LPAR must be assigned a unique subsystem ID. If you attempt to start a SERNET instance with a subsystem ID that is the same as a SERNET instance that is already running, an error message is displayed, and the new started task is terminated.

SER0822E SerNet already active for subsystem ID "7" - Terminating
SER0999I SerNet server "7" termination complete. RC=16

Connect to the ChangeMan ZMF Primary Option Menu

You can edit ISR@PRIM in the running copy of the IBM-supplied ISPF panel library to add ChangeMan ZMF as a selection from the main ISPF menu, or you can modify your local ISPF selection menus to invoke ChangeMan ZMF.
The menu selection character invokes the ChangeMan ZMF logon CLIST that contains LIBDEF statements for concatenated ChangeMan ZMF libraries. Do not execute the ISPEXEC SELECT command for program CMNINIT directly from a panel.

If you are running multiple development and production ChangeMan ZMF instances, add a menu selection for each instance. Do not put a selection for your test ChangeMan ZMF instance on a panel available to application developers.

Stop SERNET and ChangeMan ZMF

There are several ways to bring down the SERNET started task. The recommended method is to do an orderly shutdown with a modify command that includes a grace period to allow users to end their work and logoff ChangeMan ZMF. The following table lists some variations of the shutdown command.

<table>
<thead>
<tr>
<th>Shutdown Command</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>F SERs,SHUTDOWN</td>
<td>Orderly shutdown, 5 minute default grace period</td>
</tr>
<tr>
<td>F SERs,SH</td>
<td>Command abbreviation, same result as SHUTDOWN</td>
</tr>
<tr>
<td>F SERs,HALT+</td>
<td>Alternate command; same result as SHUTDOWN</td>
</tr>
<tr>
<td>F SERs,SH,M10</td>
<td>Orderly shutdown, 10 minute grace period</td>
</tr>
<tr>
<td>F SERs,SH,30</td>
<td>Orderly shutdown, 30 minute grace period</td>
</tr>
<tr>
<td>F SERs,SH,0</td>
<td>Immediate orderly shutdown, 15 second maximum wait</td>
</tr>
</tbody>
</table>

- SERs is the started task procedure name, the started task identifier, or the JOBNAME specified on the START command. See "SERNET Started Task Names" on page 35.
- The keyword SHUTDOWN may be abbreviated SH.
- The keyword HALT is equivalent to SHUTDOWN and is provided because IBM® NetView® often uses HALT as the directive to bring down long running systems.
- The default grace period is 5 minutes.
- Minutes of grace period may be preceded with M to conform with other hour and minute designations.
- Grace periods longer than 30 minutes are set back to 30 minutes.

**NOTE** If you specify a grace period, that grace period is only used if there are one or more users signed on to the started task. If the grace period expires and the users have not signed out, they will be gracefully detached and the started task will terminate. However, if the users sign out before the grace period expires, the started task will shut down immediately after the last user signs out and not wait for the full grace period that is specified.
Other methods may be used to stop the SERNET started task if the SHUTDOWN command is not successful.

<table>
<thead>
<tr>
<th>Command</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>P SERs</td>
<td>Purge all users in session immediately and stop</td>
</tr>
<tr>
<td>F SERs, ABEND</td>
<td>Abend the started task with an S0C3 after closing VSAM files.</td>
</tr>
<tr>
<td>CANCEL SERs, DUMP</td>
<td>Cancel the job. <strong>Caution! CANCEL is not recommended</strong> because there may be open dialogs along the network and open data sets. Severe damage could result depending on what is occurring at the time this command is executed</td>
</tr>
</tbody>
</table>
Chapter 8

Modifying Skeletons

This chapter tells you how to modify skeletons to enable you to execute key ChangeMan ZMF batch processes.

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>104</td>
</tr>
<tr>
<td>System Library and Data Set Names</td>
<td>104</td>
</tr>
<tr>
<td>CMN$$DSN - JOBLIB</td>
<td>108</td>
</tr>
<tr>
<td>CMN$$SEX - REXX SYSEXEC</td>
<td>108</td>
</tr>
<tr>
<td>CMN$$IAX - Impact Analysis Data Extract</td>
<td>109</td>
</tr>
<tr>
<td>CMN$PARM - Build Parameters</td>
<td>110</td>
</tr>
<tr>
<td>CA ACF2 LOGONID in JOB Statement Skeletons</td>
<td>111</td>
</tr>
<tr>
<td>Software Conflicts</td>
<td>111</td>
</tr>
</tbody>
</table>
Introduction

Even if you do not intend to immediately customize ChangeMan ZMF components to fit your change management process, you must modify some delivered skeletons to fit your local conditions or to match the way you set up components in previous chapters in this Installation Guide.

This chapter describes how you must change some skeletons to get your first ChangeMan ZMF test or demonstration instance running.

This chapter does not list all skeletons you might need to modify for remote site processing or advanced functions. For a full discussion of customizing ChangeMan ZMF, see the ChangeMan ZMF Customization Guide.

You should preserve the version of components that are delivered. When you modify a skeleton, copy the skeleton from the delivered library to a custom library, then edit the skeleton in the custom library. Concatenate your custom skeleton library in front of the delivered library in ChangeMan ZMF JCL.

System Library and Data Set Names

Most data set names in batch jobs submitted by ChangeMan ZMF are made available to skeleton file tailoring in ISPF variables. The data set names are entered through the user interface by administrators or users, or they are generated internally by ChangeMan ZMF, and they are stored on the package master.

However, a few ChangeMan ZMF data set names are not stored, and most system library names are not stored.

The data set names that are not stored are hard coded in one ChangeMan ZMF skeleton CMN$$DSN with somnode as a high level qualifier (HLQ). You must customize these as required in order to comply with your local standards. This eliminates the need to manually update the many skeletons that use these definitions.

Each entry or group of entries for the SET statements looks like this:

```cm
)CM  CICS AND DB2 SYSTEM LIBRARIES
)CM  (CMN$$ARE,CMN$$CIC,CMN$$COE,CMN$$MPD,CMN$$MPG,CMN$$PLE)
)CM
)SET SDFHLOD = somnode.CICS.SDFHLOAD
)SET SDFHMAC = somnode.CICS.SDFHMAC
)SET SDSNLOD = somnode.CICS.SDSNLOAD
)SET DB2RNLB = somnode.RUNLIB.LOAD
```

The second CM line lists all the skeletons that use these variables.

Alternatively you can look at the variable use by the function, per the following table. This table lists skeletons that use the variables defined in CMN$$DSN, and lists the DD name
where the variable is used, and the low level nodes of the data set names that must be updated in CMN$$DSN.

**TIP** The skeletons in the table are listed by function so that you can customize the variables associated with functions that you intend to use immediately, and you can skip or defer work on the rest.

<table>
<thead>
<tr>
<th>Function</th>
<th>Skeleton where variable is referenced</th>
<th>DDNAME</th>
<th>Library or Data Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batch job JCL: JOBLIB and STEPLIB concatenation</td>
<td>CMN$$DSN</td>
<td>&amp;JOBLLDD</td>
<td>somnode.CMNZMF.CUSTOM.LOAD&lt;br&gt;somnode.SERCOMC.CUSTOM.LOAD&lt;br&gt;somnode.CMNZMF.LOAD&lt;br&gt;somnode.SERCOMC.LOAD</td>
</tr>
<tr>
<td>Batch job JCL: SER#PARM DSN</td>
<td>CMN$$SPR</td>
<td>SER#PARM</td>
<td>somnode.SERCOMC.TCPPIPORT</td>
</tr>
<tr>
<td>Batch job JCL: REXX library concatenation</td>
<td>CMN$$SEX</td>
<td>&amp;REXXDD!&lt;br&gt;&amp;REXXDD!</td>
<td>somnode.CMNZMFt.CUSTOM.REX&lt;br&gt;somnode.CMNZMF.REX&lt;br&gt;somnode.SERCOMCt.CEXEC&lt;br&gt;somnode.CMNZMF.CUSTOM.REX&lt;br&gt;somnode.CMNZMF.REX&lt;br&gt;somnode.SERCOMC.CEXEC</td>
</tr>
<tr>
<td>Build: COBOL2 source</td>
<td>CMN$$CO2</td>
<td>STEPLIB</td>
<td>somnode.COB2COM</td>
</tr>
<tr>
<td>Build: IBM Enterprise COBOL source</td>
<td>CMN$$COE</td>
<td>STEPLIB</td>
<td>somnode.SIGYCOMP&lt;br&gt;somnode.CICS.SDFHLOAD</td>
</tr>
<tr>
<td>Build: CICS precompile</td>
<td>CMN$$CIC</td>
<td>STEPLIB</td>
<td>somnode.CICS.SDFHLOAD</td>
</tr>
<tr>
<td>Build: CICS BMS MAP source</td>
<td>CMN$$MPG</td>
<td>SYSLIB</td>
<td>somnode.CICS.SDFHMAC&lt;br&gt;SYS1.MACLIB</td>
</tr>
<tr>
<td>Build: CICS BMS MAP source (DESCT)</td>
<td>CMN$$MPD</td>
<td>SYSLIB</td>
<td>somnode.CICS.SDFHMAC&lt;br&gt;SYS1.MACLIB</td>
</tr>
<tr>
<td>Build: IBM Enterprise PL/I source</td>
<td>CMN$$PLE</td>
<td>STEPLIB</td>
<td>somnode.SIBMZCMP&lt;br&gt;somnode.SCEEERUN&lt;br&gt;somnode.CICS.SDFHLOAD</td>
</tr>
<tr>
<td>Build: Assembler source</td>
<td>CMN$$ASM</td>
<td>SYSLIB</td>
<td>SYS1.MACLIB&lt;br&gt;SYS1.M00GEN</td>
</tr>
<tr>
<td>Build: C or C++ source</td>
<td>CMN$$CEE</td>
<td>STEPLIB</td>
<td>somnode.SCCNCMP&lt;br&gt;somnode.SCEEERUN&lt;br&gt;somnode.SCEEH.H&lt;br&gt;somnode.SDNS.C.H</td>
</tr>
<tr>
<td>Build: SAS C source</td>
<td>CMNSASC</td>
<td>STEPLIB</td>
<td>somnode.SASC.V458F.LOAD,&lt;br&gt;somnode.SASC.V458F.RDLB.LINKLIB&lt;br&gt;somnode.SASC.V458F.MACLIBC</td>
</tr>
<tr>
<td>Build: ORACLE precompiler</td>
<td>CMN$$ORC</td>
<td>STEPLIB</td>
<td>somnode.ORAV68A.CMNDLOAD&lt;br&gt;somnode.ORAV68A.SRCLIB</td>
</tr>
<tr>
<td>Build: C prelink</td>
<td>CMN$$PLK</td>
<td>STEPLIB</td>
<td>somnode.SCEEERUN&lt;br&gt;somnode.SCEEMSGP(EDCPMSGE)&lt;br&gt;somnode.SCEECPP&lt;br&gt;somnode.SCEELIB(C128)&lt;br&gt;somnode.CBC.SCLSBD(I0C)&lt;br&gt;somnode.CBC.SCLSBD(I0STREAM)&lt;br&gt;somnode.CBC.SCLSBD(COMPLEX)&lt;br&gt;somnode.CBC.SCLSBD(COLL)</td>
</tr>
<tr>
<td>Function</td>
<td>Skeleton where variable is referenced</td>
<td>DDNAME</td>
<td>Library or Data Set</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>---------------------------------------</td>
<td>---------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>Build: Link edit SYSLIB concatenation</td>
<td>CMN$$SYL</td>
<td>&amp;FIRSTDD!</td>
<td>somnode.SCEESPC, somnode.SCEEKED, somnode.SCEEKED, somnode.SCEEKED, somnode.IMS.RESLIB, somnode.CICS.SDFHLOAD</td>
</tr>
<tr>
<td>Audit</td>
<td>CMN$$AUD</td>
<td>CMNIMPCT</td>
<td>somnode.CMNZMF&amp;SUBSYS..IADSP</td>
</tr>
<tr>
<td>Promote: Remote promotion</td>
<td>CMN$$RPM</td>
<td>XNODE</td>
<td>somnode.&amp;RPMDSN, somnode.&amp;STGLIB...&amp;LIBTYPE, somnode.&amp;STGLIB...&amp;LIBTYPE, somnode.&amp;RPMDSN, somnode.&amp;RMTDSN, somnode.&amp;STGLIB...&amp;LIBTYPE, somnode.&amp;STGLIB...&amp;LIBTYPE, somnode.&amp;RMTDSN, somnode.&amp;RMTDSN, somnode.&amp;STGLIB...&amp;LIBTYPE</td>
</tr>
<tr>
<td>Install: Remote site</td>
<td>CMN11</td>
<td>CMN11ENQ</td>
<td>somnode.&amp;RMTSITE..&amp;PROJECT..CMN11</td>
</tr>
<tr>
<td>Install: Baseline ripple</td>
<td>CMN30</td>
<td>CMNIMPCT</td>
<td>somnode.CMNZMF&amp;SUBSYS..IADSP</td>
</tr>
<tr>
<td>Install: IMS Option baseline ripple</td>
<td>CMN30I</td>
<td>CMNIMPCT</td>
<td>somnode.CMNZMF&amp;SUBSYS..IADSP</td>
</tr>
<tr>
<td>Install: Update impact analysis</td>
<td>CMN37</td>
<td>CMNIMPCT</td>
<td>somnode.CMNZMF&amp;SUBSYS..IADSP</td>
</tr>
<tr>
<td>Backout: Reverse baseline ripple</td>
<td>CMN55</td>
<td>CMNIMPCT</td>
<td>somnode.CMNZMF&amp;SUBSYS..IADSP</td>
</tr>
<tr>
<td>Backout: IMS Option reverse baseline ripple</td>
<td>CMN55I</td>
<td>CMNIMPCT</td>
<td>somnode.CMNZMF&amp;SUBSYS..IADSP</td>
</tr>
<tr>
<td>Backout: Update impact analysis</td>
<td>CMN57</td>
<td>CMNIMPCT</td>
<td>somnode.CMNZMF&amp;SUBSYS..IADSP</td>
</tr>
<tr>
<td>Installation scheduler: CA-7</td>
<td>CMN$$CA7</td>
<td>STEPLIB</td>
<td>somnode.CA7.LINKLIB, somnode.CA7.COMMDS, somnode.CA7.BATCHIN, somnode.CA7.BATCHOUT</td>
</tr>
<tr>
<td>Installation scheduler: CA-7</td>
<td>CMN$$CAS</td>
<td>BTIOUPT</td>
<td>somnode.BTIUPT, somnode.CA7.LINKLIB, somnode.COMMDS, somnode.BATCHIN, somnode.BATCHOUT</td>
</tr>
<tr>
<td>Installation scheduler: CONTROL-M</td>
<td>CMN$$CTM</td>
<td>SYSUT2</td>
<td>somnode.CONTROLMDATE(&amp;SCHJBNM), somnode.CONTROLMSCHEDLIB(&amp;SCHJBNM), somnode.CONTROLMLINKLIB, somnode.CONTROLMDATE(&amp;SCHJBNM), somnode.CONTROLMLINKLIB, somnode.CONTROLMSCHEDLIB(&amp;SCHJBNM), somnode.CONTROLMLINKLIB, somnode.CONTROLMSCHEDLIB(&amp;SCHJBNM)</td>
</tr>
<tr>
<td>Installation scheduler: JOBTRAC</td>
<td>CMN$$JBT</td>
<td>SYSUT2</td>
<td>somnode.JOBTRAC.JCLLIB, somnode.JOBTRAC.JOBTRACV</td>
</tr>
<tr>
<td>Transmission vehicle: Connect:Direct</td>
<td>CMN$$NDM</td>
<td>DMSGFIL</td>
<td>somnode.NDMSIGNON, somnode.NDMSIGNON</td>
</tr>
<tr>
<td>Transmission vehicle: Connect:Direct</td>
<td>CMN$$PND</td>
<td>DMPUBLIB</td>
<td>somnode.NDMSIGNON, somnode.RNDMMID, somnode.NDMSIGNON, somnode.RNDMMAP, ESF=YES</td>
</tr>
</tbody>
</table>
### System Library and Data Set Names

<table>
<thead>
<tr>
<th>Function</th>
<th>Skeleton where variable is referenced</th>
<th>DDNAME</th>
<th>Library or Data Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission vehicle: NETMASTER</td>
<td>CMN$$N10</td>
<td>XNODE</td>
<td>somnode.&amp;DVSNOD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RPMNODE</td>
<td>somnode.&amp;RPMDSN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&amp;STGLTYP</td>
<td>somnode.&amp;DVSLIB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SEQ&amp;STGLTYP</td>
<td>somnode.&amp;DVSNOD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SEQXNODE</td>
<td>somnode.&amp;DVSNOD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SEQXRPM</td>
<td>somnode.&amp;DVSNOD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FRDSN('somnode..&amp;DVSNOD') +</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TODSN('somnode..&amp;DVSNOD') +</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FRDSN('somnode..&amp;DVSNOD') +</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TODSN('somnode..&amp;DVSNOD') +</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FRDSN('somnode..&amp;DVSNOD') +</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TODSN('somnode..&amp;DVSNOD') +</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TODSP(REP) +</td>
<td></td>
</tr>
<tr>
<td>Transmission vehicle: NETMASTER</td>
<td>CMN$$N11</td>
<td>SEQ&amp;STGLTYP</td>
<td>somnode.&amp;PRSLIB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SEQXNODE</td>
<td>somnode.&amp;PRSLIB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SEQXRPM</td>
<td>somnode.&amp;PRSLIB</td>
</tr>
<tr>
<td>Transmission vehicle: NETMASTER</td>
<td>CMN$$NET</td>
<td>SYTSIN</td>
<td>somnode.NETMASTR.USERID</td>
</tr>
<tr>
<td>Transmission vehicle: XCOM</td>
<td>CMN$$XCD</td>
<td>SYSEXEC SOMNODE</td>
<td>somnode.XCOM.SIGNON</td>
</tr>
<tr>
<td>Transmission vehicle: XCOM</td>
<td>CMN$$XCP</td>
<td>SYSEXEC SOMNODE</td>
<td>somnode.XCOM.SIGNON</td>
</tr>
</tbody>
</table>

**Execute these steps to change placeholder *somnode* to the appropriate HLQ.**

1. Copy the skeleton CMN$$DSN from your delivered CMNZMF SKELS library to your custom SKELS library.
2. Now CMN$$DSN will allow you to easily change *somnode* with the appropriate data set or library name in your CMNZMF SKELS, reducing the possibility of error.

### NOTES

1. The data set name ending in IADSP is the impact analysis VSAM LDS that you created and initialized in "Step 4: Define ChangeMan ZMF VSAM Files" on page 61.
2. The data set name ending in TCPIPORT is the PDS that you allocated in "Step 8: Allocate the SER#PARM TCP/IP Address Library" on page 70.
3. If you will install packages created on a ChangeMan ZMF D or DP instance to production libraries, you must customize skeleton CMN11 to provide a high level qualifier for the data set name at the CMN11ENQ DD statement. This is a temporarily cataloged data set that causes CMN11 jobs for a ZMF instance to single thread.
4. If you license the ChangeMan ZMF IMS Option, you must modify skeletons CMN30I and CMN55I even if you defer installation of the IMS Option until a later time.
CMN$$DSN - JOBLIB

It is recommended not to include ChangeMan ZMF load libraries in the LINKLIST. Skeleton CMN$$DSN also provides a JOBLIB or STEPLIB for all ChangeMan ZMF batch jobs that are generated by file tailoring.

**TIP** The delivered skeleton contains selection logic to concatenate "test" libraries in front of "production" libraries for a test instance of ChangeMan ZMF. (The lower case "t" designates a "test" environment and "test" libraries.)

For your first ChangeMan ZMF test or demonstration instance, just code a simple JOBLIB /STEPLIB statement. As you build other ChangeMan instances, you can add selection logic that fits your evolving environment.

**Follow these steps to customize your JOBLIB skeleton variables.**

1. Copy skeleton CMN$$DSN from your delivered CMNZMF SKELS library to your custom SKELS library.

2. Edit CMN$$DSN in your custom SKELS library. Code the same load library concatenation that you used for the STEPLIB in the SERNET.

Example:

```cm
)CM THIS DEFINES THE VARIOUS LOAD LIBRARIES USED TO BUILD THE JOBLIB
)CM CONCATENATION.
)CM (CMN$$JBL)
)CM
)SET ZMFCTST = CMNTP.CMN814.C6.LOAD
)SET SERCTST = CMNTP.CMN814.C6.LOAD
)SET ZMFVTST = CMNTP.CMN814T3.LOAD
)SET SERVTST = CMNTP.SER814T3.LOAD
)SET ZMFCPRD = CMNTP.CMN814.C8.LOAD
)SET SERCPRD = CMNTP.CMN814.C8.LOAD
)SET ZMFVPRD = CMNTP.CMN814T3.LOAD
)SET SERVPRD = CMNTP.SER814T3.LOAD
```

CMN$$SEX - REXX SYSEXEC

Skeleton CMN$$SEX is delivered to provide a SYSEXEC library concatenation for ChangeMan ZMF batch jobs that are generated by file tailoring.

**TIP** The delivered skeleton contains selection logic to concatenate "test" libraries in front of "production" libraries for a test instance of ChangeMan ZMF. (The lower case "t" designates a "test" environment and "test" libraries.)

For your first ChangeMan ZMF test or demonstration instance, just code a simple SYSEXEC statement. As you build other ChangeMan instances, you can add selection logic that fits your evolving environment.

**Follow these steps to customize your variables to use in the CMN$$SEX skeleton.**

1. Edit CMN$$DSN in your custom SKELS library. Code the desired datasets.

Example:

```cm
)CM THIS DEFINES THE VARIOUS REXX LIBRARIES USED TO BUILD THE SYSEXEC
)CM CONCATENATION FOR REXX
)CM (CMN$$SEX)
```
CMN$$IAX - Impact Analysis Data Extract

Skeleton CMN$$IAX builds JCL to run the impact analysis data extract, which creates sequential files BUNSPACE, CMPSPACE, and RELSPACE. These files are then input to the impact analysis LDS load job.

The impact analysis LDS is used by the package audit process and by the online Query Impact and Query BofM functions.

It is recommended that you define the BUNSPACE, CMPSPACE, and RELSPACE files as generation data groups (GDG).

**Execute these steps to customize skeleton CMN$$IAX.**

1. Copy skeleton CMN$$IAX from your delivered CMNZMF SKELS library to your custom SKELS library.
2. If you are using GDGs for the BUNSPACE, CMPSPACE, and RELSPACE files, delete job step DELFILES at the top of the skeleton.
3. If you want to display messages that list relationships in which the subordinate component is found in no baseline library or in multiple baseline libraries, replace DUMMY with SYSOUT=* in these DD statements.

```plaintext
//LODMISS   DD DUMMY
//LODSAME   DD DUMMY
//CPYMISS   DD DUMMY
//CPYSAME   DD DUMMY
```
4. Variable usage from CMN$$DSN
   a. You should already have set up CMN$$DSN to ensure the variables used in this skeleton are ready for use. Confirm these variables are set correctly - &IADXHLQ, &PMSTDSN, &CPNTDSN, &CPNLDSN and &IADSN variables are used to build Dataset names. Ensure that these conform to your standards for your ChangeMan ZMF data sets.
   b. If you are using GDGs, code a (+1) relative generation.
5. Ensure the CMNIMPCT DD statement will have the name of the impact analysis LDS that you created in "Step 4: Define ChangeMan ZMF VSAM Files" on page 61.
6. Change these XTYP= SYSIN control statements to specify your library type(s) for exclusion:

<table>
<thead>
<tr>
<th>XTYP=</th>
<th>Component Type</th>
<th>Option Sub-type</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMT</td>
<td>IMS MFS Load</td>
<td>IMS Option library sub-type F</td>
</tr>
<tr>
<td>MFS</td>
<td>IMS MFS Source</td>
<td>IMS Option library sub-type M</td>
</tr>
</tbody>
</table>
CMN$PARM - Build Parameters

Build parameters are provided for precompile, compile, prelink, and link skeletons in a set of ISPF variables, which are listed in this table.

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&amp;DB2PPRM1</td>
<td>Db2 Precompile Parameters Part 1</td>
</tr>
<tr>
<td>&amp;DB2PPRM2</td>
<td>Db2 Precompile Parameters Part 2</td>
</tr>
<tr>
<td>&amp;DB2PPRM3</td>
<td>Db2 Precompile Parameters Part 3</td>
</tr>
<tr>
<td>&amp;CICSPRM1</td>
<td>CICS Translate Parameters Part 1</td>
</tr>
<tr>
<td>&amp;CICSPRM2</td>
<td>CICS Translate Parameters Part 2</td>
</tr>
<tr>
<td>&amp;CICSPRM3</td>
<td>CICS Translate Parameters Part 3</td>
</tr>
<tr>
<td>&amp;MAPDPRM1</td>
<td>BMS MAP DSECT Parameters Part 1</td>
</tr>
<tr>
<td>&amp;MAPDPRM2</td>
<td>BMS MAP DSECT Parameters Part 2</td>
</tr>
<tr>
<td>&amp;MAPDPRM3</td>
<td>BMS MAP DSECT Parameters Part 3</td>
</tr>
<tr>
<td>&amp;COMPPRM1</td>
<td>Compile Parameters Part 1</td>
</tr>
<tr>
<td>&amp;COMPPRM2</td>
<td>Compile Parameters Part 2</td>
</tr>
<tr>
<td>&amp;COMPPRM3</td>
<td>Compile Parameters Part 3</td>
</tr>
<tr>
<td>&amp;PLNKPRM1</td>
<td>Prelink Parameters Part 1</td>
</tr>
<tr>
<td>&amp;PLNKPRM2</td>
<td>Prelink Parameters Part 2</td>
</tr>
<tr>
<td>&amp;PLNKPRM3</td>
<td>Prelink Parameters Part 3</td>
</tr>
<tr>
<td>&amp;LINKPRM1</td>
<td>Link Parameters Part 1</td>
</tr>
<tr>
<td>&amp;LINKPRM2</td>
<td>Link Parameters Part 2</td>
</tr>
<tr>
<td>&amp;LINKPRM3</td>
<td>Link Parameters Part 3</td>
</tr>
</tbody>
</table>

Values are assigned to these variables in a layered set of skeletons:

- CMN$$VAR - Initialize build parameter ISPF variables to blank.
- CMN$PARM - Assign system-wide values to build parameter variables according to component language.
- PRM$aaaa (where aaaa is an application mnemonic) - Overlay system-wide default values with application specific values in optional application skeletons.

In addition, when you execute build processing for a component, you can enter component-specific parameter values that are retained in component history.

Skeleton CMN$PARM is delivered with common build parameter settings for various component language types.

**Execute these steps to set ISPF variables for build parameters.**

1. Copy skeleton CMN$PARM from your delivered CMNZMF SKELS library to your custom SKELS library.
2. Assign system-wide values to build parameter variables according to language, or code your own selection logic.
3 If necessary, create an optional application skeleton in your CUSTOM SKELS library. Name the skeleton PRM$aaaa, where aaaa is an application mnemonic. Assign application-level overrides to build parameter variables, only where they are different than system-wide values in skeleton CMN$PARM.

NOTE The comments in skeleton CMN$VAR provide more details about variables used in ChangeMan ZMF build processing.

CA ACF2 LOGONID in JOB Statement Skeletons

If your security system is IBM Security Server RACF or CA Top Secret, skip this step and go to the next skeleton topic.

If you use CA ACF2 as your security system, execute these steps to enable the LOGONID statement in each JOB statement skeleton.

1 Copy these JOB statement skeletons from your delivered CMNZMF SKELS library to your custom SKELS library.

   CMN$D2J
   CMN$JCD
   CMN$JNM
   CMN$NTF
   CMN$RPJ
   CMN$SJN

2 In the LOGONID statement in each skeleton, delete the )CM operator and the space that follows it so that the LOGONID statement begins in column 1:

   ------+----1----+----2----+----3----+----4----+----5
   //*LOGONID CMNBATCH   <--- UNCOMMENT FOR ACF2

NOTE If you must use a batch user ID different from CMNBATCH, change each JOB statement skeleton and then modify security exit SERLCSEC. See "CA ACF2 Batch LOGONID" on page 81.

Software Conflicts

Some data center utilities from other software vendor include functions that conflict with facilities in ChangeMan ZMF. You may have to adjust ChangeMan ZMF batch JCL and skeletons to suppress the conflicting functions.

See "Software Conflicts" on page 27 for instructions about changing batch JCL to resolve potential conflicts. Translate those JCL changes into ChangeMan ZMF skeleton modifications.
Chapter 9 Part 1

Installing Other Facilities

This chapter discusses installing other facilities of ChangeMan ZMF.

- Installing XMLSERV
- Installing CICS NEWCOPY Support
- Configure Automated Operations Tools
Installing XMLSERV

XMLSERV is an XML page prototype tool that you can use to experiment with XML Services.

This facility is intended for use by your ChangeMan ZMF administrator and others who want to execute ChangeMan ZMF functions from outside the ISPF interface. Most ChangeMan ZMF users will not execute XMLSERV.

**NOTE** You can bring up a test or demonstration instance of ChangeMan ZMF without installing XMLSERV.

See "REXX Runtime Environment" on page 26 for system requirements for this facility.

**Follow these steps to configure and install the XMLSERV REXX exec.**

1. Allocate user input and output XML libraries for XMLSERV.

   **Input**
   - Recommended last DSN node: XMLIN
   - Data Set Type: PDS or PDSE
   - Record Length: 255
   - Record Format: VB

   **Output**
   - Recommended last DSN node: XMLOUT
   - Data Set Type: PDS or PDSE
   - Record Length: 5000
   - Record Format: VB

   **NOTE** Any user who executes XMLSERV must have UPDATE security access to the XML input and output data sets.

2. Copy member XMLSERV from the delivered SERCOMC CLIST library to your custom CLIST library.

3. Edit member XMLSERV in your custom CLIST library. Set the REXX variables in XMLSERV as follows.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>mapds</td>
<td>Code your MAPDATA data set name. You created the MAPDATA sequential file in &quot;Step 5: Define XMLSPACE VSAM LDS&quot; on page 63</td>
</tr>
<tr>
<td>serparm</td>
<td>Code the same library name as you coded in the SERNET started task JCL at DD name SER#PARM if used, or the name of the dataset you are using with manual updates.</td>
</tr>
<tr>
<td>xmlinds</td>
<td>Code the user XML input data set name. Use TSO data-set-name format: enclose the data set name in single quotes if you want it unmodified or leave out the quotes to have the user's TSOID (or ZPREFIX) as the high-level qualifier.</td>
</tr>
<tr>
<td>xmloutds</td>
<td>Code the user XML output data set name. Use TSO data-set-name format: enclose the data set name in single quotes if you want it unmodified or leave out the quotes to have the user's TSOID (or ZPREFIX) as the high-level qualifier.</td>
</tr>
</tbody>
</table>
When ChangeMan ZMF is running, you can execute XMLSERV from the ISPF Command Shell. For example, using the name of the custom CLIST library from "Step 1: Allocate CUSTOM Libraries" on page 60, execute the following command:

```
EX 'somnode.CMNZMF.VvRrMm.CUSTOM.CLIST(XMLSERV)
```

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>subsys</td>
<td>Code the subsystem ID of the ChangeMan ZMF started task where you want to connect. The subsystem ID that you code here is the default when you execute XMLSERV, but you can change the subsystem ID on the panel when XMLSERV is running.</td>
</tr>
<tr>
<td>sysout</td>
<td>Code the sysout class.</td>
</tr>
<tr>
<td>somnode</td>
<td>Change all occurrences of somnode to point to your ChangeMan ZMF delivered libraries.</td>
</tr>
<tr>
<td>xamver</td>
<td>Do not change.</td>
</tr>
<tr>
<td>xmlver</td>
<td>Do not change.</td>
</tr>
<tr>
<td>product</td>
<td>Do not change.</td>
</tr>
<tr>
<td>test</td>
<td>Do not change. Use T for test mode only under the direction of Technical Support.</td>
</tr>
</tbody>
</table>

When ChangeMan ZMF is running, you can execute XMLSERV from the ISPF Command Shell. For example, using the name of the custom CLIST library from "Step 1: Allocate CUSTOM Libraries" on page 60, execute the following command:

```
EX 'somnode.CMNZMF.VvRrMm.CUSTOM.CLIST(XMLSERV)'
```

CAUTION! XML services are intended for use by ChangeMan ZMF administrators and by technicians responsible for developing custom uses for ChangeMan ZMF internal functions.

1. Do not put the compiled REXX for XMLSERV in a public CLIST or REXX library or in a library included in the SYSPROC or SYSEXEC concatenations for the general population of TSO users.

2. Do not install XMLSERV for a production instance of ChangeMan ZMF.

3. XMLSERV uses module SERXMLBC. Execution of SERXMLAC, SERXMLBC, SERXMLCC and SERXMLRC now require authorization.

Installing CICS NEWCOPY Support

You must install ChangeMan ZMF components in CICS before you can use options OPS, OPQ, and XCI for NEWCOPY. You must also install CICS components that support the CICS external call interface (ECI) before you can use the XCI method.

Read topic "CMNCICS1 - CICS NEWCOPY" in the ChangeMan ZMF Customization Guide before you execute the procedures in this section.

If the default transaction IDs (SEMT, SEMQ, and SEML) or Transient Data Queue names in the examples below conflict with existing definitions in your CICS environment, you can change the first three characters of these ZMF resources by using the prefix subparameter of the CMNCICS1 PARM= statement, or by using the PREFIX= keyword parameter that is input to the SYSIN DD statement for CMNCICS1. See subtopics "PARM Options" and "SYSIN Parameters" in topic "CMNCICS1 - CICS NEWCOPY" in the ChangeMan ZMF Customization Guide.
Installing NEWCOPY Option OPS

Execute these steps to enable the newcopy option OPS.

1. Define transID SEMT and program CMNEMTP in group ZMFgrp, either manually using CEDA or as input to DFHCSDUP:

   ```
   DEFINE TRANSACTION(SEMT) GROUP(ZMFgrp)
   PROGRAM(CMNEMTP) TWASIZE(0) PROFILE(DFHCICST) STATUS(ENABLED)
   TASKDATALOC(ANY) TASKDATAKEY(USER) STORAGECLEAR(NO)
   RUNAWAY(SYS泾) SHUTDOWN(DISABLED) ISOLATE(YES) DYNAMIC(NO)
   ROUTABLE(NO) PRIORITY(1) TRANCLASS(DFHTCL00) DTIMOUT(NO)
   RESTART(NO) SPURGE(NO) TPURGE(NO) DUMP(YES) TRACE(YES)
   CONFDATA(NO) OTSTIMEOUT(NO) ACTION(BACKOUT) WAIT(YES)
   WATTIME(0,0,0) RESSEC(NO) CMDSEC(NO)
   DEFINE PROGRAM(CMNEMTP) GROUP(ZMFgrp)
   LANGUAGE(ASSEMBLER) RELOAD(NO) RESIDENT(NO) USAGE(NORMAL)
   USELPACOPY(NO) STATUS(ENABLED) CEDF(YES) DATALOCATION(ANY)
   EXECKEY(USER) CONCURRENCY(QUASIRENT) API(CICSAPI) DYNAMIC(NO)
   EXECUTIONSET(FULLAPI) JVM(NO) JVMPROFILE(DFHJVMPR)
   ```

2. Install ZMFgrp using CEDA, or add ZMFgrp to a lists of resource definition groups and ensure that the list is in the GRPLIST CICS startup parameter.

3. Either add the CMNZMF LOAD library to the DFHRPL concatenation for the target CICS region (preferred), or copy load module CMNEMTP from the CMNZMF LOAD library to a library in the DFHRPL concatenation.

Installing NEWCOPY Option OPQ

Execute these steps to enable the NEWCOPY option OPS.

1. Define transID SEMQ and program CMNEMTP in group ZMFgrp, either manually using CEDA or as input to DFHCSDUP:

   ```
   DEFINE TRANSACTION(SEMQ) GROUP(ZMFgrp)
   PROGRAM(CMNEMTP) TWASIZE(0) PROFILE(DFHCICST) STATUS(ENABLED)
   TASKDATALOC(BELOW) TASKDATAKEY(USER) STORAGECLEAR(NO)
   RUNAWAY(SYS泾) SHUTDOWN(DISABLED) ISOLATE(YES) DYNAMIC(NO)
   ROUTABLE(NO) PRIORITY(1) TRANCLASS(DFHTCL00) DTIMOUT(NO)
   RESTART(NO) SPURGE(NO) TPURGE(NO) DUMP(YES) TRACE(YES)
   CONFDATA(NO) OTSTIMEOUT(NO) ACTION(BACKOUT) WAIT(YES)
   WATTIME(0,0,0) RESSEC(NO) CMDSEC(NO)
   DEFINE PROGRAM(CMNEMTP) GROUP(ZMFgrp)
   LANGUAGE(ASSEMBLER) RELOAD(NO) RESIDENT(NO) USAGE(NORMAL)
   USELPACOPY(NO) STATUS(ENABLED) CEDF(YES) DATALOCATION(ANY)
   EXECKEY(USER) CONCURRENCY(QUASIRENT) API(CICSAPI) DYNAMIC(NO)
   EXECUTIONSET(FULLAPI) JVM(NO) JVMPROFILE(DFHJVMPR)
   ```

2. Install ZMFgrp using CEDA, or add ZMFgrp to a lists of resource definition groups and ensure that the list is in the GRPLIST CICS startup parameter.

3. Either add the CMNZMF LOAD library to the DFHRPL concatenation for the target CICS region (preferred), or copy load module CMNEMTP from the CMNZMF LOAD library to a library in the DFHRPL concatenation.

Installing NEWCOPY Option XCI

For information about activating the EXCI CALL interface on your z/OS sysplex, see the CICS Transaction Server for z/OS CICS External Interfaces Guide.
Execute these steps to enable the NEWCOPY option XCI.

1. Define dummy transID SEML, program CMNEMTP, connection SEMC, and session SEMC in group ZMFgrp, either manually using CEDA or as input to DFHCSDUP:
Chapter 9  Installing Other Facilities

DEFINE TRANSACTION(SEML) GROUP(ZMFgrp)
DESCRIPTION(DUMMY TRANID FOR XCI SESSION)
  PROGRAM(DFMHMSR) TWASIZE(8) PROFILE(DFHCICSA) STATUS(ENABLED)
  TASKDATALOC(BELLOW) TASKDATAKEY(USER) STORAGECLEAR(NO)
  RUNAWAY(SYSTEM) SHUTDOWN(DISABLED) ISOLATE(YES) DYNAMIC(NO)
  ROUTABLE(NO) PRIORITY(1) TRANCLASS(DFHHTC00) DTIMOUT(NO)
  STARTUP(NO) SCONFDATA(NO) ACTION(BACKOUT) WAIT(NO)
  WATTIME(0,0,0) RESSEC(NO) CMDSEC(NO)

DEFINE PROGRAM(CMNEMTP) GROUP(ZMFgrp)
  LANGUAGE(ASSEMBLER) RELOAD(NO) RESIDENT(NO) USAGE(NORMAL)
  USELPACOPY(NO) STATUS(ENABLED) CEDF(YES) DATALLOCATION(ANY)
  EXECKEY(USER) CONCURRENCY(QUASIRENT) API(CICSAPI) DYNAMIC(NO)
  EXECUTIONSET(FULLAPI) JVM(NO) JVMPROFILE(DFHJVMPR)

DEFINE CONNECTION(SEMC) GROUP(ZMFgrp)
DESCRIPTION(CONNECTION FOR XCI NEWCOPY FUNCTION)
  ACCESSMETHOD(IRC) PROTOCOL(EXCI) CONNTYPE(GENERIC)
  SINGLESESS(NO) DATASTREAM(USER) RECORD_FORMAT(U) QUEUELIMIT(NO)
  MAXQTIME(NO) AUTOCONNECT(NO) ATTACHSEC(IDENTIFY)
  BINDSECURITY(NO) USEDFLTUSER(NO) XLNACTION(KEEP)

DEFINE SESSIONS(SEMC) GROUP(ZMFgrp)
DESCRIPTION(SESSION DEFINITION FOR XCI NEWCOPY FUNCTION)
  CONNECTION(SEMC) PROTOCOL(EXCI) MAXIMUM(0,0) RECEIVEPFX(RG)
  RECEIVECOUNT(4) SENDSIZE(4096) RECEIVESIZE(4096) SESSPRIORITY(0)
  AUTOCONNECT(NO) BUILDCHAIN(YES) USERAREALEN(0)
  IOAREALEN(4096,4096) RELREQ(NO) DISCREQ(NO) NEPCLASS(0)
  RECOVOPTION(SYSDEFAULT)

NOTE  The definition for transaction SEML uses default CICS profile DFHCICSA because that profile includes INBFMH(ALL).

2  Install ZMFgrp using CEDA, or add ZMFgrp to a lists of resource definition groups and ensure that the list is in the GRPLIST CICS startup parameter.

3  If the batch job that executes CMNCICS1 runs on an LPAR that does not have at least one CICS region with IRC=YES specified, you must generate an appropriate EXCI options module (DFHXCOPT) into a data set that is in the CMNCICS1 JOBLIB or STEPLIB concatenation.

//DOIT EXEC PROC=DFHAPULP. NAME=DFHAPULP. INDEX='SYS2.CICSTS22.CICS'
//ASSEM. SYSUT1 DD *
DFHXCO TYPE=CSECT.
  TIMEOUT=0.  No timeout
  TRACEN=OFF. Only Exception trace entries
  TRACESZ=16. 16K trace table
  DURETRY=30. Retry SDUMPS for 30 seconds
  TRAP=OFF.  DFHXCTRA - OFF
  GTF=OFF.  GTF - OFF
  MSGCASE=MIXED. Mixed case messages
  CICSSVC=216. EXCI WILL OBTAIN CICS SVC NUMBER
  CONFDATA=SHOW. Show user commarea data in trace
  ABENDBKOUT=NO. No global backout @BA17427*
  SURROGCHK=NO. Perform surrogate-user check @PIC
END DFHXCOPT

//LNKEDT.SYSLMOD DD DSN=CMNTP.CICSTS22.CICS.SDFHEXCI.DISP=SHR

IMPORTANT!  For critical information about DFHXCOPT, see the chapter titled "Using the EXCI options table, DFHXCOPT" in the CICS Transaction Server for z/OS CICS External Interfaces Guide.
Configure Automated Operations Tools

Configure your automated operations tools to:

1. Recognize SERNET and ChangeMan ZMF messages written to console log.

2. Issue notifications or execute remedial tasks.

See "Console Log Messages" on page 49.
Chapter 10

Setting Up Housekeeping

This chapter discusses the batch jobs that perform maintenance for ChangeMan ZMF data stores.

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>122</td>
</tr>
<tr>
<td>Backup Jobs</td>
<td>122</td>
</tr>
<tr>
<td>Restore Jobs</td>
<td>123</td>
</tr>
</tbody>
</table>
Chapter 10  Setting Up Housekeeping

Introduction

You must perform periodic maintenance on files used by ChangeMan ZMF, particularly the VSAM files used to store package, component, and user activity information.

Before you implement ChangeMan ZMF in your development and production environments, you must create and install production batch jobs to perform housekeeping functions.

The "Batch Housekeeping Tasks" chapter in the ChangeMan ZMF Administrators Guide tells you how to build housekeeping jobs from sample JCL delivered in the CMNZMF CNTL library. That chapter describes the critical housekeeping functions needed to protect and maintain the ChangeMan ZMF instances that manage your application software.

You do not need production housekeeping jobs to bring up a test or demonstration instance of ChangeMan ZMF. Initially, you do not need a full set of housekeeping jobs.

However, soon after you bring up your first instance of ChangeMan ZMF, you should build jobs to back up and restore the VSAM master files to protect the work you do in that environment.

NOTE  Proprietary unload/load jobs are recommended here rather than IDCAMS backup/restore because:

- Unload files are required for forward recovery process.
- For LDS, unload and load reorganizes the data and recovers space with physical deletes.
- For LDS, unload and load is the only way to change the physical file allocation.

Backup Jobs

See these topics in the "Batch Housekeeping Tasks" chapter in the ChangeMan ZMF Administrators Guide to see how to build the minimum required backup jobs from sample JCL delivered in the CMNZMF CNTL library.

- Unload/Back Up Package and Component Masters
- Unload Impact Analysis LDS
- Back Up And Clear Impact Analysis Log File
- Back Up And Clear the Recovery File
- Back Up And Clear the Log File
- Back Up Staging Versions VSAM Files
Restore Jobs

See these topics in the “Batch Housekeeping Tasks” chapter in the *ChangeMan ZMF Administrators Guide* to see how to build the minimum required restore jobs from sample JCL delivered in the CMNZMF CNTL library.

- Load/Restore Package and Component Masters
- Load Impact Analysis LDS
- Restore Staging Versions Master
Chapter 11

Installing A ChangeMan ZMF P Instance

This provides instructions for building a ChangeMan ZMF P instance.

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>126</td>
</tr>
<tr>
<td>Installing P Instance Components</td>
<td>127</td>
</tr>
<tr>
<td>Configuring P Instance Security</td>
<td>131</td>
</tr>
<tr>
<td>Starting, Connecting, and Stopping</td>
<td>132</td>
</tr>
<tr>
<td>Modifying P Instance Skeletons</td>
<td>133</td>
</tr>
<tr>
<td>Installing Other P Instance Facilities</td>
<td>133</td>
</tr>
<tr>
<td>Setting Up P Instance Housekeeping</td>
<td>134</td>
</tr>
</tbody>
</table>
Chapter 11 Installing A ChangeMan ZMF P Instance

Introduction

The purpose of a ChangeMan ZMF P instance (environment) is to manage the contents of a set of production libraries that are under the control of ZMF at a production site. P instances are essentially slaves of D or DP instances where development is performed and baseline libraries are maintained.

P instances may reside on the same LPAR as the D or DP instance they work with, on a different LPAR with shared DASD, on a different LPAR with separate DASD, or on a completely separate z/OS machine at a physically distant location.

Differences between a P instance and development environments such as ALL, D, and DP instances include:

- No development activities are performed on a P instance.
- Component history is not maintained on a P instance.
- Impact analysis information is not maintained at a P instance.

Jobs for REXX reporting are the only JCL that is created on a P instance with ISPF skeleton file tailoring.

**NOTE** In this chapter, "the development instance" refers to the ChangeMan ZMF D or DP instance that manages the packages and components that are installed by the P instance that we are building.

Sharing Libraries and Data Stores

If a P instance resides the same LPAR as the development instance or on a different LPAR with shared DASD, the development instance and the P instance may share some files. This table shows which files can be shared and which cannot.

**NOTE** The file sharing described in this table also applies to sharing between development instances.

<table>
<thead>
<tr>
<th>Started Procedure DData Name</th>
<th>DSN Last Node</th>
<th>ChangeMan ZMF File</th>
<th>Type</th>
<th>Share</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEPLIB</td>
<td>LOAD</td>
<td>ZMF delivered CMNZMF libraries</td>
<td>PDS</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>ISPLLIB</td>
<td>LOAD</td>
<td>ZMF delivered SERCOMC libraries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISPMLIB</td>
<td>LOAD</td>
<td>ZMF delivered CMNZMF libraries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISPPLIB</td>
<td>LOAD</td>
<td>ZMF custom SERCOMC libraries</td>
<td></td>
<td></td>
<td>Note 1</td>
</tr>
<tr>
<td>ISPSLIB</td>
<td>LOAD</td>
<td>ZMF custom CMNZMF libraries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISPTLIB</td>
<td>MESSAGES</td>
<td>ZMF custom CMNZMF libraries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PANELS</td>
<td>ZMF custom CMNZMF libraries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SKELS</td>
<td>ZMF custom CMNZMF libraries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TABLES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMNPMAST</td>
<td>CMNPMAST</td>
<td>Package Master</td>
<td>VSAM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Note 1: Custom libraries can be shared, but the customization must be designed for control by ZMF subsystem ID.

Note 2: This DDname/file is not used with P instances.

Note 3: The DDname for this library is set with the DDNAME= execution parameter for PGM=SERVER in the started procedure.

Note 4: The content of this file must be aligned with the same version of the delivered LOAD libraries.

Note 5: The SER#PARM dataset may either be coded in the started task JCL or it may be manually updated and omitted from the started task JCL.

## Installing P Instance Components

To build P instance components, execute the steps in Chapter 5, "Installing ChangeMan ZMF Components" on page 59 with these adjustments.

1. Review "ChangeMan ZMF Libraries" on page 52 and "Step 1: Allocate CUSTOM Libraries" on page 60, then copy your delivered and custom libraries from the site of the development instance to the P site instance if one of the following is true:

   - The data set naming conventions on the P instance site are different from the naming conventions on the development site.
   - The ZMF delivered and custom libraries running the development instance are not accessible from the P instance site.
Chapter 11 Installing A ChangeMan ZMF P Instance

- You want a unique set of delivered and custom libraries for each ZMF instance, as you will if you use a phased migration when you upgrade the ChangeMan ZMF software.

2 Execute "Step 2: APF Authorize Delivered and CUSTOM Load Libraries" on page 60 on the P instance site if one of the following is true:
   - You created a new set of ZMF delivered and custom libraries for the P instance.
   - The P instance is on a different LPAR.

ZMF delivered and custom load libraries must be APF authorized on any LPAR where ZMF runs.

3 Execute "Step 3: Apply ChangeMan ZMF License" on page 61 to create licenses on the P instance site if one of these is true:
   - You use a PDS(E) to store ZMF licenses and the license library used by the development instance is not available on the P site.
   - You use CSA to store licenses and the P instance is the first ZMF instance in that LPAR.

   **NOTE** ChangeMan ZMF is generally licensed by LPAR. If the new P instance is the first ZMF instance on an LPAR, you may need to contact your ChangeMan ZMF account representative to obtain an additional ZMF license.

4 Execute "Step 4: Define ChangeMan ZMF VSAM Files" on page 61 on the P instance site with these changes.
   a In job INITIAL1:
      - Delete job step LONGDMY.
      - In job step IDCAMS, delete DD statements:
        
        CMNIALIZ
        LONGDMY

      - In job step IDCAMS, for a P instance, these files are not deleted, only updated.
        
        CMNCLMPNT - Component master VSAM KSDS
        CMNCMPNL - Long name component master VSAM KSDS
        IADSP - Impact analysis LDS

      - Adjust VSAM space allocations as follows:

<table>
<thead>
<tr>
<th>VSAM File</th>
<th>Unit</th>
<th>Pri</th>
<th>Sec</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMNPMAST (Package Master)</td>
<td>CYL</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>CMNLOG (Log File)</td>
<td>CYL</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>CMNDELAY (Delay File)</td>
<td>CYL</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>CMNRECV (Recovery File)</td>
<td>CYL</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

   **CAUTION!** Before you submit job INITIAL1, ensure that you are using data set names that will be unique to the new P instance. Make sure that job INITIAL1 will not delete any existing data sets.

   b In job INITIAL2:
- Delete these job steps:
  CMPNT - Clears and initializes the component master VSAM KSDS
  CMPNL - Clears and initializes the long name component master VSAM KSDS
- In job step INITPM, change the environment type in the program execution parameter for CMNINTPM to ENVTYPE=P.
- Delete job step CMNIAIN0 - Clears and initializes the impact analysis LDS

**CAUTION!** Before you submit job INITIAL2, ensure that you are using data set names that will be unique to the new P instance. Make sure that job INITIAL2 will not delete any existing data sets.

5 Execute "Step 5: Define XMLSPACE VSAM LDS" on page 63 on page 79 on the P instance site.

6 **Skip** "Step 6: Define Staging Versions VSAM Files" on page 65 on page 80.

7 **Skip** "Step 7: Store SVPARM Control Member" on page 69.

8 If there is no SER#PARM library that is accessible from the P instance site, execute "Step 8: Allocate the SER#PARM TCP/IP Address Library" on page 70 on the P instance site. If a SER#PARM library is accessible from the P instance, use that library for the new P instance.

9 Verify that there is a CMNKEYS members in the TABLES library that you plan to use for the new P instance. See "Step 9: Create ISPF Keylist for EXPAND" on page 71.

10 **Skip** "Step 10: Build SERNET JCL for ChangeMan ZMF" on page 72 and follow these steps instead to create a started procedure for the new P instance.
   a Copy the started procedure for the development instance to a new PDS(E) member for the P instance procedure.
   b Delete these DD statements:
   
   ```
   //CMNCMPNT
   //CMNMPNL
   //*CMNCMPNT
   //*CMNCMPNL
   //CMNIMPCT
   //CMNIALOG
   //HPSPLIB
   //HPSIN
   ```
c Code these DD statements with your delivered and custom ZMF library names for the P instance:

```plaintext
//STEPLIB
//ISPPLIB
//ISPMILIB
//ISPSLIB
//ISPLLIB
//ISPTLIB
```

d Change the data set name in the //XMLSPACE DD statement to match the LDS data set name you created in step #5 above.

e Change the data set name at the //SYSMDUMP DD statement to be unique for this started procedure. Create a GDG index for the new data set name.

f Change the data set names in these DD statements to match the data set names you created in step #4 above.

<table>
<thead>
<tr>
<th>DDname</th>
<th>Last Node of File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>//CMNPMAS</td>
<td>CMNPMAST</td>
</tr>
<tr>
<td>//CMNLOG</td>
<td>CMNLOG,</td>
</tr>
<tr>
<td>//CMNRECV</td>
<td>CMNRECV,</td>
</tr>
<tr>
<td>//CMNDELAY</td>
<td>CMNDELAY,</td>
</tr>
</tbody>
</table>

If you use execution parameter DDNAME= for program SERVER in your started procedure, make sure that the library at the specified DD name is available at the P instance site. Copy the member containing SERNET keyword parameters for the ZMF development instance to a new member for the P instance.

g Update the SERNET keyword parameters with the subsystem ID and port number of the P instance.

```plaintext
SUBSYS=a
CMN=nnnn
```

See "Passing Parameters to SERNET" on page 36 and Appendix D, "SERNET Keyword Options" on page 151.

h Install the new SERNET started procedure in a system PROCLIB that is available at the P instance site. See "ChangeMan ZMF P Instance" on page 143 for an example of a finished procedure.

i Skip "Step 11: Build Default File Tailoring Procedure" on page 75, and follow these steps instead to build a default file tailoring procedure for the new P instance.

a Copy the default file tailoring procedures for the ZMF development instance to a new member for the P instance.

b Change the library names in the concatenation at the SYSEXEC DD statement to match the delivered and custom libraries available at the P instance site.

c Change all other file and library names to match those in the started procedure for the new P instance.
d Install the file tailoring started procedure in a system PROCLIB that is available at the P instance site.

**NOTE** The only skeleton file tailoring that is performed at a P instance builds JCL for REXX reporting batch jobs. You only need a default file tailoring procedure for a P instance.

12 Skip "Step 12: Build the Logon CLIST" on page 76, and follow these steps instead to build a logon CLIST for the new P instance.

a Copy the logon CLIST for the development instance to a new member for the P instance.

b Change parameter SS(n) to the subsystem ID for the new P instance.

c Change all file and library names to match those in the started procedure for the new P instance.

d Copy the connect CLIST into a system CLIST library that is available at the P instance site.

13 If the data set naming conventions on the P instance site are different from the naming conventions on the development site, execute "Step 13: Modify Exit Program CMNEXINS" on page 77 on the P instance site.

14 Execute "Step 14: APF Authorize Other Load Libraries" on page 78 on the P instance site.

**Configuring P Instance Security**

To configure security for a P instance, execute the steps in Chapter 6, "Configuring Security" on page 79 with these adjustments.

1 Skip "Step 1: Customize SERLCSEC" on page 80, but ensure that the ZMF custom LOAD library that will run the new P instance contains security interface program SERLCSEC. You do not need a unique version of SERLCSEC for the P instances that work with a particular development instance.

2 If the new ZMF P instance will run under a different instance of your security system than the ZMF development instance, execute the following:

a "Step 2: Add ChangeMan ZMF to Your Security System" on page 82

b "Step 3: Define Security Entities" on page 88

c "Step 4: Define Data Set Access" on page 91

d "Step 5: Add OMVS Segment To Use TCP/IP" on page 93
Starting, Connecting, and Stopping


SERPRINT Message Example for P Instance

The date/time stamp at the left of each line is not shown.

SER0800I SerNet - Initialization in progress: CSA=00007000
SER0801I Execution parameters specified:
SER0801I DDNAME=ZMFOPTS
SER0801I < DDNAME: ZMF
SER0801I   SUBSYS=7
SER0801I   CMN=6384
SER0801I   XCH=6383
SER0801I   ASID=(16,60)
SER0801I   SDNOTIFY=M240
SER0801I   STAX=NO
SER0801I   CHUNK=255
SER0801I   RLLINIT=16382
SER0801I   RLLTHRSH=2048
SER0801I   RLLCOUNT=8192
SER0801I >
SER0804W Obsolete parameter ignored: CHUNK
SER0611I Storage protection is being used
SER0606I SEREX006 Activated
SER0604I The prefix for the dynamic allocation of log datasets is CMNSUP.INTL.MSG
LIC0010I Machine Seq: D5907 Type: G09 Capacity: 558 MSU
LIC0011I LPAR ID: 18 Name: S004 Capacity: 190 MSU
LIC0012I Licensing version: 4.3 Date/Time: 2016/11/21 00:44:11 Key: 7061ae2a
LIC0045I ChangeMan ZDD licensed to SERENA SOFTWARE
LIC0010I Machine Seq: D5907 Type: G03 Capacity: 58 MSU
LIC0011I LPAR ID: 18 Name: S004 Capacity: 190 MSU
LIC0012I Licensing version: 4.3 Date/Time: 2016/11/21 00:44:11 Key: 7061ae2a
LIC0045I ChangeMan ZMF licensed to SERENA SOFTWARE
SER1018I The following TCP/IP procedures are active: TCPIP
SER0660I Unix services are available
SER0821I ZDD (ChangeMan ZDD) licensed
SER0821I ZMF (ChangeMan ZMF) licensed
SER1004I XCH TCP/IP v6 socket acquired
SER1000I XCH TCP/IP environment active at 151.155.151.106:6384
SER1001I XCH TCP/IP local host name: S004
CMN7300I CMNSTART Initialization in progress; @TCA=15B86000
CMN7308I CMNSTART ZMF version: 8.1.2
CMN7350I CMNSTART *** Warning *** Missing DD Name = SYSEXEC
CMN7300I CMNSTART Attachment: U=CMNSTART,F1=ATTACH,F2=INFO,@TCA=15B86000
CMN7385I CMNINFSB Attempting INFO Task Connect CMNINFSB (MVS-8.1.3) 20160729 03.01
CMN7399I CMNINFSB INFO Connection disabled
CMN7340I CMNSTART CMNX201 loaded
CMN7340I CMNSTART CMNXE001 loaded
LIC0011I License Version: 8.1.3
LIC0010I Machine Seq: D5907 Type: G09 Capacity: 58 MSU
LIC0011I LPAR ID: 18 Name: S004 Capacity: 190 MSU
LIC0012I Licensing version: 4.3 Date/Time: 2016/11/21 02:32:08 Key: fbdcccdd
LIC0045I ChangeMan ZMF licensed to SERENA SOFTWARE
LIC0050I DB2 option licensed.
LIC0050I IMS option licensed.
LIC0050I Info Man option licensed.
LIC0050I Load Balance option licensed.
LIC0050I M+R option licensed.
LIC0050I Online Forms option licensed.
LIC0050I ERD option licensed.
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMNPMAST
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMNLOG
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMNRECV
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMNXIN
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMNXH
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMNXM
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMNXN
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMNXO
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMNXS
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMNXST
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMNXU
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMNXV
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMNXW
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMNXX
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXX
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXM
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXN
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXO
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXS
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXST
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXX
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXM
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXN
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXO
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXS
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXST
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXX
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXM
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXN
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXO
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXS
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXST
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXX
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXM
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXN
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXO
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXS
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXST
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXX
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXXM
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXXN
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXXO
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXXS
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXST
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXX
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXXM
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXXN
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXXO
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXXS
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXXST
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXXX
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXXXM
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXXXN
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXXXO
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXXXS
CMN7300I CMNSTART Started Opened VSAM file CMNSUP.INTL.CMN7.CMXXXXXXST
Modifying P Instance Skeletons

The only skeleton file tailoring that is initiated by a P instance is for building REXX reporting batch jobs. Therefore, the only skeleton that must be customized for a P instance is:

- **CMN$$DSN**

Ensure that the ZMF custom SKELS library that will run the new P instance contains CMN$$DSN. Check the custom skeleton to make sure it will create the JCL you want for the P instance.

**NOTE** Most customers can use D and DP instance skeletons on a P instance by using the value of variable &SUBSYS to select instance-specific library names and data set names.

Installing Other P Instance Facilities

See Chapter 9, "Installing Other Facilities" on page 113.

1. Skip "Installing XMLSERV" on page 114. XMLSERV is a XML Services prototyping tool that is inappropriate for a P instance.

2. If you intend to have ChangeMan ZMF execute CICS NEWCOPY for programs that are installed by the new P instance:
   a. Review topic "CMNCICS1 - CICS NEWCOPY" in the ChangeMan ZMF Customization Guide.
   b. Execute the steps in "Installing CICS NEWCOPY Support" on page 115 of this book to enable the ChangeMan ZMF CICS NEWCOPY facility in the CICS region that uses the production libraries managed by the new P instance.
Setting Up P Instance Housekeeping

Review Chapter 10, "Setting Up Housekeeping" on page 121, especially the "Introduction" on page 122. Build the batch housekeeping jobs for the new P instance that you require.

Housekeeping jobs for these files are not required because P instances do not use these files:

- CMNCMPNT - Component Master
- CMNCMPNL - Long Name Component Master
- IADSP - Impact Analysis
- CMNIALOG - Impact Analysis Log
- CMNSVSM - Staging Versions
- CMNSVOM - Staging Versions
- CMNSVDM - Staging Versions
Appendix A

Manual File Transfer and Expand

This appendix tells you how to manually transmit XMIT format files from a networked PC to a mainframe host and how to expand those files into PDS libraries.

Use the procedures in this appendix if you have problems with the automated procedures described in Chapter 4, "Unloading the Software" on page 51.

Transfer Files To Host Mainframe 136
Expand Host Target Files 139
Transfer Files To Host Mainframe

After the Setup Wizard has copied and decompressed the XMIT format mainframe software files to your PC or a network drive, you copy the files to the mainframe.

The transfer process must not convert the file into character format; the transfer must be binary. The receiving mainframe files has these characteristics:

<table>
<thead>
<tr>
<th>File Organization</th>
<th>Sequential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record Format</td>
<td>Fixed block</td>
</tr>
<tr>
<td>Record Length (LRECL)</td>
<td>80</td>
</tr>
<tr>
<td>Block Size</td>
<td>3120</td>
</tr>
</tbody>
</table>

Choose the transfer procedure that you prefer:

- To use FTP, see "File Transfer Using FTP" on page 136.
- To use 3270 emulator software, see "File Transfer Using 3270 Emulator" on page 137.

File Transfer Using FTP

This section describes how to use FTP to upload ChangeMan ZMF files from a PC to a mainframe host computer. These instructions assume that you have:

- TCP/IP FTP connectivity from your PC to the mainframe computer.
- The dotted decimal IP address of the mainframe.
- A mainframe user ID and password.
- Security authorization to allocate files on the mainframe.

**Execute these steps on your PC:**

1. Open a Command Prompt window:

   - Windows NT®: Start > Programs > Command Prompt
   - Windows® 2000: Start > Programs > Accessories > Command Prompt
   - Windows® XP: Start > Programs > Accessories > Command Prompt
   - Windows® 7: Start > All Programs > Accessories > Command Prompt

2. At the Command prompt, type the following command to start FTP and connect to the host mainframe. Specify the dotted decimal IP address of the target mainframe computer:

   
   ftp nnn.nnn.nnn.nnn

   Press ENTER.

3. When you are prompted for your user ID, type your mainframe user ID and press ENTER.

4. When you are prompted for your password, type your mainframe password and press ENTER.
5 At the FTP prompt, type the following command to set the transfer type to binary:

```
binary
```

Press **ENTER**.

6 At the FTP prompt, type each of these commands and press **ENTER** in the order shown:

```
literal site recfm=fb lr=80 blocksi=3120 cylinders
```

These commands set the DCB and the SPACE units for the receiving files that are automatically allocated on the mainframe.

7 At the FTP prompt, type this command to transfer a file from the PC to the mainframe host. (The sample command here is too long to display on this page without artificial breaks. Long command lines like this one will wrap in the **Command Prompt** window.)

```
put "C:\Program Files\Serena\ChangeMan ZMF Server\SERCOMC.V5R5M0.ASMSRC"
    'user111.binary.sercomc.v5r5m0.assemble'
```

The first file name is the PC file to be transmitted. Enclose the PC file name in double quotes if there are spaces in a directory name or in the file name. The PUT command is not case sensitive.

The second file name is the receiving file on the mainframe computer. Enclose the mainframe file in single quotes to suppress the addition of the "working directory" (user ID) as a high level qualifier.

```
NOTE The mainframe file you specify in the PUT command is not a PDS library. Specify an intermediate file name rather than a data set name you intend to use for a ChangeMan ZMF PDS library on the mainframe.
```

Press **ENTER**.

8 Type a PUT command at the FTP prompt and press **ENTER** for each file to be transferred to the host.

9 After you have transferred all files from the PC to the host mainframe computer, type the following command at the FTP prompt to disconnect from the mainframe computer and end the FTP session.

```
quit
```

Press **ENTER**.

10 Close the **Command Prompt** window.

11 Logon to the mainframe and verify that the new mainframe files have the proper record format, logical record length, and block size.

**File Transfer Using 3270 Emulator**

Extra!® from Attachmate Corporation and IBM Personal Communications are popular 3270 emulator programs. These and other 3270 emulator programs commonly use IND$FILE to transfer files between a PC and a mainframe host computer.
Execute these steps if you use 3270 emulator software on your PC to transfer ChangeMan ZMF files to the host mainframe computer:

1. In the File Transfer facility of your PC host emulator software, change the TSO binary transfer type to use these settings, or define a new TSO Binary transfer type:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>VM / TSO / CICS</td>
<td>TSO</td>
</tr>
<tr>
<td>Transfer Type</td>
<td>Binary</td>
</tr>
<tr>
<td>ASCII</td>
<td>NO</td>
</tr>
<tr>
<td>CRLF</td>
<td>NO</td>
</tr>
<tr>
<td>APPEND</td>
<td>NO</td>
</tr>
<tr>
<td>Record Format</td>
<td>Fixed (block)</td>
</tr>
<tr>
<td>Record Length</td>
<td>80</td>
</tr>
<tr>
<td>Block Size</td>
<td>3120</td>
</tr>
<tr>
<td>Allocation Units</td>
<td>Cylinders</td>
</tr>
<tr>
<td>Primary Allocation</td>
<td>1</td>
</tr>
<tr>
<td>Secondary Allocation</td>
<td>1</td>
</tr>
</tbody>
</table>

2. With the preceding settings, the file transfer software should allocate a sequential target file on the host for each file transfer. However, if you wish to preallocate one or more host target files, use these file allocation parameters:

   SPACE=(CYL,(1,1)).
   DCB=(DSORG=PS,RECEM=FB,LRECL=80,BLKSIZE=3120)

3. Run the file transfer function to transfer each file on the PC to a target sequential disk data set on the host.

   **NOTE** The mainframe file you specify in the transfer facility is not a PDS library. Specify an intermediate file name rather than the data set name you intend to use for the ChangeMan ZMF PDS library on the mainframe.

4. Logon to the mainframe and verify that the new mainframe files have the proper record format, logical record length, and block size.
Expand Host Target Files

Execute these steps to expand the sequential XMIT files transferred from your PC into PDS libraries:

1. Choose Option 6 (Command) from the ISPF/PDF Primary Option Menu.

2. On the ISPF Command Shell panel, type the TSO RECEIVE command:

   RECEIVE INDATASET('host.target.dataset.name')

   Specify one of the sequential XMIT files that you uploaded from the PC.

3. The RECEIVE command prompts you with these messages.

   INMR901I Dataset USER11.CMN512.GOLDCODE.CNTL.FIX from...
   INMR906A Enter restore parameters or 'DELETE' or 'END' +

   Respond by typing a DATASET parameter to specify the data set name you chose for ChangeMan ZMF delivered libraries.
   DATASET('node.SERCOMC.VnRnMn.LOAD') NEW|OLD

4. The RECEIVE command displays IEBCOPY.sysout messages.

   NOTE    It is recommended that you define the last node in your PDS library names the same as the last node of the XMIT files you are expanding.

If you need more information about using the RECEIVE receive command, type the following on the Command line.

   TSO HELP RECEIVE
Appendix B

JCL and CLIST Examples

This appendix presents sample JCL and CLISTs from the distributed libraries.

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>142</td>
</tr>
<tr>
<td>SERNET Started Procedure With ChangeMan ZMF</td>
<td>142</td>
</tr>
<tr>
<td>ChangeMan ZMF Logon CLIST</td>
<td>142</td>
</tr>
<tr>
<td>CMNxADSP Default File Tailoring Procedure</td>
<td>142</td>
</tr>
<tr>
<td>ChangeMan ZMF P Instance</td>
<td>143</td>
</tr>
</tbody>
</table>
Introduction

The following samples are in the CMNZMF and SERCOMC libraries on the ZMF installer. They should be modified according to instructions in this manual.

SERNET Started Procedure With ChangeMan ZMF

Model JCL for a SERNET started task is delivered in member SERVER in the delivered SERCOMC CNTL library.

Model JCL for ChangeMan ZMF DD statements is delivered in member STARTJCL in the delivered CMNZMF CNTL library.

ChangeMan ZMF Logon CLIST

Copy and customize member CMN from the CMNZMF CLIST library. This CLIST connects a user to the ChangeMan ZMF instance defined by the subsystem ID specified.

CMNxADSP Default File Tailoring Procedure

Model JCL for file tailoring started procedures is delivered in member CMNADSP in the delivered CMNZMF CNTL library.

To facilitate parallel processing, ChangeMan ZMF global administration allows you to have up to four different file tailoring procedures. However, the JCL in all of those procedures should be identical.
ChangeMan ZMF P Instance

The started procedure for a ChangeMan ZMF 8.1 P instance omits some DD statements included in the started procedures for ALL, DP, and D instances. Refer to the comments in the supplied CNTL members.
Appendix C

Applying Maintenance Releases

This appendix discusses the procedures for applying a maintenance release to an existing ChangeMan instance.

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>146</td>
</tr>
<tr>
<td>Updating Delivered Libraries</td>
<td>146</td>
</tr>
<tr>
<td>Updating Custom Libraries</td>
<td>147</td>
</tr>
<tr>
<td>Managing Copybook Changes</td>
<td>148</td>
</tr>
<tr>
<td>Binding Db2 DBRM</td>
<td>148</td>
</tr>
<tr>
<td>Managing XML Services Changes</td>
<td>149</td>
</tr>
<tr>
<td>Synchronizing Impact Analysis Data</td>
<td>149</td>
</tr>
<tr>
<td>Updating Housekeeping Jobs</td>
<td>150</td>
</tr>
</tbody>
</table>
Appendix C  Applying Maintenance Releases

Introduction

For any ChangeMan ZMF maintenance release, there are some customary actions that you execute to apply changes to your existing ZMF instances.

This Appendix describes those tasks. See the Readme for tasks that apply to the specific maintenance release you wish to install.

Updating Delivered Libraries

The ChangeMan ZMF installer for this maintenance release contains both the Full version and the Fix version and also a Delta version of the maintenance release software. When you run the installer, you are prompted for the version that you want to install.

- The **Full** version contains all components for ChangeMan ZMF, including components that are new and changed in maintenance releases since the major version release.
  
  Customers upgrading from a prior version must install the Full version. For example, if you are currently running ZMF 7.1.x and want to install ZMF 8.1.x, you must install the Full version.

- The **Fix** version contains only those components that are added or changed in maintenance releases since the major version release.

- The **Delta** version contains only those components that have been added or changed since the immediately prior GA version of the release. As an example, the Delta version delivered with ZMF 8.1.2 contains only components updated since 8.1.1.01.

  If you are upgrading from ZMF 6.1.x or ZMF 7.1.x to ZMF 8.1, you must install the Full version.

**NOTE** Maintenance releases contain all patch releases since the last maintenance release. For example, ZMF 8.1.3 contains all patch releases GA’d between ZMF 8.1 and ZMF 8.1.3.

**Execute these steps to update your delivered libraries with components changed in the maintenance release:**

1. Before you update your delivered libraries, make a copy of your current delivered libraries to use in a later task.

2. If you are installing a Fix version, copy the contents of the maintenance release libraries into your delivered libraries, replacing like-named members.

3. If you are installing a full version, replace your current delivered libraries with the maintenance release libraries.
Updating Custom Libraries

The ChangeMan ZMF Installation Guide tells you to allocate these custom libraries.

<table>
<thead>
<tr>
<th>CMNZMF</th>
<th>SERCOMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASMSRC</td>
<td>ASMSRC</td>
</tr>
<tr>
<td>CLIST</td>
<td>LOAD</td>
</tr>
<tr>
<td>CNTL</td>
<td></td>
</tr>
<tr>
<td>PANELS</td>
<td></td>
</tr>
<tr>
<td>LOAD</td>
<td></td>
</tr>
<tr>
<td>MESSAGES</td>
<td></td>
</tr>
<tr>
<td>REX</td>
<td></td>
</tr>
<tr>
<td>SKELS</td>
<td></td>
</tr>
</tbody>
</table>

After you update your delivered libraries, follow this procedure to update your custom libraries:

1. Allocate a new set of custom libraries.
2. Copy any custom components that are all original code into your new custom libraries.
3. If you use the ChangeMan ZMF M+R Option:
   a. On the Versions panel, define your base and derivative libraries as follows:
      - **Base**: Delivered library for old version
      - **Drv1**: Custom library for old version
      - **Drv2**: Delivered library for new version
   b. On the Consolidation Workplace panel, reconcile your old customization with the new maintenance release components.
   c. When you have reconciled all of your customization, export reconciled components to your new custom library.
4. If you do not use the ChangeMan ZMF M+R Option:
   a. Determine what components are changed in the maintenance release by comparing delivered libraries before and after updates for the maintenance release.
   b. Find components in your custom libraries that are changed in the maintenance release.
   c. Determine whether your modifications will be valid in the maintenance release.
   d. Copy the new delivered version to a new custom library and reapply your modifications.
5. Assemble custom source members into your custom load library.

**IMPORTANT!** Some changes in a maintenance release may make your modifications obsolete or require you to change your modifications.
Managing Copybook Changes

Occasionally, copybooks delivered in the CMNZMF ASMCPY library or the SERCOMC ASMCPY library are changed in a maintenance release.

**Follow this procedure to discover copybook changes and rebuild load modules as necessary.**

1. Compare your current delivered copybook libraries to the libraries delivered in the maintenance release.
   - a. CMNZMF ASMCPY
   - b. SERCOMC ASMCPY

2. If you customized exit programs in the CMNZMF ASMSRC library or the SERCOMC ASMSRC library that use a copybook that has changed, assemble those exits using copybook libraries from the new release, even if you do not change your customization in the program source.

   ASMCPY members CMNEX* and SEREX* are included in the ASMSRC members with the same name. For example, copybook CMNEX001 is contained in source member CMNEX001. So, if copybook CMNEX001 is changed, you must reassemble a customized exit CMNEX001.

3. The SERCOMC ASMCPY library contains COBOL copybooks with member names XMLC****. If you have written custom COBOL programs that use XMLC**** copybooks that have changed in the new release, recompile those custom programs using copybook libraries from the new release, even if you do not change your COBOL program source.

Binding Db2 DBRM

If you license the ChangeMan ZMF Db2 Option or the ERO Option, you must bind the changed DBRM delivered in a maintenance release.

This table lists all Db2 DBRM delivered with the ChangeMan ZMF Db2 Option and the ERO Option.

<table>
<thead>
<tr>
<th>DBRM</th>
<th>Option</th>
<th>BIND JCL</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMNDB2AD</td>
<td>DB2</td>
<td>DB2OPTN</td>
<td>Db2 Option</td>
</tr>
<tr>
<td>CMNDB2AT</td>
<td>DB2</td>
<td>DB2OPTN</td>
<td>Db2 Option</td>
</tr>
<tr>
<td>CMNDB2RQ</td>
<td>ERO</td>
<td>CMNDB2RP</td>
<td>Release management</td>
</tr>
<tr>
<td>CMNDB2SQ</td>
<td>DB2/ERO</td>
<td>BINDPKG</td>
<td>Db2 option PLAN lookup</td>
</tr>
<tr>
<td>CMNDB2VB</td>
<td>DB2</td>
<td>DB2OPTN</td>
<td>Db2 Option</td>
</tr>
<tr>
<td>CMNIACTVT</td>
<td>DB2</td>
<td>CMNIACTVT</td>
<td>I/A conversion 6.1-7.1</td>
</tr>
<tr>
<td>CMNRACHK</td>
<td>ERO</td>
<td>CMNRAUTB</td>
<td>Check ERO I/A table</td>
</tr>
<tr>
<td>CMNRAHAR</td>
<td>ERO</td>
<td>CMNRAUTB</td>
<td>Shrink history table</td>
</tr>
<tr>
<td>CMNRARPT</td>
<td>ERO</td>
<td>CMNDB2RP</td>
<td>Release audit</td>
</tr>
</tbody>
</table>
Managing XML Services Changes

Managing XML Services Changes

Most ChangeMan ZMF functions are executed by XML Services, even when you use the ISPF interface.

Follow this procedure to upgrade XML Services for the new release unless the Readme tells you that XML Services have not changed and that the procedure is not required.

1. If you are currently using XML Services and/or have written programs that use XML Services, contact Support for a version of the XML Delta Report that identifies which XML Services have changed between your current release and the new maintenance release. Use this report to determine if you are using any of the XML Services that have changed, and then plan this part of your upgrade accordingly.

2. Run the job in member XMLLOAD in your custom CNTL library to delete, define, and reload the XMLSPACE VSAM LDS and the MAPDATA sequential file with the new data in member XMLDATA in the delivered SERCOMC CNTL library.

NOTE Load the new data at the same time that you start using the new load modules delivered with the release. If you back out the upgrade, restore the previous contents of the XMLSPACE VSAM LDS and the MAPDATA sequential file.

Synchronizing Impact Analysis Data

To ensure the integrity of the audit function, run a full impact analysis maintenance process after you apply the maintenance release. See topic "Generating and Updating

**Updating Housekeeping Jobs**

Updates to ChangeMan ZMF components sometimes result in changes to the sample JCL delivered in the CNTL file.

**If you have built housekeeping jobs from the sample JCL in the CNTL library, follow this procedure to update your housekeeping jobs:**

1. Compare the delivered CNTL library for your current ChangeMan ZMF release to the delivered CNTL library for the new release.

2. Use the table in topic "Sample JCL / Housekeeping Job Cross Reference" at the end of the "Batch Housekeeping Tasks" chapter in the ChangeMan ZMF 8.1.2 Administrator's Guide to see what housekeeping jobs use the sample JCL that has changed.

3. Update your housekeeping jobs with the changes in the sample JCL in the new release.
Appendix D
SERNET Keyword Options

This appendix describes keyword options that may be used with a SERNET started task.

General rules for SERNET keyword options:

- SERNET keyword options may be input in any order.
- The syntax for SERNET keyword options is flexible. Any of the following formats is acceptable:
  
  ```
  keyword(value)
  keyword(value1,value2,...)
  keyword=value
  keyword=(value1,value2,...)
  ```

- To preserve lower-case characters in a keyword value, enclose the value in single or double quotes. Examples:
  
  ```
  NTFYURL='tt_server.serena.com:8080/zmfws/...
  NTFYURL="tt_server.serena.com:8080/zmfws/...
  ```

When keyword options are coded in a file for input to a SERNET started task, these additional rules apply:

- One or more keyword options may be coded in a single record.
- Multiple keyword options are separated by spaces, commas, semicolons, or any combination of these.
- A slash (/) or asterisk (*) marks the start of a comment, and the rest of the record is ignored.
### apl

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Starts a SERNET application and/or specifies a TCP/IP port number.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>All</td>
</tr>
<tr>
<td>Format</td>
<td>apl[=port]</td>
</tr>
<tr>
<td>Valid Values</td>
<td>apl</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>port</td>
<td>Number between 1024 and 65535.</td>
</tr>
<tr>
<td>These apl values require a port number:</td>
<td>CPX</td>
</tr>
<tr>
<td></td>
<td>STR</td>
</tr>
<tr>
<td></td>
<td>XCH</td>
</tr>
<tr>
<td></td>
<td>XCHMSG</td>
</tr>
<tr>
<td>If port number is not specified, cross memory services are used instead of TCP/IP.</td>
<td></td>
</tr>
<tr>
<td>Do not use the same port number for multiple applications.</td>
<td></td>
</tr>
</tbody>
</table>

| Default Value | There is no default value for apl. If port number is not specified, cross memory services are used. |
| When Required | Always |
| Comments | Formats from previous versions of SERNET are compatible, but APPC application name is ignored. |

| Examples | CMN=6000 | Starts ChangeMan ZMF with port 6000 |
| | CMN | Starts ChangeMan ZMF using cross-memory services only |
| | SYN | Starts ChangeMan SSM |
| | XCH=5000 | Starts ChangeMan ZDD with port 5000 |

### ASID

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Specifies an override to the default maximum number of concurrent address spaces and time-out minutes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>ChangeMan ZMF</td>
</tr>
</tbody>
</table>
| Format | ASID=(n,m) where:
| | n | Maximum number of concurrent address spaces |
| | m | Time-out in wall clock minutes |
| Valid Values | n | Numeric, maximum 256 concurrent address spaces |
| | m | Numeric, maximum 255 wall clock minutes |
| Default Value | Omitting this parameter is the same as ASID=(16,20) |
### Comments
The maximum number of address spaces is checked when an application needs to start an address space for an asynchronous operation. An example of an asynchronous process that uses a separate address space is ChangeMan ZMF ISPF file tailoring for install JCL. SERNET periodically checks the list of address spaces that it has started, and if an address space runs longer than the time-out limit, it is terminated. Such an address space may be in a loop or have some other problem, and it can prevent another address space from starting when the maximum number of address spaces is reached.

The ASID time out limit is similar to the TIME parameter for an ordinary job except it is wall clock time, not CPU time. The elapsed run time for an address space is calculated as the difference between the store clock (STCK) value taken when the address space was created and the store clock value taken when the check is made.

The maximum number of address spaces is 256, and the maximum number of time-out minutes is 255, but whatever you input is displayed in SERPRINT. If you enter a number of minutes greater than 255, a time-out limit of 255 is used, which is 4 hours 15 minutes.

### ASINIT\text{\textit{i}}

<table>
<thead>
<tr>
<th>Purpose</th>
<th>For an initiator, specifies an override to the default maximum number of concurrent address spaces and the job classes assigned to an initiator.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>ChangeMan ZMF</td>
</tr>
<tr>
<td>Format</td>
<td>ASINIT\text{\textit{i}}=(n,c) where: i Initiator number n Maximum number of concurrent address spaces that can be created c Job classes assigned to the initiator</td>
</tr>
<tr>
<td>Valid Values</td>
<td>n Numeric, maximum 256 concurrent address spaces</td>
</tr>
<tr>
<td>Default Value</td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td>The address space limit is checked when an application needs to start an address space for an asynchronous operation. An example of an asynchronous process that uses a separate address space is ChangeMan ZMF ISPF file tailoring for install JCL. The maximum number of address spaces is 256, but whatever you input is displayed in SERPRINT.</td>
</tr>
</tbody>
</table>

### AUTOMESSENGER

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Tells SERNET whether to automatically append a Messenger JCL fragment onto submitted batch jobs and comment out any NOTIFY= parameter found in JOB statements.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>ChangeMan ZDD/Messenger</td>
</tr>
<tr>
<td>Format</td>
<td>AUTOMESSENGER=[NO</td>
</tr>
<tr>
<td>Valid Values</td>
<td>NO Do not append the Messenger JCL YES Append the Messenger JCL unless it is already present NOTIFY Append the Messenger JCL if a NOTIFY=userId parameter is found within the first four JOB statement images and the Messenger JCL is not already present. If these conditions are met, also comment out the NOTIFY=userId.</td>
</tr>
</tbody>
</table>
Appendix D  SERNET Keyword Options

COMPRESS

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Determines whether compression is forced or dynamic when data is transmitted through TCP/IP.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>All applications running under the SERNET started task</td>
</tr>
</tbody>
</table>
| Format | COMPRESS=[0|1]  
COMPRESS=[NO|YES] |
| Valid Values | 0,NO  Dynamic compression. Large messages are compressed, but small messages (under 20K) are not compressed.  
1,YES  Compression is forced. Every response from z/OS is compressed at the highest level regardless of size. |
| Default Value | Omitting this parameter is the same as COMPRESS=0 |
| When Required | The overhead for compressing short messages is high, so COMPRESS=0 is most efficient. Use COMPRESS=1 to encrypt all messages. |

CONNECTCHECK

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Activates a SERNET security check to allow logon to ChangeMan ZDD or ChangeMan ZMF only if the user ID or group has READ access to a FACILITY class profile.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>ChangeMan ZDD, ChangeMan ZMF</td>
</tr>
<tr>
<td>Format</td>
<td>CONNECTCHECK=[NO</td>
</tr>
</tbody>
</table>
| Valid Values | NO  Do not perform a security check to see who is allowed to logon to ZDD or ZMF.  
YES  Perform a security check to see who is allowed to logon to ZDD or ZMF. |
| Default Value | Omitting this parameter is the same as CONNECTCHECK=NO |
### CONAUTH

<table>
<thead>
<tr>
<th>When Required</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments</td>
<td>If the security check is enabled with CONNECTCHECK=YES, the user ID must have READ access to these FACILITY class profiles to logon to ZMF or ZDD respectively: SERNET.CONNECT.sysname.XCHsubsys SERNET.CONNECT.sysname.CMNsubsys Where: sysname is the four-character SMF ID of the LPAR where the SERNET instance runs. subsys is the one-character subsystem ID of the SERNET started task.</td>
</tr>
</tbody>
</table>

**Purpose**

Turns on a security check that restricts access to a ChangeMan ZDD server or a ChangeMan ZMF instance.

**Application(s)**

ZDD and CMN

**Format**

CONAUTH=[Y|N]

**Valid Values**

Y Perform check for READ access to resource N Do not perform check for READ access to resource.

**Default Value**

Omitting this parameter is the same as CONAUTH=N

**When Required**

Not required

**Comments**

The RACF resources that are checked are named for the application and for the subsystem ID of the SERNET started task:

Class: FACILITY

Resource: SERNET.CONNECT.aaa

Where:

aaa is the application s is the SERNET subsystem ID.

Examples:

SERNET.CONNECT.XCHA

SERNET.CONNECT.CMNB

### DB2

SERNET keyword option DB2=subs is obsolete, and code that allows this keyword option will be removed in a future SERNET release. This keyword option has no relationship to the ChangeMan ZMF Db2 Option, and it is not used by ChangeMan ZDD.

**CAUTION!** If you use SERNET keyword option DB2=subs, legacy code for a discontinued product establishes a Db2 thread that cannot be detached except by shutting down the SERNET server.
### DDNAME

<table>
<thead>
<tr>
<th><strong>Purpose</strong></th>
<th>Directs SERNET to get additional keyword parameter data from a data set coded in the started task JCL, and specifies the DD name where that data set is found.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Application(s)</strong></td>
<td>All applications running under the SERNET started task</td>
</tr>
<tr>
<td><strong>Format</strong></td>
<td>DDNAME=ddname</td>
</tr>
<tr>
<td><strong>Valid Values</strong></td>
<td>ddname A sequential data set or a PDS member containing SERNET keyword parameters</td>
</tr>
<tr>
<td><strong>Default Value</strong></td>
<td>If this parameter is omitted, SERNET reads keyword parameters only through the PARM statement.</td>
</tr>
<tr>
<td><strong>When Required</strong></td>
<td>When there are more than 100 bytes of keyword parameter data (an IBM limit)</td>
</tr>
<tr>
<td><strong>Comments</strong></td>
<td>The data set can be fixed or variable, blocked or unblocked, but the record length cannot exceed 255 bytes.</td>
</tr>
<tr>
<td><strong>Examples</strong></td>
<td>DDNAME=PARMLIB PARM input from //PARMLIB DD data set</td>
</tr>
</tbody>
</table>

### ESTAE

<table>
<thead>
<tr>
<th><strong>Purpose</strong></th>
<th>Enables or disables abend recovery. Turns off the ESTAE exit for attached users.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Application(s)</strong></td>
<td>All applications running under the SERNET started task</td>
</tr>
<tr>
<td><strong>Format</strong></td>
<td>ESTAE=NO</td>
</tr>
<tr>
<td><strong>Valid Values</strong></td>
<td>YES NO Enable recovery routines. Started task recovers from abends and continues processing. Disable recovery routines. Started task stops and dumps when an abend occurs.</td>
</tr>
<tr>
<td><strong>Default Value</strong></td>
<td>Omitting this parameter is the same as ESTAE=YES</td>
</tr>
<tr>
<td><strong>When Required</strong></td>
<td>ESTAE=NO is used primarily for testing.</td>
</tr>
<tr>
<td><strong>Comments</strong></td>
<td>Do not use ESTAE=NO with any production systems. Set to NO only when instructed to by Technical Support.</td>
</tr>
</tbody>
</table>

### EXPIRE

<table>
<thead>
<tr>
<th><strong>Purpose</strong></th>
<th>Sets a future system clock time when the SERNET started task automatically shuts down.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Application(s)</strong></td>
<td>All applications running under the SERNET started task</td>
</tr>
<tr>
<td><strong>Format</strong></td>
<td>EXPIRE=HhhMmm hh hours are preceded by “H” and mm minutes are preceded by “M” Hours are specified before minutes</td>
</tr>
<tr>
<td><strong>Valid Values</strong></td>
<td>hh 0 to 23; values larger than 23 are reset to 23 mm 0 to 59; values larger than 59 are reset to 59</td>
</tr>
<tr>
<td><strong>Default Value</strong></td>
<td>Omitting this parameter allows SERNET to run until it is shut down externally</td>
</tr>
<tr>
<td><strong>When Required</strong></td>
<td>Not required</td>
</tr>
</tbody>
</table>
### EX003

**Purpose**
Disables SERJES calls to SEREX003 and reverts to whatever security mechanisms are supplied by the installed security system. As delivered, SEREX003 is enabled.

**Application(s)**
ChangeMan ZDD

**Format**
EX003=NO

**Valid Values**
- **NO** Disable SEREX003

**Default Value**
Omitting this parameter leaves exit program SEREX003 enabled

**Comments**
SEREX003 is a SERJES exit that performs security checking when RACF® JESJOBS or JESSPOOL resource classes may not be active.

### EX005

**Purpose**
Disables calls to exit program SEREX005, which provides library member level security.

**Application(s)**
ChangeMan ZMF

**Format**
EX005=NO

**Valid Values**
- **NO** Disable SEREX005

**Default Value**
Omitting this parameter leaves exit program SEREX005 enabled

**Comments**
SEREX005 provide library member level security. This exit is called after the library access rules in your security system are applied. As delivered, SEREX005 is enabled.

### IAM

**Purpose**
Determine if direct access data sets are IAM® instead of VSAM.

**Application(s)**
All applications running under the SERNET started task

**Format**
IAM=YES

**Valid Values**
- **YES** Open direct access (BDAM) data sets determined to be IAM as IAM

**Default Value**
Omitting this parameter causes direct access (BDAM) data sets to be listed as "OTHER" and opened as VSAM

**When Required**

**Comments**
Innovation Access Method (IAM) is a product of Innovation Data Processing. IAM is a substitute access method for VSAM that reduces DASD and CPU utilization and enhances performance for direct access files.
### IEX

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Specifies the exit program that enforces standards for CA Librarian® –DESC and –PGMR cards when a module is added.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>ChangeMan ZDD</td>
</tr>
<tr>
<td>Format</td>
<td>IEX=exitname</td>
</tr>
<tr>
<td>Valid Values</td>
<td>exitname Name of exit program</td>
</tr>
<tr>
<td>Default Value</td>
<td>Omitting this parameter is the same as having no exit program</td>
</tr>
<tr>
<td>When Required</td>
<td>CA Librarian environment where usage of –DESC and –PGMR cards is enforced through an exit program</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
</tr>
</tbody>
</table>
| Examples | IEX=ADDCHK Input exit name is ADDCHK  
IEX=SHOPLIBR Input exit name is SHOPLIBR |

### IMS

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Names the IMS™ subsystem that is attached for an intermittent dialog. May also specify Normal Buffer Allocation (NBA) and Overflow Buffer Allocation (OBA) for a Fast Path region.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>Serena Connect</td>
</tr>
</tbody>
</table>
| Format | IMS=subs  
IMS=(subs,NBA=nn,OBA=oo)  
Order of NBA and OBA is not significant. |
| Valid Values | subs IMS subsystem  
nn Fast Path Normal Buffer Allocation. Any numeric value expressed in 1 to 8 characters.  
oo Fast Path Overflow Buffer Allocation. Any numeric value expressed in 1 to 8 characters. |
| Default Value | Omitting this parameter means no IMS subsystem is accessed. Omitting NBA and OBA or entering NBA=0, OBA=0 leaves in effect the values specified in the IMS sysgen. |
| When Required | Specify the IMS subsystem if the SERNET IMS Option has been licensed. (The SERNET IMS Option is not the same as the ChangeMan ZMF IMS Option.) Specify NBA and OBA if the values specified in the IMS sysgen are insufficient. |
| Comments | In practice, IMS subsystems may be accessed other than the one specified in the IMS keyword option. IMS databases can be downloaded through existing PSBs (Program Specification Blocks). The NBA and OBA subparameters are almost never used. They operate independently. |
| Examples | IMS=IMS2  
IMS=(IMS2,NBA=9,OBA=5)  
IMS subsystem is IMS2  
Optional number of database buffers for normal and overflow |
### LANGUAGE

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Specifies the language code for SERNET message template module (SERMXxxx).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>SERNET</td>
</tr>
<tr>
<td>Format</td>
<td>LANGUAGE(ENU)</td>
</tr>
<tr>
<td>Valid Values</td>
<td>ENU</td>
</tr>
<tr>
<td>Default Value</td>
<td>ENU</td>
</tr>
</tbody>
</table>

### LCLCCSID

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Specifies the Coded Character Set Identifier (CCSID) of text data that is stored in the ChangeMan ZMF server for clients that send and receive UNICODE request and response messages.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>ChangeMan ZMF</td>
</tr>
</tbody>
</table>
| Format | LCLCCSID(37)  
LCLCCSID=37 |
| Valid Values | Any valid CCSID. The default is LCLCCSID(37) which is US EBCDIC and should suffice for most customers. Japanese customers who use DBCS CCSID 00939 should specify LCLCCSID=00939. |
| Default Value | LCLCCSID(37) |
| When Required | When the ChangeMan ZMF server has been localized for a CCSID other than US EBCDIC |
| Comments | In ChangeMan ZMF, Double Byte Character Set (DBCS) data can be in three places:  
- Package title  
- Programmer name  
- Inside a component  
When clients such as TeamTrack send XML requests to the MVS server, they send UNICODE XML. The server on MVS converts the incoming XML to its local CCSID as specified in the LCLCCSID startup parameter. When sending XML responses to the clients that sent UNICODE, the server converts the XML from its local CCSID to UNICODE. This process preserves any DBCS characters that may be contained in the XML. |
| Examples | LCLCCSID=37  
LCLCCSID(37)  
LCLCCSID=000939  
LCLCCSID(000939) |

### LIB

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Specifies the CA Librarian update module name.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>ChangeMan ZMF, ChangeMan ZDD</td>
</tr>
<tr>
<td>Format</td>
<td>LIB=libname</td>
</tr>
<tr>
<td>Valid Values</td>
<td>libname Valid load module name or alias</td>
</tr>
</tbody>
</table>
### MIGRAT

**Purpose** Specifies a pseudo volume serial for disk data sets that are migrated to a secondary storage format or medium.

**Application(s)** All applications running under the SERNET started task

**Format**

```
MIGRAT=volser
```

**Valid Values**

- `volser` One- to eight-character pseudo volume serial specified by the disk storage management system

**Default Value** Omitting this parameter leaves the pseudo volume serial set to `MIGRAT`

**When Required** When a disk storage management product uses a volume serial other than `MIGRAT` for migrated data sets

**Comments** IBM product DFSMShsm™ uses `MIGRAT` as the volume serial for migrated data sets.

**Examples**

- `MIGRAT=ARCIVE` Pseudo volume serial for DMS/OS
- `MIGRAT=FDRABR` Pseudo volume serial for FDR® ABR®

### NOSCHED

**Purpose** Suppresses the ChangeMan ZMF internal scheduler.

**Application(s)** ChangeMan ZMF

**Format**

```
NOSCHED
```

**Valid Values**

- `NOSCHED` The ChangeMan ZMF internal scheduler is suppressed

**Default Value** Omitting this parameter leaves the ChangeMan ZMF scheduler in force

**When Required** Never

**Examples**

- `NOSCHED`

### NOTIFYPROC

**Purpose** Specifies the name of the Job Notification cataloged procedure to be inserted as the last step in batch jobs that are submitted from ZDD. The Job Notification facility sends a job completion message from the host back to the work station that submitted the job.

**Application(s)** ChangeMan ZDD

---

| Default Value | Omitting this parameter leaves the CA Librarian update module name as LIBR |
| When Required | In a CA Librarian environment where the CA Librarian update module has been renamed to something other than LIBR |
| Comments | If ZMF cannot find the CA Librarian update module, the result is user message "File Type LIB not supported" and return code 16. |
| Examples | LIB=LIBRARY CA Librarian update module name is LIBRARY LIB=SHOPLIBR CA Librarian update module name is SHOPLIBR |
### NTFFYINT

**Purpose**
Specifies the time interval in seconds between cycles of the ChangeMan ZMF event notification facility.

**Application(s)**
Application Lifecycle Framework (ALF)

**Format**

| n | Seconds in 1-10 decimal digits |

**Valid Values**
1 to 4294967295

**Default Value**
Omitting this parameter is the same as coding NTFFYINT=60

**When Required**
Never

**Comments**
With each cycle, the event notification facility scans the ZMF Log File for applicable ZMF events, includes and excludes events according to filters defined in the file at DDname ALFFLTR in the ZMF started procedure (if present), and emits event notifications to the Web Services URL specified in SERNET keyword option NTFFYURL. The Log File scan starts with the record after the last record read in the prior event notification cycle. The time between cycles of the event notification facility is defined in SERNET keyword option NTFFYINT. For details of how to set up ALFFLTR, see the ALFFLTR member supplied in the SAMPLES dataset.

### NTFFYURL

**Purpose**
The URL where Web Services are installed to receive messages from the ChangeMan ZMF event notification facility.

**Application(s)**
Application Lifecycle Framework (ALF)

**Format**

| hostname Server name where Serena ALM Web Services are installed |
| port Port number for ALM Web Services |

**Note:** Use single or double quotes to prevent forcing the URL to upper case.

**Default Value**
Omitting this parameter disables the ZMF event notification facility.

**When Required**
This keyword parameter is required to run the event notification facility.

**Comments**
With each cycle, the event notification facility scans the ZMF Log File for applicable ZMF events, includes and excludes events according to filters defined in the file at DDname ALFFLTR in the ZMF started procedure (if present), and emits event notifications to the Web Services URL specified in SERNET keyword option NTFFYURL. The Log File scan starts with the record after the last record read in the prior event notification cycle. The time between cycles of the event notification facility is defined in SERNET keyword option NTFFYINT. For details of how to set up ALFFLTR, see the ALFFLTR member supplied in the SAMPLES dataset.

**Examples**

- NTFFYURL='alm_host:8080/almzmfalf/services/ZMFALFEventRouter'
- NTFFYURL="alm_host:8080/almzmfalf/services/ZMFALFEventRouter"
## RUNFOR

| Purpose | Sets a time interval after startup when the SERNET started task is automatically shut down. |
| Application(s) | All applications running under the SERNET started task |
| Format | **RUNFOR=HhhMmm**<br>hh hours are preceded by “H” and mm minutes are preceded by “M”. Hours are specified before minutes. |
| Valid Values | hh 0 to 23; values larger than 23 are reset to 23.<br>mm 0 to 59; values larger than 59 are reset to 59. |
| Default Value | Omitting this parameter allows SERNET to run until it is shut down externally |
| When Required | Never |
| Comments | Messages issued:<br>SER0811I Automatic termination (expiration) set for 10:55<br>SER0940I Warning; EXPIRE/RUNFOR time nearing: 10:55<br>SER0941I EXPIRE/RUNFOR time reached; Shutting down<br>The shutdown time may be changed to a later time with the EXTEND modify command. |
| Examples | **RUNFOR=H23M59** Shut down SERNET after 23 hours and 59 minutes<br>**RUNFOR=M999** Shut down SERNET after 59 minutes<br>**RUNFOR=H1** Shut down SERNET after one hour |

## SDNOTIFY

| Purpose | Deprecated. Use the **TIMEOUT** keyword option instead. |

## STAX

| Purpose | Controls the behavior of the **ATTN** and **PA1** keys in applications running under SERNET. |
| Application(s) | All applications. |
| Format | **STAX=NO** |
| Valid Values | **NO** Make SERNET compatible with ISPF session managers that use the **ATTN** and **PA1** keys to switch sessions. Users are not disconnected from ISPF applications running under SERNET when they press the **ATTN** or **PA1** keys. |
| Default Value | Omitting this parameter is the same as **STAX=YES**, which disconnects users from applications running under SERNET when they press the **PA1** or **ATTN** keys. |
| When Required | Never |
| Examples | **STAX=NO** Do not disconnect users from ISPF applications running under SERNET when they press **ATTN** or **PA1**. |
### SUBSYS

**Purpose**
Specifies the subsystem ID for the SERNET started task.

**Application(s)**
All applications running under the SERNET started task.

**Format**
SUBSYS=x

**Valid Values**
One character: 0-9, A-Z, @, #, $, and blank (null)

**Note:** It is strongly recommended that you do not use a blank (null) subsystem ID.

**Default Value**
Omitting this parameter sets the subsystem ID to blank (null)

**When Required**
It is strongly recommended that you do not use a blank (null) subsystem ID.

**Examples**
- SUBSYS=A  Subsystem identifier is A
- SUBSYS=5  Subsystem identifier is 5

### TCPIP

**Purpose**
Identifies the TCP/IP server that handles communication for the SERNET started task.

**Application(s)**
ChangeMan ZMF, ChangeMan ZDD

**Format**
TCPIP=tcpiproc
TCPIP.smfi=tcpiproc

**Valid Values**
tcpiproc  Procedure name.
smfi  SMFID of another z/OS system.

**Default Value**
For TCP/IP 3.1, no entry is the same as TCPIP=TCPIPROC. For TCP/IP 3.2 and higher, SERNET 5.2 and higher ignores this keyword. Program SERCOMM dynamically deduces the name of the TCP/IP started task.

**When Required**
TCP/IP 3.1.

**Comments**
The IBM default name for TCPIP address spaces is TCPIP.

**Examples**
- TCPIP=TCP  TCP/IP procedure name is TCP.
- TCPIP.SMFA=JOBTCPIP  TCP/IP procedure name is JOBTCPIP on system whose SMFID is SMFA.

### TIMEOUT

**Purpose**
Specifies a period of inactivity after which a user is automatically detached by a "watchdog" facility. TIMEOUT can also be specified as SDNOTIFY.

**Application(s)**
All applications running under the SERNET started task

**Format**
TIMEOUT=nnn
TIMEOUT=(nnn,nnn)

**Valid Values**

- nnn  Number of inactive minutes before user is detached. Minutes may be preceded by "M". Value is from 1 to 32767.
- If only one value nnn is specified, it applies to all users and clients.
- If two values are specified (nnn,nnn), the first value applies to TSO users and the second value applies to other clients such as ZDD or TeamTrack.
Appendix D  SERNET Keyword Options

<table>
<thead>
<tr>
<th>Default Value</th>
<th>Omitting the keyword lets users run no matter how long their session is inactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>When Required</td>
<td>Use of this parameter to enable an automatic detach is recommended.</td>
</tr>
<tr>
<td>Comments</td>
<td>A ChangeMan ZMF edit-in-stage session using ISPF edit turns off the timer for TIMEOUT. The inactivity limit set with z/OS parameter JWT(0100) in SYS1.PARMLIB(SMFPRM00) takes precedence over TIMEOUT and will end your TSO session with ABEND=S522 even if you are in a ZMF edit-in-stage session. However, if your ZMF administrator sets application parameter EDIT STAGING RECOVERY MODE ON to YES, you can recover the temporary file containing your edited text.</td>
</tr>
<tr>
<td>Examples</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TIMEOUT=50 Detach users who are inactive for 50 minutes</td>
</tr>
<tr>
<td></td>
<td>TIMEOUT=M090 Detach users who are inactive for 90 minutes</td>
</tr>
</tbody>
</table>

## TRACE

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Sets initial trace options at SERNET startup.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>SERNET, ChangeMan ZMF</td>
</tr>
<tr>
<td>Format</td>
<td>TRACE(SER(CMN,n,n,n...))</td>
</tr>
<tr>
<td>Valid Values</td>
<td>SER  SERNET</td>
</tr>
<tr>
<td></td>
<td>1  All CMN traces not listed below</td>
</tr>
<tr>
<td></td>
<td>2  CMNATAECH user conversation incoming request and outgoing response. I.E. &quot;TRACE IN ...&quot; and &quot;TRACE OUT ...&quot;.</td>
</tr>
<tr>
<td></td>
<td>3  CMNENTFY event notification.</td>
</tr>
<tr>
<td></td>
<td>4  CMNSCHED CMN scheduler</td>
</tr>
<tr>
<td></td>
<td>5  VSAM CMAST data interim results. This shows long and short CMAST data in a common format</td>
</tr>
<tr>
<td></td>
<td>6  CMNVRLI0 VSAM i/o response (major/minor/key/rc/feedback)</td>
</tr>
<tr>
<td>Default Value</td>
<td>Omitting the keyword leaves no tracing enabled</td>
</tr>
<tr>
<td>Examples</td>
<td>TRACE(CMN,1,2) TRACE on for ChangeMan ZMF, classes 1 and 2</td>
</tr>
<tr>
<td></td>
<td>TRACE(SER,1,2) TRACE on for SERNET, classes 1 and 2</td>
</tr>
</tbody>
</table>

## WARN

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Controls XML Services syntax warnings facility.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>XML Services</td>
</tr>
</tbody>
</table>
| Format          | WARN[(YES)]  
|                 | WARN=[YES|NO]  
|                 | WARN                                                   |
| Default Values  | Omitting the keyword leaves XML Services syntax warning disabled at SERNET startup. |
| When Required   | Never                                                                  |
Comments

When SERXMLI is unable to recognize an XML tag, it can write a warning message to SERPRINT. There are three ways to enable or disable these warning messages:

- SERNET keyword option input to the started task at startup: `WARN=[YES|NO]`
- SERNET modify command: `/F jobname,WARN,[YES|NO]`
  See "WARN" on page 179.
- XML tag in the `<header>` of the request message: `<warn>Y</warn>`
  See the XML Services User’s Guide.

Examples

<table>
<thead>
<tr>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WARN</td>
<td>Enable XML Services syntax warning</td>
</tr>
<tr>
<td>WARN=YES</td>
<td>Enable XML Services syntax warning</td>
</tr>
<tr>
<td>WARN=YES</td>
<td>Enable XML Services syntax warning</td>
</tr>
</tbody>
</table>

XML

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Disables XML Services.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>ChangeMan ZMF</td>
</tr>
<tr>
<td>Format</td>
<td>XML=NO</td>
</tr>
<tr>
<td>Valid Values</td>
<td>NO Disables XML Services.</td>
</tr>
<tr>
<td>Default Value</td>
<td>Omitting this option leaves XML Services enabled.</td>
</tr>
<tr>
<td>When Required</td>
<td>Never</td>
</tr>
</tbody>
</table>
Appendix E

Modify Commands

This appendix describes modify commands that may be issued to a SERNET started task.

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>168</td>
</tr>
<tr>
<td>Standard Modify Commands</td>
<td>168</td>
</tr>
<tr>
<td>Restricted Modify Commands</td>
<td>181</td>
</tr>
</tbody>
</table>
Appendix E  Modify Commands

Introduction

These modify commands may be issued from the operator console or through SDSF by authorized users. Responses to these commands are displayed in the SERPRINT sysout data set of the SERNET instance.

Standard Modify Commands

An application administrator or a console operator may use these modify commands to manage a SERNET started task and the applications that run under it.

ABEND

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Abend the started task with an 0C3.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>All applications running under a SERNET started task.</td>
</tr>
<tr>
<td>Format</td>
<td>/F jobname,ABEND</td>
</tr>
<tr>
<td></td>
<td>Where: jobname Started task jobname</td>
</tr>
<tr>
<td>Comments</td>
<td>Use of this modify command is not recommended without instructions from Technical Support.</td>
</tr>
<tr>
<td>Examples</td>
<td>/F SERTS,ABEND</td>
</tr>
<tr>
<td>Response</td>
<td>ASER0850I Operator command: ABEND</td>
</tr>
<tr>
<td></td>
<td>SER0952W Intentional abend &lt;S0C3&gt; requested</td>
</tr>
</tbody>
</table>

ASID

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Modify the maximum number of concurrent address spaces and time-out minutes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>All applications running under a SERNET started task</td>
</tr>
<tr>
<td>Format</td>
<td>/F jobname,ASID[=(n,m)]</td>
</tr>
<tr>
<td>Where:</td>
<td>jobname Started task jobname</td>
</tr>
<tr>
<td>n</td>
<td>Maximum number of concurrent address spaces</td>
</tr>
<tr>
<td>m</td>
<td>Time-out in wall clock minutes</td>
</tr>
</tbody>
</table>
ASIDS

Purpose
Display the maximum number of concurrent address spaces and time-out minutes. Display the number of address spaces that are running as well as the address space requests that are waiting to run and the classes assigned.

Application(s)
All applications running under a SERNET started task

Format
/F jobname,ASIDS
Where:  jobname  Started task jobname

Comments
See modify command ASID for an explanation of the maximum number of concurrent address spaces and expiration time-out minutes. The maximum number of address spaces is 256, and the maximum number of time-out minutes is 255, but whatever was input is displayed in SERPRINT.

Examples
/F SERT5,ASIDS

Response
SER0850I Operator command: ASIDS
SER0901I Number of Address Spaces:16 Expiration Timeout:20 Minutes
SER0904I 0 active address spaces are running at this time.

ASINITi

Purpose
For an initiator, modify the maximum number of concurrent address spaces that can be created and the job classes assigned to the initiator.

Application(s)
All applications running under a SERNET started task
### ASINITS

**Format**

```
/F jobname, ASINITi=(n,c)
```

<table>
<thead>
<tr>
<th>Where:</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>jobname</td>
<td>Started task jobname</td>
</tr>
<tr>
<td>i</td>
<td>Initiator number</td>
</tr>
<tr>
<td>n</td>
<td>Maximum number of concurrent address spaces</td>
</tr>
<tr>
<td>c</td>
<td>Job classes</td>
</tr>
</tbody>
</table>

**Comments**
The address space limit is checked when an application needs to start an address space for an asynchronous operation. An example of an asynchronous process that uses a separate address space is ChangeMan ZMF ISPF file tailoring for install JCL.

The maximum number of address spaces is 256, but whatever you input is displayed in SERPRINT.

**Examples**

```
/F SERTS,ASINIT2=(50,ABC)
```

**Response**

```
SER0850I Operator command: ASINIT3=(10,ABC)
SER09011 Number of Address Spaces:22 Expiration Timeout:25 Minutes
SER09021 Initiator:1 Classes:ABCD Maximum:4 Active:0
SER09021 Initiator:2 Classes:ABCD Maximum:4 Active:0
SER09021 Initiator:3 Classes:ABC Maximum:10 Active:0
SER09021 Initiator:4 Classes:ABCD Maximum:4 Active:0
```

### ATTACH

**Purpose**

Attach a subtask to an application running under the SERNET started task.

**Application(s)**

ChangeMan ZMF

**Format**

```
/F jobname,aaa,ATTACH,tttttttt
```

<table>
<thead>
<tr>
<th>Where:</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>jobname</td>
<td>STC jobname</td>
</tr>
<tr>
<td>aaa</td>
<td>Application</td>
</tr>
<tr>
<td>ttttttt</td>
<td>subtask</td>
</tr>
<tr>
<td>CMN</td>
<td>ChangeMan ZMF</td>
</tr>
<tr>
<td>HLLX</td>
<td>High Level Language Exits</td>
</tr>
<tr>
<td>SSV</td>
<td>Staging Versions</td>
</tr>
<tr>
<td>IADS</td>
<td>Impact Analysis</td>
</tr>
<tr>
<td>NFT</td>
<td>Event Notification</td>
</tr>
</tbody>
</table>
### DETACH

| Comments | See the DETACH modify command. For SSV, the three staging version VSAM masters are closed and deallocated from the started task. For IADS, the impact analysis LDS is synchronized with the data space, the data space is closed, LDS is closed and deallocated from the started task, and DD statement CMNIALOG is closed and deallocated. |
| Examples | `/F SERT5,CMN,DETACH,SSV` Attach the Staging Versions subtask  
`/F SERT5,CMN,DETACH,IADS` Attach the Impact Analysis subtask |
| Responses | SER0850I Operator command: CMN,ATTACH,SSV  
CMN5300I CMNSTART Attach:  
U=CMNSTART.F1=ATTACH.F2=SSV.@TCA=17139000.@TCB=8C3CF0  
CMN5315I CMNSTART SSV Task Attached  
CMN5385I CMN5SV Attempting SSV initialization CMN5SV (MVS-6.1.1) 20090506  
10.14  
CMN5388I CMN5SV SSV initialization complete  
SER0850I Operator command: CMN,ATTACH,IADS  
CMN5300I CMNSTART Attach:  
U=CMNSTART.F1=ATTACH.F2=IADS.@TCA=17115000.@TCB=8C329  
CMN5315I CMNSTART IADS Task Attached  
CMN5391I CMNIAM00 Attempting to open the I/A Dataspace.  
CMN5392I CMNIAM00 I/A Dataspace OPEN, LDS: CMNTP.SERT5.CMNZMF.V6R1M1.IADSP |

#### Purpose
Detach a subtask from an application running under the SERNET started task.

#### Application(s)
ChangeMan ZMF

#### Format
```
/F jobname,aaa,DETACH,tttttttt
```
Where:  
jobname STC jobname CMN ChangeMan ZMF  
anal Application HLLX High Level Language Exits  
ttttttt subtask SSV Staging Versions  
IADS Impact Analysis  
NTF Event Notification

#### Comments
See the ATTACH modify command. For SSV, the three staging version VSAM masters are closed and deallocated from the started task. For IADS, the impact analysis LDS is synchronized with the data space, the data space is closed, LDS is closed and deallocated from the started task, and DD statement CMNIALOG is closed and deallocated. **CAUTION!** When impact analysis is detached, these functions are affected:  
- Package audit fails with RC=20  
- Baseline ripple and reverse baseline ripple jobs yield RC=04 in step DSPTM, and impact analysis updates are written to the CMNDELAY file. Transactions in the CMNDELAY file are not processed until the SERNET/ZMF started task is restarted.  
- Query Impact and Query BOM return no results.
## EXTEND

### Purpose
Extend the time when the SERNET started task automatically shuts down as specified in the EXPIRE or RUNFOR runtime parameters.

### Application(s)
All applications running under a SERNET started task

### Format
```
/F jobname,EXTEND,HhhMmm
```
Where:
- `jobname` Started task jobname
- `hh` Hours to extend the started task expire time
- `mm` Minutes to extend the started task expire time

### Comments
The new system clock time for shutdown is displayed.

### Examples
```
/F SERT5,EXTEND,H00M15
```

### Response
```
SER0850I Operator command: EXTEND,H00M15
SER0870I Expiration time extended to 07:53
```

## HALT

### Purpose
Stop the SERNET started task with an orderly termination process that closes VSAM files and disconnects from system resources. This command is the same as SHUTDOWN and is provided to comply with NetView terminology.

### Application(s)
SERNET and applications running under the SERNET started task

### Format
```
/F jobname,HALT,[n|Mn]
```
Where:
- `jobname` Started task jobname
- `n` Grace period in minutes before attached users are forcibly detached and termination of ChangeMan ZMF and SERNET is initiated.
- If a grace period is not specified, the grace period defaults to 5 minutes.
- If a grace period of 0 is specified, the shutdown is immediate.
- The grace period minutes subparameter may be preceded by M.

### Examples
```
/F SERT5,HALT,[n|Mn]
```
Comments
No users are allowed to logon after a HALT command is issued. During the grace period, SERNET checks every 60 seconds for attached users. If all users have logged off, termination is initiated. If attached users are found, this message is sent to each TSO ID:

SER2000I CMN Serena Network shutting down; Please exit! CN(INTERNAL)

After termination is initiated, the process may take several minutes to complete.

Examples
/F SERT5,HALT,1
/F SERT5,HALT
/F SERT5,HALT,0
/F SERT5,HALT,1M

Response
SER0850I Operator command: HALT,0
SER0944I SerNet orderly SHUTDOWN initiated; Immediate terminat
CMN5305I CMNSTART Change Man VSAM Files closed
CMN5820I CMNSTART Change Man VSAM File Statistics
CMN5821I CMNSTART CMNPMAST CMNCPMPNT CMNLOG CMNRECV CMNDDELAY C
CMN5821I CMNSTART Read Update 00000005 00000000 00000000 00000000 00000000 0
CMN5821I CMNSTART Read Only 00000003 00000000 00000000 00000000 00000000 0
CMN5821I CMNSTART Read Next 00000447 00000000 00000000 00000000 00000001 0
CMN5821I CMNSTART Write (Sync) 00000000 00000000 00000000 00000000 00000000 0
CMN5821I CMNSTART Write (Async) 00000000 00000000 00000000 00000000 00000000 0
CMN5821I CMNSTART Update 00000004 00000000 00000000 00000000 00000000 0
CMN5821I CMNSTART Delete 00000000 00000000 00000000 00000000 00000000 0
CMN5821I CMNSTART Start 00000000 00000000 00000000 00000000 00000000 0
CMN5821I CMNSTART Start Generic 00000000 00000000 00000000 00000000 00000000 0
CMN5821I CMNSTART End Request 00000000 00000000 00000000 00000000 00000000 0
CMN5821I CMNSTART Dup Records 00000000 00000000 00000000 00000000 00000000 0
CMN5821I CMNSTART Record locks 00000000 00000000 00000000 00000000 00000000 0
CMN5821I CMNSTART Max locks used 00000000 00000000 00000000 00000000 00000000 0
CMN5821I CMNSTART CI locks found 00000000 00000000 00000000 00000000 00000000 0
CMN387I CMN555V SSV terminated
CMN5305I CMNSTART Detach:
U=CMNSTART,F1=DETACH,F2=IADS,@TCA=170F5000,@TCB=8C42A
SER0990I Statistics: Real time: H02M30S53
SER0991I Statistics: Applications: 4
SER0992I Statistics: Users attached: 0
SER0993I Statistics: Called count: 0
SER0994I Statistics: Concurrent max: 0
SER0995I Statistics: Abended: 0
SER0996I Statistics: Detached inactive: 0
SER0999I SerNet server "5" termination complete, RC=0

HOLD

Purpose
Stop the ChangeMan ZMF internal scheduler from submitting installation jobs for packages that specify CMN for the Installation Job Scheduler.

Application(s)
ChangeMan ZMF

Format
/F jobname,CMN,HOLD

Comments
Install jobs are not held for packages that use MANUAL or OTHER for the Installation Job Scheduler. Issue the HOLD modify command in the P environment started task to hold packages that have been distributed from a D or DP environment.
### LOCKS

**Purpose**
Display information about serialization locks in force.

**Application(s)**
ChangeMan ZDD

**Format**
/F jobname,XCH,LOCK

Where: jobname Started task jobname

**Comments**
- `<User_ID>`: Logon ID for a given user
- `<T_Elapsed>`: Number of hours, minutes, and seconds that have elapsed since the lock was placed. If the hours exceed 24, days are displayed and seconds are dropped.
- `<Type>`: Type of lock applied. If the literal 'ENQ' is displayed, an ENQ is outstanding under Qname SPFEDIT for the displayed data set name and likely member name in parenthesis.
- `<Locked_DsName (Member)...>`: Data set name and member name on which a temporary serialization lock was placed.
- `Total=`: Total number of locks that have been placed since the SERNET instance was started.

**Examples**
/F SERT5,XCH,LOCK
/F SERT5,XCH,LOCKS

**Response**
SER0850I Operator command: XCH,LOCK
SER2013I XCH <User_ID><T_Elapsed><Type><Locked_DsName(Member)...> Total=0
SER2016I XCH No active locks found

### RELEASE

**Purpose**
Release installation jobs that are being held by the HOLD modify command.

**Application(s)**
ChangeMan ZMF

**Format**
/F jobname,CMN,RELEASE

Where: jobname Started task jobname

**Comments**
See the HOLD modify command.

**Examples**
/F SERT5,CMN,RELEASE

**Response**
SER0850I Operator command: CMN,RELEASE
CMN5320I CMNSTART All scheduled jobs released

### SHUTDOWN

**Purpose**
Stop the SERNET started task with an orderly termination process that closes VSAM files and disconnects from system resources. This command is the same as HALT, which is provided to comply with NetView terminology.

**Application(s)**
SERNET and applications running under the SERNET started task
### Format

```
/F jobname,SHUTDOWN,[n][Mn]
```

<table>
<thead>
<tr>
<th>Where: jobname</th>
<th>Started task jobname</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>Grace period in minutes before attached users are forcibly detached and termination of ChangeMan ZMF and SERNET is initiated.</td>
</tr>
<tr>
<td>Mn</td>
<td>If a grace period is not specified, the grace period defaults to 5 minutes.</td>
</tr>
<tr>
<td></td>
<td>If a grace period of 0 is specified, the shutdown is immediate.</td>
</tr>
<tr>
<td></td>
<td>The grace period minutes subparameter may be preceded by M.</td>
</tr>
</tbody>
</table>

SHUTDOWN can be coded as SH, SHUT, or HALT.

### Comments

No users are allowed to logon after a SHUTDOWN command is issued. During the grace period, SERNET checks every 60 seconds for attached users. If all users have logged off, termination is initiated. If attached users are found, this message is sent to each TSO ID:

SER2000I CMN  Serena Network shutting down; Please exit! CN(INTERNAL)

After termination is initiated, the process may take several minutes to complete.

### Examples

```
/F SERT5,SHUTDOWN,1
/F SERT5,SH
/F SERT5,SH,0
/F SERT5,SHUTDOWN,1M
```

### Response

SER0850I Operator command: SH,0
SER0944I SerNet orderly SHUTDOWN initiated; No grace period; Immediate termination
CMN5389I CMN55SV  Terminating SSV
CMN5394I CMN1AM00 Closing the I/A Dataspace.
CMN5395I CMN1AM00 The I/A Dataspace is now offline.
CMN5808I CMNSTART Closed VSAM file CMNTP.SERT5.CMNZMF.V6R1M1.CMNPMAST
CMN5808I CMNSTART Closed VSAM file CMNTP.SERT5.CMNZMF.V6R1M1.CMNCMPNT
CMN5808I CMNSTART Closed VSAM file CMNTP.SERT5.CMNZMF.V6R1M1.CMNLOG
CMN5808I CMNSTART Closed VSAM file CMNTP.SERT5.CMNZMF.V6R1M1.CMNRECV
CMN5810I CMNSTART Change Man VSAM Files closed
CMN5820I CMNSTART Change Man VSAM File Statistics
CMN5820I CMNSTART CMNPMAST CMNCPMNT CMNLOG CMNRREV CMNDELAY C
CMN5820I CMNSTART Read Update 00000005 00000000 00000000 00000000 00000000 0
CMN5820I CMNSTART Read Only 00000003 00000000 00000000 00000000 00000000 0
CMN5820I CMNSTART Read Next 00000047 00000000 00000000 00000000 00000001 0
CMN5820I CMNSTART Write (Sync) 00000000 00000000 00000000 00000000 00000000 0
CMN5820I CMNSTART Write (Async) 00000000 00000000 00000000 00000000 00000000 0
CMN5820I CMNSTART Update 00000004 00000000 00000000 00000000 00000000 0
CMN5820I CMNSTART Delete 00000000 00000000 00000000 00000000 00000000 0
CMN5820I CMNSTART Start Generic 00000000 00000000 00000000 00000000 00000001 0
CMN5820I CMNSTART End Request 00000002 00000001 00000000 00000000 00000000 0
CMN5820I CMNSTART Dup Records 00000000 00000000 00000000 00000000 00000000 0
CMN5820I CMNSTART Record locks 00000005 00000000 00000000 00000000 00000000 0
CMN5820I CMNSTART Max locks used 00000001 00000000 00000000 00000000 00000000 0
CMN5820I CMNSTART CI locks found 00000000 00000000 00000000 00000000 00000000 0
CMN5387I CMN55SV  SSV terminated
CMN5385I CMNSTART Detach: f=DETACH,F2=IADS,@TCA=170F500000,TCA=BC42A
SER0989I Waiting for application to terminate: CNM
CMN5385I CMNSTART Detach: f=DETACH,F2=INFO,@TCA=170F800000,TCA=BC1E8
CMN5385I CMNSTART Detach: f=DETACH,F2=SSV,@TCA=1710000000,TCA=BC42A
CMN5313I CMNSTART Termination Complete
SER0999I Statistics: Real time: 002M05S3
SER0991I Statistics: Applications: 4
SER0992I Statistics: Users attached: 0
SER0993I Statistics: Called count: 0
SER0994I Statistics: Concurrent max: 0
SER0995I Statistics: Abended: 0
SER0996I Statistics: Detached inactive: 0
SER0999I SerNet server "S" termination complete, RC=0
Appendix E  Modify Commands

SNAPENV

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Display information on started task region memory usage.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>ChangeMan ZMF</td>
</tr>
<tr>
<td>Format</td>
<td>/F jobname,SNAPENV</td>
</tr>
<tr>
<td>Where:</td>
<td>jobname  Started task jobname</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
</tr>
<tr>
<td>Examples</td>
<td>/F SERT5,SNAPENV</td>
</tr>
<tr>
<td>Response</td>
<td>SER0865I Operator command: SNAPENV SER0866I EPvt used=43,036K avail=1,701,860K Pvt used= 676K avail=8,516K</td>
</tr>
</tbody>
</table>

STATS

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Display VSAM file access statistics for the ChangeMan ZMF package master, component master, log, recovery, and delay files.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>ChangeMan ZMF</td>
</tr>
<tr>
<td>Format</td>
<td>/F jobname,CMN,STATS</td>
</tr>
<tr>
<td>Where:</td>
<td>jobname  Started task jobname</td>
</tr>
<tr>
<td>Comments</td>
<td>If you license the ChangeMan ZMF INFO Option, statistics for the INFO VSAM interface file are also displayed.</td>
</tr>
<tr>
<td>Examples</td>
<td>/F SERT5,CMN,STATS</td>
</tr>
<tr>
<td>Response</td>
<td>SER0850I Operator command: CMN,STATS CMN5820I CMNSTART Change Man VSAM File Statistics CMN5820I CMNSTART Read Update 00000000 00000000 00000000 00000000 00000000 CMN5820I CMNSTART Read Only 00000003 00000000 00000000 00000000 00000000 CMN5820I CMNSTART Read Next 00000438 00000000 00000000 00000000 00000000 CMN5820I CMNSTART Write (Sync) 00000000 00000000 00000000 00000000 00000000 CMN5820I CMNSTART Write (Async) 00000000 00000000 00000000 00000000 00000000 CMN5820I CMNSTART Update 00000004 00000000 00000000 00000000 00000000 CMN5820I CMNSTART Delete 00000000 00000000 00000000 00000000 00000000 CMN5820I CMNSTART Start 00000000 00000000 00000000 00000000 00000000 CMN5820I CMNSTART Start Generic 00000146 00000000 00000000 00000000 00000000 CMN5820I CMNSTART End Request 00000002 00000000 00000000 00000000 00000000 CMN5820I CMNSTART Dup Records 00000000 00000000 00000000 00000000 00000000 CMN5820I CMNSTART Record locks 00000005 00000000 00000000 00000000 00000000 CMN5820I CMNSTART Max locks used 00000001 00000000 00000000 00000000 00000000 CMN5820I CMNSTART CI locks found 00000000 00000000 00000000 00000000 00000000</td>
</tr>
</tbody>
</table>

TCPIP

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Manage TCP/IP for applications running under SERNET:</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>Gracefully detach inactive users connected to a SERNET started task through TCP/IP, and stop TCP/IP without disrupting users connected through cross memory services.</td>
</tr>
<tr>
<td>-</td>
<td>Start TCP/IP for use by SERNET.</td>
</tr>
<tr>
<td>-</td>
<td>Gracefully disconnect inactive users using TCP/IP, stop and start TCP/IP without disrupting users connected through cross memory services.</td>
</tr>
<tr>
<td>Application(s)</td>
<td>SERNET</td>
</tr>
</tbody>
</table>

176   ChangeMan ZMF
### Format

```
/F jobname,TCPIP,action,[mmm],[tcpipname]
```

<table>
<thead>
<tr>
<th>Where:</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>jobname</td>
<td>started task jobname</td>
</tr>
<tr>
<td>action</td>
<td>START, STOP, RESTART</td>
</tr>
<tr>
<td>mmm</td>
<td>Minutes of inactivity after a STOP command before a TCP/IP user is automatically detached. If mmm not specified, default is 0.</td>
</tr>
<tr>
<td>tcpipname</td>
<td>TCPIP procedure name for START and RESTART</td>
</tr>
</tbody>
</table>

### Comments

After the TCPIP command is entered, subsequent actions such as detaching inactive users, stopping TCPIP, and restarting TCPIP are executed on the minute at hh:mm:00:00.

**STOP:** When the STOP command is entered, no further TCP/IP connections are accepted, currently attached users are listed in SERPRINT, and the following MVSEND message is issued to users connected through TCP/IP:

```
SER2060T TCP/IP connections being terminated due to operator request
CN(INTERNAL)
```

This message is reissued each minute until the TCP/IP user disconnects or is automatically detached. A TCP/IP user is automatically detached when they have been inactive for the specified `mmm` interval. After all TCP/IP users disconnect or are automatically detached, the controlling task (SERMAIN) calls SERCOMM to close the socket and process a TERMAPI.

**START:** This command starts TCP/IP communications (INITAPI) provided that the TCP/IP API has not already been initialized. If `tcpipname` is not specified in the TCPIP command, INITAPI (SERCOMM) connects to the default STC stack TCPIP, or it leaves the selection up to the TCP/IP code that parses the SYSTCPD DD statement. If `tcpipname` is specified, INITAPI (SERCOMM) specifies this STC stack name when creating the TCP/IP environment.

**RESTART:** The RESTART command is a combination of the STOP and START commands. TCPIP is restarted one minute after the last inactive TCPIP user is detached.

**Note:** Use discrete STOP and START commands when you want to recycle the TCP/IP STC. Use the RESTART command with a `tcpipname` parameter when you want to switch TCP/IP stacks.
**Appendix E  Modify Commands**

### Examples

```
/F SERT5,TCPIP,STOP
/F SERT5,TCPIP,START
/F SERT5,TCPIP,RESTART
/F SERx,TCPIP,STOP,IMMED
```

### Response

```
SER0850I Operator command: TCPIP,STOP
SER0916I TCPIP Stop Requested
SER1020I SYSTEM TCPIP SETSOCKOPT: RC=FFFF ErrNo=1027 TCA=00010000 Task=SER
    TCB=008DAE88 TIE=15B62F50 Sock=0000
SER1020I SYSTEM TCPIP CLOSE: RC=FFFF ErrNo=1027 TCA=00010000 Task=SER
    TCB=008DAE88 TIE=15B62F50 Sock=0000
SER0920I Current Users:0 Maximum Users:32767
SER2010I XCH ###<User_ID><T_Elapsed><T_LastAct><Partner Identifier> Users=0
SER2011I CMN ###<User_ID><T_Elapsed><T_LastAct><Partner Identifier> Users=0
SER2011I CMN No active users found
SER1020I XCH TCP/IP CLOSE: RC=FFFF ErrNo=1027 TCA=15B6E000 Task=XCH00001
    TCB=008CC888 TIE=15B7C150 Sock=0000

SER0850I Operator command: TCPIP,START
SER1081I SYSTEM TCP/IP procedures are active: TCPIP
SER1020I SYSTEM TCP/IP INITAPI: RC=FFFF ErrNo=10197 TCA=00010000 Task=SER
    TCB=008DAE88 TIE=15B62F50 Sock=0000
SER1014I CMNSTART *Error* Specified port number already in use: 6051
SER1000I XCH TCP/IP environment active at 10.35.11.100..6052
SER1001I XCH TCP/IP local host name: C001
SER0826I LIBR not found
SER0850I Operator command: TCPIP,RESTART
SER0917I TCP/IP Restart Requested
SER0920I Current Users:0 Maximum Users:32767
SER2010I XCH ###<User_ID><T_Elapsed><T_LastAct><Partner Identifier> Users=0
SER2011I CMN ###<User_ID><T_Elapsed><T_LastAct><Partner Identifier> Users=0
SER2011I CMN No active users found
SER1000I XCH TCP/IP environment active at 10.35.11.100..6052
SER1001I XCH TCP/IP local host name: C001
SER0850I Operator command: TCPIP,STOP,IMED
SER0916I TCPIP Stop Requested
SER1020I SYSTEM TCPIP SETSOCKOPT: RC=FFFF ErrNo=1027 TCA=00010000 Task=SER
    TCB=008DAE88 TIE=15B62F50 Sock=0000
SER1020I SYSTEM TCPIP CLOSE: RC=FFFF ErrNo=1027 TCA=00010000 Task=SER
    TCB=008DAE88 TIE=15B62F50 Sock=0000
SER0920I Current Users:2 Maximum Users:32767
SER2010I XCH ###<User_ID><T_Elapsed><T_LastAct><Partner Identifier> Users=0
SER2011I CMN ###<User_ID><T_Elapsed><T_LastAct><Partner Identifier> Users=2
SER2011I CMN 001 USER240  H00M01S05  H00M01S04  10.35.11.100
SER2011I CMN 002 USER239  H00M00S36  H00M00S33  10.30.224.18
```

### USERS

**Purpose**
Display users connected to the SERNET started task. If the application is specified, only users connected to that application are displayed. If SUMMARY is specified, only a count of users connected to each application is displayed.

**Application(s)**
All applications running under a SERNET started task

**Format**
```
/F jobname[,aaa],USERS
/F jobname,USERS[,SUMMARY]
```

Where:  
jobname  Started task jobname
aaa  Application running under SERNET
**Standard Modify Commands**

**Comments**

<table>
<thead>
<tr>
<th>Data displayed:</th>
</tr>
</thead>
<tbody>
<tr>
<td># # #</td>
</tr>
<tr>
<td>User_ID</td>
</tr>
<tr>
<td>T_Elapsed</td>
</tr>
<tr>
<td>T_LastAct</td>
</tr>
<tr>
<td>Partner Identifier</td>
</tr>
<tr>
<td>Current/Max=0/0</td>
</tr>
</tbody>
</table>

**Examples**

```
/F SERT4712,USERS
/F SERT4712,CMN,USERS
/F SERT4712,USERS,SUMMARY
```

**Response**

```
SER0850I Operator command: USERS
SER0920I Current Users: 0 Maximum Users: 32767
SER2010I XCH # # #<User_ID><T_Elapsed><T_LastAct><Partner Identifier> Users=0
SER2012I XCH No active users found
SER2010I CMN # # #<User_ID><T_Elapsed><T_LastAct><Partner Identifier> Users=0
SER2012I CMN No active users found

SER0850I Operator command: CMN,USERS
SER2010I CMN # # #<User_ID><T_Elapsed><T_LastAct><Partner Identifier> Users=0
SER2012I CMN No active users found

SER0850I Operator command: USERS,SUMMARY
SER0920I Current Users: 0 Maximum Users: 32767
SER2009I XCH Users: 0
SER2009I CMN Users: 0
```

**WARN**

**Purpose**

Controls XML Services syntax warnings facility.

**Application(s)**

XML Services

**Format**

```
/F jobname,WARN,[YES|NO]
```

Where:  

```
jobname Started task jobname
```

**Comments**

When SERXMLI is unable to recognize an XML tag, it can write a warning message to SERPRINT. There are three ways to enable or disable these warning messages:

- SERNET modify command:
  
  ```
  /F jobname,WARN,[YES|NO]
  ```

- SERNET keyword option input to the started task at startup:
  
  ```
  WARN=[YES|NO]
  ```

  See "WARN" on page 164.

- XML tag in the <header> of the request message:
  
  ```
  <warn>Y</warn>
  ```

  See the XML Services User's Guide.
### Examples

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>/F SERT4712,WARN,YES</code></td>
<td>Enable XML Services syntax warning</td>
</tr>
<tr>
<td><code>/F SERT4712,WARN,NO</code></td>
<td>Enable XML Services syntax warning</td>
</tr>
<tr>
<td><code>/F SERT4712,WARN</code></td>
<td>Display status of XML Services syntax warning</td>
</tr>
</tbody>
</table>

### Response

<table>
<thead>
<tr>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>SER0850I Operator command: WARN,YES</code></td>
</tr>
<tr>
<td><code>SER0960I XML syntax warning has been turned on</code></td>
</tr>
<tr>
<td><code>SER0850I Operator command: WARN,NO</code></td>
</tr>
<tr>
<td><code>SER0959I XML syntax warning has been turned off</code></td>
</tr>
<tr>
<td><code>SER0850I Operator command: WARN</code></td>
</tr>
<tr>
<td><code>SER0961I XML syntax warning is: Off</code></td>
</tr>
</tbody>
</table>
Restricted Modify Commands

These modify commands will add significant processing overhead and are to be used only as directed by Technical Support. They are included here to provide format specifications and examples.

NETTRACE

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Display the contents of communications buffers to trace data that flows across the network. Dump the contents of each buffer into the SERPRINT sysout data set.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application(s)</td>
<td>All applications running under a SERNET started task</td>
</tr>
<tr>
<td>Format</td>
<td>`/F jobname,NETTRACE {ON</td>
</tr>
<tr>
<td>Where:</td>
<td>jobname Started task jobname</td>
</tr>
<tr>
<td></td>
<td>ON Enable NETTRACE as specified</td>
</tr>
<tr>
<td></td>
<td>OFF Disable NETTRACE as specified</td>
</tr>
<tr>
<td></td>
<td>DISPLAY Display all NETTRACE specifications currently enabled</td>
</tr>
<tr>
<td></td>
<td>LUNAME=data Trace this LU. Abbreviation: L=. Trailing * wildcard permitted.</td>
</tr>
<tr>
<td></td>
<td>TCP=data Trace this TCP/IP address. Abbreviation: T= for trace. Trailing * wildcard permitted in each address segment.</td>
</tr>
<tr>
<td></td>
<td>USER=data Trace this user ID. Abbreviation: U=. Trailing * wild card permitted.</td>
</tr>
<tr>
<td></td>
<td>TRACESIZE=data Specifies maximum amount of data to display for each call to the network tracing routines. Default is 1024 bytes, minimum is 128 bytes.</td>
</tr>
<tr>
<td>Comments</td>
<td>The TRACE modify command is not a toggle switch. You must turn OFF any NETTRACE that you turn ON. You cannot use a wildcard to turn OFF multiple TRACE,ON commands. NETTRACE can generate high volumes of output if all users are traced or there is a high level of activity for individual users that are traced.</td>
</tr>
<tr>
<td>Examples</td>
<td><code>/F SERT5,NETTRACE,ON,USER=USER239</code></td>
</tr>
<tr>
<td></td>
<td><code>/F SERT5,NETTRACE,ON,TCP=111.11.111.111</code></td>
</tr>
<tr>
<td></td>
<td><code>/F SERT5,NETTRACE,DISPLAY</code></td>
</tr>
<tr>
<td></td>
<td><code>/F SERT5,NETTRACE,OFF,USER=USER239</code></td>
</tr>
<tr>
<td></td>
<td><code>/F SERT5,NETTRACE,OFF,T=111.11.111.111</code></td>
</tr>
<tr>
<td>Response</td>
<td>SER0850I Operator command: NETTRACE,ON,USER=USER239 SER0864I NETTRACE enabled: USER=USER239,SIZE=00256</td>
</tr>
</tbody>
</table>

REFRESH

| Purpose | Delete and reload specified SERNET load module. |
| Application(s) | SERNET |
| Format | `/F jobname,REFRESH,modname` |
| Where: | jobname Started task jobname |
| | modname Module to be refreshed |
**Appendix E Modify Commands**

| **Comments** | This modify command only refreshes load modules that are loaded by SERNET, which are typically named SERxxxxx. This modify command does not refresh load modules loaded by applications such as ZMF, whose load modules are typically named CMNxxxxx. |
| **Examples** | /F SERT5,REFRESH,SEREX005 |
| **Response** | SER0850I Operator command: REFRESH,SERCOPY SER1402I Name=SERCOPY old/new EPA=162500DF8/17148DF8 RC=0 SER1403I Name=SERCOPY old/new token=1464C6E-00003208/E1C3C67E-0000320B SER1405I Name=SERCOPY SERCOPY (MVS-7.1.2A) 20120725 13.21 Copy utility SER0850I Operator command: REFRESH,SERLCSEC SER1402I Name=SERLCSEC old/new EPA=00040470/00040470 RC=0 SER1403I Name=SERLCSEC old/new token=BF73BF5-80000A92/BF73BF5-80000A92 SER1405I Name=SERLCSEC SERLCSEC/SAF; (MVS-) 20090717 21.29 |

**TRACE**

| **Purpose** | Modify the TRACE options in effect. |
| **Application(s)** | SERNET, ChangeMan ZMF |
### Trace Examples

In the following examples of the TRACE modify command:

- Each command that is entered on the operator console or in SDSF is followed by the response that is displayed in the SERPRINT data set.

- Trace specifications in these examples are cumulative. Trace DISPLAY commands show the cumulative trace options in effect.

#### Format

<table>
<thead>
<tr>
<th>Format</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/F jobname,TRACE[,DISPLAY]</td>
<td>Started task jobname</td>
</tr>
<tr>
<td>[,ON,CMN</td>
<td>SER,CLASS=(n,n,n,...)]</td>
</tr>
<tr>
<td>[,OFF,CMN</td>
<td>SER,CLASS=(n,n,n,...)]</td>
</tr>
<tr>
<td>[,ON,USER=uuuuuuu[*]]</td>
<td>Disable TRACE as specified</td>
</tr>
<tr>
<td>[,OFF,USER=uuuuuuu[*]]</td>
<td>SERNET</td>
</tr>
<tr>
<td>[,OFF,ID=n]</td>
<td>ChangeMan ZMF</td>
</tr>
<tr>
<td>ON is a synonym for YES</td>
<td>Trace class, numeric 1-32</td>
</tr>
<tr>
<td>OFF is a synonym for NO</td>
<td>1 - All CMN traces not listed below</td>
</tr>
<tr>
<td>Where:</td>
<td>2 - CMNATACH user conversation incoming request and outgoing response. I.E. &quot;TRACE IN ...&quot; and &quot;TRACE OUT ...&quot;.</td>
</tr>
<tr>
<td>jobname</td>
<td>CMNENTFY event notification.</td>
</tr>
<tr>
<td>DISPLAY</td>
<td>CMNSCHED CMN scheduler.</td>
</tr>
<tr>
<td>ON or YES</td>
<td>3 - VSAM CMAST data interim results. This shows long and short CMAST data in a common format</td>
</tr>
<tr>
<td>OFF or NO</td>
<td>4 - CMNVRLIO VSAM i/o response (major/minor/key/rc/fdbk)</td>
</tr>
<tr>
<td>SER</td>
<td>Limit SERNET trace to this user ID (trailing wildcard permitted)</td>
</tr>
<tr>
<td>CMN</td>
<td>Numeric identifier for trace USER that is used to turn trace user limit off</td>
</tr>
<tr>
<td>n</td>
<td>USER=uuuuuuu</td>
</tr>
<tr>
<td>ON or YES</td>
<td>ID=m</td>
</tr>
</tbody>
</table>

#### Comments

If no user ID is specified, all user IDs are traced. The TRACE,ON,USER= command may be issued more than once to add user IDs to the list of eligible messages. TRACE options are logically ORed, meaning that if a message matches one of the specifications, the message is displayed. ChangeMan ZMF messages are never affected by a user ID limit and are always shown for all user IDs.

All trace classes can also be enabled/disabled with the following format:

/F stcname,TRACE,YES,CMN
/F stcname,TRACE,YES,SER

Once the problem requiring the trace has been recreated, immediately disable all the traces by replacing any 'YES' with 'NO' and/or 'ON' with 'OFF' in each of the above modify commands.
Appendix E  Modify Commands

- No TRACE keyword option was included in the SERNET startup parameters.

1 Display the current trace settings.

    `/F SERTS,TRACE,DISPLAY`

    **SER0850I** Operator command: TRACE,DISPLAY
    **SER0966I** Classes active for component SER: None
    **SER0966I** Classes active for component CMN: None

2 Turn on trace Class 1 and 2 for SERNET and ChangeMan ZMF:

    `/F SERTS,TRACE,ON,SER,CLASS=(1,2)`

    **SER0850I** Operator command: TRACE,ON,SER,CLASS=(1,2)
    **SER0964I** Trace classes set
    `/F SERTS,TRACE,ON,CMN,CLASS=(1,2)`

    **SER0850I** Operator command: TRACE,ON,CMN,CLASS=(1,2)
    **SER0964I** Trace classes set

    `/F SERTS,TRACE,DISPLAY`

    **SER0850I** Operator command: TRACE,DISPLAY
    **SER0966I** Classes active for component SER: 01 02
    **SER0966I** Classes active for component CMN: 01 02

3 Limit trace to user ID USER239 and USER240:

    `/F SERTS,TRACE,ON,USER=USER239`

    **SER0850I** Operator command: TRACE,ON,USER=USER239
    **SER0924I** Trace started for user: USER239, ID: 1
    `/F SERTS,TRACE,ON,USER=USER240`

    **SER0850I** Operator command: TRACE,ON,USER=USER240
    **SER0924I** Trace started for user: USER240, ID: 2

    `/F SERTS,TRACE,DISPLAY`

    **SER0850I** Operator command: TRACE,DISPLAY
    **SER0922I** information follows:
    **SER0923I** Trace ID: 2 User ID: USER240
    **SER0923I** Trace ID: 1 User ID: USER239
    **SER0966I** Classes active for component SER: 01 02
    **SER0966I** Classes active for component CMN: 01 02

4 Turn off Class 2 trace for ChangeMan ZMF:

    `/F SERTS,TRACE,OFF,CMN,CLASS=(2)`

    **SER0850I** Operator command: TRACE,OFF,CMN,CLASS=(2)
    **SER0964I** Trace classes set

    `/F SERTS,TRACE,DISPLAY`

    **SER0850I** Operator command: TRACE,DISPLAY
    **SER0922I** information follows:
    **SER0923I** Trace ID: 2 User ID: USER240
    **SER0923I** Trace ID: 1 User ID: USER239
    **SER0966I** Classes active for component SER: 01 02
    **SER0966I** Classes active for component CMN: 01

5 Turn off Class 1 trace for ChangeMan ZMF:

    `/F SERTS,TRACE,OFF,CMN,CLASS=(1)`

    **SER0850I** Operator command: TRACE,OFF,CMN,CLASS=(1)
    **SER0964I** Trace classes set

---

**CAUTION!** Trace classes 1 and 2 ON for both SERNET and ChangeMan ZMF produces the most verbose output. Over 350 lines of trace data is displayed in the SERPRINT data set when one user executes the following steps:

1 Logon to ChangeMan ZMF
2 Package list for the ACTP application
3 Log off ChangeMan ZMF
/F SERT5,TRACE,DISPLAY
SER0850I Operator command: TRACE,DISPLAY
SER0922I information follows:
SER0923I Trace ID: 2 User ID: USER240
SER0923I Trace ID: 1 User ID: USER239
SER0966I Classes active for component SER: 01 02
SER0966I Classes active for component CMN: None

6 Turn turn off the USER239 trace limit and the USER240 trace limits:

/F SERT5,TRACE,OFF,ID=1
SER0850I Operator command: TRACE,OFF,ID=1
SER0883I TRACE ID 1 turned off
/F SERT5,TRACE,OFF,USER=USER240
SER0850I Operator command: TRACE,OFF,USER=USER240
SER0883I TRACE ID 2 turned off
/F SERT5,TRACE,DISPLAY
SER0850I Operator command: TRACE,DISPLAY
SER0966I Classes active for component SER: 01 02
SER0966I Classes active for component CMN: None

7 Turn off Class 1 and 2 trace for SERNET:

/F SERT5,TRACE,OFF,SER,CLASS=(1,2)
SER0850I Operator command: TRACE,OFF,SER,CLASS=(1,2)
SER0964I Trace classes set
/F SERT5,TRACE,DISPLAY
SER0850I Operator command: TRACE,DISPLAY
SER0966I Classes active for component SER: None
SER0966I Classes active for component CMN: None
Appendix F

Technical Notes

This appendix contains technical information that may be helpful when installing ChangeMan ZMF.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP/IP Trouble Shooting</td>
<td>188</td>
</tr>
<tr>
<td>Trusted User ID For ALM Logon To ChangeMan ZMF</td>
<td>189</td>
</tr>
</tbody>
</table>
TCP/IP Trouble Shooting

This section provides advice to the installer responsible for making SERNET connect to the TCP/IP address space.

Verifying the TCP/IP Port

A common concern early in the effort is determining whether SERNET is listening on the proper port. You can enter the following command on the ISPF Command Shell command line, or at the TSO READY prompt, to display a list of sockets and their corresponding states:

```
NETSTAT ALLCONN
```

The NETSTAT command can produce a high volume of output in a large network. The REPORT option can be added to the command to write the output to a data set. The syntax for adding the REPORT option is:

```
NETSTAT ALLCONN REPORT
```

The naming convention for the output data set is:

```
userid.NETSTAT.ALLCONN
```

Detecting Errors in the TCP/IP API

All error conditions in the TCP/IP API are written to //SERPRINT. A complete listing of all TCP/IP calls is available by toggling the TEST keyword option. Contact Technical Support about using TEST.

Each call to the API is detailed in messages with the following format:

```
SERs000I user-ID TCP/IP function RC=rc,ERRNO=errno
```

To find the specific reason for the error, locate the error number (errno) in Appendix D.1 of the IBM publication *TCP/IP for MVS: API Reference*. Function (function) and return code (rc) offer further advice.

Verifying Network Connectivity

Use the PING command to verify network connectivity to a specific IP address.

```
PING P390MVS
PING 192.3.255.21
```

**NOTE** PING only verifies that network connectivity exists and is not completely blocked by a firewall. It cannot determine if a specific port number is available for connection.

ERRORNO 156 - Missing OMVS Segment

Failure to add an OMVS segment to the user ID associated with a SERNET instance results in the following error message during SERNET initialization:
Trusted User ID For ALM Logon To ChangeMan ZMF

There are two ways to define an alternate or "trusted" user ID for ChangeMan ZMF to allow impersonation:

- Code the user ID in table ACF2BAT in local security routine SERLCSEC. Using this method, you can enable the user ID for particular subsystem IDs or for all subsystem IDs.

- Permit the user ID READ access to resource SERENA.SERNET.AUTHUSR in the FACILITY class. If you want to use a different resource in the FACILITY class, you can change the resource name coded in security exit program SERLCSEC.

By using the FACILITY class, your security administrator can manage impersonation without changing anything in ChangeMan ZMF.
Appendix G

ZDDOPTS: ChangeMan ZDD XML Options

This chapter tells you how to customize the behavior of the ChangeMan ZDD client when accessing a ChangeMan ZMF server.

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>192</td>
</tr>
<tr>
<td>AUDIT, DEMOTE, and PROMOTE Options</td>
<td>196</td>
</tr>
<tr>
<td>BUILD Options</td>
<td>199</td>
</tr>
<tr>
<td>COMMAND Options</td>
<td>205</td>
</tr>
<tr>
<td>LIBTYPE Options</td>
<td>207</td>
</tr>
<tr>
<td>PKGCREAT Options</td>
<td>209</td>
</tr>
<tr>
<td>PKGPROP Options</td>
<td>213</td>
</tr>
</tbody>
</table>
Introduction

This appendix describes the ChangeMan ZDD settings that can be specified for the mainframe server started tasks. These settings apply to ChangeMan ZMF functions accessed through ZDD.

These settings are specified in XML format and stored as members of a PDS library. This library must be allocated to the ChangeMan ZMF server started task using ddname ZDDOPTS:

```//ZDDOPTS DD DSN=somnode.ZDDOPTS,DISP=SHR```

The ZDDOPTS library is allocated to the started task to which the settings apply.

**NOTE** Skip this appendix if any of these apply:
- You do not license ChangeMan ZMF.
- You will not use ChangeMan ZDD to access ZMF.
- Your version of ZMF is not 5.3.6 or higher.

The first time you initiate a ZDD function that uses these options, the following actions are performed:

1. XML pages are read from the appropriate ZDDOPTS member on the mainframe.
2. XML is parsed to get the option values.
3. Option values are stored in the Windows registry on your PC.

Option information is deleted from the registry when you log off from Windows or restart Windows.

**IMPORTANT!** If you update a ZDDOPTS member, you must do a refresh options from the ZDD client for the new settings to take effect:

1. In Windows Explorer, right-click either a ChangeMan ZDD server node or a ChangeMan ZMF instance.
2. On the Serena Network shortcut menu, click Refresh Options.

It is not necessary to restart the started task.

If you want to use the same options for all servers, allocate the same ZDDOPTS library to all servers. If you want unique behavior for a server, code a different library name at ddname ZDDOPTS.

**ZDDOPTS Members**

The following members can be included in the ZDDOPTS library.

<table>
<thead>
<tr>
<th>Member Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUDIT</td>
<td>User-defined options for audit package</td>
</tr>
<tr>
<td>BUILD</td>
<td>Default settings for build, recompile, and relink dialogs</td>
</tr>
<tr>
<td>COMMAND</td>
<td>Enables or disables menu commands</td>
</tr>
<tr>
<td>DEMOTE</td>
<td>User-defined options for demote package</td>
</tr>
</tbody>
</table>
XML Syntax

Members in the ZDDOPTS library contain well-formed XML pages, but this XML does not follow all of the same syntax rules that apply to XML Services.

The top level XML element for each ZDDOPTS XML page is the <options> element:

```
<options name="XXXXXXXX" strict=...>
...
</options>
```

...where XXXXXXXXX is the name of the ZDDOPTS member.

Element names (example: <options>) and attribute names (example: name=) in ZDDOPTS members are case sensitive and should always be specified using lower case. Attribute values in double quotes are not case sensitive and can be specified in upper, lower, or mixed case.

The optional strict="Y" or strict="N" attribute above specifies whether unrecognized keywords or element names are ignored. The default is strict="N", which ignores unrecognized keywords. This default facilitates migrating to new versions of ChangeMan ZDD that support new keywords or element names. By ignoring unrecognized keywords, older ZDD clients can still be used without displaying an error message when a ZDDOPTS member is read.

There may be times, however, when you want to specify strict="Y". With strict="N", misspelled keywords or element names will simply be ignored. If you have a ZDDOPTS member that doesn’t appear to be working correctly, specify strict="Y" so that any misspelled names will be reported as errors.

The strict attribute can be specified in the <options> element of any ZDDOPTS member.

Multiple Attribute Values

Some attributes allow multiple values to be specified. When specifying multiple values, separate the values with spaces, for example:

```
<profile application="TST* DEMO X*"
```

Most attributes on <profile> elements accept multiple values.

Table: ZDDOPTS Members

<table>
<thead>
<tr>
<th>Member Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIBTYPE</td>
<td>Shows or hides ChangeMan library types</td>
</tr>
<tr>
<td>PKGCREAT</td>
<td>User-defined options for package creation</td>
</tr>
<tr>
<td>PKGPROP</td>
<td>Allow or disallow package property fields to be changed</td>
</tr>
<tr>
<td>PROMOTE</td>
<td>User-defined options for promote package</td>
</tr>
</tbody>
</table>

**NOTE** All ChangeMan ZDD users must be at version 3.2 or higher before specifying multiple attribute values in any ZDDOPTS member. Earlier versions of ZDD do not support multiple values and this will be considered a syntax error.
Appendix G  ZDDOPTS: ChangeMan ZDD XML Options

Wildcard Patterns

Some attribute values allow wildcard patterns to be specified. You can use the following wildcard characters in the pattern string:

<table>
<thead>
<tr>
<th>Character</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>Matches zero or more characters</td>
</tr>
<tr>
<td>?</td>
<td>Matches a single character</td>
</tr>
</tbody>
</table>

For example:
- The pattern "A*" would match any string that starts with the letter A.
- The pattern "*Z" would match any string that ends in the letter Z.
- The pattern "A*Z" would match any string that starts with A and ends with Z.
- The pattern "A??D" would match a string that starts with A, followed by exactly two characters, and followed by D.
- The pattern "*" matches any string.

The following table gives examples of how wildcard patterns work.

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Description</th>
<th>Match</th>
<th>No Match</th>
</tr>
</thead>
<tbody>
<tr>
<td>A*</td>
<td>Match any string that starts with the letter A.</td>
<td>A, AB, ABCDEFGH</td>
<td>B, BA</td>
</tr>
<tr>
<td>*Z</td>
<td>Match any string that ends in the letter Z.</td>
<td>Z, WXYZ</td>
<td>ZA, AZA</td>
</tr>
<tr>
<td>A*DE</td>
<td>Match a string that starts with A and ends with the letters DE.</td>
<td>ABCDE, AXXXXXDE</td>
<td>ABCDEF</td>
</tr>
<tr>
<td>A??DE</td>
<td>Match a string that starts with A, followed by exactly two characters, followed by DE.</td>
<td>ABCDE, AXYDE</td>
<td>ABCDEF, AXYZDE</td>
</tr>
<tr>
<td>*</td>
<td>Match any string.</td>
<td>Z, ABCDEFGH</td>
<td></td>
</tr>
</tbody>
</table>

Translating Comments in ZDDOPTS Members

**IMPORTANT!** This section describes modifications you may need to make if you are using certain code pages on your mainframe.

ZDDOPTS members use the following XML syntax for comments:

```xml
<!-- xxx -->
```

If you use certain code pages on your mainframe, and if you follow the standard procedure in Chapter 4, "Unloading the Software" on page 51 to populate the SERCOMC SAMPXML library on the mainframe, the ! in XML comments may be changed to a different character. This change renders the XML invalid.
This table shows how ! is translated for each code page:

<table>
<thead>
<tr>
<th>Code Page</th>
<th>Language</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>00424</td>
<td>Hebrew</td>
<td>!</td>
</tr>
<tr>
<td>00875</td>
<td>Greek</td>
<td>]</td>
</tr>
<tr>
<td>01140</td>
<td>English-US, Portuguese</td>
<td>!</td>
</tr>
<tr>
<td>01141</td>
<td>German</td>
<td>Ü</td>
</tr>
<tr>
<td>01142</td>
<td>Danish, Norwegian</td>
<td>_</td>
</tr>
<tr>
<td>01143</td>
<td>Finish, Swedish</td>
<td>_</td>
</tr>
<tr>
<td>01144</td>
<td>Italian</td>
<td>é</td>
</tr>
<tr>
<td>01145</td>
<td>Spanish</td>
<td>]</td>
</tr>
<tr>
<td>01146</td>
<td>English-UK</td>
<td>!</td>
</tr>
<tr>
<td>01147</td>
<td>French</td>
<td>§</td>
</tr>
<tr>
<td>01148</td>
<td>Malay</td>
<td>]</td>
</tr>
<tr>
<td>01149</td>
<td>Icelandic</td>
<td>æ</td>
</tr>
<tr>
<td>01153</td>
<td>Polish, Hungarian</td>
<td>]</td>
</tr>
<tr>
<td>01154</td>
<td>Russian</td>
<td>]</td>
</tr>
<tr>
<td>01155</td>
<td>Turkish</td>
<td>Đ</td>
</tr>
<tr>
<td>01156</td>
<td>Latvian, Lithuanian</td>
<td>!</td>
</tr>
<tr>
<td>01157</td>
<td>Estonian</td>
<td>]</td>
</tr>
<tr>
<td>01158</td>
<td>Ukrainian</td>
<td>]</td>
</tr>
<tr>
<td>01164</td>
<td>Vietnamese</td>
<td>]</td>
</tr>
</tbody>
</table>

When ! is changed to a different character, users see the following error message (or something similar) the first time they execute a ZMF function that uses a ZDDOPTS member with a comment:

```
ChangeMan [ChangeMan ZMF instance] on server [ChangeMan ZDD server]
has invalid XML data specified for ZDDOPTS in [library(member)].
Missing equals sign between attribute and attribute value.
```

There are two solutions to this problem:

- On the mainframe, manually edit the members that you copy from the SERCOMC SAMPXML library to the ZDDOPTS library to fix the ! in comments. The hexadecimal code for ! is 5A.

  or

- Manually upload the sample ZDDOPTS files as text files to the mainframe from the workstation where you installed the ChangeMan ZDD client. The translation of ASCII text to hexadecimal will preserve the ! in comments. The default location for ZDDOPTS members on your workstation is:

  `C:\Program Files\Serena\ChangeMan ZDD\Samples\ZddOpts`
AUDIT, DEMOTE, and PROMOTE Options

The AUDIT, DEMOTE, and PROMOTE members of the ZDDOPTS library specify user-defined options for the Audit, Demote, and Promote Package wizards. Each of these members contains one or more profiles. Each profile is a complete set of options for the corresponding wizard.

Profiles are specified by application. You may specify one or more applications associated with each profile. Applications may be specified using wildcard patterns. The first matching profile is the one used.

The structure of an AUDIT, DEMOTE, or PROMOTE member is as follows:

```xml
<options name= ...>    ("AUDIT", "DEMOTE", or "PROMOTE")

    <profile ...>
        <field name= .../>
        <field name= .../>
    </profile>

    <profile ...>
        <field name= .../>
        <field name= .../>
    </profile>

</options>
```
Elements

This table shows the elements for the AUDIT, DEMOTE, and PROMOTE members.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>options</td>
<td>Top-level document element</td>
<td>name strict</td>
</tr>
<tr>
<td>profile</td>
<td>Complete set of user variables for the audit, demote, or promote package wizards.</td>
<td>application</td>
</tr>
<tr>
<td>field</td>
<td>Properties for a particular field.</td>
<td>name length default readonly label required uppercase validation</td>
</tr>
</tbody>
</table>

Attributes for <options> Element

These are the attributes for the <options> element.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>ZDDOPTS member name</td>
<td>&quot;AUDIT&quot; &quot;DEMOTE&quot; &quot;PROMOTE&quot;</td>
<td>No</td>
<td>8</td>
<td>Value required</td>
</tr>
<tr>
<td>strict</td>
<td>Report error or ignore unrecognized keywords</td>
<td>&quot;Y&quot; or &quot;N&quot;</td>
<td>No</td>
<td>1</td>
<td>&quot;N&quot;</td>
</tr>
</tbody>
</table>

Attributes for <profile> Element

This table shows the attributes for the <profile> element. Attributes can be coded in any order.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>application</td>
<td>Application mnemonic</td>
<td>Wildcard pattern</td>
<td>Yes</td>
<td>0 - 4</td>
<td>&quot;*&quot;</td>
</tr>
</tbody>
</table>

Attributes for <field> Element

This table shows attributes for the <field> element. Attributes can be coded in any order.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description / Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>Field name. Values are described in &quot;Name Values for &lt;field&gt; Element&quot; on page 199.</td>
<td>No</td>
<td>1 - 16</td>
<td>Value required</td>
</tr>
<tr>
<td>Attribute</td>
<td>Description / Values</td>
<td>Multiple Values</td>
<td>Length</td>
<td>Default</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>----------------</td>
<td>--------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>length</td>
<td>Maximum number of characters. Valid values: 1 - 72</td>
<td>No</td>
<td>2</td>
<td>Field length</td>
</tr>
<tr>
<td>default</td>
<td>Default value for field.</td>
<td>No</td>
<td></td>
<td>Field is left blank</td>
</tr>
<tr>
<td>readonly</td>
<td>Determines whether the field can be changed by users.</td>
<td>No</td>
<td>1</td>
<td>“N”</td>
</tr>
<tr>
<td></td>
<td>“Y” Field cannot be changed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“N” Field can be changed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>label</td>
<td>Defines the field label. Can be any text, any case. The number of characters that are actually displayed depends on the size of the display field.</td>
<td>No</td>
<td>0 – 32</td>
<td>Value required</td>
</tr>
<tr>
<td>required</td>
<td>Determines whether a field is required or can be left blank.</td>
<td>No</td>
<td>1</td>
<td>“N”</td>
</tr>
<tr>
<td></td>
<td>“Y” This field is required and cannot be left blank.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“N” This field can be left blank.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>uppercase</td>
<td>Determines whether the case of the field will remain as entered or will be changed to upper case.</td>
<td>No</td>
<td>1</td>
<td>“N”</td>
</tr>
<tr>
<td></td>
<td>“Y” Field will be changed to upper case.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“N” Field will remain as entered.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>validation</td>
<td>Validation performed on data entered in the field.</td>
<td>No</td>
<td>0 – 8</td>
<td>“NONE”</td>
</tr>
<tr>
<td></td>
<td>“YN” Y or N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“ALPHA” A-Z or national (#, $, @)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“ALPHANUM” A-Z, national (#, $, @), 0-9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“NUMBER” 0-9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“SYMBOL” Same as ALPHANUM, except first character must be alphabetic or national.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“DSNAME” Valid data set name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“NONE” No validation performed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Name Values for `<field>` Element

This table describes values for the name attribute of the `<field>` element.

<table>
<thead>
<tr>
<th>Name Value</th>
<th>Description</th>
<th>User Defined</th>
<th>Values</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>UserVariable01 - UserVariable05</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-8</td>
</tr>
<tr>
<td>UserVariable06 - UserVariable10</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-72</td>
</tr>
</tbody>
</table>

Example

Sample AUDIT, DEMOTE, and PROMOTE members are delivered with the ZDD server components in the SERCOMC SAMPXML library.

You can also view the sample members, formatted by your default XML browser, on your desktop workstation in file:

```
C:\Program Files\Serena\ChangeMan ZDD Client\Samples\ZddOpts\member.xml
```

where `member` is AUDIT, DEMOTE, or PROMOTE.

BUILD Options

The BUILD member of the ZDDOPTS library specifies default settings for the Build, Recompile, and Relink dialog boxes. The BUILD member includes one or more profiles. Each profile is a complete set of rules for the Build dialog.

Profiles are specified by application, language, build procedure, and library type. Any or all of these can be specified using wildcard patterns. The first matching profile is the one used.
Appendix G  ZDDOPTS: ChangeMan ZDD XML Options

The structure of a BUILD member is as follows:

```xml
<options name="BUILD">
  <multiple init= .../>
  <profile ...>
    <field name= .../>
    <field name= .../>
  </profile>
  <profile ...>
    <field name= .../>
    <field name= .../>
  </profile>
</options>
```

## Elements

This table shows the elements for the BUILD member.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>options</td>
<td>Top-level document element.</td>
<td>name</td>
</tr>
<tr>
<td>multiple</td>
<td>Specifies how the Build dialog box fields are to be initialized when multiple components are being built at the same time.</td>
<td>strict, init</td>
</tr>
<tr>
<td>profile</td>
<td>Complete set of fields for Build dialog box.</td>
<td>application, libtype, language, proclname</td>
</tr>
<tr>
<td>field</td>
<td>Properties for a particular field in the dialog box.</td>
<td>name, default, label, length, readonly, required, uppercase, validation</td>
</tr>
</tbody>
</table>

## Attributes for <options> Element

This table shows the attributes for the <options> element.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>ZDDOPTS member name</td>
<td>&quot;BUILD&quot;</td>
<td>No</td>
<td>5</td>
<td>Value required</td>
</tr>
<tr>
<td>strict</td>
<td>Report error or ignore unrecognized keywords</td>
<td>&quot;Y&quot; or &quot;N&quot;</td>
<td>No</td>
<td>1</td>
<td>&quot;N&quot;</td>
</tr>
</tbody>
</table>
Attributes for `<multiple>` Element

Attributes for the `<multiple>` element are shown below.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>init</td>
<td>Field initialization for multiple components</td>
<td>&quot;None&quot; &quot;First&quot; &quot;All&quot;</td>
<td>No</td>
<td>0 - 5</td>
<td>&quot;All&quot;</td>
</tr>
</tbody>
</table>

The `<multiple>` element specifies how the Build dialog box fields are to be initialized when multiple components are being built at the same time. The following table describes the values that can be specified for the `init` attribute:

<table>
<thead>
<tr>
<th>Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None of the dialog box fields will be filled in.</td>
</tr>
<tr>
<td>First</td>
<td>Dialog box fields will be filled in with values from the first component for which history or a designated build procedure can be found.</td>
</tr>
<tr>
<td>All</td>
<td>History for all of the components will be examined. Those fields that contain the same value for all components will be filled in. Fields for which values differ from component to component will be left blank.</td>
</tr>
</tbody>
</table>

Attributes for `<profile>` Element

This table shows the attributes for the `<profile>` element. Attributes can be coded in any order.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>application</td>
<td>Application mnemonic</td>
<td>Wildcard pattern</td>
<td>Yes</td>
<td>0 - 4</td>
<td>&quot;*&quot;</td>
</tr>
<tr>
<td>libtype</td>
<td>Library type</td>
<td>Wildcard pattern</td>
<td>Yes</td>
<td>0 - 3</td>
<td>&quot;*&quot;</td>
</tr>
<tr>
<td>language</td>
<td>Language</td>
<td>Wildcard pattern</td>
<td>Yes</td>
<td>0 - 8</td>
<td>&quot;*&quot;</td>
</tr>
<tr>
<td>proname</td>
<td>Build procedure</td>
<td>Wildcard pattern</td>
<td>Yes</td>
<td>0 - 8</td>
<td>&quot;*&quot;</td>
</tr>
<tr>
<td>name</td>
<td>Profile name</td>
<td></td>
<td>No</td>
<td>1 - 8</td>
<td></td>
</tr>
<tr>
<td>function</td>
<td>Build functions</td>
<td>&quot;Build&quot; &quot;Recomp&quot; &quot;Relink&quot; &quot;Query&quot;</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Attributes for `<field>` Element

Attributes for the `<field>` element are shown in the following table. Attributes can be coded in any order.

**NOTE** Some of the attributes apply only to user-defined fields that display on the User Options page of the Build wizard. They are: "label", "length", "required", "uppercase", and "validation".
### Appendix G  ZDDOPTS: ChangeMan ZDD XML Options

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description / Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>Field name. Values are described in &quot;Name Values for &lt;field&gt; Element&quot; on page 203.</td>
<td>No</td>
<td>1 - 16</td>
<td>Value required</td>
</tr>
<tr>
<td>default</td>
<td>Defines what value is automatically inserted in the Build dialog field when the field is initially blank.</td>
<td>No</td>
<td>Depends on the field</td>
<td>Field is left blank</td>
</tr>
</tbody>
</table>
| readonly  | Determines whether the field on the Build dialog can be changed by users.  

"Y" Field cannot be changed.  

"N" Field can be changed. | No               | 1 | “N” |
| label     | Defines the field label on the Build dialog. Can be any text, any case. The number of characters that are actually displayed depends on the width of the displayed characters.  

**NOTE** This is an attribute for the UserOption fields only. | No | 0 – 32 | Value required |
| length    | The maximum number of characters allowed for entry in a UserOption field. Cannot exceed the field size defined for that particular UserOption.  

See "Name Values for <field> Element" on page 203 for specific lengths.  

**NOTE** This is an attribute for the UserOption fields only. | No | 2 | Max. length defined for a User Option field |
| required  | Determines whether a field is required, whether a field can be left blank.  

**NOTE** This is an attribute for the UserOption fields only.  

"Y" This field is required and cannot be left blank.  

"N" This field can be left blank. Delivered ZMF skeletons process blank User Options as if they were set to "N". | No | 1 | “N” |
| uppercase | Determines whether text will be folded to uppercase.  

**NOTE** This is an attribute for the UserOption fields only.  

"Y" Text will be folded to uppercase.  

"N" Text will remain as entered (no conversion to uppercase). | No | 1 | “N” |
### Name Values for `<field>` Element

This table describes the values that may be specified for the `name` attribute of the `<field>` element.

<table>
<thead>
<tr>
<th>Name Value</th>
<th>Description</th>
<th>User Defined</th>
<th>Values</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language</td>
<td>Language name</td>
<td>No</td>
<td>Alphanumeric</td>
<td>0-8</td>
</tr>
<tr>
<td>BuildProc</td>
<td>Build procedure name</td>
<td>No</td>
<td>Alphanumeric</td>
<td>0-8</td>
</tr>
<tr>
<td>Db2PreCompile</td>
<td>Db2 precompile option</td>
<td>No</td>
<td>&quot;Y&quot; or &quot;N&quot;</td>
<td>1</td>
</tr>
<tr>
<td>Db2Subsystem</td>
<td>Db2 subsystem name</td>
<td>No</td>
<td>Alphanumeric</td>
<td>0-4</td>
</tr>
<tr>
<td>CompileOptions</td>
<td>Compile parameters</td>
<td>No</td>
<td>Any text</td>
<td>0-34</td>
</tr>
<tr>
<td>LinkOptions</td>
<td>Link parameters</td>
<td>No</td>
<td>Any text</td>
<td>0-34</td>
</tr>
<tr>
<td>UserOption01 – UserOption20</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-1</td>
</tr>
<tr>
<td>UserOption101 – UserOption105</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-1</td>
</tr>
<tr>
<td>UserOption201 – UserOption203</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-2</td>
</tr>
<tr>
<td>UserOption301 – UserOption303</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-3</td>
</tr>
<tr>
<td>UserOption401 – UserOption403</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-4</td>
</tr>
<tr>
<td>UserOption801 – UserOption805</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-8</td>
</tr>
<tr>
<td>UserOption1001 – UserOption1002</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-10</td>
</tr>
<tr>
<td>UserOption1601 – UserOption1602</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-16</td>
</tr>
</tbody>
</table>
### Example

A sample BUILD member is delivered with the ZDD server components in the SERCOMC SAMPXML library.

You can also view the BUILD sample, formatted by your default XML browser, on your desktop workstation in file:

```plaintext
C:\Program Files\Serena\ChangeMan ZDD Client\Samples\ZddOpts\Build.xml
```
COMMAND Options

The COMMAND member of the ZDDOPTS library allows certain menu commands to be disabled in the ChangeMan ZDD user interface. The COMMAND member includes one or more profiles. Each profile is a complete set of command settings.

Profiles can be specified by either user ID or security group name. Using group name requires that the server be at the SerNet 7.1.3+ level.

If both user= and group= filters are specified in the profile, the profile will be selected if either filter matches. Both the user ID and group name filters may contain wildcard patterns. The first matching profile will be the one used.

The structure of a COMMAND member is as follows:

```xml
<options name="COMMAND">
  <profile>
    <command name= .../>
    <command name= .../>
  </profile>
  <profile>
    <command name= .../>
    <command name= .../>
  </profile>
</options>
```

Elements

The following table shows the elements for the COMMAND member.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>options</td>
<td>Top-level document element.</td>
<td>name, strict</td>
</tr>
<tr>
<td>profile</td>
<td>Complete set of command definitions.</td>
<td>user</td>
</tr>
<tr>
<td>command</td>
<td>Enable or disable menu commands.</td>
<td>name, enable</td>
</tr>
</tbody>
</table>

Attributes for <options> Element

The following table shows the attributes for the <options> element.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>ZDDOPTS member name</td>
<td>&quot;COMMAND&quot;</td>
<td>No</td>
<td>7</td>
<td>Value required</td>
</tr>
<tr>
<td>strict</td>
<td>Report error or ignore unrecognized keywords</td>
<td>&quot;Y&quot; or &quot;N&quot;</td>
<td>No</td>
<td>1</td>
<td>&quot;N&quot;</td>
</tr>
</tbody>
</table>
Attributes for <profile> Element

The following table shows the attributes for the <profile> element.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>user</td>
<td>z/OS user ID(s)</td>
<td>Wildcard pattern</td>
<td>Yes</td>
<td>0 – 7</td>
<td>“*”</td>
</tr>
<tr>
<td>group</td>
<td>z/OS security group(s) (requires SerNet 7.1.3+)</td>
<td>Wildcard pattern</td>
<td>Yes</td>
<td>0 – 7</td>
<td>None</td>
</tr>
</tbody>
</table>

Attributes for <command> Element

The following table shows the attributes for the <command> element. Commands are always enabled by default.

The command name may contain wild characters. If a command name matches multiple <command> elements with wild character patterns, the first matching <command> element is used for that command.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>Command type</td>
<td>&quot;ApprovePackage&quot;</td>
<td>No</td>
<td>1 – 16</td>
<td>Value required</td>
</tr>
</tbody>
</table>
Example

A sample COMMAND member is delivered with the ZDD server components in the SERCOMC SAMPXML library.

You can also view the COMMAND sample, formatted by your default XML browser, on your desktop workstation in file:

```
C:\Program Files\Serena\ChangeMan ZDD Client\Samples\ZddOpts\Command.xml
```

### LIBTYPE Options

You can suppress the display of application library types in ChangeMan ZDD with XML entries in the LIBTYPE member of the ZDDOPTS library. Use the LIBTYPE member to

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>enable</td>
<td>Indicates whether command is enabled or disabled.</td>
<td>“Y” or “N”</td>
<td>No</td>
<td>1</td>
<td>“Y”</td>
</tr>
</tbody>
</table>
emulate customization in ZMF exit program CMNEX035 you have made to suppress the display of “hidden” library types.

**NOTE** ZMF exit program CMNEX035 contains multiple tables to suppress the display of library types in particular functions such as checkout, stage, browse compressed listing, and browse baseline. The LIBTYPE member of ZDDOPTS suppresses all displays of specified library types in baseline and package folders in the specified applications, effectively disabling all ZMF functions for those library types in the specified applications.

The LIBTYPE member includes one or more profiles. Each profile is a complete set of library type settings for an application. Application can be specified using wildcard patterns. The first matching profile is the one used.

The structure of a LIBTYPE member is as follows:

```xml
<options name="LIBTYPE">
  <profile ...>
    <libtype name= .../>
    <libtype name= .../>
  </profile>
  <profile ...>
    <libtype name= .../>
    <libtype name= .../>
  </profile>
</options>
```

**Elements**

This table show the elements for the LIBTYPE member.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>options</td>
<td>Top-level document element.</td>
<td>name, strict</td>
</tr>
<tr>
<td>profile</td>
<td>Complete set of library type definitions.</td>
<td>Application</td>
</tr>
<tr>
<td>libtype</td>
<td>Show or hide properties for a particular library type. Library type can be specified using a wildcard pattern.</td>
<td>name, show</td>
</tr>
</tbody>
</table>

**Attributes for <options> Element**

These are the attributes for the <options> element.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>ZDDOPTS member name</td>
<td>&quot;LIBTYPE&quot;</td>
<td>No</td>
<td>7</td>
<td>Value required</td>
</tr>
<tr>
<td>strict</td>
<td>Report error or ignore unrecognized keywords</td>
<td>&quot;Y&quot; or &quot;N&quot;</td>
<td>No</td>
<td>1</td>
<td>&quot;N&quot;</td>
</tr>
</tbody>
</table>
Attributes for <profile> Element

These are the attributes for the <profile> element.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>application</td>
<td>Application name</td>
<td>Wildcard pattern</td>
<td>Yes</td>
<td>1 - 4</td>
<td>&quot;*&quot;</td>
</tr>
</tbody>
</table>

Attributes for <libtype> Element

This table shows the attributes for the <field> element. The default is to show all library types.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description / Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>3 character library type or wildcard pattern.</td>
<td>No</td>
<td>1-3</td>
<td>None</td>
</tr>
<tr>
<td>listing</td>
<td>Listing library type that corresponds to a source library type.</td>
<td>No</td>
<td>1-3</td>
<td>&quot;LST&quot;</td>
</tr>
<tr>
<td>show</td>
<td>Indicates whether library type is shown or hidden.</td>
<td>No</td>
<td>1</td>
<td>&quot;Y&quot;</td>
</tr>
<tr>
<td>&quot;Y&quot;</td>
<td>Show library type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;N&quot;</td>
<td>Hide library type</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example

A sample LIBTYPE member is delivered with the ZDD server components in the SERCOMC SAMPXML library.

You can also view the LIBTYPE sample, formatted by your default XML browser, on your desktop workstation in file:

```
C:\Program Files\Serena\ChangeMan ZDD Client\Samples\ZddOpts\LibType.xml
```

PKGCREAT Options

The PKGCREAT member of the ZDDOPTS library specifies user-defined options for the New Package wizard. The PKGCREAT member includes one or more profiles. Each profile is a complete set of rules for the New Package wizard.

Profiles are specified by application. You may specify one or more applications associated with each profile. Applications may be specified using wildcard patterns. The first matching profile is the one used.

The structure of a PKGCREAT member is as follows:

```
<options name="PKGCREAT">
```
<profile ...>
  <field name= .../>
  <field name= .../>
</profile>

<profile ...>
  <field name= .../>
  <field name= .../>
  <field name= .../>
</profile>

</options>

Elements

This table shows the elements for the PKGCREATE member.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>options</td>
<td>Top-level document element.</td>
<td>name, strict</td>
</tr>
<tr>
<td>profile</td>
<td>Complete set of user variables for the New Package wizard.</td>
<td>application</td>
</tr>
<tr>
<td>field</td>
<td>Properties for a particular field in the New Package dialog boxes.</td>
<td>name, length, default, readonly, label, required, uppercase, validation</td>
</tr>
</tbody>
</table>

Attributes for <options> Element

These are the attributes for the <options> element.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>ZDDOPTS member name</td>
<td>&quot;PKGCREATE&quot;</td>
<td>No</td>
<td>8</td>
<td>Value required</td>
</tr>
<tr>
<td>strict</td>
<td>Report error or ignore unrecognized keywords</td>
<td>&quot;Y&quot; or &quot;N&quot;</td>
<td>No</td>
<td>1</td>
<td>&quot;N&quot;</td>
</tr>
</tbody>
</table>

Attributes for <profile> Element

This table shows the attributes for the <profile> element. Attributes can be coded in any order.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>application</td>
<td>Application mnemonic</td>
<td>Wildcard pattern</td>
<td>Yes</td>
<td>0 - 4</td>
<td>&quot;<em>.</em>&quot;</td>
</tr>
</tbody>
</table>
## Attributes for `<field>` Element

This table shows attributes for the `<field>` element. Attributes can be coded in any order.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description / Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>Field name. Values are described in &quot;Name Values for <code>&lt;field&gt;</code> Element&quot; on page 212.</td>
<td>No</td>
<td>1 - 16</td>
<td>Value required</td>
</tr>
<tr>
<td>length</td>
<td>Maximum number of characters. Valid values: 1 - 72</td>
<td>No</td>
<td>2</td>
<td>Field length</td>
</tr>
<tr>
<td>default</td>
<td>Default value for field.</td>
<td>No</td>
<td></td>
<td>Field is left blank</td>
</tr>
<tr>
<td>readonly</td>
<td>Determines whether the field can be changed by users.</td>
<td>No</td>
<td>1</td>
<td>&quot;N&quot;</td>
</tr>
<tr>
<td>label</td>
<td>Defines the field label. Can be any text, any case. The number of characters that are actually displayed depends on the size of the display field.</td>
<td>No</td>
<td>0 - 32</td>
<td>Value required</td>
</tr>
<tr>
<td>required</td>
<td>Determines whether a field is required or can be left blank.</td>
<td>No</td>
<td>1</td>
<td>&quot;N&quot;</td>
</tr>
<tr>
<td>uppercase</td>
<td>Determines whether the case of the field will remain as entered or will be changed to upper case.</td>
<td>No</td>
<td>1</td>
<td>&quot;N&quot;</td>
</tr>
<tr>
<td>validation</td>
<td>Validation performed on data entered in the field.</td>
<td>No</td>
<td>0 - 8</td>
<td>&quot;NONE&quot;</td>
</tr>
</tbody>
</table>

### Validation values:

- "YN": Y or N
- "ALPHA": A-Z or national (#, $, @)
- "ALPHANUM": A-Z, national (#, $, @), 0-9
- "DSNAME": Valid data set name
- "NUMBER": 0-9
- "SYMBOL": Same as ALPHANUM, except first character must be alphabetic or national.
- "NONE": No validation performed
Name Values for `<field>` Element

This table describes values for the name attribute of the `<field>` element.

<table>
<thead>
<tr>
<th>Name Value</th>
<th>Description</th>
<th>User Defined</th>
<th>Values</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>UserVarLen101 - UserVarLen199</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-1</td>
</tr>
<tr>
<td>UserVarLen201 - UserVarLen211</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-2</td>
</tr>
<tr>
<td>UserVarLen301 - UserVarLen310</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-3</td>
</tr>
<tr>
<td>UserVarLen401 - UserVarLen410</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-4</td>
</tr>
<tr>
<td>UserVarLen801 - UserVarLen810</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-8</td>
</tr>
<tr>
<td>UserVarLen1601 - UserVarLen1605</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-16</td>
</tr>
<tr>
<td>UserVarLen4401 - UserVarLen4405</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-44</td>
</tr>
<tr>
<td>UserVarLen7201 - UserVarLen7205</td>
<td>User options</td>
<td>Yes</td>
<td>Any text, subject to validation</td>
<td>0-72</td>
</tr>
</tbody>
</table>

Example

A sample PKGCREAT member is delivered with the ZDD server components in the SERCOMC SAMPXML library.

You can also view the PKGCREAT sample, formatted by your default XML browser, on your desktop workstation in file:

C:\Program Files\Serena\ChangeMan ZDD Client\Samples\ZddOpts\PkgCreat.xml
PKGPROP Options

The PKGPROP member of the ZDDOPTS library is used to disallow users from changing selected fields of the package properties. The PKGPROP member includes one or more profiles. Each profile is a complete set of property field settings.

Profiles can be specified by either user ID or security group name. Using group name requires that the server be at the SerNet 7.1.3+ level.

If both user= and group= filters are specified in the profile, the profile will be selected if either filter matches. Both the user ID and group name filters may contain wildcard patterns. The first matching profile will be the one used.

The structure of a PKGPROP member is as follows:

```xml
<options name="PKGPROP">
  <profile ...>
    <field name= .../>
    <field name= .../>
  </profile>
  <profile ...>
    <field name= .../>
    <field name= .../>
  </profile>
</options>
```

Elements

This table shows the elements for the PKGPROP member.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>options</td>
<td>Top-level document element.</td>
<td>name, strict</td>
</tr>
<tr>
<td>profile</td>
<td>Complete set of field definitions.</td>
<td>user</td>
</tr>
<tr>
<td>field</td>
<td>Allow or disallow field to be changed.</td>
<td>name, readonly</td>
</tr>
</tbody>
</table>

Attributes for <options> Element

This table shows the attributes for the <options> element.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Values</th>
<th>Multiple</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>ZDDOPTS member name</td>
<td>&quot;PKGPROP&quot;</td>
<td>No</td>
<td>7</td>
<td>Value required</td>
</tr>
<tr>
<td>strict</td>
<td>Report error or ignore unrecognized keywords</td>
<td>&quot;Y&quot; or &quot;N&quot;</td>
<td>No</td>
<td>1</td>
<td>&quot;N&quot;</td>
</tr>
</tbody>
</table>
Attributes for <profile> Element

This table shows the attributes for the <profile> element.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Values</th>
<th>Multiple Values</th>
<th>Length</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>user</td>
<td>Mainframe user ID</td>
<td>Wildcard pattern</td>
<td>Yes</td>
<td>0 - 7</td>
<td>“*”</td>
</tr>
<tr>
<td>group</td>
<td>z/OS security group(s)</td>
<td>Wildcard pattern</td>
<td>Yes</td>
<td>0 – 7</td>
<td>None</td>
</tr>
</tbody>
</table>

Example

A sample PKGPROP member is delivered with the ZDD server components in the SERCOMC SAMPXML library.
You can also view the PKGPROP sample, formatted by your default XML browser, on your desktop workstation in file:

C:\Program Files\Serena\ChangeMan ZDD
    Client\Samples\ZddOpts\PkgProp.xml
Index

Symbols

! in ZDDOPTS members 194
$CHGMAN resource class 89

A

abend
   ESTAE recovery 156
   S0C4 26, 32
   S878 25
ABEND modify command 168
Abend-AID 27
ACF2
   add ChangeMan ZMF 82
   batch logon ID 81
   job statement skeletons 104
   logon ID 104
address mode 25
address space
   non-swappable 32
Adobe Acrobat 11
allocate
   component master 62, 128
   delay file 62, 128
   impact analysis file 72
   log file 62, 128
   package master 62, 128
   recovery file 62, 128
   XMLSPACE 63
APF authorization
   dynamic APF list 78
   load libraries 28, 60, 78
   static APF list 78
ASID
   keyword option 152
   maximum concurrent 152, 168, 169
   modify command 168
   reusable 32, 98
   subsystem 32
ASIDS
   maximum concurrent 169
   modify command 169
ASINITi keyword option 153
ASINITi modify command 169
ATTACH modify command 170
attributes
   multiple values 193

AUDIT member 196–199
   authority levels, table 42
   automated operations tools 114
   AUTOMESSENGER keyword option 153

B

batch jobs
   considerations 46
   install job names 47
   user job names 47
Batch Local Shared Resources (BLSR) 33, 73
buffers, tracing 181
BUILD member 199–204

cataloged procedures
   build 75
change package
   see package
ChangeMan ZDD XML Options 191
ChangeMan ZMF
   customization 48
   development protection 16
   implementation strategy 20
   started task 172
   system requirements 24
   upgrades 32
client
   customizing 192–215
CMN$IAX impact analysis skeleton 109
CMNADSP file tailoring procedure 43
CMNEX008 exit program 48
CMNEXINS exit program 44
   customize 77
code pages
   translating exclamation point in ZDDOPTS 194
COMMAND member 205–207
common security interface 43
Common System Area (CSA) 25
component master
   access statistics 176
   allocation 62, 128
COMPRESS keyword option 154
connect to SERNET 170
console log messages 49, 114
customizing client 192–215

D

DASD
migrated datasets 160
system requirements 25
volume serial ID 160
data compression 154
dataset considerations
access authority table 91
CMNEXINS exit program 44
DASD management 45
naming conventions 45, 77
planning for install 44
staging model datasets 45
temporary list datasets 44
utility datasets 44, 45
DB2 keyword option 155
DB2 Option
detach SERNET 171
SERNET keywords 155
DDNAME keyword option 156
delay file
access statistics 176
allocation 62, 128
DEMOTE member 196–199
DETACH (DB2) modify command 171
disconnect from DB2 subsystem 171
display
file access statistics 176
users 178

E

eNetwork Communications Server
error 156 188
enqueues 174
ESTAE keyword option 156
EX003 keyword option 157
exclamation point
translating in ZDDOPTS 194
exit programs
CMNEX008 48
CMNEXINS 44, 77
Librarian exit program 158
SEREX003 157
expand files
automated 57
manual 139
EXPIRE keyword option 156
EXTEND modify command 172

F

file access methods
IAM 157
VSAM 33
VSAM linear dataset (LDS) 63
file access statistics 176
file tailoring
CMNADSP procedure 43
security considerations 43
file transfer
3270 emulation 137
automated 55
binary files 136
FTP 136
manual 136

H

HALT modify command 172
HIPER-CACHE 28
HiperLoad Plus 28
HOLD modify command 173

I

IAM keyword option 157
IEX keyword option 158
impact analysis file
CMN$$IAX maintenance skeleton 109
sequential file 72
IMS keyword option 158
IMS subsystem 158
installation
allocate SER#PARM address file 70
APF load library authorization 78
apply ChangeMan ZMF license 61
build cataloged procedures 75
build logon CLIST 76
build started task JCL 72
define dataset access authority 91
define staging versions files 65
define VSAM files 61
define XMLSPACE dataset 63
initialize package master 61
install job names 47
IPL 28, 78
software conflicts 27
store SVPARM control member 69
installation planning
DASD management 45
JCL customization 35
JCL samples 33
non-swappable address space 32
security 40
staging versions 48
SYSOUT authority 47
SYSTCPD DDNAME 39
system linkage index 32
TCP/IP 39
upgrades 32
utility datasets 44
z/OS subsystem 32

instances
ChangeMan ZMF 35
production instance 35
SERNET 35
subsystem ID 35
system linkage index 32
test instance 35

IPL 28, 78
ISPF
  connect to ChangeMan ZMF 100
  LIBDEF 101
  panel library 100

J
JCL
  customization 35
  multiple ZMF instances 35
  samples 142
  started task 33
  started task procedure 142
  subsystem ID 35
  SVPARM control member 74
  VSAM optimization 33

JOBLIB 26, 27, 33

L
LCLCCSID keyword option 159, 160, 161, 164
LIB keyword option 159
Librarian 26, 158, 159
  update module 159
library concatenations
  APF authorization 78
  CLIST 76, 142
  ISPF LIBDEF 101
  JOBLIB 26, 27, 33
  LINKLIST 26, 27, 33
  STEPLIB 26, 27, 33
LIBTYPE member 207–209
LINKLIST 26, 27, 33
load libraries
  APF authorization 28, 60
  LOCKS modify command 174
log file
  access statistics 176
  allocation 62, 128
logon
  build CLIST 76
logon CLIST
  build 76
  ISPF LIBDEF 101
  sample JCL 142

M
MAINVIEW SRM StopX37/II 28
MAPDATA dataset 64
memory management 25
messages
  when using ZDDOPTS members 194
MIGRAT keyword option 160
migration dataset volume 160
modify commands
  ABEND 168
  ATTACH 170
  DETACH (DB2) 171
  EXTEND 172
  HALT 172
  HOLD 173
  LOCKS 174
  NETTRACE 181
  REFRESH 176, 181
  RELEASE 174
  restricted 181
  SHUTDOWN 174
  standard 168
  STATS 176
  TRACE 178, 182
  USERS 178
modifying skeletons
  and software conflicts 111

N
NETSTAT command 188
NETTRACE modify command 181
NOSCHED keyword options 160

O
online help 13

P
package
  described 16
Index

lifecycle 17
package master
  access statistics 176
  allocation 62, 128
  initialize 61
Panvalet 26
parameter passing 36
PDSFAST 27
PDSMAN 27
PING command 188
PKGCREAT member 209–212
PKGPROP member 213–215
PROMOTE member 196–199

R
RACF 85
RECEIVE command 57, 139
recovery file
  access statistics 176
  allocation 62, 128
reentrant code 25
refresh load module 176, 181
REFRESH modify command 176, 181
refreshing ZDDOPTS 192
RELEASE modify command 174
REXX
  runtime environment requirements 26
RUNFOR keyword option 162

S
S0C4 abend 26, 32
S878 abend 25
SAF 43
scheduler
  hold install jobs 173
  release install jobs 174
  suppress 160
SDNOTIFY keyword option 162
security
  dataset access authority table 91
  disable 82
  exclusive library access 40
  planning 40
  requirements 24
  stubbing 82
  SYSOUT access rules 47
security entities
  $CHGMAN resource class 89
  administrator 41
  authority levels 42
  change manager 41
  resource class 86
  RSRCCCL parameter 86
  setup example 88
security exits
  disable SERJES exit call 157
  SEREX003 157
security setup
  access to ChangeMan ZMF functions 40
  ACF2 batch logon ID 81
  add ChangeMan ZMF to security system 82
  RACF 85
  security entities 41
  SERLCSEC exit program assembly 81
  SERLCSEC exit program customization 80
  SERLCSEC security exit program 82
  utility datasets 45
security software
  ACF2 82, 104
  APF 28, 60, 78
  SAF 43
  Top Secret 87
SER# member 70
SER#PARM
  DDNAME 37
  TCP/IP address file 70
SER10TY license manager
  apply license 61
  SERVIC DDNAME 39
SEREX003 exit program 157
serial file locks 174
SERINTERFACE interface 26
SERJES security exit 157
SERLCSEC security exit program
  &STUB switch 82
  assembling 81
  customization 80
SERVIC DDNAME 39
SERNET
  address spaces 152, 153, 169
  architecture 19
  attach 170
  connect 170
  connecting to 76
  delay shutdown 172
  described 19
  detach DB2 subsystem 171
  disconnect from DB2 subsystem 171
  enqueues 174
  halt 172
  instances 35
  JCL samples 142
  locks 174
  logon CLIST 76
  memory requirements 24
  non-swappable address space 32
  notifications 153
  operating period 162
Index

parameter dataset 156
parameter passing 36
region size 24
SER# member 70
SERPRINT messages 98
shutdown 101, 156, 162, 172, 174
shutdown commands, table 101
start command 98
started task 35
started task names 35
started task procedure 142
subsystem ID 100, 163
TCP/IP addressing 37, 70
timeout setting 152
trace buffers 181
trace facility 178, 182
ZDDOPTS ddname 192–215

SERNET keyword options
ASID 152
ASINITi 153
AUTOMESSENGER 153
commonly used 37
COMPRESS 154
DB2 155
DDNAME 156
ESTAE 156
EX003 157
EXPIRE 156
IAM 157
IEX 158
IMS 158
LCLCCSID 159, 160, 161, 164
LIB 159
MIGRAT 160
NOSCHED 160
PARM statement 74
required options, listed 37
RUNFOR 162
SDNOTIFY 162
special case options, listed 37
started task procedure 74
STAX 162
SUBSYS 163
TCPIP 163
XML 165

SERNET modify commands
ASINITi 169
SERPRINT
messages 98
SYSOUT class 76
session switching behavior 162
shutdown 101, 172, 174
SHUTDOWN modify command 174
skeletons
and software conflicts 111
CMN$$IAX impact analysis 109
software compatibility 26
ISPF 162
Librarian 26
Panvalet 26
SERIFACE interface 26
software conflicts 27
Abend-AID 27
HIPER-CACHE 28
HiperLoad Plus 28
MAINVIEW SRM StopX37/II 28
PDSFAST 27
PDSMAN 27
VSAM file performance tools 28
software requirements
REXX runtime environment 26
security 24
staging model dataset 45
staging versions
define VSAM files 65
delta master 65
described 48
file allocations 65
HPSPLIB DDNAME 74
installation planning 48
object master 65
site master 65
SVPARM control member 69, 74
VSAM file name table 65
start command 35, 98
started task
build JCL 72
JCL procedure 33, 142
names 35
subsystem ID 35, 100, 163
STATS modify command 176
STAX keyword option 162
STEPLIB 26, 27, 33
stop SERNET and ChangeMan ZMF 101
StopX37/II 28
stubbing security 82
SUBSYS keyword option 163
Subsystem Communications Vector Table (SSCVT) 25
subsystem ID 35, 100, 163
SVPARM control member 69
HPSPLIB ddname 74
SYSOUT
access rules 47
SYSOUT class 76
System Authorization Facility (SAF)
see SAF
system linkage index 32
system requirements 24
data transport 24
ISPF version 24
memory 24
Index

operating system 24
software 24
storage 25

T

TCP/IP
addresses 37, 70
API errors 188
data compression 154
eNetwork Communications Server 188
error 156 188
multiple started tasks 39
NETSTAT command 188
PING command 188
port IDs 70
SER# member 70
SER#PARM address file 70
SER#PARM DDNAME 37
SERNET support 37, 70
server identification 163
SYSTCPD DDNAME 39
verify network connectivity 188
verify port ID 188

TCP/IP keyword option 163
timeout 162
Top Secret
add ChangeMan ZMF 87

TPC/IP
port IDs 37
TRACE modify command 178, 182
trace SERNET buffers 181

U

unload software
expand PDS libraries 57
transfer files to host 55
user timeout 162

USERS modify command 178
utility datasets 45, 77

V

VSAM file initialization
security 86
VSAM performance 33
Batch Local Shared Resources (BLSR) 33, 73
HIPER-CACHE 28
HiperLoad Plus 28
optimization 33
optimizing 33
tools 28

W

WARN 179
wildcard, patterns in XML 194

X

XML
syntax in ZDDOPTS 193
XML keyword option 165
XML Services
cautions 115
disable 165
MAPDATA dataset 64
REXX runtime environment 26
XMLLOAD member 64
XMLSPACE dataset 63
XMLSPACE DDNAME 73
XMLSERV client
MAPDATA dataset 64
REXX runtime environment 26
XMLSPACE
dataset allocation dataset 63
DDNAME 73

Z

z/OS subsystem 32
ZDD XML Options 191
ZDDOPTS 191
and code pages 194
AUDIT member 196–199
BUILD member 199–204
COMMAND member 205–207
ddbname 192–215
DEMOT member 196–199
LIBTYPE member 207–209
members 192
multiple attribute values 193
PKGCREAT member 209–212
PKGPROP member 213–215
PROMOTE member 196–199
refreshing 192
translating exclamation point 194
troubleshooting 192
updater members 192
XML syntax 193
XML wildcard patterns 194