SERENA

SERENA®
ChangeMan® ZMF 8.1.2

LBO Getting Started Guide

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Table of Contents

Welcome to Serena® ChangeMan® ZMF 5
Guide to ChangeMan ZMF Documentation 5
ChangeMan ZMF Documentation Suite 5
Using the Manuals 6
Searching the ChangeMan ZMF Documentation Suite 7
Online Help 8
Online Tutorial 8
Online Help Screens 8
Online Error Messages 8
Typographical Conventions 9

Chapter 1 **Introduction 11**
Load Balancing Option Applications 12
Nomenclature 12
New Features 12

Chapter 2 **Setting Up Load Balancing 13**
Load Balancing Architecture 14
Requirements 14
Installation Procedures 14
LBO Option License 14
ChangeMan ZMF Server Setup 15
ChangeMan ZMF Client Setup 15
TCP/IP Logon CLIST 15
Security 16

Index 17

Welcome to Serena® ChangeMan® ZMF

The ChangeMan ZMF Load Balancing Option (LBO) allows organizations to distribute TSO users and batch processing on multiple z/OS images (LPARS) to take better advantage of existing resources. It permits TSO users and batch jobs to connect to ChangeMan ZMF from other LPARs or CPUs that share DASD. Organizations can distribute TSO sessions for application development staff across multiple z/OS images and still use a centralized ChangeMan ZMF server.

Before you begin — See the Readme for the latest updates and corrections for this manual.

Audience and scope — This document is intended for ChangeMan ZMF administrators and system programmers who install ChangeMan ZMF software.

Change Bars — Change bars in the left margin identify substantive changes in this publication since ChangeMan ZMF release 7.1.3.

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.

Manual	Description
Administrator's Guide	Describes ChangeMan ZMF features and functions with instructions for choosing options and configuring global and application administration parameters.
ChangeMan ZMF Quick Reference	Provides a summary of the commands you use to perform the major functions in the ChangeMan ZMF package life cycle.
Customization Guide	Provides information about ChangeMan ZMF skeletons, exits, and utility programs that will help you to customize the base product to fit your needs.
DB2 Option Getting Started Guide	Describes how to install and use the DB2 Option of ChangeMan ZMF to manage changes to DB2 components.
ERO Concepts	Discusses the concepts of the ERO Option of ChangeMan ZMF for managing releases containing change packages.
ERO Getting Started Guide	Explains how to install and use the ERO Option of ChangeMan ZMF to manage releases containing change packages.
IMS Option Getting Started Guide	Provides instructions for implementing and using the IMS Option of ChangeMan ZMF to manage changes to IMS components.

Manual	Description
INFO Option Getting Started Guide	Describes two methods by which ChangeMan ZMF can communicate with other applications: ■ Through a VSAM interface file. ■ Through the Tivoli Information Management for z/OS product from IBM.
Installation Guide	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.
Java / HFS Getting Started Guide	Provides information about using ZMF to manage application components stored in USS file systems, especially Java application components.
Load Balancing Option Getting Started Guide	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.
M+R Getting Started Guide	Explains how to install and use the M+R Option of ChangeMan ZMF to consolidate multiple versions of source code and other text components.
M+R Quick Reference	Provides a summary of M+R Option commands in a handy pamphlet format.
Messages	Explains messages issued by ChangeMan ZMF, SERNET, and System Software Manager (SSM) used for the Staging Versions feature of ZMF.
Migration Guides	Gives guidance for upgrading ChangeMan ZMF from earlier versions.
OFM Getting Started Guide	Explains how to install and use the Online Forms Manager (OFM) option of ChangeMan ZMF.
SER10TY User's Guide	Gives instructions for applying licenses to enable ChangeMan ZMF and its selectable options.
User's Guide	Describes how to use ChangeMan ZMF features and functions to manage changes to application components.
XML Services User's Guide	Documents the most commonly used features of the XML Services application programming interface to ChangeMan ZMF.
ZMF Web Services User's Guide	Documents the Web Services application programming interface to ChangeMan ZMF.

Using the Manuals

Use Adobe® Reader® to view ChangeMan ZMF PDF files. Download the Reader for free at get.adobe.com/reader/.

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.
- **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.

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.

Convention	Explanation
italics	Introduces new terms that you may not be familiar with and occasionally indicates emphasis.
bold	Emphasizes important information and field names.
UPPERCASE	Indicates keys or key combinations that you can use. For example, press the ENTER key.
`monospace`	Indicates syntax examples, values that you specify, or results that you receive.
`monospaced italics`	Indicates names that are placeholders for values you specify; for example, *`filename`*.
vertical rule |	Separates menus and their associated commands. For example, select File | Copy means to select Copy from the File menu. Also, indicates mutually exclusive choices in a command syntax line.

Chapter 1
Introduction

The Load Balancing Option extends ChangeMan ZMF by providing TCP/IP connectivity to ChangeMan ZMF servers. The Load Balancing Option allows you to distribute TSO users and batch processing on multiple MVS™ images to take better advantage of existing resources.

You can manually direct ChangeMan ZMF users where to logon depending on resource availability, or this choice can be made for them automatically by Parallel Sysplex Workload Management.

Load Balancing Option Applications	12
Nomenclature	12
New Features	12

Load Balancing Option Applications

The Load Balancing Option allows you to fully exploit Parallel Sysplex® with Workload Management to manage the resources used by ChangeMan ZMF users and batch jobs.

You can eliminate customization that makes batch jobs submit other batch jobs that are routed to the MVS image where ChangeMan ZMF runs to post transactions to the package master file. With the Load Balancing Option, ChangeMan ZMF batch jobs can run on any MVS image and still communicate with the ChangeMan ZMF server.

If you are distributing TSO sessions by running multiple ChangeMan ZMF servers on multiple MVS images, the Load Balancing Option may allow you to consolidate all ChangeMan ZMF applications on one ChangeMan ZMF instance. Consolidation can provide centralized change control administration, improved communication between developers, and better coordination of large projects.

The Load Balancing Option may allow you to move your ChangeMan ZMF server to a production image that is more stable and secure than your development environment. You may have installed ChangeMan ZMF on a development LPAR because programmers are not allowed to logon to a production LPAR. The Load Balancing Option allows you to restrict developer's TSO sessions to a development LPAR while granting them access to a ChangeMan ZMF server running in production.

Nomenclature

Mainframe components of SERNET Common Services run as a started task under MVS or OS/390. Each SERNET started task is assigned a unique one-character subsystem ID.

ChangeMan ZMF runs as an application under SERNET technology. ChangeMan ZMF uses the subsystem ID assigned to the SERNET started task, but SERNET requires the subsystem ID even when there is no ChangeMan ZMF application.

One occurrence of SERNET is referred to as a SERNET instance. One occurrence of ChangeMan ZMF is referred to as a ChangeMan ZMF instance.

The ChangeMan ZMF programs that run under SERNET are called ChangeMan ZMF server programs. ChangeMan ZMF programs that run in the user’s address space, such as the ChangeMan ZMF ISPF interface, are referred to as ChangeMan ZMF client programs.

New Features

Starting with ChangeMan ZMF 5.5, the version numbers for selectable options track the version number of the base product. The version number of the Load Balancing Option may be incremented even though no functions have changed.

There are no changes to the Load Balancing Option for Version 8.1.2.

Chapter 2

Setting Up Load Balancing

The instructions in this chapter assume that you installed ChangeMan ZMF according to instructions in the *ChangeMan ZMF Installation Guide*.

Load Balancing Architecture	14
Requirements	14
Installation Procedures	14

Load Balancing Architecture

ChangeMan ZMF may be implemented in various ways, depending on your requirements:

- One or several independent ALL sites
- Several related DP sites
- One or several combinations of DP and P sites
- A mix of any of the above.

Use of the Load Balancing Option allows users and administrators to logon to a ChangeMan ZMF instance from another CPU or MVS image, but it does not change the function of any ChangeMan ZMF instance or the relationships between instances in a complex implementation.

In particular, DP and P site combinations are still required where the production environment does not share DASD and catalogs with the development environment. The ChangeMan ZMF servers that make up a DP and P site combination still communicate using the Transmission Vehicle defined in Global Administration.

Requirements

All CPUs or MVS images where ChangeMan ZMF ISPF client programs or ChangeMan ZMF server programs run must meet these requirements to use the Load Balancing Option:

- TCP/IP started task, one per CPU or image.
- Shared DASD and catalog. (This is required to access components in stage and baseline libraries.)
- License for the Load Balancing Option of ChangeMan ZMF.

A SERNET started task is not required to run ChangeMan ZMF client programs.

Installation Procedures

Use these instructions for installing the Load Balancing Option.

LBO Option License

If you license the LBO Option at the same time that you license ChangeMan ZMF, the license for the option is applied when you apply the license for the base product. You do not have to take further action to enable the LBO Option.

If you license the LBO Option after you apply licenses for ChangeMan ZMF and other selectable options, use the SER10TY™ License Manager to add a license for the option. See the *SER10TY User Guide* for instructions on how to apply a license. The load modules, JCL, and other components that you need to run SER10TY are included in the SERCOMC libraries in the ChangeMan ZMF installer.

After you have applied a license, shut down the SERNET started task where ChangeMan ZMF runs and restart the task.

ChangeMan ZMF Server Setup

Ensure that the SERNET started procedure that runs the target ChangeMan ZMF server contains:

1. DD statement SER#PARM. See SER#PARM DDNAME in the *ChangeMan ZMF Installation Guide*.
2. Keyword parameter CMN=(,port). See SERNET Options For ChangeMan ZMF in the *ChangeMan ZMF Installation Guide*.

ChangeMan ZMF Client Setup

On the image where you will use the Load Balancing Option to connect to a ChangeMan ZMF server, do the following:

1. Ensure that the logon CLIST used to connect to the target ChangeMan ZMF server contains an ALLOC DD statement for SER#PARM. See "Building the Logon CLIST" in the *ChangeMan ZMF Installation Guide*.
2. Ensure that the logon CLIST contains parameter CON() or CON(T). See "Building the Logon CLIST" in the *ChangeMan ZMF Installation Guide*.
3. Add an option that executes the ChangeMan ZMF logon CLIST to the appropriate ISPF menu where users wish to logon to ChangeMan ZMF.

TCP/IP Logon CLIST

You must create a special logon CLIST if the name of the TCP/IP procedure on the MVS image where you will logon to ChangeMan ZMF is different from the TCP/IP procedure on the image where the ChangeMan ZMF server runs. This CLIST will use a special parameter file for the SER#PARM ddname.

1. Create a new parameter file and #SERx member for the SER#PARM ddname:
   a. Allocate a parameter file with the same attributes as the TCPIPORT used for the SER#PARM ddname in the SERNET procedure JCL. You should not use an existing library.
   b. Copy the #SERx member (where "x" is the subsystem ID of the ChangeMan ZMF server instance) from the server TCPIPORT file into the new library.
   c. Edit the #SERx member. Add the client site TCP/IP procedure name to the CMN record in positions 39 to 46. In this sample code, "pppppppp" is TCP/IP procedure name on the client site.

```
SMFI.SUBS APP DOT.TED.DEC.MAL PORT# TCPIPROC --Update-Time-Stamp
BH3A.SER7 CMN 172.20.105.170  06190 pppppppp
```

   d. Save the edited #SERx member.
2. Create a new logon CLIST:

a Copy the logon CLIST for the ChangeMan ZMF instance to a new CLIST member name.

b Edit the new CLIST and change the ALLOC statement for the SER#PARM ddname to point to the new parameter library created above.

Security

The database for your security system (RACF®, CA-ACF2®, or CA-Top Secret®) may be shared across the MVS images that you will use for ChangeMan ZMF server programs and the Load Balancing Option. If this is the case, no special security entries are required for the Load Balancing Option.

If the security database is not shared, make the following security entries on the image where Load Balancing will be used:

1 Grant users ALTER (ALLOCATE, READ, UPDATE, DELETE) access to ChangeMan ZMF temporary data sets. High level qualifiers for ChangeMan ZMF temporary detests are set in exit program CMNEXINS.

2 You do not need to add a resource class or any of the security entities that restrict access to ChangeMan ZMF functions. Security checking is performed by ChangeMan ZMF server programs.

Index

A

Adobe Acrobat 6
architecture, load balancing 14

C

configuration
    ChangeMan ZMF client setup 15
    ChangeMan ZMF server setup 15

I

installation
    Load Balancing Option 14

L

library concatenation
    and Load Balancing Option 15
license
    Load Balancing Option 14
Load Balancing Option (LBO)
    applications 12
    configuration 13
    installation 14
    license 14
    system requirements 14
logon CLIST 15

N

nomenclature 12

O

online help 8

P

parallel sysplex 12

S

security setup
    Load Balancing Option 16
system requirements
    Load Balancing Option 14

T

TCP/IP
    Load Balancing Option 15