

# ChangeMan® ZMF 8.2 Patch 4 Readme

## Updated 15 October 2020

This Readme file contains information you should know before you install or use ChangeMan ZMF 8.2 Patch 4.

You can download the installer for ChangeMan ZMF 8.2 Patch 4 from the Downloads section of the [Micro Focus SupportLine](#) website. See "[Installation](#)" on [page 18](#) for details on installing ChangeMan ZMF 8.2 Patch 4.

## General Information

### Product Description

ChangeMan ZMF is a comprehensive and fully integrated solution for software change, configuration, and release management systems in z/OS® environments. It provides reliable and streamlined implementation of software changes from development through all quality gates and into production. ChangeMan ZMF manages and automates the application life cycle, protects the integrity of the code migration process, and results in higher quality delivered code to each QA/test environment and to the production environment.

### Release Summary

See [New Features in ChangeMan ZMF 8.2 Patch 4 on page 3](#) for a list of the enhancements in ChangeMan ZMF 8.2 Patch 4.

See "[Fixes in ChangeMan ZMF 8.2 Patch 4](#)" on [page 15](#) for links to the defects that have been fixed in ChangeMan ZMF 8.2 Patch 4.

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## New Features and Fixes

This section:

- Describes the new features in ChangeMan ZMF 8.2 Patch 4.
- Provides a link to the defects that have been fixed in ChangeMan ZMF 8.2 Patch 4.
- Provides links to new features and fixes from earlier releases.

### New Features in ChangeMan ZMF 8.2 Patch 4

#### ZMF Has Been Updated To Reflect the Merging of REST/Event Services

Representational State Transfer (REST) web services and Event services have been merged into a single Web application in this release. All mention of the event server has been removed from the documentation and the product. Internal and external references are now to the REST (or REST API) server. Events are still called events; each event has an event number. ZMF emits events to the REST server, which converts them to webhooks wherever a subscription is active.

Global application panels and functions have been updated to reflect this change.

#### A Warning Message Is Issued if an Invalid Parameter Is Passed to REST Services

A warning message is issued if an invalid parameter is passed to REST Services. These messages are only displayed in the REST Services log and not passed back to the client.

#### ZMF Now Supports Mixed Case Names Up to 128 Bytes in Length for Native SQL Stored Procedures

ZMF now enables you to assign a ZMF component the same name as a native SQL stored procedure consisting of up to 128 case-sensitive bytes if you store the component as a member of a zFS-based library type. Previous ZMF releases only supported stored procedure names with the same restrictions as PDS member names, that is not case sensitive, with a maximum length of eight bytes.

The following ZMF facilities have been changed in this release to support zFS as well as PDS members for native SQL stored procedures:

- You can now set a zFS file type with a Db2 library subtype of N in global and application administration.
- The **Stage Native-SQL SP from Db2** (CMNSTG25) panel has been modified to enable you to stage a stored procedure directly from an external location or from the Db2 catalog into a zFS library type.
- Program CMNDB2DD has been updated to allow processing of zFS input as well as PDS members.
- The following skeletons have been modified to allow processing of zFS input:
  - CMN\$\$PSQ (local promote/demote)

- CMN\$\$RSQ (remote promote/demote)
- CMN\$\$SQL (install/backout)

No environmental changes are needed to implement this extra support. You need only define one or more zFS library types to be Db2 enabled with a Db2 subtype of N (native SQL stored procedure). All existing PDS-member-based facilities are unchanged.

Refer to the *ChangeMan ZMF Db2 Option Getting Started Guide* for an example of this enhancement.

## Package-to-Area and Area-to-Area Check-in and Retrieve Processing Are Now Consistent

In ChangeMan ZMF 8.2 Patch 4, package-to-area check-in processing functions like area-to-area check-in processing.

For example, the package-to-area check-in example shown on the following **CHECKIN package Components** (CMNCKI02) panel lists only the components that have been selected for checkin from package STEV001559 to area START01. Non-generated components that are associated with the selected components are checked in to the area but are not listed:

Component	Type	Status	Changed	Procname	User	Area
s AALODA5	LCT	ACTIVE	20200410 130157		WSER42	START01
s AALODA5	LOD	ACTIVE	20200410 131342	CMNASM	WSER42	START01
s AASRCA5	SRC	ACTIVE	20200410 095628	CMNASM	WSER42	START01
s ARSOBJ01	OBJ	ACTIVE	20200410 100411	CMNASM	WSER42	START01
s ASMPGM01	SRC	ACTIVE	20200410 095659	CMNASM	WSER42	START01

\*\*\*\*\* Bottom of Data \*\*\*\*\*

However, the component listing on the **CHECKIN package to area LONG Summary** (CMNCKI07) panel lists the selected components as well as the associated generated components that have been checked in from package STEV001559 to area START01:

```

CMNCKI07 CHECKIN STEV001559 to START01 LONG Summary          Row 000001 of 0000012
Command ==>                                                Scroll ==> CSR

```

Release Component	Lib type	Release area	Area copy	CIM table	History table	Release component	check-in status
AALODA5	LCT	START01	RC=0000	RC=0000	RC=0000	CHECKIN WAS COMPLETED	
AALODA5	LOD	START01	RC=0000	RC=0000	RC=0000	CHECKIN WAS COMPLETED	
AALODA5	LST	START01	RC=0000	RC=0000	RC=0000	CHECKIN WAS COMPLETED	
AASRCA5	LOD	START01	RC=0000	RC=0000	RC=0000	CHECKIN WAS COMPLETED	
AASRCA5	LST	START01	RC=0000	RC=0000	RC=0000	CHECKIN WAS COMPLETED	
AASRCA5	SRC	START01	Recomp.	RC=0000	RC=0000	CHECKIN WAS COMPLETED	
ARSOBJ01	LOD	START01	RC=0000	RC=0000	RC=0000	CHECKIN WAS COMPLETED	
ARSOBJ01	LST	START01	RC=0000	RC=0000	RC=0000	CHECKIN WAS COMPLETED	
ARSOBJ01	OBJ	START01	Recomp.	RC=0000	RC=0000	CHECKIN WAS COMPLETED	
ASMPGM01	LOD	START01	RC=0000	RC=0000	RC=0000	CHECKIN WAS COMPLETED	
ASMPGM01	LST	START01	RC=0000	RC=0000	RC=0000	CHECKIN WAS COMPLETED	
ASMPGM01	SRC	START01	Recomp.	RC=0000	RC=0000	CHECKIN WAS COMPLETED	

\*\*\*\*\* Bottom of Data \*\*\*\*\*

Likewise, the area-to-area check-in processing example shown on the **CHECKIN area Components** (CMNCKI52) panel lists only the components that have been selected for checkin from area START01 to another area. Non-generated components that are associated with the selected components are selected but not listed:

```

CMNCKI52          CHECKIN START01 Components                No Selections
Command ==>                                            Scroll ==> CSR

```

Component	Type	Like	Checked in to area	Orig. pkg	User	Area
s AALODA5	LCT	K	2020-04-13-18.57.14	STEV001559	WSER42	START01
s AALODA5	LOD	L	2020-04-13-18.57.14	STEV001559	WSER42	START01
s AASRCA5	SRC	S	2020-04-13-18.57.14	STEV001559	WSER42	START01
s ARSOBJ01	OBJ	O	2020-04-13-18.57.14	STEV001559	WSER42	START01
s ASMPGM01	SRC	S	2020-04-13-18.57.14	STEV001559	WSER42	START01

\*\*\*\*\* Bottom of Data \*\*\*\*\*

However, the component listing on the **CHECKIN area to area LONG Summary** (CMNCKI57) panel lists the selected components from area START01 as well as the associated generated components that have been checked in from area START01 to area FINAL01:

```

CMNCKI57 CHECKIN START01 to FINAL01 LONG Summary          Row 000001 of 000012
Command ==>>>                                         Scroll ==>> CSR

```

Component	Type	Area	Area Copy	CIM table	History table	Checkin component	status
AALODA5	LCT	FINAL01	RC=0000	RC=0000	RC=0000	CHECKIN WAS	COMPLETED
AALODA5	LOD	FINAL01	RC=0000	RC=0000	RC=0000	CHECKIN WAS	COMPLETED
AALODA5	LST	FINAL01	RC=0000	RC=0000	RC=0000	CHECKIN WAS	COMPLETED
AASRCA5	LOD	FINAL01	RC=0000	RC=0000	RC=0000	CHECKIN WAS	COMPLETED
AASRCA5	LST	FINAL01	RC=0000	RC=0000	RC=0000	CHECKIN WAS	COMPLETED
AASRCA5	SRC	FINAL01	Recomp.	RC=0000	RC=0000	CHECKIN WAS	COMPLETED
ARSOBJ01	LOD	FINAL01	RC=0000	RC=0000	RC=0000	CHECKIN WAS	COMPLETED
ARSOBJ01	LST	FINAL01	RC=0000	RC=0000	RC=0000	CHECKIN WAS	COMPLETED
ARSOBJ01	OBJ	FINAL01	Recomp.	RC=0000	RC=0000	CHECKIN WAS	COMPLETED
ASMPGM01	LOD	FINAL01	RC=0000	RC=0000	RC=0000	CHECKIN WAS	COMPLETED
ASMPGM01	LST	FINAL01	RC=0000	RC=0000	RC=0000	CHECKIN WAS	COMPLETED
ASMPGM01	SRC	FINAL01	Recomp.	RC=0000	RC=0000	CHECKIN WAS	COMPLETED

```

***** Bottom of Data *****

```

The process of retrieving selected package components from an area or retrieving selected area components from another area functions in the same way.

## Several DD Statements Have Been Removed from the ZMF Started Task JCL

The ISPLIST, ISPLOG, ISPPROF, ISPTABL, and ISPTLIB DD statements have been removed from the from the ZMF started task JCL that is included in the STARTJCL member of the CMNZMF.CNTL distribution library. These DD statements are only needed in the CMNADSP file tailoring task JCL which is included in member CMNADSP of the CMNZMF.CNTL distribution library.

## The Functionality of Exit CMNEX035 Has Been Extended to the Relink Function

The functionality of user exit CMNEX035 has been extended to the relink function. See the *ChangeMan ZMF Customization Guide* for more information about exit CMNEX035.

## RL Line Command Has Been Added to the Release List Options (CMNRRCMD) Panel

The View Release Libraries (RL) line command has been added to the **Release List Options** (CMNRRCMD) panel. The RL line command displays the libraries allocated to the associated release.

## Active Exits Are Listed in the SERPRINT Output for the Started Task

All exits that are loaded when a Sernet started task is brought up are listed in the SERPRINT output for that task.

## Audit as Primary Defaults to Yes for Participating Packages

The value of the **Audit part. pkg** field on the **Audit Change Package** (CMNAUDIT) panel defaults to **2-As primary** if the selected package is a participating package.

## <processingType> Tag Has Been Added to Selected List Services

The <processingType> tag has been added to the following XML services to enable you to filter output by component processing type:

- cmponent,history,list
- cmponent,history,listshrt
- cmponent,history,load

You can specify the following processing type values for the component filter:

Processing Type Value	Meaning
O	Checked out
I	Checked in
B	Built (staged)
C	Recompiled component (like-load library types only)
L	Relinked component (like-load library types only)
S	Scratch request created
R	Rename request created

## The From Date and To Date Fields in REXX Reports CMN400 and CMN400E Have Been Changed

The From Date and To Date fields in the following REXX reports now filter the components included in the reports by component promotion date range:

Report Id	Report Title
CMN400	Package Component Promotion Report
CMN400E	Package Component Promotion Report Extended

In previous report the from/to range filtered by component create date range.

This change means package create date is no longer a driver of the search. We list all packages and filter them out by promotion date. This change also means, depending if a package has had selective promotes performed, that the entire package may not be shown if the filter date has excluded package components. Essentially this change makes the CMN400 and CMN400E reports component driven rather than package driven.

Refer to the *ChangeMan ZMF Administrator's Guide* for information about defining and running ChangeMan ZMF reports.

## Package User Variables Are Now Displayed on the Promote/Demote Site List Panel

Package user variables USR0101-USR0810 and USR1601-USR7205 now appear on the Promote/Demote Site List (CMNRPM01) panel.

## You Can Now Specify Short, Long, and Sort Commands on Online Forms Package List Panels

You can now specify the Short, Long, and Sort commands on the **Online Forms Package List** (CMNOLST3) panel and **list\_type Package List** (CMNOLST5) panels.

## The Query Component Parameters (CMNQCMP1) Panel Has a New Selectable Option

The Query Component Parameters (CMNQCMP1) panel has the following new selectable option:

Include deleted components

If this option is selected, entries on panel CMNCPH1 for components deleted from a package display with "\*DELETED" in the Setssi column.

## Global and Application Administrators Cannot Specify the Same Library Type for the Component Activity File Associated with a Component's Source Library Type

Global administrators must specify a different library type on the **Global Library Types Part 2 of 2** (CMNCGLT1) panel for the component activity file that is associated with a specified source component library type. See the help panel associated with panel CMNCGLT1 for more information.

Likewise, application administrators must specify a different library type on the **application\_name Library Types Part 2 of 2** (CMNCLLT1) panel for the component activity files that is associated with a specified source component library type. See the help panel associated with panel CMNCLLT1 for more information.

## Program CMNBATCH Has a New CONNECT= Parameter

You can now specify the new JCL parameter CONNECT= for program CMNBATCH. The parameter can have one of the following values:

CONNECT = Parameter	Meaning
CONNECT=T	Forces a TCP/IP connection to the target Sernet started task.
CONNECT=X	Forces a cross-memory connection to the target Sernet started task.

The default behavior, where no CONNECT parameter is specified, connects through cross memory if a Sernet started task with the requested subsystem character is found on the local LPAR; otherwise, a TCP/IP connection is used.



The following ISPF skeletons (distributed in the CMNZMF.SKELS library) invoke program CMNBATCH to connect to a Sernet started task:

CMN\$\$AUD	CMNDFHJL	CMN00INS
CMN\$\$HKP	CMNDFHJS	CMN30
CMN\$\$PCP	CMNDFHWL	CMN30I
CMN\$\$RBD	CMNDFHWS	CMN37
CMNBAQD2	CMNJAR	CMN55
CMNBAQIP	CMNJAVA	CMN55I
CMNBAQJL	CMNRPMB0	CMN57
CMNBAQLJ	CMNRPMB9	CMN99
CMNBUNJL	CMN00	CMN99INS

Refer to the comments in the ISPF skeleton.

## Templating Support Has Been Provided for the Db2 Bind Service Command

Db2 implements its own Representational State Transfer (REST) services by means of the Bind Service command. This enhancement allows for the management of components supporting ZMF's creation of Db2 REST services throughout the lifecycle.

Db2 version 12 is required; service versioning must be active.

Refer to the *ChangeMan ZMF Db2 Option Getting Started Guide* for more information about Bind Service support.

## A Release Format Version Field Has Been Added to the Package Master

A format version field (*vvpp*, for example, 0824 for ZMF version 8.2 Patch 4) has been added to the global 0 record of the Package Master file. If there is a mismatch between the actual file version format and the file version format that the startup program CMNSTART expects, the Sernet started task will incur a U320 abend with a message in the log that indicates which of the following three master files has the error:

- Package Master
- Component Master
- Long Name Component Master

This abend will happen if you have not run a conversion program on that file to update the format to the correct level for the release that you are installing. To resolve the problem, run the correct conversion JCL, and restart the task. The CMN990 report will show the current versions.

The enhancement is intended to prevent you from running a ChangeMan ZMF version with a Package, Component, or Long Name Component Master file that is incompatible with the ChangeMan ZMF version that is being installed.

## You Can Now Specify a Value or Mask for the Component Name and Library Type Fields on Component Checkout Panels and High-Level Language Exits

You can now specify a value or a mask for the Component Name and Library Type fields:

- On the Checkout (from baseline or promotion libraries) (CMNCKOT1) panel
- On the Checkout (from a package) (CMNCKOT3) panel
- On the CKOT0101, CKOT0103, and CKOT00XM (pre-XML service call for checkout) high-level language exits.

## Filtering Options on the Package List Parameters (CMNLIST0) Panel Have Been Extended

The package status, level, and type fields on the Package List Parameters (CMNLIST0) panel have been changed to allow individual selectable options for field values. The change extends the filtering criteria that you can specify on this panel.

## The Delete Release Command in ERO Now Deletes zFS Directories

The Delete Release (DR) command in ERO now deletes zFS directories that are associated with the release as well as PDS and PDSE libraries. In previous releases, you had to delete the associated zFS directories manually.

## Component Status Is Now Returned by the Component History List Services

The Component Status has been added to the results that are returned by the following services if the new `<returnCompStatus>` tag is set to Y in the `component,history,list` services request:

- `Cmponent,history,list`
- `Cmponent,history,listconc`
- `Cmponent,history,listcurr`
- `Cmponent,history,listbase`
- `Cmponent,history,istshrt`
- `Cmponent,history,listpkg`

However, once the package record is archived or deleted, these services will not return the component status.

## The D Line Command Has Been Added to the Application Selection List Panel

The D (deselect) line command has been added to the Application Selection List (CMNSCN04) panel. This change enables you to deselect an application that you have erroneously selected, thus making panel navigation easier. The D line command is specific to the scan function.

## Package Status and Package Type Selectable Options Have Been Added to the Query Components Parameters Panel

Package Status and Package Type selectable options have been added to the Query Components Parameters (CMNQCMP1) panel:

```

CMNQCMP1                      Query Component Parameters
Command ===> _____

Specify selection criteria:
Component name . . . . . ACTP* _____ +
                                   (Full component name or pattern)
Component type . . . . . SRC _____ (Full library type or pattern)
Application . . . . . _____
Package . . . . . _____

Enter "/" to select:
Package status . . . . . _ Dev _ Frz _ Apr _ Rej _ Dis _ Ins
                                   _ Bas _ Bak _ Del _ Opn _ Clo _ Tcc _ D/A
Package type . . . . . _ Planned Permanent _ Planned Temporary
                                   _ Unplanned Permanent _ Unplanned Temporary

Procedure name . . . . . _____
User . . . . . _____
Checkout/staging
From date . . . . . _____ (YYYYMMDD)
To date . . . . . _____ (YYYYMMDD)

Enter "/" to select option:
_ Include deleted components
/ Mixed case

```



**NOTE** These settings are retained in your ISPF profile and presented on the next entry to the panel.

## A Security Entity Can Now Control Component Unlocking

Application administrators can now choose a security entity that allows component unlock. Users with UPDATE access to the new entity can now unlock a component that has been locked by another user. The new application entity applies to components locked in packages in that application. The following changes enable this feature:

- A new **Component unlock entity** parameter has been added to the **application Parameters - Part 1 of 4** (CMNGLP01) panel.
- The <componentUnlockEntity> tag has been added to the follow ZMF XML Services:
  - parms,appl,create
  - parms,appl,list
  - parms,appl,update

## The Reset Approval in Progress Option Has Been Removed

The *Reset Approval in Progress* selectable option is obsolete and has been removed where it appears in the ZMF user interface. For example, the selectable option has been removed from:

- Approve/Reject Options (CMNAPPOP) panel
- Package List Options (CMNLIST5) panel
- Release Package List Options (CMNRPCMD) panel
- package,gen\_parms,list service

and code that references it.

## The zMobile Application No Longer Requires an External Instance of ZMF Web Services

The zMobile application no longer needs an external version of ZMF Web Services. An internal version is started within the zMobile application.

## Area Records Are Now Checked Against Package Records in ERO

The enhancement validates that area Components in Motion (CIM) records still exist in the package. If there is a CIM record for a component that is no longer in the package it will be returned in the displayed details as not in package. You can resolve this situation by retrieving the component from the area. If this is the test release function, you can use the auto cleanup process, which does the retrieve for you.

## Data Encoding Options Have Been Added to ZMF Edit and View Functions

The following data encoding options have been added to ZMF panels that permit you to view or edit components stored with a Coded Character Set Identifier (CCSID) that represents ASCII or UTF-8 characters:

Option	Result
1	Enables ASCII conversion for ISPF view.
2	Enables UTF-8 conversion for ISPF view.

The following ZMF panels now offer these options:

Panel ID	Panel Title/Function
CMNUTL01	Scratch/Rename Utility from Baseline
CMNCKOT1	Checkout from Baseline/Promotion
CMNCKOT3	Checkout from Package
CMNSTG02	Stage from Development
CMNSTG12	Stage Package Component Selection

Panel ID	Panel Title/Function
CMNRCMPR CMNRCMP0	Recompile
CMNBRWB0	Browse Baseline
CMNCOMP1	Compare
CMNQRY01	Query Package
CMNQCMP1	Query Component
CMNRQC76	Component Query Criteria

## Deletion of Library Types that Are Still In Use Is Prevented in Application Administration

You cannot delete a library type from the **application - Library Types Part 1 of 2** (CMNCLLT0) panel if a baseline, production, or promotion library is defined within the application for the selected library type or a component of the selected library type is in an active package for the application.

## LOCATE Command Has Been Added to the Limbo Package List Panel

The LOCATE primary command has been added to the **Limbo Package List** (CMNQRYL2) panel. This command enables you to scroll to a particular package.

## New Selectable Option Has Been Added to ERO Component Check-In Panels

A new selectable option **Auto Select Overlays** has been added to the following panels:

- Release Check-in Options (CMNCKI00)
- Area to Area Check-in Options (CMNCKI50)

Select this option to automatically select all overlay components. If all components selected are overlay components, the checkin will continue to process all components to be checked in. If disallowed components are selected, the process will display all the components with the overlay components already selected. Just press Enter to continue the checkin or make changes to the list of components before pressing Enter.

## Sernet Keyword Parameter Names Now Match Current Product Names

Existing Sernet keyword parameter names have been given synonyms to match current product names, as follows:

Existing Keyword	New Keyword	Product Referenced
CMN	ZMF	ChangeMan ZMF
XCH	CLP	ChangeMan ZMF Client Pack (that is, either ChangeMan ZDD or ChangeMan ZMF for Eclipse)

The new keyword is a synonym for the existing (old) keyword. Either value can be used in SYSIN control statements to bring up a Sernet started task.

## Sernet Has Adopted Cell Pool Services

Several internal architecture changes, including cell pool services, have been implemented to manage CPU utilization and limit the potential for memory fragmentation.

New/updated messages associated with this enhancement are:

- SER0622I Cell pool services enabled

Explanation: CPOOL(YES) was either specified or defaulted.

Action: None; this message is purely informational.

- SER0623I Cell pool services disabled

Explanation: CPOOL(NO) was specified to prevent the use of cell pools.

Action: None; this message is purely informational.

- SER0624I Cell pool size {0,S3} Request count {1,N4} High-water mark {2,N4}

Explanation: For each of the five cell pools this message will detail the number of requests made and the highest degree of concurrency.

Action: This message could be used to review the ACTIVEUSERS and ACTIVEMDUS specifications; otherwise, it is purely informational.

- SER0800I Sernet - Initialization in progress: Csa={0,X4:08} Dsa={1,X4:08} Asid=x'{2,X2:04}'

This message was updated to include the address space id (Asid). Purely informational.

## The Link Date Report Runs Automatically Each Time a Sernet Started Task Is Initialized

The Link Date report runs automatically each time a Sernet started task is initialized and is written to SYSOUT. Refer to the *ChangeMan ZMF Administrator's Guide* for information about the Link Date report.

## Increase in CPU Utilization and Run Time for REXX Reports if You Specify the Sort Option

A Sort option was added to some REXX reports in ChangeMan ZMF 8.2 Patch 2. The option defaults to No, but if you request a sort, CPU utilization and run time may increase significantly for the selected report.

## Local Admin Access Is Required To Subscribe to ZMF Events

In ZMF 8.2 Patch 3, the REST services API user was not able to subscribe to an event. (The option was grayed out.) This problem has been corrected.

Additionally, the following parameters can be specified in ZMFPARMS to configure access to subscriber data:

- ADMIN\_TO\_SUBSCRIBE - determines if global admin privilege is required to subscribe to an Event.
- ADMIN\_TO\_ENABLE - determines if global admin privilege is required to enable a subscriber.
- ADMIN\_TO\_EDIT - determines if global admin privilege is required to edit a subscriber.
- ADMIN\_TO\_RUN - determines if global admin privilege is required to run an Event or subscriber.

Valid values for these parameters are YES or NO. The default value for these parameters is YES.

## Security Mechanisms Have Been Added to REST Services

Whitelist/Blacklist parameters have been added to REST Services configuration. This permits customers to deny/allow access to REST Services by the partner IP address.

This enhancement includes protection against Denial of Service (DOS) attacks.

## Component Name Has Been Added to the CMN2555I Message

The message has been updated as follows:

```
CMN2555I - The baseline version of component_name has been modified.
```

## A Time-out Mechanism for Communication Between ZMF and the REST server - Event Emission Has Been Implemented

If the REST server becomes unresponsive for some reason, ZMF functions do not simply hang, they are terminated with an appropriate error message.

You can set a send and receive time-out value in ZMF global administration on the REST API Server (CMNGRS01) panel in the following fields:

```
http send time-out . . 2
```

```
http recv time-out . . 2
```

The default for both fields is 2 seconds.

## Fixes in ChangeMan ZMF 8.2 Patch 4

You can access the following links to obtain a list of the defects that have been fixed in ChangeMan ZMF 8.2 Patch 4:

[http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=CMZMF\\_8.2\\_Patch\\_4\\_RESOLVED&channel=DEFECTS](http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=CMZMF_8.2_Patch_4_RESOLVED&channel=DEFECTS)

[http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=SERNET\\_8.2\\_Patch\\_4\\_RESOLVED&channel=DEFECTS](http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=SERNET_8.2_Patch_4_RESOLVED&channel=DEFECTS)

## New Features and Fixes in ChangeMan ZMF 8.2 Patch 3, ZMF 8.2 Patch 2, ZMF 8.2 Patch 1, ZMF 8.2, and Earlier Releases

### New Features and Fixes in ChangeMan ZMF 8.2 Patch 3

New Features

<http://knowledgebase.serena.com/InfoCenter/index?page=content&id=S143254>

Fixes:

[http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=CMZMF\\_8.2\\_Patch\\_3\\_RESOLUTIONESOLVED&channel=DEFECTS](http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=CMZMF_8.2_Patch_3_RESOLUTIONESOLVED&channel=DEFECTS)

[http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=SERNET\\_8.2\\_Patch\\_3\\_RESOLUTIONESOLVED&channel=DEFECTS](http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=SERNET_8.2_Patch_3_RESOLUTIONESOLVED&channel=DEFECTS)

### New Features and Fixes in ChangeMan ZMF 8.2 Patch 2

New Features:

<http://knowledgebase.serena.com/InfoCenter/index?page=content&id=S143106>

Fixes:

[http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=CMZMF\\_8.2\\_Patch\\_2\\_RESOLUTIONESOLVED&channel=DEFECTS](http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=CMZMF_8.2_Patch_2_RESOLUTIONESOLVED&channel=DEFECTS)

[http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=SERNET\\_8.2\\_Patch\\_2\\_RESOLUTIONESOLVED&channel=DEFECTS](http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=SERNET_8.2_Patch_2_RESOLUTIONESOLVED&channel=DEFECTS)

### New Features and Fixes in ChangeMan ZMF 8.2 Patch 1

New Features:

<http://knowledgebase.serena.com/InfoCenter/index?page=content&id=S142997>

Fixes:

[http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=CMZMF\\_8.2\\_Patch\\_1\\_RESOLUTIONESOLVED&channel=DEFECTS](http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=CMZMF_8.2_Patch_1_RESOLUTIONESOLVED&channel=DEFECTS)

[http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=SERNET\\_8.2\\_Patch\\_1\\_RESOLUTIONESOLVED&channel=DEFECTS](http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=SERNET_8.2_Patch_1_RESOLUTIONESOLVED&channel=DEFECTS)

### New Features and Fixes in ChangeMan ZMF 8.2

New Features:

<http://knowledgebase.serena.com/InfoCenter/index?page=content&id=S142996>



Fixes:

[http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=CMZMF\\_8.2\\_RESOLVED&channel=DEFECTS](http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=CMZMF_8.2_RESOLVED&channel=DEFECTS)

[http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=SERNET\\_8.2\\_RESOLVED&channel=DEFECTS](http://knowledgebase.serena.com/InfoCenter/index?page=content&cat=SERNET_8.2_RESOLVED&channel=DEFECTS)

## New Features and Fixes in Earlier ChangeMan ZMF Releases



**NOTE** You can obtain a summary of the enhancements and fixes in the ChangeMan ZMF 8.1.x releases from the ZMF 8.1.4.01 or ZMF 8.1.4 Readme files, which you can access from the following URL:

<https://www.microfocus.com/support-and-services/documentation/>

## Installation

You must install the ChangeMan ZMF products that you have licensed in the following order, as appropriate:

- ZMF Web Services. If you are running customized applications using ZMF Web Services, perform the actions discussed in the section titled [Upgrading to ChangeMan ZMF 8.2 Patch 4 Web Services on page 22](#).
- ZDD and/or ZMF for Eclipse Clients (the ZMF Client Pack).
- ZMF P sites and REST Services upgrade
- ZMF D, DP and ALL sites and REST Services upgrade



**IMPORTANT!** The REST Services upgrade should be done concurrently with the ZMF upgrade. This is important for ZMF 8.2 Patch 4 with the merging of REST and Event Services. In later releases, the REST Services upgrade may be done prior to the ZMF upgrade.

You can download the ChangeMan ZMF 8.2 Patch 4 product from the Downloads section of the Micro Focus SupportLine website at:

<https://supportline.microfocus.com/>

A customer ID and password are required to access the site. After logging in to the site:

- Select **Downloads**.
- Select **ChangeMan ZMF** from the product drop-down list and click **Search**.
- Select the check box to accept the licensing agreement.
- Click the plus sign (+) to the left of ChangeMan ZMF to expand the entries for ChangeMan ZMF.
- Click the plus sign (+) to the left of 8.2.4 to expand the entries for ChangeMan ZMF 8.2 Patch 4.
- Select **ChangeMan ZMF 8.2 Patch 4 Installer**. This is a file named ZMF82P04Setup.EXE. This contains everything needed.

The dialog text of the Installer EXE has also changed extensively to support the REST API feature. We've also replaced the word "FIX" with "All Available PATCHES", and "DELTA" with "Only This Current PATCH" to better reflect the new release naming convention.

The installer will install one of the following versions of ChangeMan ZMF:

- The full ChangeMan ZMF 8.2 Patch 4 product - the first option.
- All available PATCHES since ChangeMan ZMF 8.2 (that is, ChangeMan ZMF 8.2 Patch 1, ChangeMan ZMF 8.2 Patch 2 and ChangeMan ZMF 8.2 Patch 3) (You must have ChangeMan ZMF 8.2 installed to select this option) - the second option.

- Only this current PATCH, ChangeMan ZMF 8.2 Patch 4 (You must have ChangeMan ZMF 8.2 Patch 3 installed to select this option) - the third option.

Follow the instructions in the *ChangeMan ZMF Migration Guide* to upgrade an existing 7.x or 8.x instance of ChangeMan ZMF to version 8.2 Patch 4.

## Upgrade Notes

Refer to the *ChangeMan ZMF Migration Guide* for a list of conversion jobs that you must run to convert master files from the specified ZMF version to ZMF 8.2 Patch 4. All jobs are members of the CMNZMF.V8R2P04.CNTL distribution library. Customize the job's JCL as indicated in the comments within each member before you run it.

## Upgrade Notes for ERO Customers

If you license the Enterprise Release Option (ERO), refer to the instructions in the *ChangeMan ZMF Migration Guide* or *ChangeMan ZMF Installation Guide* for information about the steps you must take to install or upgrade ERO.

## ISPF Panel Changes

All members of the CMNZMF.V8R2P04.PANELS distribution library contain the statements that are highlighted in red below. The exit and copybook that are referenced in these statements are for Micro Focus use only and you should not attempt to change them.

```
***** Top of Data *****
)INEXIT PGM,&EPAPATTR,CACHE
)PANEL KEYLIST(CMNELSK,CMN)
)ATTR
*INCLUDE CMNPATTR /* embed common panel attributes */
)BODY EXPAND(!!)
.
.
.
```

## Changes to XML Services

Some XML Services are new or changed in ZMF 8.2 Patch 4. To apply these changes:

- Reload your XMLSPACE LDS by running the XMLLOAD job that is delivered in the SERCOMC.V8R2P04.CNTL distribution library.
- XMLSERV now requires a ZMF/Sernet started task to be running to obtain the list of XML Services.
- If you are currently using XML Services and/or have written programs that use XML Services, contact Customer Support for the XML Services Reference Tables and XML Services Delta Report. The Delta Report identifies the XML Services that have changed since the version of ChangeMan ZMF from which

you are migrating. You can use this report to determine if you are using any of the XML Services that have changed and plan this part of your upgrade accordingly.

## Optimization Considerations

We strongly recommend that you use IBM's Batch Local Shared Resource (BLSR) or System-Managed Buffering (SMB) to optimize the VSAM KSDS Package Master, Component Master, and long name Component Master files where delivered JCL shows BLSR sample code. Currently, that includes these ZMF components:

Member	Library	Description
CMN\$\$IAX	CMNZMF.V8R2P04.SKELS	Impact analysis data extract submitted online.
IMPACT	CMNZMF.V8R2P04.CNTL	Impact analysis data extract submitted manually.
STARTJCL	CMNZMF.V8R2P04.CNTL	ZMF portion of the started procedure.

Failure to use the BLSR or SMB performance optimization tool may cause unacceptable performance issues for users and/or processes.

See Solution [S100960](#) in the Knowledgebase for more information.

## Enabling the ZMF Db2 Option

Refer to the instructions in the *ChangeMan ZMF Installation Guide* or *ChangeMan ZMF Migration Guide*, as appropriate, for instructions on enabling the Db2 Option.

The following members of the CMNZMF.CNTL distribution library have changed:

- DB2OPTN



**IMPORTANT!** As the format of some ZMF Db2 tables have changed in this release, all customers who use this option will need to convert their environment to support ZMF 8.2 Patch 4. Please refer to the Migration Guide for the specific jobs you will need to run that are based on the version from which you are upgrading.

- DB2OPTNR

The changes in these jobs are described in more detail below. Note that sample job DB2ALTER contains the DDL to apply column changes to pre-existing tables.

### DB2OPTN

There are new columns in the CMNADMIN\_NAMED table in ZMF 8.2 Patch 4:

- SERVICE\_COLLECTION\_SRC IS 'Source template for COLLID - Bind Service' ,
- SERVICE\_COLLECTION\_TGT IS 'Target template for COLLID - Bind Service' ,
- SERVICE\_OWNER\_SRC IS 'Source template for OWNER - Bind Service' ,

- SERVICE\_OWNER\_TGT IS 'Target template for OWNER - Bind Service' ,
- SERVICE\_QUALIFIER\_SRC IS 'Src template for QUALIFIER - Bind Service' ,
- SERVICE\_QUALIFIER\_TGT IS 'Tgt template for QUALIFIER - Bind Service');

And the PROCESS\_IND column in the CMNADMIN\_GENERAL table can take a value of 'V' for Bind Service.

## DB2OPTNR

The CMNDB2VB package must now be bound at remote site Db2 subsystems – this program now performs access to Db2 catalog tables on behalf of the Bind Service process. This bind has been added:

```

BIND PACKAGE(CMNx) MEMBER(CMNDB2VB) ACT(REP) ISO(CS)          -
  EXPLAIN(NO) VALIDATE(RUN) RELEASE(COMMIT)                  -
  ENCODING(EBCDIC) DBPROTOCOL(DRDA)

```

And the package added to the CMNPLAN pklst:

```

BIND PLAN(CMNPLAN)          -
PKLIST(CMNx.CMNDB2SQ        -
  CMNx.CMNDB2VB             -
  CMNZMF.CMNDB2AT           -
  *.CMNDB2SQ)               -
ACT(REP) ISO(CS) RETAIN     -
EXPLAIN(NO) VALIDATE(BIND) ACQUIRE(USE) RELEASE(COMMIT)
END

```

Customers who are installing ZMF 8.2 Patch 4 from scratch can use sample JCL with these changes already in place.

However, existing customers will have to make sure that they include CMNDB2VB in their remote site binds and include it in the CMNPLAN pklst (if they wish to make use of the new support).

There is a Package Master conversion involved in adding this support; but this processing is included in the standard Package Master conversion task for converting to ZMF 8.2 Patch 4.

For more details about enabling Db2 in ChangeMan ZMF, refer to:

- Solution [S141663](#).
- *ChangeMan ZMF Db2 Option Getting Started Guide*.

## Notes Concerning Recent Db2 Enhancements

CMNDB2VB is required for extended Native SQL stored procedure and Bind Service support. It has a prerequisite of Db2 v11 and requires service versioning to be enabled.

Db2 uses the SYSIBM.DSNSERVICE table to describe REST services and associate them with corresponding packages. This table is used for the new Db2 Bind Service enhancement.

If you bind CMNDB2VB and validate at bind (see the member DB2OPTN in the supplied CMNZMF.CNTL library), and if the SYSIBM.DSNSERVICE table is not present, the bind will fail with a -204 SQLCODE.

Note also the GRANT SELECT on table SYSIBM.DSNSERVICE will fail with the same SQLCODE if the table is not present.

Refer to the *ChangeMan ZMF Db2 Option Getting Started Guide* for more information about Bind Service support.

If you do not wish to make use of either extended Native SQL stored procedure support or Bind Service support, you do not need to bind CMNDB2VB. Alternatively, use VALIDATE(RUN) in the BIND command for CMNDB2VB.

## Upgrading to ChangeMan ZMF 8.2 Patch 4 Web Services

If you are running customized ZMF Web Service-based applications, you should rebuild those applications using the ZMF 8.2 Patch 4 Web Services, regardless of the release from which you are upgrading, and redeploy your applications in production prior to or alongside updating your ZMF Server software.

### Building custom applications using web services

The zmfws.war file contains the classes and stubs necessary to build custom applications that use ChangeMan ZMF base web services. It is now a separate download. See Solution [S143025](#) for more information.

## Rerunning the PassTicket Generation Installation Routine

The PassTicket-generation routine was changed in ZMF 8.1.3. If you have not IPLed since SERXPTIK was last updated (March 2017), you will need to run the SERSET routine with a different, unique token value to implement this change if you are upgrading from a ZMF release prior to 8.1.3.

Take these steps:

- 1 Copy the SERSET JCL supplied in the SERCOMC.V8R2P04.CNTL distribution library to a private library, update the STEPLIB (or JOBLIB) as necessary, and change the TOKEN parameter to a value of 'B'.
- 2 Customize this JCL as appropriate, and execute it on all LPARs that are either hosting the Server started task or from which you can connect to the Server started task. It will produce messages similar to the following:

```
00.40.42 J0553644 SER1704I CSVDYLPALPA loaded SERXPTIK @ 922E9000, Vers 20170320 10.39
00.40.42 J0553644 SER1708I SerNet.PtickB token created
00.40.42 J0553644 SER1708I SerNet.PtickTok token created
00.40.42 J0553644 SER1709I Passticket support enabled
```

The Server started tasks will now point to the new token and will produce messages similar to the following at start up:

06.41.36 S0553755 SER1701I Passticket support previously enabled under 'B' suffix



**NOTE** This JCL is a one-off task required to update these particular software components in place. Do not change your existing SERSET procedures to point to the new token. When your systems are next IPLed you will automatically revert to token/suffix 'A', which is correct.

## The ChangeMan ZMF REST API Feature

The software for the ZMF REST API Feature is provided as a part of the full install of ChangeMan ZMF 8.2 Patch 4. The installer will ask for the zFS host directory and will populate the zFS host directory with the .war and .jar files. If you do not provide the zFS host directory, the RECEIVE JCL file (RECEIVE.V8R2P04.JCL), will still contain the steps but they will be commented out. The files include:

CMNZMF.V8R2P04.ZMFREST.WAR  
CMNZMF.V8R2P04.ZMFWS.WAR  
CMNZMF.V8R2P04.ZMOBILE.WAR  
CMNZMF.V8R2P04.RESTCLIENT.JAR (This file is new with ChangeMan ZMF 8.2 Patch 4.)

These .war and .jar files are also provided as individual downloads, in a .zip format, as part of the ChangeMan ZMF 8.2 Patch 4 distribution.

The TomCat components for the REST API components are stored in the CMNZMF.V8R2P04.CNTL library. The addition of these 13 components means that library is much larger than earlier versions.

Refer to the *ChangeMan ZMF REST Services Getting Started Guide* for more information about the REST API feature.

## Format of Distribution Libraries Planned for ChangeMan ZMF Version 9

Currently all distribution libraries are shipped in PDS format. This is still true in 8.2 Patch 4. However, in order to support modern language features and executable module formats, the distribution libraries for ChangeMan ZMF 9.0 and future releases will be shipped in PDSE format. We are including this information in this document to provide you with the time to plan for changes needed to support this format change.

## Software Compatibility

For a complete list of software requirements and product compatibility:

- Access the following location on the Micro Focus SupportLine website:

<https://supportline.microfocus.com/prodavail.aspx>

- Fill in the requested information in the drop-down fields.
- Click the + sign to the left of the desired ChangeMan ZMF version.
- Select **Supported Platform List** under the Platform Availability Matrix heading.



## Known Issues

- To see known ZMF issues with z/OS versions, if any, go to the following location on the Micro Focus SupportLine website:

<https://supportline.microfocus.com/prodavail.aspx>

- Different versions of ChangeMan ZMF are incompatible in ISPF split screen mode. User abend 44 blocks you from opening a second session with a different version and can also signify incomplete SEREX006 exit information.
- To avoid version conflicts, do not run the XMLSERV prototype tool for XML Services concurrently in ISPF split screen mode with a ChangeMan ZMF instance.
- The routines to stop/start/refresh an IBM® WebSphere® application in promotion, install, and backout consume excessive z/OS memory and elapsed time. Customers report that this behavior is not unique to the ChangeMan ZMF use of the WebSphere API. Customers using the ZMF WebSphere interface should include REGION=0M in jobs that include the CMN\$\$WSB, CMN\$\$WSI, and CMN\$\$WSP skeletons.
- SYNC SORT customers who encounter the following message during SORT processing in the CMVCONxx conversion jobs delivered in the CMNZMF.CNTL distribution library (or any steps involving SORT):

WER175A - INCORE SORT CAPACITY EXCEEDED

can add SORTWORKxx DD statements to steps to explicitly allocate work data sets.

## Documentation Updates

All ChangeMan ZMF documentation is provided in Adobe® Portable Document Format (PDF) and may be downloaded from the Micro Focus SupportLine website at

<https://www.microfocus.com/support-and-services/documentation/>.

- Adobe® Reader® is available for free download at <http://get.adobe.com/reader/>. Version 9 or higher is recommended.
- Updates to documentation are frequently issued after the product release date. Updated ChangeMan ZMF Readme files and user manuals are published on the Micro Focus SupportLine website with the rest of the documentation for the product release. Updated Readme files and user manuals are flagged with an **Updated** date in the file name or description.



**NOTE** Change bars in the left margin of ChangeMan ZMF documentation identify substantive changes from the last published version, unless otherwise noted.

- Enhancements that are delivered with ChangeMan ZMF 8.2 Patch 4 are summarized in this Readme file in the section titled [New Features in ChangeMan ZMF 8.2 Patch 4 on page 3](#).

## Searching the Documentation

There is no cross-book index for the ChangeMan ZMF documentation suite. You can use the Advanced Search facility in Adobe Reader to search all ZMF manuals in the same or subordinate folders for information that you want. See topic "Searching the ChangeMan ZMF Documentation Suite" in the "Welcome to..." chapter of each ZMF manual.