ChangeMan® ZDD 8.1.4

User's Guide

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What's New

Changes in 8.1.4

Microsoft Prerequisites

The following Microsoft prerequisite products are required (same as 8.1.3), and will be installed automatically by the installer, if they are missing:

- Microsoft .NET Framework 4.6.1 *(all systems)*
- Microsoft Visual C++ 2017 Redistributable (x86) *(all systems)*
- Microsoft Visual C++ 2017 Redistributable (x64) *(64-bit systems only)*

The .NET Framework will be downloaded from the internet, if needed. All other prerequisites are fully embedded in the installer bundle.

8-Character TSO User ID Support

ChaqngeMan ZDD now supports 8-character TSO user IDs, which are introduced by z/OS 2.3.

Preliminary Support for PDSE v2

The following have been enhanced to support PDSE v2 and member generations:

- The **New Data Set** dialog box allows you to create PDSE v2 data sets.
- The **New Data Sets** page of the **DataSets** folder properties supports PDSE v2.
- Data set properties now include PDSE v2 information.
- Data set lists in the File Explorer have new columns to display the PDSE version number and maximum number of member generations.

DFSMS Data Set Encryption

The following have been enhanced to display DFSMS data set encryption information:

- Data set properties now sho2w data set encryption status.
- Data set lists in the File Explorer have a new column to display data set encryption status.

Server Properties Enhancement

Server properties have been enhanced to include the following information:

- z/OS operating system version

- Maximum number of PDSE v2 member generations allowed on system

XmlServ: XML Services Tool

XmlServ, the XML Services Tool, generates model XML Services requests, which the user can fill in and submit.   You can also open and edit previously generated XML Services requests and submit them.

This XML Services Tool provides all of the functionality of the XMLSERV tool in in the ISPF interface of ChangeMan ZMF. With the Windows graphical user interface, we are able to provide a richer set of functionality, and an interface that easier to use than would be possible with ISPF technology.

.NET Programming Interface Changes

Changes to **ZosDataSet** class:

- New **PdseVersion** property
- New **MaxGens** property
- New **Encrypted** property

Changes to **ZosDataSetInfo** class:

- New **PdseVersion** property
- New **MaxGens** property

Changes to **ZosDataSetProfile** class:

- Constructor has new arguments to support PDSE v2 member generations.
- New **PdseVersion** property
- New **MaxGens** property

Changes to **ZosDataSetProfiles** class:

- **Add** function has new arguments to support PDSE v2 member generations.

COM Programming Interface Changes

Changes to **ZosDataSetProfile** class:

- New **PdseVersion** property
- New **MaxGens** property

Changes to **ZosDataSetProfiles** class:

- **Add** function has new arguments to support PDSE v2 member generations.

Changes in 8.1.3

Microsoft Prerequisites

The following Microsoft prerequisite products are required, and will be installed automatically by the installer, if they are missing:

- Microsoft .NET Framework 4.6.1 *(all systems)*

- Microsoft Visual C++ 2017 Redistributable (x86) *(all systems)*

- Microsoft Visual C++ 2017 Redistributable (x64) *(64-bit systems only)*

The .NET Framework will be downloaded from the internet, if needed. All other prerequisites are fully embedded in the installer bundle.

Code Signing Certificate Changes

All ChangeMan ZDD 8.1.3 executable files are now signed with SHA256 digital certificates only. SHA1 digital certificates have been deprecated by Microsoft and are no longer being issued.

Windows 7 and Windows Server 2008 R2 systems require Windows Update KB3033929 in order to support SHA256 certificates. All Windows operating systems beginning with Windows 8 have built-in support for SHA256 certificates.

Enhanced Logon Dialog Box

The **Logon** dialog box has a new "Save password" check box.   If the box is checked, the dialog box will try to retrieve a previously saved password for the specified user ID, and will save the encrypted password upon completion of a successful connection.

The "User ID" field now has a dropdown list that allows you to quickly select from a list of recently used user ID's. This is helpful when you switch back and forth between different user ID's.

The **Logon** dialog box has a new "Process" field that displays the process name (program name) and process ID (address space ID) of the process that initiated the request to connect.

New Check In Wizard

The user interface for "Check In to Package" and "Check In from DB2" has been completely redesigned using a wizard interface. Both commands use the same wizard, but a different set of pages displayed when you check in from DB2.

The new Check In wizard includes an **Other Options** page. The Other Options page requires a new **CHECKIN** member of ZDDOPTS.

New Check Boxes for Display of Other Options

Several wizards have new check boxes used to display or hide the **Other Options** page. These check boxes will be unchecked and disabled (grayed out) if there is no member in

ZDDOPTS for that wizard, since we can't properly display the user options without information from the ZDDOPTS member.

Build Wizard

The "Build settings" page of the Build wizard will have two new check boxes that can be used to display or suppress display of user options and variables:

- "Display other options": Displays UserOption* fields

- "Display user variables": Displays UserVariable* fields

These check boxes can be used to limit what is included on the "Other options" page of the build wizard. If neither box is checked, then the "Other options" page will not even be displayed.

Audit, Check Out, Promote, Demote Wizards

The Audit, Check Out, Promote, and Demote wizards have the following new check box:

- "Display user variables": Displays UserVariable* fields

User variables are used for batch operations only. This check box is disabled for online operations, since the **Other Options** page is displayed for batch operations only.

Check In Wizard

The new wizard for Check In to Package has the following check box:

- "Display other options": Displays UserOption* fields

There is a ChangeMan ZMF administrative option, "Enable component user variables", that can be set using ISPF option A.G.1 (part 5). If this administrative option is disabled, then the check box will be unchecked and disabled (grayed out).

Delete Source Components during Check Out from Package

The Check Out wizard now provides the ability to delete the source components when checking out components from one package into another. This is useful when moving components from one package to another.

When checking out from another package, the "Components" page of the "Check Out" wizard contains a new check box, "Delete components from source package". The check box is not present when performing other types of check-out operations.

When this check box is checked, after the check-out operation is complete, the "Delete Components" dialog will display to confirm the components to be deleted.

Improved Package Filters

The filters for the "Packages" folder now allow filtering by package creation date, as well as install date. The following options are offered:

- Install dates from a fixed date

- Install dates from a specified number of months ago (months before current date)

- Creation dates from a fixed date

- Creation dates from a specified number of months ago (months before current date)

Improved Release Filters

The filters for the "Releases" folder now allow you to specify the starting install date in either of two ways:

- Install dates from a fixed date

- Install dates from a specified number of months ago (months before current date)

Build Wizard Support for Type OTH

The Build wizard now supports building components of types like "Other".   A customized set of wizard pages are used for type Other.   The type Other wizard pages are much simpler, and do not include the fields that apply only to source components, like language, compile parameters, etc.

Submit JCL Notify Improvement

The **Submit JCL** dialog box now contains a "Add notify job step" check box. You can now control whether specific jobs have notify steps added, without the need to log off and log back on again. The API functions to submit JCL have been likewise enhanced to include an argument for adding a notify step.

The configuration options for adding a notify step have been removed from the **Serena Network** properties, and the **Logon** dialog box. You can now simply decide whether or not to add a notify step when you submit the job, and there is no need to log on again or change configuration options.

Named Profiles in ZDDOPTS Members

The profiles in several ZDDOPTS members can now be given names. The "name" attribute can be used by an HLL exit to select a specific profile.

There can be multiple profiles with the same name, in which case the first matching profile will be selected. A given profile can also have multiple names. If it has multiple names, it will match any of the names. The profile name is not case sensitive.

Named profiles can only be selected using an HLL exit. If you are not using HLL exits, do not specify a profile name.

The following ZDDOPTS members support named profiles:

- AUDIT

- BUILD

- CHECKIN

- CHECKOUT

- PKGCREAT (used for both Package Create and Package Update)

- PROMOTE

■ DEMOTE

New CHECKIN Member of ZDDOPTS

There is a new **CHECKIN** member in the ZDDOPTS library. This member is used to define the **Other Options** page for the new **Check In** wizard. If there is no CHECKIN member in ZDDOPTS, the Other Options page will not be displayed in the **Check In** wizard.

.NET Programming Interface Changes

Changes to **ZosBuildType** enumeration:

■ Value renamed: **Normal** → **Build**

Changes to **ZosNetwork** class:

■ Removed **NotifyJobStep** property (obsolete)

Changes to **ZosServer** class:

■ **SubmitJcl** function has new argument to add a notify job step to submitted JCL.

COM Programming Interface Changes

Changes to **ZosNetwork** class:

■ Removed **NotifyJobStep** property (obsolete)

Changes to **ZosServer** class:

■ **SubmitJcl** function has new argument to add a notify job step to submitted JCL.

High Level Language Exits

The following high level language exit (HLLX) points have been added:

■ Build: BULD0009, BULD0109

■ Check In: BULD0002, BULD0102, BULD0103

■ Delete Component: BULD01DL

Changes in 8.1.2

New Installer

The ChangeMan ZDD installer is now packaged as a single executable file. The new installer will install any needed Microsoft prerequisites.

The installer displays a single dialog box for installing the entire chain of products, rather than separate install wizards, one for each product in the bundle. The installer also suppresses intermediate reboots, so that only one reboot is required at the end.

Microsoft Prerequisites

The following Microsoft prerequisite products are required, and will be installed automatically by the installer, if they are missing:

- Microsoft .NET Framework 4.6.1 *(all systems)*

- Microsoft Visual C++ 2015 Redistributable (x86) Update 1 *(all systems)*

- Microsoft Visual C++ 2015 Redistributable (x64) Update 1 *(64-bit systems only)*

The .NET Framework will be downloaded from the internet, if needed. All other prerequisites are fully embedded in the installer bundle.

Code Signing Certificate Changes

All ChangeMan ZDD 8.1.2 executable files are now dual signed with both SHA1 and SHA256 digital certificates. SHA1 digital certificates have been deprecated by Microsoft and are no longer being issued.

Our SHA1 certificate expires on February 25, 2017. Any ChangeMan ZDD builds generated after that date will be signed with only an SHA256 certificate.

Windows 7 and Windows Server 2008 R2 systems require Windows Update KB3033929 in order to support SHA256 certificates. All Windows operating systems beginning with Windows 8 have built-in support for SHA256 certificates.

All builds of ChangeMan ZDD released after February 25, 2017 will require SHA256 support.

Check Out Components from Another Package

You can now check out components from another package. If that package component contains a package description, the package description is copied to the target package. This functionality is only available with ChangeMan ZMF 8.1.2+ servers.

A new "Package" radio button has been added to the "Check out from" group box in the "Options" page of the "Check Out" wizard. This option is available only when connected to an ChangeMan ZMF 8.1.2+ instance. The option will be disabled (grayed out) for down level ZMF instances.

You can also invoke this functionality by dragging components (or a package library) from one package and dropping the components onto a different package. This will bring up the Check Out wizard with the appropriate fields already filled in.

Note: With down level ZMF versions, dragging components from one package and dropping them on another package, performs a Check-In (i.e. Stage) operation, just as it has always done in the past.

New Package Wizard Improvements

The **Participating Packages** page, which is displayed when creating a complex/super package, has been redesigned. Instead of manually entering the package IDs, you can now select the packages from a dropdown list of eligible packages. The packages selected are displayed in a list, which includes the package title, status, and install date.

Package Properties Improvements

The **Participating** page, which is displayed for a complex/super package, has been redesigned. Instead of manually entering the package IDs, you can now select the packages from a dropdown list of eligible packages. The packages selected are displayed in a list, which includes the package title, status, and install date.

The **Applications** page, which is displayed for a participating package, now includes the complex/super package name, as well as a variety of other new fields.

Library Properties Improvements

The **Library** page of the package/baseline library properties, now display the following administrative settings:

- Save staging versions

- Check out component description

Promotion Scheduler

There is a new **Promotion Scheduler**, which allows you to change the scheduled date/time for scheduled promotions. This is very similar to the **Installation Scheduler** for changing the installation schedule.

Customized Field Names

All of the fields listed below an now be customized via the ChangeMan ZMF administration panels (A.G.9). Those fields can be renamed by the ChangeMan Administrator to something that is meaningful in the customer environment. The new names will be used in ChangeMan ZDD user interface.

- Work request

- Department

- Requestor name

- Requestor phone

- Release work request

- Release department

Special Characters in Server / ChangeMan Names

You may now use special characters in server and ChangeMan instance names. Any characters can be used, except the following:

- Sever names cannot contain: " \ / < > | : * ? ( ) `space`

- ChangeMan names cannot contain: " \ / < > | : * ? `space`

High Level Language Exits

The following high level language exit (HLLX) points have been added:

- Audit: AUDT00UV, AUDY01UV

- Build: BULD00UV, BULD01UV

- Check Out: CKOT00UV, CKOT01UV

- Promote / Demote: PRDM00UV, PRDM01UV

- Component Delete: BULD0101

- Scratch / Rename: SCRN0002, SCRN0102, SCRN0104

Changes in 8.1.1

IP Version 6

ChangeMan ZDD now supports IP v6 network communication.

Transport Layer Security (TLS)

ChangeMan ZDD now supports Transport Layer Security (TLS) encryption for secure communications with the server. This TLS setting for a server applies to all ChangeMan instances defined under that server.

If TLS security is enabled, AT-TLS on the z/OS server must also be configured to use TLS on all ports for the server, as well as all ChangeMan ports under the server. Likewise, if AT-TLS on the z/OS server is configured to use TLS, the ChangeMan ZDD client must also be configured to use TLS.

Connection to the server will fail if this TLS setting does not match the AT-TLS configuration on the z/OS server.

If the z/OS server uses self-signed certificates, you will need to install the certificate into the Trusted Root Certification Authorities store on your client machine. This is not required if the certificate was issued a Trusted Root Certification Authority recognized by Windows.

Impact Analysis and Bill of Materials

ChangeMan ZDD now supports the impact analysis function of ChangeMan ZMF. Two new commands have been added when you right click on a ChangeMan instance. Each of these commands launches a wizard:

- Bill of materials

- Impact analysis

Check In from DB2

New **Check In From DB2** command that extracts a native-SQL stored procedure from the DB2 catalog and checks it into a ChangeMan package.

Component Description in Component Properties

Component description can now be displayed in the properties for components in the following locations:

- Package component
- Baseline component
- Promotion component
- Release area component

The component description can only changed for package components. The component description is read-only for components in the other locations.

Relink from LCT

ChangeMan ZDD now supports relink operations being initiated from an LCT component. Simply right click on the LCT and select **Relink** from the popup menu.

New *"Other Options"* Pages

"**Other options**" pages were added to the following wizards:

- Check out (displayed for batch check out only)

There ie now a CHECKOUT member for the ChangeMan ZDDOPTS library. The new "**Other options**" page is displayed only when the ZDDOPTS member is present.

Help Text for *"Other Options"*

ChangeMan ZDD now allows the system administrator to define help text to be displayed for "**Other options**" pages of the various wizards. The help text is displayed in a tool tip when the mouse hovers over a user option field.

The following wizards now support help text on the user options page:

- Audit
- Build
- Promote
- Demote
- Check out
- New package
- Package properties

Drop Down Lists for User Options

ChangeMan ZDD now allows system administrators to define user option fields, for which the user selects a value from a drop down list.

The following wizards now support drop down lists on the user options page:

- Audit
- Build
- Promote
- Demote
- Check out
- New package
- Package properties

Disabled Server Port

ChangeMan ZDD now allows a server to be defined with a disabled XCH port. If the XCH port is disabled, the **DataSets**, **Unix**, and **Jobs** folders will be hidden and inaccessible. This can be used if a customer wishes to restrict access to ChangeMan ZMF functionality only.

New Serena Network Property Pages

In order to accommodate the addition of new settings, the Serena Network properties have been reorganized, and there are now two new property pages (tabs):

- **Network** page
- **Cache** page

Setting for TCP/IP Keep Alive Time Interval

There is a new setting on the **Network** page of the **Serena Network** properties that allows you to configure the TCP/IP keep alive time interval. TCP/IP keep alive packets are sent after this many minutes of inactivity to detect lost connections.

Setting for Maximum Upload Size

The maximum file size for an upload operation is now a configurable setting. The value is specified on the **Network** page of the **Serena Network** properties. Note: Setting this value too high can exhaust virtual storage and cause S878 abends in the server.

Support for User-Specific Code Pages on Server

The ChangeMan ZDD now includes the user-configured server code page number as part of the logion request, in order to enable the new user-specific code pages (CCSID's) introduced in SerNet/ZMF 8.1.1.

ChangeMan ZMF High Level Language Exits

ChangeMan ZDD has added support for ChangeMan ZMF high level language exits for the following functions:

- Check out
- Promote / Demote
- Audit
- Freeze

These exits allow the user interface to be customized from a single location for all ChangeMan ZMF clients, including ISPF, ChangeMan ZDD, and ChangeMan Eclipse.

Microsoft Visual C++ Redistributable

The Microsoft Visual C++ Redistributable Packages install the C/C++ runtime libraries. In previous releases, these runtime libraries were installed directly as part of the ChangeMan ZDD installer package.

However, due to changes in the way Microsoft packages the runtime libraries, they are now automatically downloaded and installed separately when you run **setup.exe**.

You can also download these from the Microsoft web site and install them in advance, if you wish. The version of these packages needed for ChangeMan ZDD 8.1.1 is as follows:

- Microsoft Visual C++ 2015 Redistributable (x86) Update 1 *(all systems)*
- Microsoft Visual C++ 2015 Redistributable (x64) Update 1 *(64-bit systems only)*

.NET Programming Interface Changes

New enumerations:

- **ZosImpactRelationship**
- **ZosStagingVersionLocation**

New classes:

- **ZosComponentStagingVersion**
- **ZosQueryImpactResult**
- **ZosTestReleaseResult**

Changes to **ZosApplication** class:

- **GetComponentHistory** function has new arguments for filtering results.

Changes to **ZosBaselineLibrary** class:

- **GetPdsComponents** and **GetUnixComponents** functions have new argument for filtering by change time.

Changes to ZosBuildInfo class:

- New **Db2Version** property.
- New **UserVariables** property

Changes to **ZosChangeManInstance** class:

- New **QueryImpact** function

Changes to **ZosDataSet** class:

- **GetMembers** function has new argument for filtering by change time.

Changes to **ZosNetwork** class:

- New **TimeOut** property
- New **KeepAlive** property
- New **MaxUploadSize** property

Changes to **ZosPackage** class:

- **GetComponents** function has new argument for filtering by change time.
- **Freeze** function has new argument for user variables

Changesto **ZosPackageComponentDirectory** class:

- **GetComponents** function has new argument for filtering by change time.

Changes to **ZosPackageComponentFile** class:

- New **Description** property.
- New **GetStagingVersions** function.

Changes to **ZosPackageComponentDirectory** class:

- **GetComponents** function has new argument for filtering by change time.

Changes to **ZosPackageLibrary** class:

- **GetComponents** function has new argument for filtering by change time.

Changes to **ZosPromotionLibrary** class:

- **GetComponents** function has new argument for filtering by change time.

Changes to **ZosRelease** class:

- New **Test** function.

Changes to **ZosReleaseArea** class:

- New **Test** function.
- **GetComponents** function has new argument for filtering by change time.

Changes to **ZosServer** class:

- New **Secure** property.

Changes to **ZosServers** class:

- **Add** function has new argument for enabling TLS security.

Changes to **ZosUnixDirectory** class:

- **GetObjects** function has new argument for filtering by change time.

COM Programming Interface Changes

Changes to **ZosNetwork** class:

- New **TimeOut** property
- New **KeepAlive** property
- New **MaxUploadSize** property

Changes to **ZosServer** class:

- New **Secure** property.

Changes to **ZosServers** class:

- **Add** function has new argument for enabling TLS security.

Changes in 8.1

Support for ChangeMan ZMF ERO

ChangeMan ZDD now supports the release management (ERO) feature of ChangeMan ZMF.

- New directory structure to support ERO
- Release properties
- Release area properties
- **All release versions** command (right click on release component)
- **Validate versions** command (right click on package component)
- **Check out to package** command (right click on release or package)
- **Check in to release** command (right click on package component)
- **Check in to next area** command (right click on release Changes component)
- **Promote** / **Demote** commands (right click in package, release, or release area)
- **Build** command now supports recompile from release area
- **Retrieve components** command (right click on a release area)
- **Audit release area** command (right click on release area)
- **Block area** / **Unblock area** commands (right click on release area)
- **Block release** / **Unblock release** commands (right click on release)
- **Search release** command to search release components for text strings (right click on release)
- **Notify check in** / **Notify check off** commands (right click on release area)
- **Release approvals** command (right click on release)

- **Check in approvals** / **Check off approvals** commands (right click on release area)

- **Reset approvals** (right click on release area)

- **Revert release** (right click on release)

- **Back out release** command (right click on release)

- **Test area** / **Test release** commands (right click on release , or release area)

Support ChangeMan ZMF High Level Language Exits

ChangeMan ZDD now supports ChangeMan ZMF 8.1 high level language exits. These exits allow the user interface to be customized from a single location for all ChangeMan ZMF clients, including ISPF, ChangeMan ZDD, and ChangeMan Eclipse.

Customized Field Names

ChangeMan ZDD now allows the **Department** and **Work Request** field names to customized via the ChangeMan ZMF administration panels. Those fields can be renamed by the ChangeMan Administrator to something that is meaningful in the customer environment. The new names will be used in ChangeMan ZDD user interface.

Library Type Restrictions: CMNEX035

ChangeMan ZDD now supports ChangeMan ZMF user exit CMNEX035. CMNEX035 can be used to restrict which library types are available for the following functions:

- **Stage**

- **Check out**

- **Scan** (search for text)

- **Scratch** / **rename**

Group Site Names: CMNEX039

The **New package** wizard and the **Site** tab of the package properties have been enhanced to display the group names instead of the individual site names when a site belongs to group defined by user exit CMNEX039.

Migrated Data Set ML1/ML2 Indicator

The ZDD user interface has been enhanced to take advantage of the new **ML1**/**ML2** data set migration indicator. This enhancement is only available when connected to a SerNet 8.1 system.

The following changes were made to the ZDD user interface in the Windows Explorer:

For **ML2** data sets the icon has a small gray X, and for **ML1** data sets the icon has a small green X. For back level SerNet servers, the gray X is always used.

The data set type column displays as **MIG1** or **MIG2**. For back level SerNet servers, the data set type displays as **MIG**.

The volume column displays as **MIGRAT1** or **MIGRAT2**. For back level SerNet servers, the volume column displays as **MIGRAT**.

Display and Edit Component Descriptions

ChangeMan ZDD has been enhanced to provide the ability to display and edit the component description for a component in a package. A new **Description** page has been added to the properties for a component in a package.

Initially, if the package component has no description, the component description page is populated with the default description for the component from the application or global admin, if a description has been defined for the component there.

On the **Description** page, the user can edit the component description and then press the **Apply** button to save the changes.

Enhanced Security for ZDD Cache Folder

ChangeMan ZDD now protects the ZDD cache folder so that cache files can only be accessed via ChangeMan ZDD. This protection disallows inappropriate access to files outside of ChangeMan ZDD.

Unicode Support for ZDD Edit and ZDD Compare/ Merge

The ChangeMan ZDD text editor and the compare/merge tool now support Unicode (UTF-16), UTF-8, and DBCS files, and thus, they can now be used with Asian languages. The **Save As** dialog box has a new **Encoding** drop down list that allows you to override the default encoding when saving a file.

Navigation Pane for ZDD Edit

The ZDD text editor has a new navigation pane on the left side. The navigation pane allows you to easily navigate folders and choose files to edit. The navigation bar also allows you to delete files, rename files or folders, and to create folders.

Site Activity Report

There is a new **Site activity** command which will display the activity at each site for a package.

Build Type Column in Component Lists

Component lists have a new Build type column that indicates whether the component is a full build, a recompile, or a relink.

Reset Button for Package Filter Status Check Boxes

On the **Filter** page of the **Packages** folder properties, there is now a reset button to clear all of the package status check boxes at once.

New Tool to Cancel All Requests for a Server

ChangeMan ZDD has a new tool to cancel all requests for a server and disconnect.   This is sometimes needed because a mainframe server that is not responding can cause the Windows Explorer or other program to hang if it is waiting on a response from that server. One situation that can cause this is an abend in the started task.

You can now cancel all server requests using any of the following methods:

- Double clicking on **ZosCancel.exe** to run it.

- Running **ZosCancel.exe** from the Windows Command prompt.

- Select **ZDD Cancel** under ChangeMan ZDD on the Windows Start menu.

- Right click on the **Serena Network** icon on the desktop and select **Cancel server requests** from the popup menu.

.NET Programming Interface Changes

The .NET programming interface has been enhanced to support release management (ERO). Below is a summary of the changes.

New enumerations:

- **ZosAuditPackageOptions** (formerly **ZosAuditOptions**)

- **ZosAuditReleaseAreaOptions**

- **ZosPackageApprovalAction** (formerly **ZosApprovalAction**)

- **ZosReleaseApprovalAction**

- **ZosReleaseApprovalType**

- **ZosReleaseAreaStatus**

- **ZosReleaseAreaType**

- **ZosReleaseStatus**

New classes:

- **ZosCheckInStatus**

- **ZosRelease**

- **ZosReleaseApprover**

- **ZosReleaseArea**

- **ZosReleaseComponentDirectory**

- **ZosReleaseComponentFile**

- **ZosReleaseComponentObject**

- **ZosReleaseLibrary**

- **ZosRetrieveStatus**

Changes to **ZosChangeManInstance** class:

- New **GetApplications** function
- New **GetReleases** function

Changes to **ZosPackage** class:

- New **Release** property
- New **ReleaseCheckIn** function
- Changed **CheckOut** function
- Changed **Recompile** function
- New **ReleasePromote** function
- New **ReleaseDemote** function
- Changed **Audit** function

Changes in 7.1.3.2

Alternate Text Color When Past Package Install Date

In the Windows Explorer, the names of packages, package libraries, and package components now display as blue text when past the install date. Many menu commands are not available after the install date has passed.

The info tip text will also display a past install date warning when the mouse pointer hovers over a package or package component.

Support for RACF Password Phrases

ChangeMan ZDD now supports RACF password phrases, which can be up to 100 characters in length. Password phrase support requires SerNet/ZMF 7.1.3.01 or higher.

There is a new "Allow password phrases" check box on the **Connection** page of the server properties, as well as the **New Server** dialog box.

Changing Passwords

There is a new "Change password" check box on the **Logon** dialog box.   If that box is checked, you will be prompted for a new password. The "new password" field no longer appears in the **Logon** dialog box.

Support for Auto-mounted Unix Directories

ChangeMan ZDD now supports folders for Unix directories that are auto-mounted. When you open the ZDD folder, the directory will automatically be mounted.

Windows 8.1 Support

ChangeMan ZDD now supports Windows 8.1.

.NET Programming Interface Changes

The **ZosPromotionArea** enumeration has been replaced by **ZosPromotionTarget** enumeration.

Changes in 7.1.3.1

Installer Changes

The following changes have been made to the install process for the ChangeMan ZDD client.

The installer has been reduced to two files. The "setup.exe" file will automatically download any missing Microsoft prerequisite products from the internet and install them before launching the ChangeMan ZDD installer, ChangeManZDD_xxx.msi.   Starting with Windows 7, the Windows operating system already includes all of the prerequisites.

All installers now install the .NET Framework 4.0, rather than version 4.5. The .NET Framework 4.0 is already included as part of the operating system beginning in Windows 7. As such, the .NET Framework will only need to be installed on Windows versions before Windows 7. In any case, the .NET Framework will be installed only once, and not each time you install ChangeMan ZDD.

The Windows XP version of the installer can be installed on Windows XP and Windows Server 2003 machines only. Use the standard version of the installer for all other operating systems. The standard build makes use of newer operating system facilities that are more efficient, but not backward compatible with Windows XP.

ZDDOPTS Permissions by Security Group

If the z/OS server is at the SerNet 7.1.3+ level, the administrator can now specify permissions in the COMMAND and PKGPROP members of ZDDOPTS by z/OS security group name rather than by user ID. If both user= and group= filters are specified in the ZDDOPTS profile, the profile will be selected if either filter matches. Both the user ID and group name filters may contain wild characters.

Support for ChangeMan Components Like Type OTH

The **Check In** and **Check Out** dialog boxes now support ChangeMan components that are like type OTH. The **Check In** dialog box now allows you to enter job card information. The job card field is enabled only for components like type OTH.

Multiple Notify Messages Combined Into a Single Message Box

Notify messages can now be combined so that several messages are displayed in a single message box. This eliminates the situation where a user performs an operation that results in many notify messages, and then has to repeatedly close each of the many message boxes.

On the **Notify** page of the **Serena Network** properties, there is a new **Delay** field.   This is the time delay, in seconds, before a message box is displayed. The time delay allows messages to accumulate so that several messages can be displayed in a single message box.

New Reset buttons on Notify page of Serena Network Properties

There are now Reset buttons on the Notify page of the **Serena Network** properties. These buttons allow you to restore some of the fields back to the default values.

User Options Displayed in Same Order as Defined in ZDDOPTS library

The user options in the **Audit**, **Build**, **Promote**, **Demote**, and **New Package** wizards are now displayed in the same sequence as they are defined in the corresponding member of the ZDDOPTS library.

File Locking Support

When connected to a SerNet/ZMF 7.1.3+ system, data sets, PDS members, and Unix files are enqueued during file save operations to ensure file is not being edited by an ISPF user.

COM and .NET Programming Interface Changes

The **ZosNetwork** class has a new a new **NotifyDelay** property. This is the time delay, in seconds, before a message box is displayed. The time delay allows messages to accumulate so that several messages can be displayed in a single message box.

Changes in 7.1.3

Installer Changes

The following changes have been made to the install process for the ChangeMan ZDD client.

- There is now a separate installer for Windows XP (and Windows Server 2003) machines. Although it is possible to install the Windows XP build on a Windows Vista or Windows 7 machine, you will get better performance using the standard build. The standard build makes use of newer operating system facilities that are more efficient, but not backward compatible with Windows XP.

- The standard installer will install the .NET Framework 4.5, whereas the Windows XP installer will install the .NET Framework 4.0. The .NET Framework will be installed only once, and not each time you install ChangeMan ZDD.

Support for Windows 8

ChangeMan ZDD now supports Windows 8 (and Windows Server 2012). Please note that the Windows XP version of the ChangeMan ZDD cannot be installed on a Windows 8 machine.

User Interface Support for z/OS Extended Attributes Volumes (EAV)

The ChangeMan ZDD user interface has been enhanced to support z/OS Extended Attribute Volumes (EAV). The support for extended attribute volumes requires SerNet/ZMF 7.1.3 or higher.

- New Data Set dialog box now allows you to specify extended attributes.

- New Data Set dialog box now allows allocating large (SEQL) and extended format (SEQE) data set types.

- There are new fields in the data set properties and new columns in the data set list to display extended attribute information.

Promotion Schedule Date and Time in Wizard

The Promotion dialog box now allows you schedule the promotion for a future date and time.

Start Menu Shortcuts Now Available from Serena Network Popup Menu

The ChangeMan ZDD Start menu shortcuts are now available from the popup menu when you right click on the Serena Network icon. This includes the shortcuts for ChangeMan ZDD help and books. This makes accessing the shortcuts easier on Windows 8, which no longer has the Windows Start button on the desktop.

New File Formats for ChangeMan ZMF Components

The **ASCII Data** and **EBCDIC Data** file formats are now allowed for ChangeMan ZMF components with fixed length records (RECFM=F). These file formats consist of fixed length records with no CR/LF line termination characters. File formats for ChangeMan components are defined on the **File Formats** tab of the ChangeMan properties, and are defined by library type.

.NET API Support for z/OS Extended Attributes Volumes (EAV)

The ChangeMan ZDD .NET programming interface has been enhanced to support z/OS Extended Attribute Volumes (EAV). The support for extended attribute volumes requires SerNet/ZMF 7.1.3 or higher.

- New **ZosDataSetEAttr** enumerated type for specifying extended attributes.

- New **ZosDataSetType** enumeration values: **SeqL** (large data set) and **SeqE** (extended format data set).

- New **ZosDataSetInfo** class property: **ExtendedAttributes**

- New **ZosDataSetProfile** class property: **ExtendedAttributes**

- New **ZosDataSet** class properties: **DataSetType**, **UsedPercent**, **ExtendedAttributes**, **JobName**, **StepName**

Server Time Zone Information in .NET API

Server time zone information is available via new properties:

- New **ZosServer** class properties: **UtcOffset**, **Today**

- New **ZosChangeManInstance** properties: **UtcOffset**, **Today**

Security Group Names in .NET API

You con now obtain the list of z/OS security groups to which the user ID belongs. This feature requires SerNet 7.1.3.+.

- New **ZosServer** class property: **Groups**

Promotion Schedule Date and Time in .NET API

The **Promote** function of the **ZosPackage** class now allows you schedule the promotion for a future date and time.

Path Name Support for Multiple Connections to Server

ChangeMan ZDD has been enhanced to allow multiple connections to a single server so that the same server can be logged onto more than one user ID at a time from the same Windows session. The path name syntax has been enhanced to allow you to specify alternate connections, with connection ID's numbered 1 - 255.

An alternate connection is specified by appending the connection ID to the server name, separated by a colon (":"). It can also be specified by appending the connection ID enclosed in parentheses. The default connection ID is 0, and does not need to be specified.

- \\MyServer:3\...
- \\MyServer(3)\...

The Windows Explorer graphical user interface only displays the default connection (connection ID 0). Alternate connections are only available using path names or the .NET programming interface.

.NET API Support for Multiple Connections to Server

The .NET programming interface has been enhanced to allow multiple connections to a single server so that the same server can be logged onto more than one user ID at a time from the same Windows session. This is often a requirement in a server application.

- New **ZosConnectionLock** class that can be used to reserve a connection ID, and lock the connection ID so that it will not be used by other programs or threads. The default connection ID, 0, will never be locked.

- The **Servers** property of **ZosNetwork** and the indexed property of **ZosServers** have been enhanced to allow retrieving a **ZosServer** object with an alternate connection ID:
  ```
  ZosServer server = network.Servers["MyServer", 3];
  ```

- New **ZosServer** property: **Connection**

- New **NewConnection** of **ZosServer** class that allows you to create a new server object from an existing server object, but with a different connection ID:
  ```
  server = server.NewConnection(3);
  ```

Changes in 7.1.2.2

New Binary File Format For Data Sets

There is a new **Binary** file format that can be specified for record format V (RECFM=VB) data sets.   This file format can be specified in the **File Formats** tab in the properties for the **DataSets** folder or a ChangeMan folder. The Binary file format uploads and downloads data sets as is, with no character translation, no line terminators (CR/LF), and no space padding.

New Network Time Out Setting

There is a new setting that allows you specify the time limit, in minutes, to wait for a network request to complete. After this time the request will be automatically canceled with a time out error. This new setting can be found on the **General** tab of the **Serena Network** properties.

Port Type Identified

On all property pages and dialog boxes used to configure servers and ChangeMan instances, the type of port number (XCH or CMN) required is now clearly identified in field label.

Changes in 7.1.2.1

New Promotion History Commands

There are new P**ackage Promotion History** and **Component Promotion History** commands that allow you to display the promotion history for a package or for some package components. The promotion history can be filtered by promotion site, promotion level, or component type. You can, optionally, display promotion history for only selected components.   You can sort the list on any column by clicking on the column headers. The column order can be rearranged by dragging the column header to the desired location.

New View Listings Command

There is a new **View Listings** command that allows you to browse the listing for a ChangeMan ZMF source or load component in baseline or in a package. The administrator can customize which listing library type is associated with a source library type using the LIBTYPE member of the ZDDOPTS library for the ChangeMan ZMF instance.

New Listings Page (Tab) on Network Properties

There is a new **Listings** page on the **Serena Network** properties that allows you to customize which viewer program is used to view listings. This viewer program will be used when you view listings for JES Jobs or when you choose **Serena Network → View**

Listing from a popup menu. If you do not specify a viewer, **Notepad** (Windows utility) is the default.

JES File Name Extension Changed

The file name extension for JES files under the Jobs folder has been changed from **.txt** to **.list**. This allows you to customize the viewer program for viewing listings separately from the standard program used to open plain text files. The **Listings** page in the S**erena Network** properties to configure the listings viewer.

Editing XML from Submit XML Dialog Box

The Windows Explorer **Submit XML** dialog box now has a text box containing the XML text.   Simple changes can be made to the XML inside the text box before submitting the XML request to ChangeMan ZMF.

Also new are **Save** and **Save As** buttons that allow those changes to be saved. The **Save** button is disabled (grayed out) if the file is read-only. You can still use the **Save As** button to save the XML elsewhere.

There is now an option to automatically view or edit the XML results.

Submitting XML From ChangeMan Edit

You can now submit XML from inside the ChangeMan ZDD text editor. The **File** menu includes a new **Submit XML** command. The **Submit XML** command is disabled (grayed out) unless the first line of the file begins with "<?xml". You will be prompted to select the z/OS server and ChangeMan ZMF instance.

The results of the XML request are then displayed inside the text editor.

.NET Programming Interface Enhancements

There have been miscellaneous enhancements to the .NET programming interface, including the following:

- You can now list component history.

- You can now list package and component promotion history.

- You can now access the package user variables as package properties.

- You can now list packages across applications.

New classes:

- **ZosComponentHistory** – ChangeMan component history record

- **ZosComponentPromotionHistory** – ChangeMan component promotion history record

- **ZosPackagePromotionHistory** – ChangeMan package promotion history record

- **ZosPromotionOverlay** – ChangeMan component promotion overlay information

New enumerations:

- **ZosComponentHistoryStatus** – ChangeMan component history status flags
- **ZosComponentHistoryType** – ChangeMan component history type
- **ZosComponentPromotionStatus** – Component promotion history status flags
- **ZosPackagePromotionAction** – Package promotion history action flags
- **ZosPackagePromotionStatus** – Package promotion history status flags
- **ZosPromotionArea** – ChangeMan propmotion area
- **ZosPromotionOverlayStatus** – ChangeMan promotion overlay status

New **ZosChangeManInstance** methods:

- **GetPackages** – Gets an array of packages that match search arguments

New **ZosApplication** methods:

- **GetSiteNames** – Gets an array containing the site names defined for an application
- **GetPromotionSite** – Gets a single promotion site by name
- **GetPromotionSites** – Gets an array containing the promotion sites for the application
- **GetPromotionLevel** – Gets a promotion level, given the site name and promotion name or level number
- **GetComponentHistory** – Gets a list of component history records for a given component

New **ZosPackage** properties:

- **UserVariables** – Allows getting or setting multiple user variables as an array

New **ZosPackage** methods:

- **GetUserVariable** – Gets value of a named user variable
- **SetUserVariable** – Sets value of a named user variable
- **GetPackagePromotionHistory** – Gets a list of package promotion history records for the package
- **GetComponentPromotionHistory** – Gets a list of component promotion history records for the package
- **CheckPromotionOverlay** – Gets a list of components that would be overwritten by a promote operation

New **ZosServer** methods:

- **SubmitXml** – Submit XML request to server (for SerNet XML services only)

Changes in 7.1.2

Search for Strings

New Search facility that allows you to search data sets, Unix directories, or ChangeMan ZMF libraries for character strings. This is much faster than using Windows Search or your text editor to search z/OS libraries. Searching Unix directories, however, requires SerNet 7.1.2+. You can still search data sets with earlier SerNet versions.

The search dialog box will display each line of text that matches the search arguments. You can double click on any line of the search results and the file will be displayed in the text editor, automatically positioned to the selected line.

Text Editor Enhancements

Many new keyboard and mouse shortcuts have been added for performing common editing operations and making the editor easier to use. Many keyboard functions can be configured by the user.

New configuration option to allow the cursor to move beyond the end of line.

New reference card for the keyboard and mouse shortcuts.

File Formats Based on ChangeMan ZMF Library Type

You can now set the local file formats used for ChangeMan ZMF components, based on ChangeMan ZMF component type, irrespective of the underlying data set name or file name. The file format mappings for ZMF components are a property of the ChangeMan instance.

Some Server Properties Moved to "DataSets" or "Unix" Root Folder

Certain properties that were previously server properties have been moved down one level, to the root folders beneath the server. Properties that apply only **DataSets**, **Unix**, and ChangeMan instances have been moved down to their respective root folder.

The new or moved top level folder property pages (tabs) are listed below.

ChangeMan instance folder:

- File Formats (new)

DataSets folder:

- **File Formats** (formerly Data Set Formats on server)
- **File Extensions** (formerly on server)
- **Library Types** (formerly on server)
- **New Data Sets** (formerly on server)

Unix folder:

- **File Formats** (formerly Unix File Formats on server)

Member Name Filters for Data Set Folders

You can define member name filters that limit which members are displayed in member lists for partitioned data sets. The member name filters are defined as properties of the data set folder, and the filters apply to **all** libraries in the data set folder.

Since a library can appear in more than one data set folder, it is possible to have different views of the same library, each with a different set of filters.

The member name filters can be defined as properties any of the following folders:

- User-defined data set folders
- **Baseline** folder
- **Packages** folder
- **Promotion** folder

All Promotion Libraries Now Displayed

Previously only the shadow promotion libraries were accessible through ChangeMan ZDD. ChangeMan ZDD now displays the libraries for all four promotion areas under the following folder names: .Shadow, Area1, Area2, and Area3.

Inaccessible ChangeMan Applications Hidden

The Windows Explorer will no longer display applications to which the user has no access. This eliminates the need to explicitly define filters to hide them.

Programming/Scripting Interface Support for File Format Enhancement

The programming/scripting interfaces have been updated to support the file format mapping enhancements. This can be used for scripting ZDD configuration setup. The sample configuration scripts have been updated to illustrate the defining and listing of file formats for ChangeMan instances.

For the COM programming interface:

- **ZosDataType** and **ZosTypes** classes replaced by **ZosFileFormat** and **ZosFileFormats** classes.
- **ZosFileFormat** and **ZosFileFormats** classes are more flexible and can be used for data sets, Unix files, and ChangeMan components.

For the .NET programming interface:

- **ZosDataSetFormatMapping**(**s**) and **ZosUnixFileFormatMapping**(**s**) classes replaced by combined **ZosFileFormatMapping**(**s**) classes.
- **ZosFileFormatMapping** and **ZosFileFormatMappings** classes are more flexible and can be used for data sets, Unix files, and ChangeMan components.

COM Program ID Change

The COM program ID used to access ChangeMan ZDD has changed to
ZosCom.ZosNetwork. For backward compatibility, the old program ID of
ZosShell.Network will still work. However, **ZosShell.ZosNetwork** has been
deprecated, and you should begin using **ZosCom.ZosNetwork** instead.

Visual Basic or VBScript:
```
Dim objNetwork
Set objNetwork = CreateObject("ZosCom.ZosNetwork")
```

JScript:
```
var objNetwork;
objNetwork = new ActiveXObject("ZosCom.ZosNetwork");
```

COM Class Names Consistent With .NET Class Names

A number of class names in ZDD's COM programming interface have been renamed so
that they are now consistent with the .NET programming interface. This has been a source
of confusion in the past.

These class names are primarily used to describe the ZDD COM interface in the
documentation.

This has no impact on customer scripts or Visual Basic because these names are not used
in scripting languages. The names would only need to be changed if you write a C++
program to invoke the COM interface.

The following class names have been renamed:

- **ZosChangeManFolder** → **ZosChangeManInstance**
- **ZosChangeManFolders** → **ZosChangeManInstance**
- **ZosFileExtension** → **ZosFileExtensionMapping**
- **ZosFileExtensions** → **ZosFileExtensionMappings**
- **ZosDataType** → **ZosFileFormatMapping**
- **ZosDataTypes** → **ZosFileFormatMappings**
- **ZosFilters** → **ZosNameFilters**
- **ZosLibType** → **ZosLibypeMapping**
- **ZosLibTypes** → **ZosLibTypeMappings**
- **ZosPrefix** → **ZosPrefixMapping**
- **ZosPrefixes** → **ZosPrefixMappings**

In the event that someone is actually using C++ to invoke the COM interface, then they
can either change the names above, or simply add the following definitions to the
program:

```
#define ZosChangeManFolder ZosChangeManInstance
#define ZosChangeManFolders ZosChangeManInstance
#define ZosFileExtension ZosFileExtensionMapping
#define ZosFileExtensions ZosFileExtensionMappings
#define ZosDataType ZosFileFormatMapping
#define ZosDataTypes ZosFileFormatMappings
#define ZosFilters ZosNameFilters
#define ZosLibType ZosLibypeMapping
#define ZosLibTypes ZosLibTypeMappings
#define ZosPrefix ZosPrefixMapping
#define ZosPrefixes ZosPrefixMappings
```

Changes in 7.1.1

User Options in the Package Properties

You can now view or set package user options for existing packages, via the package properties.

Package properties now include a new **User Options** page. This page is identical to the **User Options** page in the **New Package** wizard. The user options are defined in the PKGCREAT member of ZDDOPTS, just as they are for the **New Package** wizard. If the package contains user options that are not defined in the PKGCREAT member, those user options are read-only.

To control access to these new properties, you can now specify **UserOptions** as one of the field names in the PKGPROP member of the ZDDOPTS library.

Binary Transfer Support

There is a new **Binary CRLF** data set format for data sets that contain binary data. This new format is available for SerNet 7.1.1+ servers only, and can be specified on the **Data Set Formats** page of the server properties.

The new **Binary CRLF** format is only appropriate for RECFM=V data sets and not RECFM=F data sets.

For ZMF components, the file format is determined by the data set name of the underlying data set in which the components reside. In other words, this is the data set name of the baseline library, package staging library, or promotion library.

When checking in ZMF components, there is a new "file format" drop-down list that can override the file format defined in the server properties. The drop-down list will default to that format defined for the staging library data set name.

Data set names in the server properties can be specified using wild characters, for example "HLQ.ZMF.*.*.BIN".

Browse for Open JES Spool Files

You can now browse open SYSOUT files, and monitor job output as it is being written, without even waiting for the job step to end.

However, in order to see new lines in a file that is actively being written, you need to close the file and reopen it in your text editor or viewer, in order to refresh the contents.

Support for browsing open JES spool data sets requires the following software levels:

- SerNet 7.1.1+ (for version 7)

- SerNet 6.1.3+ (for version 6)

- ChangeMan ZDD 7.1.1+ (will not work with older clients)

When connected to down level servers (not 7.1.1+ or 6.1.3+), open SYSOUT files will not be present in the file list.

Access to JES Job JCL Stream

You can browse the JES input JCL stream used to submit a job. This is similar to what is provided by the SJ command in SDSF. This allows you to edit the JCL for a job and resubmit it.

You will see the following differences in the JES file list for a job:

- The composite file containing all of the job SYSOUT in a single file has been renamed from "!.txt" to ".SYSOUT.list.

- There is a new file,".JCL.cntl" that contains the JCL input stream for the job.

Access to the JCL stream requires the following software levels:

- SerNet 7.1.1+ (for version 7)

- SerNet 6.1.3+ (for version 6)

- ChangeMan ZDD 7.1.1+ (will not work with older clients)

When connected to down level servers (not 7.1.1+ or 6.1.3+), the JCL stream file will be not present in the file list.

Editing JCL from Submit JCL Dialog Box

The Windows Explorer **Submit JCL** dialog box now has a text box containing the JCL text. Simple changes can be made to the JCL inside the text box before submitting the job.

There are also **Save** and **Save As** buttons that allow those changes to be saved. The **Save** button is disabled (grayed out) if the file is read-only, such as when submitting JCL directly from the JES spool JCL input stream (i.e. ".JCL.cntl"). You can still use the **Save As** button to save the JCL elsewhere.

Submitting JCL From ChangeMan Edit

You can now submit JCL from inside the ChangeMan ZDD text editor. The **File** menu includes a "Submit JCL" command. The "Submit JCL" command is disabled (grayed out) unless the first line of the file begins with "//". You will be prompted to select the z/OS server.

Range of Lines in JES download

You can download JES spool files to a Windows folder using the Download to Windows Folder command.

This command allows you to selectively download portions of a JES spool file. Normal drag and drop operations only allow an entire SYSOUT file to be downloaded. For large listings, this can take a very long time.

Frequently, you want to download only a particular range of lines and not the entire file. Example use cases are a SYSUDUMP file that contains multiple dumps or a large SERRPRINT trace where you want only the output for a certain time range.

You may specify a range of lines when downloading spool files. The starting and ending lines can be specified either using line numbers or using character search string such as "END OF DUMP". You can even use a combination of line numbers and search strings. Character search strings are available only on SerNet 7.1.1+ servers.

Concurrent History During Check In/Out

There is a new **History** button on the **Check In** and **Check Out** dialog boxes. This **History** button allows you to display a list of other packages that contain the selected components. Only packages that have not been baselined are included in this list.

Changes in 7.1

z/OS Unix File Support

ChangeMan ZDD provides support for USS (Unix System Services) based files. On the mainframe server, these files use the HFS or z/FS file systems. From the client perspective, there is no difference between HFS and z/FS files.

Support is provided for both native (non-ZMF) Unix files and ChangeMan ZMF Unix components.

Support for Additional ChangeMan ZMF Functions

There are several new dialog boxes and menu commands for accessing ChangeMan ZMF functionality. Following are some of the ChangeMan ZMF features that are now available with ChangeMan ZDD:

- Package approval functions
- Resubmit install JCL build request
- Back out package
- Display and change packages in limbo
- Display and change the installation schedule for the ChangeMan scheduler
- Memo-delete a package
- Restore a memo-deleted package

Enhanced ChangeMan Tools

The ChangeMan Edit and ChangeMan Compare tools, which are included with ChangeMan ZDD, have been enhanced to support path names that exceed 259 characters in length (if you are using Windows Vista or Windows 7).

The ChangeMan Edit tool has been enhanced to allow a value to be inserted in specified columns whenever you update or add a line in the file you are editing. For example, you may specify a change request number to be automatically inserted in columns 73-80 whenever you update or add a line. This feature is available on the **Advanced** tab of the **Template Manager**.

.NET Programming Interface

New classes and methods have been added to support Unix files and ChangeMan ZMF Unix components.

Refer to the new ChangeMan ZDD 7.1 .NET Programming Interface Guide for information on how to use the .NET interface.

Support for Windows 7

ChangeMan ZDD 7.1 is compatible with Windows 7.

Welcome to ChangeMan ZDD

ChangeMan ZDD is a network file system that operates on a PC networked with a z/OS$^{®}$ operating system. From your PC, you can access data sets, job output, Unix files, and ChangeMan$^{®}$ ZMF components that reside on a z/OS server. You can also access the Enterprise Release Option (ERO) if the ZMF instance is licensed for it.

See the Readme for the latest updates and corrections for this manual. The Readme is available through the Micro Focus Supportline website at `https://supportline.microfocus.com/productdoc.aspx`.

Audience and scope

This manual is intended for:

- System Administrators or PC Managers who install and configure new applications on PC networks.

- Programmers and other users who want to access data sets, job output, and ChangeMan ZMF components from their PC.

This document covers the client software for ChangeMan ZDD. It explains how to:

- Install and configure the client components on your PC

- Access and perform operations on mainframe data from your desktop

Instructions for installing the server components are covered in the *ChangeMan ZDD Server Installation Guide*.

Change bars

Change bars in the left margin identify substantive changes that have been made to this manual in this release.

Manual Organization

This manual is organized as follows:

This chapter...	Contains this information...
1	Overview of ChangeMan ZDD.
2	How to install the client components of ChangeMan ZDD on your PC.
3	How to configure ChangeMan ZDD.
4	How to use ChangeMan ZDD.
5	How to edit files using ChangeMan Edit.
6	How to compare and merge files using ChangeMan Diff.
7	How to access ChangeMan ZMF components.
8	How to access the Enterprise Release Option (ERO)
Index	Index of ChangeMan ZDD subjects.

Guide to ChangeMan ZDD Documentation

The following sections provide basic information about ChangeMan ZDD documentation and related documents. These manuals are available through the Micro Focus Supportline website at <u>https://supportline.microfocus.com/productdoc.aspx</u>.

ChangeMan ZDD Documentation Suite

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

Manual	Description
ChangeMan ZDD .NET Programming Interface Guide	Describes how to use the .NET programming interface to access ChangeMan ZDD functionality from your own programs and scripts.
ChangeMan ZDD COM Programming Interface Guide	Describes how to access ChangeMan ZDD functionality, using COM Automation, from your own programs and scripts.
ChangeMan ZDD User's Guide	Explains how to: ■ Install and configure the client components on your PC ■ Access and perform operations on mainframe data from your desktop
ChangeMan ZDD Tools Guide	Describes the following tools that you can use to assist in your development: ■ ChangeMan Edit ■ ChangeMan Diff These tools use the Template Manager to control how your code is displayed.
ChangeMan ZDD Server Installation Guide	Instructions for installing the server components of ChangeMan ZDD on the mainframe.
ChangeMan ZDD Edit Reference Card	Provides a summary of keyboard shortcuts that you can use with ZDD editing facilities.
SER10TY User's Guide	Instructions for applying licenses to enable ChangeMan ZDD servers on the mainframe.

Related Documents

The following documents provide additional information that may be useful to ChangeMan ZDD users.

Manual	Description
ChangeMan ZMF User's Guide	Provides instructions for using functions and facilities of ChangeMan ZMF to manage changes to application software. Many of these functions are available through ChangeMan ZDD.
ChangeMan ZMF Messages Guide	Provides explanations for informational, warning, and error messages for ChangeMan ZMF. These messages may be displayed when accessing ChangeMan ZMF through ChangeMan ZDD.
ChangeMan ZMF: XML Services User's Guide	Describes how to use XML Services, an XML programming interface to ChangeMan ZMF.

Using the Manuals

The ChangeMan ZDD manuals use the Adobe Portable Document Format (PDF). To view PDF files, use Adobe® Reader®, which is freely available from www.adobe.com.

TIP
Be sure to download the *full version* of Reader. The more basic version does not include the search feature.

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 and to other manuals with a single mouse click. These links appear in blue.

- **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. (This is in addition to using any search index created by Adobe Catalog—see step 3 below.)

To search within multiple PDF documents at once, perform the following steps (requires Adobe Reader version 6 or higher):

1 In Adobe Reader, select Edit | Search (or press CTRL+F).

2 In the text box, enter the word or phrase for which you want to search.

3 Select the **All PDF Documents in** option, and browse to select the folder in which you want to search.

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

5 Click the **Search** button.

> **NOTE**
> Optionally, you can click the **Use Advanced Search Options** link near the lower right corner of the application window to enable additional, more powerful search options. (If this link says **Use Basic Search Options** instead, the advanced options are already enabled.) For details, see Adobe Reader's online help.

Accessing Online Help

The online help is the primary source of information about ChangeMan ZDD. The online help includes:

- Overviews of key elements within the application

- Detailed procedures for completing tasks

- Context-sensitive descriptions of fields and buttons

Viewing Help Topics

You can Help topics by clicking the Help button in the dialog box in which you are working. From there, you can do the following:

To	Do This
View a list of topics in the Contents	Click **Contents**.
Locate a topic in the Index	Click **Index**.
Locate an overview or procedure by searching on a word or words	Click **Search**.

Viewing Context-Sensitive Help

To view field-level help for an item in a dialog box:

- Click ⏀ and then click the field or button for which you want a description.

    or

- Position the cursor in the field and press F1.

Accessing Help for the ChangeMan Utilities

When you are using the ChangeMan Edit and ChangeMan Diff utilities, you can open the online Help by:

- Pressing F1 from anywhere in the screen.

- Holding the left or right mouse button down on a toolbar icon or menu command and pressing F1.

Chapter 1

Introduction

What is ChangeMan ZDD?

ChangeMan ZDD is a software infrastructure technology that simulates a network file system. It provides seamless access to data sets, jobs, USS (Unix System Services) based files, and ChangeMan ZMF components on a z/OS system, from a Windows® platform. No special execution environment or programming interface is required. Data sets, job output, Unix files, and ChangeMan ZMF components are accessed as though they were local files on your PC or files on a Windows network.

The following diagram shows the high-level architecture of ChangeMan ZDD:

ChangeMan ZDD Client   **ChangeMan ZDD Server**

Windows Computer

SerNet
File Transfer & Data Conversion

z/OS Mainframe Server

Temporary Cache on Local Drive

Data Sets

Jobs

Unix Files

Data Sets

Jobs

Unix Files

ChangeMan ZMF Libraries & Components

ChangeMan ZMF

Applications

Releases

Baseline Libraries

Promotion Libraries

Packages - Staging Libraries
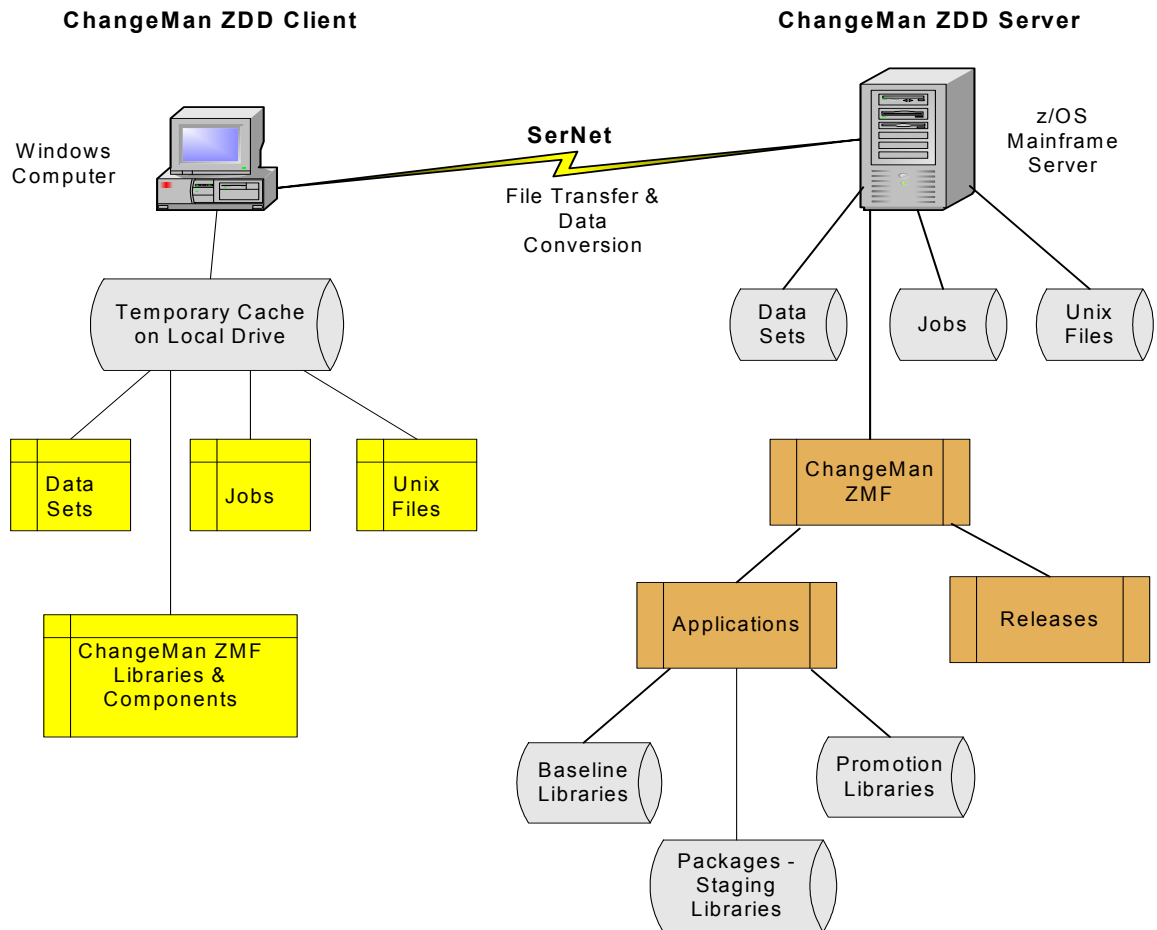
Data sets, jobs, Unix files, and ChangeMan ZMF libraries on the z/OS mainframe server appear as folders and files in Windows Explorer. Data is transferred from the z/OS server to a cache folder on your local computer.

ChangeMan ZDD automatically performs data conversions when transferring data between Windows and the z/OS server.

■ You determine what conversion takes place by associating file/data set formats with specific file/data set names or patterns. The default is EBCDIC for the z/OS server and ASCII for your PC.

- You decide what language character sets are used on your PC and Host computer by choosing code pages. Both single-byte (SBCS) and double-byte (DBCD) character sets are supported.

ChangeMan ZDD also supports Windows files that are encoded in Unicode or UTF-8 format, as well as ASCII text files.

Following is an example of what the file structure looks like in Windows Explorer:
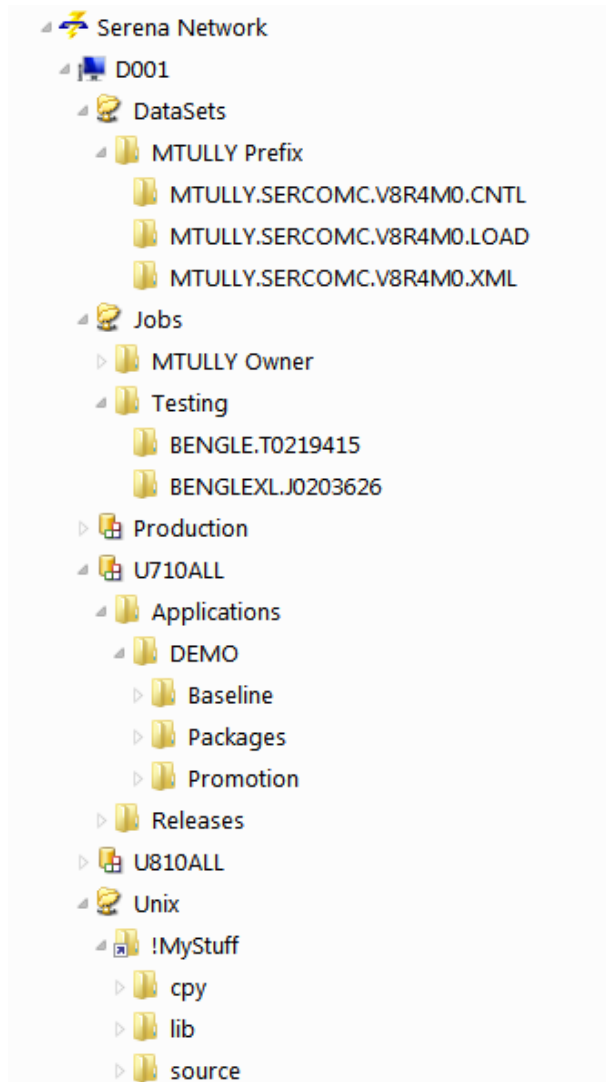
You define the z/OS servers that you wish to connect to using names of your choice. You can access data sets on the server using UNC (Universal Naming Convention) syntax or you can map the server to a Windows drive letter.

Each z/OS server has three default root folders (network share folders):

- **DataSets** - Root folder for data sets
- **Jobs** - Root folder for jobs and job output
- **Unix** - Root folder for USS (Unix System Services) based files

Under each of these root folders, you create your own folders, which act as containers for data sets, jobs, and Unix files. You determine which data sets and jobs are included in the folders by setting up filters. For Unix folders, you specify the Unix path name that will be the root directory for the folder.

For ChangeMan ZMF, there is an additional network share (root) folder for each ChangeMan ZMF instance that you define for the server. Under each ChangeMan ZMF instance there are folders for Applications and Releases (the Releases folder displays only if the ChangeMan ZMF instance is licensed for the Enterprise Release Option (ERO)).

Under the Applications folder, you set up filters to specify which applications and packages can be accessed from your desktop. You can perform some common ChangeMan ZMF functions, such as:

- Create a new package
- Update package information
- Check out components from the baseline or promotion libraries
- Lock and unlock components in a package
- Browse components in the baseline, staging, and promotion libraries
- Edit components in a package
- Delete components in a package
- Check In components using drag-and-drop (this is the *Stage from Development* function)
- Build, recompile, and relink components
- Use staging versions
- Audit a package
- Freeze a package
- Unfreeze and refreeze a package
- Unfreeze and refreeze components
- Revert a package
- Promote and demote a package
- Approve or reject a package
- Resubmit an install JCL build request
- Back out a package
- Display or change packages in limbo
- Display or change the package installation schedule
- Memo-delete a package and restore a memo-deleted package
- Compare files (compare two components)
- Merge files (merge two revised versions with a baseline version)
- Submit XML requests to XML Services
- Query library, package, and component information

In the previous example of the file structure in Windows Explorer, the D001 server has been defined for ChangeMan ZDD.

■ Under the D001 server, a ChangeMan ZMF instance has been defined as U710ALL. Under U710ALL is the DEMO application, which contains folders for the Baseline, Packages, and Promotion libraries. The following example shows the structure under these folders:
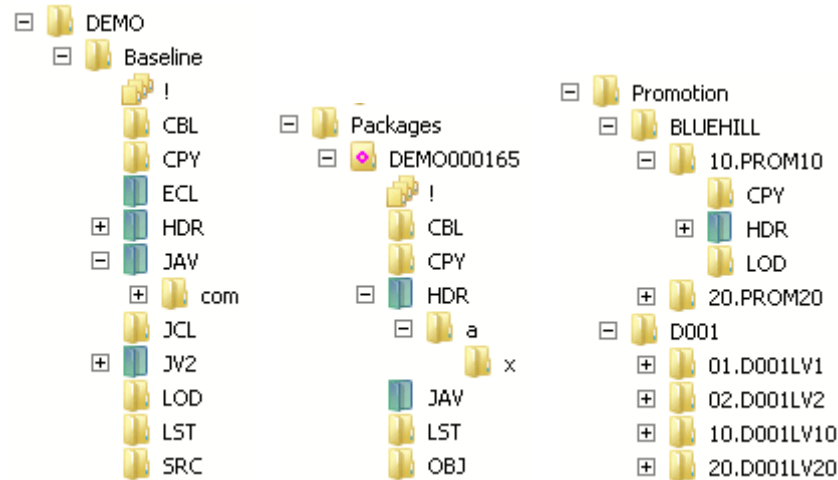
> **NOTE** The blue/green directory icons represent Unix directories.

> **NOTE** The names of packages, package libraries, package components, and releases display as blue text when past the install date. Many menu commands are not available after the install date has passed.

■ Under the DataSets folder for D001, the default folder is displayed. If you click on a partitioned data set in the folder, you will see the members. The icons displayed are associated with the registered file types in Windows.
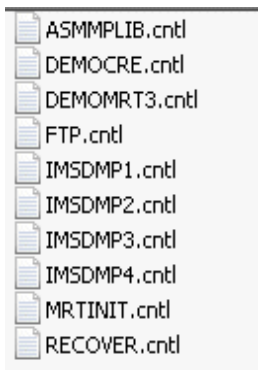
- Under the Jobs folder for D001, there is a user-defined folder called Testing. If you click on a job, you will see the individual sysout members:

```
!.txt
D0000002.JES2..JESMSGLG.txt
D0000003.JES2..JESJCL.txt
D0000004.JES2..JESYSMSG.txt
D0000101.SERCOPY..SYSPRINT.txt
D0000102.HASM..SYSPRINT.txt
D0000103.LINK..SYSPRINT.txt
```
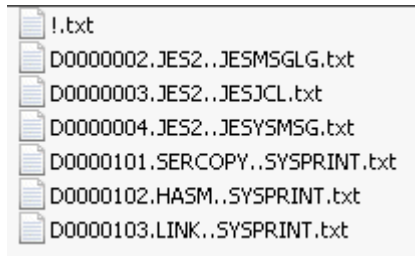
- Under the Unix folder for D001, there is a user-defined folder called "!mystuff". This folder is a link to a Unix directory on D001 and is the root directory for this folder (the arrow in the lower left corner indicates that this folder is a link). The Unix directory sub-tree displays under the "!mystuff" folder.

```
Unix
  !MyStuff
    cpy
      new
    lib
      java
    source
```
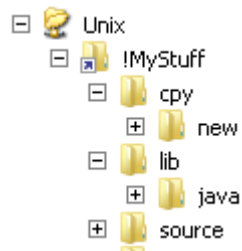
USS File Support

ChangeMan ZDD provides support for USS (Unix System Services) based files. On the server, these files use the HFS or z/FS file systems. From the client perspective, there is no difference between HFS and z/FS files. In this document, the term Unix is used to refer generically to either type of file.

Support is provided for both native (non-ZMF) Unix files and ChangeMan ZMF Unix components:

- To see native Unix files in the Windows Explorer, you create one or more folders directly under the "Unix" root folder. Each folder is a link to a Unix directory on the server.

  For more information about configuring Unix folders in ChangeMan ZDD, see "Unix Folders" on page 124.

- ChangeMan ZMF libraries may include Unix directories, which are displayed as blue/green folders in the Windows Explorer (to distinguish them from PDS libraries which display as yellow folders).

  Unlike PDS library folders, the Unix library folders are hierarchical and can contain subdirectories. Unix component names can include subdirectory names, separated by the Unix path separator character, which is a forward slash ("/").

    Example: payroll/source/taxes.java

  For more information about Unix components in ChangeMan ZDD, see "Unix Components" on page 206.

Folder versus Directory

ChangeMan ZDD uses the term "folder" to refer to the user-defined virtual folders (under the "Unix" root folder) which are known only on the user's Windows machine and do not exist on the server. The term "directory" is used to refer to Unix directories that actually exist on the mainframe and are known globally to all users.

Special Issues

The HFS file system and Windows file systems differ in how they handle case sensitivity and path names.

The following issues and limitations apply to the Unix support in ChangeMan ZDD:

- Case Sensitivity of File Names

  In the Unix file system on the server, file names are case-sensitive, whereas in Windows, file names are not normally case-sensitive. The ChangeMan ZDD client disallows names that differ only in case. If two names differ in case, only the first name will be visible.

- Path Name Lengths

  The Unix file system allows path names up to 1023 characters in length, whereas the normal maximum is 259 characters on Windows. This will not be an issue most of the time, as most path names are usually less than 259 characters.

  Most text editors do not support long path names. However, there are some workarounds for this situation, described in "Path Name Lengths" on page 175.

  NOTE: The ChangeMan Edit and ChangeMan Diff tools, which are included with ChangeMan ZDD, do support long path names if you are using Windows Vista or Windows 7.

- Path Name Separator Characters

  The Unix file system uses forward slash ("/") as the path name separator character. Windows file systems, on the other hand, use backslash ("\") as the path name separator. Many Windows API functions and software programs will not correctly handle path names that use forwards slashes as separator characters.

  With ChangeMan ZDD, HFS path names should be specified using backslash ("\") as the path name separator character. To provide assistance, ChangeMan ZDD makes the following accommodations:

  - Dialog boxes that accept Unix path names as input automatically convert forward slashes to backslashes.

  - Those API functions in ZosApi.dll that accept Unix path names as input, automatically convert forward slashes to backslashes.

  While the measures listed above will handle many situations in which the wrong path name separator character is specified, they are not a panacea. Many Windows API functions and software programs will not work correctly if the wrong separator character is specified.

For a more detailed discussion of these issues, see "Working with Unix Files" on page 174.

Navigation

All ChangeMan ZDD dialog boxes can be navigated using either the mouse or the keyboard.

Windows Explorer Extensions

ChangeMan ZDD extends the functionality of Windows Explorer to provide an enhanced interface. Using Windows Explorer, you can configure ChangeMan ZDD, view extended properties, and execute commands on the z/OS server.

Property Pages

ChangeMan ZDD adds property pages that are specific to the item. When you right-click a selected item in Explorer and choose **Properties**, you can view and configure settings.

Context Menus

ChangeMan ZDD adds commands to the popup menus that are displayed in Explorer when you:

- Click the right mouse button
- Drag-and-drop using the right mouse button

The commands perform a variety of functions specific to the ChangeMan ZDD item.

Refer to "Menu Commands" on page 152 for more information.

Columns

ChangeMan ZDD provides custom columns to the Explorer **Details** view. The types of columns available depend on the type of folder being viewed.

Refer to "Configure Explorer Columns" on page 93 for more information.

Icons

In the Windows Explorer directory list, icons have the following meanings:

PDS and PDSE Icons

PDS and PDSE folder icons can be differentiated by the color of the folder: PDSEs are pink and PDSs are yellow.

Unix Icons

Unix folders for native (non-ZMF) Unix directories are yellow. An arrow in the lower left corner indicates a link to another Unix directory.

Unix folders for ChangeMan ZMF component libraries are blue/green to distinguish them from PDS libraries, which are yellow.

Package Folder Icon

Package folder icons indicate the package status. You can also hold the mouse pointer over the package folder to display the status and title.

Package Component Icon

Package Component icons have the following indicators:

- Lock status: a red check mark means the user logged on has it locked, and a blue X means someone else has it locked.

- Recompiled components have a yellow diamond with a red diamond in the middle.

- Relinked components have a yellow diamond with a blue line in the middle.

- Frozen components have a blue snowflake.

Migrated Data Set Icon

Migrated data sets and ChangeMan ZMF libraries are indicated by an overlay of a gray X or a green X. A gray X means the data set is migrated to tape (ML2, or migration level 2). A green X means the data set is migrated to disk (ML1, or migration level 1) and can be recalled quickly.

NOTE ZDD can only distinguish between ML1 and ML2 when connected to SerNet/ZMF 8.1 servers. On older servers, all migrated data sets display with the gray X.

Serena Network Namespace Extension

The Windows Explorer tree forms a hierarchy of folders known as the Shell namespace. The core part of the tree representing directories and files on your computer is known as the file system namespace. The file system namespace is the section of the Explorer tree under "Computer" ("My Computer" or "My Network Places" → "Entire Network" on Windows XP).

There are extensions to the Shell namespace, known as namespace extensions. Namespace extensions include the "Recycle Bin" and "Documents" ("My Documents"). ChangeMan ZDD provides a "Serena Network" namespace extension, which consists of the parts of the Explorer tree under "Serena Network". The Serena Network server items directly under "Network" (or "My Network Places") are also shortcuts into the Serena Network namespace extension.

There are three ways to access ChangeMan ZDD in the Windows Explorer:

- From the "Serena Network" item (Serena Network blue and yellow icon) at the top tree level.

- From a server item (computer icon) directly under "Network" ("My Network Places" in Windows XP).

- From a mapped drive letter under "Computer" ("My Computer" on Windows XP). This method is not recommended.

The first two methods use the new "Serena Network" namespace extension. The last method goes through the normal file system namespace and is not recommended; for example, custom columns and tool tip pop-ups are not available using this method. You will get improved performance and greater functionality if you go through the Serena Network namespace.

Although 8.1.4 still allows you to map a mainframe server to a drive letter, it is recommended that you no longer use that approach.

Chapter 2

Installing ChangeMan ZDD Client

Compatibility

PC Requirements

- Windows® operating system (refer to the Readme for the supported versions)

NOTE Windows administrative privileges are required for installing the ChangeMan ZDD client, but are not required for using it.

- 40 megabytes (MB) of available disk space

- VGA or higher-resolution display adapter

- Microsoft® Mouse or compatible pointing device

Mainframe Server Requirements

- ChangeMan ZDD server installed on the mainframe LPARs to be accessed by ChangeMan ZDD on your PC.

- IBM® z/OS® operating system (any version supported by IBM).

- TCP/IP must be installed and running.

ChangeMan ZMF Requirements

One of the following releases are required for accessing ChangeMan ZMF functionality:

- ChangeMan ZMF 8.1 - any release.

- ChangeMan ZMF 7.1 - any release

- ChangeMan ZMF 6.1 - any release

NOTE When using ChangeMan ZDD 7.1 with earlier releases of ChangeMan ZMF, only the functionality supported within that ChangeMan ZMF release will be available.

Security

ChangeMan ZDD is compatible with RACF®, CA-ACF2®, and CA-Top Secret®.

Access to mainframe objects and functions is granted through your mainframe security system. You are required to provide your user ID and password in ChangeMan ZDD to connect to the mainframe.

The operation of ChangeMan ZDD does not affect the existing operation of either mainframe-based applications or PC network operations.

Installing ChangeMan ZDD

Installer Contents

The ChangeMan ZDD 8.1.2 installer is now packaged as a single executable file:

- **ChangeManZDD_x64.exe** *(64-bit)*

- **ChangeManZDD_x86.exe** *(32-bit)*

This executable file is a bundle containing the ZDD installer along with all of its prerequisites:

- Microsoft .NET Framework 4.6.1:   Will be downloaded from internet, if needed.

- Microsoft Visual C++ 2015 Redistributable Update 3:   Embedded in bundle.

- ChangeMan ZDD: Embedded in bundle.

Any missing Microsoft prerequisites are installed first before the ZDD installer is launched. The .NET Framework will be downloaded from the internet, if needed. All other prerequisites are fully embedded in the bundle. The .NET Framework was not embedded because it can be large, and typically does not change very often between releases.

If you are installing on a computer without internet access, and you do not have the required version of the .NET Framework installed, you can download it yourself ahead of time from another computer. One option is to run the installer with the **/layout** command line argument on a computer with an internet connection. The **/layout** argument extracts the entire bundle, including the downloaded packages, and places them into a local directory.

Running the Installer

You can install ChangeMan ZDD by simply double clicking on the installer and responding to the standard prompts. You can optionally use command line arguments to do a silent install, log messages to a specific file, and perform other functions. (See Command Line Arguments.)

The installer displays a single dialog box for installing the entire chain of products, rather than separate install wizards, one for each product in the bundle. The installer also suppresses intermediate reboots, so that only one reboot is required at the end.

ChangeMan ZDD will not work correctly until the reboot is complete.

Command Line Arguments

You can run the ChangeMan ZDD installer with the optional command line arguments below.   You may include only one argument from each group.

Function	
Argument	**Description**
/help *or* /?	Displays help for command line arguments.
/install	Installs the software (default).
/repair	Repairs the software.
/uninstall	Uninstalls the software.
/layout [*dir-name*]	Creates a complete copy of the software bundle in a local directory.

.

User Interface	
Argument	**Description**
/passive	Displays a minimal installation prompts.
/quiet	Displays no prompts, that is, performs a silent install.

Logging	
Argument	**Description**
/log *file-name*	Logs to a specific file. By default a log file is created in %TEMP%.

Restart	
Argument	**Description**
/norestart	Suppresses any attempts to restart (not recommended). By default the user interface prompts before restart.
/forcerestart	Automatically restarts the computer without prompting.

Install Directories

ChangeMan ZDD will be installed into the following directory:

    %ProgramFiles%\Serena\ChangeMan ZDD

where is the name of the program files directory, for example:

    C:\Program Files

The ChangeMan ZDD file system driver will be installed into the Windows system directory for drivers:

    %SystemRoot%\System32\Drivers

where `%SystemRoot%` is the name of the system root directory, for example:

    C:\Windows

Installing on a Citrix Server

Before installing ChangeMan ZDD on a Citrix server, you must force the Citrix server into Install mode.

To put a Citrix server into Install mode, go to a command prompt and type:

    Change User /Install

When the ChangeMan ZDD installation is finished, change the Citrix server back to normal mode at a command prompt by typing:

    Change User /Execute

Using with Text Editors

It is sometimes necessary to configure your text editor to work properly with ChangeMan ZDD because some text editors can create temporary (intermediate) files and backup files. You cannot save arbitrary file names into a PDS, sequential data set, or ChangeMan ZMF staging library; this is not an issue when you are using a PDSE outside of ChangeMan ZMF because you can save arbitrary file names into a PDSE.

For example, with a PDS, you can only save files whose file extension matches the PDS. If you are editing a member named SAMPLE.SRC and the text editor automatically creates a file named SAMPLE.BAK, you cannot save SAMPLE.BAK in the same PDS. You would get a message similar to the following:

    Serena Network - Incorrect file extension "BAK", file extension must be SRC.

Some text editors have a mode of operation where they first save the file using a temporary name (for example, SAMPLE.TMP), then delete the original file (SAMPLE.SRC), and finally, rename the temporary name to the permanent name (SAMPLE.TMP ---> SAMPLE.SRC). Most of these text editors have a setting that allows a file to be saved using its normal name, without using temporary files. For example, SAMPLE.SRC would be saved directly as SAMPLE.SRC.

Some text editors save a backup version of the edited file. For example, if you are editing SAMPLE.SRC, a backup named SAMPLE.BAK may be created when you save SAMPLE.SRC. You would not be able to save this backup file in a PDS, sequential data set, or ChangeMan ZMF staging library.

NOTE For more information on differences between PDS and PDSE files, see "PDSE Long Name Support" on page 161.

SlickEdit

1   From the SlickEdit Menu, select **Tools → Options...**

2   Select **File Options→ Load** on the left side, and set the following option values:

- Expand tabs to spaces: ON

- Load entire file: ON

3   Select **File Options→ Save** on the left side, and set the following option values:

- Expand tabs to spaces: Expand all tabs to spaces

- Strip trailing spaces: Strip all trailing spaces

4   Select **File Options→ Backup** on the left side, and set the following option values:

- Backup directory path: *(specify directory on local drive)*

5   Select **File Options→ AutoSave** on the left side, and set the following option values:

- Save to: Save to different directory

- AutoSave directory: *(specify directory on local drive)*

Microsoft Word

When using Microsoft Word, there is no way to disable the creation of temporary files; therefore, with ChangeMan ZDD, you can only edit Word documents in PDSEs that are not ChangeMan ZMF staging libraries.

CodeWright Customization

Borland CodeWright 7.5 Update 3 contains features designed to improve the way it works with ChangeMan ZDD. It is strongly recommended that CodeWright users upgrade to this level.

CodeWright 7.5 Update 3 (and higher)

1   From the CodeWright Menu, select **Tools → Customize**.

2   Select **Environment → File Options** from the tree on the left side of the dialog box.

3 Set the following check boxes ON:

- Use file rewrite save method

- Rewrite complete file

- Strip trailing white space

- Expand tabs to spaces

- Preload non-local files

4 Select **Environment → Backup** from the tree on the left side of the dialog box.

5 Erase the value in the "Global backup spec" field to prevent the creation of backup files when saving.

6 Enter a local path for "Auto - Save directory" if you are using the automatic save option; this will prevent a .BAK file from being created within the mainframe data set.

SPF Pro Customization

To configure SPF Pro to be compatible with ChangeMan ZDD:

In the profile, set the "Backup on Save" option to "N" to prevent the creation of backup files.

Chapter 3

Configuring ChangeMan ZDD

Overview

This chapter guides you through the configuration process to allow you to access a z/OS server from your PC.

These procedures describe how to:

- Configure Serena Network properties and add a z/OS server

- Configure properties for the server

- Set up specific folders for the files and jobs to be accessed

- Configure for ChangeMan ZMF access

When the configuration is complete, data sets, PDS members, jobs, Unix files, and ChangeMan ZMF components will appear as individual files, organized into folders and directories. These files will be accessible in Windows Explorer and any other Windows application; any changes made by these applications will be reflected on the z/OS server.

Directory Structure

The following diagrams illustrate the directory tree containing each of the types of folders and files in the ChangeMan ZDD hierarchy. Names in italics indicate user-defined names. Names in bold are defined by the system and cannot be changed by the user.

```
                        ┌──────────────┐
                        │   Serena     │
                        │   Network    │
                        └──────┬───────┘
                               │
                               ▼
                        ┌──────────────┐           ╭───╮   ChangeMan ZMF
                        │   server     │──────────▶│ A │   Directory Tree
                        └──────┬───────┘           ╰───╯
                               │
             ┌─────────────────┼─────────────────┐
             ▼                 ▼                 ▼
      ┌────────────┐    ┌────────────┐    ┌────────────┐
      │  DataSets  │    │    Jobs    │    │    Unix    │
      └─────┬──────┘    └─────┬──────┘    └─────┬──────┘
            │                 │                 │
            ▼                 ▼                 ▼
      ┌────────────┐    ┌────────────┐    ┌────────────┐
      │   folder   │    │   folder   │    │  !folder   │
      └─────┬──────┘    └─────┬──────┘    └─────┬──────┘
            │                 │                 │
            ▼                 ▼                 ▼
      ┌────────────┐    ┌────────────┐    ┌────────────┐
      │   dsname   │    │  jobname.  │    │ directories/│
      │            │    │   jobid    │    │   files    │
      └─────┬──────┘    └─────┬──────┘    └────────────┘
            │                 │
            ▼                 ▼
      ┌────────────┐    ┌──────────────┐
      │   member   │    │ dsid.jobstep.│
      │            │    │   procstep.  │
      │            │    │    ddname    │
      └────────────┘    └──────────────┘
```
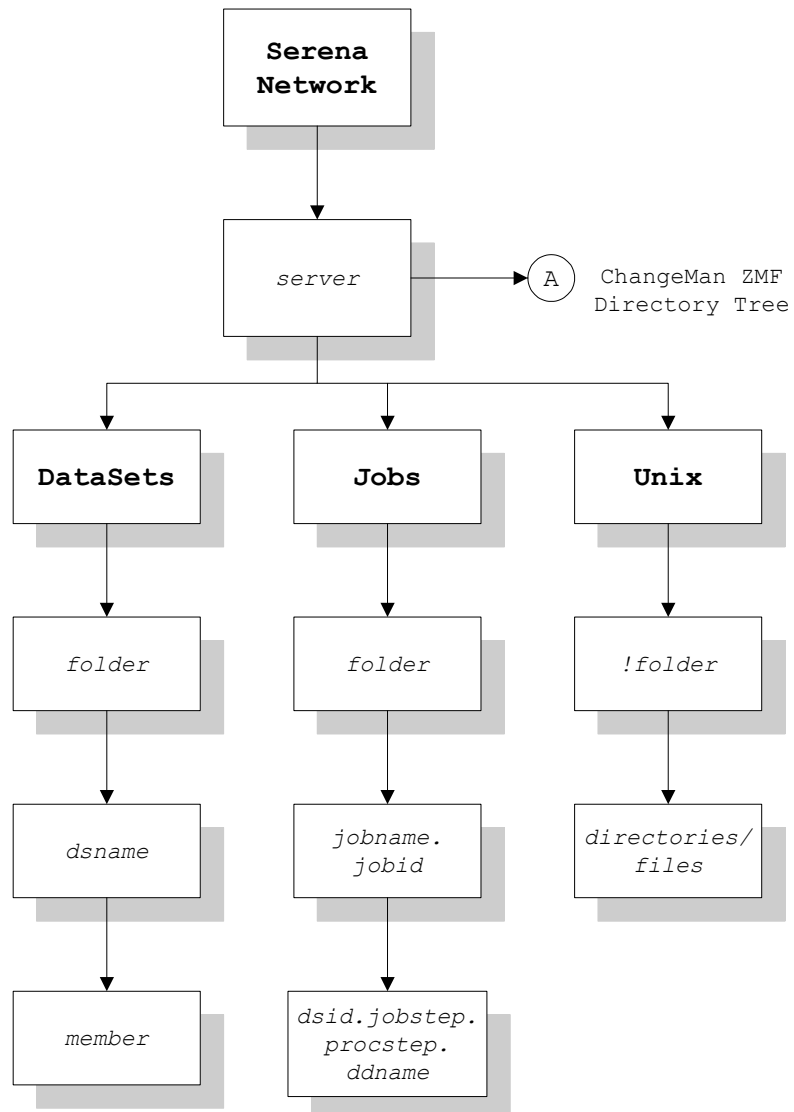
ChangeMan ZMF Directory Tree

```
        A  ──────►  changeman ──────────────────────┐
                        │                            │
                        ▼                            ▼
                  Applications                    Releases
                        │                            │
                        ▼                            ▼
                   application                   B  Releases
                        │                           Directory
         ┌──────────────┼──────────────┐            Tree
         ▼              ▼              ▼
     Baseline        Packages       Promotion
         │              │              │
         ▼              ▼              ▼
      libtype        package         site
                        │              │
                        ▼              ▼
                     libtype        nn.level
                                       │
                            ┌──────────┴──────────┐
                            ▼                     ▼
                        .Shadow             Library1/2/3
                            │                     │
                            ▼                     ▼
                         libtype               libtype
```

Releases Directory Tree
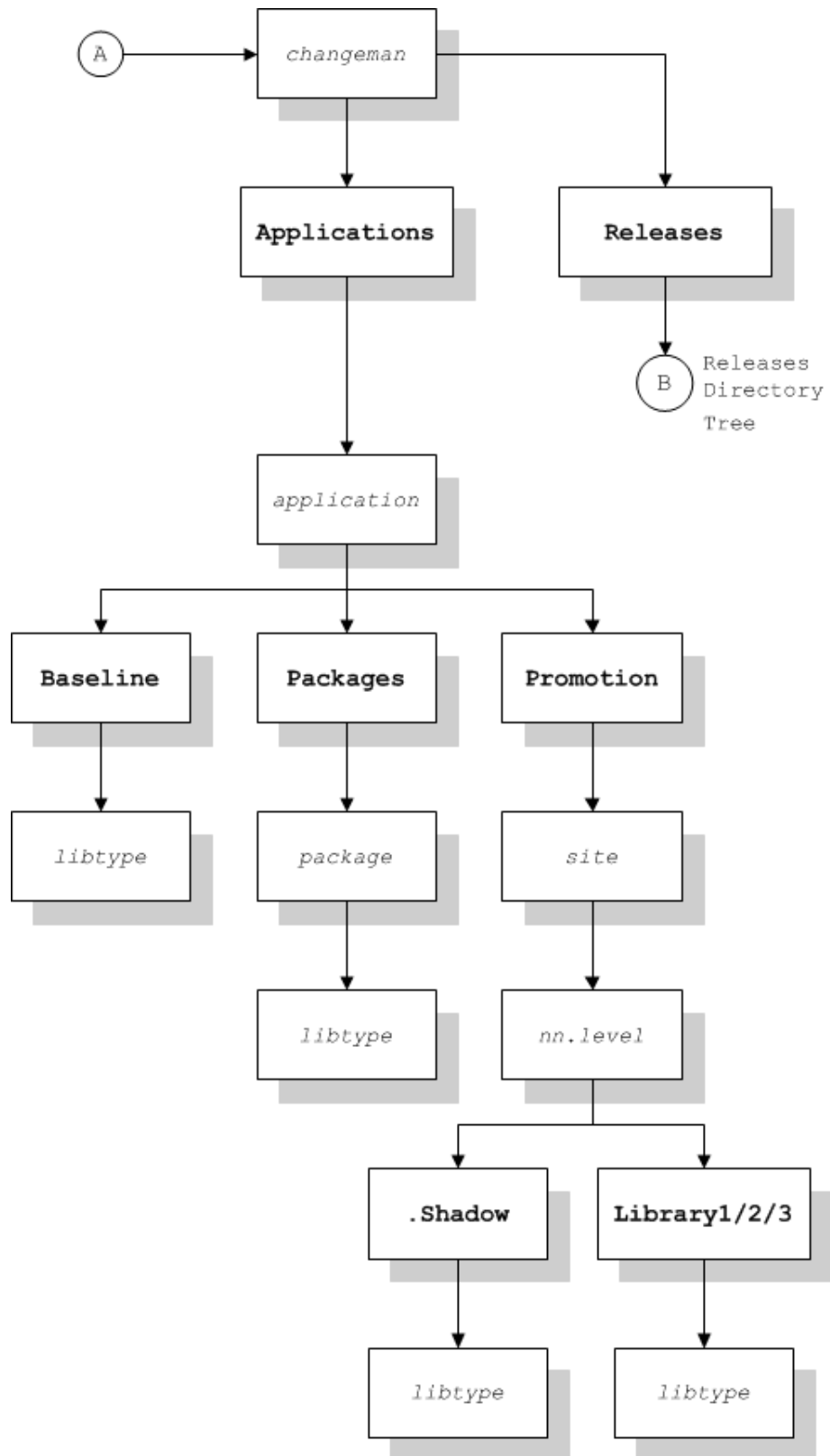
```
      ┌───┐            ┌──────────────┐
      │ B │ ─────────► │   Releases   │
      └───┘            └──────────────┘
                              │
                              ▼
                       ┌──────────────┐
                       │   release    │
                       └──────────────┘
                         │          │
                ┌────────┘          └────────┐
                ▼                            ▼
         ┌──────────────┐            ┌──────────────┐
         │    Areas     │            │   Packages   │
         └──────────────┘            └──────────────┘
                │                            │
                ▼                            ▼
         ┌──────────────┐            ┌──────────────┐
         │    area      │            │   package    │
         └──────────────┘            └──────────────┘
                │                            │
                ▼                            ▼
         ┌──────────────┐            ┌──────────────┐
         │ application  │            │   libtype    │
         └──────────────┘            └──────────────┘
            │       │        │
    ┌───────┘       │        └────────┐
    ▼               ▼                 ▼
┌──────────┐  ┌──────────┐      ┌──────────────┐
│ Changes  │  │ Summary  │      │  Promotion   │
└──────────┘  └──────────┘      └──────────────┘
    │             │                   │
    ▼             ▼                   ▼
┌──────────┐  ┌──────────┐      ┌──────────────┐
│ libtype  │  │ libtype  │      │    site      │
└──────────┘  └──────────┘      └──────────────┘
                                     │
                                     ▼
                              ┌──────────────┐
                              │   nn.level   │
                              └──────────────┘
                                 │       │
                         ┌───────┘       └────────┐
                         ▼                        ▼
                  ┌──────────────┐        ┌──────────────┐
                  │   .Shadow    │        │ Library1/2/3 │
                  └──────────────┘        └──────────────┘
                         │                        │
                         ▼                        ▼
                  ┌──────────────┐        ┌──────────────┐
                  │   libtype    │        │   libtype    │
                  └──────────────┘        └──────────────┘
```
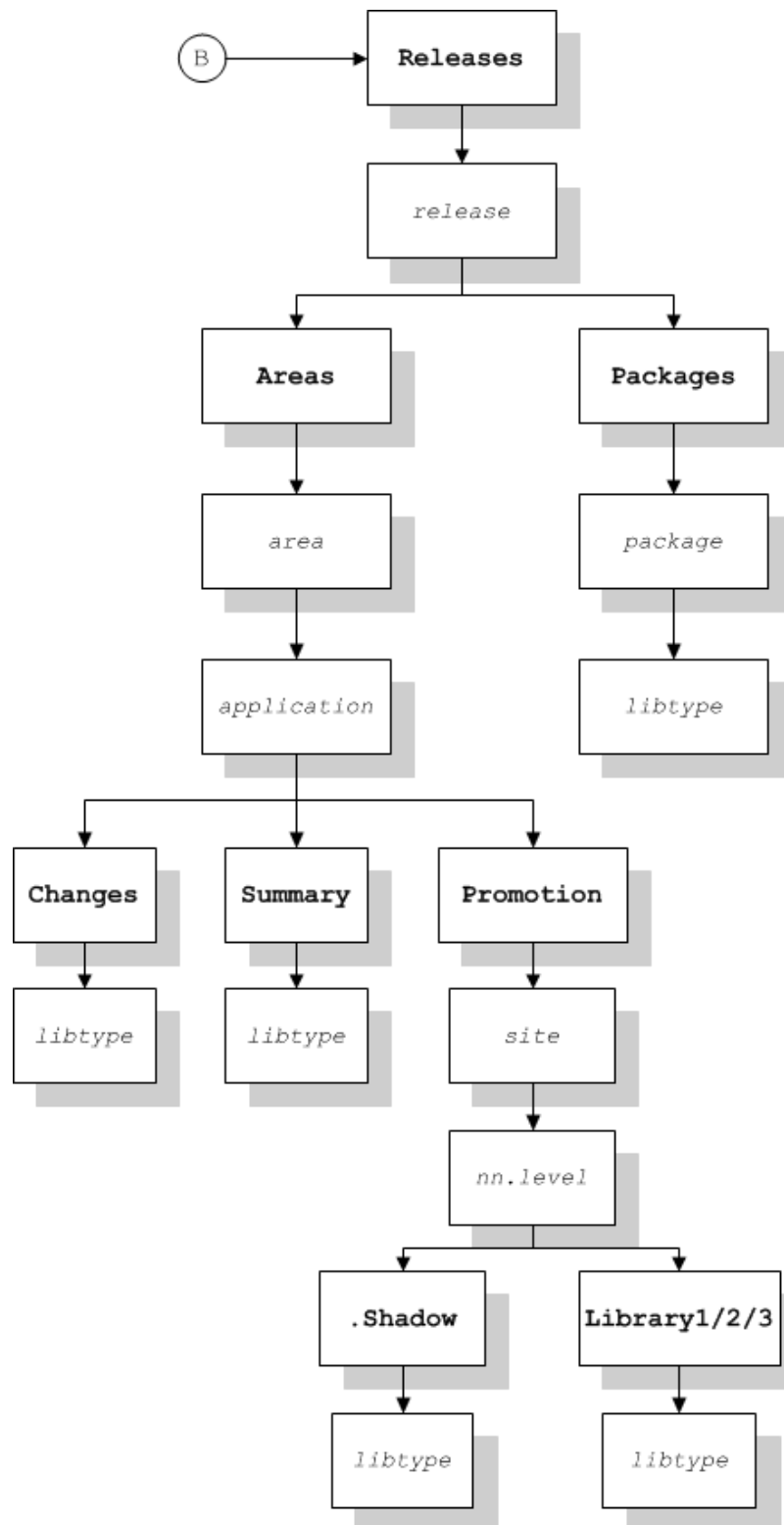
Quick Configuration for ChangeMan ZMF

If you will be using ChangeMan ZDD only to access ChangeMan ZMF, you can expedite the configuration process by performing a subset of the setup tasks. The two required tasks are:

1   Add a Server. See "Add/Remove/Configure Server" on page 88.

2   Add a ChangeMan ZMF instance. See "ChangeMan ZMF (Configure Instance)" on page 96.

You can optionally perform the following tasks:

- Define Application Filters: to specify which applications display in Windows Explorer. If you bypass this step, you will receive the default, which is all applications. See "Application Filters" on page 130.

- Define Package Filters: to specify which packages display in Windows Explorer. If you bypass this step, you will receive the default, which is all packages. See "Package Filters" on page 136.

- Configure Explorer Columns: to select which columns will appear for folders and files in Windows Explorer **Details** view. If you bypass this step, you will receive a default set of columns. See "Configure Explorer Columns" on page 93.

Some other topics in this chapter that provide background information for using ChangeMan ZMF are:

- "Directory Structure" on page 72

- "Configuring Folders for ChangeMan ZMF" on page 127

Wildcard Patterns

Some attribute values allow wildcard patterns to be specified. You can use the following wildcard characters in a pattern string:

Wildcard Character	Function
*	Matches zero or more characters.
?	Matches a single character.

This following examples illustrate how wildcard patterns work:

Pattern	Description	Match	No Match
A*	Match any string that starts with the letter A.	A AB ABCDEFGH	B BA
*Z	Match any string that ends in the letter Z.	Z WXYZ	ZA AZA
A??DE	Match a string that starts with A, followed by exactly two characters, followed by DE.	ABCDE AXYDE	ABCDEF AXYZDE

Pattern	Description	Match	No Match
A*DE	Match a string that starts with A and ends with the letters DE.	ABCDE AXXXXXDE	ABCDEF
*	Match any string.	Z ABCDEFGH	

Data Set Name Patterns

Many of the configuration procedures allow entry of data set name patterns. All data set name patterns in ChangeMan ZDD follow z/OS wildcard syntax rules as follows:

Wildcard Character	Usage
?	A question mark indicates that exactly one character (except period) can occupy that position.
*	A single asterisk by itself indicates that one qualifier must occupy that position. A single asterisk within a qualifier indicates that zero or more characters can occupy that position.
**	A double asterisk indicates that zero or more qualifiers can occupy that position. A double asterisk is invalid within a qualifier; it must be preceded or followed by either a period or blank.

> **NOTE** This is different from Windows wildcard rules where a single asterisk can represent multiple qualifiers.

The following examples illustrate how patterns are matched with data set names:

Pattern	Match	No Match
ABC.TEST???.D?TA	ABC.TEST001.DATA	ABC.TEST001.DAATA
ABC.T*.*.DATA	ABC.TEST.NEW.DATA	ABC.TMP.VERY.OLD.DATA ABC.TEST.DATA ABC.PROD.NEW.DATA
ABC.*X*.DATA	ABC.X.DATA ABC.AX.DATA ABC.AAXBB.DATA ABC.XYZ.DATA	ABC.X.Y.DATA ABC.AABB.DATA
ABC.**.DATA	ABC.DATA ABC.TEMP.DATA ABC.VERY.OLD.DATA	ABC.TEMP.DATA.JUNK

Pattern	Match	No Match
**.DATA	ABC.DATA ABC.TEMP.DATA ABC.VERY.OLD.DATA	ABC.TEMP.DATA.JUNK
*.DATA	ABC.DATA	ABC.TEMP.DATA ABC.VERY.OLD.DATA

Configuring Serena Network Properties

This section guides you through the procedures for adding a z/OS server and configuring network properties. The following topics are covered:

- Choosing a code page for the character set to be used on your local computer.

- Setting up properties for cache files.

- Setting up properties for notification messages.

- Specifying the default text editor.

- Adding and removing servers, changing properties, and mapping a server to a drive letter.

- Selecting columns to display in Windows Explorer **Details** view.

Before You Begin

Navigating to Serena Network Properties

The **Serena Network Properties** dialog box contains the properties sheets for configuring your settings, adding servers, and so on.

You can get to the **Serena Network Properties** dialog box in either of the following ways:

- Right-click the **Serena Network** icon in Windows Explorer and choose either **Serena Network → Settings** or **Properties**.

- Right-click any server item under the **Serena Network** icon in Windows Explorer and choose **Serena Network → Settings**.

> **NOTE For Windows 7 Users.** A default setting in Windows 7 is to not show all folders. If you do not see the **Serena Network** icon, you may change this setting in either of the following ways:

- Right-click in the open space in the left pane of Windows Explorer and select "Show all Folders".

- From the **Organize** menu, choose **Folder & Search Options** and select "Show all Folders".

Configure General ChangeMan ZDD Properties

1   From the **Serena Network Properties** dialog box, select the **General** tab.
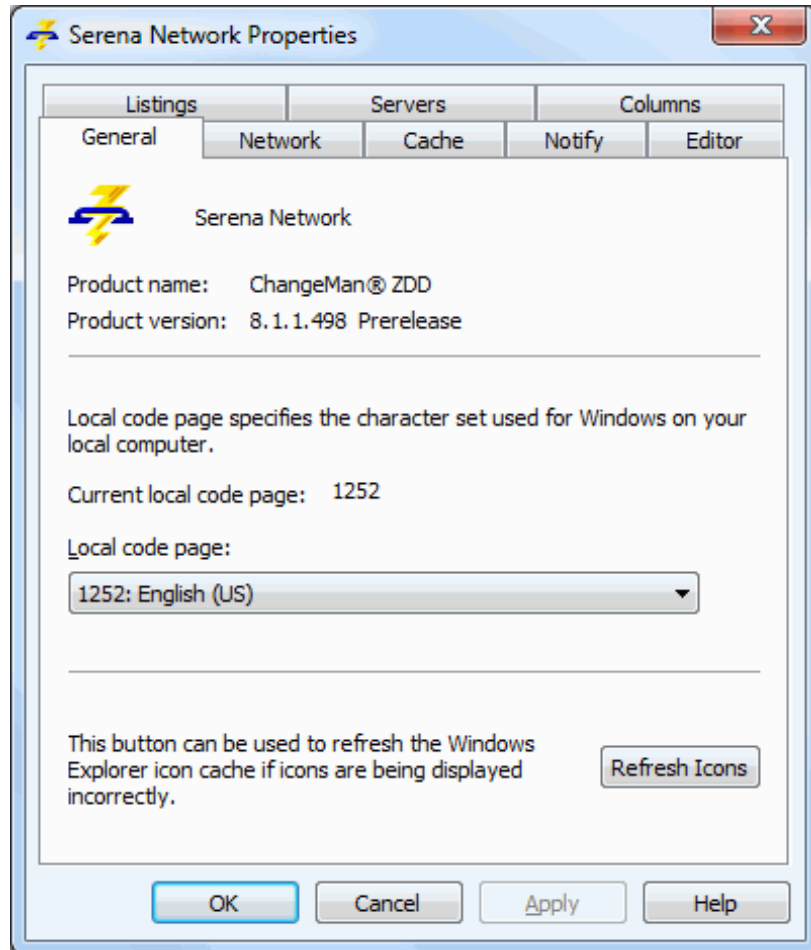
2   Fill in the fields on the **General** tab as follows:

Field / Button	Description
Local code page	The ASCII character set used on your local computer. Choose a code page from the dropdown list. The default corresponds to the locale setting of Regional Options in the Windows Control Panel.
Refresh Icons	The Windows Explorer icon cache can occasionally get out of sync, causing the wrong icons to be displayed. Use this button to refresh the icon cache if icons are being displayed incorrectly.

Configure Network Properties

1   From the **Serena Network Properties** dialog box, select the **General** tab.
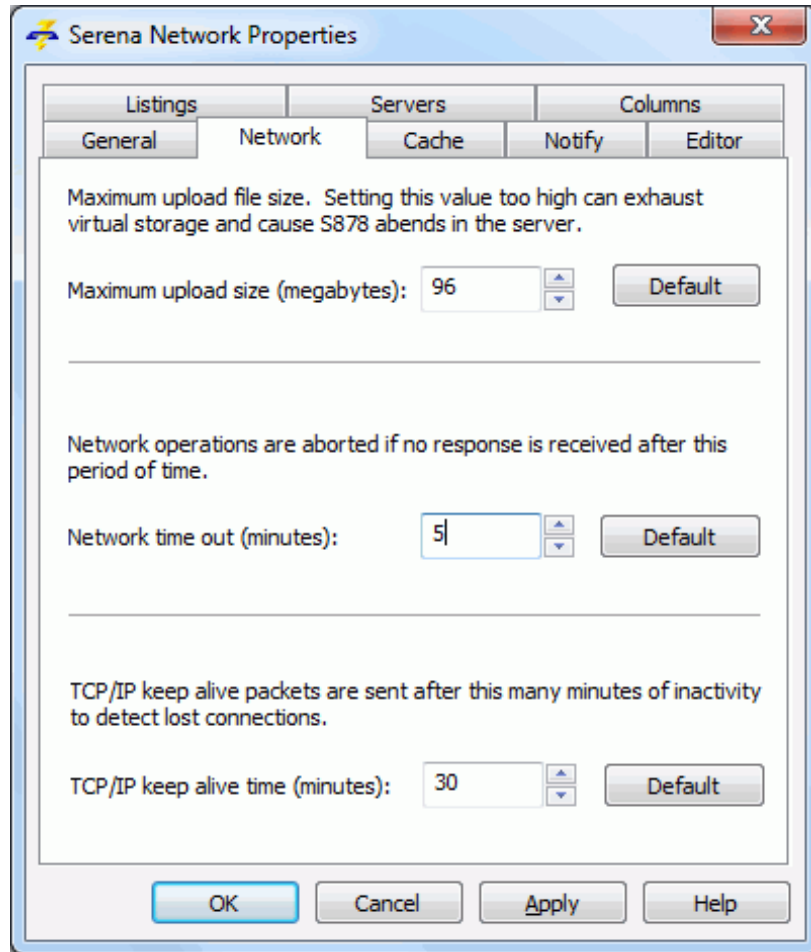
2   Fill in the fields on the **General** tab as follows:

Field / Button	Description
Maximum upload size	Maximum upload file size, in megabytes. Setting this value too high can exhaust virtual storage and cause S878 abends in the server. Must be in the range 16 - 256 megabytes. Press the **Default** button to reset value to the system default.

Field / Button	Description
Network time out	Time, in minutes, to wait for a network operation to complete. Network operations are aborted if no response is receive after this period of time. Must be in the range 3 - 30 minutes. Press the **Default** button to reset value to the system default.
TCP/IP keep alive time	TCP/IP keep alive time interval, in minutes. TCP/IP keep alive packets are sent after this many minutes of inactivity to detect lost connections. Must be in the range 10 - 120 minutes. Press the **Default** button to reset value to the system default.

Configure Cache Properties

1   From the **Serena Network Properties** dialog box, select the **Cache** tab.

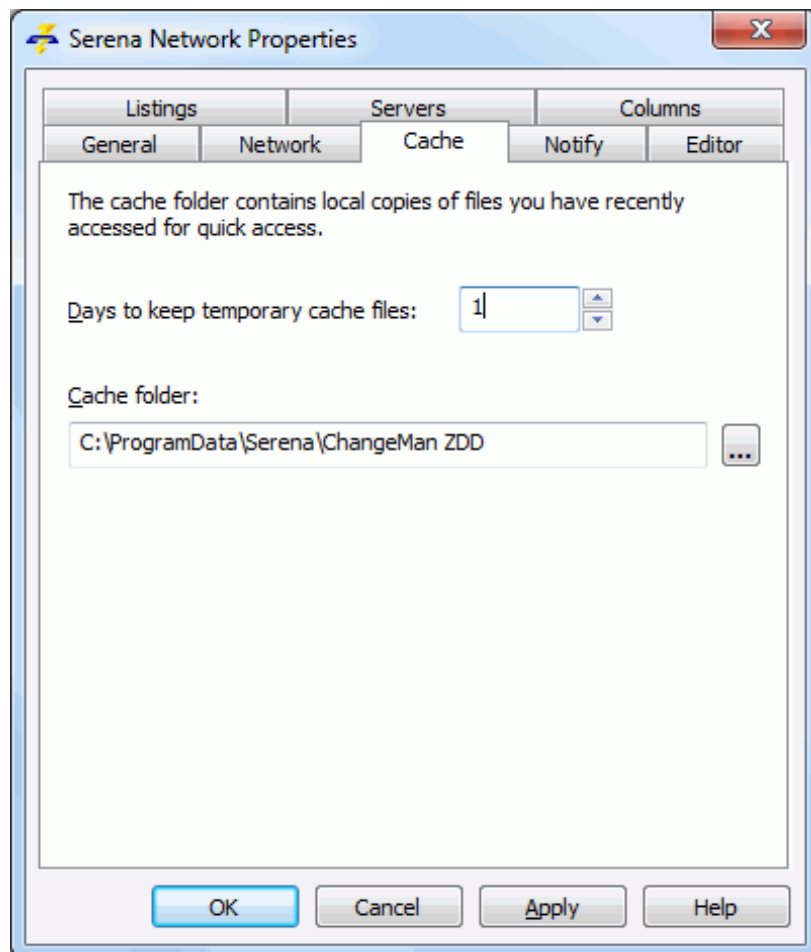**2**   Fill in the fields on the **General** tab as follows:

Field / Button	Description
Days to keep temporary cache files	Files you have recently accessed can be cached on your local drive for a specified number of days. Choose a number between 0 and 100. Specifying a higher number of days will use more disk space on your PC; however, access speed will be greatly increased, as files that have not changed on the z/OS server will not be downloaded again if they are still in the cache.
Cache folder	Enter the location and name of the cache folder, or click the browse button to choose a folder.

Configure Notify Properties

You have the option of receiving messages when jobs submitted from ChangeMan ZDD complete. These messages apply to jobs you submit with the **Submit JCL** command on the **Serena Network** popup menu.

Messages are written to the **Notify** message log. At any time, you can view the last 64 messages written to this log by launching the **Notify** message viewer application that is installed with ChangeMan ZDD: choose **Start → Programs →Serena Software → Notify**.

You can also choose to have a message box pop up every time you receive a message.

1   From the **Serena Network Properties** dialog box, select the **Notify** tab.
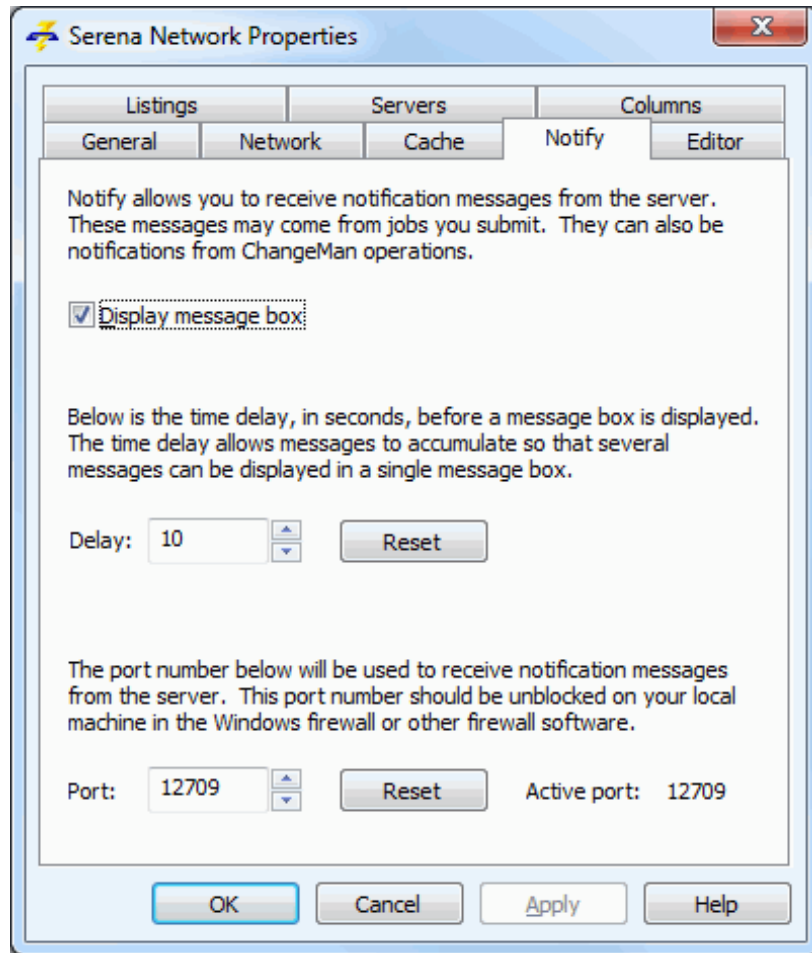
2   Fill in the fields on the **Notify** tab as follows:

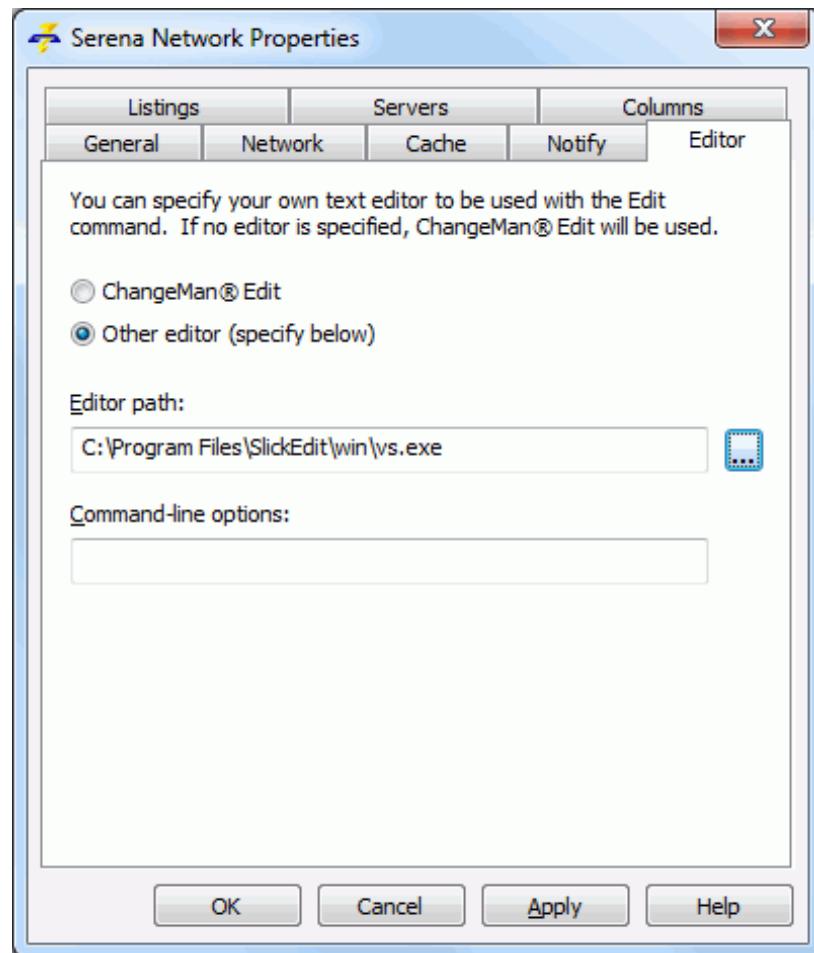| Field / Box	Description
Display message box	Check **this box** to have a pop-up box displayed every time you receive a message. You must also select the **Add notify job step** option.
Delay	Time delay, in seconds, before a message box is displayed. The time delay allows messages to accumulate so that several messages can be displayed in a single message box. The default delay is 30 seconds. Press **Reset** button if you wish to restore this field back to the default value.
Port	The port number that will be used by ChangeMan ZDD to receive notification messages from the z/OS server. You can configure the Windows firewall or other firewall software to unblock this port so that ChangeMan ZDD can receive notification messages. The default port number is a value between 4096 and 32767 that is calculated based on your Windows user ID. There is no reason to change it unless another installed software product uses the same port number. Press **Reset** button if you wish to restore this field back to the default value. **Note: I**f you are using a multi-user system (such as Citrix or Windows 2003 Server, where multiple users may be logged on at the same time), then each user must have a different port number. The default port number calculation ensures that each user has a unique port number.
Active port	Changes to the port number do not take effect until next time you log onto Windows. The **Active port** field shows the port number that is currently being used to listen to notifications.

Specify Text Editor

You can specify the text editor to be invoked when you choose **Serena Network → Edit** from a popup menu. If you do not specify a text editor, **ChangeMan Edit** (the editor included with ChangeMan ZDD) will be invoked.

It is sometimes necessary to change some settings for your text editor when using it with ChangeMan ZDD; these setting changes are required to prevent temporary (intermediate) and backup files from being created. ChangeMan Edit does not create temporary or backup files, so you are not required to change any settings to use it with ChangeMan ZDD. For more information, see "Using with Text Editors" on page 67.

1 From the **Serena Network Properties** dialog box, select the **Editor** tab.

2 Fill in the fields on the **Editor** tab as follows:

Field / Box	Description
Radio buttons	Select the radio button for the text editor to use. If you choose "Other editor", you will need to specify the editor program path and command line options in the fields below.

Field / Box	Description
Editor path	Type the program path name of the editor, or click the browse button to chose a path name from the Explorer directory tree.
Command-line options	Type any extra parameters to be passed to the editor when it is invoked.

Specify Listings Viewer

You can customize which viewer program is used to view listings. This viewer program will be used when you view listings for JES Jobs or when you choose **Serena Network →** **View Listing** from a popup menu. If you do not specify a viewer, **Notepad** (Windows utility) is the default.

1   From the **Serena Network Properties** dialog box, select the **Listings** tab.

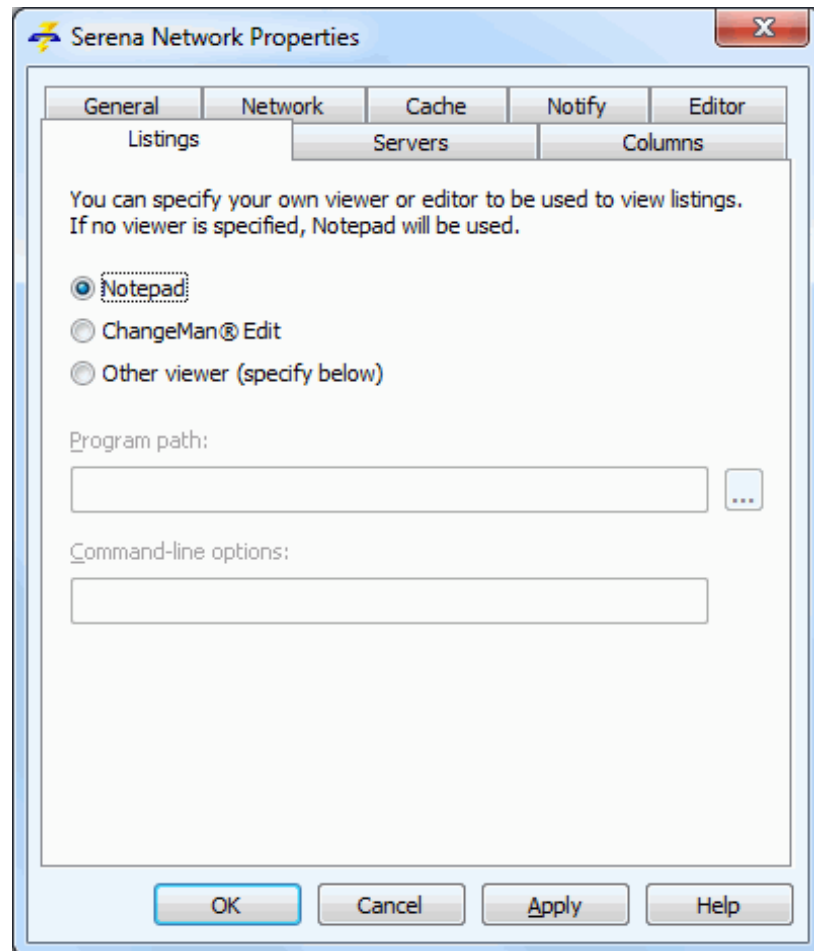**2**   Fill in the fields on the **Editor** tab as follows:

Field / Box	Description
Radio buttons	Select the radio button for the viewer program to use. If you choose "Other viewer", you will need to specify the viewer program path and command line options in the fields below.
Editor path	Type the program path name of the viewer, or click the browse button to chose a path name from the Explorer directory tree.
Command-line options	Type any extra parameters to be passed to the viewer when it is invoked.

Add/Remove/Configure Server

Use the **Servers** tab of the **Serena Network Properties** dialog box to:

- Add specifications for a z/OS server you want to access through ChangeMan ZDD. After adding a server, its icon will display in Windows Explorer.

- Remove a z/OS server from your ChangeMan ZDD configuration.

- Change the properties for a z/OS server in your ChangeMan ZDD configuration.

- Map a z/OS server in your ChangeMan ZDD configuration to a network drive (using the ChangeMan ZDD version of the Windows **Map Network Drive** dialog box).

To add a server:

1   From the **Serena Network Properties** dialog box, select the **Servers** tab.
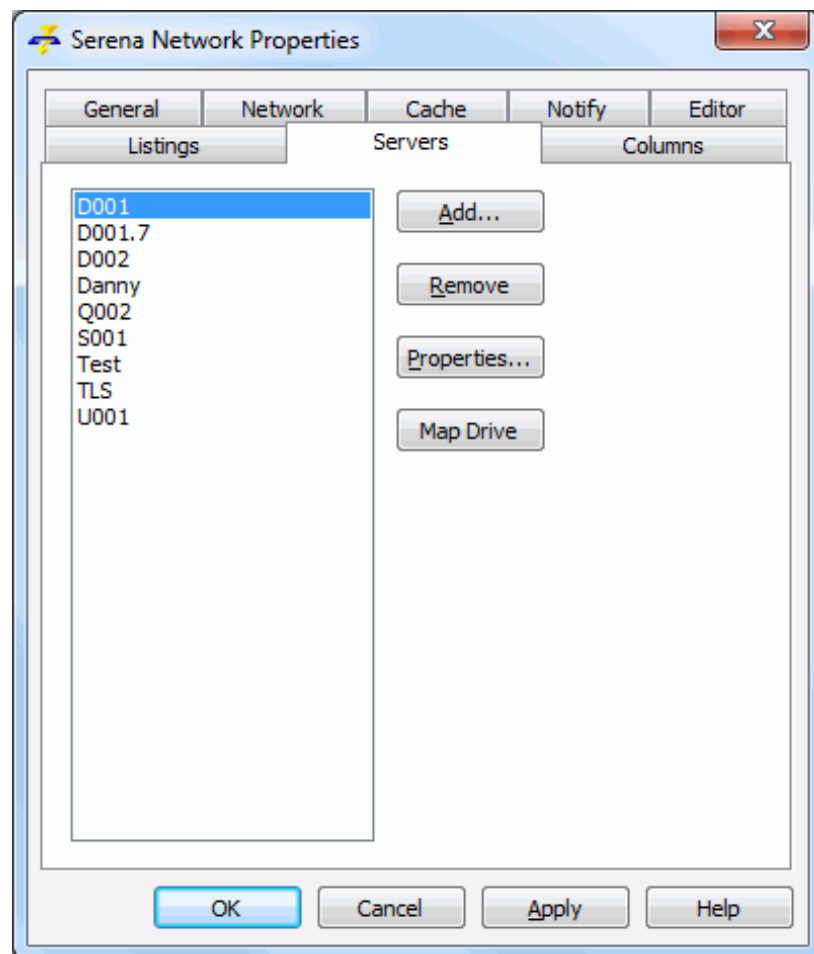
2 Click **Add**. The **New Server** dialog box displays:

3 Fill in the fields in the **New Server** dialog box as follows:

Field / Button	Description
Name	Type a name that will display in Windows Explorer. Sever names cannot contain: `" \ / < >	: * ? ( ) space`
Description	Optional.
Allow password phrase	Check this box if the z/OS server allows password phrases, which can be up to 100 characters in length. If the box is not checked, you can only use passwords up to 8 characters in length.

Field / Button	Description
TLS security	Check this box if you want to use Transport Layer Security (TLS) encryption for secure communications with this server. This setting applies to all ChangeMan instances defined under this server. If TLS security is enabled, AT-TLS on the z/OS server must also be configured to use TLS on all ports for this server, as well as all ChangeMan ports under this server. Likewise, if AT-TLS on the z/OS server is configured to use TLS, the ChangeMan ZDD client must also be configured to use TLS. Connection to the server will fail if this TLS setting does not match the AT-TLS configuration on the z/OS server. If the z/OS server uses self-signed certificates, you will need to install the certificate into the Trusted Root Certification Authorities store on your client machine. This is not required if the certificate was issued a Trusted Root Certification Authority recognized by Windows.
Disable XCH port	Check this box to disable the server XCH port. If the port is disabled, the **DataSets**, **Jobs**, and **Unix** folders will be hidden and unavailable. You will then have access to the ChangeMan instances only, and nothing else.
IP address or DNS name	Enter either the IP address for the z/OS server, or a DNS name for the server. This can be obtained from your system administrator.
Port	Specify the port number for the z/OS server. This can be obtained from your system administrator. It is the same port number used in the SERNET parameter: XCH=(,port).
Test	Click this button to "ping" the ChangeMan ZDD server to validate the IP address and Port you entered.

Field / Button	Description
Sessions	Maximum number of concurrent sessions allowed for the z/OS server. Must be a minimum of 3.
Code page	The EBCDIC character set (CCSID) used on your host computer. Choose a code page from the drop-down list. The default corresponds to the locale setting of Regional Options in the Windows Control Panel. **NOTE:** When a DBCS code page is specified, all character set translations are performed on the server. **For SerNet/ZMF 6.1 - 8.1:** The SerNet server must be configured to use the correct code page by specifying the following parameter in the started task startup parameters: LCLCCSID=*nnnnn* where *nnnnn* is the ID of the code page. **For SerNet/ZMF 8.1.1+:** The code page number number you specify here will automatically be used by SerNet/ZMF as the user-specific CCSID. If you change the code page, you must restart your computer for it to take effect.

After adding a server, its icon will display in Windows Explorer.

To remove a server:

1 Select the **Servers** tab in the **Serena Network Properties** dialog box.

2 Click **Remove**. A pop-up box displays, where you can select **Yes** or **No**.

To change server properties:

1 Select the **Servers** tab in the **Serena Network Properties** dialog box.

2 Click **Properties**. The server Properties dialog box displays.

3 The **General** and **Connection** tabs contain the same fields as the **New Server** dialog box. See Step 3 on page 89 for these field descriptions.

To map a server to a network drive:

NOTE Although ChangeMan ZDD still allows you to map a mainframe server to a drive letter, it is recommended that you no longer use that approach. See "Serena Network Namespace Extension" on page 61 for more information.

1 Select the **Servers** tab in the **Serena Network Properties** dialog box.

2 Click **Map Drive**. The ChangeMan ZDD version of the **Map Network Drive** dialog box displays.
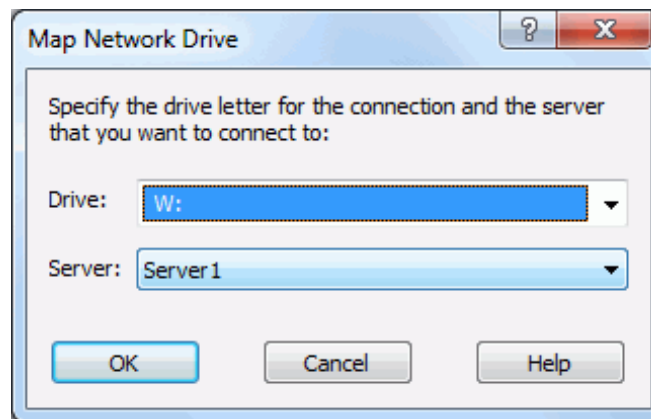
3 Select a drive letter from the **Drive** drop-down list.
Select a server name from the **Server** drop-down list.
Click **OK**.

TIPS An alternate way to display the above dialog box is to right-click a ChangeMan ZDD server and select **Map Network Drive** from the popup menu.

Configure Explorer Columns

Windows Explorer allows customized columns in the **Details** view. ChangeMan ZDD provides the following sets of customized columns:

- Data set information

- Member information

- Unix information

- Job information

- Job output (spool data set) information

- ChangeMan ZMF application information

- ChangeMan ZMF package information

- ChangeMan ZMF library type information

- ChangeMan ZMF promotion level information

- ChangeMan ZMF promotion library information

- ChangeMan ZMF package component information

Columns can be selected for a folder type or an individual folder; individual settings override those set for the folder type.

- Columns for folder types are set on the **Columns** page of **Serena Network Properties** (see "Select Columns for Folder Types" on page 94).

- Individual settings are selected using the Windows Explorer option **View** → **Choose Details** (see "Select Columns for Individual Folders" on page 95).

> **NOTE** In the **Modified** column for the package folder, the date is the install date of the package, but the time is always 12:00 A.M. However, the **Modified** column for the package component displays the date and time that the component was last updated.

Select Columns for Folder Types

1 From the **Serena Network Properties** dialog box, select the **Columns** tab.
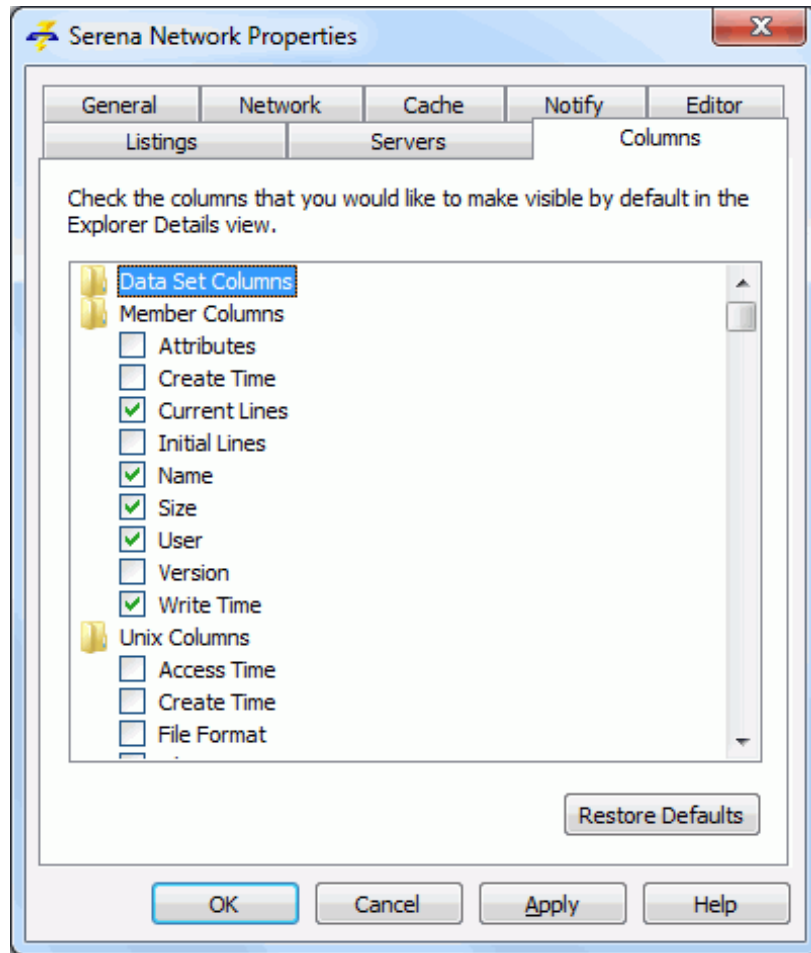
2 For each folder type, check the columns that you want to see by default in Windows Explorer **Details** view.

3 To restore the original default columns, click **Restore Defaults**.

Select Columns for Individual Folders

Columns can also be selected at the individual folder level and will override those selected for the folder type.

1   In Explorer, click a folder that you want to customize.

2   From the **View m**enu, select **Choose Details**. The **Choose Details** dialog box displays, where you can select columns for the folder.

Change Explorer Settings

Explorer settings may need to be changed for the default column settings to work correctly:

1   In Explorer, choose **Folder Options** from the **Tools** menu. The **Folder Options** dialog box displays.

2   Select the **View** tab and click **Reset All Folders**.
Note: This will restore all folder settings that were in effect when Windows was installed.
This option undoes the effect of the **Like Current Folder** option. (The **Like Current Folder** option makes all folders have the same columns as the current view. This overrides the default columns and does not work well because ChangeMan ZDD uses different sets of columns for different types of folders.)

3   From the **Advanced settings** list box, clear the **Remember each folder's view settings** box. (If this setting is selected, Explorer will remember each folder's columns and ignore the default columns once the columns are initially set for a particular folder).

> **NOTE** You can omit this step if you want to maintain different column settings for each folder. If this setting is enabled, the default columns are used only the first time you open a folder. Subsequently changing default columns would have no effect on folders you have already viewed. You would then have to change each of those folders individually.

Configuring Server Properties

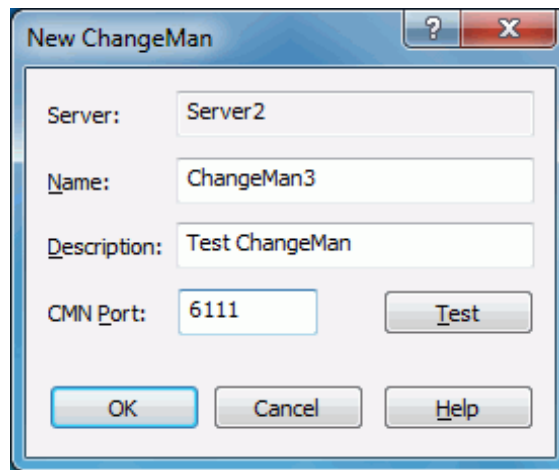The Properties dialog box for your z/OS server contains the following tabs for configuring properties.

Tab	Description
General	Change the server description.
Connection	Change the server connection properties. These are the same properties described for **New Server** in Step 3 on page 89.
ChangeMan	Add and remove instances, and change properties. See "ChangeMan ZMF (Configure Instance)" on page 96.

ChangeMan ZMF (Configure Instance)

ChangeMan ZMF instances are defined for each server where ChangeMan ZMF will be accessed. More than one instance may be defined per server.

To add a ChangeMan ZMF instance:

1 In Windows Explorer, navigate to a ChangeMan ZDD server item

 . Right-click and choose **Properties**. The server Properties dialog box displays.

2 Select the **ChangeMan** tab and click **Add. T**he **New ChangeMan** dialog box displays:

> **TIP** Another way to get to the **New ChangeMan** dialog box is to right-click a server item in Windows Explorer and choose **Serena Network → New ChangeMan**.

3 Fill in the fields as follows:

Field	Description
Name	Type a name, which will display in Windows Explorer. ChangeMan names cannot contain: " \ / < > | : * ? `space`
Description	Optional.
Port	Type the port number for the instance. This can be obtained from your system administrator. It is the same port number used in the SERNET parameter: CMN=(,port).
Test	Click this button to "ping" the ChangeMan ZDD server to validate the Port you entered.

To remove a ChangeMan ZMF instance:

1 From the server Properties dialog box, select the **ChangeMan** tab

2 Click **Remove**. A pop-up box displays, where you can select **Yes** or **No**.

> **TIP** Another way to remove a ChangeMan ZMF instance is to right-click a ChangeMan ZMF item in Windows Explorer and choose **Serena Network → Delete ChangeMan**.

To change properties for a ChangeMan ZMF instance:

1 From the server Properties dialog box, select the **ChangeMan** tab.

2 Select a ChangeMan ZMF instance in the left pane and then click **Properties**. The Properties dialog box for the instance displays.

> **TIP** Another way display the Properties dialog box for the instance is to right-click a ChangeMan ZMF item in Windows Explorer and choose **Properties**.

3 On the **ChangeMan** tab, you can change the following fields:

Field	Description
Description	Optional.
Port	Type the port number for the instance. This can be obtained from your system administrator. It is the same port number used in the SERNET parameter: CMN=(,port).
Test	Click this button to "ping" the ChangeMan ZDD server to validate the Port you entered.

Configuring Data Set Global Properties

Global properties pertaining to all data set folders are configured as properties of the "DataSets" root folder, directly beneath the server in the Windows Explorer tree. The Properties dialog box the "DataSets" folder contains the following tabs for configuring properties.

Tab	Description
File Extensions	Associate file extensions with data set name patterns. The default file extension is the last qualifier of the data set name. See "File Extensions" on page 98.
File Formats	Associate local file formats with data set names or patterns. See "File Formats (Data Sets)" on page 100.
Library Types	Specify data set names or patterns for CA-Panvalet® and CA-Librarian® libraries. See "Library Types" on page 104.
New Data Sets	Specify default properties for new data sets that match the corresponding data set name pattern. See "New Data Sets" on page 106.

File Extensions

Windows uses file extensions to determine the file type. For registered file types, the extension indicates what icon is displayed and what program is used to open the file.

The default file extension is the last qualifier of the data set name. You can override this default and associate different file extensions based on data set name patterns.

> For example, you could specify that all data sets that match pattern **.CNTL have a file extension of .jcl.

All PDS member names are suffixed with a file extension, separated from the member name by a period.

> For example, assume that data sets matching pattern **.CNTL have a file extension of .jcl. The members of data set TSOID.TEST.CNTL would have file names like MEMBER1.jcl and MEMBER2.jcl. If no file extension was specified for **.CNTL, the file names would default to MEMBER1.cntl and MEMBER2.cntl.

For sequential data sets, a file extension is appended only when there is a file extension override for a matching data set name pattern. When the last qualifier of the data set name is being used as a file extension, which is the default, no additional file extension is necessary. When a file extension is appended to a sequential data set name, it is appended with a double period. The double period indicates that the file extension is not part of the true data set name.

> For example, assume that data sets matching pattern **.REPORT have a file extension of .txt. A sequential data set named TSOID.MONTHLY.REPORT would have a file name of TSOID.MONTHLY.REPORT..txt.
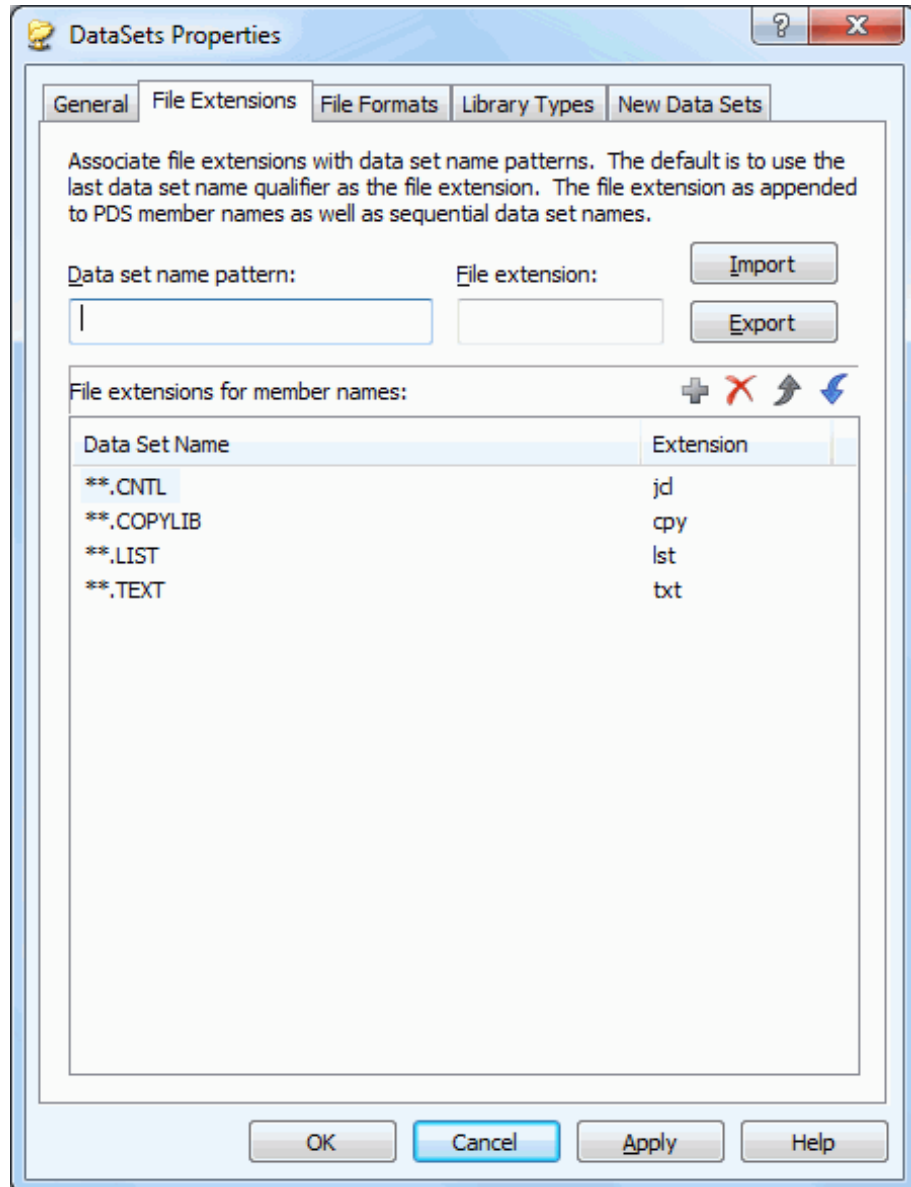
Configure File Extensions

> **NOTE** File extensions can also be configured using the ChangeMan ZDD Wizard application, which allows you to configure multiple servers in a single step.

1 In Windows® Explorer, navigate to a server icon   . Right-click and choose **Properties**. The server Properties dialog box displays.

2 Select the **File Extensions** tab.

3   The default file extension is the last qualifier of a data set name. To associate file extensions with data set name patterns, fill in the fields as follows:

Field	Description
Data set name	Type a data set name or pattern. For example: ■ ****.CNTL** would apply to **all** data sets that end with CNTL. The following data sets would be affected: 　　TSOID.CNTL 　　TSOID.TEST.CNTL ■ ***.CNTL** would apply to data sets that have only two qualifiers and the second one is CNTL. TSOID.CNTL would be affected. TSOID.TEST.CNTL would **not** be affected.
File extension	Type a file extension. For example: `jcl` would change the extension for PDS members and sequential data sets to `jcl`.
Import	Click to retrieve file extension associations from a file.
Export	Click to save file extension associations to a file.

4   Click ![add icon] to add a file extension association.

5   To delete a file extension association, click ![delete icon] .

6   To change a file extension association, use **one** of the following methods:

   ■   Delete it and add the new one.

       or

   ■   Repeat the add process and the old entry will be overlaid.

7   File extensions are applied to data set name patterns in a hierarchical manner, from top to bottom. To change the order, use the ![up down buttons] buttons to reposition the entries.

File Formats (Data Sets)

Each data set has a local file format associated with it. The file format specifies what type of conversion is performed when data is transferred between the server and your computer. The native character code for z/OS servers is EBCDIC; for personal computers it is ASCII.

The file formats are:

   ■   ASCII Text

   ■   ASCII Data

   ■   EBCDIC Text

   ■   EBCDIC Data

   ■   Unicode Text

- Unicode Data

- UTF-8 Text

- Binary

- Binary CRLF

NOTE These file formats apply to record format "F" and "V" data sets only. Record format "U" data sets always use binary format.
Load modules cannot be uploaded because the directory entries contain embedded pointers that are not supported by SerNet.

ASCII File Formats (Data and Text)

Data is converted from EBCDIC to ASCII when it is transferred from the server to your PC; the data is converted back to EBCDIC when it is transferred back to the server. This is usually the desired behavior so that the data is usable on both the server and your PC.

EBCDIC File Formats (Data and Text)

Character conversions are not performed: the data remains in EBCDIC format on both the server and your PC. The data on your PC is only usable by special programs designed to process EBCDIC data. SPF/PC is a text editor that can be used to edit EBCDIC data on your PC.

'Text' File Formats (for ASCII, EBCDIC, Unicode, and UTF-8)

When Text formats are transferred from the server to your PC, trailing spaces are trimmed and a carriage return/line feed (CR LF) sequence is appended to the end of each line. The CR and LF characters are stripped off when the data is transferred back to the server. This is usually the desired behavior for files that contain text, since CR LF is the standard way of delimiting lines of text on a PC.

'Data' File Formats (for ASCII, EBCDIC, and Unicode)

Data formats are transferred without appending CR LF characters and without stripping any trailing spaces. The record length of the Windows file is fixed and is the same as that on the server. These formats can be used when the data is being read by an application that expects fixed length records and does not use CR LF as line terminators.

This format is appropriate for record format "F" data sets only, and not for record format "V", data sets. The reason for this restriction is that, when downloading from a record format "V" data set, the records must be padded with spaces to produce fixed length records. Thus, when uploading the file again, you would find spaces inserted into the data.

'Binary' File Format

The "Binary" format is for record format "V" or "U" data sets that contain binary data. When the file is downloaded to Windows, no character translation is performed and no line terminator characters are inserted. No changes at all are made to the binary data.

When data is uploaded, records are filled to the maximum length, except the last record, which may be a short record.

This format is appropriate for record format "V" or "U" data sets only, and not for record format "F", data sets. The reason for this restriction is that, when uploading into a record format "F" data set, there can be no short record at the end, and the last record must be padded with spaces to fill the fixed length record. Thus, when downloading the file again, you would find blanks appended to the end of the binary data.

'Binary CRLF' File Format

The "Binary CRLF" format is for record format "V" data sets that contain binary data. When the file is downloaded to Windows, line terminator characters (CR LF) are appended to the end of each record. No changes are made to the actual binary data.

This format is appropriate for record format "V" data sets only, and not for record format "F", data sets. The reason for this restriction is that, when uploading into a record format "F" data set, the records must be padded with spaces to fill the fixed length records. Thus, when downloading the file again, you would find blanks inserted into the binary data.

The "Binary CRLF" format is available for SerNet 7.1.1+ servers only.

File Format Usage

The table below summarizes how data is represented on the client and server for each of the file formats:

	Client		Server	
File Format	**Char Code**	**Line Term**	**Char Code**	**Line Term**
ASCII Text	ASCII	CR LF	EBCDIC	None
ASCII Data	ASCII	None	EBCDIC	None
EBCDIC Text	EBCDIC	CR LF	EBCDIC	None
EBCDIC Data	EBCDIC	None	EBCDIC	None
Unicode Text	Unicode	CR LF	EBCDIC	None
Unicode Data	Unicode	None	EBCDIC	None
UTF-8 Text	UTF-8	CR LF	EBCDIC	None
Binary CRLF	Binary	CR LF	Binary	None
Binary	Binary	None	Binary	None

NOTE Binary format is used automatically for record format "U" data sets.

File formats are mapped to data set names using data set name patterns. For example, you could specify that all data set names which match the pattern **.UNICODE.TXT contain Unicode Text. A format may also be mapped to a specific data set name. The default file format is ASCII Text.
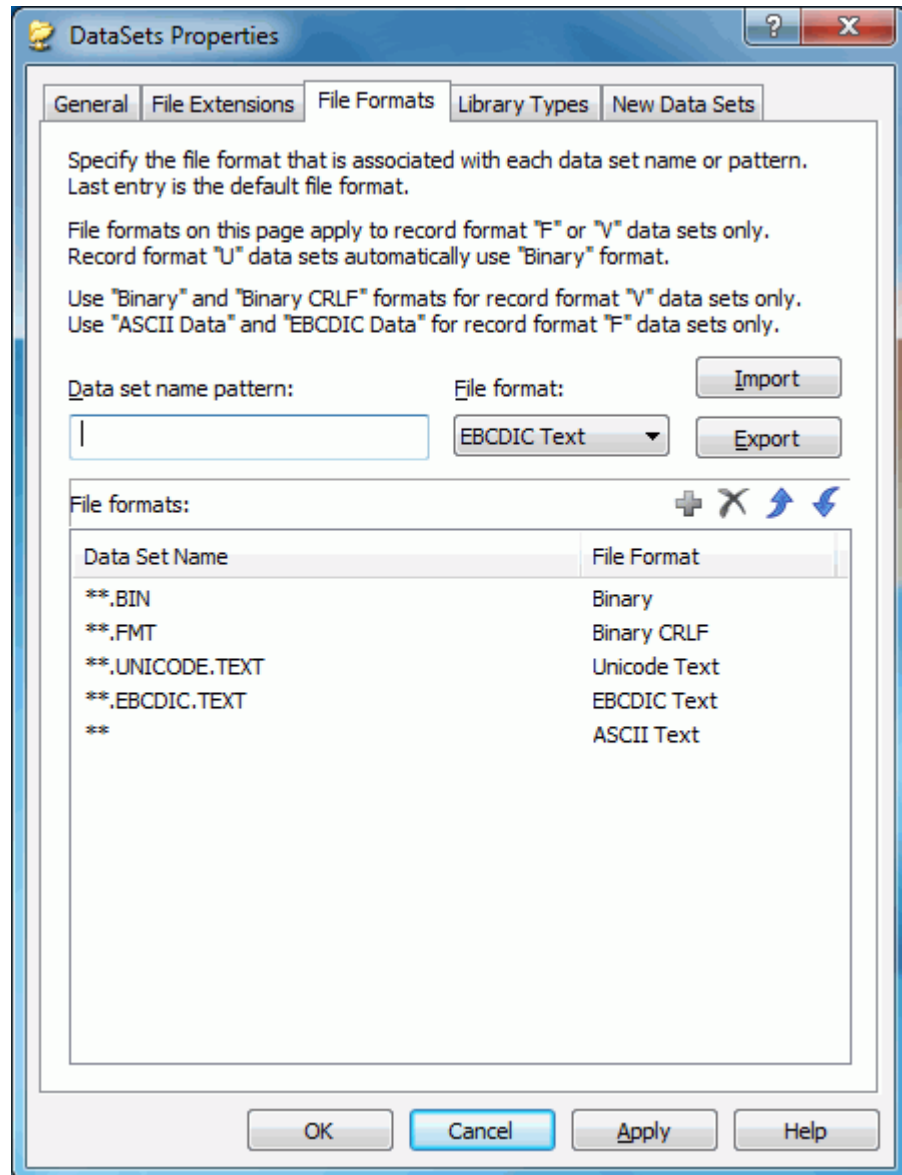
ZMF Components

For ChangeMan ZMF components, the file format is determined by the ZMF component library type. File formats for ZMF components are specified as properties of the ChangeMan ZMF instance.

Configure File Formats

NOTE File formats can also be configured using the ChangeMan ZDD Wizard application, which allows you to configure multiple servers in a single step.

1 In Windows Explorer, navigate to a server icon [icon]. Right-click and choose **Properties**. The server Properties dialog box displays.

2 Select the **File Formats** tab.

3 The default file format (for pattern **) is **ASCII Text.** To associate file formats with specific data set names or patterns, fill in the fields as follows:

Field	Description
Data set name pattern	Type a data set name or pattern. For example: ****.CNTL** would apply to **all** data sets that end with CNTL. The following data sets would be affected: ■ TSOID.CNTL ■ TSOID.TEST.CNTL ***.CNTL w**ould apply to data sets that have only two qualifiers and the second one is CNTL: ■ TSOID.CNTL would be affected. ■ TSOID.TEST.CNTL would **not** be affected. See "Data Set Name Patterns" on page 77 for more information about data set pattern names.
File format	Select a format from the drop-down menu.
Import	Click to retrieve file format associations from a file.
Export	Click to save file format associations to a file.

4 Click ![plus icon] to add a file format association.

5 To delete a file format association, click ![x icon] .

NOTE The ** pattern cannot be deleted, but the associated file format can be changed.

6 To change a file format association, use **one** of the following methods:

■ Delete it and add the new one.

or

■ Repeat the add process and the old entry will be overlaid.

7 File formats are applied to data set name patterns in a hierarchical manner, from top to bottom. To change the order, use the ![up/down arrow buttons] buttons to reposition the entries.

Library Types

Library types only need to be defined for Librarian and Panvalet libraries. The default library type is Standard, which is for PDS and PDSE data sets. You must specify data set name patterns to indicate which data sets are Librarian or Panvalet.
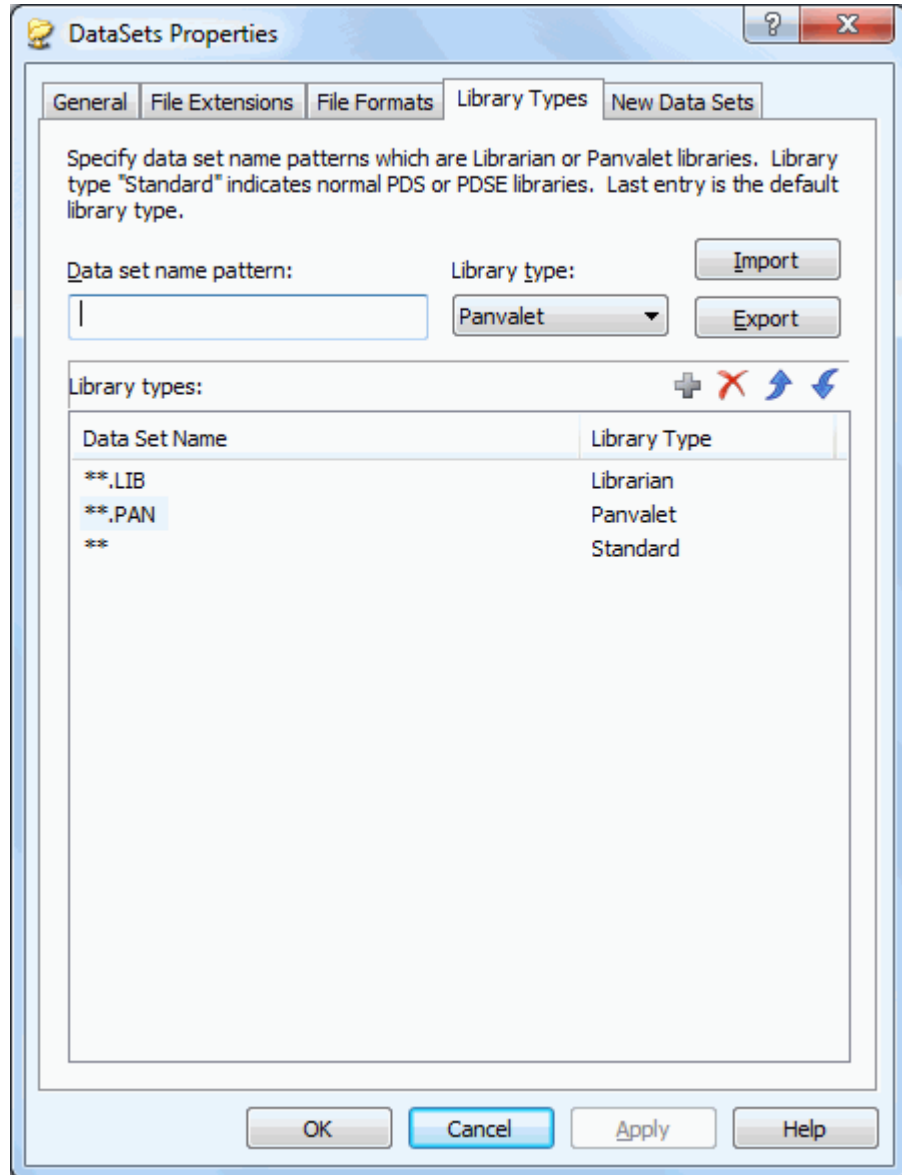
Configure Library Types

NOTE Library types can also be configured using the ChangeMan ZDD Wizard application, which allows you to configure multiple servers in a single step.

1 In Windows Explorer, navigate to a server icon ![server icon] . Right-click and choose **Properties**. The server Properties dialog box displays.

2   Select the **Library Types** tab.

3 The default library type (for pattern **) is **Standard,** which means PDS or PDSE data sets**.** To associate library types with specific data set name patterns for Librarian or Panvalet libraries, fill in the fields as follows:

Field	Description
Data set name pattern	Type a data set name pattern. For example: ****.PAN** would apply to **all** data sets that end with PAN. The following data sets would be affected: ■ TSOID.PAN ■ TSOID.TEST.PAN ***.PAN** would apply to data sets that have only two qualifiers and the second one is PAN. ■ TSOID.PAN would be affected. ■ TSOID.TEST.PAN would **not** be affected.
Library	Select a library type from the drop-down menu.
Import	Click to retrieve library type associations from a file.
Export	Click to save library type associations to a file.

4 Click ⊞ to add the association.

5 To delete a library type for a pattern, select the pattern name in the list and click ✕ .

NOTE The library type for the ** pattern cannot be deleted.

6 To change properties for a pattern, use **one** of the following methods:

■   Delete it and add the new one.

   or

■   Repeat the add process and the old entry will be overlaid.

NOTE The library type for the ** pattern cannot be deleted.

7 Library types are applied to data set name patterns in a hierarchical manner, from top to bottom. To change the order, use the ⬆ ⬇ buttons to reposition the entries.

New Data Sets

The **New Data Sets** page is used to define default properties for data sets created when you:

■   Drag-and-drop a file into a ChangeMan ZDD data set folder.

■   Create a file in a ChangeMan ZDD data set folder using the **Save As** option in Windows.

Because files in data set folders actually exist on the z/OS server, the data set properties must be pre-defined.

NOTE You can also create and copy data sets and members using ChangeMan ZDD commands. The defaults on the **New Data Sets** page are not used for these data sets. When you create a new data set using a ChangeMan ZDD command, you specify the properties for that data set (or use the properties of another data set as a model). See the following topics for more information:

The following instructions explain how to set up default properties for specific data set name patterns. If no defaults are entered, the automatic default properties for the ****** pattern will be applied.

Specify New Data Set Properties

1   In Windows Explorer, navigate to a server icon   . Right-click and choose **Properties**. The server Properties dialog box displays.

2   Select the **New Data Sets** tab.

3   Type a data set name pattern in the **Dsname pattern** text box.

4   Choose a data set type from the **Data set type** drop-down in the remaining fields as you would when allocating a data set using the 3.2 option of ISPF.

5   Click ![icon] to add the properties.

6 To delete properties for a pattern, select the pattern name in the

Data Set Name column in the list and click ✕ .

> **NOTE** The default properties for the ** pattern cannot be deleted, but they can be changed.

7 To change properties for a pattern, use **one** of the following methods:

- Delete it and add the new one.

    or

- Repeat the add process and the old entry will be overlaid.

8 Data set properties are applied to data set name patterns in a hierarchical manner, from top to bottom. To change the order, use

the ⬆ ⬇ buttons to reposition the entries.

Configuring Unix Global Properties

Global properties pertaining to all Unix folders are configured as properties of the "Unix" root folder, directly beneath the server in the Windows Explorer tree. The Properties dialog box the "Unix" folder contains the following tabs for configuring properties.

Tab	Description
File Formats	Associate local file formats with Unix file names or patterns. See "File Formats (Unix)" on page 109.

File Formats (Unix)

Each Unix file has a format associated with it. The file format specifies what type of conversion is performed when data is transferred between the server and your computer. The native character code for z/OS servers is EBCDIC; for personal computers it is ASCII.

The file formats are:

- ASCII Text
- EBCDIC Text
- Unicode Text
- UTF-8 Text
- Binary

ASCII Format

Data is converted from EBCDIC to ASCII when it is transferred from the server to your PC; the data is converted back to EBCDIC when it is transferred back to the server. This is usually the desired behavior so that the data is usable on both the server and your PC.

EBCDIC Format

Character conversions are not performed: the data remains in EBCDIC format on both the server and your PC. The data on your PC is only usable by special programs designed to process EBCDIC data. SPF/PC is a text editor that can be used to edit EBCDIC data on your PC.

'Text' Formats

When Text formats are transferred from the server to your PC, trailing spaces are trimmed and a carriage return/line feed (CR LF) sequence is appended to the end of each line. The CR and LF characters are stripped off when the data is transferred back to the server. This is usually the desired behavior for files that contain text, since CR LF is the standard way of delimiting lines of text on a PC.

Binary Format

The Binary format is used to store a binary (non-character) file: no conversion takes place when transferring between your PC and the server.

File Format Usage

The table below summarizes how data is represented on the client and server for each of the file formats:

	Client		Server	
File Format	**Char Code**	**Line Term**	**Char Code**	**Line Term**
ASCII Text	ASCII	CR LF	EBCDIC	None
EBCDIC Text	EBCDIC	CR LF	EBCDIC	None
Unicode Text	Unicode	CR LF	EBCDIC	None
UTF-8 Text	UTF-8	CR LF	EBCDIC	None
Binary	Binary	None	Binary	None

File formats are mapped to Unix file names using file name patterns. For example, you could specify that all file names which match the pattern *.BINARY contain binary data. A format may also be mapped to a specific file name. The default file format is ASCII Text.

Configure File Formats

NOTE File formats can also be configured using the ChangeMan ZDD Wizard application, which allows you to configure multiple servers in a single step.

1 In Windows Explorer, navigate to a server icon   . Right-click and choose **Properties**. The server Properties dialog box displays.

2 Select the **File Formats** tab.

3 The default file format (for pattern *) is **ASCII Text.** To associate file formats with specific file names or patterns, fill in the fields as follows:

Field	Description
File name pattern	Type a file name or pattern. For example: ***.TXT** would apply to **all** files that end with TXT. The following files would be affected: ■ TSOID.TXT ■ TSOID.TEST.TXT See "Wildcard Patterns" on page 76 for more information about pattern names.
File format	Select a format from the drop-down menu.
Import	Click to retrieve file format associations from a file.
Export	Click to save file format associations to a file.

4 Click ⊞ to add a file format association.

5 To delete a file format association, click ✕ .

NOTE The * pattern cannot be deleted, but the associated file format can be changed.

6 To change a file format association, use one of the following methods:

- delete it and add the new one

  or

- repeat the add process and the old entry will be overlaid

7 File formats are applied to file name patterns in a hierarchical manner, from top to bottom. To change the order, use the ⬆ ⬇ buttons to reposition the entries.

Configuring Folders for Data Sets, Jobs, and Unix Files

Overview

Data sets, jobs, and Unix files appear as folders and files in Windows® Explorer. After adding a z/OS server for ChangeMan ZDD (described in "Add/Remove/Configure Server" on page 88), three root folders were automatically set up: **DataSets**, **Jobs**, and **Unix**. To view this structure, navigate to a server node in Windows Explorer.

In this example, Server1 is the name of the z/OS server, followed by the root folders: **DataSets**, **Jobs**, and **Unix**. U710DP represents a ChangeMan ZMF instance. The root folder names are fixed and cannot be changed by the user.

Folders must be set up under the root folders to access z/OS files. Folders may contain other folders, as well as individual data sets, jobs, or Unix files and directories. Folder names can be up to 256 characters in length, with the following restrictions:

- Data set and job folders can contain any characters allowed in Windows file names, except for period.

- Unix folders can contain any characters allowed in Windows file names, but the folder names must begin with an exclamation point ("!") so that ChangeMan ZDD can distinguish them from real Unix directory names.

Filters are associated with user-defined folders under **DataSets** and **Jobs** to define which data sets or jobs can be contained in the folders. The root folders do not have filters associated with them.

User-defined folders under the **Unix** root folder point to a Unix directory on the server, which serves as the root directory for the folder. Unix directories, files, and links may be created under a user-defined folder.

Refer to "Directory Structure" on page 72 for more information on folder structure.

Default Folders

Default folders are set up automatically under two of the root folders, **DataSets** and **Jobs**, when you first log on to the z/OS server (the **Unix** root folder does not have any default folders). These folders allow you to get started quickly without having to configure your own folders. They are also useful when multiple persons are using the same computer, providing each user with his own folders.

The default folders are set up as follows:

- Under the **DataSets** root folder, a default folder is created with the name "xxxxxxxx Prefix", where xxxxxxxx is the TSO User ID. The default filter is xxxxxxxx.**, which allows all data sets starting with the xxxxxxxx user ID to be viewed from this folder.

- Under the **Jobs** root folder, a default folder is created with the name "xxxxxxxx Owner", where xxxxxxxx is the TSO User ID. The default filter is set to display all jobs owned by this user ID.

You can also set up additional folders and filters for data sets and jobs, as described in the following sections.

The New Folder Wizard

You create folders for data sets, jobs, and Unix files using the **New Folder** wizard. The wizard can be invoked by right-clicking on any of the following items:

- the Serena Network icon

- a Server icon

- a root folder (**Data Sets**, **Jobs**, or **Unix**)

- a user-defined folder under the **Data Sets** or **Jobs** root folders

When the popup menu displays, you select **Serena Network → New Folder**.

The first page of the wizard that displays allows you to enter information based on which item you right-click:

If you right-click on . . .	The first page . . .
Serena Network	Allows you to specify the server name, folder type, and folder name.
Server	Allows you to specify the folder type and folder name (the server name is already known).
Root Folder or User-Defined Folder	Allows you to specify the folder name (the server name and folder type are already known).

The second page of the wizard that displays depends on the folder-type selected:

Folder Type	Second Page
Data Set	You specify pattern names for data sets to be included in the folder.
Job	You specify which jobs are to be included in the folder.
Unix	You specify the Unix path name that will be the root directory for the folder.

Detailed instructions for creating and configuring folders are provided in the following topics:

TIP You can also invoke the **New Folder** wizard by clicking **Folders** in the ChangeMan ZDD Wizard application (see "The Wizard Application" on page 142).

Data Set Folders

A data set folder has one or more data set name filters that specify what data sets are included in the folder. Each filter may be a fully specified data set name or a partially specified name containing wild characters. All data sets on the z/OS server that match one of the filters are included in the folder. A data set may exist in more than one folder.

Partitioned data sets are also represented as folders; the members are contained within the folder. Partitioned data set folder icons contain a blue dot or red diamond to distinguish them from user-defined virtual folders.

NOTE Periods are not allowed in user-defined folder names because the file system uses the presence of periods to distinguish user-defined folders from partitioned data sets (which appear as folders).

Create a Data Set Folder and Define Filters

This topic describes how to create a data set folder and define filters using the **New Folder** wizard. The examples show how to invoke the wizard by right-clicking on the Serena Network icon; see "The New Folder Wizard" on page 113 for information about invoking the wizard from a server, root folder, or user-defined folder.

NOTE Prior to ChangeMan ZDD 6.1, you could create folders using the Windows **File → New → Folder** command. Because ChangeMan ZDD started using a namespace extension with the 6.1 release, you can no longer create folders using the Windows command.

1   Right-click on the Serena Network icon and choose **Serena Network → New Folder**. The first page of the wizard displays.

2   Specify the fields as follows:

Field	Description
Server	Select a server name.
Folder type	Click the "DataSets" button.
Folder name	Type a name for the new folder using any characters allowed in Windows file names, except for period; or, if you want to change the filters for an existing folder, type the name of that folder.

3   Press **Next** to display the **Filters** page.
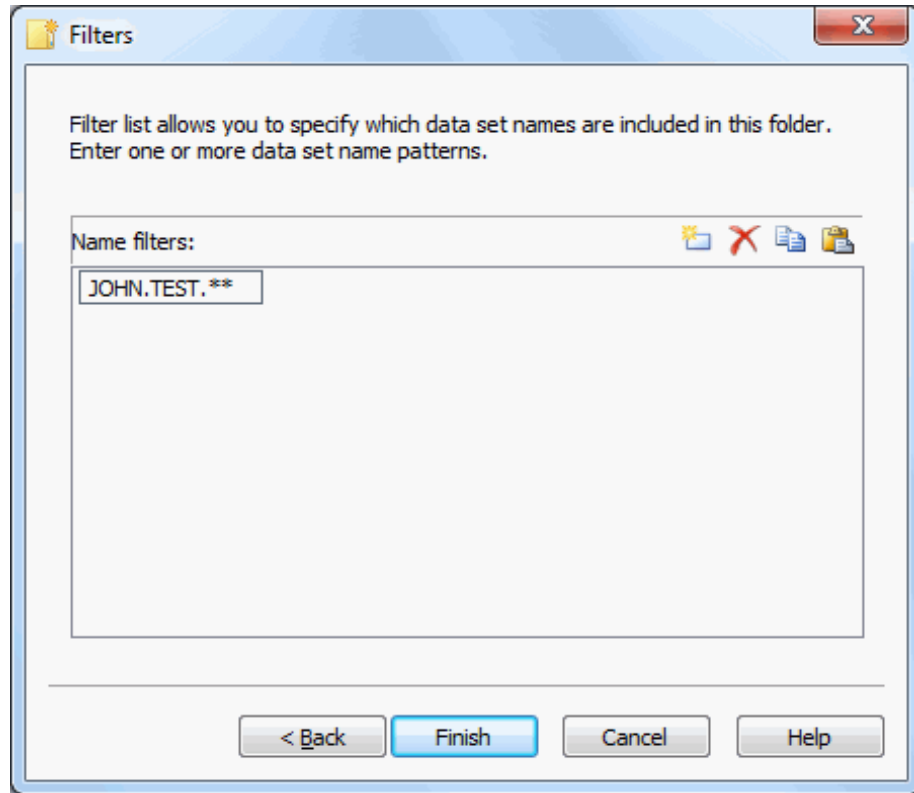
4   The **Filters** page allows you to specify which data set names are included in this folder. You may enter one or more data set name patterns. Use the buttons as follows:

- Click the **New** button to add an entry.

- Click the **Delete** button to delete an entry.

- Use the **Copy** and **Paste** buttons to copy and paste lists to/from the clipboard. This feature is useful if you have a large number of entries.

You may enter filters now or later using either the wizard described in this topic, or the **Properties** page (as described in the following topic "Alternate Method for Defining Data Set Filters").

5   Click **Finish** to create the folder.

If you defined filters in the previous step, you may view the data sets that were selected by those filters by clicking on the new folder. PDSs and PDSEs appear as folders; the members are contained within. Sequential data sets appear as files.

Alternate Method for Defining Data Set Filters

1   Right-click a data set folder under the **DataSets** root folder and choose **Properties**.

2   In the **Properties** dialog box, select the **Filters** tab.

3   Enter one or more data set name patterns.

Define Member Filters for Data Set Folders

You can define member name filters that limit which members are displayed in member lists for partitioned data sets.   The member name filters are defined as properties of the data set folder, and the filters apply to **all** libraries in the data set folder.

Since a library can appear in more than one data set folder, it is possible to have different views of the same library, each with a different set of filters.

Member name filters can include wild character:

- ***** - Matches any number of characters
- **?** - Matches a single character

To define member name filters:

1   Right-click a user defined folder under the **DataSets** root folder, and choose **Properties**.

If you are currently logged onto the z/OS server, the **Properties** dialog box for the folder displays.

If you are **not** currently logged on to the z/OS server, a logon dialog box displays. Type your User ID and Password and press **OK. T**he **Properties** dialog box for the folder displays.

2 In the **Properties** dialog box for the folder, select the **Members tab.**

3 The **Members** page allows you to specify which member names are displayed for libraries below this folder. You may enter one or more member name patterns. Use the buttons as follows:

- Click the **New** button to add an entry.

- Click the **Delete** button to delete an entry.

- Use the **Copy** and **Paste** buttons to copy and paste lists to/from the clipboard. This feature is useful if you have a large number of entries.

Define Prefixes for Data Set Folders

Data sets can be created within ChangeMan ZDD as follows:

- When a file is dragged and dropped into a ChangeMan ZDD data set folder

- When a file is created in a ChangeMan ZDD folder using the **Save as** option in Windows

Because data sets created on the client actually exist on the z/OS server, the prefix must be appropriate for the security level of the user. You can define prefixes, which will automatically be added to data set names.

A prefix consists of one or more data set name qualifiers and is specific to each folder. You associate prefixes with data set name patterns. Whenever a data set is opened in the folder, the appropriate prefix is added to the data set name if it matches one of the patterns.

For example, assume that prefix `HLQ99` is associated with pattern `**.TXT` for a certain folder. If you drag `SAMPLE.TXT` and drop it into that folder, it will be saved into a sequential data set named `HLQ99.SAMPLE.TXT`.

In order to prevent prefixes from being inserted on data set names that already contain a proper prefix, prefixes are not inserted if:

- The data set name matches one of the filters defined for the folder.

- The data set name already begins with one of the prefixes defined for the folder.

To define data set prefixes:

1 Right-click a user defined folder under the **DataSets** root folder, and choose **Properties**.

If you are currently logged onto the z/OS server, the **Properties** dialog box for the folder displays.

If you are **not** currently logged on to the z/OS server, a logon dialog box displays. Type your User ID and Password and press **OK.** The **Properties** dialog box for the folder displays.

2 In the **Properties** dialog box for the folder, select the **Prefixes tab.**
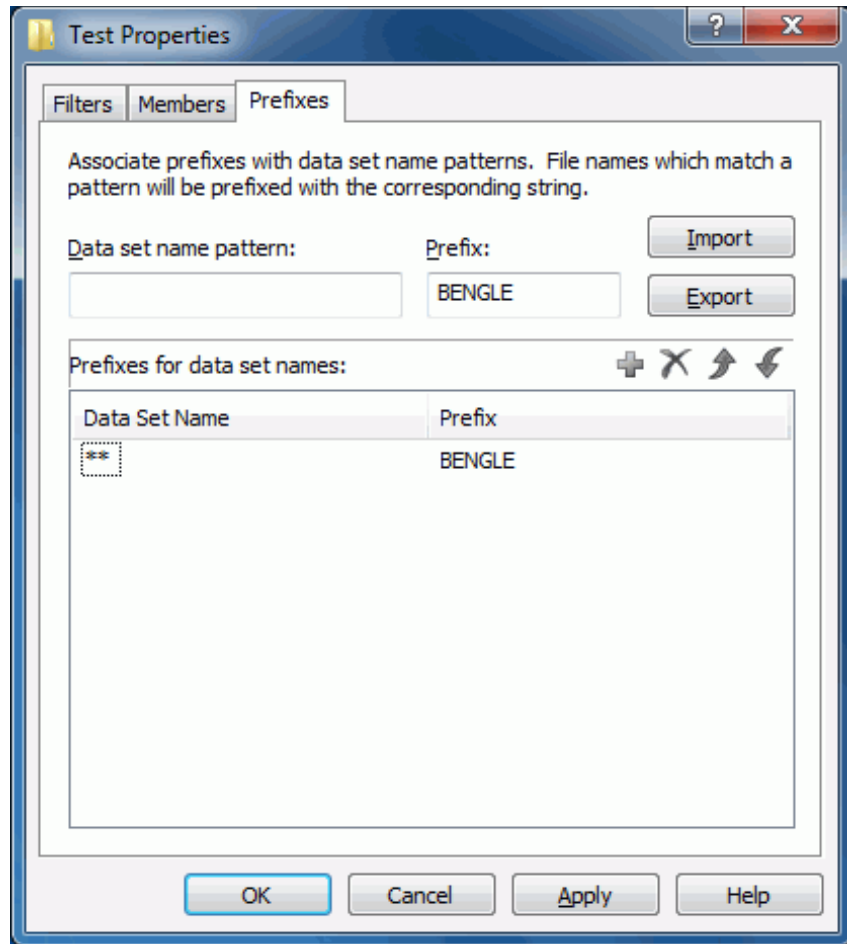
3 Fill in the fields as follows:

Field	Description
Data set name pattern	Type a pattern for data sets to receive the prefix.
Prefix	Type the prefix to be attached to data sets that match the pattern.
Import	Click to retrieve prefix associations from a file.
Export	Click to save prefix associations to a file.

4 Click ![plus icon] to add a pattern/prefix association.

5 To delete a pattern/prefix association, click ![X icon] .

6 To change a pattern/prefix association, use **one** of the following methods:

■ Delete it and add the new one.

or

■ Repeat the add process and the old entry will be overlaid.

7 Prefixes are applied to data set name patterns in a hierarchical manner, from top to bottom. To change the order, use the   buttons to reposition the entries.

Job Folders

A job folder has a single filter that determines what jobs are included in the folder. A job folder may also contain other job folders. Each job is represented as a subfolder that contains one or more sysout data sets. A job can appear in more than one folder.

All jobs on the z/OS server that match the filter (and its rules) are included in the folder.

Create a Job Folder and Define a Filter

This topic describes how to create a job folder and define a filter using the **New Folder** wizard. The examples show how to invoke the wizard by right-clicking on the Serena Network icon; see "The New Folder Wizard" on page 113 for information about invoking the wizard from a server, root folder, or user-defined folder.

NOTE Prior to ChangeMan ZDD 6.1, you could create folders using the Windows **File →New → Folder** command. Because ChangeMan ZDD started using a namespace extension with the 6.1 release, you can no longer create folders using the Windows command.

1 Right-click on the Serena Network icon and choose **Serena Network → New Folder**. The first page of the wizard displays.

2 Specify the fields as follows:

Field	Description
Server	Select a server name.
Folder type	Click the "Jobs" button.
Folder name	Type a name for the new folder using any characters allowed in Windows file names, except for period; or, if you want to change the filter for an existing folder, type the name of that folder.

3 Press **Next** to display the **Filter** page.

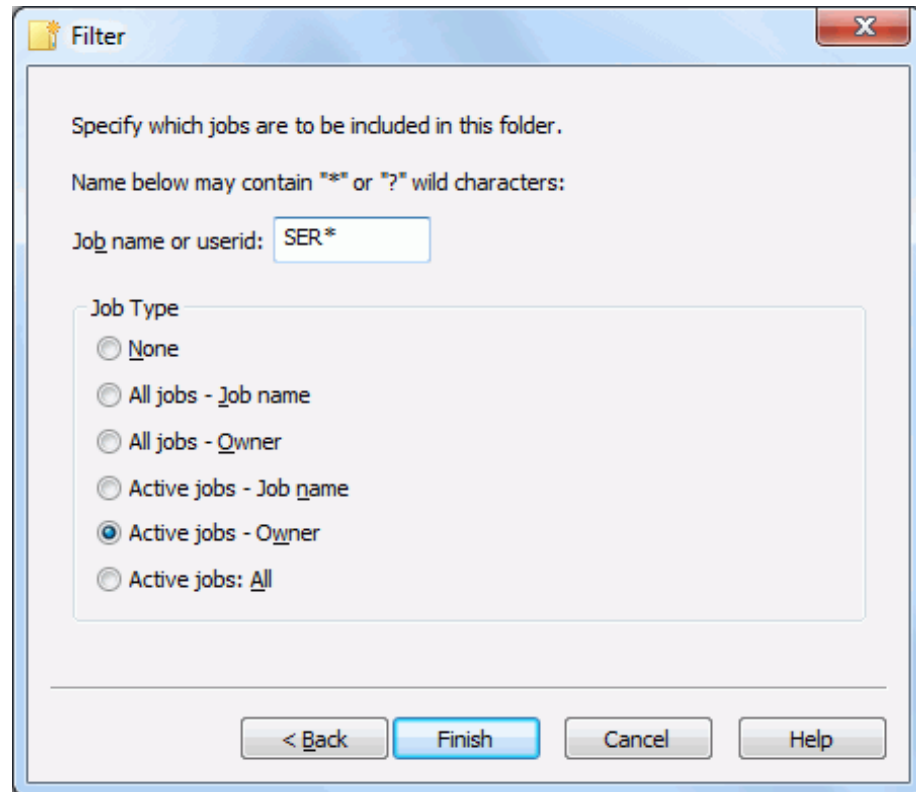**4** The **Filter** page allows you to specify a single filter that determines which jobs are included in this folder. All jobs on the z/OS server that match the filter (and its rules) are included in this folder.

You define a filter by choosing a *Job Type* and specifying a *Job Name* or *User ID*:

Field	Description
Job Type	Choose a job type. The **None** option is used when the folder will contain only other folders.
Job name or user ID	Type a job name or user ID. Wildcard characters '*' or '?' may be used. This information is used in conjunction with the Job Type to determine what jobs are included in the folder. Refer to the table on for more information.

The following table provides detailed information for specifying filters for different job types.

Job Type	Job Name or User ID	Description	Uses
None	N/A	Used when the folder will contain only other folders.	
All Jobs - Job Name	Job Name	Returns all jobs that match a job name pattern, regardless of the owner ID.	See your jobs submitted by ChangeMan ZMF, such as Build, Recompile, and Relink. Specify the job name you used on the Job statement.
All Jobs - Owner	User ID	Returns all jobs that have an owner ID equal to the specified user ID.	See all the jobs you submitted that have an owner ID equal to your user ID. Jobs submitted by ChangeMan ZMF, such as Build, Recompile, and Relink, have an owner ID equal to the instance name. You may want to use the previous option, *All Jobs - Job Name* for viewing this type of job.
Active Jobs - Job Name	Job Name	Returns all running jobs when the job name matches the specified job name.	See all started tasks with the specified job name.
Active Jobs - Owner	User ID	Returns all running jobs when the owner ID matches the specified user ID.	See all active jobs owned by the user ID.
Active Jobs - All	N/A	Returns all running jobs.	

You may specify the filter now or later using either the wizard described in this topic, or the **Properties** page (as described in the following topic "Alternate Method for Defining a Job Filter").

5 Click **Finish** to create the folder.

If you defined a filter in the previous step, you may view the jobs that were selected by that filter by clicking on the new folder:

- Jobs are represented as folders with the following name syntax: *jobname.jobid*.

- Each job contains a set of files, one for each spool (sysout) data set with the following name syntax: *dsid.jobstep.procstep.ddname.list*.

- Each job also contains a file called **.SYSOUT.list**. This file is used to access all of the job's output as a single file.

Alternate Method for Defining a Job Filter

1   Right-click a job folder under the **Jobs** root folder and choose **Properties**.

**2**   On the **Filter** page, specify the filter as follows:

Field	Description
Job Type	Choose a job type. The **None** option is used when the folder will contain only other folders.
Job name or user ID	Type a job name or user ID. Wildcard characters '*' or '?' may be used. This information is used in conjunction with the **Job Type** to determine what jobs are included in the folder. Refer to the table on page 123 for more information.

Unix Folders

To see Unix directories and files in the Windows Explorer, you must create one or more folders directly under the "Unix" folder and specify the Unix directory on the server to which each folder links. These user-defined folders work like a Unix symbolic link on the server. However, the user-defined folder names are local to the Windows machine and specific to that Windows user.

NOTE ChangeMan ZDD uses the term "folder" to refer to the user-defined virtual folders which are known only on the user's Windows machine and do not exist on the server. The term "directory" is used to refer to Unix directories that actually exist on the mainframe and are known globally to all users.

In the following example, a user created the folder "!MyStuff" and specified "/u/Payroll" as the root directory on the server. In the Windows Explorer, beneath the "!MyStuff" folder, you can see the Unix directory sub-tree rooted at "/u/Payroll".
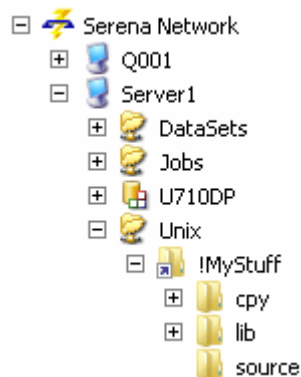
In the example above, assume that the user has a Unix file called "taxes.java" in the "source" directory. On the mainframe server, the path name for this file would be:

    /u/Payroll/source/taxes.java

In ChangeMan ZDD, the path name would be:

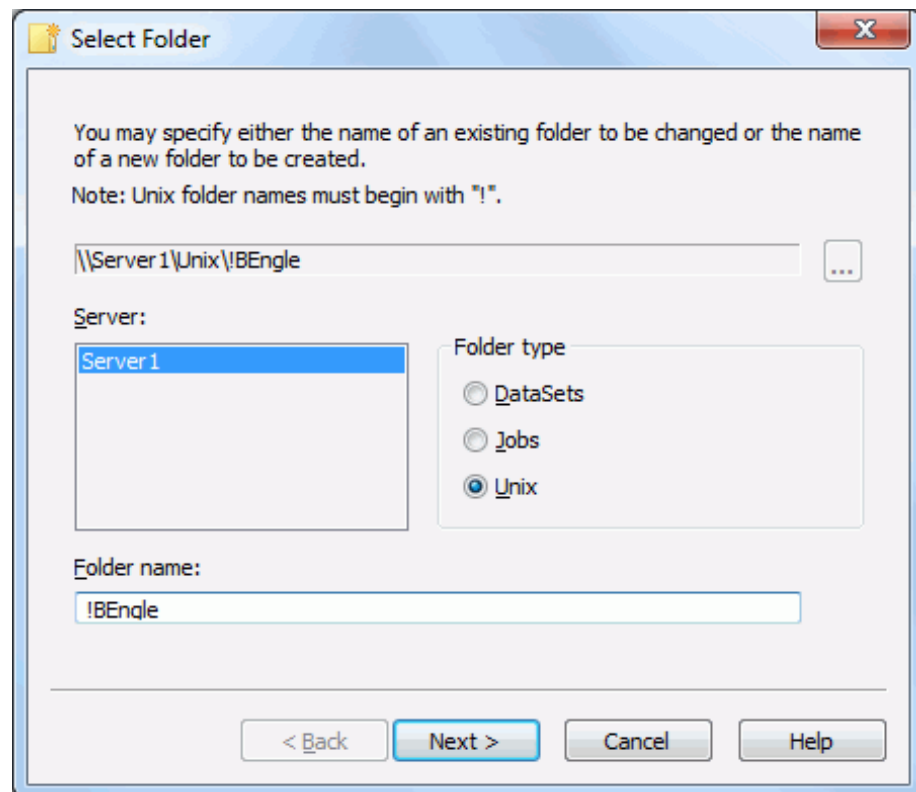   \\Server1\Unix\!MyStuff\source\taxes.java

You can also reference Unix files and directories using the Unix full path name instead of going through a user-defined folder (however, Unix files will not be displayed in the Windows Explorer unless they reside under a user-defined folder). Using the example above, the file "taxes.java" could be accessed from the command line using either of the following path names:

```
\\Server1\Unix\u\Payroll\source\taxes.java
```

```
\\Server1\Unix\!MyStuff\source\taxes.java
```

Create a Unix Folder

This topic describes how to create a Unix folder and specify the path name that will be the root directory for the folder. The examples show how to use the **New Folder** wizard by right-clicking on the Serena Network icon; see for information about invoking the wizard from a server or root folder.

1 Right-click on the Serena Network icon and choose **Serena Network → New Folder**. The first page of the wizard displays.

2   Specify the fields as follows:

Field	Description
Server	Select a server name. **NOTE** The server version must be 6.1.1 or higher for Unix support. The version used for checking is the version at the last time that you were logged on to that server. If the server version is invalid, the button for the "Unix" Folder type will not be enabled.
Folder type	Click the "Unix" button. See NOTE above for the Server field.
Folder name	Type a name for the new folder using any characters allowed in Windows file names. Unix folder names must start with the character "!" so that ChangeMan ZDD can distinguish the names from real Unix directory names (the wizard will automatically insert the "!" if you forget).

3   Click **Next** to display the **Unix Folder** page.
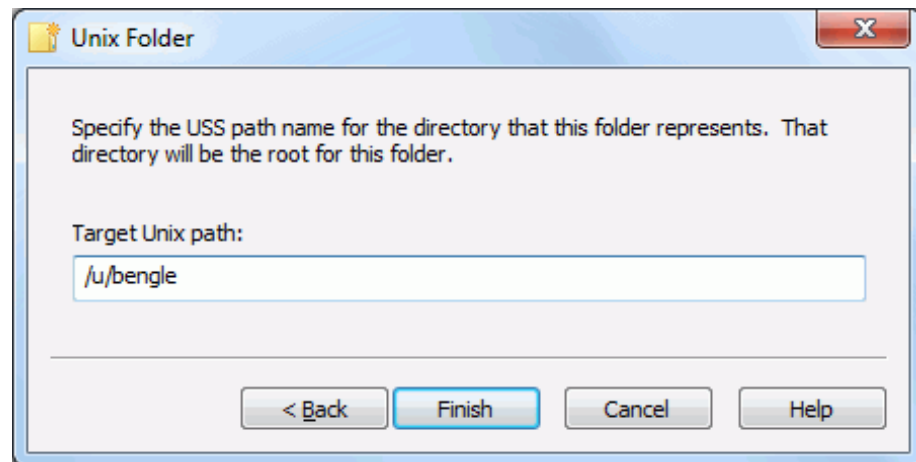
4   Specify the Unix path name that will be the root directory for the folder. This path name is a mainframe Unix path name, therefore, the separator character is a forward slash ("/"), rather than a backslash("\"). The wizard will automatically convert the separator characters if you enter them incorrectly.

5   Click **Finish** to create the folder.

The new folder will display under the Unix root folder. The arrow in the lower left corner indicates that this is a link to a Unix directory on the server. If you expand the folder, you will see the directories/files under the target path name.

Changing the Target Path Name

To change the path name for a Unix folder:

1   Right-click on a Unix folder and choose **Properties**.

2   When the Unix Folder page displays, change the path name in the **Target Unix Path** field.

Configuring Folders for ChangeMan ZMF

Overview

There are various types of folders that appear in a ChangeMan ZMF sub-tree. Each top level ChangeMan ZMF folder represents a ChangeMan ZMF instance (configured in "ChangeMan ZMF (Configure Instance)" on page 96). Except for these top level folders, folders are predefined and cannot be changed.

Refer to "Directory Structure" on page 72 for more information on folders and files in the ChangeMan ZDD hierarchy.

The following figure shows the high-level structure in Explorer:
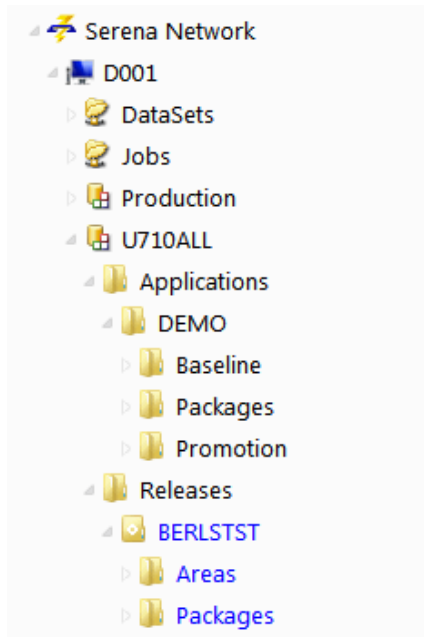

In the example above:

- D001 is a server where ChangeMan ZMF is running.

- U710ALL is a ChangeMan ZMF instance, with root folders for Applications and Releases.
  NOTE: The Releases folder displays only if the Enterprise Release Option (ERO) is licensed for the ChangeMan ZMF instance.

- Under the Applications folder is the DEMO application, which contains folders for Baseline, Packages, and Promotion. The applications that display in Explorer are determined by the filters you set up, described in "Application Filters" on page 130.

- Under the Releases folder is the BERLSTST release, which contains folders for Areas and Packages. The releases that display in Explorer are determined by the filters you set up, described in "Release Filters" on page 132.

> **NOTE** The names of folders for packages and releases display as blue text when past the install date.

Applications Structure

The following example shows the structure for the Baseline, Packages and Promotion folders under the DEMO application:
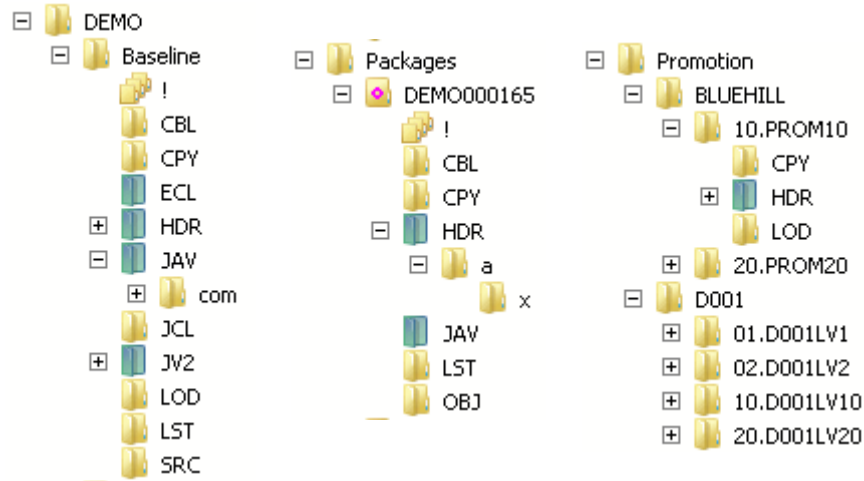
> **NOTE** The blue/green directory icons represent Unix directories.

Under the Baseline folder, there is a folder for each library type. The library type folders have the same name as the ChangeMan ZMF library type. There is a special folder named **!** (pronounced *Bang*) that displays all components in all library types. Displaying the contents of the **!** (Bang) folder is slower because the z/OS server must open multiple libraries.

Under the Packages folder, there is a folder for each package that matches the package filters, described in "Package Filters" on page 136. Within each package folder, there is a folder for each library type, similar to the structure under the Baseline folder.

Under the Promotion folder, there is a folder for each promotion site. Under each promotion site, there is a folder for each promotion level; and within each promotion level, there is a folder for each promotion library type.

> **NOTE** If there is more than one library defined for a promotion library type, they display in ChangeMan ZDD with a number suffix. For example, if you have two libraries defined for JCL, they display as JCL.1 and JCL.2.
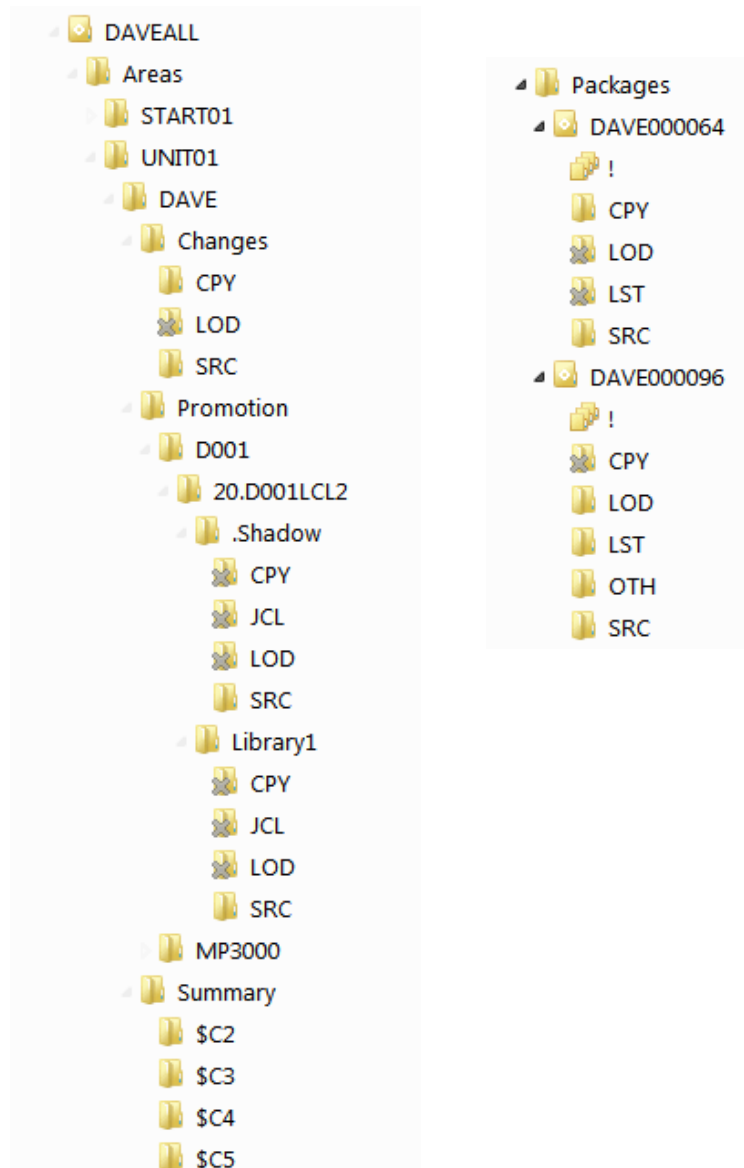
> **TIP** To see the description for a library type, hold the mouse pointer over the library folder in the "right pane" of Explorer.

Releases Structure

The following example shows the structure for the DAVEALL release under the Releases root folder.

```
DAVEALL
  Areas
    START01
    UNIT01
      DAVE
        Changes
          CPY
          LOD
          SRC
        Promotion
          D001
            20.D001LCL2
              .Shadow
                CPY
                JCL
                LOD
                SRC
              Library1
                CPY
                JCL
                LOD
                SRC
            MP3000
        Summary
          $C2
          $C3
          $C4
          $C5

  Packages
    DAVE000064
      !
      CPY
      LOD
      LST
      SRC
    DAVE000096
      !
      CPY
      LOD
      LST
      OTH
      SRC
```

Below each release are two folders: Areas and Packages.

- **Areas** lists the areas for the release. In the above example, the START01 and UNIT01 areas are displayed.

- **Packages** lists the packages for the release.

Below each area folder is a list of applications for that release. In the above example, under the UNIT01 area, the DAVE application is displayed.

Below each application are three folders: Changes, Promotion, and Summary.

- **Changes** lists the Release area libraries containing components changed in the release.

- **Promotion** provides access to the promotion libraries from the ERO side of the directory tree.

- **Summary** lists a summary set of components that make up a release, including those inherited from other releases.

The ERO structure is described in more detail in "Releases Directory Tree" on page 331.

Unix Components

Baseline library folders, package library folders, and promotion library folders can represent either partitioned data set (PDS) libraries or Unix directories. When the folder represents a Unix directory, it is displayed as a blue/green folder in Windows Explorer.

Unlike PDS library folders, the Unix library folders are hierarchical and can contain subdirectories. Unix component names can include subdirectory names, separated by the Unix path separator character, which is a forward slash ("/") .

Example: com/taxes.java

Application Filters

Filters can be set up for each ChangeMan ZMF instance to select which applications display under the Applications folder in Explorer. The initial default is a single asterisk, which represents all applications.

1 Right-click the Applications folder under a ChangeMan ZMF instance and choose **Properties** to display the **Applications Properties** dialog box.
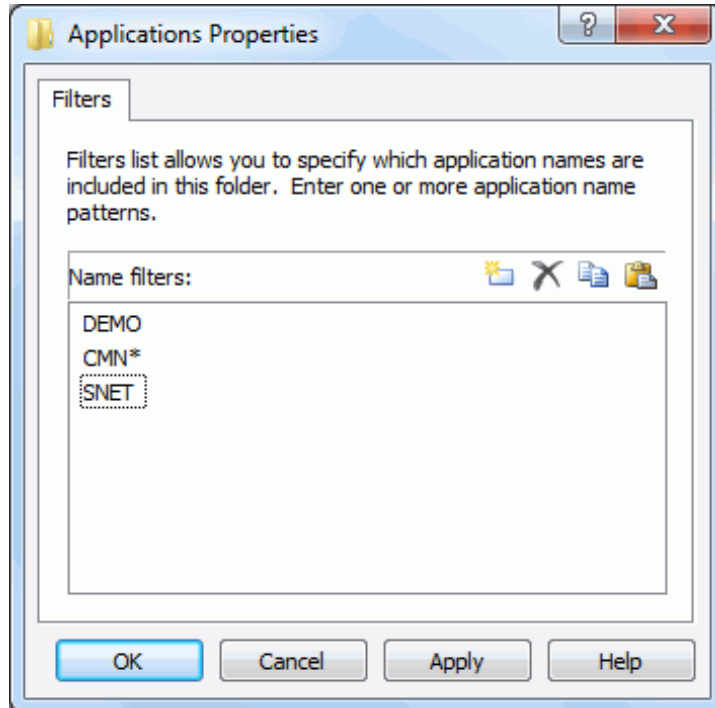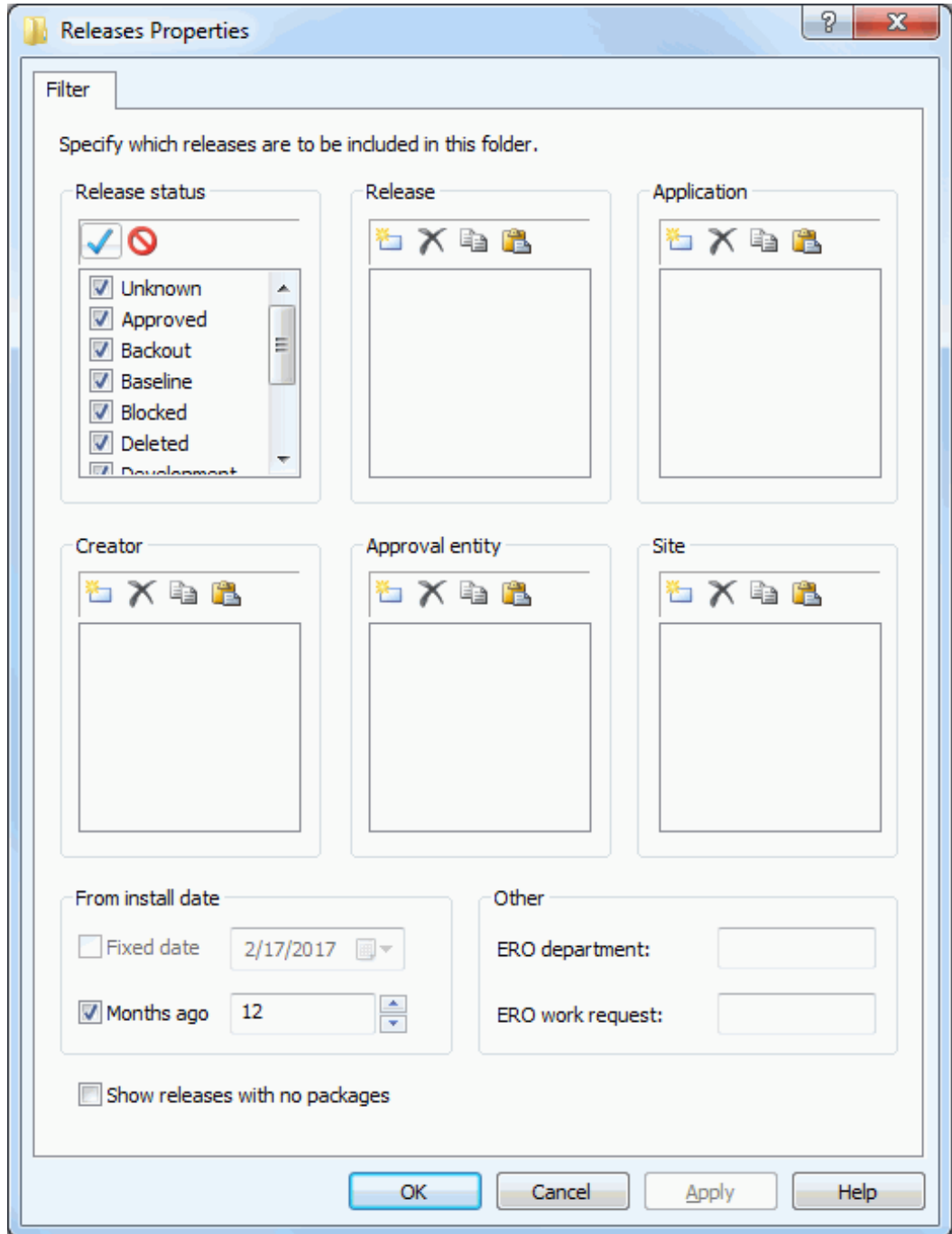

2 A single asterisk represents all applications. If you only want to access specific applications, you must first delete the asterisk by selecting it and clicking ✖ .

3 To add an entry, click 🗋 to get a text box and type an application name or pattern.

4   To delete a pattern, select it and click ![X icon] .

5   Use the **Copy** and **Paste** buttons to copy and paste lists to/from the clipboard. This feature is useful if you have a large number of entries

Release Filters

Filters can be set up for each ChangeMan ZMF instance to select which releases display under the Releases folder in Explorer.

1   Right-click the Releases folder under a ChangeMan ZMF instance and choose **Properties** to display the **Releases Properties** dialog box.

2   Releases may be filtered on any of the following entities:

- Release Status

- Release

- Application

- Creator

- Approval Entity

- Site

- From Install Date

- Department

- Work Request

For filtering releases by install date, you can specify the starting date in either of two ways:

■ Install dates from a fixed date

■ Install dates from a specified number of months ago (months before current date)

File Formats (ChangeMan)

Each ChangeMan ZMF component has a local file format associated with it. The file format specifies what type of conversion is performed when data is transferred between the server and your computer. The native character code for z/OS servers is EBCDIC; for personal computers it is ASCII.

The file formats are:

■ ASCII Text

■ EBCDIC Text

■ Unicode Text

■ UTF-8 Text

■ Binary

ASCII Format

Data is converted from EBCDIC to ASCII when it is transferred from the server to your PC; the data is converted back to EBCDIC when it is transferred back to the server. This is usually the desired behavior so that the data is usable on both the server and your PC.

EBCDIC Format

Character conversions are not performed: the data remains in EBCDIC format on both the server and your PC. The data on your PC is only usable by special programs designed to process EBCDIC data. SPF/PC is a text editor that can be used to edit EBCDIC data on your PC.

'Text' Formats

When Text formats are transferred from the server to your PC, trailing spaces are trimmed and a carriage return/line feed (CR LF) sequence is appended to the end of each line. The CR and LF characters are stripped off when the data is transferred back to the server. This is usually the desired behavior for files that contain text, since CR LF is the standard way of delimiting lines of text on a PC.

Binary Format

The "Binary" format is for record format "V" or "U" data sets that contain binary data. When the file is downloaded to Windows, no character translation is performed and no line terminator characters are inserted. No changes at all are made to the binary data.

When data is uploaded, records are filled to the maximum length, except the last record, which may be a short record.

This format is appropriate for record format "V" or "U" data sets or Unix files only, and not for record format "F", data sets. The reason for this restriction is that, when uploading into a record format "F" data set, there can be no short record at the end, and the last record must be padded with spaces to fill the fixed length record. Thus, when downloading the file again, you would find blanks appended to the end of the binary data.

'Binary CRLF' File Format

The "Binary CRLF" format is for record format "V" data sets that contain binary data. When the file is downloaded to Windows, line terminator characters (CR LF) are appended to the end of each record. No changes are made to the actual binary data.

This format is appropriate for record format "V" data sets only, and not for record format "F", data sets. The reason for this restriction is that, when uploading into a record format "F" data set, the records must be padded with spaces to fill the fixed length records. Thus, when downloading the file again, you would find blanks inserted into the binary data.

The "Binary CRLF" format is available for SerNet 7.1.1+ servers only.
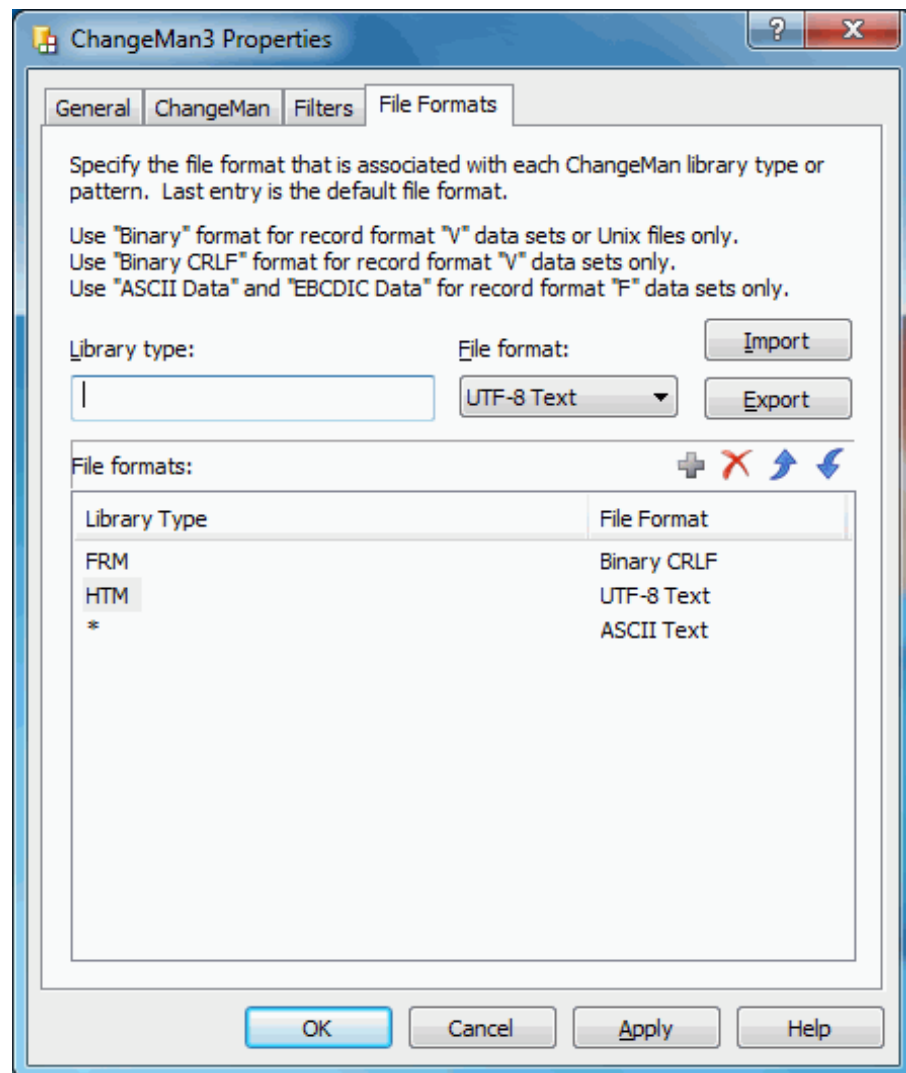
File Format Usage

The table below summarizes how data is represented on the client and server for each of the file formats:

	Client		Server	
File Format	**Char Code**	**Line Term**	**Char Code**	**Line Term**
ASCII Text	ASCII	CR LF	EBCDIC	None
EBCDIC Text	EBCDIC	CR LF	EBCDIC	None
Unicode Text	Unicode	CR LF	EBCDIC	None
UTF-8 Text	UTF-8	CR LF	EBCDIC	None
Binary	Binary	None	Binary	None
Binary CRLF	Binary	CR LF	Binary	None

File formats are mapped to ChangeMan ZMF component library types. You can use wild characters in the library type name. For example, you could specify that all ZMF components of library type BIN contain binary data. The default file format is ASCII Text.

Configure File Formats

1 In Windows Explorer, navigate to a server icon [icon]. Right-click and choose **Properties**. The server Properties dialog box displays.

2 Select the **File Formats** tab.

3   The default file format (for pattern *) is **ASCII Text.** To associate file formats with specific file names or patterns, fill in the fields as follows:

Field	Description
Library type	Type a library type or pattern. For example: **Z*** would apply to **all** library types that begin with "Z". The following library types would be affected: ■ ZAA ■ ZYX See "Wildcard Patterns" on page 76 for more information about pattern names.
File format	Select a format from the drop-down menu.
Import	Click to retrieve file format associations from a file.
Export	Click to save file format associations to a file.

4   Click ╋ to add a file format association.

5   To delete a file format association, click ✕ .

NOTE The * pattern cannot be deleted, but the associated file format can be changed.

6   To change a file format association, use one of the following methods:

■   delete it and add the new one

or

■   repeat the add process and the old entry will be overlaid

7   File formats are applied to library type name patterns in a hierarchical manner, from top to bottom. To change the order, use the ⬆ ⬇ buttons to reposition the entries.

Package Filters

You can select which packages display in Explorer by setting up package filters. For each ChangeMan ZMF application, you can filter packages by *Package Status*, *Department*, *Creator User ID*, *Package Number Range*, and *Install Date Range*. The initial defaults allow all packages to display.

1   Right-click the **Packages** folder for a ChangeMan ZMF application and choose **Properties**. The **Packages Properties** dialog box displays.

2 Select the **Filter** tab.

3 Enter the specifications as follows:

Field	Description
Package status	Select or deselect the statuses for packages you want to display.
Department	Enter any number of department names to display only packages created with those department names. **NOTE:** Wild characters "*" and "?" are allowed: "*" matches any number of characters and "?" matches a single character. **Using the Buttons** Click the **New** button to add an entry. Click the **Delete** button to delete an entry. The **Copy** and **Paste** buttons allow you to copy and paste lists to/from the clipboard. This feature is useful if you have a large number of entries. For example, you can create a list of entries in a text file and distribute it to several users; they can then copy the entries from the text file and use the **Paste** button to paste them into this field on their Package Properties Filter page. The entries in the text file should be separated by spaces, or entered on a separate line. Alternately, if one user already has a large number of entries on the Filter page, he can use the **Copy** button to copy them to a text file and then distribute that file to other users.
Creator	Enter any number of TSO user IDs to display only packages created by those user IDs. **NOTE:** Wild characters "*" and "?" are allowed: "*" matches any number of characters and "?" matches a single character. **Using the Buttons** Click the **New** button to add an entry. Click the **Delete** button to delete an entry. The **Copy** and **Paste** buttons allow you to copy and paste lists to/from the clipboard. This feature is useful if you have a large number of entries. For example, you can create a list of entries in a text file and distribute it to several users; they can then copy the entries from the text file and use the **Paste** button to paste them into this field on their Package Properties Filter page. The entries in the text file should be separated by spaces, or entered on a separate line. Alternately, if one user already has a large number of entries on the Filter page, he can use the **Copy** button to copy them to a text file and then distribute that file to other users.
Package number	Select a range of package numbers that you want to display: ■ To specify a beginning package number, select **First Number** and enter a number in the text box. ■ To specify an ending package number, select **Last Number** and enter a number in the text box.

Field	Description
From Install Date	Select packages by install date. You can specify the starting install date in either of two ways: ■ Install dates from a fixed date ■ Install dates from a specified number of months ago (months before current date)
From Creation Date	Select packages by creation date. You can specify the starting install date in either of two ways: ■ Creation dates from a fixed date ■ Creation dates from a specified number of months ago (months before current date)

Define Member Filters for ChangeMan Components

You can define member name filters that limit which members are displayed in member lists for ChangeMan libraries.

The member name filters are on the folders directly beneath the application folder. The filters are user-specific, so in a multi-user system each user has separate filters.

The member name filters can be defined as properties any of the following folders:

- **Baseline** folder

- **Packages** folder

- **Promotion** folder

The filters apply to all libraries below the filters folder in the tree. The filters apply to partitioned data set libraries only, and do not apply to Unix directories.

Member name filters can include wild character:

- ***** - Matches any number of characters

- **?** - Matches a single character

To define member name filters:

1 Right-click either the **Baseline**, **Packages**, or **Promotion** folder under the ChangeMan application, and choose **Properties**.

If you are currently logged onto the z/OS server, the **Properties** dialog box for the folder displays.

If you are **not** currently logged on to the z/OS server, a logon dialog box displays. Type your User ID and Password and press **OK. T**he **Properties** dialog box for the folder displays.

2   In the **Properties** dialog box for the folder, select the **Members tab.**

3   The **Members** page allows you to specify which member names are displayed for libraries below this folder. You may enter one or more member name patterns. Use the buttons as follows:

- Click the **New** button to add an entry.

- Click the **Delete** button to delete an entry.

Use the **Copy** and **Paste** buttons to copy and paste lists to/from the clipboard. This feature is useful if you have a large number of entries.

Chapter 4
Using ChangeMan ZDD

This chapter describes the various features of ChangeMan ZDD and how to use them.

The Wizard Application

The Wizard application simplifies some commonly performed setup tasks. Using the wizard, you can:

- Add and remove servers and change server properties.

- Create and configure virtual folders for data sets, jobs, and Unix files.

- Configure file formats.

- Configure file extensions.

- Define data set profiles for creating new data sets.

- Specify data set names for CA-Panvalet® and CA-Librarian® libraries.

To launch the wizard: choose **Start → Programs → ChangeMan ZDD → ChangeMan ZDD Wizard**.
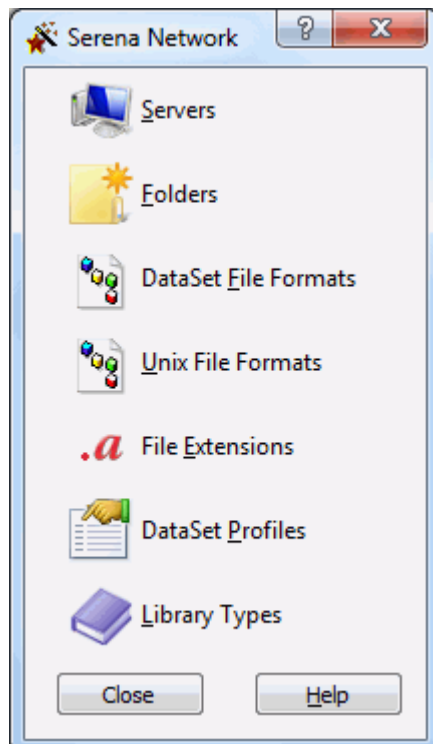
Servers

Click the **Servers** icon to go to the Servers dialog box where you can choose to add a server, remove a server, or change server properties.

See "Add/Remove/Configure Server" on page 88 for detailed instructions.

Folders

Click the **Folders** icon to create and configure virtual folders for data sets, jobs, and Unix files.

See "Configuring Folders for Data Sets, Jobs, and Unix Files" on page 112 for detailed instructions.

File Formats

Click the **File Formats** icon to select one or more servers to be changed. You can then associate file formats with specific data set names or patterns.

See "File Formats (Data Sets)" on page 100 for detailed instructions.

File Extensions

Click the **File Extensions** icon to select one or more servers to be changed. You can then associate File Extensions with specific data set names or patterns.

See "File Extensions" on page 143 for detailed instructions.

Data Set Profiles

Click the **Data Set Profiles** icon to select one or more servers to be changed. You can then define data set profiles for new data sets created on the selected servers.

See "Data Set Profiles" on page 143 for detailed instructions.

Library Types

Click the **Library Types** icon to select one or more servers to be changed. You can then specify data set names for Panvalet and Librarian libraries.

See "Library Types" on page 143 for detailed instructions.

Logging on to a Server

To log on to a server, right click on either a server or a ChangeMan instance, and select **Serena Network → Logon** from the popup menu. You can implicitly request a log on by simply opening or accessing a folder that resides on the server.

When you log on, the Logon dialog box will be displayed to prompt you for connection information.

The following table describes the fields on the **Logon** dialog box.

Field / Box	Description
User ID	Enter the TSO user ID for the connection.
Password	Enter the password for your TSO user ID. The password may be filled in automatically if you have the "Save password" box checked. This field will be disabled if you have the "Use Windows password" box checked.
Address	IP address, or the DNS name for the z/OS server. This is defined in the server properties, and this field cannot be modified.
Port	TCP port number for the server or ChangeMan instance. This is defined in the server or ChangeMan properties, and this field cannot be modified.
Process	Name of the process (program) and process ID for the application requesting the connection.
Save password	Check this box to save the password for this TSO user ID. Next time you log on to the same server with the same user ID, the password will be automatically retrieved and filled in.
Use Windows password	Check this box to use your Windows password as your TSO user ID password. The password field will be disabled if this box is checked.
Change password	Check this box to change your password. You will be prompted for the new password.

Saving Passwords

If the "Save password" box is checked, the **Logon** dialog box will try to retrieve a previously saved password for the specified user ID, and will save the encrypted password upon completion of a successful connection.

If the "Save password" box is not checked, the dialog box will neither save passwords, nor retrieve saved passwords. Also, if the "Save password" box is not checked, any previously saved password will be deleted.

Note that if you uncheck the "Save password" box, it will not clear any password that might already be filled in. Any password that is already filled in may well have been entered by the user, and is not necessarily a saved password.

If a connection fails due to an invalid or expired password, any saved password will automatically be deleted to prevent the invalid password from being used again.

Changing Passwords

If the "Change password" box is checked, the Change Password dialog box will display to prompt you for the new password, or password phrase. You must enter the new password twice to confirm.
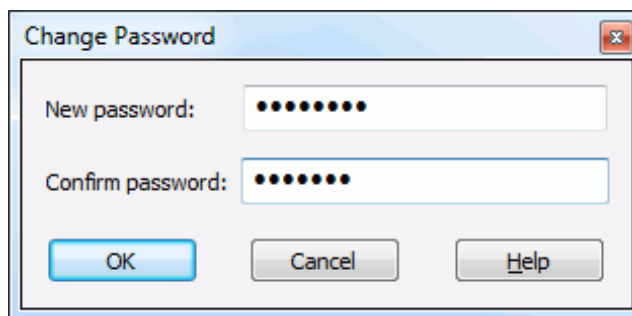
Drag and Drop Operations

There are two types of drag and drop operations. Normal drag and drop operations with the left mouse button perform a standard action, which is usually to copy or move the files. Using the right mouse button to drag and drop displays a popup context menu, from which you can choose the command to be performed.

Drag and drop works differently with namespace extensions than with the standard file system namespace. With the file system namespace, drag and drop operations are handled entirely by the Windows Explorer, and ChangeMan ZDD has no control over how they are processed. Namespace extensions, however, handle their own drag and drop operations and can do so in a way that makes sense in the context of the namespace extension.

The standard Windows Explorer processing for drag and drop often results in handling that is very inefficient, or in handling that does not make sense for a particular drop target. The standard processing is to read a file from the drag source location and then write it to the drop target location.

If you drag a data set (or PDS member) and drop it on another data set, the standard processing downloads the data set when the Explorer reads it and then uploads it back again when the Explorer writes it. The Serena Network namespace extension handles the

drag and drop by copying directly from one data set to the other, avoiding the overhead of uploading and downloading.

The Serena Network namespace extension handles drag and drop operations in ways that make sense in the context of a particular drop target. For example, you may submit a job by simply dropping a JCL file onto the "Jobs" folder.

Left-Button Drag and Drop

The following table summarizes the handling of left mouse-button drag and drop operations by ChangeMan ZDD. This table applies only to drop target locations within the Serena Network namespace extension.

Drop Target	Drag Source	Command
Server "Data Sets" folder	Windows file	Upload to data set
	Data set PDS member Unix file	Copy to data set
Data set PDS member	Windows file	Upload to data set
	Data set PDS member Unix file Baseline library Baseline component Package library Package component Promotion library Promotion component	Copy to data set
Unix folder Unix directory Unix file	Windows file Windows folder	Upload to Unix directory
	Unix directory Unix file	Copy to Unix directory (Ctrl key + left mouse-button) Move to Unix directory (left mouse-button only)
	Data set PDS member Baseline library Baseline subdirectory Baseline component Package library Package subdirectory Package component Promotion library Promotion subdirectory Promotion component	Copy to Unix directory
"Jobs" folder	Windows file Data set (sequential) PDS member Baseline component Package component Promotion component	Submit JCL

Drop Target	Drag Source	Command
Application "Packages" folder Package Package library Package subdirectory	Baseline library Baseline subdirectory Baseline component Promotion library Promotion subdirectory Promotion component	Check out
	Windows file Windows folder PDS member Unix directory Unix file	Check in
Promotion site Promotion level Promotion library Promotion subdirectory	Package library Package subdirectory Package component	Promote

Right-Button Drag and Drop

When you drag files with the right mouse button, a popup context-menu displays when you drop onto the target location. The following table summarizes the commands that are available using the right mouse-button drag and drop.

NOTE Some commands listed may not be available, depending on other factors, such as package type, component status, and so on.

Drop Target	Drag Source	Command
Server	Windows file	Upload to data set Submit JCL
	Data set (sequential) PDS member Unix file Baseline component Package component Promotion component	Copy to data set Submit JCL
	Data set (PDS) Baseline library Package library Promotion library	Copy to data set
ChangeMan instance	Data set (sequential) PDS member Unix file Baseline component Package component Promotion component	Submit JCL Submit XML
Data Sets" folder	Windows file	Upload to data set
	Data set PDS member Unix file	Copy to data set
Data set PDS member	Windows file	Upload to data set
	Data set PDS member Unix file Baseline library Baseline component Package library Package component Promotion library Promotion component	Copy to data set

Drop Target	Drag Source	Command
Unix folder Unix directory Unix file	Windows file Windows folder	Upload to Unix directory
	Unix directory Unix file	Move to Unix directory Copy to Unix directory
	Data set PDS member Baseline library Baseline subdirectory Baseline component Package library Package subdirectory Package component Promotion library Promotion subdirectory Promotion component	Copy to Unix directory
Windows file or folder on your local computer	Data set PDS member Unix file Unix directory	Download to Windows folder
"Jobs" folder	Windows file Data set (sequential) PDS member Baseline component Package component Promotion component	Submit JCL
Application "Packages" folder	Windows file Data set (sequential) PDS member Package component	Check in Submit XML
	Baseline library Baseline subdirectory Promotion library Promotion subdirectory	Check out
	Baseline component	Check out Submit XML
	Promotion component	Check in Check out Submit XML

Drop Target	Drag Source	Command
Package Package library Package subdirectory	Windows file Data set (sequential) PDS member	Check in Submit XML
	Baseline library Baseline subdirectory Promotion library Promotion subdirectory	Check out Scratch
	Baseline component	Check out Recompile Relink Rename Scratch Submit XML
	Package component	Check in Recompile Relink Submit XML
	Promotion component	Check in Check out Recompile Relink Rename Scratch Submit XML
Promotion site Promotion level Promotion library Promotion subdirectory	Package library Package subdirectory	Promote Demote
	Package component	Promote Demote Submit XML

Menu Commands

ChangeMan ZDD adds some commands to the Explorer popup menus. When you right-click an item in the Explorer window and select **Serena Network**, a context menu displays with commands that are appropriate for the item.
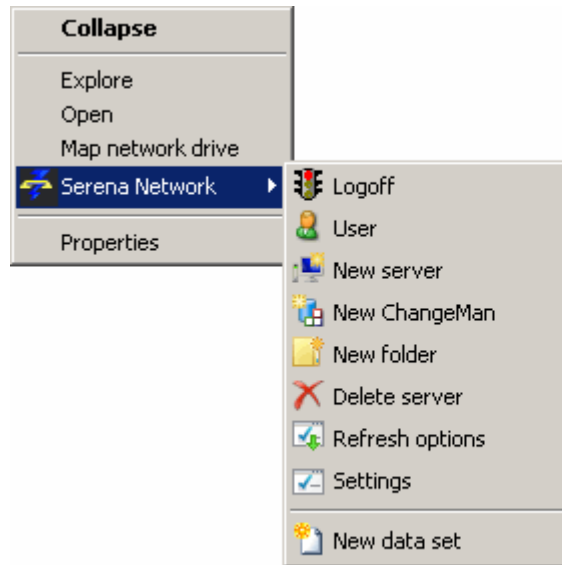
Following is a summary of those commands that may be added by ChangeMan ZDD:

This command	Performs this function	When this item is selected
All Release Versions	Display the **Release Component Versions** dialog box, which lists information for each version of a component in ERO, and gives you the option to compare or merge different versions.	A release component.
Approvals	Display the **Package Approval** dialog box.	A ChangeMan application, a "Packages" folder, or a package in an eligible state.
Audit Package	Audit a ChangeMan ZMF package.	A ChangeMan application, a "Packages" folder, or a package in DEV status.
Back Out Package	Back out a package.	A ChangeMan application, a "Packages" folder, or a package in an eligible state.
Build	Build a ChangeMan ZMF component.	A component in a package.
Cancel Job	Cancel a job.	A job.
Cancel Job Purge	Cancel a job and purge output.	A job.

This command	Performs this function	When this item is selected
Check In	Copy a component to a ChangeMan ZMF package, and optionally build it (Stage from Development).	A package.
Check In to Next Area	Copy components from the libraries for one area into the libraries for another area.	In a release: an area, an application, a "Changes" folder, a "Changes" library, or a "Changes" component.
Check In to Release	Copy components from a package attached to a release into the starting subsystem area defined for that package.	In a release: a package, a package library, or a package component.
Check Out	Check Out a component from a ChangeMan ZMF library.	A component in a baseline or promotion folder.
Check Out To Package	Check out components to your package from releases that have not been installed, or from a baseline or promotion library.	An application, a release, a "Packages" folder, a package, or a package library.
Close Package	Change a complex/super package from open status to closed status.	A complex/super package in open status.
Compare Files	Compare two files. Invokes ChangeMan Diff.	A file, data set, member, or ChangeMan ZMF component.
Component History (Full)	Display the full history for a component.	A component in a package. This command can also be invoked from the "Package Utility" dialog box by clicking the **Full History** button. **Note:** The "Package Utility" dialog box is displayed for the **Scratch and Rename Requests** command.
Component History (Short)	Display a short history for a component.	A component in a package. This command can also be invoked from the "Package Utility" dialog box by clicking the **Short History** button. **Note:** The "Package Utility" dialog box is displayed for the **Scratch and Rename Requests** command.
Compress Data Set	Compress a partitioned data set.	A partitioned data set.

This command	Performs this function	When this item is selected
Copy to Data Set (source is non-Unix)	Copy a non-Unix source to a data set or member (without downloading the data to Windows - the copy occurs on the mainframe server). The source and target can be on different servers. If the target data set does not exist, you will be prompted to create it using the **New Data Set** dialog box.	Data set or PDS member Baseline library or component Package library or component Promotion library or component The **Copy to Data Set** function can also be invoked by dragging and dropping an item to a data set or member.
Copy to Data Set (source is Unix file)	Copy a Unix file to a data set or member. The target data set must already exist and must be on the same server as the source file.	A Unix file. The **Copy to Data Set** function can also be invoked by dragging and dropping a Unix file to a data set or member.
Copy to Unix Directory (source is other than a native Unix file or directory)	Copy a source (other than a Unix file or directory) to a Unix folder or directory. The source and target must be on the same server.	Data set or PDS member Baseline library, component, or subdirectory Package library, component, or subdirectory Promotion library, component, or subdirectory The **Copy to Unix Directory** function can also be invoked by dragging and dropping an item to a Unix folder or directory.
Copy to Unix Directory (source is a native Unix file or directory)	Copy a Unix file or directory to a Unix folder or directory. The source and target must be on the same server.	A Unix file or directory. The **Copy to Unix Directory** function can also be invoked by holding down the **Ctrl** key while dragging and dropping a Unix file or directory to a Unix folder or directory.
Delete ChangeMan	Remove a ChangeMan ZMF instance.	A ChangeMan instance.
Delete Components	Selectively remove components from a package.	A package, a package library, or package components.
Delete Output	Delete job output from hold queue.	A job or job output.
Delete Package	Memo-delete a ChangeMan ZMF package.	A package in DEV status.
Delete Server	Remove a server.	A server.
Demote	Demote a ChangeMan ZMF package or component.	A release, a release area, package, a package library, or a component in a package library.

This command	Performs this function	When this item is selected
Download to Windows Folder	Download a Unix file, Unix directory, data set, member, or JES spool file to a Windows folder. This command supports long Unix path names, as the normal drag and drop onto a Windows folder is handled by Microsoft components that only supports path names up to 259 characters.	A Unix file, Unix directory, data set, member, or JES spool file. The **Download to Windows Folder** function can also be invoked by dragging a Unix file, Unix directory, data set, member, or JES spool file with the right mouse-button and dropping it on a file or folder on your local computer.
Edit	Edit a file. Invokes either ChangeMan Edit or a text editor you specified on the Editor tab of Serena Network Properties.	A file, data set, member, or ChangeMan ZMF component. **NOTE** If the item selected is read-only, the Edit command will not be available on the popup menu; the View command will display instead.
Freeze Package	Freeze a package that is currently in DEV status.	A ChangeMan application, a "Packages" folder, or a package in DEV status.
Limbo Packages	Display or change packages in limbo. **NOTE** This function is available only for users who have "Monitor" permissions in ChangeMan ZMF.	A ChangeMan instance, a ChangeMan application, a "Packages" folder, or a package.
Lock	Lock a ChangeMan ZMF component.	A component in a package.
Logoff	Disconnect from a server.	A server.
Logon	Connect to a server.	A server.
Merge Files	Merge two files. Invokes ChangeMan Diff.	A file, data set, member, or ChangeMan ZMF component.
Move to Unix Directory	Move a Unix file or directory to a Unix folder or directory. The source and target must be on the same server.	A Unix file or directory. The **Move to Unix Directory** function can also be invoked by dragging and dropping a Unix file or directory to a Unix folder or directory.
New ChangeMan	Add a ChangeMan ZMF instance.	A server.
New Data Set	Create a new data set.	A "DataSets" folder, a data set folder, or a data set. To use the properties of an existing data set, select that data set and then choose the **New Data Set** command. The dialog box will display the properties of the selected data set.

This command	Performs this function	When this item is selected
New Folder	Create a new folder for data sets, jobs, or Unix files.	A server, a "DataSets" root folder, a data set folder, a "Jobs" root folder, a job folder, or a "Unix" root folder.
New Member	Create a new, empty member in a partitioned data set.	A partitioned data set.
New Package	Create a new ChangeMan ZMF package.	A ChangeMan instance, a ChangeMan application, or a "Packages" folder.
New Unix Directory	Create a Unix directory.	A Unix folder, directory, or link.
New Unix File	Create a Unix file.	A Unix folder, directory, or link.
New Unix Link	Create a Unix link.	A Unix folder, directory, or link.
Open Package	Change a complex/super package from closed status to open status.	A complex/super package in closed status.
Promote	Promote a ChangeMan ZMF package or component.	A release, a release area, package, a package library, or a component in a package library.
Rebuild JCL	Resubmit an install JCL build request.	A package in frozen or approved status.
Recall Data Set	Recall a data set from offline storage.	A data set or a ChangeMan ZMF library.
Recompile	Recompile a ChangeMan ZMF component.	A SRC or "Like SRC" component in a baseline or promotion folder.
Refreeze Components	Selectively refreeze components in a frozen package.	A package in frozen status, a package library, or package components in unfrozen status.
Refreeze Package	Refreeze package information in a frozen package.	A ChangeMan application, a "Packages" folder, or a package in frozen status.
Refresh	Refresh all lists below the item selected in Windows Explorer.	A ChangeMan ZDD item under the Server level in Windows explorer.
Refresh Options	Refresh cached ZDDOPTS information without logging off Windows.	A server or a ChangeMan instance.
Relink	Relink a ChangeMan ZMF component.	A LOD, "Like LOD", or LCT component in a baseline, promotion, or package folder.
Rename Component	Add a component rename request to a package. This request will rename a component in the baseline libraries when the package is installed.	A baseline component.
Requeue Output	Requeue job output from hold queue.	A job or job output.

This command	Performs this function	When this item is selected
Reset Audit Lock	Reset audit pending lock for a package.	A ChangeMan application, a "Packages" folder, or a package.
Revert Package	Revert a frozen package back to DEV status (unfreezes the package).	A ChangeMan application, a "Packages" folder, or a package in frozen status.
Scheduler	Display or change the package installation schedule for the ChangeMan ZMF scheduler. **NOTE** This function is available only for users who have "Monitor" permissions in ChangeMan ZMF.	A ChangeMan instance, a ChangeMan application, a "Packages" folder, or a package in an eligible state.
Scratch Component	Add a component scratch request to a package. This request will scratch a component from the baseline libraries when the package is installed.	A baseline component.
Scratch and Rename Requests	Displays the "Package Utility" dialog box where you may view, add, or delete scratch and rename requests for package components.	A ChangeMan application, a "Packages" folder, or a package.
Settings	Display the Serena Network properties sheets, where you can update your settings.	A server. (In Windows XP, you can also get to the Settings command from the Serena Network item in Windows Explorer).
Submit JCL	Submit job to server.	A file, data set, or member. A JCL component in a ChangeMan folder (package, baseline, promotion).
Submit XML	Submit XML input document to Serena XML Services.	A file, data set, or member. An XML component in a ChangeMan folder (package, baseline, promotion).
Undelete Package	Restore a memo-deleted package.	A package in "deleted" status.
Unlock	Unlock a ChangeMan ZMF component.	A component in a package.
Unfreeze Components	Selectively unfreeze components in a frozen package.	A package in frozen status, a package library, or package components in frozen status.
Unfreeze Package	Unfreeze package information in a frozen package.	A ChangeMan application, a "Packages" folder, or a package in frozen status.

This command	Performs this function	When this item is selected
Upload to Data Set	Upload a Windows file to a data set or member. If the target data set does not exist, you will be prompted to create it using the **New Data Set** dialog box.	A file in Windows Explorer (on your local computer). The **Upload to Data Set** function can also be invoked by dragging a file from your local computer and dropping it on one of the following ChangeMan ZDD items: server, "DataSets" folder, data set folder, data set, or PDS member.
Upload to Unix Directory	Upload a Windows file or folder to a Unix file, directory, or folder.	A file or folder in Windows Explorer (on your local computer). The **Upload to Unix Directory** function can also be invoked by dragging a file or folder from your local computer and dropping it on a Unix file, directory, or folder.
User	Display currently logged-on user ID.	A server.
Validate Versions	Resolve prior release version regression without having to check out the component again from the prior release and reapply your changes in the current release.	A release package component.
View	View a read-only file. Invokes either ChangeMan Edit or a text editor that you specified on the Editor tab of Serena Network Properties.	A file, data set, member, or ChangeMan ZMF component. **NOTE** If the item selected is not read-only, the View command will not be available on the popup menu; the Edit command will display instead.

Enabling/Disabling ChangeMan ZMF Commands

Your administrator determines which ChangeMan ZMF commands are enabled or disabled on the popup menus. This is done through the COMMAND member in the ZDDOPTS library, described in the *Serena® ChangeMan® ZDD Server Installation Guide*.

Mapping Drives

NOTE Although ChangeMan ZDD still allows you to map a mainframe server to a drive letter, it is recommended that you no longer use that approach. See "Serena Network Namespace Extension" on page 61 for more information.

You can map a z/OS server to a drive letter for easier access. In most network file systems, drive letters are mapped to a network share folder. ChangeMan ZDD, however, has its own version of the Map Network Drive function, which allows you to map a drive letter to an entire server, as follows:

1   In Windows Explorer, right-click a server and choose **Map Network Drive** from the popup menu.

> **NOTE** You can also get to the Map Network Drive dialog box by clicking either of the following:

- the **Map Drive** button on the Servers page of the Serena Network Properties dialog box. See "Add/Remove/Configure Server" on page 88.

- the **Map Network Drive** button on the Serena Network Wizards dialog box. See "The Wizard Application" on page 142.

2   The ChangeMan ZDD version of the **Map Network Drive** dialog box displays.
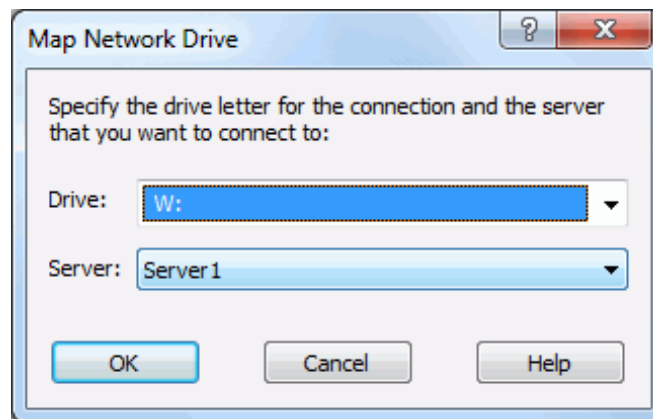
3   Select a drive letter from the **Drive** drop-down list.
Select a server name from the **Server** drop-down list.
Click **OK**.

Mapping Drives in a Batch File

When you access the logical drive you have mapped, you will receive a prompt to enter a mainframe user ID and password. If you want to set up a Batch file to execute commands on a PC server by using NET USE commands to map the drive and then reference the drive in a subsequent command, you can supply the user ID and password as illustrated in the following example (where *x* is the drive letter, *server* is the server name, *password* is the password, and *userid* is the user ID):

```
NET USE x: \\server password /USER:userid
```

To log on without mapping to a drive letter, you can reference everything in the batch file using UNC syntax:

```
NET USE \\server password /USER:userid
```

Path Name Syntax

You can access z/OS data sets, Unix files, JES files, and ZMF components from any program or batch file, or from the Windows command line using ChangeMan ZDD path names.

Path names are specified in UNC format, where the path name is preceded by a double backslash, followed by the server name. The other components in the path name mirror what you see in the Windows Explorer tree view.

When accessing files using a path name, you can omit the user-defined folder name. The root folder ("**DataSets**", "**Jobs**", or "**Unix**"), however, must always be specified in order to distinguish between data set names, job names, and Unix path names.

NOTE If a data set or job folder is specified, the data set or job being opened must match the filters for that folder.

It is possible to have several user IDs logged on to a single server at the same time using alternate connections. Each server can have up to 255 alternate connections.

An alternate connection is specified by appending the connection ID (1 – 255) to the server name, separated by a colon (":"). It can also be specified by appending the connection ID enclosed in parentheses. The default connection ID is 0, and does not need to be specified.

```
\\MyServer:3\MyChangeMan\...
\\MyServer(3)\MyChangeMan\...
```

The Windows Explorer user interface only displays the default connection. Alternate connections are available only using path names.

Unix Examples

Following are examples of how Unix path names can be specified either by going through a user-defined folder, or by omitting the folder name and specifying the actual Unix directory path.

Both of the following path names could be used to access the "taxes.java" file from the command line or from a program:

```
\\Server1\Unix\u\mystuff\source\taxes.java
```

```
\\Server1\Unix\!MyStuff\source\taxes.java
```

The first example shows the full path name on the mainframe server.
The second example shows the path name using the user-defined folder `!MyStuff` in ChangeMan ZDD (the target directory for the `!MyStuff` folder is `/u/mystuff`).

Data Set Examples

Following are examples of how data sets can be accessed using UNC syntax (the folder name is optional):

- `\\server\DataSets\data.set.name`   **or**
  `\\server\DataSets\folder\data.set.name`

- `\\server\DataSets\data.set.name\member`   **or**
  `\\server\DataSets\folder\data.set.name\member`

Job Examples

Following are examples of how job output can be accessed using UNC syntax:

- `\\server\Jobs\jobname.jobid\dsid.jobstep.procstep.ddname.list`

- `\\server\Jobs\jobname.jobid\.SYSOUT.list`

- `\\server\Jobs\.JCL.cntl`

In the example above: *jobid* is a unique job id assigned by JES (such as JOB02173), and *dsid* is a unique spool data set id assigned by JES (such as D0000012).

Every job has the following special files:

- `.SYSOUT.list` - Used to access all of the job output as a single file.

- `.JCL.cntl` - Contains the JCL input stream for the job. Requires SerNet 7.1.1+.

Servers or Root Folders Mapped to Drive Letters

When an entire server is mapped to a drive letter, data sets and job output can be accessed as follows:

- X:\DataSets\data.set.name

- X:\DataSets\data.set.name\member

- X:\Jobs\jobname.jobid\dsid.jobstep.procstep.ddname.list

- X:\Jobs\jobname.jobid\.SYSOUT.list

When one of the root folders, **DataSets** or **Jobs**, is mapped to a drive letter, the path name is shortened to:

- Y:\data.set.name

- Y:\data.set.name\member

- Z:\jobname.jobid\dsid.jobstep.procstep.ddname.list

- Z:\jobname.jobid\.SYSOUT.list

Working with Data Sets

PDSE Long Name Support

ChangeMan ZDD generally works better with a PDSE than with a PDS. The reason is that a PDS restricts all names to a maximum length of 8 characters. A file extension is appended to the member name to create the file name used by ChangeMan ZDD. The file extension is determined by the data set name, and for a PDS, all members must have the same file extension. It is not possible to have files named `SAMPLE.TXT` and `SAMPLE.BAK` residing in the same PDS, because both would have a member name of `SAMPLE`.

Even though you may be using simple 8-character names with the same file extension, some text editors or other programs may create temporary files. These temporary files may have names longer than eight characters or have different file extensions. For example, a text editor may create a temporary file called SAMPLE.001 or SAMPLE.BAK when editing `SAMPLE.TXT`. With a PDS, the creation of these temporary files will fail, causing the text editor or application program to malfunction.

A PDSE allows long names to be created. Primary member names are still restricted to 8 characters, but they may have long name aliases. When saving files with long names in a PDSE, ChangeMan ZDD automatically generates an 8 character random name and assigns the long name as an alias. The generated name has the form {xxxxxx}, where xxxxxx is 6 random characters. When viewing the PDSE from TSO/ISPF, you will see only the generated short names and will not see the long alias names. ChangeMan ZDD **does** show the long names and hides the generated random names.

A PDSE behaves like a PDS when you do **not** use long names and **do** use the default file extension for the PDSE. For example, names that conform to PDS rules are stored using a normal 8-character member name, which is the same as the file name. If `TXT` was the default file extension for a PDSE, `SAMPLE.TXT` would be stored using a member name of `SAMPLE`; `SAMPLE.BAK` would be saved with a member name such as `{Q4JB9Z}` and an alias name of `SAMPLE.BAK`.

Because a PDSE allows long names and files with non-default extensions to be created, it does not have the same problems as a PDS with text editors or applications that create temporary files. For more information on using text editors with ChangeMan ZDD, see "Using with Text Editors" on page 67.

Data Set Properties

To display the properties of a data set, right click on the data set and select **Properties** from the popup menu. There are three pages in the data set properties:

- **Data Set**: DCB attributes and space usage information
- **Space**: Pie chart illustrating space usage
- **Directory**: Pie chart illustrating PDS directory usage information

Member Properties

To display the properties of a PDS or PDSE member, right click on the member and select **Properties** from the popup menu. There member properties display the ISPF statistics for the member.

Allocating Data Sets

You can allocate a PDS, PDSE, or sequential data set using the **New Data Set** command. You can use the properties of an existing data set as a model.

1 In either the left or right pane of Explorer, under the **DataSets** folder for a ChangeMan ZDD server, right-click either a user-defined folder or a data set.

> **TIP** If you want to use the properties of an existing data set, right-click a data set instead of a user-defined folder.

2 Choose **Serena Network** → **New Data Set** from the popup menu. The **New Data Set** dialog box displays.

> **NOTE** If you right-clicked on a data set, the **New Data Set** dialog box will automatically be filled in with the properties of the selected data set.

3 Type a data set name in the **Data set name** text box.

4 Choose a data set type from the **Data set type** drop-down list: SEQ, PDS, or PDSE.

5 Fill in the remaining fields as you would when allocating a data set using the 3.2 option of ISPF.

6 Click **OK** to allocate the data set.

Downloading Data Sets

You can download a sequential data set or PDS member to a Windows folder using either of the following methods:

■ Drag the data set or member and drop it onto a Windows folder.

■ Right-click on the data set or member and select **Serena Network** → **Download to Windows folder** from the popup menu.

Uploading Data Sets

You can upload a Windows file to download a sequential data set, or to PDS as a member using either of the following methods:

- Drag the Windows file and drop it onto the data set.

- Right-click on the Windows file select **Serena Network** → **Upload to data set** from the popup menu.

The **Upload Data Set** dialog box will display, allowing you to specify the target data set and member. If the target data set does not exist, you will be prompted to create it using the **New Data Set** dialog box.
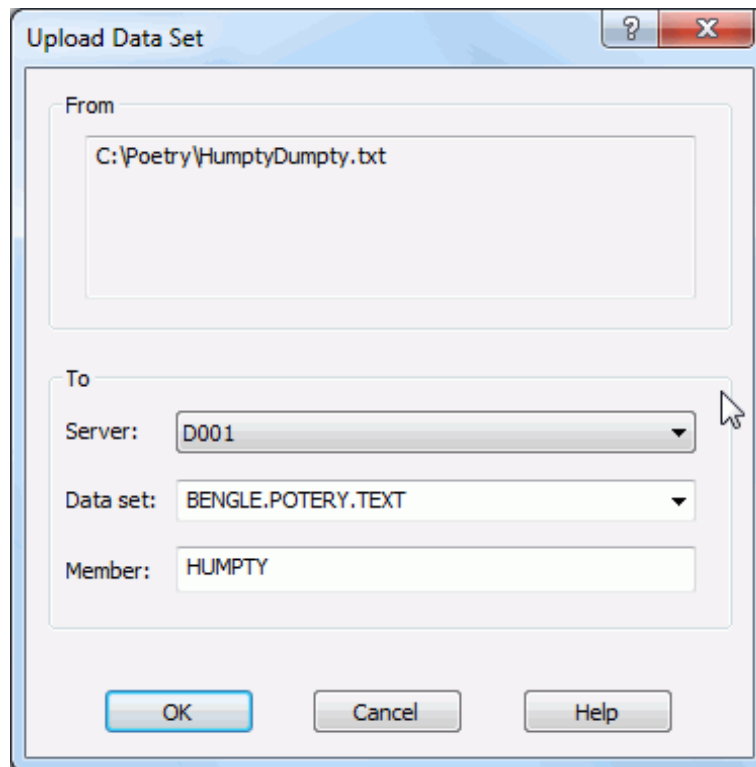
Copying Data Sets

You can copy one data set to another without downloading the data to Windows (the copy occurs on the mainframe server). The source and target data sets may be on different servers.

You can copy a PDS, PDSE, sequential data set, or selected members. Member names can contain the * wild character.

If the target data set does not exist, you will be prompted to create it using the **New Data Set** dialog box (described in).

1   Initiate the **Copy Data Set** function in either of the following ways:

- Right-click a partitioned or sequential data set (or PDS members), or use the right mouse button to drag and drop a data set or members to another data set. When the popup menu displays, choose **Serena Network** → **Copy to Data Set**.

- Use the left button to drag and drop a data set or members to another data set.

The **Copy Data Set** dialog box displays.

2   Fill in the **From** fields as follows:

Field	Description
Server	The default server name is displayed. You may select a different one from the drop-down list.
Data set	The default data set name is displayed. You may type a different data set name or select one from the drop-down list. **NOTE** The **Data set** drop-down list contains the last 25 data set names that you entered in this field.
Member	Optionally, enter one or more member names, separated by spaces. Member names can contain the * wild character. If you do not enter any member names, all members will be copied.

3   Fill in the **To** fields as follows:

Field	Description
Server	The default server name is displayed. You may select a different one from the drop-down list.
Data set	Type a data set name or select one from the drop-down list. If this data set does not exist, you will be prompted to create it using the **New Data Set** dialog box. **NOTE** The **Data set** drop-down list contains the last 25 data set names that you entered in this field.
Member	If you entered member names for the **From** data set, you may enter new names for these members in the **To** data set. The order of the new member names must match the order of the member names entered for the **From** data set. If you do not wish to rename the members, leave this field blank.

4   Click **OK** to copy the data set or members.

Creating a New Member

You can create a new, empty member in a partitioned data set.

1   Right-click a partitioned data set and choose **Serena Network → New Member** from the popup menu. The **New Member** dialog box displays.
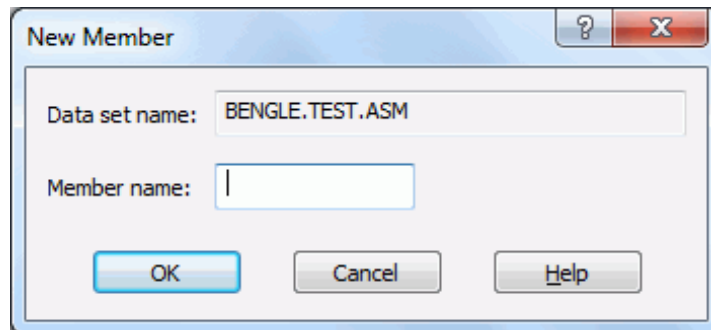
2   Type a member name in the **Member name** text box.

3   Click **OK** to create the member.

Creating Files Using Windows

You can create a file in a ChangeMan ZDD folder using either of the following Windows features:

- The drag-and-drop feature (simply drag a file and drop it into a ChangeMan ZDD data set folder).

- The **Save As** option.

Migrated Data Sets

Windows has built-in support for offline (migrated) files. There is a new `Offline` (O) file attribute. There are also built-in error codes and error messages appropriate for offline files.

Migrated data sets and ChangeMan ZMF libraries are indicated by an overlay of a gray X or a green X. A gray X means the data set is migrated to tape (ML2, or migration level 2). A green X means the data set is migrated to disk (ML1, or migration level 1) and can be recalled quickly. If the icon has a cloud overlay, it is migrated to the cloud.

NOTE ZDD can only distinguish between ML1 and ML2 when connected to SerNet/ZMF 8.1 servers. On older servers, all migrated data sets display with the gray X.

Recalling Migrated Data Sets

To recall migrated data sets and ChangeMan ZMF libraries, right-click the file and choose **Serena Network → Recall Data Set** from the popup menu.

Working with Jobs

Job Properties

To display the properties of a job, right click on the job and select **Properties** from the popup menu. The **Job** properties page displays detailed information about the current status of the job.

Job Output

To view job output with ChangeMan ZDD, you must first set up job folders and filters. See "Job Folders" on page 121.

NOTE for server versions prior to SerNet 7.1.1: Normally, output from a batch job cannot be viewed until a job completes execution. To make job output available at the end of a step, rather than at the end of the job:

Specify `SPIN=UNALLOC` on the DD statement.

Beginning with SerNet 7.1.1, you can browse open SYSOUT data sets. You can monitor job output as it is being written without even waiting for the job step to end.

However, in order to see new lines in a file that is actively being written, you need to close the file and reopen it in your text editor or viewer in order to refresh the contents.

Support for browsing open JES spool data sets requires the following software levels:

- SerNet 7.1.1+ (for version 7)
- SerNet 6.1.3+ (for version 6)
- ChangeMan ZDD 7.1.1+ (will not work with older clients)

Every job has the following special files:

- `.SYSOUT.list` - Used to access all of the job output as a single file.
- `.JCL.cntl` - Contains the JCL input stream for the job. Requires SerNet 7.1.1+.

Jobs can be canceled, and output requeued or deleted. Right-click a job or spool data set; when the popup menu displays, select **Serena Network** and then choose one of the following commands:

- Cancel Job
- Cancel Job Purge
- Delete Output
- Requeue Output

Job Output Properties

To display the properties of a JES spool file (SYSOUT), right-click on the JES spool file and select **Properties** from the popup menu. The **Spool** properties page displays detailed information about the print attributes and size of the JES spool file.

Downloading Job Output

You can download JES spool files to a Windows folder using the **Download to Windows Folder** command.

This command allows you to selectively download portions of a JES spool file. Normal drag and drop operations only allow an entire SYSOUT file to be downloaded. For large listings, this can take a very long time.

Frequently, you want to download only a particular range of lines and not the entire file. Example use cases are a SYSUDUMP file that contains multiple dumps or a large SERRPRINT trace where you want only the output for a certain time range.

You may specify a range of lines when downloading spool files. The starting and ending lines can be specified either using line numbers or using character search string such as "END OF DUMP". You can even use a combination of line numbers and search strings. Character search strings are available only on SerNet 7.1.1+ servers.

1   Invoke the **Download to Windows Folder** function as follows:

- Right-click on a JES spool file, or use the *right* mouse button to drag and drop the spool file to a Windows folder. When the popup menu displays, choose **Serena Network → Download to Windows Folder**.

- Please note that dragging with the *left* button will always download the entire spool file and no dialog box will be displayed.

The **Download JES File** dialog box will then display.

2   Fill in the **To** fields as follows:

Field	Description
Path name	The full path name of the Windows file into which the JES spool file is copied. The default file name is based on the job name, job number, and spool file name. You can use the "**...**" browse button to browse for the destination.

3   Fill in the **Line limits** fields as shown below. Line limits are optional, and the default is to retrieve all lines.

Field	Description
Start line	The starting line number. The default is 0, which will start from the beginning of the file. Pressing the up or down arrows will increment or decrement the line number by 1,000. If search strings are also specified, that search does not begin until this line number.

Field	Description
Maximum lines	The maximum number of lines to download. The default is 0, which indicates no limit. Pressing the up or down arrows will increment or decrement the line number by 1,000. The download will always stop after this number of lines, regardless of any ending search string.

4 Select one of the following **Encoding** types for the output Windows file. The default is ASCII, which is correct in most cases.

- ASCII

- Unicode (UTF-16)

- UTF-8

5 Fill in the **Search string limits** fields as shown below. Search strings are optional, and the default is to retrieve all lines.

Search strings are always case-sensitive. If a starting line number is also specified, the string search does not begin until that line number.

Search strings are available only when connected to a SerNet 7.1.1+ server.

Field	Description
Start string	The starting search string. The download will begin when a line is found containing this string. If the string is not found, no data will be downloaded.
End string	The ending search string. The download will stop when a line is found containing this string. If the string is not found, the remainder of the file will be downloaded

6 Click **OK** to download the JES spool file.

Some of the fields on the dialog box are hidden (removed) when those options are not available:

- The starting and ending search strings require SerNet 7.1.1+. They are also not available for the composite SYSOUT file, ".`SYSOUT.list`", which combines all of the output into a single file.

- The starting line number is not available for the JCL input file, ".`JCL.cntl`", nor for the composite SYSOUT file, ".`SYSOUT.list`".

Recently used starting and ending strings can be selected from a drop-down list for ease of use. The download destination defaults to the previously used folder.   A browse button ("**...**") can be used to select a different folder. The spin buttons for the line-number fields increment by 1,000, rather than by 1, as spin buttons normally do.

Requeue Job Output

To change the output class and destination for held output, right-click on a job or spool file, and select **Requeue output** from the popup menu. The **Requeue Output** dialog box will display allowing you to specify the new output class and destination.
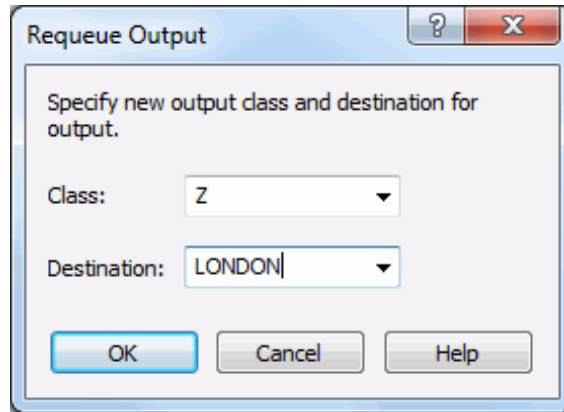
Delete Job Output

To delete job output, right-click on a job or spool file, and select **Delete output** from the popup menu.

Submitting JCL

You can submit JCL from any of the following sources:

- A data set, PDS member, or Unix file on the z/OS server

- The JCL stream for an existing job, using the `.JCL.cntl` file.

- A file on your local disk drive

- A JCL component in a ChangeMan ZMF baseline, promotion, or package library.

There are two ways to submit JCL to the server:

- From the Windows Explorer, using ChangeMan ZDD's **Submit JCL** command.

- From ChangeMan Edit text editor, selecting **File → Submit JCL** from the menu.

To submit JCL from the Windows Explorer, right-click the file, data set, member, or component containing the JCL, and choose **Serena Network → Submit JCL** from the popup menu. You can select multiple files to submit several jobs at the same time. If you select more than one file, a separate dialog box will display for each one.

The **Submit JCL** dialog box allows you to edit the JCL before you submit it. You can either discard the changes or save them. Changes can be saved back to the original file, if it is not read-only, or to a different file.

If you wish to save your JCL changes, you must press the **Save** or **Save As** button *before* submitting the job. After you press the **Submit** button, the dialog will automatically close..

Jobs submitted with the Submit JCL command run under the authority of the logged on user (the owner ID is the same as the logged on user ID).

You can check the "Add notify job step" box to add a notify step to the submitted JCL. The notify job step will send you a message indicating the return codes for the job. Notify messages can either be displayed in a pop-up message box, or viewed later using the ChangeMan ZDD Message Viewer. The display of notify messages can be configured fropm the **Notify** page of the **Serena Network** properties. For details see "Configure Notify Properties" on page 82.

> **TIP** You may also use drag and drop operations to submit JCL. See "Drag and Drop Operations" on page 145 for information on the various operations that can be performed with the left and right mouse button.

Submitting Jobs with Windows Task Scheduler

You can use the .NET or COM programming interface of ChangeMan ZDD to submit jobs from your own programs and scripts through the Windows Task Scheduler. For example, this would allow you to submit nightly job cycles automatically.

For more information, see "Using Windows Task Scheduler" in the following manuals:

[Product Name Long] .NET Programming Interface Guide

[Product Name Long] COM Programming Interface Guide

Notify Messages

You can receive notify messages when jobs submitted from ChangeMan ZDD complete. Notify messages are written to the **Notify** message log. At any time, you can view the last 64 messages written to this log by launching the **Notify** message viewer application that is installed with ChangeMan ZDD: choose **Start → Programs → ChangeMan ZDD →Notify**.

You can also choose to have a message box pop up every time you receive a message.

These options can be configured using the **Notify** dialog, described in "Configure Notify Properties" on page 82.

Working with Unix Files

Special Considerations

The Unix file system on the mainframe server and Windows file systems differ in how they handle case sensitivity and path names. The following issues and limitations apply to the Unix support in ChangeMan ZDD.

Case Sensitivity

In the Unix file system on the mainframe server, file names are case-sensitive. In other words, the following are five different file names that can co-exist in the same directory:

Book.txt

BOOK.TXT

book.txt

BOOK.txt

book.TXT

This conflicts with Windows handling, in which file systems are not normally case-sensitive, and all of the above would be considered the same file. See the following article (one of many) for a discussion of this issue: http://support.microsoft.com/kb/100625

Most Windows applications and Windows API functions are written to assume that file names are case-insensitive. Even if case-sensitive names were allowed, many programs would not work correctly.

The ChangeMan ZDD client disallows names that differ only in case. If two names differ in case, only the first name will be visible.

Path Name Lengths

The Unix file system on the mainframe server allows path names up to 1023 characters in length, whereas the normal maximum is 259 characters on Windows. This will not be an issue most of the time, as most path names are usually less than 259 characters.

ChangeMan ZDD does support path names up to 1023 characters, but there are some limitations. The following describes some of the special handling required:

- When downloading files from the server, you would typically just drag a data set or Unix file and drop it onto a Windows folder. However, the normal drag and drop operation onto a Windows folder is handled by Microsoft code that only supports path names up to 259 characters. You must use the new "Download to Windows folder" command on the Serena Network popup menu with path names that exceed 259 characters.

- The ChangeMan Edit and ChangeMan Diff tools, which are included with ChangeMan ZDD, support path names that exceed 259 characters in length if you are using Windows Vista or Windows 7. However, most text editors do not support path names that are longer than 259 characters. To get around this, you can do either of the following:

  - For native (non-ZMF) Unix files

    You can create a ChangeMan ZDD Unix folder with a short name that represents a directory with a long path name. The text editor only sees the short ChangeMan ZDD path name and not the long path name on the server.

  - For ChangeMan ZMF Unix components

    ChangeMan ZDD does not provide user-defined folders for ChangeMan ZMF components. In this case, you must first download the file with the long path name to a directory on your local computer using the "Download to Windows folder" command. You can then edit the copy of the file on your local computer. After you are finished editing, copy the file (or folder) back to the server using the "Upload to Unix directory" command (or use drag and drop).

    NOTE You can also use this method for non-ZMF files; however, the method described above for non-ZMF files is much easier.

Path Name Separator Characters

The Unix file system on the mainframe uses forward slash ("/") as the path name separator character. Windows file systems, on the other hand, use backslash ("\") as the path name separator. Many Windows API functions and software programs will not correctly handle path names that use forwards slashes as separator characters.

With ChangeMan ZDD, HFS path names should be specified using backslash ("\") as the path name separator character. To provide assistance, ChangeMan ZDD makes the following accommodations:

- Dialog boxes that accept Unix path names as input automatically convert forward slashes to backslashes.

- Those API functions in ZosApi.dll that accept Unix path names as input, automatically convert forward slashes to backslashes.

While the measures listed above will handle many situations in which the wrong path name separator character is specified, they are not a panacea. Many Windows API functions and software programs will not work correctly if the wrong separator character is specified.

Accessing Unix Files From the Command Line

You can reference Unix files and directories using the Unix full path name instead of going through a user-defined folder. However, Unix files will not be displayed in the Windows Explorer unless they reside under a user-defined folder. See "Path Name Syntax" on page 159 for more information.

Unix File and Directory Properties

To display the properties of a Unix file, directory, or symbolic link, right click on the item and select **Properties** from the popup menu. There are two pages in the Unix properties:

Unix: Unix file attributes, time stamps, and link information.

Security: Owner and permissions. Permissions can be changed from this page.

Update Security Information

You may change the permissions for a Unix directory or file, as follows:

1   Right-click on a Unix directory or file and choose **Properties**. When the Properties sheet displays, select the **Security** page:
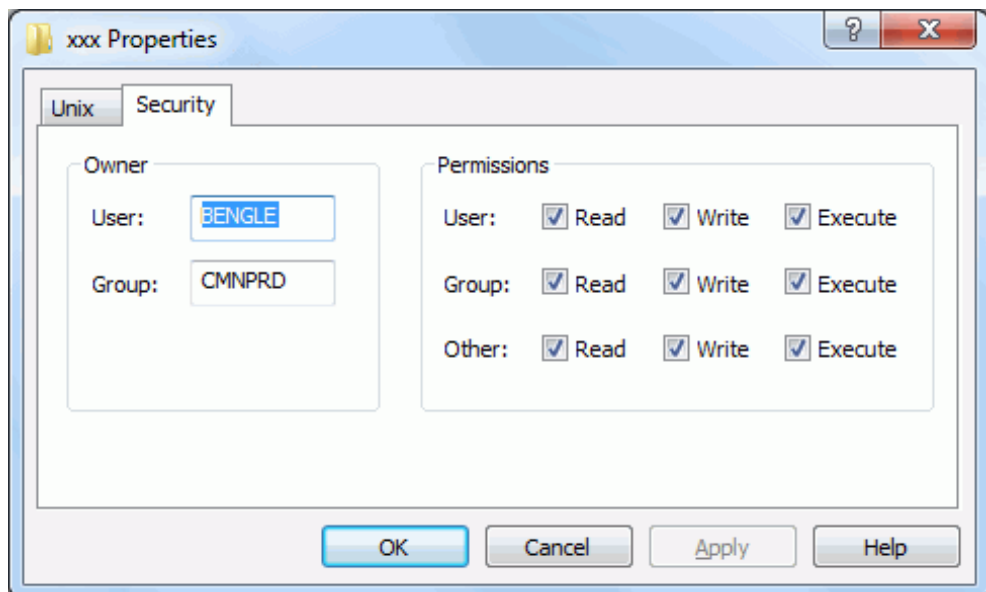
2   Select or deselect the Read/Write/Execute permissions for "User", "Group", and "Other".

Create a Unix Directory, File, or Link

This section describes how to:

- Create a Unix directory, file, or symbolic link under a Unix folder.

- Update security information for a Unix directory or file.

Create a Unix Directory

To create a new Unix directory:

1 Right-click on a Unix folder, directory, or symbolic link and choose **Serena Network** → **New Unix Directory**. The **New Unix Directory** dialog box displays:
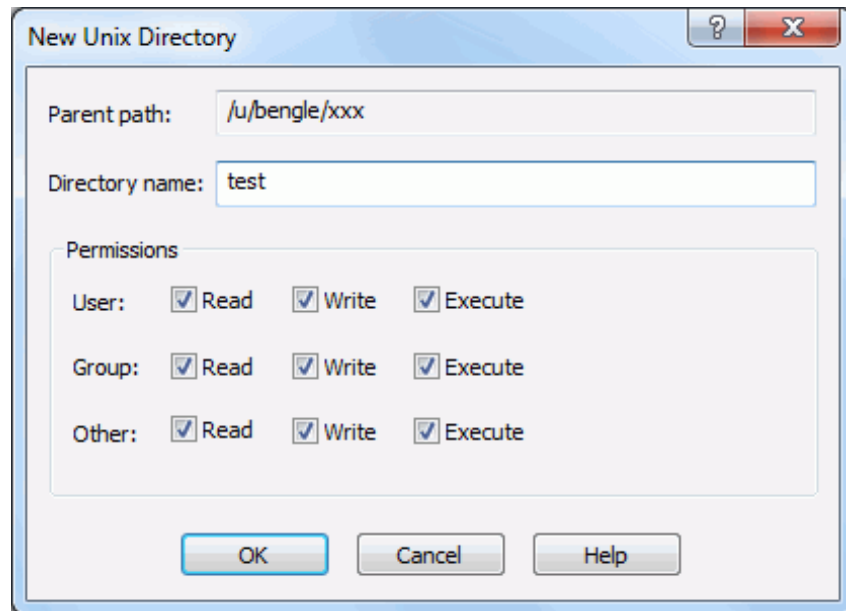
2 Enter a directory name and select/deselect the Read/Write/Execute permissions for "User", "Group", and "Other".

Create a Unix File

To create a new Unix file:

1   Right-click on a Unix folder or directory and choose **Serena Network → New Unix File**. The **New Unix File** dialog box displays:
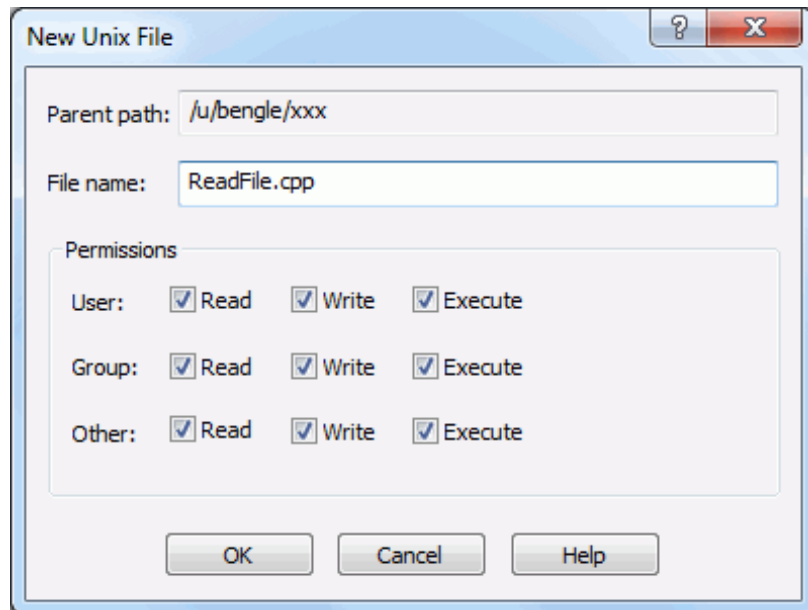
2   Enter a file name and select/deselect the Read/Write/Execute permissions for "User", "Group", and "Other".

Create a Unix Link

To create a Unix symbolic link:

1   Right-click on a Unix folder or directory and choose **Serena Network → New Unix Link**. The **New Unix Link** dialog box displays:
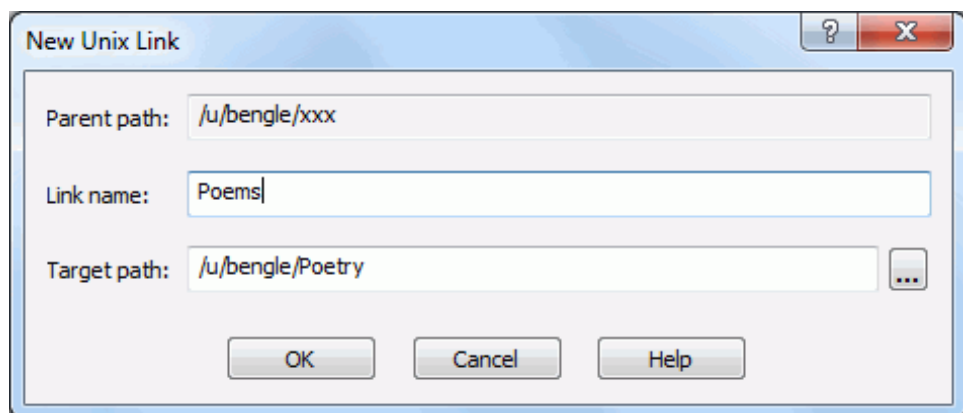
2 Specify the fields as follows:

Field	Description
Link name	Type a name for the link using any characters except for period.
Target path	Specify the target path name that this link points to, or click the Browse button to select a target path.

3 Click **OK**. The new link displays under the parent path as a folder with an arrow in the lower left corner (the arrow indicates that it is a link to another path name).

Copying and Moving Unix Files and Directories

The following commands are used for copying and moving Unix files and directories. These commands can be invoked from either the Serena Network popup menu, or by dragging and dropping as described below.

Command	Description
Copy to Data Set	Copy a Unix file to a data set. The target data set must already exist and must be on the same server as the source file. The **Copy to Data Set** function can also be invoked by dragging and dropping a Unix file to a data set.
Copy to Unix Directory	Copy a Unix file or directory to a Unix folder or directory. The source and target must be on the same server. The **Copy to Unix Directory** function can also be invoked by holding down the **Ctrl** key while dragging and dropping a Unix file or directory to a Unix folder or directory.
Download to Windows Folder	Download a Unix file or directory to a Windows folder. This command supports long Unix path names, as the normal drag and drop onto a Windows folder is handled by Microsoft code that only supports path names up to 259 characters. The **Download to Windows Folder** function can also be invoked by dragging a Unix file or directory with the right mouse-button and dropping it on a file or folder on your local computer.
Move to Unix Directory	Move a Unix file or directory to a Unix folder or directory. The source and target must be on the same server. The **Move to Unix Directory** function can also be invoked by dragging and dropping a Unix file or directory to a Unix folder or directory.
Upload to Unix Directory	Upload a Windows file or folder (on your local computer) to a Unix file, directory, or folder. The **Upload to Unix Directory** function can also be invoked by dragging a file or folder from your local computer and dropping it on a Unix file, directory, or folder.

Creating Unix Directories, Files, and Links

The following commands, accessed from the Serena Network popup menu, are used for creating Unix directories, files, and symbolic links:

- New Unix Directory

- New Unix File

- New Unix Link

Security permissions for a Unix directory or file can be updated on the **Security** page of the Properties sheet.

Refer back to for more information.

Searching for Strings

The ChangeMan ZDD Search facility allows you to search data sets, Unix directories, or ChangeMan ZMF libraries for character strings. This is much faster than using Windows Search or your text editor to search z/OS libraries and directories.

When you use Windows Search or your text editor, each file being searched must be transferred to your local computer in order to perform the search. With ChangeMan ZDD Search, the search is performed entirely on the server. Only the search results need to be transferred back to your Windows machine.

The ChangeMan ZDD Search facility allows you to search any combination of data sets, Unix directories, and ChangeMan ZMF libraries, all at the same time. Searching Unix directories, however, requires SerNet 7.1.2+. You can still search data sets with earlier server versions.

The search dialog box will display each line of text that matches the search arguments. You can double click on any line of the search results and the file will be displayed in the text editor, automatically positioned to the selected line.

Invoking Search

You can invoke the Search facility as follows:

1 Press the Start button and choose **All Programs**.

2 Then select the **ZDD Search** command from the **ChangeMan ZDD** program menu.

You can also invoke Search and, at the same time, specify folders to be searched as follows:

1 In the Windows Explorer, select one or more data sets, Unix directories, or ChangeMan libraries to be searched.

2 Right click, and choose **Search files** from the **Serena Network** popup menu.

Search Arguments Page

The **Search for Strings** dialog box is shown in the illustration below. This dialog box has two pages. Initially, the dialog box displays the search arguments page.
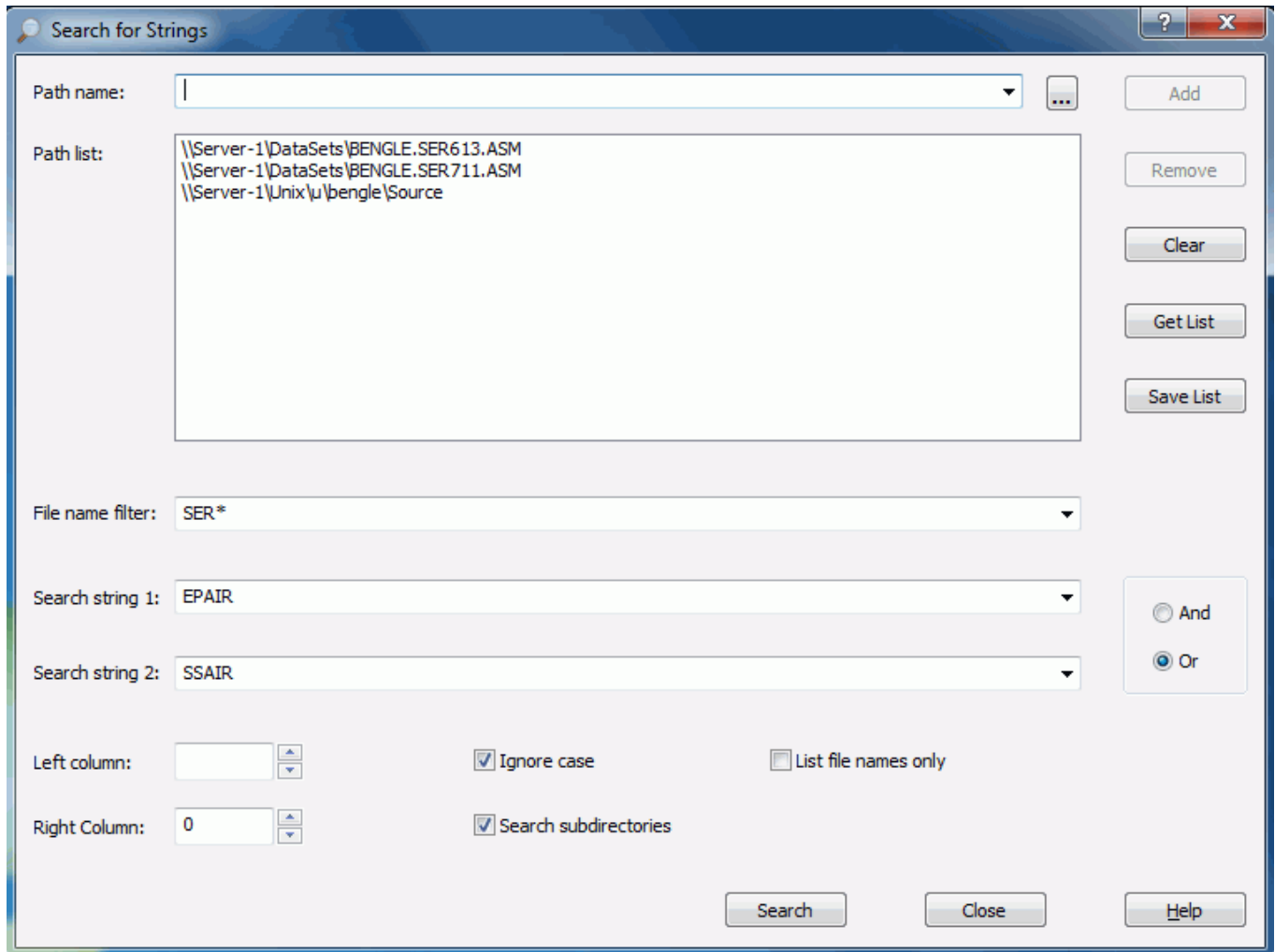
Specifying Folders to Be Searched

ChangeMan ZDD allows you to search several folders at the same time. These can be any combination of standard data sets, Unix directories, and ChangeMan ZMF libraries. To add a folder to the list of those to be searched, enter the UNC path name for the data set, Unix directory, or ZMF library to be searched into the **Path name** field and press the **Add** button.

Unix directories can only be specified if the server is SerNet 7.1.2 or higher.

Instead of manually entering the UNC path name, you can browse for the search folder by pressing the "**...**" browse button. This will display a standard dialog box for choosing the folder.

You can remove path names from the search list using the **Remove** or **Clear** buttons. The **Remove** button removes only those paths that are currently selected in the list box. The **Clear** button clears the entire list.

Saving the Path Name List

You can create named lists of path names to be searched and recall those same path lists later to use for other searches. To save the list of paths that are currently in the list box, press the **Save List** button. You will then be prompted with the dialog box below, which allows you to save the list using a name of your choosing.
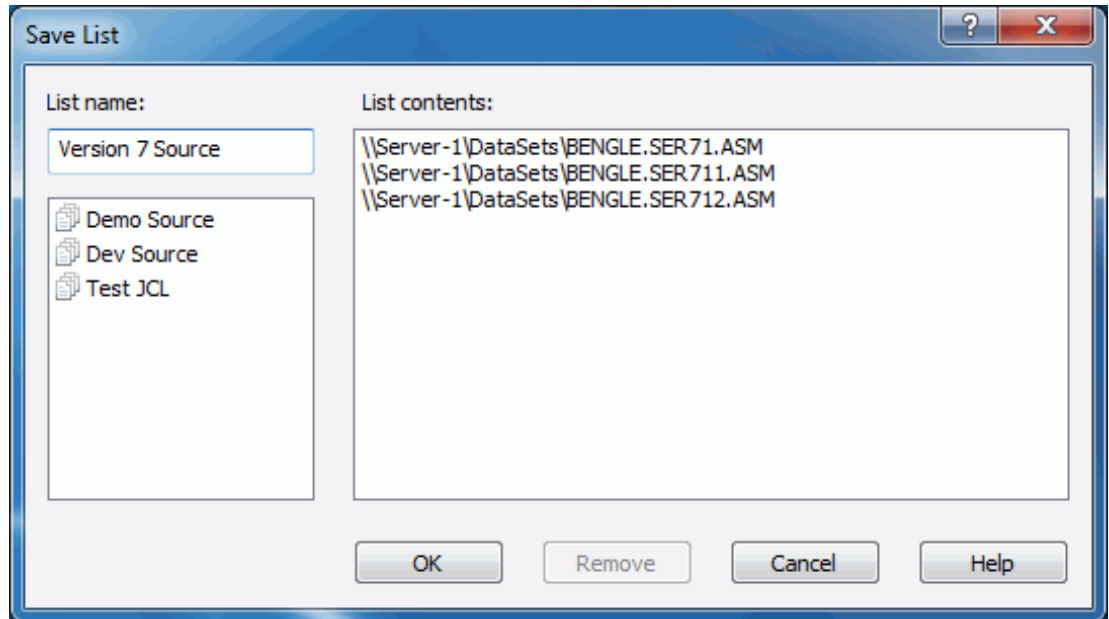
To save the list, specify a name in the List name field and press OK.   You can also replace an existing list by clicking on one of the names from the list box on the left side. To delete one of the existing lists, select the list to be deleted from the list box on the left side, and press the Remove button.

The list box on the right side of the dialog box shows the contents of the list that you are about to save.

Retrieving a Path Name List

To retrieve a previously saved path name list, press the Get List button. The dialog box below will then display, allowing you to choose one of the saved lists.
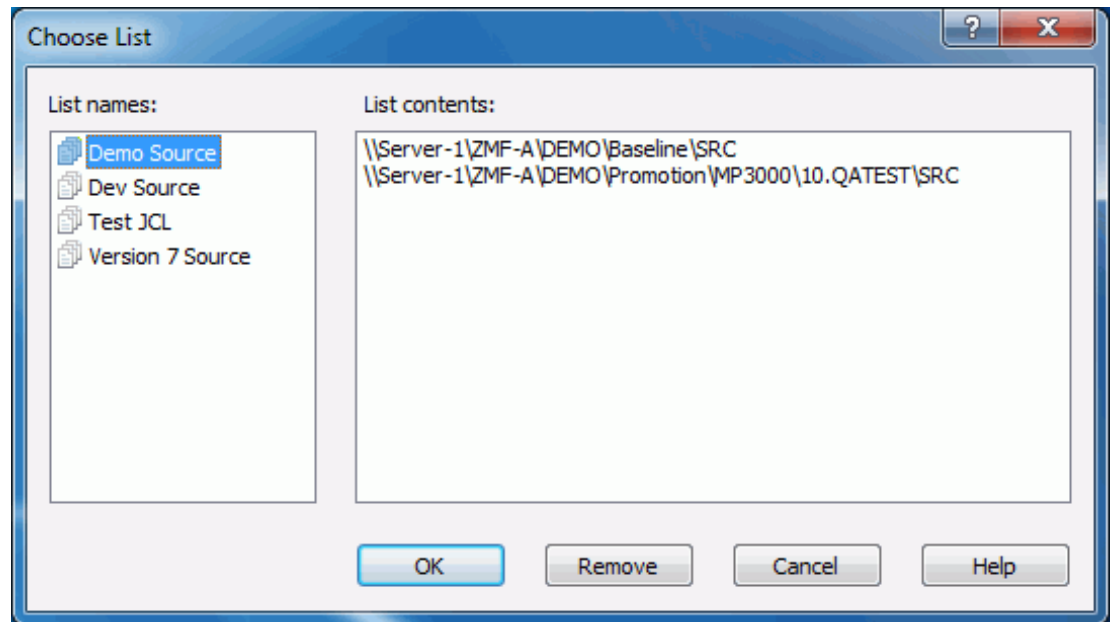
Simply choose the list that you want to use from the list box on the left side and press the **OK** button.   Whenever you select a list on the left side of the dialog box, the contents of the selected list are displayed on the right side of the dialog box.

To delete one of the existing lists, select the list to be deleted from the list box on the left side, and press the **Remove** button.

Filtering by File or Member Name

If desired, you can limit the search to specific file names or member names.   For this, enter a file name, member name, or pattern in the **File name filter** field of the search dialog box. For partitioned data sets, the file name filter refers to the member name.

The file name filter can include "*****" and "**?**" in any position. For example *z*.txt would search all files that contained a "z" in the file name and had a file extension of ".txt".

For older servers, prior to SerNet 7.1.2, the file name filter is much more restrictive. The filter can only contain a single "*****" wild character, and if present, the "*****" must be the last character. For example, XYZ* would search only member names that begin with XYZ.

Specifying the Search Strings

You can search for either one or two strings at a time. The search strings are entered into the **String 1** and **String 2** fields. The string fields have a drop-down list that allows you easily to recall recently used search strings.

To the right of the search strings are two radio buttons:

- **And**: Match only lines that contain both search strings.

- **Or**: Match lines that contain either search string.

Limiting the Search to Certain Columns

You can the limit the search to a range of column numbers. Enter the column numbers into the **Left column** and **Right column** fields. You can specify either column number or both column numbers. If the **Left column** field is blank, the search begins in column 1. If the **Right column** field is blank, then the search continues for the reminder of the line. Therefore, if no column numbers are entered, all columns are searched.

Miscellaneous Options

At the bottom of the dialog box are three check boxes:

- **Ignore case**: Search strings are not case sensitive.

- **Search subdirectories**: For Unix directories, recursively searches all subdirectories.

- **List file names only**: Only the file or member names are displayed and not the actual lines of text.

Starting the Search

After all search argument information has been entered, press the **Search** button to begin the search. The dialog box will then display the search results page.

Search Results Page

The search results page displays the names of the files, as well as the actual lines of text that match the search arguments. The search results page is illustrated below.

Search Progress Indicator

If you are searching multiple folders, the results are added for each folder one at a time as each search completes. While the search is still in progress the status indicator in the lower left corner will display "Searching…" as flashing text.   Once the search has completed for all folders, the status indicator will display "Complete".

Results Format

The search results are displayed as a tree with three levels:

- Path name for the data set, Unix directory, or ChangeMan ZMF library

  - File name for the member or Unix file ("*****" for sequential data sets)

    - Lines of matching text

The text lines are prefixed with the line number in blue. The search strings within the text are highlighted in red.

Editing the Matching Files

You can display or edit any of the files in the result tree using any of the following methods:

- Double-click on a file name or line of text.

- Right-click on a file name or line of text and select **Edit** from the popup menu.

- Left-click on a file name or line of text to select it, and then press the **Edit** button at the bottom of the dialog box.

When you edit a file, the file will be opened with ChangeMan Edit.   If you initiated the edit operation by clicking on one of the text lines, the cursor will automatically be positioned to that line number inside the editor.

Canceling a Search

You can cancel a search in progress by pressing the **Cancel** button. The **Cancel** button is displayed only while there is a search still in progress.

Starting a New Search

You can start a new search at any time by pressing the **New Search** button.   When you press the **New Search** button, the Search dialog box will return to the initial search arguments page.

Comparing Files

You can compare the contents of two text-based files using the ChangeMan Diff utility. The resulting differences are displayed side-by-side.

The following types of data can be compared:

- Any text-based file on your local computer
- Sequential data sets
- Partitioned data set members
- Unix files (text-based)
- ChangeMan ZMF components (text-based)
- JES spool data sets

NOTE Word documents cannot be compared using this utility.

Files of different types can be compared with each other. For example, you can compare:

- A ChangeMan ZMF SRC component with a TXT file on your local computer.
- Components in two different ChangeMan ZMF instances.

Initiating the Compare

1   Select one or two files to be compared. Right-click and choose **Serena Network** →
    Compare Files from the popup menu. The **Compare Files** dialog box displays.
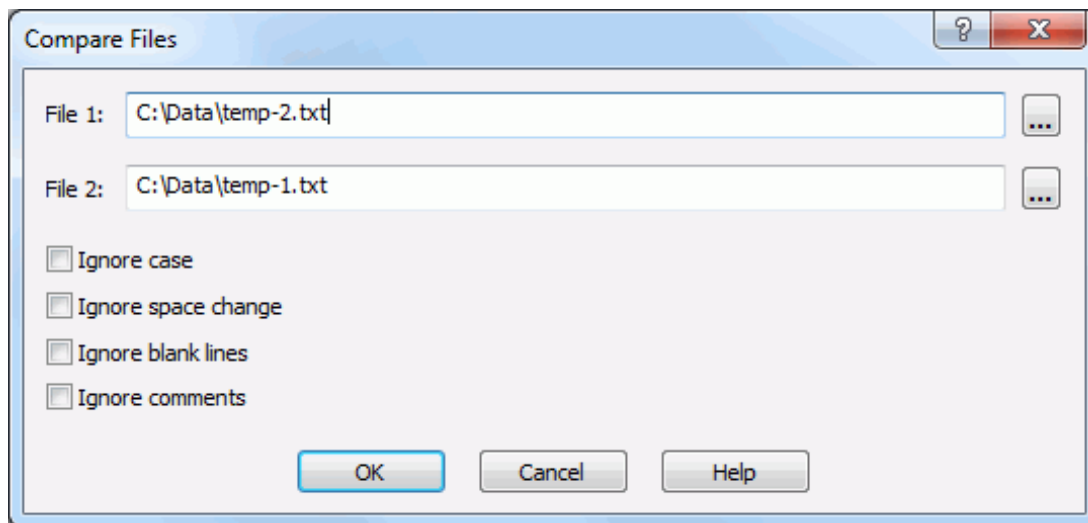
2   The files you selected display in the **File 1** and **File 2** text boxes. You can change the
    path names in the text boxes or click the browse button to select different files.

3   The following options can be selected.

Option	Description
Ignore case	Differences in case are ignored.
Ignore space change	Space differences within a line are ignored.
Ignore blank lines	Blank lines are ignored.
Ignore comments	Comments are ignored. A comment is determined by the file type.

Click **OK** to invoke the **ChangeMan Diff** utility.

For more information on comparing files, see the **ChangeMan ZDD Tools Guide.**

Merging Files

Using the ChangeMan Diff utility, you can merge the contents of two file versions with a
baseline version and create a new merged version. You can merge any files that can be
compared using ChangeMan Diff.

Initiating the Merge

You can initiate the Merge function in one of the following ways:

- Select one or two files/components in the Explorer window, right-click and choose **Serena Network** → **Merge Files** from the popup menu.

  or

- Select one or two files in the **Staging Versions** dialog box and click the **Merge** button

The **Merge Files** dialog box displays:
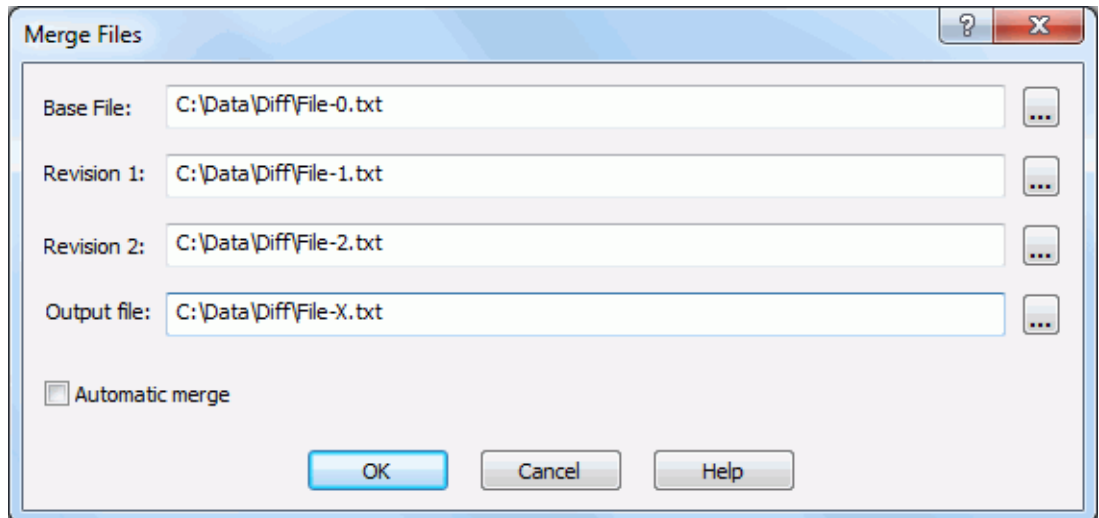
- If you selected one file/component, its path name will display in the *Base File* text box.

- If you selected two files/components, the path names will display in the *Revision 1* and *Revision 2* text boxes.

- *Output file* contains the path name for the resulting merge file.

Enter the path names for all of the files. You can type in the text boxes or click the browse button to select files from the Explorer directory tree.

You can reconcile differences between the file versions either automatically or interactively:

- Select *Automatic* merge to have changes between the versions applied based on default rules.

- Deselect *Automatic* merge to perform an interactive merge and choose which changes are incorporated.

Automatic Merge

NOTE You can only perform an automatic merge from the Merge Files dialog box.

The automatic merge reconciles the differences between two files according to a set of defined rules. A merged file is created automatically when there are no conflicting changes.

- In the case of inserted lines, ChangeMan Diff accepts all inserted lines from both revised files.

- In the case of deleted lines, ChangeMan Diff omits all deleted lines from both files.

- A message is not returned on successful completion - you can check the results in the *Output file*.

If there are conflicting changes, such as an update to the same line, ChangeMan Diff displays in Merge mode, where you can do an interactive merge and choose the changes to apply (described in the following section).

Interactive Merge

The interactive merge lets you reconcile disparate changes in the two files by choosing added, deleted, or changed lines from the two versions. Once you have reconciled the differences and go to save the merged file, the file name will depend on the following:

- If you initiated the merge from the Merge Files dialog box, the merged file is the file name you specified in *Output file.*

- If you initiated the merge from within ChangeMan Diff (by choosing **File → Merge)**, you specify the merged file name in the *Save As* dialog box.

For more information on merging files, see the **ChangeMan ZDD Tools Guide.**

XmlServ: XML Services Tool

Overview

XmlServ, the XML Services Tool, generates model XML Services requests, which the user can fill in and submit.   You can also open and edit previously generated XML Services requests and submit them.

This XML Services Tool provides all of the functionality of the XMLSERV tool in in the ISPF interface of ChangeMan ZMF. With the Windows graphical user interface, we are able to provide a richer set of functionality, and an interface that easier to use than would be possible with ISPF technology.

The XML Services Tool uses a tabbed window interface, which allows you to view and work with multiple requests and results at the same time.   The XML request displays together with the corresponding results, side by side. Unlike ISPF, you don't need to close one file to view another.

This tool allows the user to save XML requests and results as local Windows files, as well as z/OS PDS members, or UNIX files.

The XML Services Tool requires SerNet or ChangeMan ZMF 8.1.4 or higher.

Starting the XML Services Tool

You can start the XML Services Tool using any of the following methods:

- From the Windows Start menu: **ChangeMan ZDD** →**XML Services**

- Right click on Serena Network: **Programs** →**XML Services**

- Right click on a server or ChangeMan instance: **Serena Network** → **XML Services**

Workspace Layout

The XML Services Tool workspace consists of the following components:

Following is a summary of those commands that may be added by ChangeMan ZDD:

Component	Location	Description
Input pane	Left pane	Tabbed edit windows containing input XML requests.
Output pane	Right pane	Tabbed edit windows containing output XML results.
Caption bar	Above input/output panes	Displays message or other information to user.
Ribbon bar	Above caption bar	Contains all of the buttons, check boxes, and drop-down lists.
Quick access toolbar	Top of workspace	Small toolbar that you can customize.
Status bar	Bottom of workspace.	Contains various status indicators.

If you hover the mouse over any of the workspace elements (buttons, check boxes, drop-down lists), a popup balloon will display an explanation of that element.
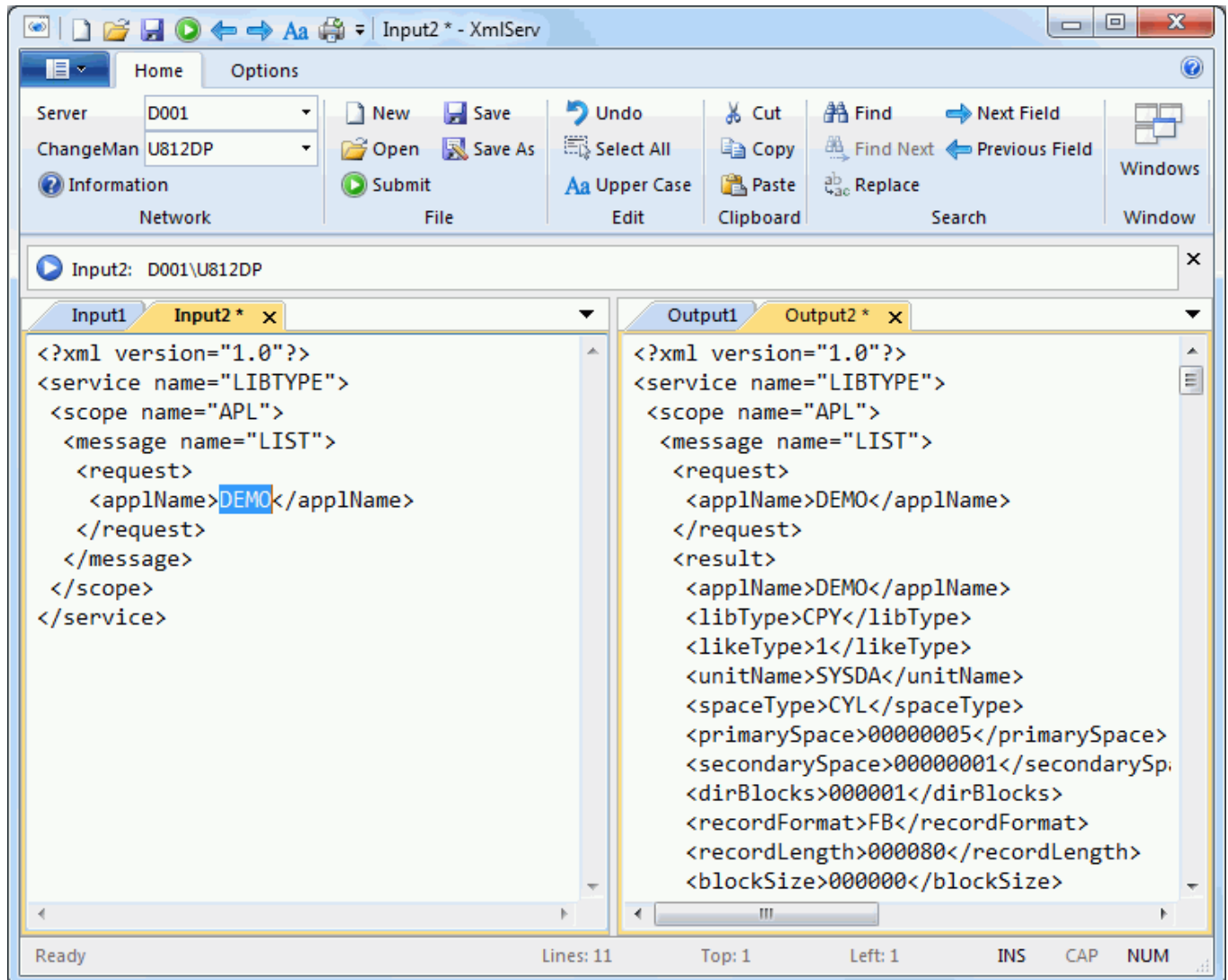
Input and Output Panes

The workspace is divided into two panes. Each pane contains a group of tabbed edit windows.

The left pane contains the input XML request files. The tabs in the left pane have labels Input1, Input2, Input3, etc. The right pane contains the output XML results files. The tabs in the right pane have labels Output1, Output2, Output3, etc.

Each time you create a new XML request, or open an existing XML request file, a new tab is created in each pane. The tabs are sequentially numbered. The input and output tabs for the same request have the same number. For example, the Output3 tab contains the results for the request in the Input3 tab.

The tabbed user interface allows you to go back and forth easily between several XML requests during your testing.

Whenever you select a tab in either pane, the corresponding tab in the other pane is automatically selected. The corresponding input and output tabs always display together. You view the XML request together with its results, side by side.

Likewise, whenever you close a tab in either pane, the corresponding tab in the other pane closes automatically. The corresponding tabs in both panes are always in lock step.

Caption Bar

Above the tabbed edit windows is a caption bar that displays information to the user. By default, the caption bar contains information about the currently active tab. If you opened that document from a file, or have saved it to a file, the caption bar will show you the corresponding file path name.

When you press the **Information** button, the caption bar displays information about the XML schema version on the server.

Ribbon Bar

Above the caption bar is a ribbon bar, which contains all of the buttons, check boxes, and drop-down lists. The ribbon bar is very similar to that used in Microsoft Office, or the File Explorer in Windows 10. The ribbon bar has three tabs (categories):

Tab	Description
File (icon)	File operations like New, Open, Save, Print, etc.
Home	Main tab with the most frequently used buttons and drop-down lists in one place.
Options	Settings that you can use to customize the user interface.

Quick Access Toolbar

At the very top of the window is the quick access toolbar, which you can customize. You can also find all of toolbar buttons on the ribbon.   However, the quick access toolbar can be useful if you choose to hide the ribbon.

To customize what buttons or drop-down lists appear in the quick access toolbar, press the **Customize** button in the **Options** tab of the ribbon.

Status Bar

At the very bottom of the workspace is a status bar, which contains various status indicators:

Indicators	Description
Program status	Ready, Waiting for server, etc.
View indicators	Number of lines, Top line, Left Column
Keyboard indicators	Insert/Overtype, Num Lock, and Caps Lock

Configuring the XML Services Tool

The Options tab of the ribbon allows you to customize the XML Services Tool user interface.

XML Request Color Levels

The Options tab on the ribbon contains a drop-down list for selecting the color level of the XML services. The color level determines which services are available when you create a new XML request. If you choose "Yellow" or "Red", you will be prompted for a password. The passwords are the same as those in the ISPF tool.

You will only need to enter the password the first time you select that color. A unique key is stored in the registry to validate that you have previously entered the password correctly. In addition, red services imply yellow services. As such, if you have previously entered a password for red services, you won't need to enter a password for yellow services.

Showing or Hiding Workspace Elements

The View pane on the Options tab of the ribbon has check boxes to show or hide the following workspace elements:

- Ribbon bar
- Caption bar
- Status bar

Edit Window Font

You can customize the font used in the edit windows using the drop-down lists in the **Font** pane in the **Options** tab of the ribbon.   Only fixed width fonts are available. The default font is Consolas 11 point.

Customizing the Quick Access Toolbar

You can customize which buttons or drop-down lists appear in the small quick access toolbar, which appears at the very top of the workspace. All of the buttons that are available for this toolbar also appear on the ribbon bar. However, you will find the quick access toolbar useful if you choose to hide the ribbon bar.

To customize the quick access toolbar, press the **Customize** button on the **Options** tab of the ribbon. The **Customize** dialog box will display. Press the **Add** or **Remove** buttons to add or remove buttons on the quick access toolbar.
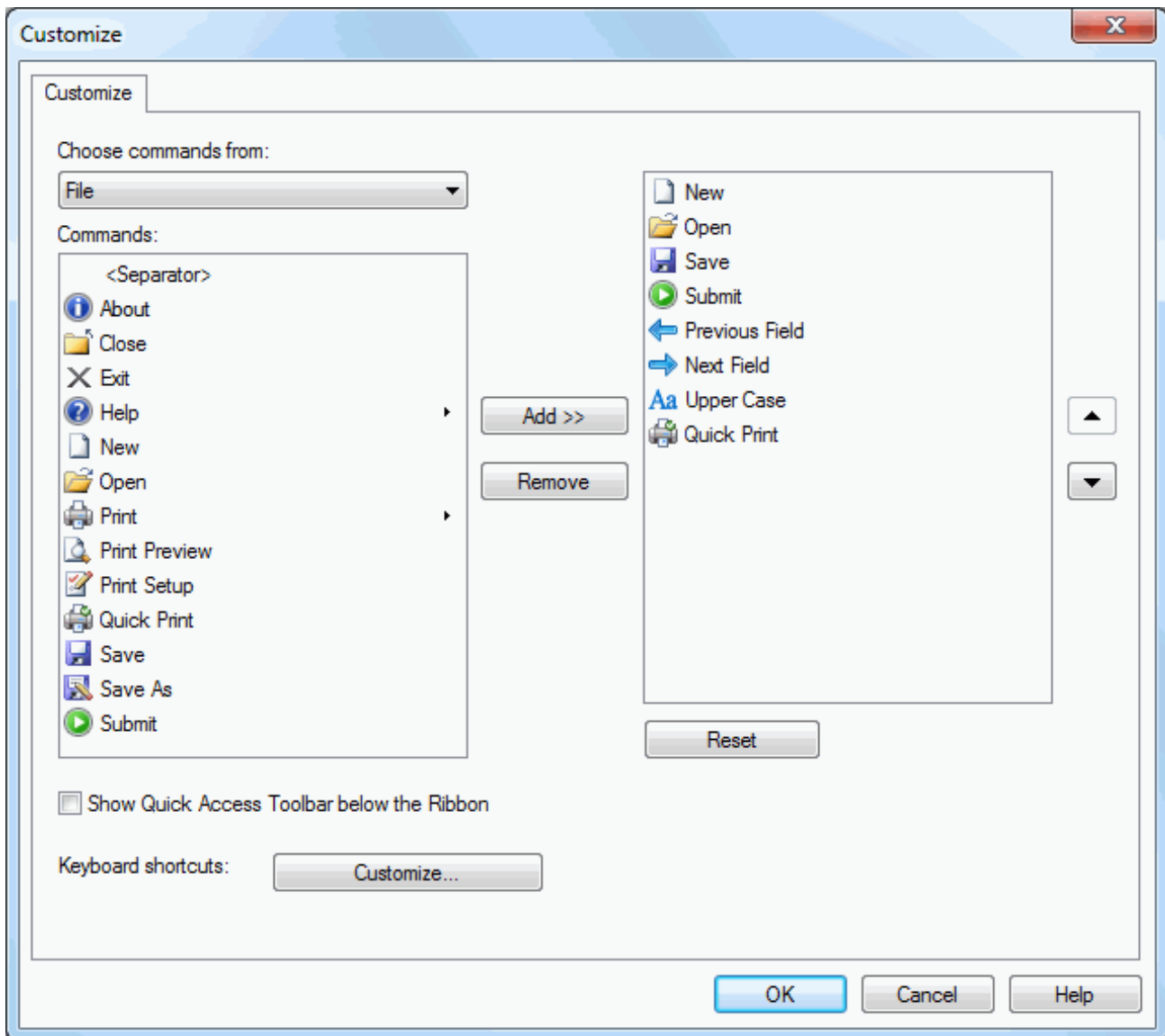
Using the XML Services Tool

Selecting a Server or ChangeMan Instance

Before working with XML requests, you must select a server, and optionally a ChangeMan instance, from the two drop-down lists on the ribbon. To direct the request to a server (XCH) port, select only a server, and no ChangeMan instance. To direct the request to a ChangeMan ZMF instance, select that as well. The drop-down list will include only servers or ChangeMan instances that are version 8.1.4 or higher.

Creating a New XML Request

To generate a new XML request, simply press the **New** button. A dialog box will prompt you to select the desired service from a list. The list of services available will depend on whether you have only a server selected, or whether you have a ChangeMan instance selected as well.
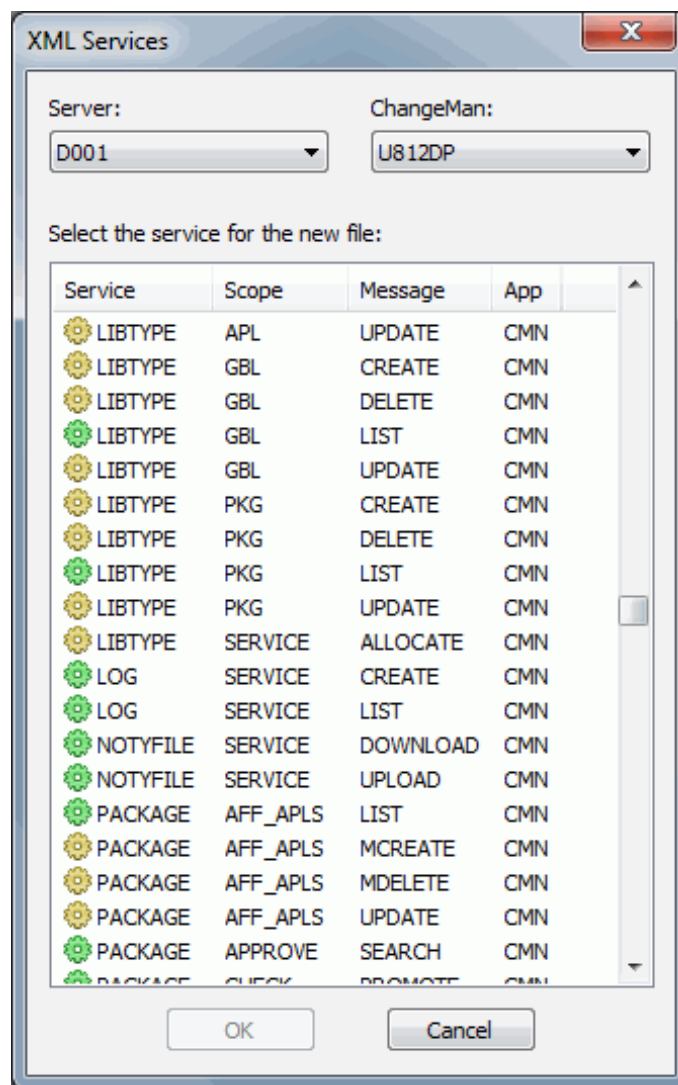
The server and ChangeMan instance that you select here will be the default target for this XML request. You can change the target later using the server and ChangeMan drop-down lists on the ribbon.

Opening an Existing XML Request File

To open an existing XML request from a file, press the **Open** button. A dialog box will prompt you to select the file.
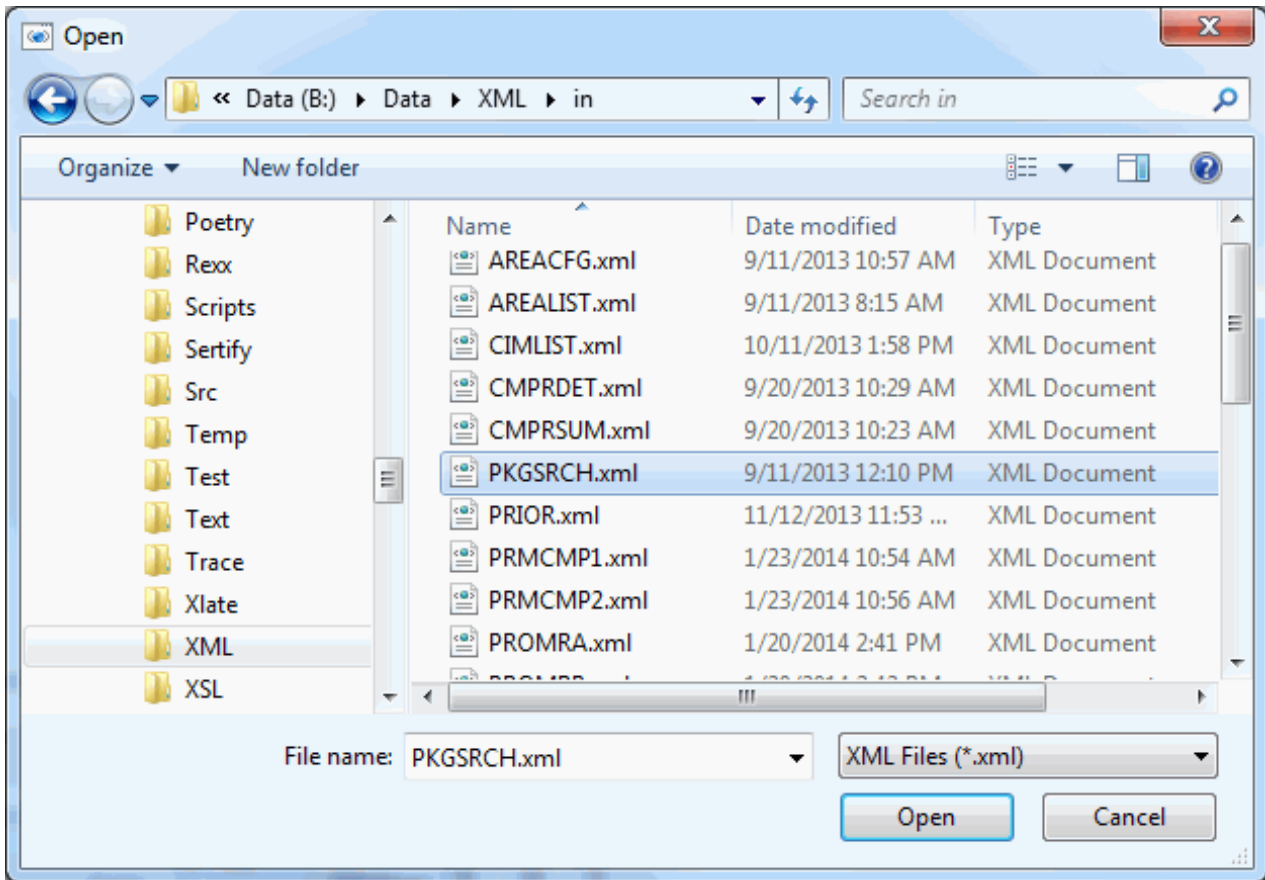
The server and ChangeMan instance currently selected in the ribbon drop-down lists will be the default target for this XML request. You can change the target at any time by changing the selection in the ribbon drop-down lists.

Editing Text

You can edit the text either in the input (request) pane, or in the output (results) pane. Pressing the Insert key will toggle the keyboard between insert mode and overtype mode. When in overtype mode, the text you type will replace the text at the caret position.

When in insert mode, the caret is a thin vertical line. In overtype mode, the caret is a square block that covers the next character that will be replaced. There is an indicator in the status bar showing whether the keyboard is in insert mode or overtype mode (**INS**/**OVR**).

The **Ctrl + Left** and **Ctrl + Right** keys will move the caret to the previous or next XML element content. These keys will quickly move the caret to the correct position for entering field values.

The ribbon bar contains a number of buttons that perform editing operations.

Edit	
Find	Search for a character string. Prompts user for string.
Find Next	Search for the next occurrence of the same character string.
Replace	Search for a string and replace it with another string. Prompts user for strings.
Undo	Undo the last edit operation.

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Clipboard	
Cut	Delete the selected text and copy it to the clipboard.
Copy	Copy the selected text to the clipboard.
Paste	Insert the clipboard contents.
Select All	Select all text in the edit window.

Keyboard

The tables below summarize the functions of the keyboard keys in the edit windows.

Cursor Movement	
Left (←)	Cursor left
Right (→)	Cursor right
Up (↑)	Cursor up
Down (↓)	Cursor down
Home	Beginning of line
End	Next line
Ctrl + Left	Previous field (XML element content)
Ctrl + Right	Next field (XML element content)
Ctrl + Home	Top of file
Ctrl + End	Bottom of file
Ctrl + PgUp	Top of window
Ctrl + PgDn	Bottom of window
PgUp	Scroll page up
PgDn	Scroll page down
Ctrl + Up	Scroll line up
Ctrl + Down	Scroll line down

Clipboard	
Ctrl + C Ctrl + Ins	Copy selection
Ctrl + X Shift + Delete	Cut selection
Ctrl + Shift + X	Cut line
Ctrl + V Shift + Insert	Paste

Selection	
Ctrl + A	Select all
Ctrl + L	Select line
Esc	Deselect
Shift + <Arrow>	Start or extend selection
Ctrl + Left	Select previous field (XML element content)
Ctrl + Right	Select next field (XML element content)

Deleting Text	
Del	Delete next char (or selection)
Backspace	Delete previous char (or selection)
Ctrl + Del	Delete to end of line
Ctrl + D	Delete line

Inserting Text	
Ins	Insert/overwrite toggle
Enter	Insert a line (at cursor position)
Ctrl + Enter	Insert blank line above
Ctrl + Shift + Enter	Insert blank line below

Miscellaneous	
Tab	Indent one space
Ctrl + Z Alt + Backspace	Undo
Ctrl + U	Lower case selection
Ctrl + Shift + U	Upper case selection

Searching	
Ctrl + F	Find
F3	Repeat find
Ctrl + H	Replace

Windows	
Ctrl + Tab Ctrl + F6	Next window
Ctrl + Shift + Tab	Previous window
Ctrl + F4 Ctrl + W	Close window

Files	
Ctrl + N	Create a new XML request
Ctrl + O	Open an XML request file
Ctrl + R	Submit an XML file (Run)
Ctrl + S	Save a file
Ctrl + Shift + S	Save a file as another name
Ctrl + W	Close file
Ctrl + P	Print a file

Submitting an XML Request

To submit an XML request, simply press the **Submit** button. The **Submit** button is enabled only when the active tab is an input (request) tab. In other words, a tab in the left pane must have the focus.

The **Submit** button will submit the XML request to the server or ChangeMan instance that you have selected in the ribbon drop-down lists. The results from the XML request will display in the output pane on the right side.

Before you submit the request, select the server and ChangeMan drop-down lists as shown in the following chart.

Target	Port	Drop-down Lists
Server	XCH	Select server only. No ChangeMan.
ChangeMan	CMN	Select both server and ChangeMan.

Saving a File

You can save either the XML request or the XML results to a file by pressing the **Save** or **Save As** buttons. The **Save As** dialog box allows you to specify the desired encoding of the file (ASCII, Unicode, or UTF-8).
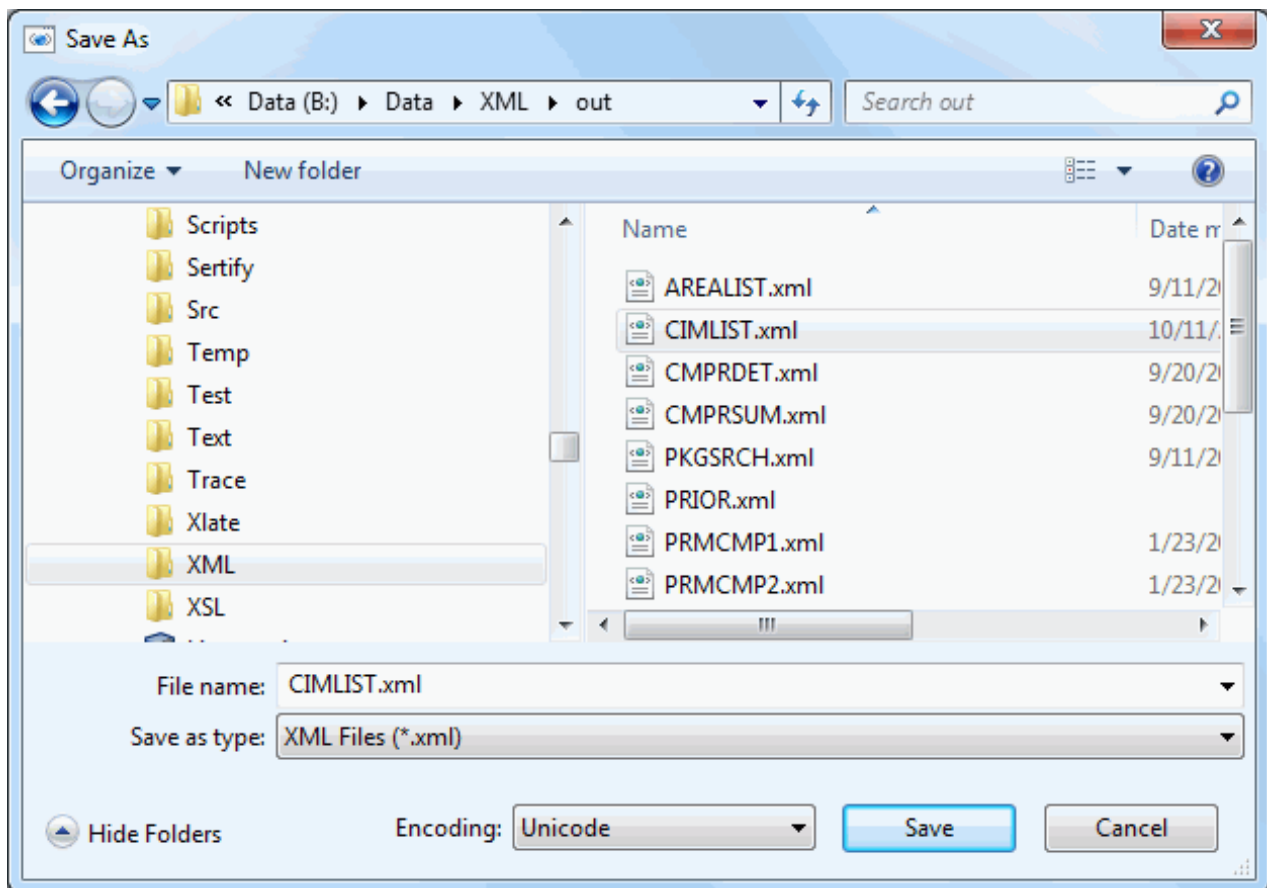
Chapter 5
Accessing ChangeMan ZMF

Overview

Before you use the ChangeMan ZMF functions, it is presumed that you:

- Have ChangeMan ZDD configured on your PC (see "Configuring ChangeMan ZDD" on page 71)

- Are familiar with the different ChangeMan ZMF folders (see "Configuring Folders for ChangeMan ZMF" on page 127)

- Have an understanding of ChangeMan ZMF concepts

Using ChangeMan ZDD, you can access ChangeMan ZMF information and perform some common ChangeMan ZMF functions. It is virtually the same as using ChangeMan ZMF in the ISPF client; all z/OS server security and ChangeMan ZMF rules apply. When you first click a network share folder for a ChangeMan ZMF instance, you are prompted to enter your user ID and password. All of the rules set up under ChangeMan ZMF global and application administration apply to functions you perform using ChangeMan ZDD (except as noted for the specific functions).

From your desktop, you can:

- Create a new package

- Update package information

- Check out components from the baseline or promotion libraries

- Lock and unlock components in a package

- Browse components in the baseline, staging, and promotion libraries

- Edit components in a package

- Delete components in a package

- Check In components using drag-and-drop (this is the *Stage from Development* function)

- Build, recompile, and relink components

- Use staging versions

- Audit a package

- Freeze a package

- Unfreeze and refreeze a package

- Unfreeze and refreeze components i

- Revert a package

- Promote and demote a package

- Approve or reject a package

- Resubmit an install JCL build request

- Back out a package

- Display or change packages in limbo

- Display or change the package installation schedule

- Memo-delete a package and restore a memo-deleted package

- Compare files (compare two components)

- Merge files (merge two revised versions with a baseline version)

- Submit XML requests to XML Services

- Query library, package, and component information

All of these functions are the same as those you perform from the ISPF client, and all are available if you are using ChangeMan ZMF 5.3.6 or higher.

Packages in the Windows Explorer

In the Windows Explorer, the names of packages, package libraries, and package components display as blue text when past the install date. Many menu commands are not available after the install date has passed.

ChangeMan ZMF Messages

ChangeMan ZMF messages that you receive while using ChangeMan ZDD are the same as those you would receive in the ISPF client. These error, warning, and informational messages display on your desktop in message boxes.

Refer to the *ChangeMan ZMF Messages Guide* for more information on these messages.

Viewing Output for ChangeMan ZMF Jobs

Jobs submitted by ChangeMan ZMF run under the authority of the ChangeMan ZMF instance, and therefore have an owner ID equal to the instance name. For example, a Build job submitted by the ChangeMan ZMF instance, *USERAPP,* has an owner ID of *USERAPP.*

To see this type of job in your ChangeMan ZDD folder:

1 Set up a job filter with a Job Type of "All jobs - Job name".

2 In the Job Name text box, enter the job name you used on the Job statement. You can also specify a pattern name using wildcard characters.

For more information on Job Folders and Filters, see "Job Folders" on page 121.

You can also check the hold queue in JES to see the details of the job execution.

Functional Differences Between ChangeMan ZMF and ChangeMan ZDD

The following table describes some differences in behavior between the ISPF interface and the ChangeMan ZDD interface to ChangeMan ZMF.

Function/ Parm	ChangeMan ZMF Behavior	ChangeMan ZDD Behavior
Browse Listings	You cannot browse listings within a package; you must go into the Browse function.	You can view listings within a package by opening up the LST folder.
Cancel Command	When you enter the Cancel command during a transaction, the cancel takes effect immediately.	The Cancel button cancels the transaction to the extent that is possible. Once the Cancel request has been sent to the mainframe, there is no facility in SerNet nor in ChangeMan ZMF to cancel an operation. ZosNet checks the cancel flag each time it resumes processing and terminates the operation at that time. ChangeMan ZDD can only cancel processing that is under its control.
Check In (stage from development) of sequential data sets	You can stage sequential data sets into a package even if the suffix does not match the library type.	You can check in sequential data sets to a package only if the suffix matches the library type.
Compile/ Build	After editing a source component, the CMNSTG04 panel displays where you can compile the source.	After editing a source component, you must: ■ Save the changes and exit the edit session. ■ Access the Serena Network popup menu and submit a Build to compile the source.
Component Delete	You must enter an individual line command next to each component to be deleted.	You can delete several components at one time by using the Shift or CTRL keys.
Creating a Package	Cannot go backward and forward through the ISPF Create Package panels. Facility to use another package as a model ("Package to Copy Forward" field).	Can go backward and forward through the New Package wizard pages. No facility to use another package as a model.

Function/ Parm	ChangeMan ZMF Behavior	ChangeMan ZDD Behavior
Designated Compile Procedure	Designated Compile Procs are enforced by displaying panel CMNSTG04 in read mode, so you cannot override the compile and link option parms that have been defined. This is for Force Level = 2.	Designated Compile Procs are not supported at this time. The Build dialog displays in edit mode (instead of read mode as on the mainframe). The Compile Parms, Link Parms, and User Options fields can be overridden. But if a component has been defined to use a designated compile procedure, what you type in the Build Procedure field will be overridden by the designated compile procedure.
Editing Components	A component does not have to be in Lock status while you are editing it. ChangeMan ZMF prevents other users from accessing a component you are editing.	Unless you lock a component, it can be updated by another user while you are editing it. See "Locking and Unlocking Components" on page 234.
Package Components	Package components are displayed as one member list.	Package components can be displayed in two ways: - as one member list in the bang (!) folder. - per library type folder.
Package Filters	Not applicable.	Additional filter criteria has been added to select which packages display.
Relink Function	LCT cards can be processed through the relink function.	LCT cards cannot be processed. Relink is only for load to load components.
Save to Personal & Staging Lib Admin. Parm	If this parm is set to Y, ChangeMan ZMF will save to both the staging and personal libraries.	If this parm is set to Y, ChangeMan ZDD will not save changes in the personal library.
Staging Versions	You are always prompted to enter a Change Description after you exit from editing a component.	You will not be prompted to enter a Change Description after you exit from editing a component. The Change Description field will be blank when Staging Versions is viewed through ChangeMan ZDD and ChangeMan ZMF in the ISPF client.

Unix Components

Baseline library folders, package library folders, and promotion library folders can represent either partitioned data set (PDS) libraries or Unix directories. When the folder represents a Unix directory, it is displayed as a blue/green folder in Windows Explorer.

Unlike PDS library folders, the Unix library folders are hierarchical and can contain subdirectories. Unix component names can include subdirectory names, separated by the Unix path separator character, which is a forward slash ("/").

Example: payroll/source/taxes.java

With PDS components, the library type is appended to the component name and uses a file extension. Typically, Unix components already contain a file extension; therefore, ChangeMan ZDD does not append the library type onto Unix component names. Because of this, some dialog boxes contain a field to display the library type.

Viewing Library Type Descriptions

You can view the description for a ChangeMan ZMF library type in either of the following ways:

- Hold the mouse pointer over the library folder in the right pane of Explorer. In the following example, "Source code main" is displayed for the SRC folder.
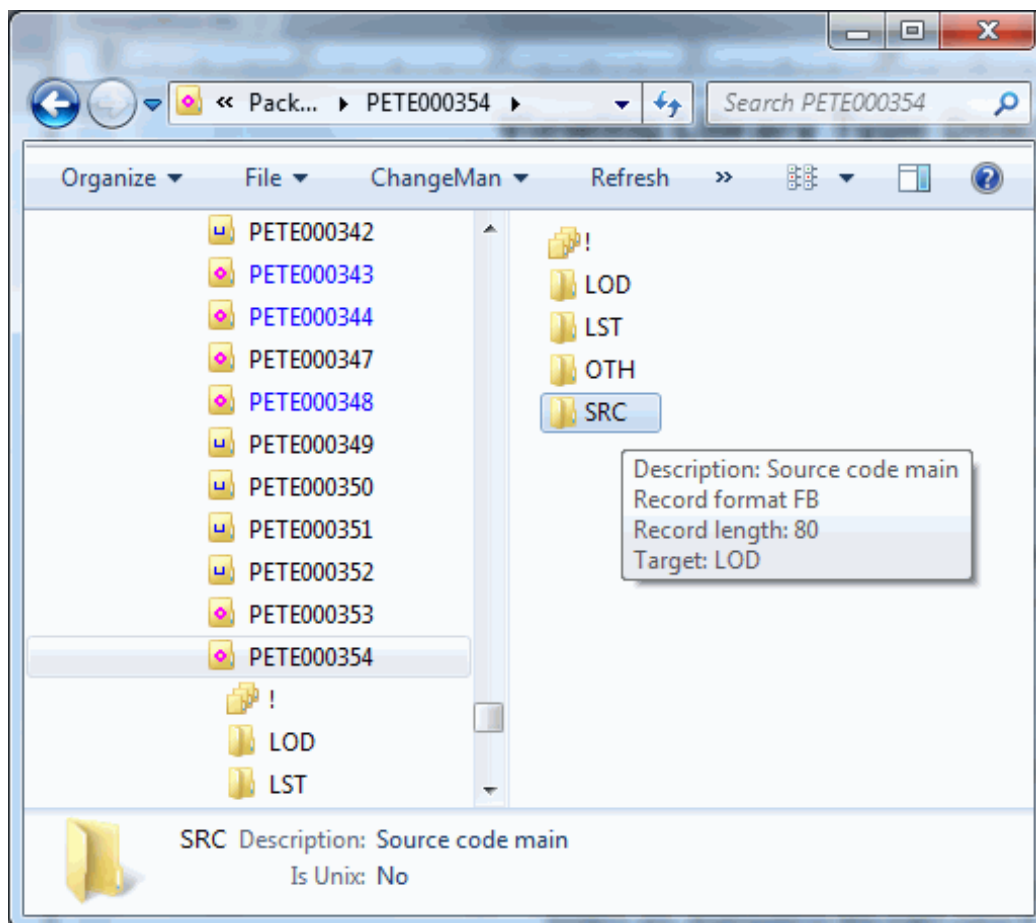
or

- When the right pane of Explorer is in the **Details** view (**View → Details**), and library folders are displayed in the right pane:

  - Choose **View → Choose Columns**

  - Select **Description** from the **Column Settings** dialog box.

- The **Description** column displays.
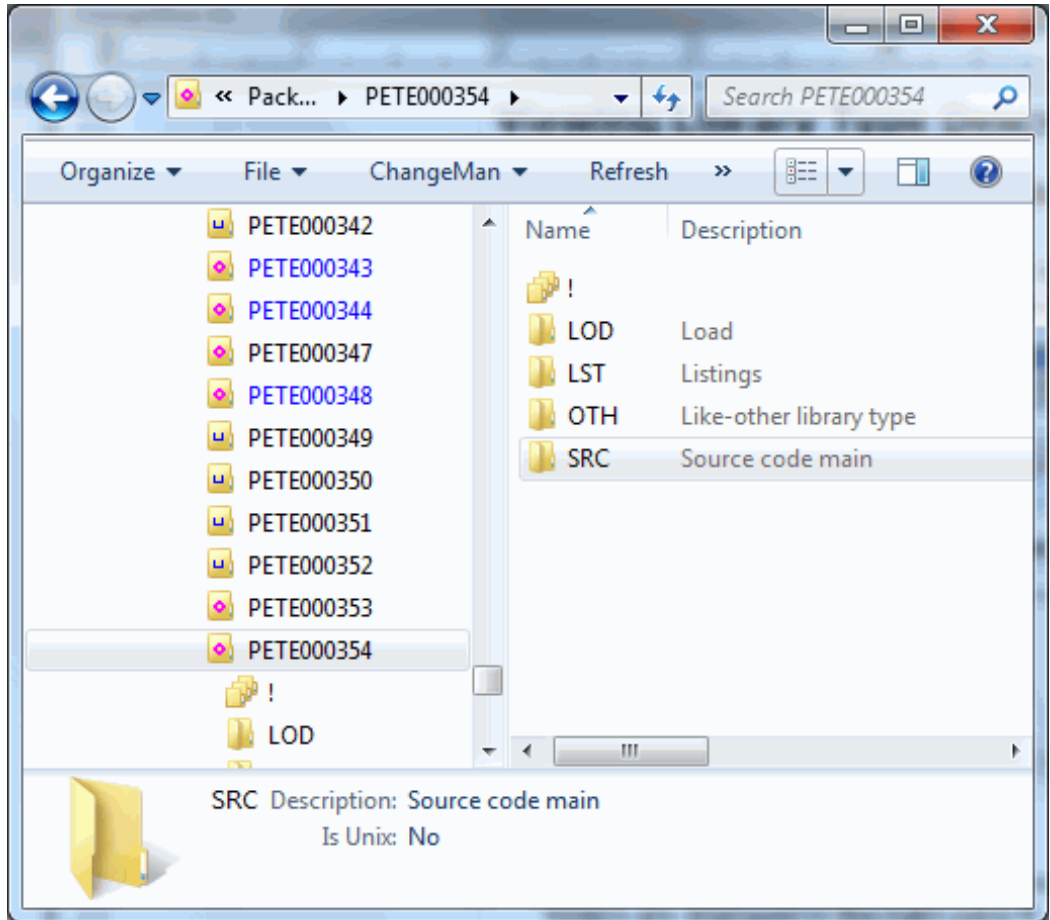
Viewing Package Status and Title

Hold the mouse pointer over the package folder in the right pane of Explorer to display the status and title of the package.

Shown and Hidden Library Types

Your administrator determines which library types are shown or hidden for an application in the ChangeMan ZDD user interface. This is done through the LIBTYPE member in the ZDDOPTS library, described in *Serena® ChangeMan® ZDD Server Installation Guide*.

Enabled/Disabled ChangeMan ZMF Commands

Your administrator determines which ChangeMan ZMF commands are enabled or disabled on the popup menus. This is done through the COMMAND member in the ZDDOPTS library, described in *Serena® ChangeMan® ZDD Server Installation Guide*.

Files and Folders not Displayed

The following files and folders for ChangeMan ZMF instances do not appear in Explorer:

- Files in package library folders do not appear when they are in **INACTIVE** status. This happens when the package was created by copying forward from another package; the component names are copied forward but the components do not actually exist in the new package.

- Library folders under a package do not appear if the staging libraries have not been allocated (this occurs when deferred allocation is in effect for the application).

Going Directly to a Package

To bypass the Explorer directory tree and go directly to a package or group of packages, use the Windows Search facility:

Start → Search → For Files or Folders.

MFS Components

MFS components with non-standard member names will display in the Explorer; however, the functions (such as browse, edit, promote) will not work.

Properties

You can query folders and components to access a variety of information. Right-click a folder or component and choose **Properties** to access the following information:

Folder or component	Properties information
Application	- Application name and description
Baseline, package, and promotion libraries that are PDS format	- Library information - Data set information - Space information - Directory information
Baseline, package, and promotion libraries that are Unix directories	- Library information - Unix-related information - Security information
A baseline component in a PDS library	- Member information - Component description
A baseline component in a Unix library	- Unix-related information - Security information - Component description

Folder or component	Properties information
The *Packages* folder	■ Next available package number ■ Filters that specify what packages are displayed in Explorer
A package folder	■ General package information ■ Package description ■ Implementation information ■ Scheduling information ■ Affected applications ■ Participating packages ■ Site information
A package component in a PDS or Unix library	■ Component information ■ Component description
A promotion site/level folder	■ Promotion site/level information
A promotion component in a PDS library	■ Member information ■ Component description
A promotion component in a Unix library	■ Unix-related information ■ Security information ■ Component description

Package Component Properties

There are two pages in the package component properties: **Component** and **Description**.

Component Page

The **Component** page displays general information about a package component and its status. All of the fields on this page are read-only, except for the **Locked** check box. You can lock or unlock a component using this check box. The Lock ID field shows which user ID has the component locked.

Description Page

The **Description** page shows the component description, if the component has a description defined. The component description can be changed by editing the text box and then pressing the **Apply** button.

Initially, if the package component has no description, the component description page is populated with the default description for the component from the application or global administration, if a description has been defined for the component there..
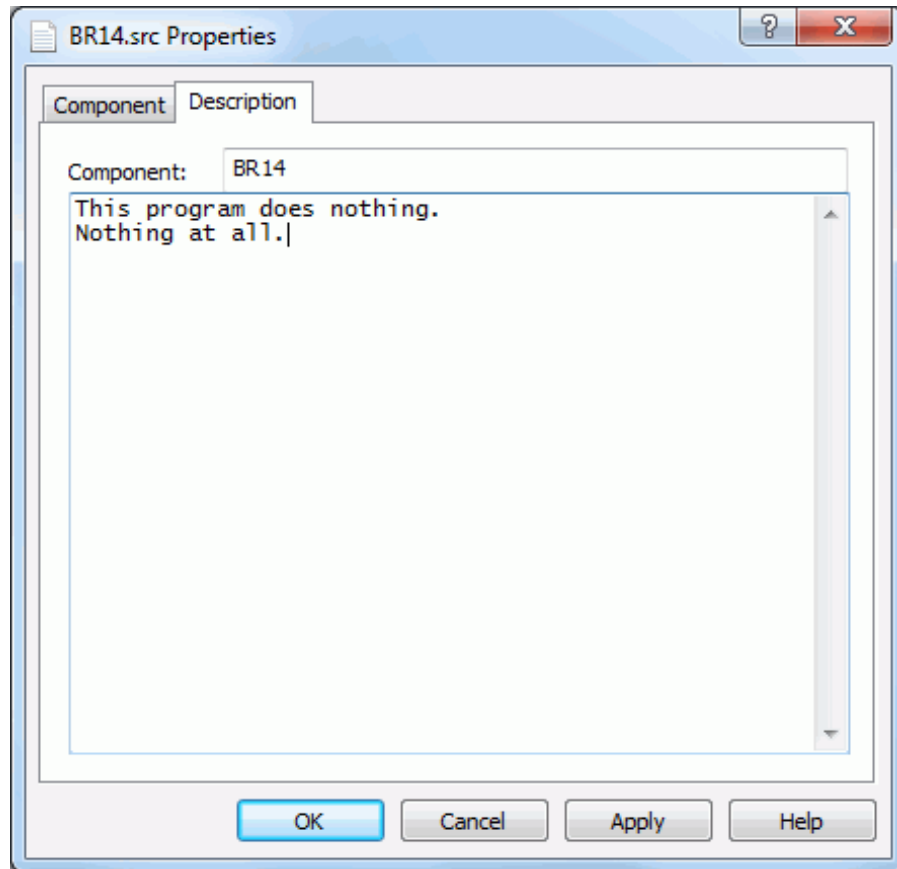
Creating a New Package

The **New Package** function uses a wizard interface with nine pages, corresponding to the nine panels in the ChangeMan ZMF ISPF interface. However, unlike the ISPF interface, the wizard allows you to go forward and backward through the pages.

When a page displays, the editable fields are populated with the values that were last entered in those fields. On some of the pages, you can leave certain fields blank and then update them later using the package Properties sheet (see "Updating Package Information" on page 228).

Wizard Pages

The following table lists the wizard pages and indicates which pages are displayed for different types of packages. See notes following the table.

Wizard Page	Short Method			Long Method		
	Simple	Partici-pating	Super/ Complex	Simple	Partici-pating	Super/ Complex
General	X	X	X	X	X	X
Description				X	X	X
Implementation				X	X	
Scheduling				note1	note1	
Affected Applications					X	
Participating Packages			X			X
Other Options	note2	note2		note2	note2	
Site	note3	note3		note3	note3	
Sites	note4	note4		note4	note4	

Notes:

note1	Displayed only if **Other** is specified for **Scheduler** type on the **Implementation** page.
note2	Displayed only if there are user options specified in the PKGCREAT member of ZDDOPTS.
note3	Displayed if the ChangeMan ZMF instance is specified as "all" sites.
note4	Displayed if the ChangeMan ZMF instance is specified as a "DP" site.

Invoking the New Package Wizard

Right-click a ChangeMan ZMF instance, an application folder, or the **Packages** folder to display the popup menu. Point to **Serena Network** and then click **New Package**.

The first page displayed is the **General** page.

General Page

The **General** page is the initial page displayed in the New Package wizard. The editable fields are populated with the values that were last entered in those fields.

The following table describes the fields on the **General** page.

Field / Box	Description
Package title	Type a title for the package. This field is case-sensitive and has a maximum length of 72 characters.
Application	Choose an application mnemonic from the drop-down list. You must have UPDATE access to this mnemonic in your security system.

Field / Box	Description
Package level	Choose a package level from the drop-down list: **Simple** - The changes in this package are not related to any other package. This level does not affect any other application, nor does it require changes to software or operational procedures in other applications. **Participating** - This package is related to one or more other participating packages which are listed under the same super or complex package. SYSLIB statements in build process jobs include staging libraries from other participating packages under the same super or complex package. **Super** or **Complex** - This package is the parent of two or more participating packages that have interdependent changes to software or operational procedures. To create a super or complex package, you provide the information on this page, and in a subsequent page you provide a list of participating packages. Remote sites and installation dates are set in each participating package. No staging libraries are allocated to super or complex packages.
Requestor name	Type the name of the person requesting this change package. This field is not case-sensitive and has a maximum length of 25 characters.
Work request ID	Type a work request number. This field is not case-sensitive and has a maximum length of 12 characters. This field may be used for the ChangeMan ZMF INFO option.
Requestor phone	Type a telephone number for the person whose name you entered in the **Requestor Name** field. This field has a maximum length of 15 characters.
Department	Type the department associated with this change package. This field is used for reporting only. This field is not case-sensitive and has a maximum length of 4 characters.
No package description	Select this option to skip the package description page. A default package description will be used.
No implementation instructions	Select this option to skip the package implementation instructions page, and the scheduling information page. Default values will be used for the fields on those pages.
Unplanned change	Package Type - Planned or Unplanned. Select this option for Unplanned changes, meaning the package contains unscheduled changes and possibly emergency fixes. Depending on Global and Application administration settings, some package lifecycle steps and requirements may be skipped. If you do not select this option, the package type is Planned and follows the standard package life cycle for Permanent or Temporary packages. Super, Complex, and Participating packages must be planned.
Unplanned reason	If you selected **Unplanned change**, choose a Reason Code from the drop-down list.

Field / Box	Description
Temporary change	Package Time Span - Permanent or Temporary. Select this option for Temporary changes, meaning the changes are installed in special override libraries concatenated on top of your production environment library concatenations. The changes are removed from these libraries after the number of days (entered in the Temporary Days field on this page) has passed. Baseline and production libraries are not changed. A temporary package may be either planned or unplanned. If you do not select this option, the package is Permanent, meaning the package components are installed in baseline and production libraries. A permanent package may be either planned or unplanned. Super, Complex, and Participating packages must be permanent.
Temporary days	This field is enabled if you selected **Temporary change**. Indicates the number of days that changes in a temporary package are to remain in override libraries. The count of calendar days for this field is incremented at 24:00 system time each night. Temporary package components are automatically removed at the time-of-day specified in the Install Date/Time information (provided on the Site Information pages). Therefore, the number entered in this field does not necessarily equate to 24-hour days. For example, if a temporary package has an Install Date/Time of 20060815/1800, a Temporary Days value of 1, and the package is actually installed at 2100 on the install date of 8/15/2006, then the package components are automatically removed from temporary libraries at 1800 on 8/16/2006, which is less than 24 hours after they were installed.
Release	Select a release from the drop-down list.
Release Area	Select a release area from the drop-down list.

Enter the general package information and then click **Next** to continue.

Description Page

The **Description** page is not displayed if you selected the "No package description" option on the first wizard page.
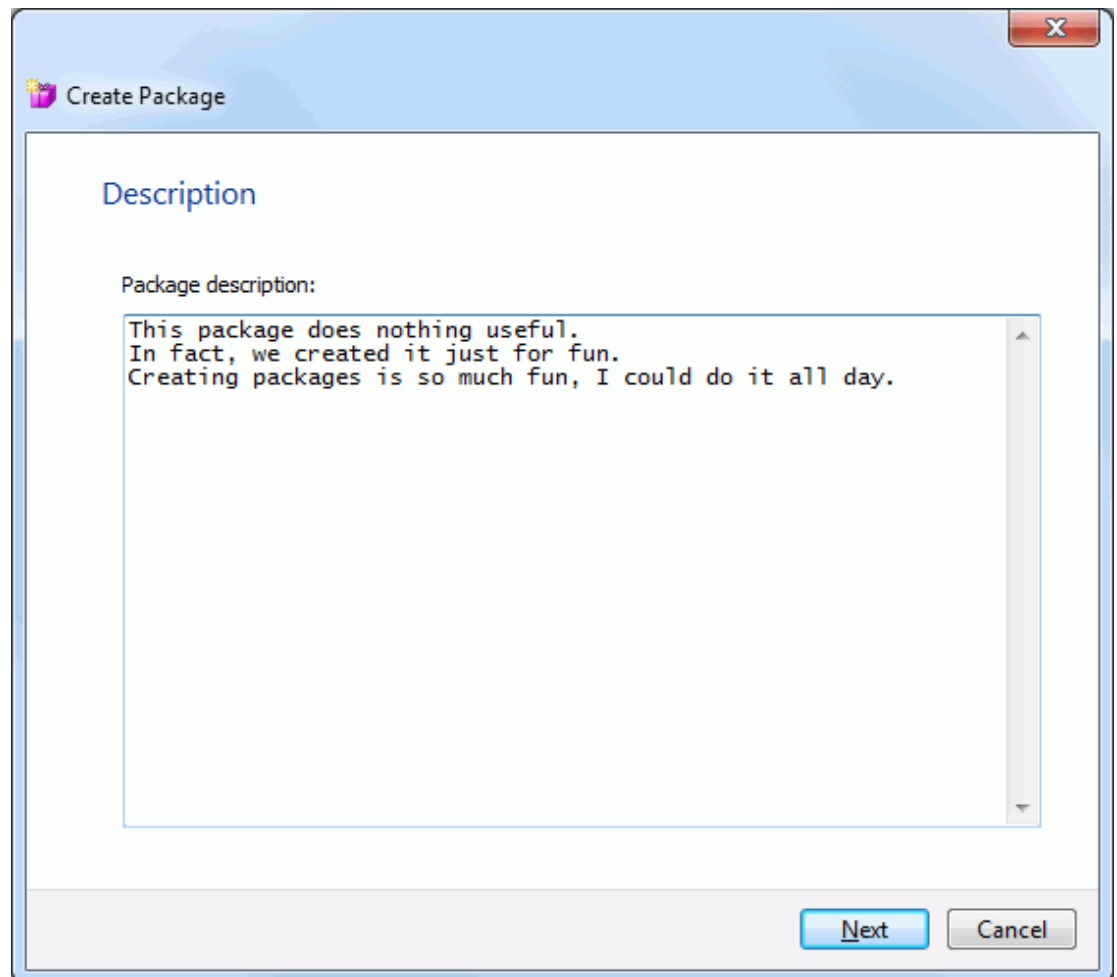
Enter up to 46 lines of text and then click **Next** to continue.

You may also click **Back** to return to the previous page and make changes.

Implementation Page

The **Implementation** page is not displayed if you selected the "No implementation instructions" option on the first wizard page.

The following table describes the fields on the **Implementation** page.

Field / Box	Description
Contingency	Select the option that describes what should be done if your change package fails. If you select **Other**, you must enter an explanation in the corresponding text box.
Scheduler	Select an option to determine how the package installation process is initiated: **ChangeMan** - Package installation will be initiated by the internal ChangeMan ZMF scheduler when it determines that the package Install Date and From Time have arrived at the specified site. **Manual** - Package installation will be initiated when the last approval is entered. **Other** - Package installation will be initiated by an external scheduler, such as CA-7, CA-Scheduler, or CA-ADC2. Scheduling records are inserted into the scheduler database by job CMN17, which runs when the package is distributed. The default **Scheduler** option is determined by the Installation Job Scheduler defined in ChangeMan ZMF Global Administration. The global default value determines whether you can change the **Scheduler** field for a new package: ■ When **ChangeMan** is the global default, you can change the **Scheduler** field to **Manual**, but not to **Other**. ■ When **Manual** is the global default, you cannot change the **Scheduler** field. ■ When **Other** is the global default, you can change the **Scheduler** field to **ChangeMan** or **Manual**.
Installation instructions	Enter up to 46 lines of instructions for installing and backing out the change package.

Enter the implementation information and then click **Next** to continue.

You may also click **Back** to return to the previous pages and make changes.

Scheduling Page

The **Scheduling** page is displayed only if you selected **Other** for **Scheduler** type on the **Implementation** page. The information on this page is inserted into your job scheduler database by job CMN17, which runs when your package is distributed.

The following table describes the fields on the **Scheduling** page.

Field / Box	Description
Predecessor jobs	Jobs in your automated job scheduler that run before the first installation job for the package.
Successor jobs	Jobs in your automated job scheduler that run after the first installation job for the package.

Enter the predecessor and successor jobs that run before and after the first installation job for your package (or leave blank and provide it later using the **Scheduling** page of the package Properties sheet).

- To add a job, double-click on a blank line or click the **New** button above the list.

- To edit a job, double-click the entry and an edit box will open.

- To delete a job, select it and then click the **Delete** button above the list

All installation jobs after the first job are submitted by the ChangeMan ZMF internal scheduler.

Click **Next** to continue, or click **Back** to return to the previous pages and make changes.

Affected Applications Page

The **Affected Applications** page is displayed only if you are creating a participating package using the long method.

The following table describes the fields on the **Affected Applications** page.

Field / Box	Description
Complex/ super package	Enter the package ID of a Super or Complex package in OPN status that this participating package will be managed under.
Affected applications	The applications listed have been selected using the filter for the ChangeMan ZMF instance (in other words, the same applications that display for the ChangeMan ZMF instance in Windows Explorer).
	Select the applications that are affected by your change package.
	When you freeze the participating package, planned approvals that are defined as Interfacing Approvals in the affected application are assigned to your package.

You may enter the information now, or provide it later using the **Applications** page of the package Properties sheet.

NOTE If you leave the **Complex/super package** field blank, you will *not* be able to enter it later on the **Applications** page of the Properties sheet. To specify a complex/ super package at a later time, go to the Properties sheet for a complex/super package and enter the participating package ID on the **Participating** page.

Click **Next** to continue, or click **Back** to return to the previous pages and make changes.

Participating Packages Page

The **Participating Packages** page is displayed only if you are creating a complex or super package.

You can select participating packages to associate with this complex/super package from the dropdown list. The first time you open the dropdown list, there may be a delay during a search for eligible packages to fill the dropdown list.

The dropdown list will only contain eligible participating packages, which are those in DEV status, have an install date that has not passed, and are not be already associated with another complex or super package.

■   To add a participating package, select the package from the dropdown list, and then press the **Add** button.

■   To remove participating packages, select one or more packages in the list at the bottom of the page, and then press the **Remove** button.

You may enter the information now, or provide it later using the **Participating** page of the package Properties sheet.

Click **Finish** to create the package, or click **Back** to return to the previous pages and make changes.

Other Options Page

The **Other Options** page is displayed only when you are creating a simple or participating package, and only when customer-defined options have been specified in the PKGCREAT member of ZDDOPTS.

Update the values as needed for this package, following the validation rules specified in the PKGCREAT member.

Click **Next** to continue, or click **Back** to return to the previous pages and make changes.

Site Page (All site)

The **Site** page is displayed only when you are creating a simple or participating package for a ChangeMan ZMF instance specified as an "all" site.

The following table describes the fields on the **Site** page.

Field / Box	Description
Install date	The calendar date that the package will be installed at the site. Enter a date in mm/dd/yyyy format, or click the arrow button to display a calendar from which to select a date.
From time	The earliest time of day when the installation should begin. Enter a time in "hh:mm:ss am/pm" format, or select a segment of the time (for example "hh") and then click the arrow buttons to update it.
To time	The latest time of day when the installation should begin. Enter a time in "hh:mm:ss am/pm" format, or select a segment of the time (for example "hh") and then click the arrow buttons to update it.
Primary contact	Enter the name of the primary person to contact if there is a problem with the installation at this site. Up to 25 characters may be entered.

Field / Box	Description
Primary phone	Enter the telephone number of the primary contact. Up to 15 characters may be entered.
Secondary contact	Enter the name of the secondary person to contact if there is a problem with the installation at this site. Up to 25 characters may be entered.
Secondary phone	Enter the telephone number of the secondary contact. Up to 15 characters may be entered.

Enter the site information and then click **Finish** to create the package.

You may also click **Back** to return to the previous pages and make changes.

Sites Page (DP site)

The **Sites** page is displayed only when you are creating a simple or participating package for a ChangeMan ZMF instance specified as a "DP" site. Sites can be added, updated, or deleted.

The following table describes the fields on the **Sites** page.

Field / Box	Description
Site	Select a site where the package is to be installed.
Install date	The calendar date that the package will be installed at the site. Enter a date in mm/dd/yyyy format, or click the arrow button to display a calendar from which to select a date.
From time	The earliest time of day when the installation should begin. Enter a time in "hh:mm:ss am/pm" format, or select a segment of the time (for example "hh") and then click the arrow buttons to update it.
To time	The latest time of day when the installation should begin. Enter a time in "hh:mm:ss am/pm" format, or select a segment of the time (for example "hh") and then click the arrow buttons to update it.
Primary contact	Enter the name of the primary person to contact if there is a problem with the installation at this site. Up to 25 characters may be entered.
Primary phone	Enter the telephone number of the primary contact. Up to 15 characters may be entered.
Secondary contact	Enter the name of the secondary person to contact if there is a problem with the installation at this site. Up to 25 characters may be entered.
Secondary phone	Enter the telephone number of the secondary contact. Up to 15 characters may be entered.
Install sites	Displays information for the sites that have been added for this package.

Use the following procedures to add, update, and delete sites for this package.

When you are finished entering site information, click **Finish** to create the package, or click **Back** to return to the previous pages and make changes.

To Add a Site

1 Select a site from the **Site** drop-down list.

2 Enter information for the selected site.

3 Click the **Add** button to add the information to the **Install sites** list.

To Update a Site

1 Select a site from the **Site** drop-down list, or click the entry in the **Install sites** list. The information will display in the update fields.

2 Update the site information.

3 Click the **Change** button to update the information and display it in the **Install sites** list.

To Delete a Site

1 Select a site from the **Site** drop-down list, or click the entry in the **Install sites** list.

2 Click the **Remove** button to delete the site from the **Install sites** list.

Updating Package Information

Package information can be updated using the package Properties sheet. Not all fields can be updated. Some fields are restricted by ChangeMan ZMF; other fields may be restricted by your administrator through the PKGPROP member in the ZDDOPTS library (described in *Serena® ChangeMan® ZDD Server Installation Guide*).

> **NOTE** If a package is in frozen status, you must first unfreeze the package information before you will be allowed to update it. See "Unfreezing and Refreezing a Package" on page 286.

Right-click a package to display its Properties sheet. The following table lists the pages that may be updated; also listed are the corresponding pages of the New Package wizard that you can refer to for field descriptions and instructions.

Properties Sheet Page	New Package Wizard Page
Package	"General Page" on page 214
Description	"Description Page" on page 217
Implementation	"Implementation Page" on page 218
Scheduling	"Scheduling Page" on page 220
Applications	"Affected Applications Page" on page 221
Participating	"Participating Packages Page" on page 223
Other Options	"Other Options Page" on page 224
Site	"Site Page (All site)" on page 225
Sites	"Sites Page (DP site)" on page 226

> **NOTE** The pages displayed on the properties sheet depend on the package attributes. Refer back to "Wizard Pages" on page 213 to see which pages you can expect to see.

Checking Out to a Package

The **Check Out** function works the same in ChangeMan ZDD as it does in the ChangeMan ZMF ISPF interface, with these exceptions:

- You cannot check out a component to a personal library; you must check out the component to a package folder.

- If you check out a component in a library type for which Component Activity File is enabled, the corresponding component in the Component Activity File Type is not checked out. If you do not check out the corresponding component manually, Audit will detect a SYNCH6! error in the package.

If you check out from a baseline library, the default is level 0 for the current version; you may also choose a prior version (from -1 to -99). If you choose a prior version, a batch

job will be submitted automatically to perform the check out (if you check out the current version, the check out is performed online).

> **NOTE** If you check out from a promotion library, the check out is always performed online.

Steps to Check Out to a Package

1 Right-click on a package, a baseline library, or a promotion library, and choose **Check out to package**. You can also drag components from a package, baseline library, or promotion library, and drop them onto the target package.

2 The **Check Out - Options** page displays.

The fields are described in the following table.

Field / Box	Description
To package	Select a target package for the components you are checking out.
Component type	Select a component type to be checked out.
Component name filters	Enter a component name pattern with wild characters.
Lock after check out	Select or deselect this option. The component must be locked to edit it from the package folder. You cannot lock a component that is locked by another user ID.
Save prior version	Saves staging version of preexisting component. This option applies only if ZMF's Save Staging Versions (SSV) feature is enabled. It has no effect on whether or not a component checked out will overlay a preexisting copy of that component in the package.
Show user variables	Displays the **Other Options** page which allows you to set user variables. This check box is disabled for online check out, since the **Other Options** page is displayed for batch operations only.
Check out from	Choose one of the following options: **Baseline** - Use this option when you want to start your coding from a version of a component in a baseline library. **Package** - Use this option when you want to start your coding from a version of a component in another package. Requires ChangeMan ZMF 8.1.2+. **Promotion** - Use this option when you want to start your coding from a version of a component in a promotion library.
Job Card	The job card is used for submitting a batch job. The job card field is available only when checking out a prior version (-1 to -99) of a baseline library or when the components are like type OTH. In all other cases, the check out is performed online. Default values are displayed initially. If you change the values, they will be stored in your registry and used as the defaults in the future. Each time this dialog displays, the last character of the jobname is incremented alphabetically. If the &SYSUID parameter in the Notify field is not overridden, the user ID is automatically substituted.

3 Update the fields in the **Check Out - Options** page and click **Next**. The **Check Out - Components** page displays.
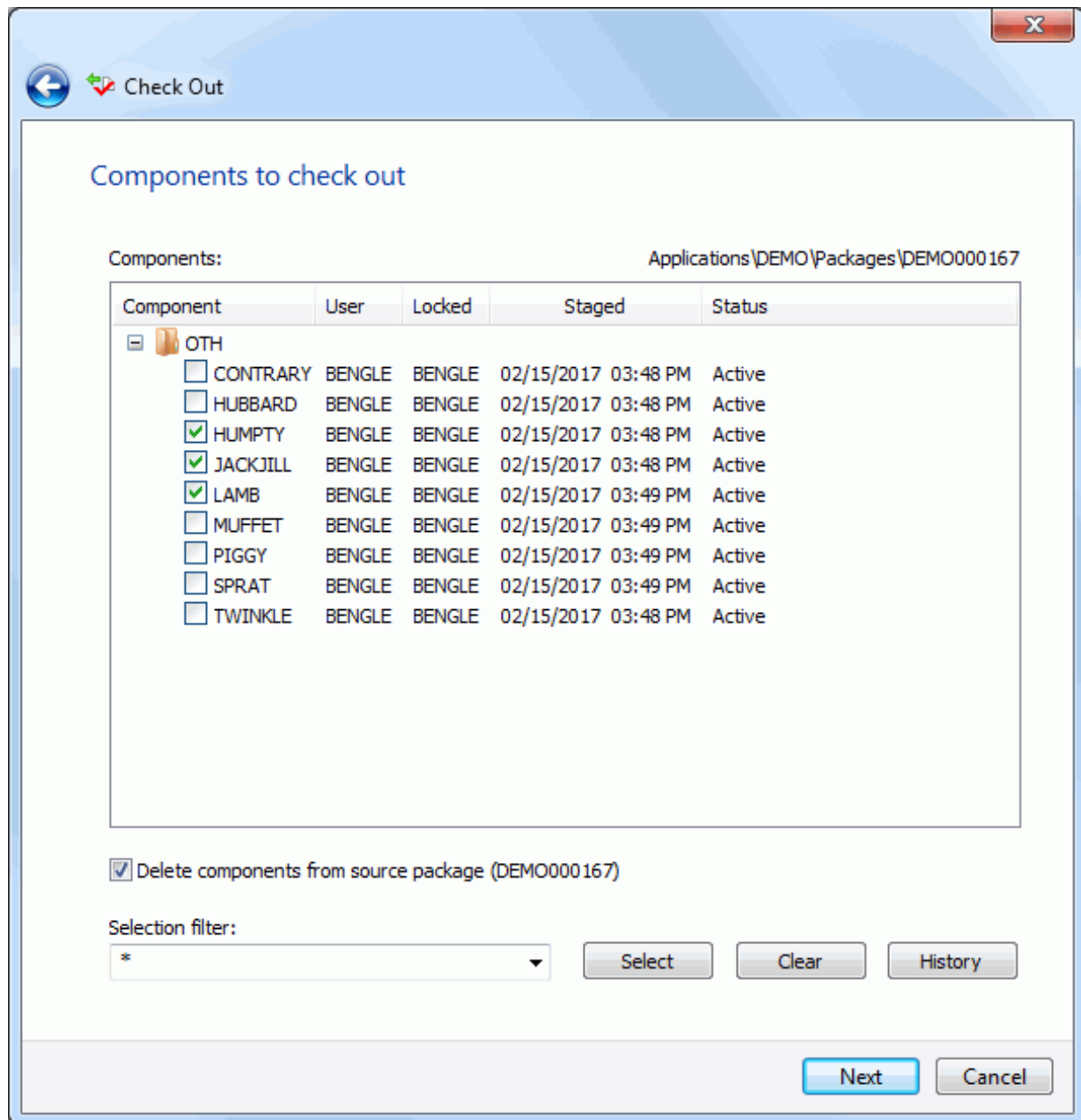
4 There are two ways to select or deselect components:

- Select or deselect components individually using the check boxes in the **Components** list.

- Use the **Selection filter** field to enter one or more name patterns with wild characters, delimited by semicolons. Then press the **Select** or **Clear** button.
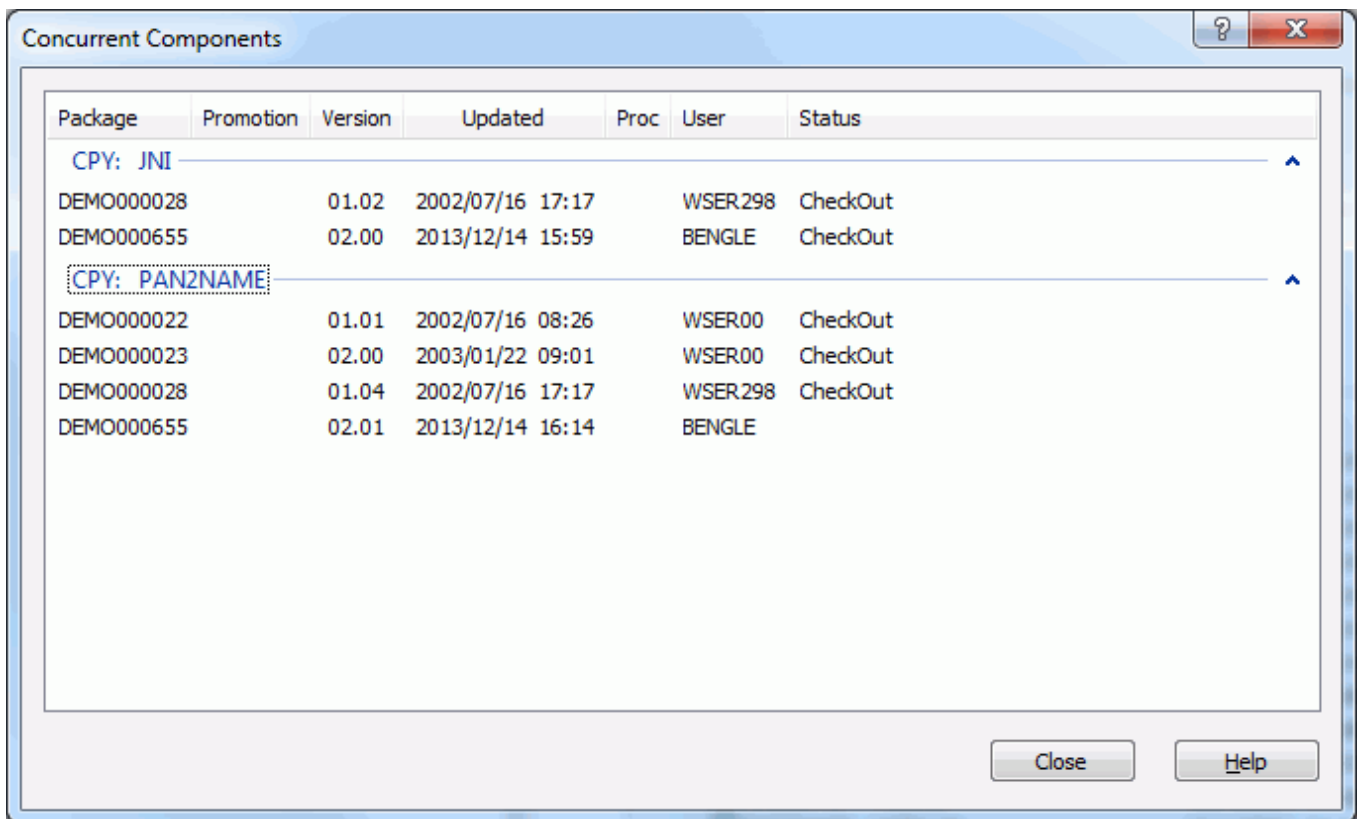
When checking out components from another package, there is a check box labeled "Delete components from source package". This is useful when moving components from one package to another.

When this box is checked, after the check-out operation is complete, the "Delete Components" dialog will display to confirm the components to be deleted.

5   Press **Finish**. If a batch job is submitted (when checking out from a prior version of a baseline library), see "Viewing Output for ChangeMan ZMF Jobs" on page 204 for information on viewing job output through ChangeMan ZDD.

Displaying History for Selected Components

The **History** button allows you to display a list of other packages that contain the selected components. Only packages that have not been baselined are included in this list. You should make sure that you are coordinating the changes with other developers who have checked out or staged the components into other packages.

Other packages that contain the selected components are displayed. Only packages that have not been baselined are included in this list. This information will help you coordinate the changes with other developers who have checked out or staged the components into other packages.

6   Under certain circumstances, there may be a third wizard page for **Other Options**.

The **Other Options** page is only used for batch check out operations, and displays only if customer-defined options have been specified in the CHECKOUT member of the ZDDOPTS library.

Batch check out is only used when checking out a prior version (-1 to -99) of a baseline library or when the components are like type OTH.

Locking and Unlocking Components

NOTE In ChangeMan ZDD, you must lock a component to edit it in the package folder. If the component is not locked, it will be in read-only status. Some editors (such as Notepad) allow you to edit a read-only file, but when you try to save it, you will have to **Save As** another file. Some other editors (such as ChangeMan Edit) display in browse mode and you are not allowed to edit.

Following are some ways to check the lock status of a component, and to know if it is locked by you or another user.

- In the Explorer directory list view, the lower left corner of the component icon has a check mark if it is locked: a red checkmark means you have it locked, and a blue X means someone else has it locked.

- Right-click the component in a package, choose **Properties**, and then select the **Component** tab. If the component is locked by another user, the **Lock status** box is disabled.

Components can be locked or unlocked in the following ways:

- In the **Package Component** dialog box, select or deselect the **Lock status** box to lock or unlock a component. To get to this dialog, right-click a package component, choose **Properties**, and then select the **Component** tab.

- In the **Check In,** you can choose to lock a component after Check In.

- In the **Check Out** dialog box, you can choose to lock a component after Check Out.

- On the popup menu for a package component, choose **Serena Network** and then **Lock** or **Unlock**. *(*Right-click the component to get the popup menu).

NOTE You cannot unlock a component that is locked by another user ID, unless you have administrative authority in ChangeMan ZMF.

Browsing and Editing Components

You can browse and edit ChangeMan ZMF components as you would any other file on your desktop, as long as you have the required z/OS server security and ChangeMan ZMF authority.

Using ChangeMan Edit

ChangeMan Edit is included with ChangeMan ZDD and supports path names that exceed 259 characters in length if you are using Windows Vista or Windows 7.

If ChangeMan Edit is your default editor, you can invoke it by right-clicking a file and choosing **Serena Network** →**Edit** from the popup menu; otherwise, choose **Programs**

→ **ChangeMan ZDD** →**ChangeMan Edit** from the Windows **Start** menu. The ChangeMan Edit dialog box displays (if the file is not offline).
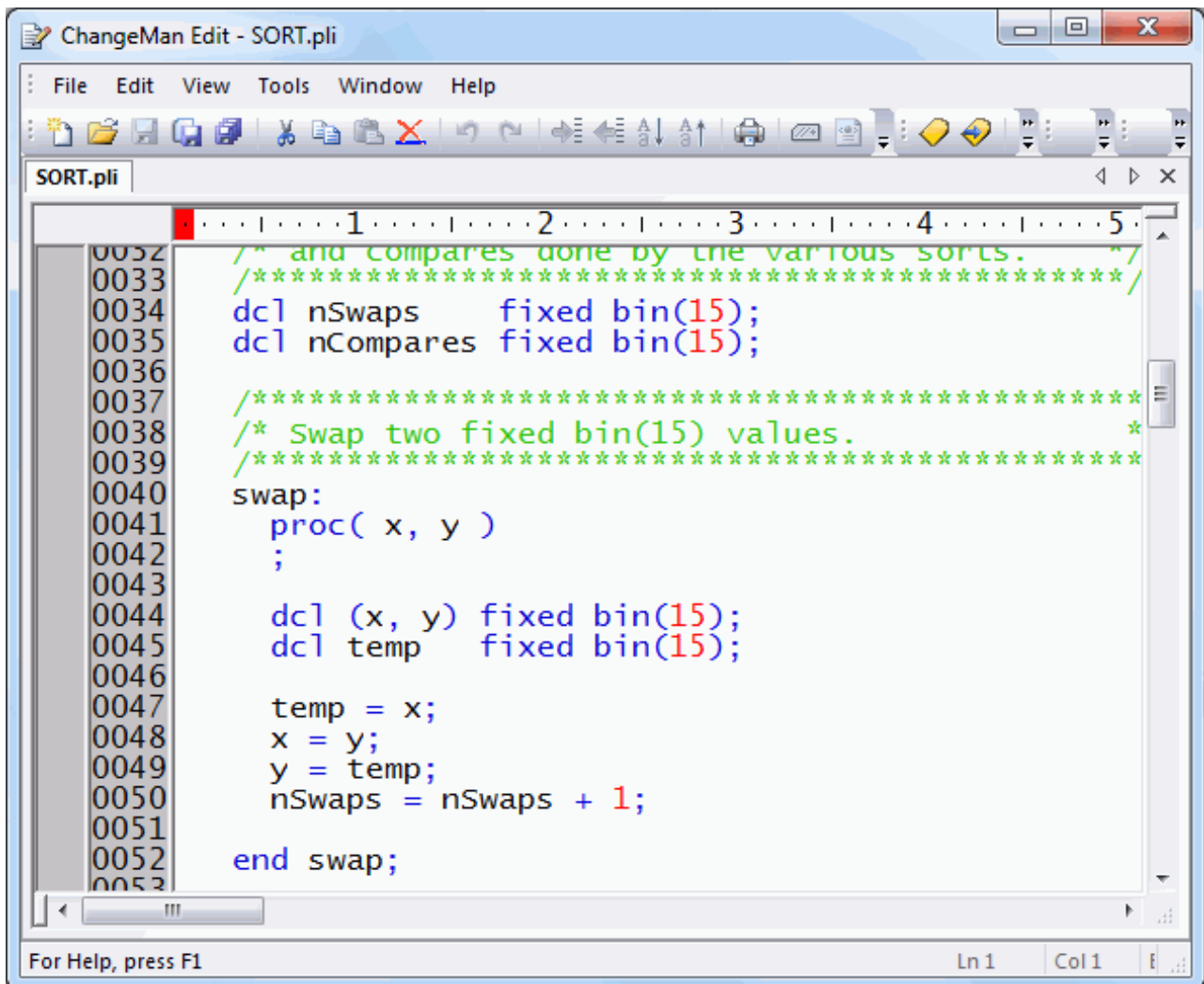
If the file you are attempting to edit has been migrated, the following message displays:

An unknown error occurred while accessing *<file name>*.

To recall the data set, right-click the file and choose **Serena Network** → **Recall Data Set** from the popup menu.

Online help is available within ChangeMan Edit. You can also refer to the **ChangeMan ZDD Tools Guide** for more information.

ChangeMan Edit does not create temporary (intermediate) or backup files, so you are not required to change any settings to use it with ChangeMan ZDD.

Using Other Text Editors

You can browse and edit components using a text editor you have associated with a particular file extension.

The following example shows a COBOL program being edited with the SlickEdit® editor:
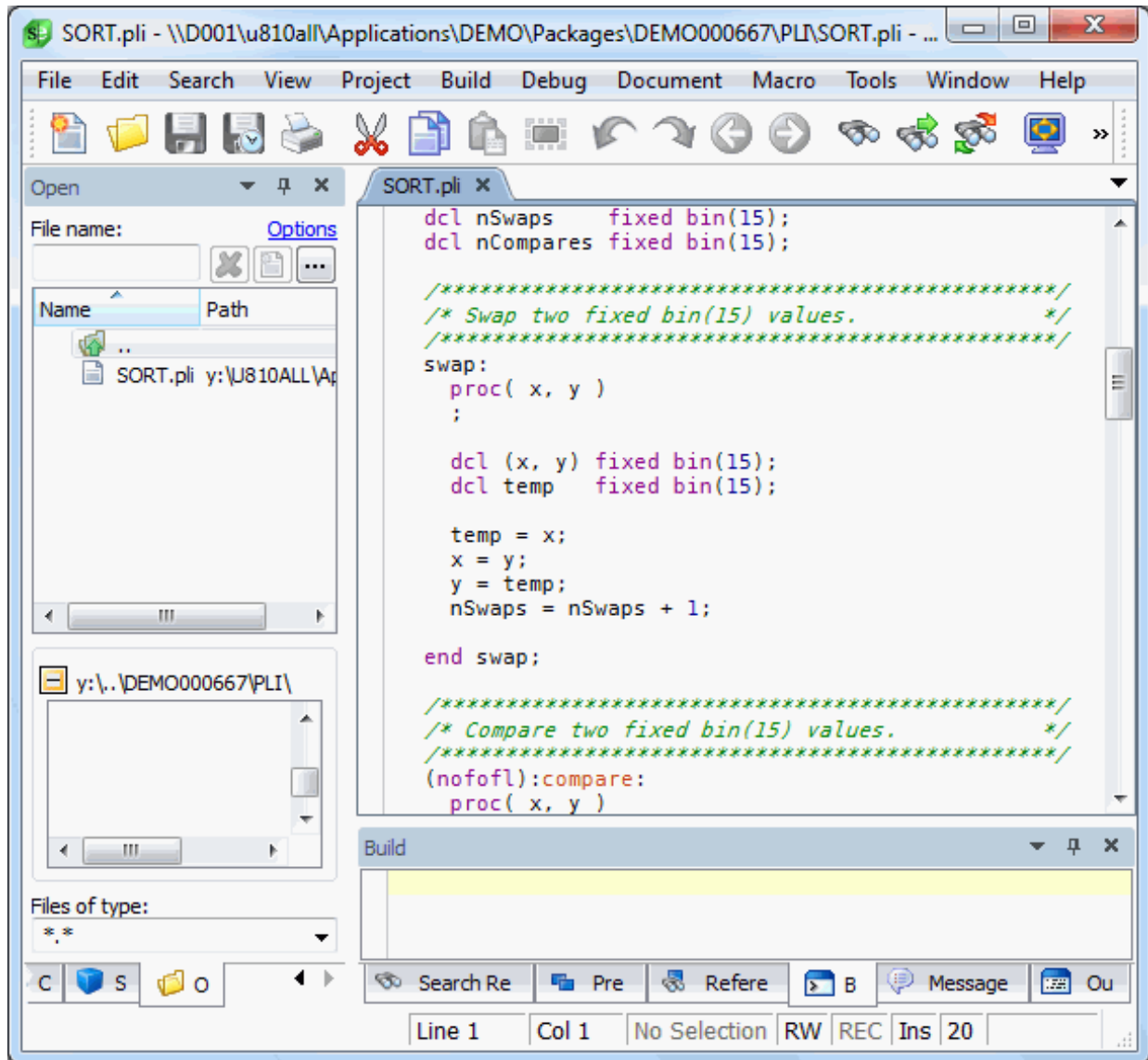
You can also specify a default editor on the **Editor** tab of **Serena Network Properties**. Then, when you right-click a file and choose **Serena Network →Edit** from the popup menu, the default editor is invoked.

> **NOTE** It is sometimes necessary to change some settings for your text editor when using it with ChangeMan ZDD; these setting changes are required to prevent temporary (intermediate) and backup files from being created. For more information, see "Using with Text Editors" on page 67.

Editing Procedures

To edit a component in a package folder, you must first lock it. If it is not locked, you will still be able to edit it, but when you try to save it, you will have to **Save As** another file.

To work outside of a package folder, copy the component from the package folder to your personal folder. After editing it, copy it back to the package folder.

You can also copy new components to a package.

Use one of the following methods to copy components to a package:

- Drag-and-drop with the left mouse button to a package library folder.

- Choose **File → Save As** from your text editor and save to a package library folder.

- Use the **copy** or **xcopy** commands from a batch file and point to a package library folder.

- Use the **Check In** function. See "Checking In Components" on page 240.

> **NOTE** The first three methods require copying to a specific package library folder, for example **SRC**. The fourth method (**Check In**) allows you to drop the component on a high-level package folder; it automatically goes to the correct staging library.

Viewing Listings

For ChangeMan ZMF source components in that are in baseline or in a package, you can browse the corresponding listing component. To browse the listing for a source component, right-click the source file and choose **Serena Network → View Listing** from the popup menu.

By default, the listing is assumed to have a library type of LST. If a source library type uses a listing library type, other than LST, your administrator will need to change the default listing for that source type. This is done through the LIBTYPE member in the ZDDOPTS library, described in *Serena® ChangeMan® ZDD Server Installation Guide*.

You can also customize which viewer program is a used to browse listings on the **Listings** tab of **Serena Network Properties**. Then, when you right-click a file and choose **Serena Network → View Listings** from the popup menu, this viewer is invoked. This same viewer will also be used to view JES output listings under the **Jobs** folder. The default viewer is Windows **Notepad**.

Deleting Components from a Package

The **Delete Components** function allows you to selectively delete components in a package across multiple libraries and subdirectories.

1   Right-click a package in DEV status (or a package library or package components in the package); choose **Serena Network** → **Delete components** from the popup menu.

The **Delete Components** dialog box displays:

Delete Components	?	X

DEMO000655 Nothing much   Selection filter: * ▼ | Select | | Clear |

Component	Type	User	Staged	Status	Locked	
⊟ 📁 CPY						
☐ JNI	CPY	BENGLE	2013/12/14 15:59	Checkout	BENGLE	
☐ JNIMD	CPY	BENGLE	2013/12/14 15:59	Checkout	BENGLE	
☐ LIBCODED	CPY	BENGLE	2013/12/14 16:11	Active	BENGLE	
☐ ORDERMST	CPY	BENGLE	2013/12/14 16:12	Active	BENGLE	
☐ PAN2NAME	CPY	BENGLE	2013/12/14 16:14	Active	BENGLE	
☐ SERTCBH	CPY	MHENDE2	2014/10/22 17:31	Active	MHENDE2	
☐ SORTSUB	CPY	BENGLE	2013/12/14 16:15	Active	BENGLE	
☐ SYSMETS	CPY	BENGLE	2013/12/14 16:16	Active	BENGLE	
⊟ 📗 JAV						
⊟ 📁 transform						
☐ XSLTransformException.java	JAV	BENGLE	2014/11/11 04:24	Incomplete	BENGLE	
⊟ 📁 xpath						
☐ JaxenXPath.java	JAV	BENGLE	2014/11/11 04:24	Incomplete	BENGLE	
☐ XPath.java	JAV	BENGLE	2014/11/11 04:24	Incomplete	BENGLE	
☐ Attribute.java	JAV	BENGLE	2014/11/11 04:24	Incomplete	BENGLE	
☐ AttributeList.java	JAV	BENGLE	2014/11/11 04:24	Incomplete	BENGLE	
☐ Comment.java	JAV	BENGLE	2014/11/11 04:24	Incomplete	BENGLE	

OK	Cancel	Help

2 There are two ways to select or deselect components for delete:

- Select or deselect components individually using the check boxes in the list.

  or

- Use the "Selection filter" field to enter a name pattern with wild characters. Then press the **Select** or **Clear** button; the check boxes for all component names that match the filter are checked or unchecked.
  You may enter multiple pattern names, one at a time, and press **Select** or **Clear** for each entry.

3 Click **OK** to delete the selected components.

Deleting Components Using Windows

You can also delete a component from a package as you would any other file in Windows Explorer; however, with this method, you can only delete components in one library or subdirectory at a time, making it cumbersome if you have multiple libraries and subdirectories.

To delete components using Windows:

- Select the components and press the **Delete** key.

  or

- Right-click the components and choose **Delete** from the popup menu.

Checking In Components

The **Check In To Package** command is the same as the *Stage from Development* function in ChangeMan ZMF. It allows you to stage a component, from any folder on your local drive or network, into a package, as long as these criteria are met:

- The file extension must match one of the library types defined for the application.

- The component must not be locked by another user ID.

- The component must not be a generated component in the package (generated components have a red arrow on the icon and are read only).

- The package must be in DEV status and the install date must be today's date or later.

Components have a status of *Active* after being checked in.

You also have the option of just copying the component into a package without building it (in other words, without transforming it into an executable module).

If the component you are checking in is **not** in the package, it will be added (as long as this is allowed by ChangeMan ZMF administration).

NOTE If the component you are checking in is already in the package, it will be overlaid, **and no warning message will be displayed.**

Saving Changes to Personal Libraries

In the Local Admin Parms for ChangeMan ZMF, if "Yes" is specified for *Save to Personal and Staging Library,* changes you make to the package component after Check In (using ChangeMan ZDD) are only saved in the staging library. The personal library you staged from will not be updated. This is different from the ISPF client, where changes are saved to both the staging library and the personal library.

Selecting Files and Directories for Check In

You may select files, folders, or directories for check in. If you select a folder or directory, the entire tree beneath that folder or directory will be displayed in the **Check In** dialog box. You can then select or deselect individual files to be checked in.

When you specify a package as the target, instead of a package library, the **Component type** list box is enabled, where you select the target library.

For Unix components:

- If the selected files reside in a subdirectory within the tree, the subdirectory structure is maintained when the files are checked in. For example, if you drag the directory "C:\Projects\MyDocs" and drop it onto a package, the entire subdirectory tree under "C:\Projects\MyDocs" will be displayed. If you select a file called "Overview.txt" that resides in the "UserGuide" subdirectory, the file will be checked in as "UserGuide/Overview.txt".

- The **To subdirectory** edit box allows you to specify a target subdirectory (new or existing). Using the example above, if you specify "Doc" in the **To subdirectory** box, the component will be checked in as "Doc/UserGuide/Overview.txt". The **To subdirectory** field is disabled when the library type is a PDS.

You can initiate the Check In function using any of the following methods. The last method is the one that is documented in the following section "Steps to Check In a Component".

- Drag and drop files/directories with the left mouse button onto a package folder, package library, or package subdirectory.

- Drag and drop files/directories with the right mouse button onto a package folder, package library, or package subdirectory. When the popup menu displays, choose **Serena Network** →**Check In To Package**.

- Right-click the files/directories to be checked in and choose **Serena Network** →**Check In To Package** from the popup menu.

Checking In Components from DB2

The **Check In From DB2** command is used to extract a stored procedure from the DB2 catalog and check it into a ChangeMan package. ChangeMan ZMF will connect to DB2 (v11 and later) and extract a native-SQL stored procedure definition, which will then be checked into the package.

The following rules apply when using the **Check In From DB2** command:
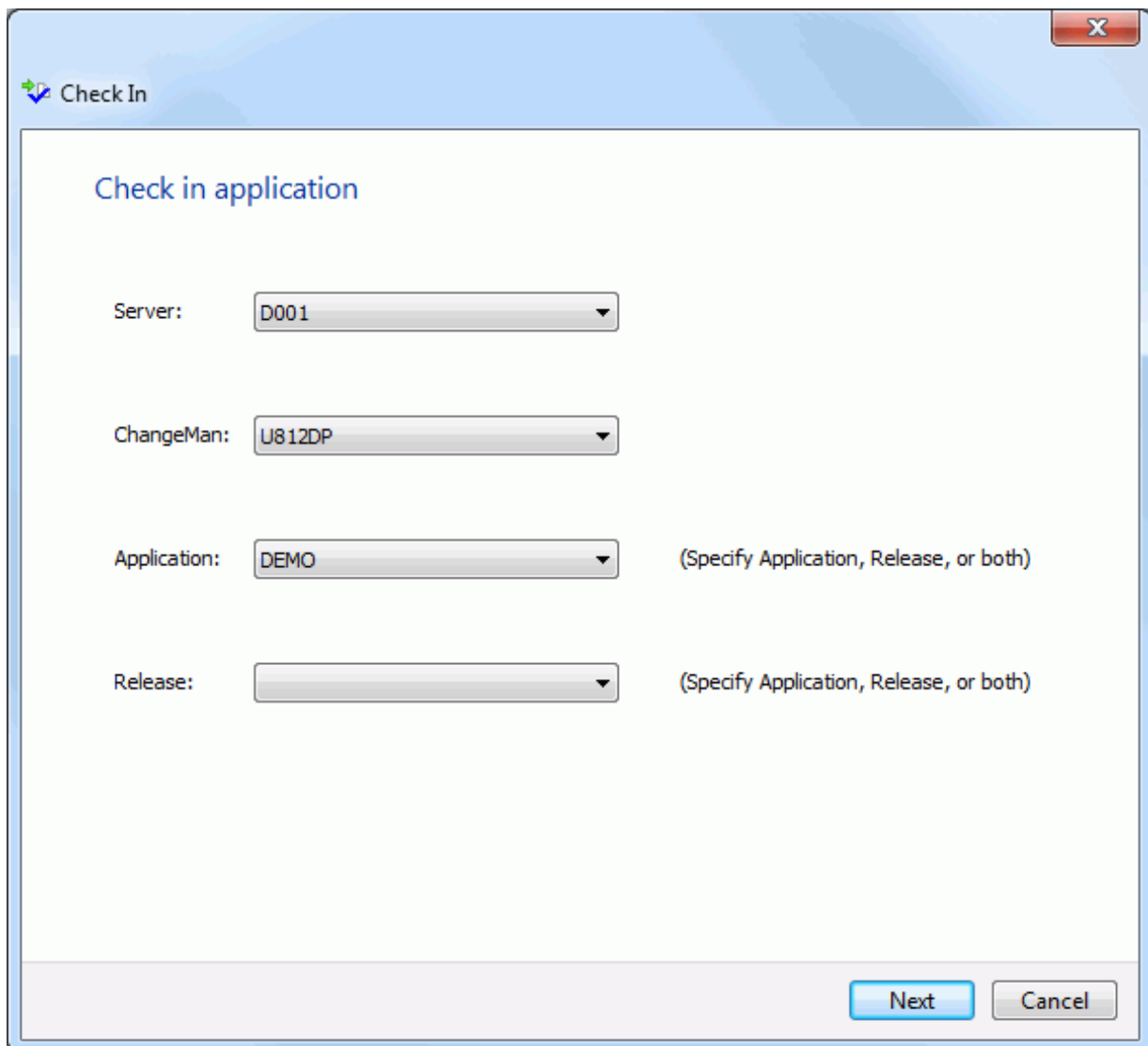
- The DB2 v11 or higher is required.

- The package must be in DEV status and the install date must be today's date or later.

- Library type must be a DB2 type with subtype **N**.

- The component must not be locked by another user ID.

- The component must not be a generated component in the package (generated components have a red arrow on the icon and are read only).

Steps to Check In a Component

1 Right-click the files/directories to be checked in and choose **Serena Network** ➔ **Check In to Package** from the popup menu. Alternatively, you can drag the files to be checked in, and drop them onto a package or package library.

   If you wish to check in component directly from DB2, Right click on a package or package library. Select **Serena Network** ➔ **Check In From DB2** from the popup menu.

2 The Check In to Package wizard will then launch. The **Check In Application** page is not displayed if the Change Man instance and application are already. Thus, you will not see this page if you dropped files onto a package, or right clicked on a package to initiate the operation.

3 Select the server and ChangeMan instance. You can then select either an application, a release, or both. The Release field will only be present if the ChangeMan instance is licensed for the ERO option.

Press the **Next** button to advance to the next page. You will not be allowed to alter the ChangeMan instance once you leave this page.

4   The **Check In Target** page now displays:

5   The fields are described in the following table. Update the fields as needed:

Field / Box	Description
Package	This field is enabled if you selected an application (instead of a package) as the target. Select the package into which the components will be checked in.
Component type	This field is enabled if you selected an application or package (instead of a package library) as the target. Select a library type to which the components/directories will be checked in.
To subdirectory	This field is enabled if the source is a Unix component or directory. You may optionally specify a subdirectory to which the source will be checked in. If the subdirectory does not exist, it will be created.

Field / Box	Description
Change description	This field is enabled only if the library type selected in the "Component type" field has Staging Versions enabled.
	Type a description that will display in the Staging Versions dialog box. Optional.
Lock after check in	Check this box to lock the component; the component must be locked to edit it from the package folder. If a component is locked by another user ID, you will not be allowed to check it in.
Build	Check this box to build the component (create an executable module in the staging library). If you do not check this box, the component will be copied to the package but will not be built.
Show other options	Displays the **Other Options** page which allows you to set user options.
	There is a ChangeMan ZMF administrative option, "Enable component user variables", that can be set using ISPF option A.G.1 (part 5). If this administrative option is disabled, then the check box will be unchecked and disabled (grayed out).
Job Card	The job card used for submitting a batch job. This field is enabled only if components are like type OTH.
	Default values are displayed initially. If you change the values, they will be stored in your registry and used as the defaults in the future.
	Each time this dialog displays, the last character of the jobname is incremented alphabetically.
	If the &SYSUID parameter in the Notify field is not overridden, the user ID is automatically substituted.

6 The **Components** page now displays. If you are checking in components directly from DB2, the **DB2** page will display instead of this page.

7 The fields are described in the following table. Update the fields as needed:

Field / Box	Description
Files File selection filter	There are two ways to select or deselect components: ■ Select or deselect components individually using the check boxes in the list. or ■ Use the "File selection filter" field to enter a name pattern with wild characters. Then press the **Select** or **Clear** button; the check boxes for all file names that match the filter are checked or unchecked. You may enter multiple pattern names, one at a time, and press **Select** or **Clear** for each entry.

Field / Box	Description
File format	This drop-down list allows you to override the file format. The default selection will be the format that is defined for the staging library data set name or Unix file name.
	This default file format is defined in the server properties on the "Data Set Formats" tab or the "Unix File Formats" tab. For details, see "File Formats (Data Sets)" on page 100 or "File Formats (Unix)" on page 109.
	The file format drop down list is present only when checking in from a Windows folder.
History	The **History** button allows you to display a list of other packages that contain the selected components. Only packages that have not been baselined are included in this list.

8   If you are checking in components directly from DB2, the **DB2** page will display instead of the standard **Components** page.

9 Fields are described in the following table. Update the fields as needed, and then press the **OK** button.

Field / Box	Description
DB2 subsys	Select the DB2 subsystem whose catalog contains the stored procedure that you wish to check in to the package. The DB2 subsystem must be at least DB2 v11.
Schema	Schema name used to qualify the stored procedure definition to be extracted on the DB2 subsystem.
Proc name	Name of stored procedure to be extracted from DB2. Currently limited to 8 characters.
Version	Select the DB2 version for the stored procedure that you wish to extract. If you select "Other (specify)", you must enter a specific version identifier in the text box on the right. ■ **Active version**: Currently active version of the stored procedure. ■ **First date/time**: Version containing the earliest CREATEDTS value. ■ **Latest date/time**: Version containing the latest of either of the CREATEDTS or ALTEREDTS values. ■ **Highest routine ID**: Version with the greatest ROUTINEID. ■ **Other (specify)**: Version specified in text box to the right.
Component	Enter the name of the component to be checked in using this stored procedure definition. If not specified, then the stored procedure name will be used as the component name.
Add comments to component	Check this box to insert SQL comments into the top of the extracted stored procedure component. These comments identify the ChangeMan package.
History	The **History** button allows you to display a list of other packages that contain the selected components. Only packages that have not been baselined are included in this list.

10 If the "Show other options" box was checked on the **Check In Target** page, circumstances, the **Other Options** page will be displayed.

The **Other Options** page displays only if customer-defined options have been specified in the CHECKIN member of the ZDDOPTS library.

Displaying History for Selected Components

The **History** button, found on the **Components** page or the **DB2** page, allows you to display a list of other packages that contain the selected components. Only packages that have not been baselined are included in this list. You should make sure that you are coordinating the changes with other developers who have checked out or staged the components into other packages.

The list displayed is identical to that displayed by the **History** button in the **Check Out** dialog box. For an illustration of the **Concurrent Component History** list, see

Saving Package Components from a Text Editor

Sometimes you may want to use a text editor to edit a package component directly from the staging library. Each time you save that component in the text editor, you are implicitly performing a check in operation.

Under certain circumstances, additional information may be required in order to complete the check in operation:

■   Save Staging Versions (SSV) is enabled for the library type: Change description needed.

■   Component type is like other (OTH): Job card needed.

When additional information is needed, you will be prompted with the Check In dialog box illustrated below.

The following table describes the fields on the **Check In** dialog box.

Field	Description
Server name	The z/OS server for the check in operation.
ChangeMan	ChangeMan instance for the check in operation.
Package name	IThe package into which the components will be checked in.
Component type	Component type to which the components will be checked in.
Component name	Component name(s) to be checked in.

Field	Description
Change description	Enter or select a change description that will display in the Staging Versions dialog box.
Job card	Job card for batch check in. If the &SYSUID parameter in the Notify field is not overridden, the user ID is automatically substituted.

Building Components

The **Build** function uses a wizard interface with the following pages:

- Components

- Settings

- User Options

Use the **Build** function to transform a package component into an executable module. The following rules apply:

- The package must be in DEV status.

- The component and component type must already exist in the package.

  If you want to Stage a component from development, use the **Check In** function (see).

- The component type must be "like SRC".

- The component must not be a generated component (generated components have a red arrow on the icon and are read only).

- If more than one component is selected for a build, they must all be the same type.

- The component can be locked or unlocked.

> **NOTE** ChangeMan ZDD does not have a Stage command. The Build function performs both a Stage and a Build on a "like SRC" component.

If you want to stage a non-source component, such as a copybook, you have two options:

1 Edit the component in the package and save it. This will have the same effect as Stage - it will change the status to *Active*.

2 Use the **Check In** function to copy the component to a package - this will also change the status to *Active*.

Steps to Build Components

1 Select one or more package components or a Unix subdirectory in a package; right-click and choose **Serena Network** → **Build** from the popup menu. **The Build - Options** page displays.
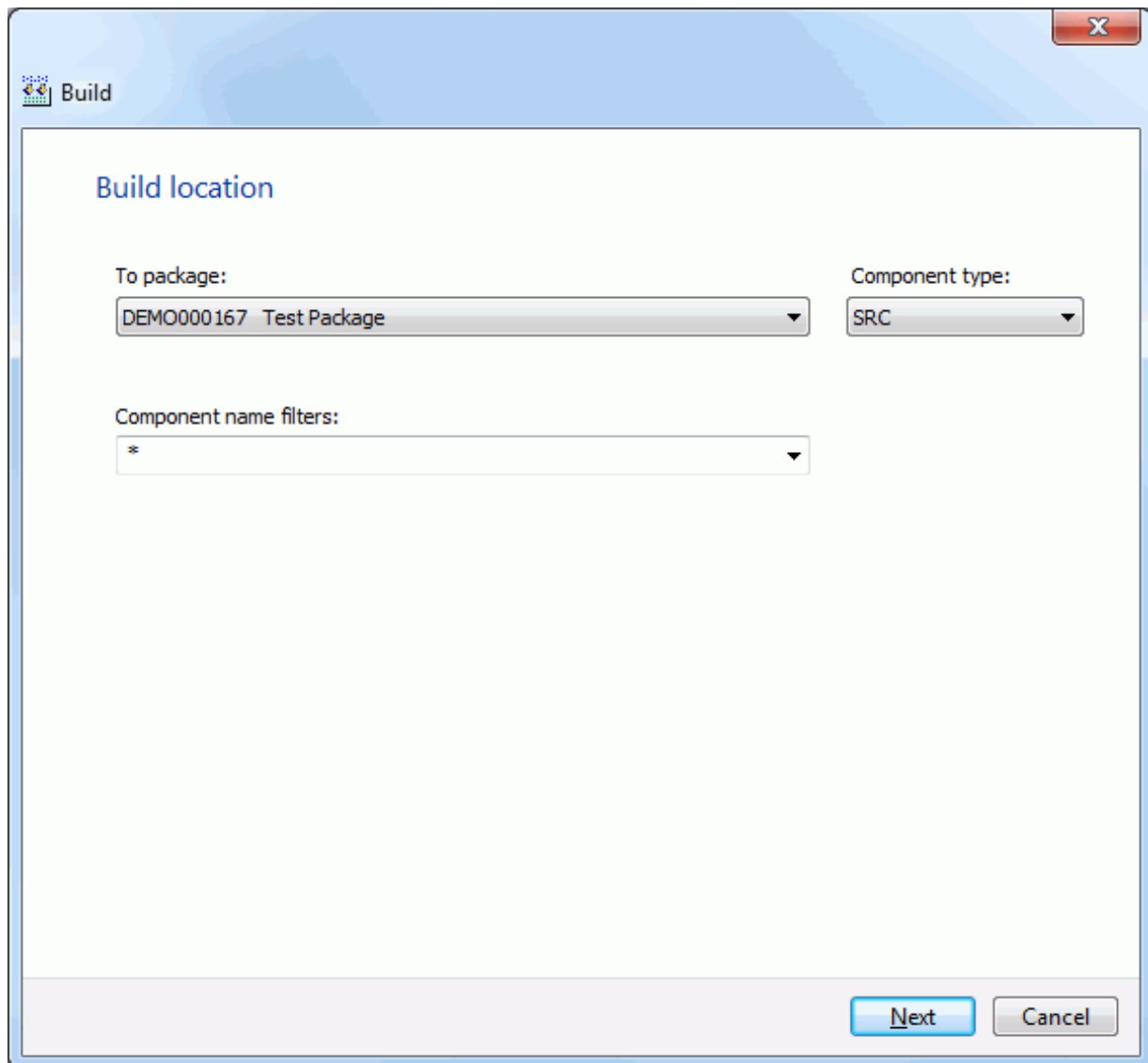
2   Press **Next** to display the **Build - Components** page.
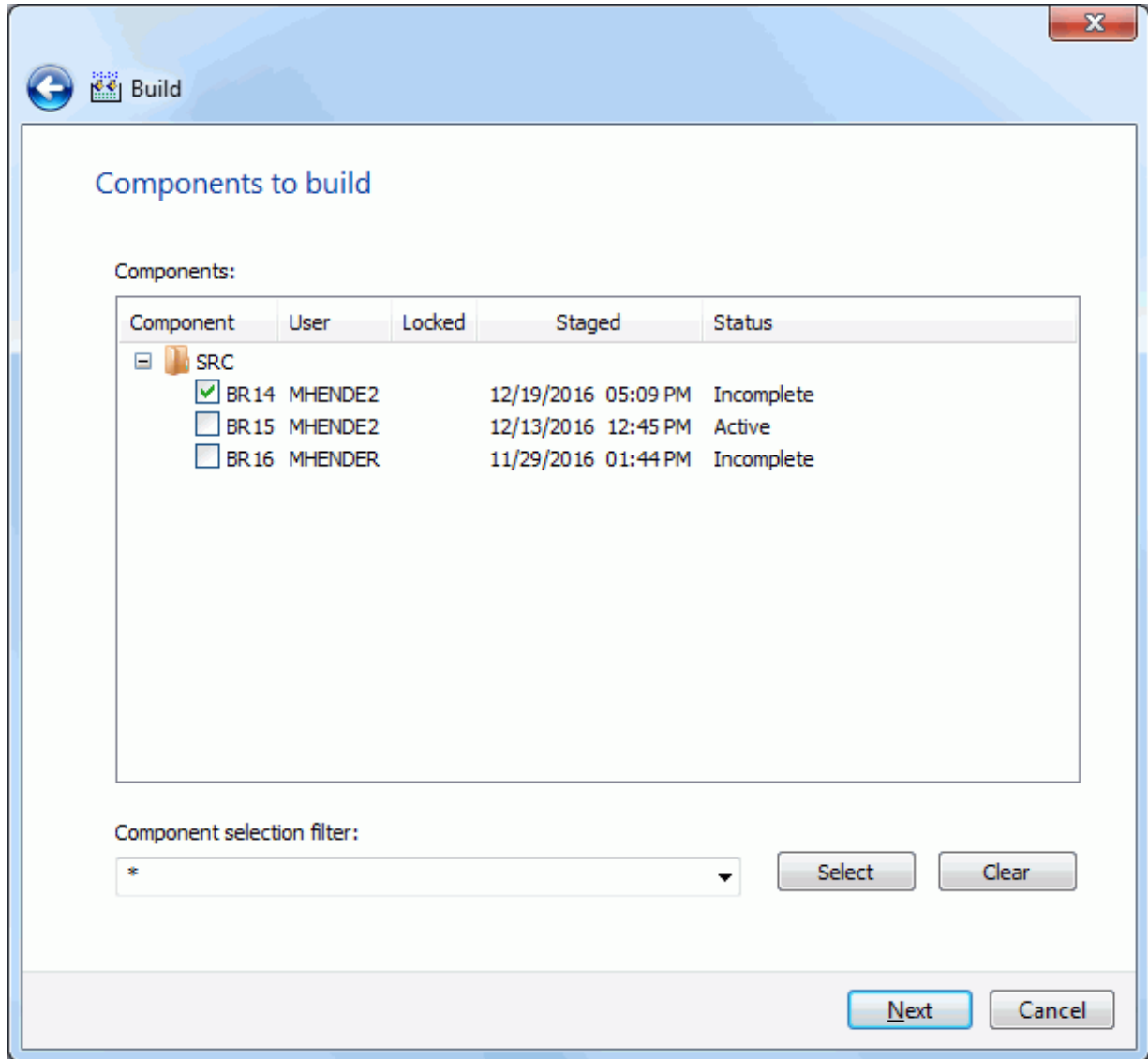
3   Select or deselect components in either of the following ways:

- Use the check boxes to select/deselect individual components in the **Components** list.

  or

- Use the "Component Selection filter" field to enter a name pattern with wild characters. Then press the **Select** or **Clear** button; the check boxes for all component names that match the filter are checked or unchecked.
  You may enter multiple pattern names, one at a time, and press **Select** or **Clear** for each entry.

4 Click **Next** to display the **Build - Settings** page.

The defaults in the editable fields are populated from the component history (if it exists) and only one component is selected; otherwise, the defaults are those set up for this language for the ChangeMan ZMF instance.

If more than one component is being built, the displayed defaults are used only for the following cases:

- the component does not have history
- the **Override History** box is checked

5 The following table describes how to complete the fields on the Build Settings page.

Field / Box	Description
Language	Choose a language.
Build Procedure	Choose a build procedure. If a designated compile proc has been defined for a component, it will be used even if you type a procedure name in this field.
Target load library	Not applicable for the Build function.
Override History	If multiple components are selected for this Build, check this box to override the component history and use the displayed defaults.
Show other options	Displays **UserOption*** fields on the "Other options" page of the wizard.
Show user variables	Displays **UserVariable*** fields on the "Other options" page of the wizard.
DB2 Precompile	This option can be selected only if it is appropriate for the type of build being done.
DB2 Subsystem	If you selected the DB2 Precompile option, choose the DB2 subsystem name.
Compile Parms	You can use the default compile parameters or change them.
Link Parms	You can use the default link parameters or change them.
Job Statement	Default values are displayed initially. If you change the values, they will be stored in your registry and used as the defaults in the future. Each time this dialog displays, the last character of the jobname is incremented alphabetically. If the &SYSUID parameter in the Notify field is not overridden, the user ID is automatically substituted.

If you are building a component with a type like "Other" (OTH), there is a simplified version of this page shown below, which contains only a few fields.

6   If neither the "Show other options" nor the "Show user variables" boxes are checked, the **Other Options** page will not be displayed. With neither box checked, there will be a **Finish** button, rather than a **Next** button. In that case, press **Finish** to submit the build job; then go to .

Otherwise, click **Next** to display the **Other Options** page.

7   The User Options displayed are for the specified language for the ChangeMan ZMF instance. The labels displayed in the Name field are determined by how your administrator configured the BUILD member in the ZDDOPTS library, described in the *ChangeMan ZDD Server Installation Guide*. They may not match the labels in the ISPF client.

Only options with a status of "Allow Use" can be changed.

Click **Finish** to submit the build job.

8   After you click **Finish** to submit the job, the following message displays for a successful submission.
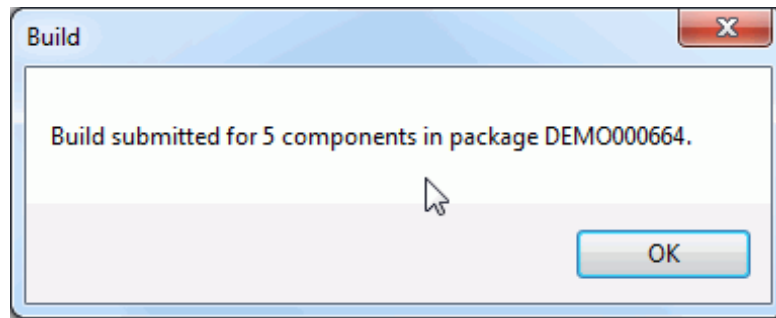
No other messages on the job status will be displayed by ChangeMan ZDD.

Recompiling Components

The **Recompile** function uses a wizard interface with the following pages:

- Components
- Settings
- User Options

Use the **Recompile** function to recompile a component and place the load module in a package. You can recompile components in a baseline or promotion library that are "like SRC".

Recompiled components are displayed in the Windows Explorer with a curved blue arrow on the icon as shown below.

IDSCO2S1.src
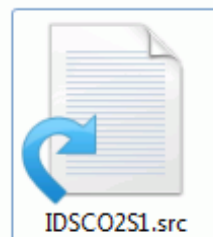
> **NOTE** The component must not be a generated component (generated components have a red arrow on the icon and are read only).

Steps to Recompile Components

1   Select a package, package library, or one or more "like SRC" components (or a Unix subdirectory with "like SRC" components) in a baseline or promotion library; right-click and choose **Serena Network → Recompile** from the popup menu.

2   The **Recompile - Options** page displays. This page has some extra options when the package is attached to an ERO release Both versions of this page are shown below.

3 The **Recompile - Components** page displays. In the following example, a single component was selected.
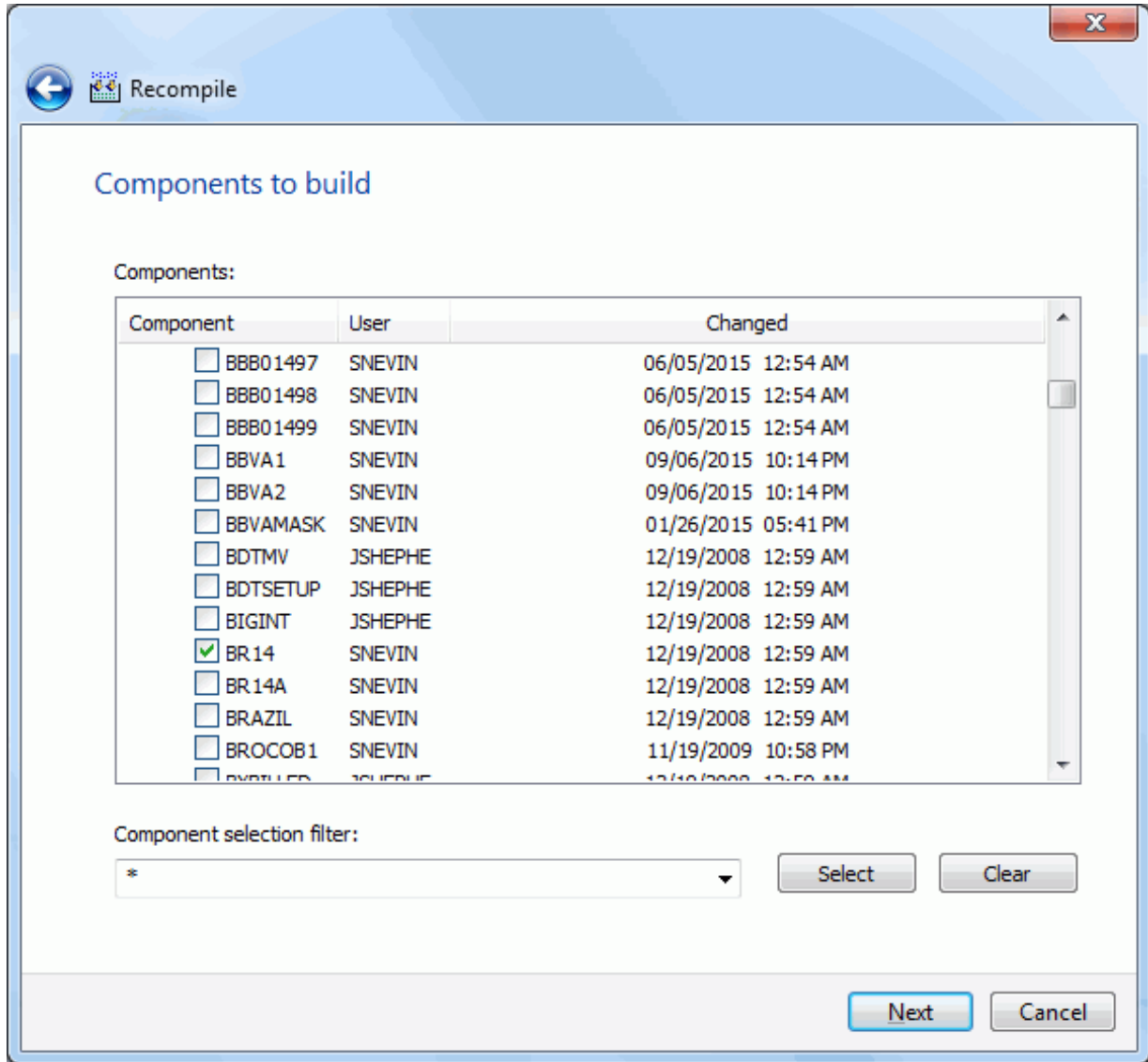
4   Select or deselect components in either of the following ways:

- Use the check boxes to select/deselect individual components in the **Components** list.

  or

- Use the "Component Selection filter" field to enter a name pattern with wild characters. Then press the **Select** or **Clear** button; the check boxes for all component names that match the filter are checked or unchecked.
  You may enter multiple pattern names, one at a time, and press **Select** or **Clear** for each entry.

5   Click **Next** to display the **Recompile - Settings** page.

The defaults in the editable fields are populated from the component history (if it exists) and only one component is selected; otherwise, the defaults are those set up for this language for the ChangeMan ZMF instance.

If more than one component is being recompiled, the displayed defaults are used only for the following cases:

- the component does not have history
- the **Override History** box is checked

6 The following table describes how to complete the fields in the Settings page.

Field / Box	Description
Language	Choose a language.
Build Procedure	Choose a build procedure. If a designated compile proc has been defined for a component, it will be used even if you type a procedure name in this field.
DB2 Subsystem	If you selected the DB2 Precompile option, choose the DB2 subsystem name.
Target load library	Not applicable for the Recompile function.
DB2 Precompile	This option can be selected only if it is appropriate for the type of recompile being done.
Override History	If multiple components are selected for this Recompile, check this box to override the component history and use the displayed defaults.
Show other options	Displays **UserOption*** fields on the "Other options" page of the wizard.
Show user variables	Displays **UserVariable*** fields on the "Other options" page of the wizard.
Compile Parms	You can use the default compile parameters or change them.
Link Parms	You can use the default link parameters or change them.
Job Statement Information	Default values are displayed initially. If you change the values, they will be stored in your registry and used as the defaults in the future. Each time this dialog displays, the last character of the jobname is incremented alphabetically. If the &SYSUID parameter in the Notify field is not overridden, the user ID is automatically substituted.

7 If neither the "Show other options" nor the "Show user variables" boxes are checked, the **Other Options** page will not be displayed. With neither box checked, there will be a **Finish** button, rather than a **Next** button. In that case, press **Finish** to submit the recompile job; then go to .

Otherwise, click **Next** to display the **Recompile - User Options** page.

8 The User Options displayed are for the specified language for the ChangeMan ZMF instance. The labels displayed in the Name field are determined by how your administrator configured the BUILD member in the ZDDOPTS library, described in the *ChangeMan ZDD Server Installation Guide*. They may not match the labels in the ISPF client.

Only options with a status of "Allow Use" can be changed.

Click **Finish** to submit the recompile job.

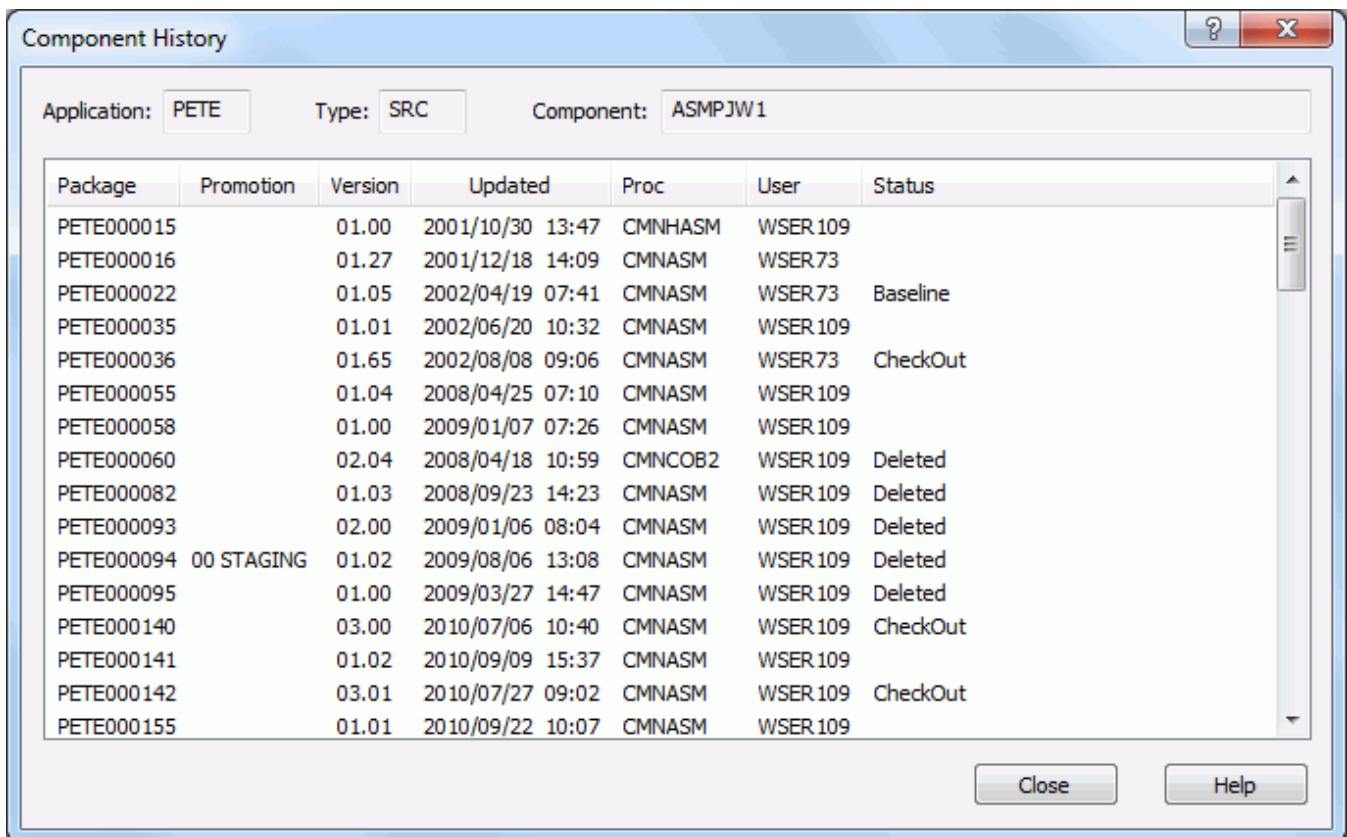**9** After you click **Finish** to submit the job, the following message displays for a successful submission.
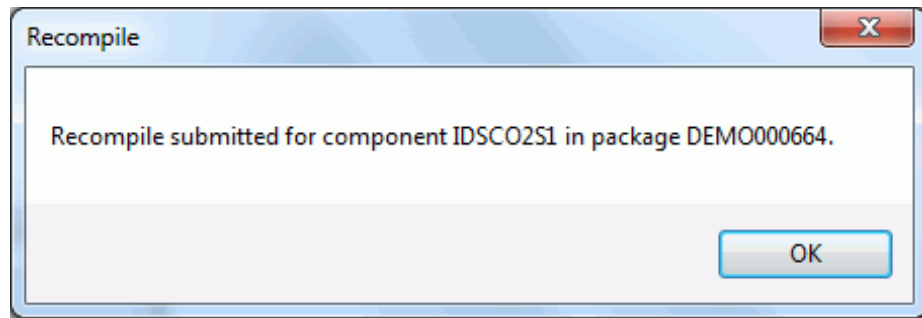
No other messages on the job status will be displayed by ChangeMan ZDD.

See "Viewing Output for ChangeMan ZMF Jobs" on page 204 for information on viewing job output through ChangeMan ZDD.

Relinking Components

The **Relink** function uses a wizard interface with the following pages:

- Components
- Settings
- User Options

Use the **Relink** function to relink a component and place the load module in a package.

- You can relink components in a baseline or promotion library that are "like LOD".

    The following shows a LOD component that was relinked from a baseline library. The result shows in the package folder under LOD. A green chain link on the icon indicates that this is a relinked component and is read-only.
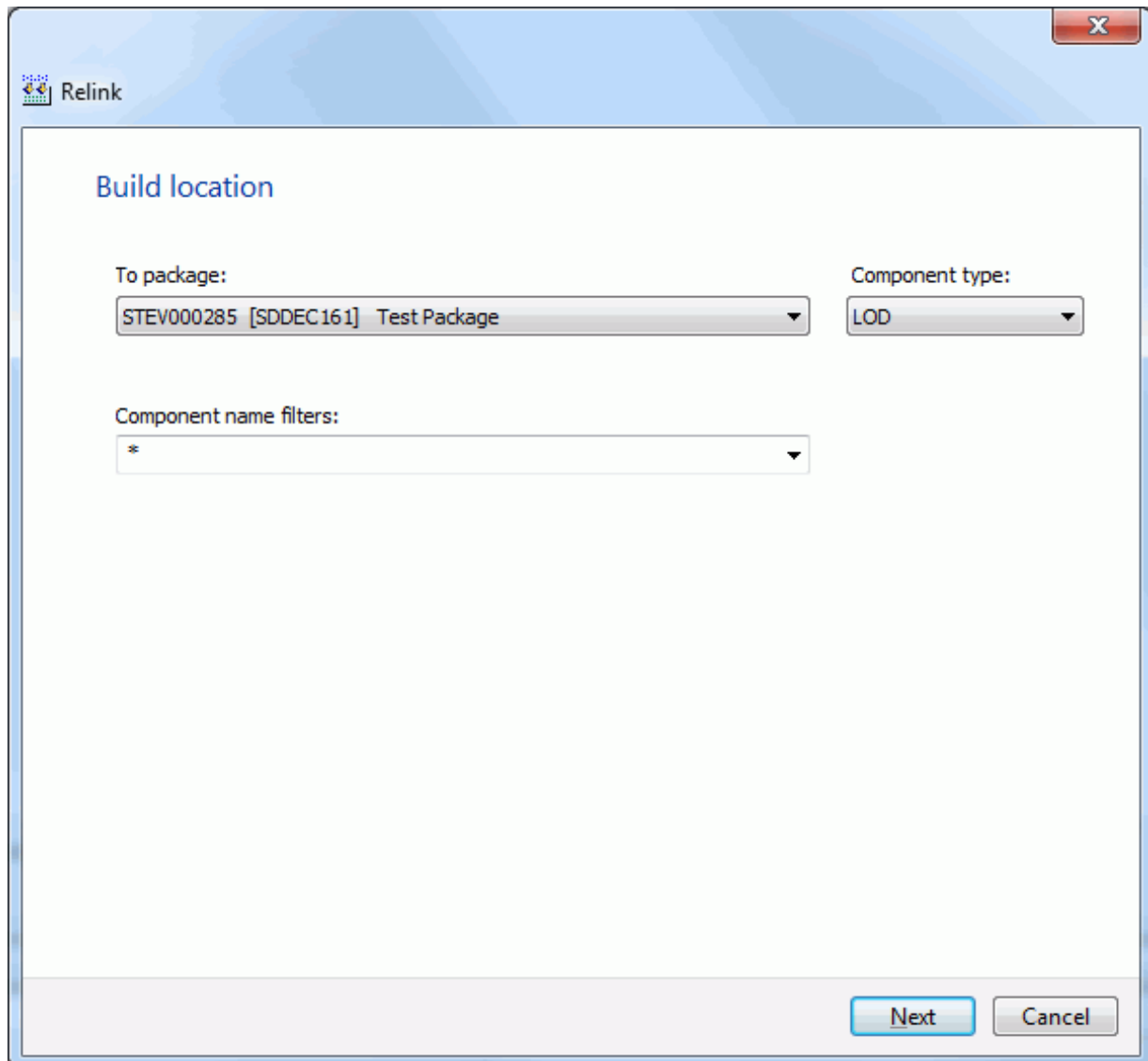
- You can relink components in a package library that were previously relinked (and do not have corresponding source in the package). These components are read-only and are designated with a yellow diamond with a blue line on the icon (see the previous example of a relinked component).

- You cannot relink a generated component (generated components have a red arrow on the icon and are read-only).

Steps to Relink Components

1   Select a package, a "like LOD"/"like LCT" package library, or else one or more "like LOD"/"like LCT" components (or a Unix subdirectory with "like LOD" components) in a baseline or promotion library.

2   Right-click and choose **Serena Network** → **Relink** from the popup menu. The **Relink - Options** page displays.

3 The **Relink - Components** page displays. In the following example, a single component was selected.
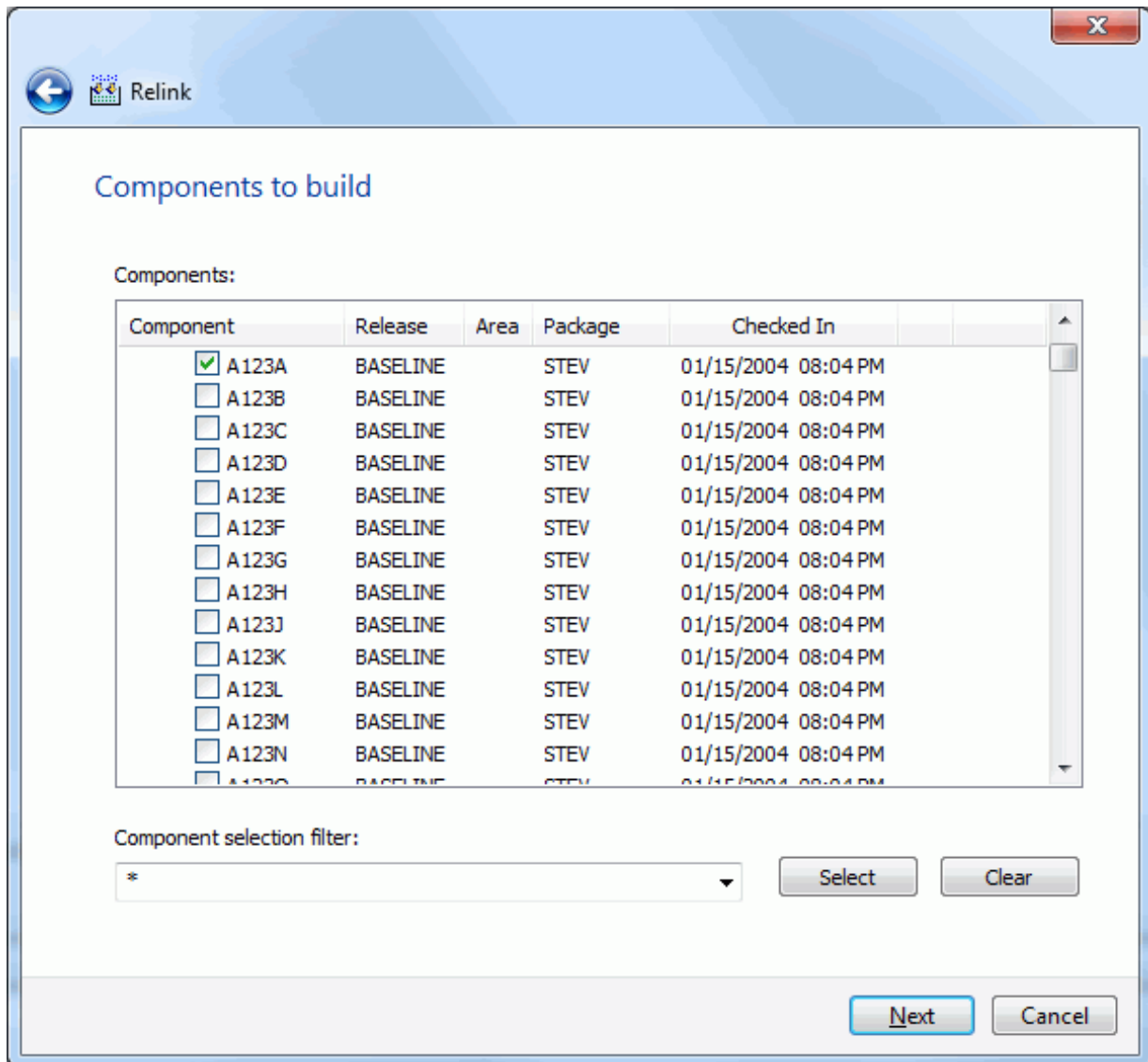
4 Select or deselect components in either of the following ways:

- Use the check boxes to select/deselect individual components in the **Components** list.

  or

- Use the "Component Selection filter" field to enter a name pattern with wild characters. Then press the **Select** or **Clear** button; the check boxes for all component names that match the filter are checked or unchecked.
  You may enter multiple pattern names, one at a time, and press **Select** or **Clear** for each entry.

5 Click **Next** to display the **Relink - Settings** page.,

The defaults in the editable fields are populated from the component history (if it exists) and only one component is selected; otherwise, the defaults are those set up for this language for the ChangeMan ZMF instance.

If more than one component is being relinked, the displayed defaults are used only for the following cases:

- the component does not have history
- the **Override History** box is checked

6 The following table describes how to complete the fields in the Settings page.

Field / Box	Description
Language	Choose a language.
Build Procedure	Choose a build procedure. If a designated compile proc has been defined for a component, it will be used even if you type a procedure name in this field.
DB2 Subsystem	If you selected the DB2 Precompile option, choose the DB2 subsystem name.
Target load library	Select a target load library from the drop-down list.
DB2 Precompile	This option can be selected only if it is appropriate for the type of relink being done.
Override History	If multiple components are selected for this Relink, check this box to override the component history and use the displayed defaults.
Show other options	Displays **UserOption*** fields on the "Other options" page of the wizard.
Show user variables	Displays **UserVariable*** fields on the "Other options" page of the wizard.
Compile Parms	Not applicable.
Link Parms	You can use the default link parameters or change them.
Job Statement Information	Default values are displayed initially. If you change the values, they will be stored in your registry and used as the defaults in the future. Each time this dialog displays, the last character of the jobname is incremented alphabetically. If the &SYSUID parameter in the Notify field is not overridden, the user ID is automatically substituted.

7 If neither the "Show other options" nor the "Show user variables" boxes are checked, the **Other Options** page will not be displayed. With neither box checked, there will be a **Finish** button, rather than a **Next** button. In that case, press **Finish** to submit the relink job; then go to .

Otherwise, click **Next** to display the **Relink - User Options** page.
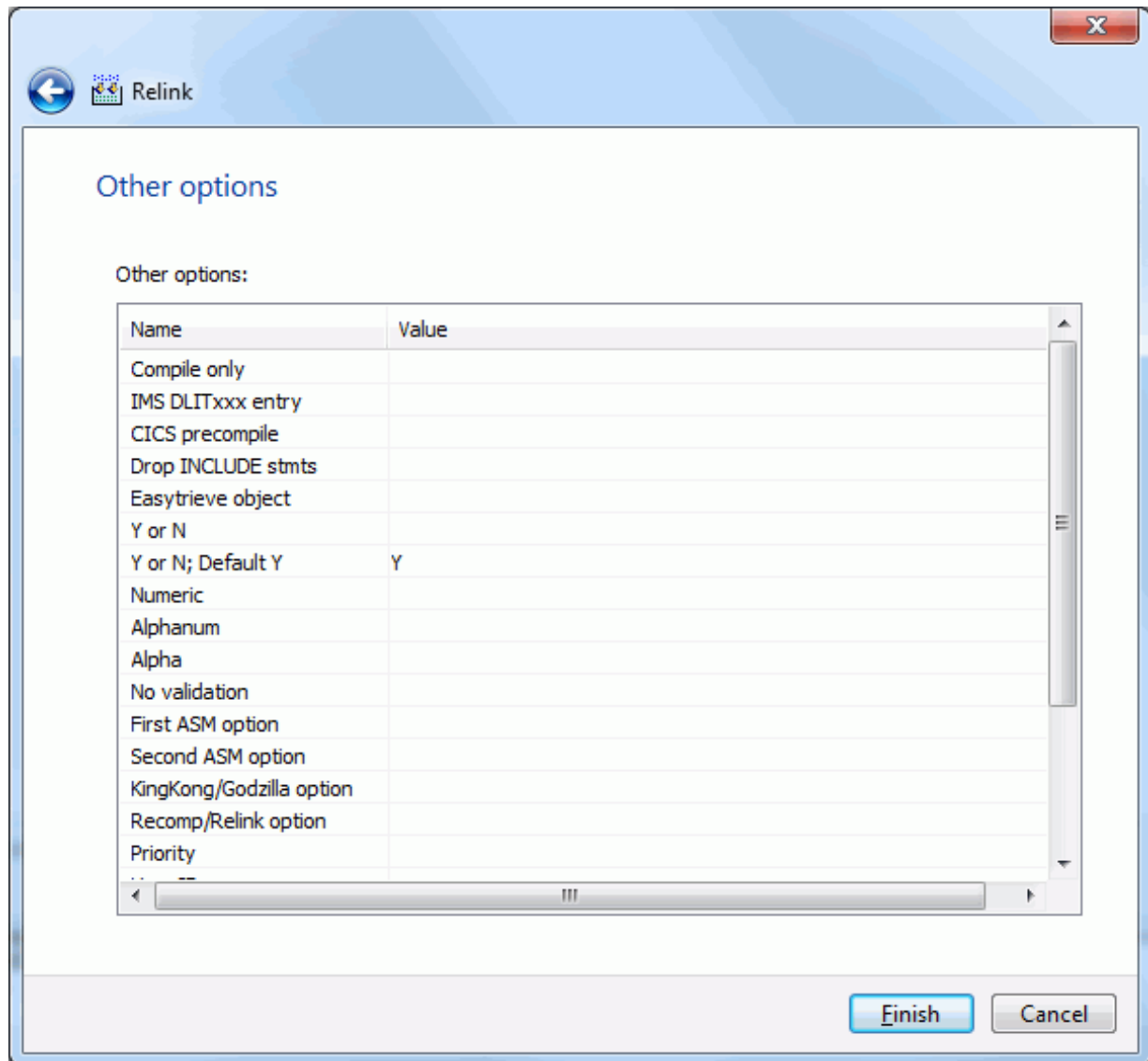
8 The User Options displayed are for the specified language for the ChangeMan ZMF instance. The labels displayed in the Name field are determined by how your administrator configured the BUILD member in the ZDDOPTS library, described in the *ChangeMan ZDD Server Installation Guide*. They may not match the labels in the ISPF client.

Only options with a status of "Allow Use" can be changed.

Click **Finish** to submit the relink job.

9 After you click **Finish** to submit the job, the following message displays for a successful submission.

Relink	☒
Relink submitted for component BR14 in package DEMO000664.	
	OK
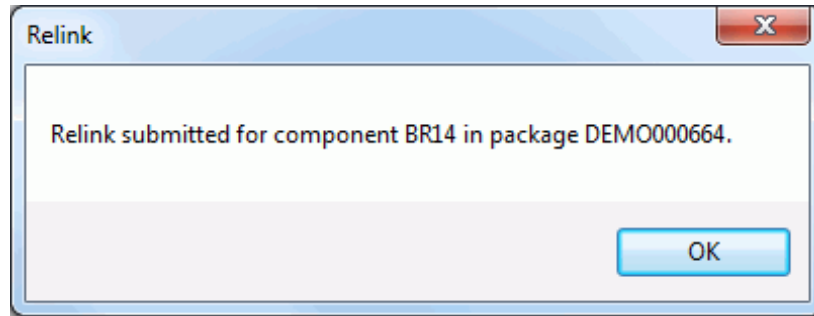
No other messages on the job status will be displayed by ChangeMan ZDD.

See "Viewing Output for ChangeMan ZMF Jobs" on page 204 for information on viewing job output through ChangeMan ZDD.

Displaying Component History

Select a component from any type of ChangeMan library, right-click, and select **Component history** from the popup menu. The Component History dialog box displays, showing the history of the selected component.

Component History

Application: PETE   Type: SRC   Component: ASMPJW1

Package	Promotion	Version	Updated	Proc	User	Status
PETE000015		01.00	2001/10/30 13:47	CMNHASM	WSER109	
PETE000016		01.27	2001/12/18 14:09	CMNASM	WSER73	
PETE000022		01.05	2002/04/19 07:41	CMNASM	WSER73	Baseline
PETE000035		01.01	2002/06/20 10:32	CMNASM	WSER109	
PETE000036		01.65	2002/08/08 09:06	CMNASM	WSER73	CheckOut
PETE000055		01.04	2008/04/25 07:10	CMNASM	WSER109	
PETE000058		01.00	2009/01/07 07:26	CMNASM	WSER109	
PETE000060		02.04	2008/04/18 10:59	CMNCOB2	WSER109	Deleted
PETE000082		01.03	2008/09/23 14:23	CMNASM	WSER109	Deleted
PETE000093		02.00	2009/01/06 08:04	CMNASM	WSER109	Deleted
PETE000094	00 STAGING	01.02	2009/08/06 13:08	CMNASM	WSER109	Deleted
PETE000095		01.00	2009/03/27 14:47	CMNASM	WSER109	Deleted
PETE000140		03.00	2010/07/06 10:40	CMNASM	WSER109	CheckOut
PETE000141		01.02	2010/09/09 15:37	CMNASM	WSER109	
PETE000142		03.01	2010/07/27 09:02	CMNASM	WSER109	CheckOut
PETE000155		01.01	2010/09/22 10:07	CMNASM	WSER109	

Close   Help

Staging Versions

The Staging Versions feature allows you to display the versions for a component in the staging libraries and perform the following functions:

- View a version

- Compare two versions

- Merge two revised versions with a baseline version

- Delete a version

- Recover (retrieve) a version

NOTE For baseline libraries, only level 0 is displayed.

To access Staging Versions through ChangeMan ZDD, the ChangeMan ZMF administrative authority for the library type in the application must be set to *always* or *prompt*. In ChangeMan ZDD, *prompt* has the same behavior as *always*.

Accessing Staging Versions

Select a package component for a library type that has Staging Versions enabled, right-click and choose **Serena Network** → **Staging Versions** from the popup menu. The Staging Versions dialog box displays.

The following example shows the STG and BAS versions of the CDF$ISPF component in the DEMO000044 package. The STG version is the most current version.

Controlling the Versions Displayed

You can control which versions display using the check boxes at the top of the dialog box. The default (no boxes checked) displays all numbered versions.

Check Box	Description
Show only my versions	Select to display only versions that were updated with your user ID.
Show version in staging (STG)	Select to display the version in the staging (STG) library. If you check this box and you also check "Show only my versions", the version in the STG library will display only if it matches your user ID.
Show version in baseline (BAS)	Select to display the version in the baseline (BAS) library. If you check this box and you also check "Show only my versions", the version in the BAS library will display only if it matches your user ID.

Using the Functions

You can perform various functions against the versions by selecting them in the display window and then clicking the function button. What functions you are allowed to perform is determined by the version type and your ChangeMan ZMF administrative authority.

View

You can view any version displayed in the window by selecting it and clicking the View button. The default text editor you specify on the **Editor** tab of **Serena Network Properties** is invoked. If you did not specify a default editor, the ChangeMan Edit utility is invoked (see the **ChangeMan ZDD Tools Guide**).

You can edit the component, but you will not be able to save it in the ChangeMan ZMF library. You will have to do a *Save As* to your local computer.

Compare

You can compare any two versions displayed in the window. You can also compare a staging version with a file on your local computer.

To initiate the compare, select at least one version and click Compare. When the Compare Files dialog box displays, you can select an additional file or change the file(s) you originally selected.

When you click OK in the Compare Files dialog box, the **ChangeMan Diff** utility is invoked. For more information, see the **ChangeMan ZDD Tools Guide**.

Merge

You can merge any three versions displayed in the window. You can also merge staging versions with files on your local computer.

To initiate the merge, select at least one version, but not more than two, and click Merge. When the Merge Files dialog box displays, you can select additional files and change the files you originally selected.

If you select one version and click Merge, the path name for that version is populated in the Base File text box. If you select two versions, the path names for those versions are populated in the Revision 1 and Revision 2 text boxes. You can type the remaining file names in the text boxes or click the browse button to select from the Explorer directory tree.

When you click OK in the Merge Files dialog box, the ChangeMan Diff utility is invoked.

- If you selected *Automatic Merge*, and there are no conflicting changes, the files are merged without any further interaction; the merged output is placed in the *Output File* name you specified. If there are conflicting changes, the ChangeMan Diff utility displays in Merge mode, where you can do an interactive merge and choose the changes to apply.

- If you did not select *Automatic Merge*, ChangeMan Diff displays in Merge mode and you can select which changes are incorporated into the merged output file.

For more information, see the **ChangeMan ZDD Tools Guide.**

Delete

You can delete any numbered version for which you are authorized by ChangeMan ZMF. If you are not authorized to delete a version, an error message will be returned by ChangeMan ZMF and displayed in a pop-up box. You cannot delete the STG or BAS versions.

Recover

You can retrieve any version displayed in the window and place it into a temporary file.

When you select a version and click Recover, the Save As dialog box displays where you can specify a file name.

Scratching and Renaming Components

You can submit package requests to scratch or rename components in the baseline libraries using any of the following methods:

- **Scratch components** command
- **Rename components** command
- **Scratch and rename requests** command

Scratch Components

You can submit a package request to scratch baseline components as follows:

1 Select the component(s) to be scratched in a baseline library.

2 Right-click on the component(s), and select **Serena Network →Scratch components** from popup menu.

3   The **Scratch Components** dialog box will display.
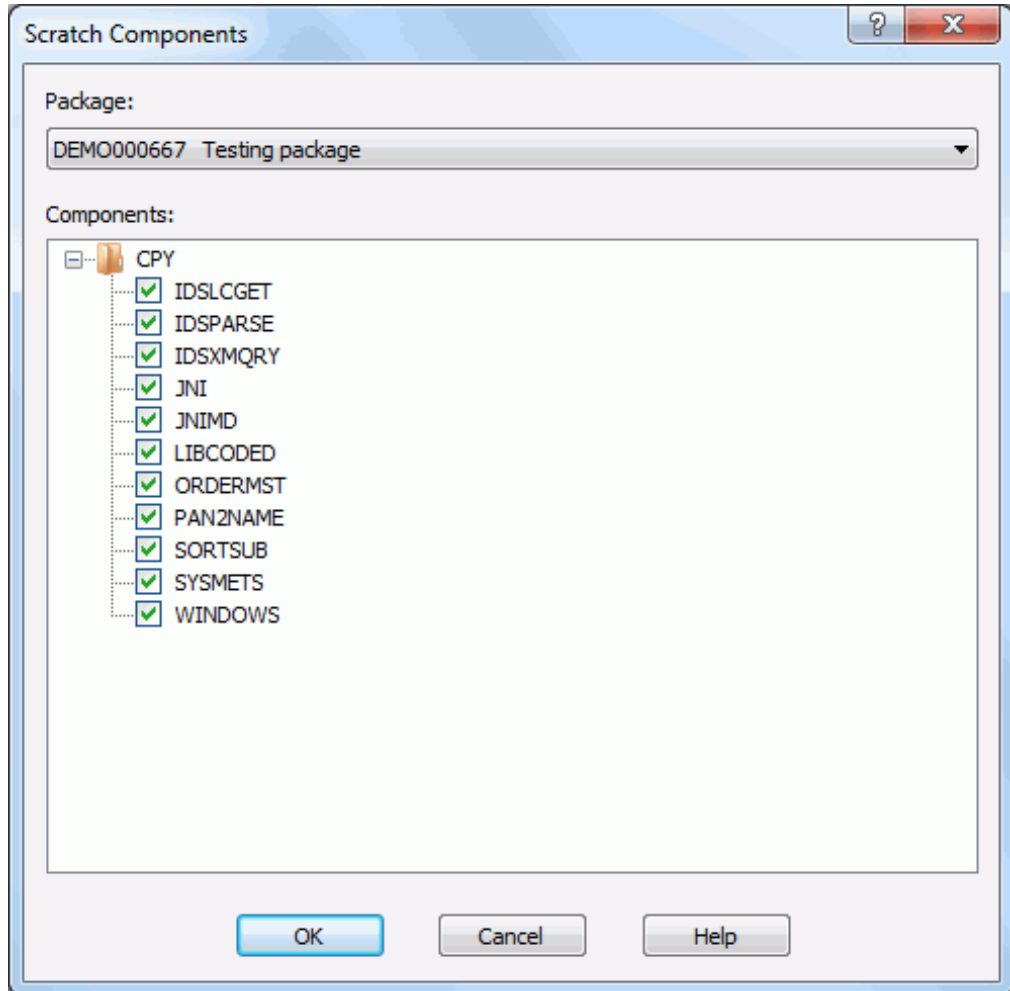
4   Select the package to be used for the scratch request and press **OK**.

Components can also be scratched using the **Scratch and rename requests** command. See "Scratch and Rename Requests" on page 275 for details.

Rename Components

You can submit a package request to rename baseline components as follows:

1   Select the component(s) to be renamed in a baseline library.

2   Right-click on the component(s), and select **Serena Network** →**Rename components** from popup menu.

3   The **Rename Component** dialog box will display. This dialog box can only rename one component at a time. If you have selected multiple components, this dialog box will be displayed repeatedly, once for each component.
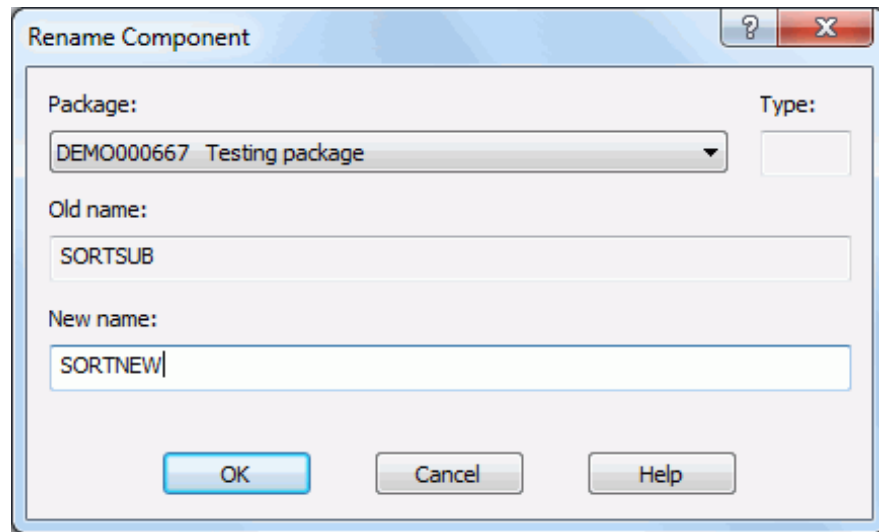
4   Select the package to be used for the scratch request.

5   Specify the new component name. Originally, the **New name** field will be filled in with the old name. The OK button will be disabled until you change the name to something else.

6   Press the OK button to submit the request.

Components can also be scratched using the **Scratch and rename requests** command. See for details.

Scratch and Rename Requests

The **Scratch and Rename Requests** command displays the **Package Utility** dialog box, which allows you to view, add, or remove scratch and rename requests in a package.

To display the Package Utility dialog box, right click on a package, a package library, the Baseline folder, or a baseline library, and select **Serena Network** →**Scratch and rename requests** from the popup menu.
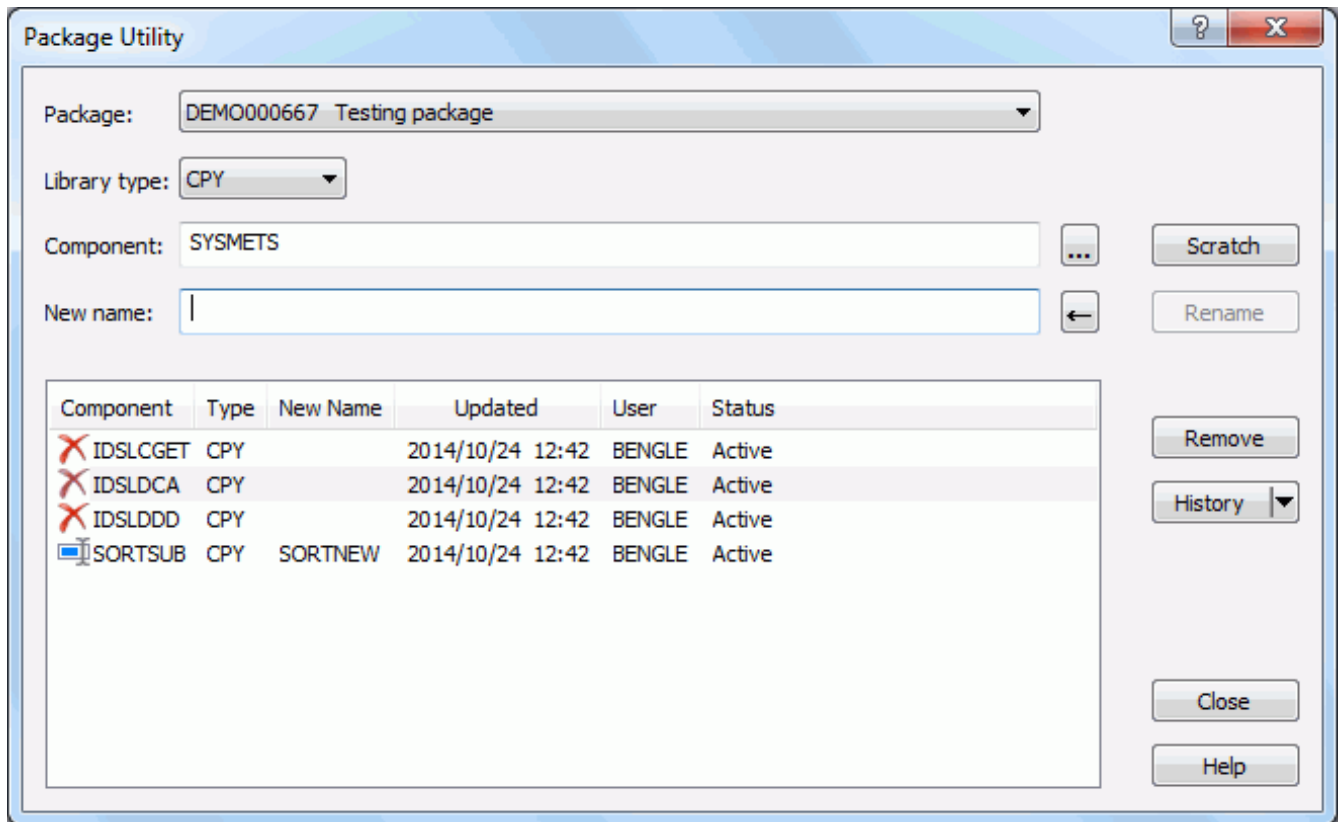
To add a scratch request, specify the library type and component name. Then press the **Scratch** button.

To add a rename request, specify the library type, component name, and new name. Then press the **Rename** button.

To remove a request, select it in the list, and then press the **Remove** button.

To view the history for a component, select it in the list, and then press the **History** button.

Auditing a Package

The audit function ensures the synchronization of components in an active change package with:

- The staging and baseline libraries of those components.
- The staging and baseline libraries of components in other participating packages.
- The staging and baseline libraries of components in other applications.

Refer to the *ChangeMan ZMF User's Guide* for more information about the audit function.

The ChangeMan ZDD audit function uses a wizard interface with the following pages:

Page	Description
Audit - Package	The first page displayed. Allows you to select options that determine the focus and scope of the audit.
Audit - Applications	Displayed only if you selected **Specify Application Scope** on the **Audit - Package** page. Allows you to select other applications to be included in the audit.
Audit - User Options	Displayed only if user options are specified in the AUDIT member of ZDDOPTS. Allows you to update the options for this audit.

Steps to Audit a Package

Right-click an application folder, the **Packages** folder, or a package in DEV status to display the popup menu. Point to **Serena Network** and then click **Audit Package**.

The first page displayed is the **Audit - Package** page.

Audit - Package Page

On the **Audit - Package** page you select options that determine the focus and scope of the audit. The default options selected are those that you last selected on this page.

The following table describes the fields on the **Audit - Package** page.

Field / Box	Description
Package	If you invoke the audit function from a package folder, the package ID and title are displayed and cannot be changed.
	If you invoke the audit function from an application folder or the **Packages** folder, the drop-down list displays all packages in DEV status for the application. Select a package from the list.
General Options:	
■ Audit staging libraries only	This option indicates whether you want to check for out-of-sync conditions in the package's staging libraries only, or in the staging and baseline libraries.
	■ Select this option to check only the staging libraries.
	■ If you do not select this option, the staging and baseline libraries will be checked.
■ Auto resolve out-of-syncs	Audit accesses the impact-analysis table to obtain the relationships between source programs and copybooks, and the relationships of statically link-edited called load modules to the composite load modules that call them.
	This option indicates if you want audit to resolve out-of-sync conditions involving copybooks and load modules automatically.
	■ Select this option to report out-of-sync conditions and submit recompile and relink jobs to resolve SYNCH2, SYNCH4, SYNCH5, SYNCH7, SYNCH8, SYNCH9, SYNCH15, and SYNCH16 conditions.
	■ If you do not select this option, out-of-sync conditions will be reported but not resolved.
■ Include history records	This option allows you to include or exclude history records in the audit report.
	■ Select this option to extract component history for each staged component and include it in the audit report. (Component history shows other packages that contain the staged component).
	■ If you do not select this option, history information will not be processed when generating the audit report.
■ Format report for printing	This option allows you to customize the appearance of the audit report.
	■ Select this option to format the audit report for printing. The first character is an ASA printer-spacing control character that controls the vertical printer motion.
	■ If you do not select this option, the audit report will be formatted for browsing. The text starts in column one and blank lines separate the header and sections of the audit report.

Field / Box	Description
■ Specify application scope	This option allows you to include additional application libraries in the audit. Select this option to display the **Audit - Applications** dialog box where you may select additional applications to include in the audit. See "Audit - Applications Page" on page 283 for a description of this dialog box. If you do not select this option, the default mix of applications will be included in the audit. The applications included by default depend on the type of package being audited, and are as follows: ■ Only the application associated with a simple package, or with a participating package that is being audited as a simple or primary package (**Audit as simple package** or **Audit as primary package** is selected). ■ The applications associated with all participating packages if the package being audited is a: ■ – Complex or super package. ■ – Participating package that is not being audited as a simple or primary package.
■ Lock package	This option allows you to lock the package during the audit. When the audit job finishes, the package will automatically be unlocked. If the audit job fails for some reason and does not complete, the package can be unlocked manually using the **Reset Audit Lock** command.
■ Reset lock	Resets the package audit lock before submitting the audit job.
■ Show user variables	Displays the **Other Options** page which allows you to set user variables.
Cross-application headers:	If numerous application:libtype combinations share the same baseline library, this field enables you to specify the number of application:libtype combinations that are printed in the heading of an audit report section. Select one of the following from the drop-down box: **None** Suppress all appl:libtype combinations. **Top line** Print only the first line of appl:libtype combinations. **Full** List all appl:libtype combinations. Up to six appl:libtype combinations are printed on each line. For example, if the same baseline library is shared among 300 applications, then a Full setting for this field prints 50 lines of appl:libtype combinations in the heading of a report section. This field enables you to control the number of heading lines that are printed if a large number of appl:libtype lines are undesirable.
Participating Packages:	The following four options are available only if the **Package** field identifies a participating package.

Field / Box	Description
■ Audit as simple package	This option specifies whether to audit the package as a simple package or not: ■ Select this option to audit the specified participating package as a simple package. Only the staging and baseline libraries associated with this package are considered in the audit. ■ If you select this option, you may *not* select any of the other **Participating Packages** options. ■ If you do not select this option, the libraries of the other participating packages are included in the audit.
■ Audit as primary package	This option specifies whether to audit the package as a primary package or not: ■ Select this option to audit the libraries of all participating packages in the audit, but report out-of-sync conditions only in the target participating package and update the audit return code for only the target participating package. The text *Primary Package Processing* appears in the header of each section of the audit report to indicate that you have requested that the target participating package be audited as a primary package. ■ If you do not select this option, the audit includes the libraries of all participating packages, reports out-of-sync conditions in all participating packages, and updates the audit return-code for all participating packages.
■ Audit by department number	■ Select this option to exclude the participating packages that have a department number that differs from the department number of the target participating package. ■ If you select this option, you may *not* select the **Audit as simple package** or **Audit as primary package** options. ■ If you do not select this option, all participating packages are included in the audit regardless of the department number associated with the target participating package.
■ Update only this package return code	■ Select this option to update the return code for only the target participating package. ■ If you do not select this option, the return code is updated for all participating packages included in the audit. If the **Package** field identifies a complex or super package, the return code for the target complex or super package is also updated and is set to the highest return code issued for the participating packages.
Job card	Default values are displayed initially. If you change the values, they will be stored in your registry and used as the defaults in the future. Each time this dialog displays, the last character of the jobname is incremented alphabetically. If the &SYSUID parameter in the Notify field is not overridden, the user ID is automatically substituted.

How to Proceed

Select the options for this audit and update the job card as needed.

You will see either a **Next** button or a **Finish** button. If you did not select **Specify application scope** and there are no user options specified in the AUDIT member of

ZDDOPTS, click the **Finish** button to submit the audit job; otherwise click the **Next** button to display the next page.

Audit - Applications Page

The **Audit - Applications** page displays only if you selected **Specify application scope** on the **Audit - Package** page. The applications listed are those that have been filtered for the ChangeMan instance (using the **Filters** page of the properties sheet for the ChangeMan instance).
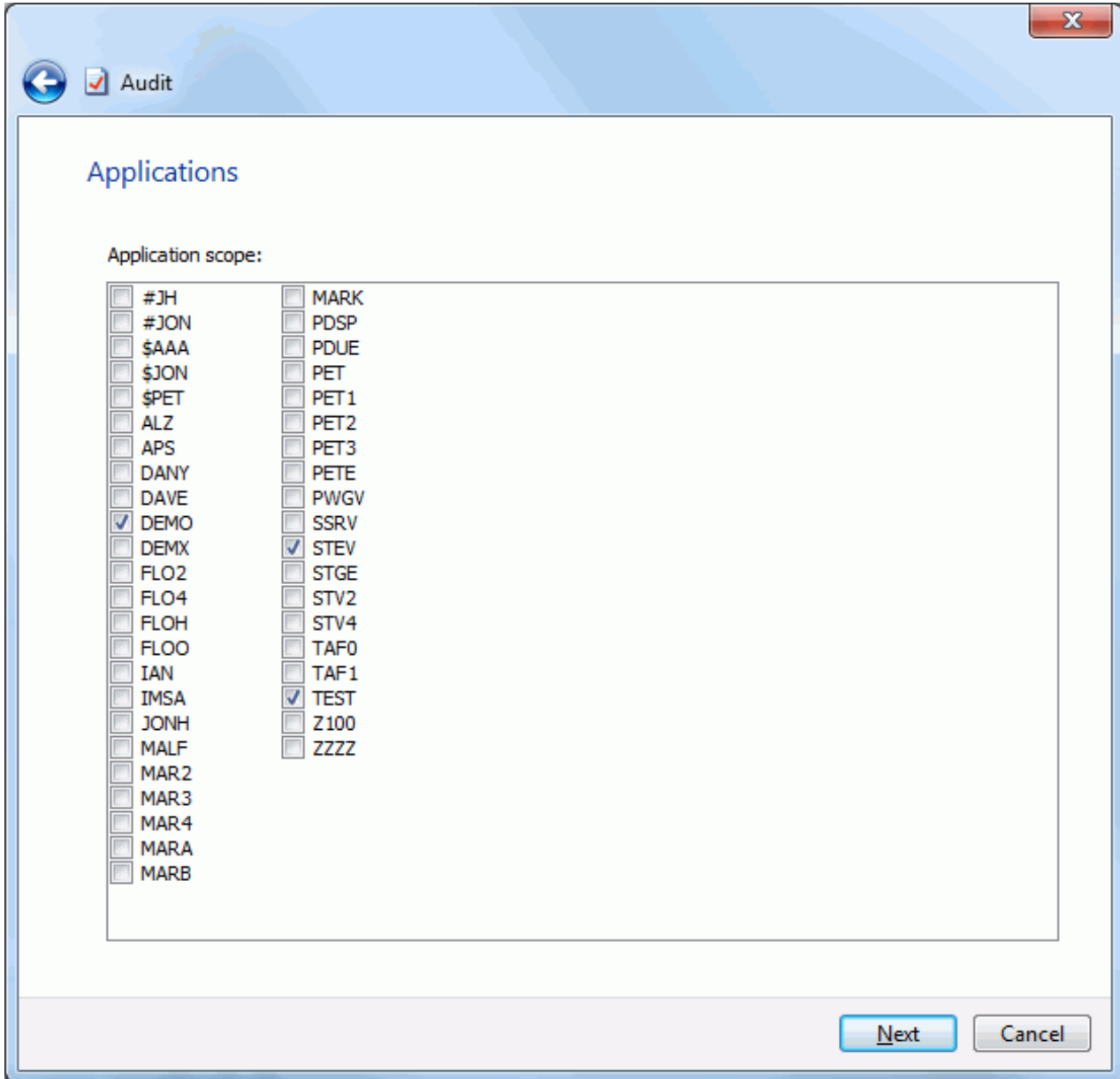
The default applications selected are determined by:

- The level of the package that you are auditing (simple, participating, complex/super).

- Options you selected on the **Audit - Package** page.

How to Proceed

Select any additional applications to be included in this audit. You may also deselect any default applications, except for the application to which the package is defined.

You will see either a **Next** button or a **Finish** button. If there are no user options specified in the AUDIT member of ZDDOPTS, click the **Finish** button to submit the audit job; otherwise click the **Next** button to display the next page.

Audit - User Options Page

The **Audit - User Options** page is displayed only when there are customer-defined options specified in the AUDIT member of ZDDOPTS.

How to Proceed

Update the options as needed for this audit, following the validation rules specified in the AUDIT member of ZDDOPTS.

Click the **Finish** button to submit the audit job.

Viewing the Audit Report

See for information on viewing job output through ChangeMan ZDD.

Resetting the Audit Pending Lock

You can reset the audit pending lock as follows:

1   Right click on a package, or the **Packages** folder, and select **Serena Network** → **Reset audit lock** from the popup menu.

2   The Reset Audit Lock dialog box will display.
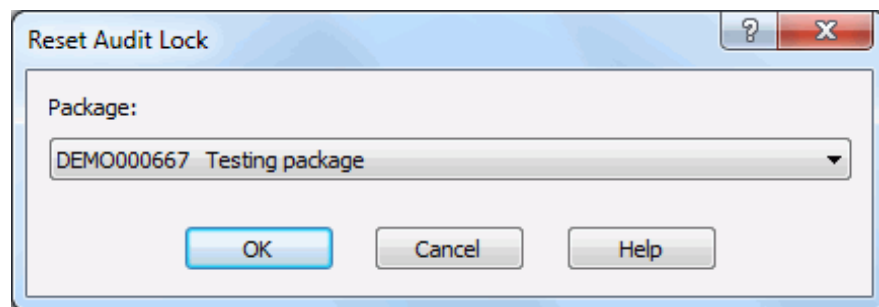
3   Select the package and press **OK**.

Freezing a Package

The **Freeze Package** function locks package information and package components to prevent further changes. Your package must be frozen before the package approval process can begin.

When you freeze a package, ChangeMan ZMF validates the condition of the package and its components, and if no error conditions are found, the package status is changed to FRZ.

After a package is frozen, you may be able to selectively unfreeze package information and components to make changes, then selectively refreeze the information and components. See the following topics for more information:

There are several rules and restrictions that apply to the **Freeze Package** function. Refer to the *ChangeMan ZMF User's Guide* for more information.

Steps to Freeze a Package

1   Right-click an application folder, the **Packages** folder, or a package in DEV status to display the popup menu. Point to **Serena Network** and then click **Freeze Package**.

The **Freeze Package** dialog box is displayed..
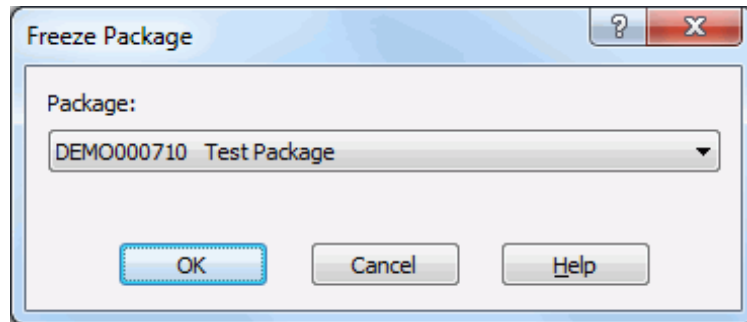
2   If you invoke **Freeze Package** from a package folder, the package ID and title are displayed and cannot be changed.

If you invoke **Freeze Package** from an application folder or the **Packages** folder, the drop-down list displays all packages in DEV status for the application. Select a package from the list.

3   Click **OK** to process the request.

Unfreezing and Refreezing a Package

After a package is frozen, you may be able to selectively unfreeze package information to make changes, and then refreeze it. The following examples are circumstances when you might use the **Unfreeze Package** and **Refreeze Package** functions:

■   An approver requires you to change package information.

■   You need to change the install date or time for your package.

■   You must remove a scratch or rename utility request.

You would *not* use the **Unfreeze Package** function in the following situations:

■   If you need to make changes to a component in a package that has been frozen, use the **Unfreeze Components** and **Refreeze Components** functions (see "Unfreezing and Refreezing Components" on page 289).

■   If you need to add a new component to a package that has been frozen, you must revert the entire package (see "Reverting a Package" on page 292).

Steps to Unfreeze a Package

1   Right-click an application folder, the **Packages** folder, or a frozen package. When the popup menu displays, point to **Serena Network** and then click **Unfreeze Package**.

The **Unfreeze Package** dialog box is displayed.
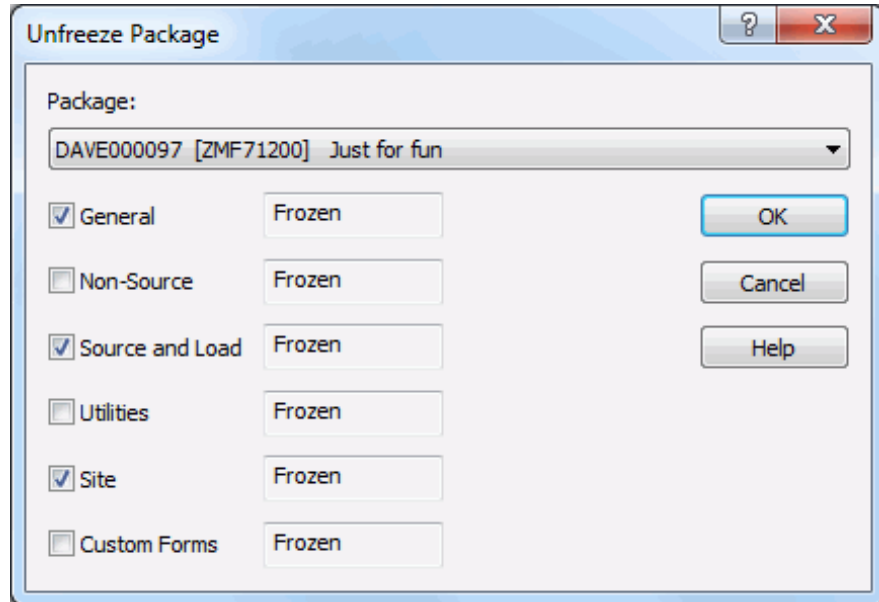
2   If you invoke the **Unfreeze Package** function from a package folder, the package ID and title are displayed in the **Package** field and cannot be changed.

If you invoke the **Unfreeze Package** function from an application folder or the **Packages** folder, the drop-down list displays all packages in frozen status for the application. Select a package from the list.

> **NOTE** A package with selectively unfrozen information or components still has a status of *frozen* at the package level.

3   The types of package information that you may unfreeze display with a status of *Frozen* and are enabled in the dialog box.

The following table describes the item types that may be unfrozen.

Select the item types that you want to unfreeze and then click **OK**.

Field / Box	Description
General	Select this option to unfreeze the following package information: ■ Control information ■ Description ■ Installation instructions ■ Scheduling information ■ Affected applications ■ Participating packages You will then be able to update information on the **Package**, **Description**, **Implementation**, **Scheduling**, **Applications** and **Participating** pages of the package properties sheet. See "Updating Package Information" on page 228 for more information.
Non-Source	Select this option to unfreeze non-source package components.
Source and Load	Select this option to unfreeze source components and the target component types in source-load relationships.
Utilities	Select this option to unfreeze scratch and rename utility requests.
Onsite	Select this option to unfreeze install-site information. You will then be able to update information on the **Site** and **Sites** pages of the package properties sheet. See "Updating Package Information" on page 228 for more information.
Custom Forms	Select this option to unfreeze *all* online forms in your change package. To selectively unfreeze one or more online forms, you must use the ISPF interface of ChangeMan ZMF.

Steps to Refreeze a Package

1   Right-click an application folder, the **Packages** folder, or a frozen package. When the popup menu displays, point to **Serena Network** and then click **Refreeze Package**.

The **Refreeze Package** dialog box is displayed.
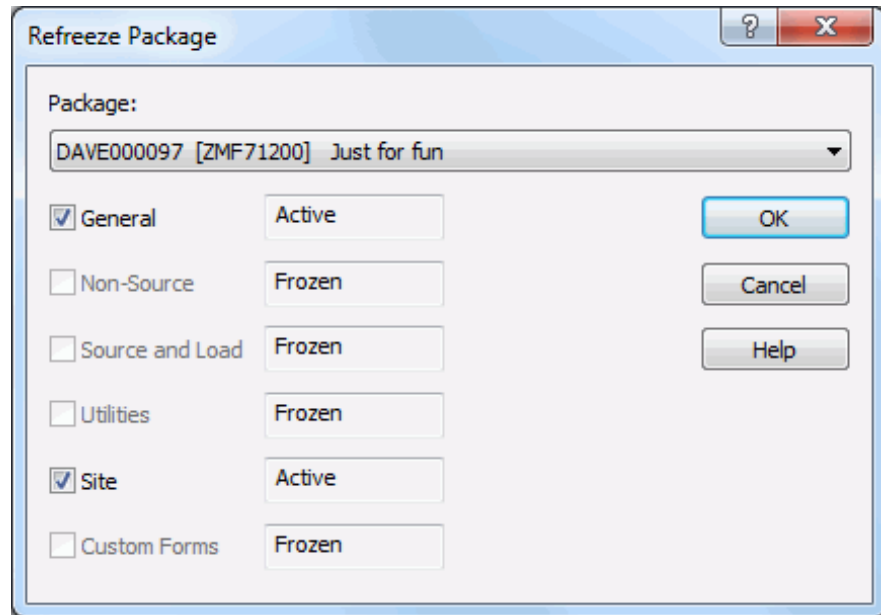
2 If you invoke the **Refreeze Package** function from a package folder, the package ID and title are displayed in the **Package** field and cannot be changed.

If you invoke the **Refreeze Package** function from an application folder or the **Packages** folder, the drop-down list displays all packages in frozen status for the application. Select a package from the list.

> **NOTE** A package with selectively unfrozen information or components still has a status of *Frozen* at the package level.

3 The types of package information that you may refreeze display with a status of *Unfrozen* and are enabled in the dialog box.

Refer back to the table in Step 3 on page 287 for a description of the item types.

Select the item types that you want to refreeze and then click **OK**.

Unfreezing and Refreezing Components

After a package is frozen, you may be able to selectively unfreeze package components to make changes, then selectively refreeze the components. If you need to add a new component to a package, you must revert the entire package (see "Reverting a Package" on page 292).

Steps to Unfreeze Components

1 Right-click a frozen package, a library in a frozen package, or selected components in a frozen package library. Choose **Serena Network → Unfreeze Components** from the popup menu.

The **Unfreeze Components** dialog box displays.
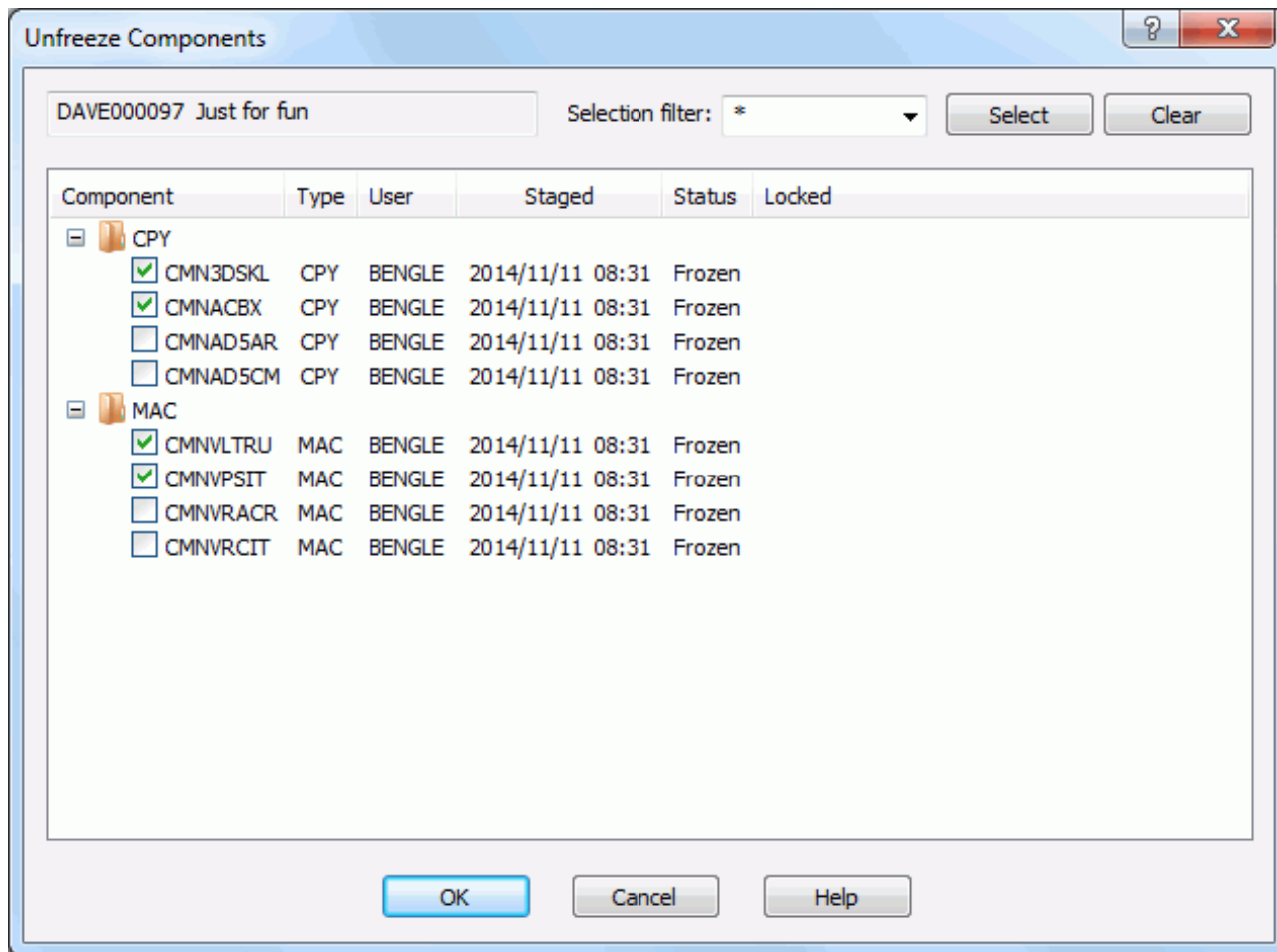
2   Select or deselect components in either of the following ways:

- Select or deselect components individually using the check boxes in the Component list.

- Use the "Selection filter" field to enter a name pattern with wild characters. Then press the **Select** or **Clear** button; the check boxes for all component names that match the filter are checked or unchecked.
  You may enter multiple pattern names, one at a time, and press **Select** or **Clear** for each entry.

3   Click **OK** to unfreeze the selected components.

Steps to Refreeze Components

1   Right-click a frozen package, a library in a frozen package, or selected components in a frozen package library. Choose **Serena Network → Refreeze Components** from the popup menu.

The **Refreeze Components** dialog box displays.
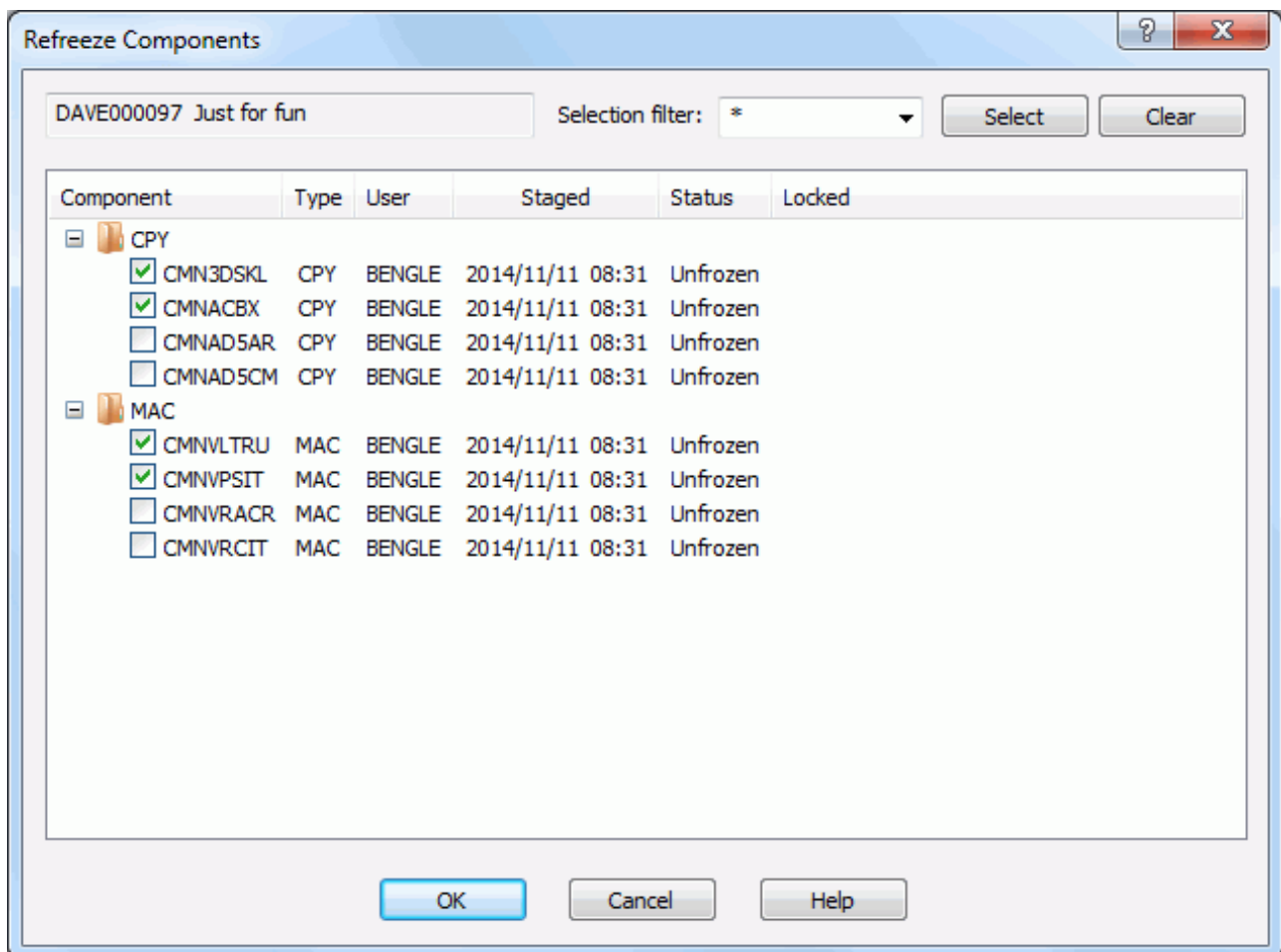
2 Select or deselect components in either of the following ways:

- Select or deselect components individually using the check boxes in the Component list.

- Use the "Selection filter" field to enter a name pattern with wild characters. Then press the **Select** or **Clear** button; the check boxes for all component names that match the filter are checked or unchecked.
  You may enter multiple pattern names, one at a time, and press **Select** or **Clear** for each entry.

3 Click **OK** to refreeze the selected components.

Reverting a Package

A package that has been rejected, frozen, or backed out can be returned to DEV status using the **Revert Package** function.

Refer to the *ChangeMan ZMF User's Guide* for the rules that apply to reverting a package.

Steps to Revert a Package

1 Right-click an application folder, the **Packages** folder, or a package. Choose S**erena Network** → **Revert Package**. from the popup menu.

The **Revert Package** dialog box displays.

2 Update the fields as described in the following table:

Field / Box	Description
Package	Displays the package ID and title. ■ If you invoked **Revert Package** from a package folder, the package ID and title cannot be changed. ■ If you invoked **Revert Package** from an application folder or the **Packages** folder, the drop-down list displays all packages for the application that have an eligible status for reverting. Select a package from the list.
Site	This field allows you to revert a package at another site. It is enabled for ChangeMan ZMF 6.1 and higher.
Reasons	Type a reason for reverting the package. You must type at least one character.
Job card	This field is enabled only when you are reverting a package at another site (if the local site is selected in the **Site** drop-down list, this field will be disabled).

3 Click **OK** to process the request.

Promoting and Demoting Packages

The **Promote** function copies components from package staging libraries into promotion site/level libraries, combining them with components from other packages.

The **Demote** function deletes components from libraries that were populated by promotion.

The rules under which the **Promote** and **Demote** functions operate in ChangeMan ZDD are the same as those that are in effect for ChangeMan ZMF in the ISPF client. Refer to the *ChangeMan ZMF User's Guide* for complete information on promotion and demotion.

Components can be promoted/demoted at the package level or individually within the package.

The Promote and Demote functions use a wizard interface. There are four pages for Promote, and three for Demote:

■ The first page for Promote and Demote displays the Package ID, a directory tree for selecting the promotion site/level, and the job card.

■ The second page for Promote and Demote displays the Package ID, the promotion site and level, and a list of components to be promoted/demoted. You may have the option of selecting and deselecting components, depending on the particular promotion/demotion.

■ The third page for Promote and Demote displays the User Options. This page displays only if customer-defined options have been specified in the PROMOTE/DEMOTE members of ZDDOPTS.

■ There is a fourth page for Promote that displays components in the site/level library that will be overlaid if you proceed with the promotion.

After you successfully submit the Promote/Demote request, you can check the job status through ChangeMan ZDD or in ISPF. See for information on viewing job output through ChangeMan ZDD.

Initiating Promote/Demote

The following table shows the different ways of initiating Promote and Demote.

To initiate this function:	Do this . . .	And then . . .
Promote	Right-click a package folder, a package library folder, or components in a package library folder. . . . or . . . Drag-and-drop a package library folder, or components in a package library folder to a promotion site/ level folder.	Choose **Promote** from the Serena Network popup menu.
Demote	Right-click a package folder, a package library folder, or components in a package library folder.	Choose **Demote** from the Serena Network popup menu.

Promoting a Package

The example in this section describes how to do a first promotion to a new level.

1 Right-click a package and choose **Promote** from the Serena Network popup menu. The **Promote - Site** page displays:

■ The upper window displays a directory tree of promotion sites and levels. Hold the mouse pointer over a promotion level to see a description, which would be one of the following:

- First promotion for the site.

- New level. Package has previously been promoted to a lower level for the site.

- Promoted level with no components. Can be any level up to the highest promotion level for the site.

- Promoted level with components. Can be any level up to the highest promotion level for the site.

- Invalid level selection.

- The Schedule box on the right side allows you to schedule a package promotion at a future date or time. If no date and time are specified, the promotion job will be submitted immediately. Scheduled promotions require ChangeMan ZMF 6.1 or higher.

- The "Show user variables" check box displays the **Other Options** page which allows you to set user variables.

- The lower window displays the job card for submitting the Promote job:

  - Default values are displayed initially. If you change the values, they will be stored in your registry and used as the defaults in the future.

  - Each time this dialog displays, the last character of the job name is incremented alphabetically.

  - If the &SYSUID parameter in the Notify field is not overridden, the user ID is automatically substituted.

2 Select a valid site/level to which you want to promote the package and change the job card if necessary.

3 Click **Next** to go to the **Promote - Components** page:

In this example, level 01 for site D001 was selected. The display window lists all of the components available for promotion.

4   To select or deselect components:

a   Select the option "Selective promotion from list below". This option will be preselected if you are promoting to a level where the package already exists.

b   Select or deselect components in one of the following ways:

■   Use the check boxes in the list.

or

■   Use the "Selection filter" field to enter a name pattern with wild characters. Then press the **Select** or **Clear** button; the check boxes for all component names that match the filter are checked or unchecked.
You may enter multiple pattern names, one at a time, and press **Select** or **Clear** for each entry.

5   To hide components that have already been promoted to the target level, select the option "Hide components already at target level".

6   Click **Next** to go to the **Promote - Overlay** page:

The display window lists components already in the promotion library that will be overlaid if you proceed with this promotion. Because this is a promote to a new level where no packages have been promoted, there are no components to be overlaid.

7   Press **Next** to continue. The **Promote - User Options** page displays only if customer-defined options have been specified in the PROMOTE member of the ZDDOPTS library.

Update the options as needed, following the validation rules specified in the PROMOTE member of ZDDOPTS.

8   Click **Finish** to submit the Promote job. You can check the job status through ChangeMan ZDD or in ISPF. See "Viewing Output for ChangeMan ZMF Jobs" on page 204 for information on viewing job output through ChangeMan ZDD.

> **NOTE** Components are promoted to all libraries that are defined for a promotion library type. (Multiple libraries for a library type for a promotion level display in ChangeMan ZDD with a number suffix. For example, if you have two libraries defined for JCL, they display as JCL.1 and JCL.2).

Demoting a Package

This example describes how to do a full demotion.

1   Right-click a package and choose **Demote** from the Serena Network popup menu. The **Demote - Site** page displays:

- ■ The upper window displays a directory tree of promotion sites and levels. Hold the mouse pointer over a promotion level to see a description, which would be one of the following:

  - • First promotion for the site.

  - • New level. Package has previously been promoted to a lower level for the site.

  - • Promoted level with no components. Can be any level up to the highest promotion level for the site.

  - • Promoted level with components. Can be any level up to the highest promotion level for the site.

  - • Invalid level selection.

- ■ The "Show user variables" check box displays the **Other Options** page which allows you to set user variables.

- ■ The lower window displays the job card for submitting the Demote job:

  - • Default values are displayed initially. If you change the values, they will be stored in your registry and used as the defaults in the future.

- Each time this dialog displays, the last character of the jobname is incremented alphabetically.

- If the &SYSUID parameter in the Notify field is not overridden, the user ID is automatically substituted.

2 Select a valid site/level from which you want to demote the package, and change the job card if necessary.

3 Click **Next** to go to the **Demote - Components** page:

The display window lists all of the components available for demotion.

4 To select or deselect components:

a Select the option "Selective demotion from component list below".

b Select or deselect components in one of the following ways:

- Use the check boxes in the list.

or

- Use the "Selection filter" field to enter a name pattern with wild characters. Then press the **Select** or **Clear** button; the check boxes for all component

names that match the filter are checked or unchecked. You may enter multiple pattern names, one at a time, and press **Select** or **Clear** for each entry.

At the bottom of the page, you will see either a **Finish** button or a **Next** button.

If you see a **Finish** button, go to .

If you see a **Next** button, click **Next** to continue.

5   The **Demote - User Options** page displays only if customer-defined options have been specified in the DEMOTE member of ZDDOPTS.

Update the options as needed, following the validation rules specified in the DEMOTE member of ZDDOPTS.

6   Click **Finish** to submit the Demote job. You can check the job status through ChangeMan ZDD or in ISPF. See "Viewing Output for ChangeMan ZMF Jobs" on page 204 for information on viewing job output through ChangeMan ZDD.

Displaying Promotion History

The Promotion History functions allow you to:

- Display promotion history for a package

- Display promotion history for package components

Package Promotion History

The **Package Promotion History** list shows the current status of all promote and demote actions initiated for a change package in a site.

The following steps describe how to display the **Package Promotion History**.

1 Right-click a package in the "Packages" folder, a promotion site in the "Promotion" folder, or a promotion level, and choose **Serena Network → Package Promotion History** from the popup menu.

The **Package Promotion History** dialog box then displays, allowing you to specify additional search criteria..
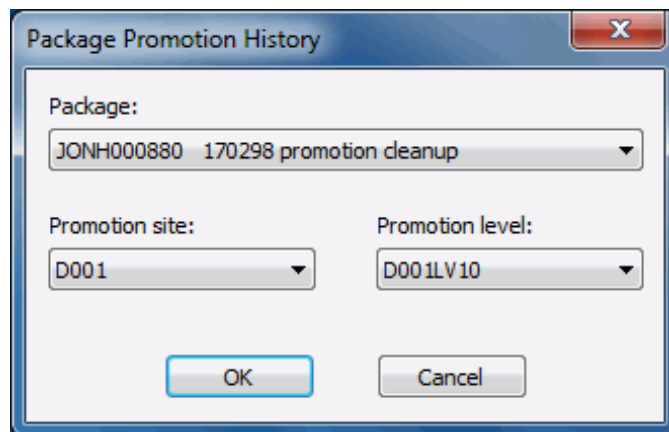
2 The **Package** field is required, and will already be set if the command was invoked from within a package folder. If the command was invoked from a promotion folder, then the **Package** drop down list will be enabled and you will need to select a package from the list.

3 The **Promotion site** and **Promotion level** fields are optional, and can be used to limit the list to a specific promotion site or promotion level. These fields are already set if the command was invoked from a promotion site folder or a promotion level folder.

4   Press **OK** and the **Package Promotion History** list will be displayed.

Site	Level	Promoted	User	Count	Action	Status
D001	01 D001LV1	2012/02/23 13:23	JHEARN	8	Promote-Full	Completed
D001	01 D001LV1	2012/02/23 13:48	JHEARN	3	Promote-Sel	Completed
D001	01 D001LV1	2012/02/23 14:06	JHEARN	3	Demote-Sel	Completed
D001	01 D001LV1	2012/03/19 13:12	BENGLE	2	Promote-Sel	Completed
D001	02 D001LV2	2012/02/23 13:26	JHEARN	5	Promote-Full	Completed
D001	02 D001LV2	2012/03/02 10:42	BENGLE	1	Promote-Sel	Completed
D001	02 D001LV2	2012/03/02 10:45	BENGLE	1	Demote-Sel	Completed
LOCAL	05 PROMO0	2012/02/23 13:45	JHEARN	8	Promote-Full	Completed

You can sort the list on any column by clicking on the column headers. The column order can be rearranged by dragging the column header to the desired location.

Component Promotion History

The **Component Promotion History** list provides promotion history for selected components in a package.

The following steps describe how to display the **Component Promotion History**.

1   Right-click a package in the "Packages" folder, a package library, some package components, a promotion site in the "Promotion" folder, or a promotion level, and choose **Serena Network → Component Promotion History** from the popup menu.

The **Component Promotion History** dialog box will then display, allowing you to specify additional search criteria.

When specific components are selected, promotion history will be displayed for the selected components only. Otherwise, the history includes all components in the package.
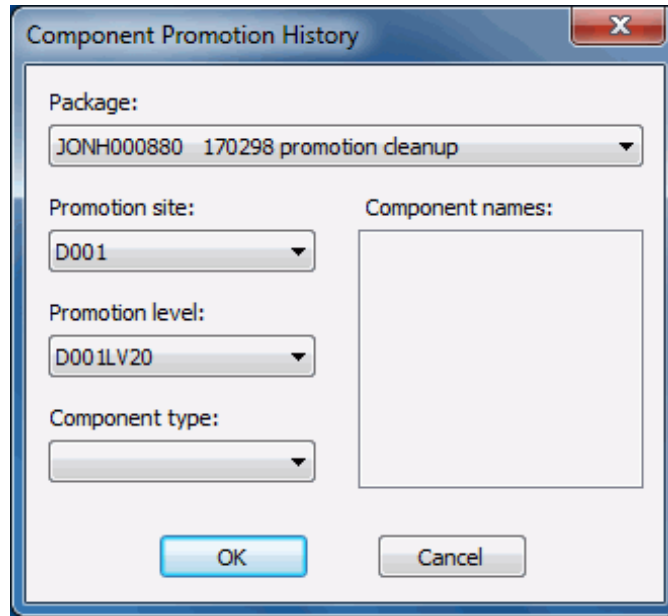
2   The **Package** field is required, and will already be set if the command was invoked from within a package folder. If the command was invoked from a promotion folder, then the **Package** drop down list will be enabled and you will need to select a package from the list.

3   The **Promotion site**, **Promotion level**, and **Component type** fields are optional, and can be used to limit the list to a specific promotion site, promotion level, or component type. These fields are already set if the command was invoked from a promotion site folder, a promotion level folder, or a library type folder.

4   The Component names list will display the names of the selected components if specific components were selected. If no component names are listed history will displayed for all components in the package.

5 Press **OK** and the **Component Promotion History** list will be displayed.

Component	Type	Site	Level	Promoted	User	Status
BBB07000	LOD	D001	02 D001LV2	2012/02/23 13:26	JHEARN	Deleted
BBB07000	SRC	LOCAL	05 PROMO0	2012/02/23 13:46	JHEARN	Deleted
BBB07000	LOD	LOCAL	05 PROMO0	2012/02/23 13:46	JHEARN	Deleted
CCC00000	LOD	D001	02 D001LV2	2012/02/23 13:26	JHEARN	
CCC00000	SRC	D001	01 D001LV1	2012/03/19 13:12	BENGLE	
CCC00000	SRC	LOCAL	05 PROMO0	2012/02/23 13:46	JHEARN	
CCC00000	LOD	LOCAL	05 PROMO0	2012/02/23 13:46	JHEARN	
CCC00001	LOD	D001	01 D001LV1	2012/03/19 13:12	BENGLE	
CCC00001	SRC	LOCAL	05 PROMO0	2012/02/23 13:46	JHEARN	
CCC00001	LOD	LOCAL	05 PROMO0	2012/02/23 13:46	JHEARN	
CMN$GLBL	CPY	D001	02 D001LV2	2012/03/02 10:42	BENGLE	
CMN$GLBL	CPY	LOCAL	05 PROMO0	2012/02/23 13:46	JHEARN	
CMN$LOG	CPY	LOCAL	05 PROMO0	2012/02/23 13:46	JHEARN	

Component Promotion History — Package: JONH000880 — Site: — Level: — Type: — Close

You can sort the list on any column by clicking on the column headers. The column order can be rearranged by dragging the column header to the desired location.

Approving or Rejecting a Package

The Package Approval functions allow you to:

- Approve a package

- Reject a package

- Mark a package as pending review

- Add check-off comments

Steps to Approve a Package

The following steps describe how to use the Package Approval functions.

**1** Right-click an application folder, a "Packages" folder, or a package in an eligible state and choose **Serena Network** → **Approvals** from the popup menu.

The **Package Approval** dialog box displays.

2   The **Package** field is enabled if you clicked on an application folder or a "Packages" folder. Select a package from the drop-down list.

3   Select an entry from the list of user roles. The buttons will be enabled or disabled depending on what functions are allowed for that role. The following table describes the functions:

Function	Description
Approve	Submits an "approve update" request. When all approvers have approved the package, the package status changes to "Approved".
Reject	Displays the **Reject Package** dialog box for entering reject reasons. When you click **OK**, a "reject update" request is submitted and the package status changes to "Rejected".
Review	Submits a "review update" request and changes the status to "Review".
Check off	Displays the **Check Off List** dialog box for entering comments. When you click **OK**, a "check off update" request is submitted and the status changes to "Check Off".

Resubmitting Install JCL Build Request

If your package is in frozen or approved status and you want to rebuild the package install JCL, you can resubmit the request using the **Rebuild JCL** command, as follows:

Right-click a package with a status of "frozen" or "approved" and choose **Serena Network → Rebuild JCL** from the popup menu.

Authorization to use this command depends on whether file tailoring for install JCL was previously executed successfully:

- If package freeze processing successfully changes the status of your package to frozen, but file tailoring for install JCL fails, anyone authorized to update the application can resubmit the JCL build request.

- If the package is in frozen status and file tailoring for install JCL has completed successfully, then global or application administration authority is required to resubmit a request to build install JCL.

Backing Out a Package

Packages can be backed out through ChangeMan ZDD using the **Back Out Package** function. A package must be in one of the following states to be eligible for back out:

- For "P" sites, the package must have a status of "Installed".

- For all other sites, the package must have a status of "Baseline".

Steps to Back Out a Package

1 Right-click an application folder, a "Packages" folder, or a package in an eligible state and choose **Serena Network → Back Out Package** from the popup menu.

The **Back Out Package** dialog box displays:

2   Update the fields as described in the following table:

Field / Box	Description
Package	Displays the package ID and title. ■ If you invoked **Back Out Package** from a package folder, the package ID and title cannot be changed. ■ If you invoked **Back Out Package** from an application folder or the "Packages" folder, the drop-down list displays all packages for the application that are eligible for back out. Select a package from the list.
Site	This field allows you to back out a package at another site. It is enabled for ChangeMan ZMF 6.1 and higher.
Reasons	Enter a reason for backing out the package. You must enter at least one character.
Job card	This field is enabled only when you are backing out a package at another site (if the local site is selected in the **Site** drop-down list, this field will be disabled).

3   Click **OK** to process the request.

Displaying Package Site Activity

To display a summary of the activity for a package at each site, right click on a package and select **Serena Network** → **Site activity** from the popup menu.
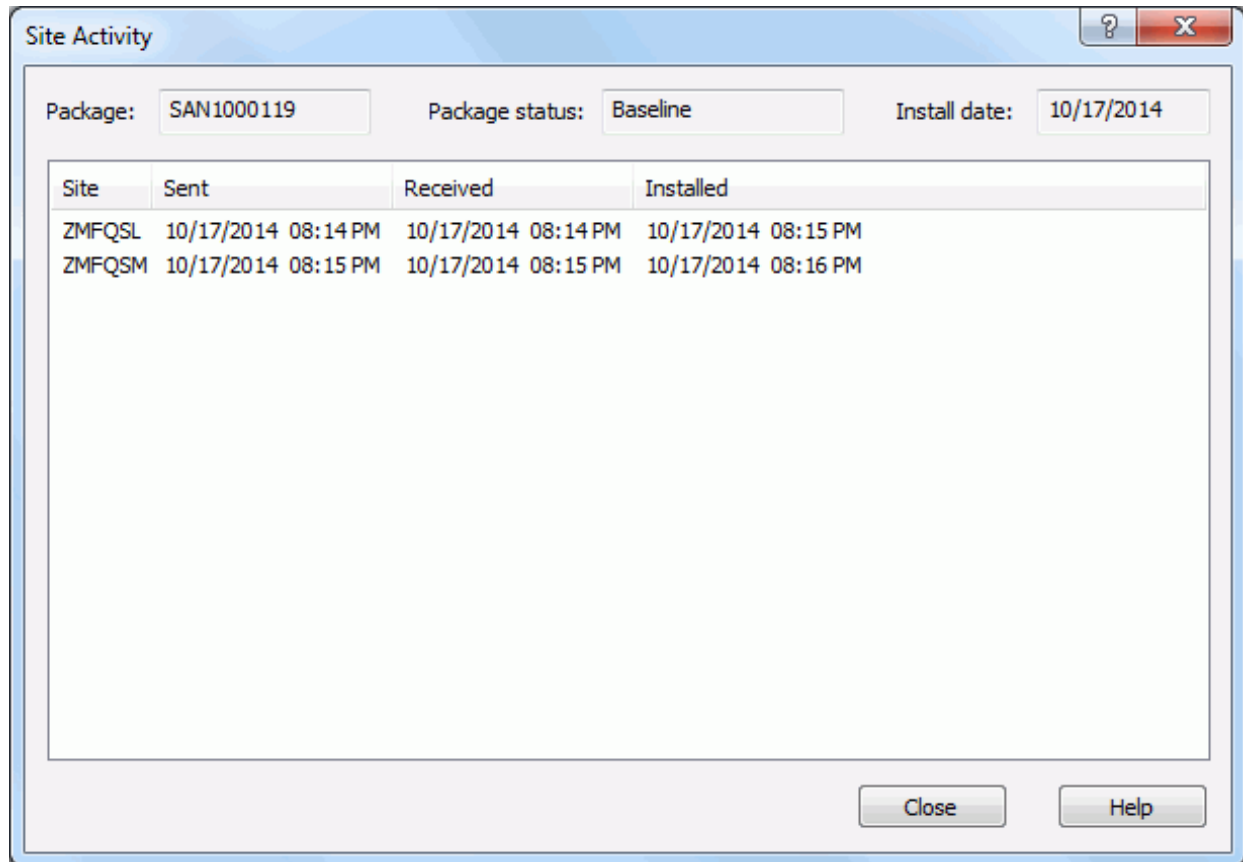
Displaying/Updating Limbo Packages

The **Limbo Packages** command allows you to display and update packages in limbo.

NOTE This function is available only for users who have "Monitor" permissions in ChangeMan ZMF.

Refer to the *ChangeMan ZMF User's Guide* for more information about limbo packages.

Steps to Update Limbo Packages

1 Right-click a ChangeMan instance, an application folder, the "Packages" folder, or a package and choose **Serena Network** → **Limbo Packages**.

The **Limbo Packages** dialog box displays:
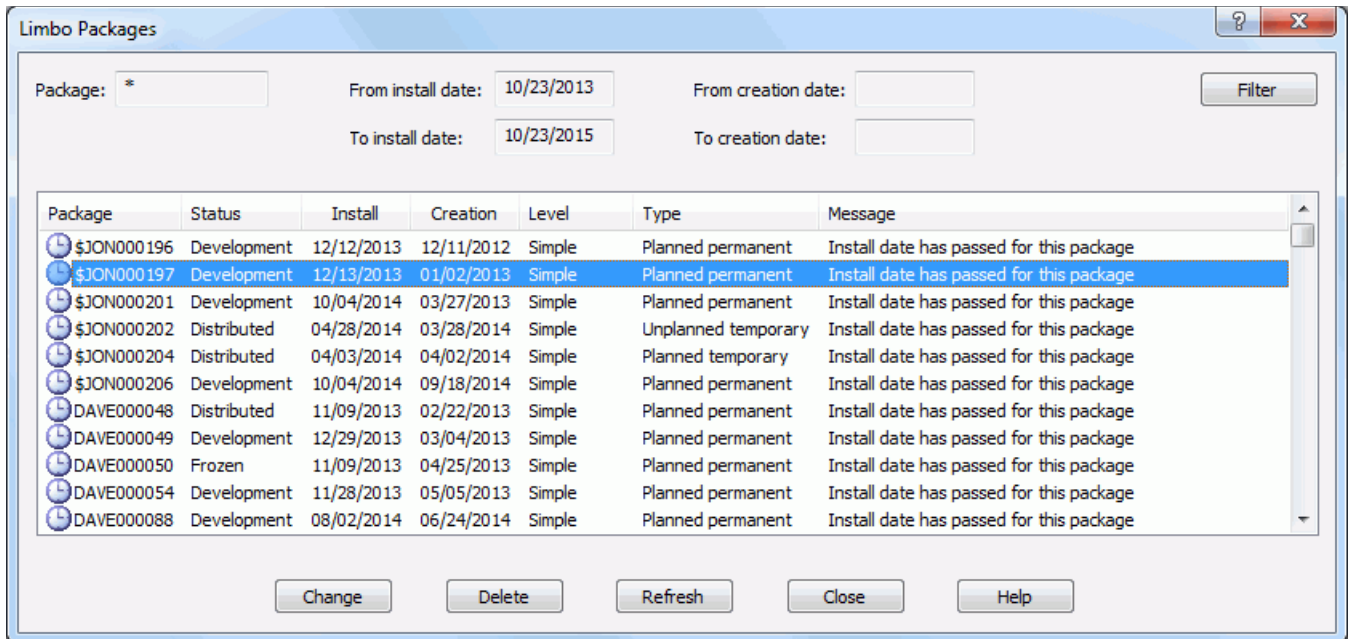
2   In the above example, all of the limbo packages for the DEMO application are displayed that are within the default install date range, which is a two year range beginning one year prior to today's date.

The selection criteria can be changed by clicking the **Filter** button, which displays the following dialog box:
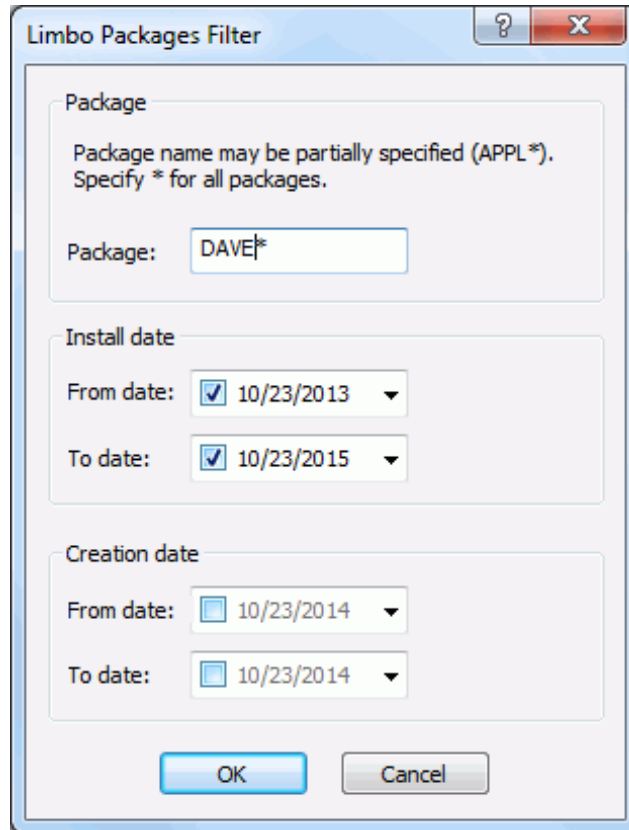
You can filter by package ID, install date range, or creation date range.

3 To update a package, select it from the displayed list and click the **Change** or **Delete** button.

    a The **Change** button displays the following dialog box:
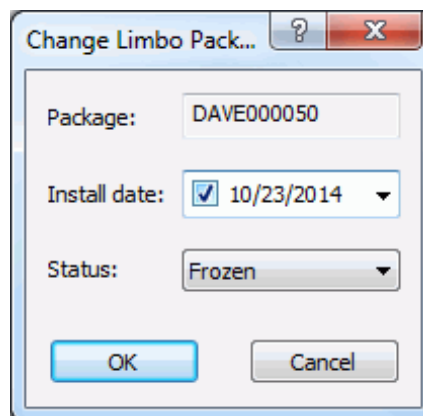
You may select a new install date and change the status.

    b The **Delete** button memo-deletes the package. See "Memo-Deleting and Undeleting a Package" on page 315 for more information.

4 The package list can be refreshed by clicking the **Refresh** button.

Displaying/Changing the Installation Schedule

The installation schedule for the ChangeMan scheduler can be displayed and changed through ChangeMan ZDD. This feature is invoked with the **Installation Scheduler** command and allows you to:

- Hold a package installation

- Release a package installation

- Change the install date and time of a package

- Filter the packages displayed in the list

NOTE The **Installation Scheduler** function is available only for users who have "Monitor" permissions in ChangeMan ZMF.

Refer to the *ChangeMan ZMF User's Guide* for complete information on updating the installation schedule.

Steps to Update the Installation Schedule

1 Right-click a ChangeMan instance, an application folder, a "Packages" folder, or a package in an eligible state and choose **Serena Network → Installation Scheduler** from the popup menu.

The **Installation Schedule** dialog box displays:
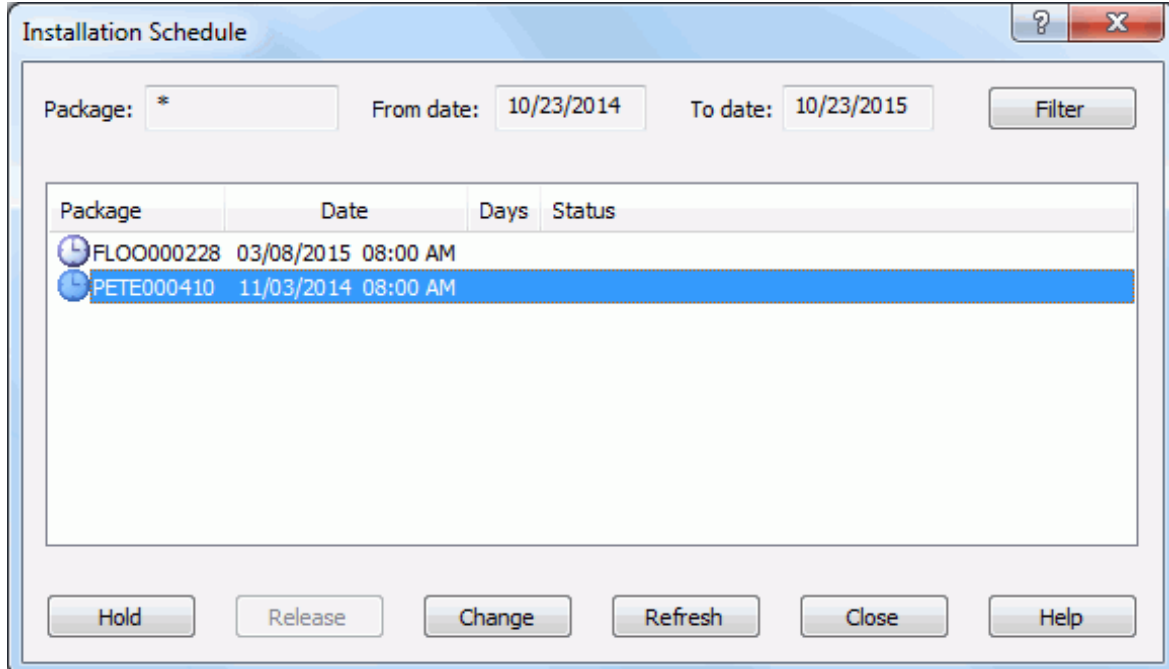
2 In the above example, there are two packages displayed that use the ChangeMan scheduler and have an install date that falls within the default range, which begins at the current date and ends one year in the future.

The selection criteria can be changed by clicking the **Filter** button, which displays the following dialog box:
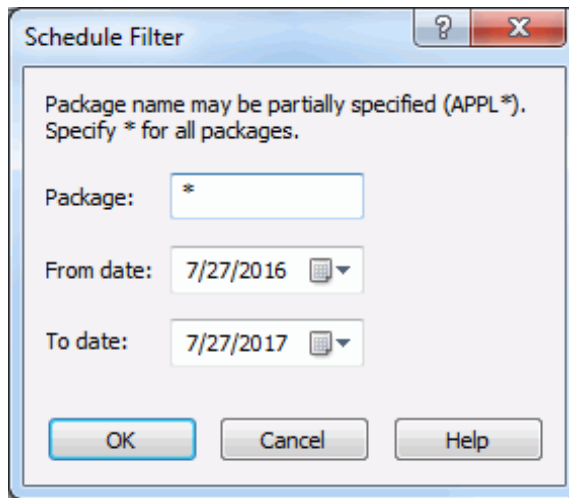
You can filter by package ID and install date range.

3   To update a package in the list, select it and click the **Hold**, **Release**, or **Change** buttons.

  a   The **Hold** button holds the scheduled installation.

  b   The **Release** button releases a hold.

  c   The **Change** button displays the following dialog box where you may update the install date and time:
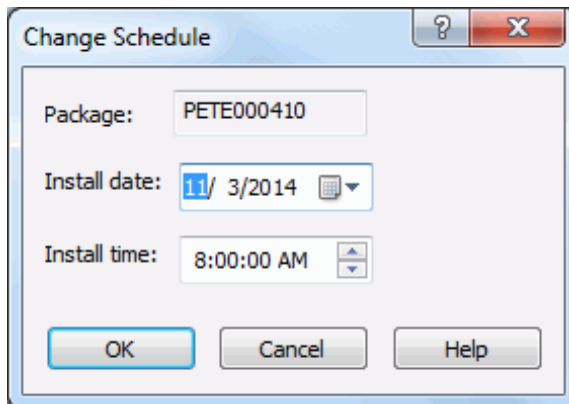
4   The package list can be refreshed by clicking the **Refresh** button.

Displaying/Changing the Promotion Schedule

The promotion schedule for scheduled promotions can be displayed and changed through ChangeMan ZDD. This feature is invoked with the **Promotion Scheduler** command and allows you to:

■   Hold a package promotion

■   Release a package promotion

■   Change the promotion date and time of a package

■   Filter the packages displayed in the list

> **NOTE** The **Promotion Scheduler** function is available only for users who have "Monitor" permissions in ChangeMan ZMF.

Refer to the *ChangeMan ZMF User's Guide* for complete information on updating the installation schedule.

Steps to Update the Promotion Schedule

1   Right-click a ChangeMan instance, an application folder, a "Packages" folder, or a package in an eligible state and choose **Serena Network → Promotion Scheduler** from the popup menu.

The **Promotion Schedule** dialog box displays:
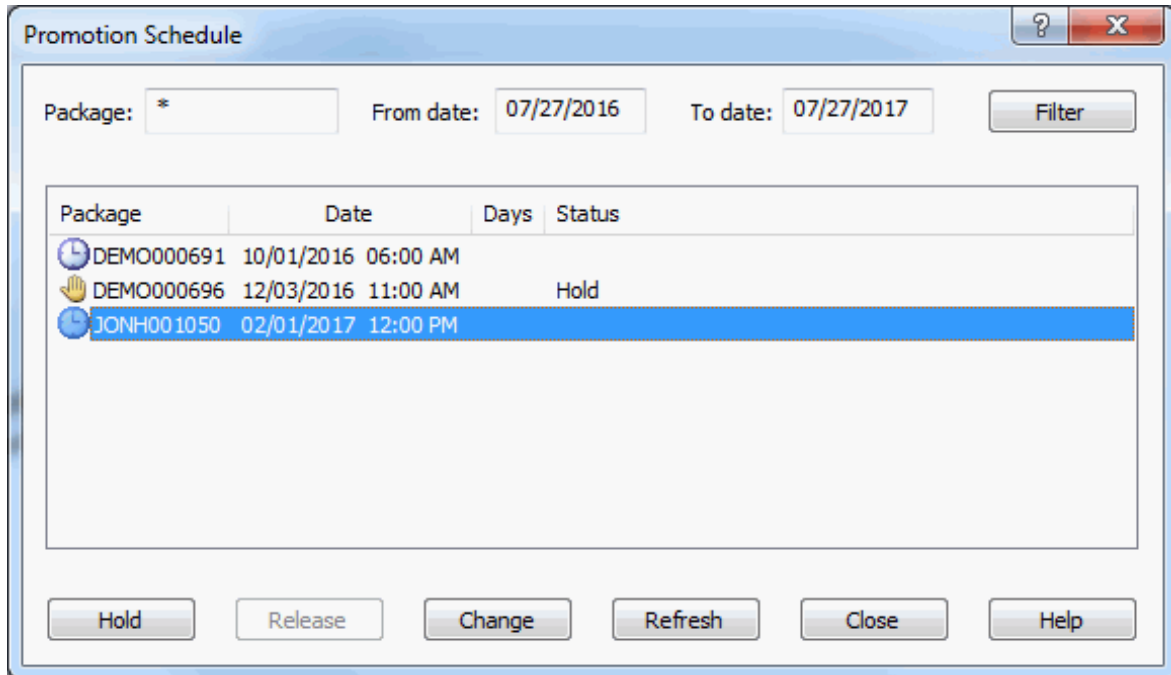
2   In the above example, there are three packages displayed that have a promotion scheduled and have a promotion date that falls within the default range, which begins at the current date and ends one year in the future.

The selection criteria can be changed by clicking the **Filter** button, which displays the following dialog box:
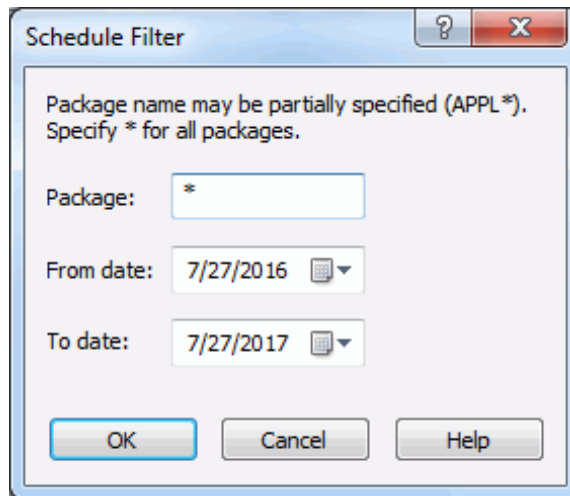
You can filter by package ID and install date range.

3 To update a package in the list, select it and click the **Hold**, **Release**, or **Change** buttons.

    a The **Hold** button holds the scheduled promotion.

    b The **Release** button releases a hold.

    c The **Change** button displays the following dialog box where you may update the promotion date and time:
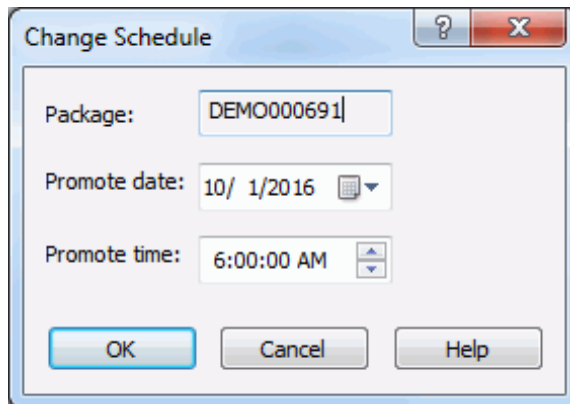
4 The package list can be refreshed by clicking the **Refresh** button.

Memo-Deleting and Undeleting a Package

You can memo-delete a package using the **Delete package** command. A package that is memo-deleted is not physically deleted until the ChangeMan ZMF housekeeping jobs are run. As long as a memo-deleted package is not physically deleted, you can restore it using the **Undelete package** command.

The **Delete package** and **Undelete package** commands are available on the Serena Network popup menu when you right-click a package.

Refer to the *ChangeMan ZMF User's Guide* for rules and restrictions that apply to the memo delete and undelete package functions.

Impact Analysis

Impact analysis is a facility that shows relationships and dependencies among baseline library components. By querying impact analysis data for selected components you can do the following:

- Assess the effort involved in completing an intended change. That is, you can find out what and how many other components will be affected if you change a selected component.

- Avoid product failures that occur when you install a change without considering related components.

Impact analysis lets you evaluate the effect of changing a particular component. A *superior component* is defined as one that references one or more subordinate components. Likewise, a *subordinate component* is defined as a component that is referenced by one or more superior components.

The **Impact Analysis** wizard takes a bottom-up view of component relationships. You ask a question about a subordinate component, and it tells you about superior components.

In other words, it tells you what components contain a component that you want to change.

Steps to Impact Analysis

There are three pages in the **Impact Analysis** wizard. You can go back and forth between the pages using the **Next** and **Back** buttons. he **Back** button is the back arrow button at the upper left corner of the window.

1   Right click on a ChangeMan instance and choose **Impact Analysis**. You can also right click on an application, a library type, or a component, and the wizard form will be automatically filled in based on the item you selected.

The wizard will then launch, and the **Search Arguments** page will display.

The following table describes the fields on the **Search Arguments** page.

Field	Required	Description
Search arguments	**Specify the subordinate component or components you want to investigate.**	
Bottom component	Required	Enter the name of a subordinate component. Valid values Include: ■ Like-copy component name ■ Statically linked like-NCAL or like-load subprogram name ■ Cataloged procedure name ■ Program name or string in JCL PGM= statement ■ Data set name or string in JCL DSN= statement Valid formats include: ■ Full component name or string ■ Component name pattern or string ending in * The first character in this field cannot be *.

Field	Required	Description
Mixed case	Optional	Select to use the exact text entered in the bottom component name to search for relationships. If not selected, it will fold the text entered for subordinate component name into upper case before searching for relationships.
Bottom library type	Optional	You can, optionally, select the library type of the subordinate component. If no library type is selected, all library types will be searched. To clear the selection, select "**(None)**", which is the first entry at the top of the drop down list. Do not select any library type if the subordinate component is one of the following, which are stored in impact analysis as character strings rather than as components with library types: ■ Cataloged procedure name ■ Program name or string in JCL PGM= statement ■ Data set name or string in JCL DSN= statement
Bottom application	Optional	You can, optionally, select the application of the subordinate component. If no application is selected, all applications types will be searched. To clear the selection, select "**(None)**", which is the first entry at the top of the drop down list.
Relationship	Required	Select the relationship between the superior and subordinate components that you want to evaluate. The possible relationships are as follows: **Copybook** (Source to copybook) **Subroutine** (Composite load to linked load) **JCL Proc** (Execution JCL to cataloged procedure) **JCL Pgm** (JCL/Procedure to program name) **JCL DSN** (JCL/Procedure to data set name)
Result filters	**Specify filter criteria if you want to see a subset of the superior components that have a relationship to the component you are investigating.**	
Top component	Optional	You can, optionally, enter the name of a superior component. Valid formats Include: ■ Full component name ■ Component name pattern ■ Asterisk (*) for all names ■ Blank, which defaults to *
Mixed case	Optional	Select to use the exact text entered in the top component name to filter results. If not selected, it will fold the text entered for top component name into upper case before searching for relationships.

Field	Required	Description
Top library type	Optional	You can, optionally, select the library type of the superior component. If no library type is selected, the results will not be filtered by library type. To clear the selection, select "**(None)**", which is the first entry at the top of the drop down list.
Top application	Optional	You can, optionally, select the application of the superior component. If no application is selected, the results will not be filtered by application. To clear the selection, select "**(None)**", which is the first entry at the top of the drop down list.

2 Update the fields in the **Search Arguments** page and press **Next** to begin the search. The **Top Components** page displays at the end of the search.

The top half of the **Top Components** page echoes the search criteria and results filter criteria for the subordinate component that you specified on the preceding S**earch Arguments** page.

The bottom half of the page shows a list of superior components that satisfy the search and filter criteria that you specified.

This table describes the fields on the **Top Components** page.

Field	Description
List of components which reference	
Application	**Application** that you specified in the **Search Arguments**.
Type	**Library type** that you specified in the **Search Arguments**.
Name	**Bottom** (subordinate) **component name** that you specified in the **Search Arguments**.
Relationship	**Relationship** that you specified in the **Search Arguments**.
And match these criteria	
Application	**Application** that you specified in the **Results Filter**.
Type	**Library type** that you specified in the **Results Filter**.
Name	**Top** (superior) **component name** that you specified in the **Results Filter**.
Results list	
Component	Displays the name of superior components that satisfy the selection and filter criteria that you specified on the **Search Arguments** page.
Found in Appl:Libtype	Displays the application and library type of the library where the superior component is baselined.

3 If you want to go back and start a new search, press **Back** button, which is a back arrow at the upper left corner of the window.

4 To display the subordinate components for any of the components listed, select a component on the list and press **Next**. The **Bottom Components** page will then display the subordinate components.

The **Bottom Components** page lists subordinate components contained in the selected superior component that have the same relationship type as your original query.

5 If you want to go back and query for additional information, press **Back** button, which is a back arrow at the upper left corner of the window.

6 To end the wizard, press the **Close** button.

Bill of Materials

The **Bill of Materials** wizard takes a top-down view of component relationships. You ask a question about a superior component, and it tells you about subordinate components.
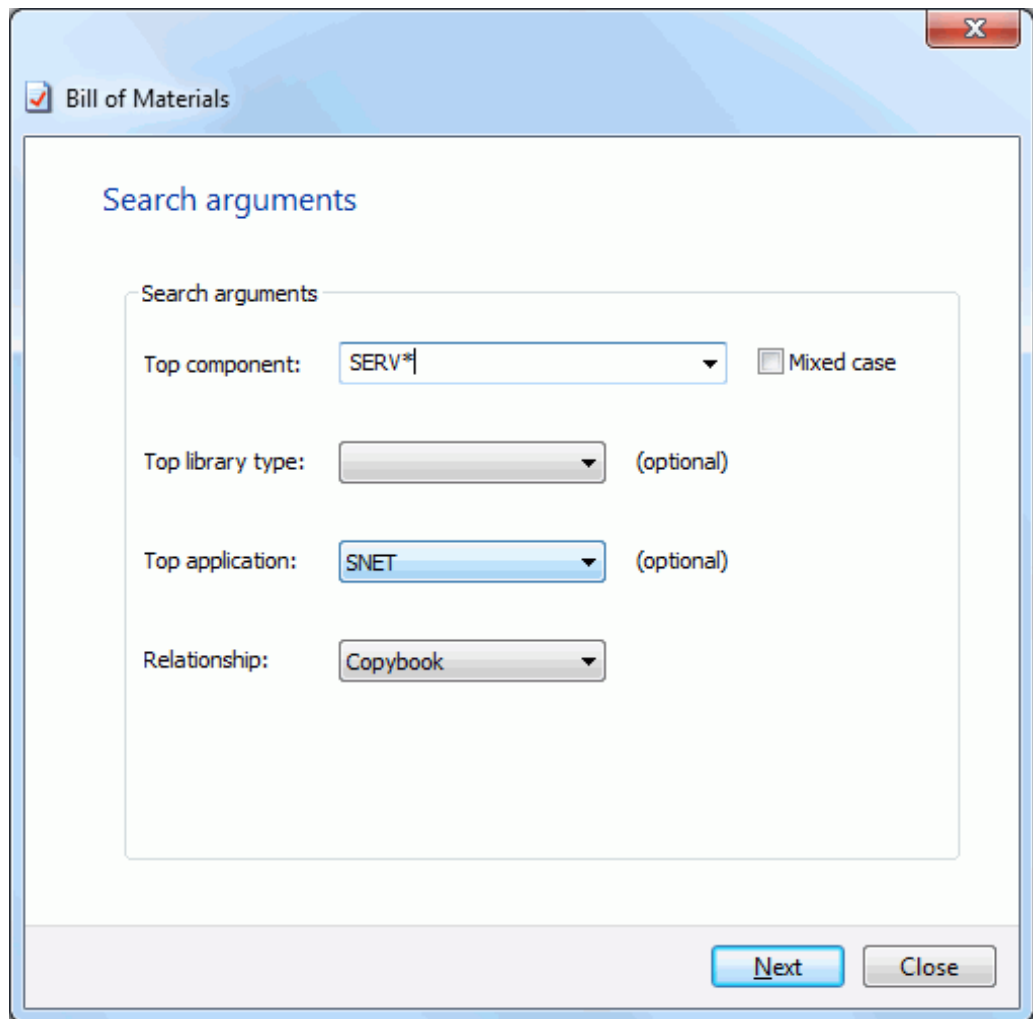
In other words, it tells you what components are contained in a component that you want to change.

Steps to Bill of Materials

There are three pages in the **Bill of Materials** wizard. You can go back and forth between the pages using the **Next** and **Back** buttons. The **Back** button is the back arrow button at the upper left corner of the window.

1   Right click on a ChangeMan instance and choose **Bill of Maaterials**. You can also right click on an application, a library type, or a component, and the wizard form will be automatically filled in based on the item you selected.

The wizard will then launch, and the **Search Arguments** page will display.

The following table describes the fields on the **Search Arguments** page:

Field	Required	Description
Top component	Required	Enter the name of a superior component. Valid values Include: ■ Like-source component name ■ Statically linked like-load component name ■ JCL component name ■ Cataloged procedure name Valid formats include: ■ Full component name or string ■ Component name pattern or string ending in * The first character in this field cannot be *.
Mixed case	Required	Select this option to use the exact text entered in the superior component name to search for relationships. If not selected fold the superior component name text into upper case before searching for relationships.
Top library type	Optional	You can, optionally, select the library type of the superior component. If no library type is selected, all library types will be searched. To clear the selection, select "**(None)**", which is the first entry at the top of the drop down list.
Top application	Optional	You can, optionally, select the application of the superior component. If no application is selected, all applications types will be searched. To clear the selection, select "**(None)**", which is the first entry at the top of the drop down list.
Relationship	Required	Select the relationship between the superior and subordinate components that you want to evaluate. The possible relationships are as follows: **Copybook** (Source to copybook) **Subroutine** (Composite load to linked load) **JCL Proc** (Execution JCL to cataloged procedure) **JCL Pgm** (JCL/Procedure to program name) **JCL DSN** (JCL/Procedure to data set name)

2 Update the fields in the **Search Arguments** page and press **Next** to begin the search. The **Top Components** page displays at the end of the search.
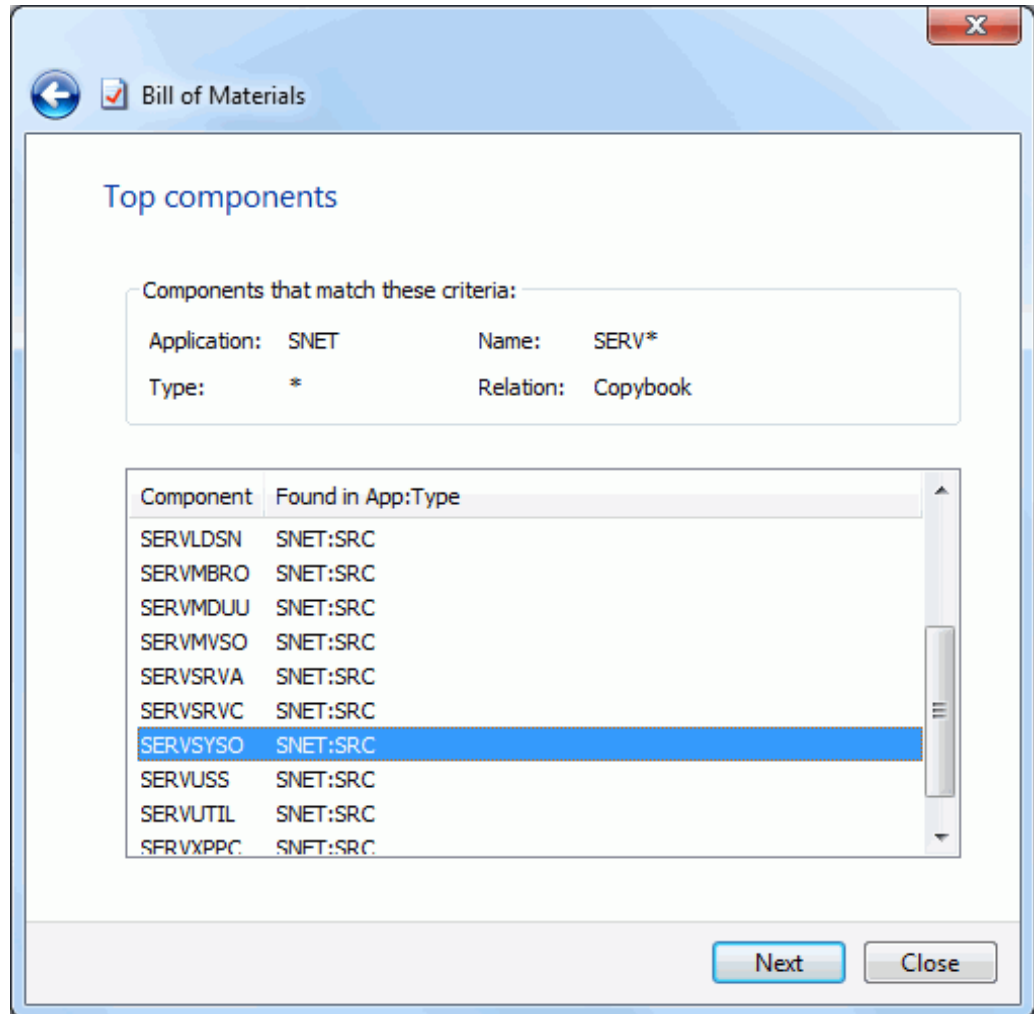
The top half of the page echoes the search criteria for the *superior* component that you specified on the preceding **Search Arguments** page.

The bottom half of the page shows a list of *superior* components that match the search criteria you specified. If you specified * in the **Library type** and/or **Application** fields on the **Search Arguments** page, this page may list more than one component.

This table describes the fields on the **Top Componens** pagel

Field	Description
Components that match these criteria	
Application	**Application** that you specified in the **Search Arguments**.
Type	**Library type** that you specified in the **Search Arguments**.
Name	**Bottom** (subordinate) **component name** that you specified in the **Search Arguments**.
Relationship	**Relationship** that you specified in the **Search Arguments**.
Results list	

Field	Description
Component	Displays the name of superior components that satisfy the selection and filter criteria that you specified on the **Search Arguments** page.
Found in Appl:Libtype	Displays the application and library type of the library where the superior component is baselined.

3   If you want to go back and start a new search, press **Back** button, which is a back arrow at the upper left corner of the window.

4   To display the subordinate components for any of the components listed, select a component on the list and press **Next**. The **Bottom Components** page will then display the subordinate components.

The **Bottom Components** page lists subordinate components contained in the selected superior component that have the same relationship type as your original query.

5   If you want to go back and query for additional information, press **Back** button, which is a back arrow at the upper left corner of the window.

6   To end the wizard, press the **Close** button.

Comparing Components

You can compare two components using the ChangeMan Diff utility. This feature is documented in the **ChangeMan ZDD Tools Guide**.

Merging Components

You can merge two revised versions with a baseline version using the ChangeMan Diff utility. This feature is documented in the **ChangeMan ZDD Tools Guide**.

Submitting XML Documents

You can submit XML requests to the Serena XML Services processor of ChangeMan ZMF. The XML input document can be a data set, a PDS member, a Unix file on the z/OS server, a file on your local computer, or an XML component in a ChangeMan ZMF baseline, promotion, or package library. The XML output from the request is stored in a user-specified file on either the z/OS server or your local computer.

For more information on using XML Services, see *ChangeMan ZMF: XML Services User's Guide*.

There are two ways to submit XML to the server:

- From the Windows Explorer, using ChangeMan ZDD's **Submit XML** command.
- From ChangeMan Edit text editor, selecting **File → Submit XML** from the menu.

To submit XML from the Windows Explorer, right-click the file, data set, member, or component containing the XML, and choose **Serena Network → Submit XML** from the popup menu. You can select multiple files to submit several XML files at the same time. If you select more than one file, a separate dialog box will display for each one.

The **Submit XML** dialog box allows you to edit the XML before you submit it. You can either discard the changes or save them. Changes can be saved back to the original file, if it is not read-only, or to a different file.

If you wish to save your XML changes, you must press the **Save** or **Save As** button *before* submitting the file. After you press the **Submit** button, the dialog will automatically close.

The **Submit XML** dialog box is illustrated below.

Fill in the fields as shown below and then click **Submit**.

Field / Box	Description
Server	Choose the server to receive the XML request.
ChangeMan	Choose the ChangeMan instance to receive the XML request. If no ChangeMan instance is specified, the XML file will be submitted to the server, rather than a ChangeMan instance. This is only valid for SerNet services and not for ChangeMan ZMF services. ChangeMan ZMF services must be directed to a ChangeMan instance.
Input file	The default path name is for the file you selected. You can change the path name in the text box, or click the browse button to select a new file. This file can be on your local computer or a z/OS server configured through ChangeMan ZDD.

Field / Box	Description
Output file	The file name for the XML output is generated. You can change it in the text box or click the browse button to select a file. This file can be on your local computer or a z/OS server configured through ChangeMan ZDD.
XML text	You can modify the XML text in the edit box before submitting the request. You can, optionally, either save those changes before pressing **Submit**. If you do not save the changes, they will be discarded after the file is submitted.

TIP Another way to use the **Submit XML** feature is to select an XML input file and drag it, using the right mouse button, to a ChangeMan ZMF instance, application, "Baseline" folder, "Packages" folder, package, package library, "Promotion" folder, or promotion site. When you release the right mouse button, choose **Serena Network → Submit XML** from the popup menu. The **Submit XML** dialog box displays with the **Server**, **ChangeMan**, and **Input file** fields populated.

When using the **Browse** ("**...**") button to select a target location, if you select a folder under **Serena Network**, you will be unable to specify a file name that doesn't already exist inside the **File Save** dialog box.   You can, however, still enter a new file name in the **Output file** field of the **Submit XML** dialog box.

This is a restriction of the Windows **File Save** common dialog box.   The **Serena Network** section of the Windows Explorer tree is a shell namespace extension and not part of the file system namespace. The Windows **File Save** dialog does not allow you to specify a non-existent file in a non-file-system folder.

The Windows **File Save** dialog box is part of Windows and not a ChangeMan ZDD dialog box, and Windows provides no means to change this behavior.

There are two ways around this.

The first method is to simply select a name that does exist in the **File Save** dialog box and then change the name after you return to the ChangeMan ZDD **Submit XML** dialog box. This is the preferred method.

The second method is to map the server to a Windows drive letter.   Mapped drive letters are part of the file system namespace, and the **File Save** dialog box will then allow you to specify a file name that doesn't exist.   This method is not recommended. Mapped drive letter folders are slower than Serena Network folders, and many ChangeMan ZDD features are not available in mapped drive letter folders.

Chapter 6
Using the Enterprise Release Option

Overview

The ChangeMan ZDD interface to the Enterprise Release Option (ERO) provides access to many of the ERO functions, such as:

- Displaying and updating information for a release, release areas, and release applications

- Displaying/comparing/merging release component versions

- Validating component versions

- Checking out to a package

- Checking in to a release

- Checking in to next area

- Promoting a package

- Demoting a package

For detailed information about ERO, refer to the following documents:

- *ChangeMan ZMF ERO Concepts*

- *ChangeMan ZMF ERO Getting Started Guide*

Releases Directory Tree

The following diagram shows the **Releases** directory tree in ZDD. The Releases tree is below each ChangeMan ZMF instance folder (at the same level as the **Applications** root folder) and will be hidden if the ChangeMan instance is not licensed for ERO.
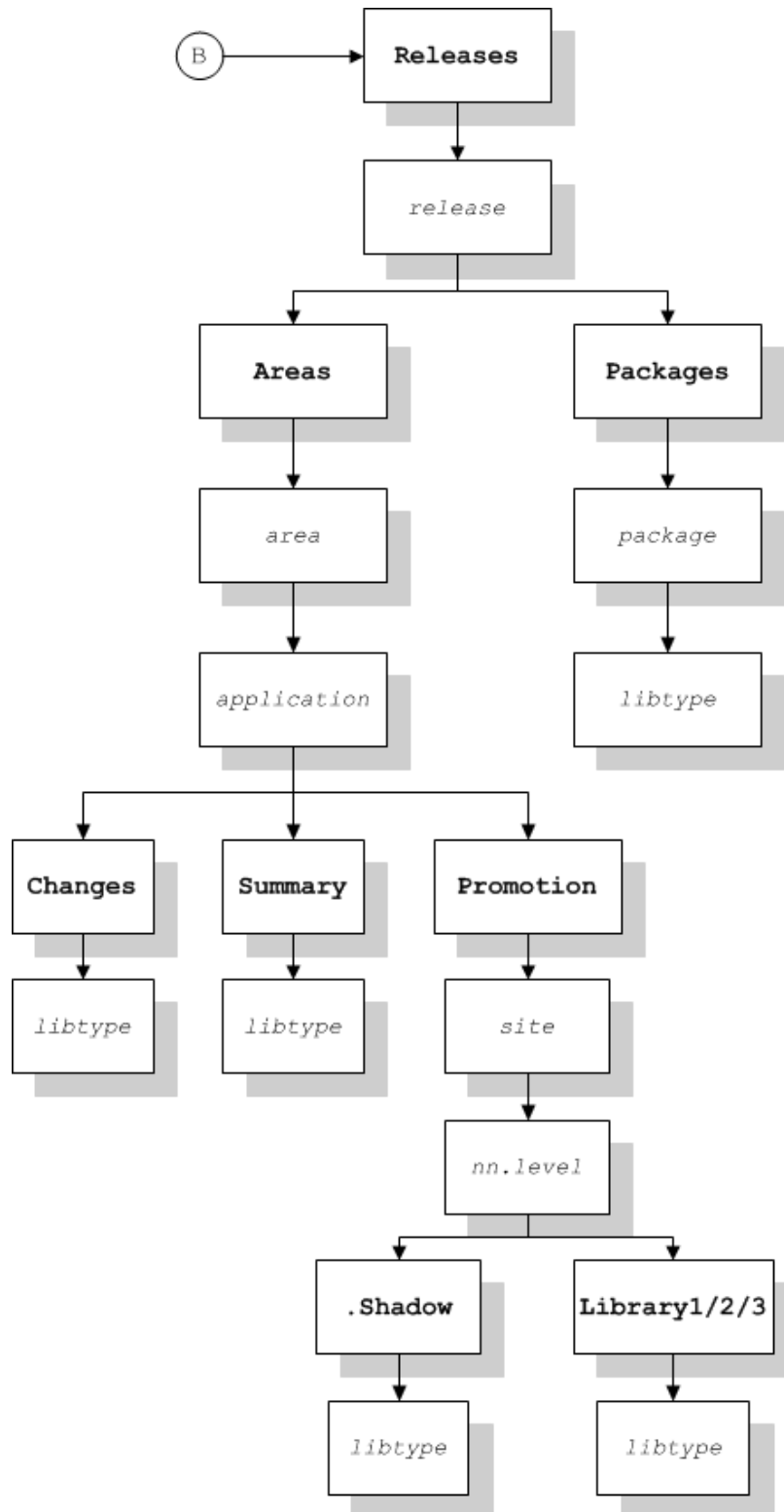
"Releases" Folder

The **Releases** folder contains a folder for each release. In the properties for the **Releases** folder, you can specify filters for which releases will be shown in the Windows Explorer.

"Areas" Folder

Below each release is the **Areas** folder which contains a folder for each area. Each area folder has the name of the area. However, in the Windows Explorer list view (right pane), the names will be sorted in step number sequence, rather than alphabetical order by name.

Each of the area folders has a sub-folder for each application in the release.

"Changes" Folder

Under the **Changes** folder are the release area libraries. In these libraries, you can see only components that are actually changed in this release. Here you will not see components that are inherited from prior releases. These components are read-only and cannot be edited and saved.

"Summary" Folder

Under the **Summary** branch of the tree, you can view the full set of all the latest components that make up a release. This is a logical view of the release, and these folders include those components that are inherited from prior releases. Components in this view are always read-only.

"Promotion" Folder

The **Promotion** folder provides access to the promotion libraries from the ERO side of the directory tree. These components are read-only and cannot be edited and saved.

The promotion library folders are logical folders that link to the corresponding folders on the non-ERO side of the tree, as they are the same libraries.

"Packages" Folder

At the bottom of the **Packages** branch of the tree, reside the package-staging libraries. Like their counterpart in the non-ERO **Packages** folder, components can be edited and saved, but only if the user has the component locked. Non-locked components are read-only to prevent simultaneous editing of the same component by multiple users.

The package library folders are logical folders that link to the corresponding folders on the non-ERO side of the tree, as these are the same libraries.

Directory Tree Example

The following example shows the structure for the DAVEALL release under the Releases root folder.

```
DAVEALL
  Areas
    START01
    UNIT01
      DAVE
        Changes
          CPY
          LOD                          Packages
          SRC                            DAVE000064
        Promotion                          !
          D001                             CPY
            20.D001LCL2                     LOD
              .Shadow                       LST
                CPY                         SRC
                JCL                      DAVE000096
                LOD                         !
                SRC                         CPY
              Library1                      LOD
                CPY                         LST
                JCL                         OTH
                LOD                         SRC
                SRC
          MP3000
        Summary
          $C2
          $C3
          $C4
          $C5
```

Below each release are two folders: Areas and Packages.

- **Areas** lists the areas for the release. In the above example, the START01 and UNIT01 areas are displayed.

- **Packages** lists the packages for the release.

Below each area folder is a list of applications for that release. In the above example, under the UNIT01 area, the DAVE application is displayed.

Below each application are three folders: Changes, Promotion, and Summary.

- **Changes** lists the Release area libraries containing components changed in the release.

- **Promotion** provides access to the promotion libraries from the ERO side of the directory tree.

- **Summary** lists a summary set of components that make up a release, including those inherited from other releases.

Properties

Property pages are available for the following folder types:

- The **Releases** folder

- A release folder

- A release area folder

- A release application folder

- A release package folder

Property pages are also available for release components:

- A component in the **Changes** folder

- A component in the **Summary** folder

Release Filters

Filters can be set up for each ChangeMan ZMF instance to select which releases display under the Releases folder in Explorer.

1 Right-click the Releases folder under a ChangeMan ZMF instance and choose **Properties** to display the **Releases Properties** dialog box.

2 Releases may be filtered on any of the following entities:

- Release Status

- Release

- Application

- Creator

- Approval Entity

- Site

- From Install Date

- Department

- Work Request

For filtering releases by install date, you can specify the starting date in either of two ways:

- Install dates from a fixed date
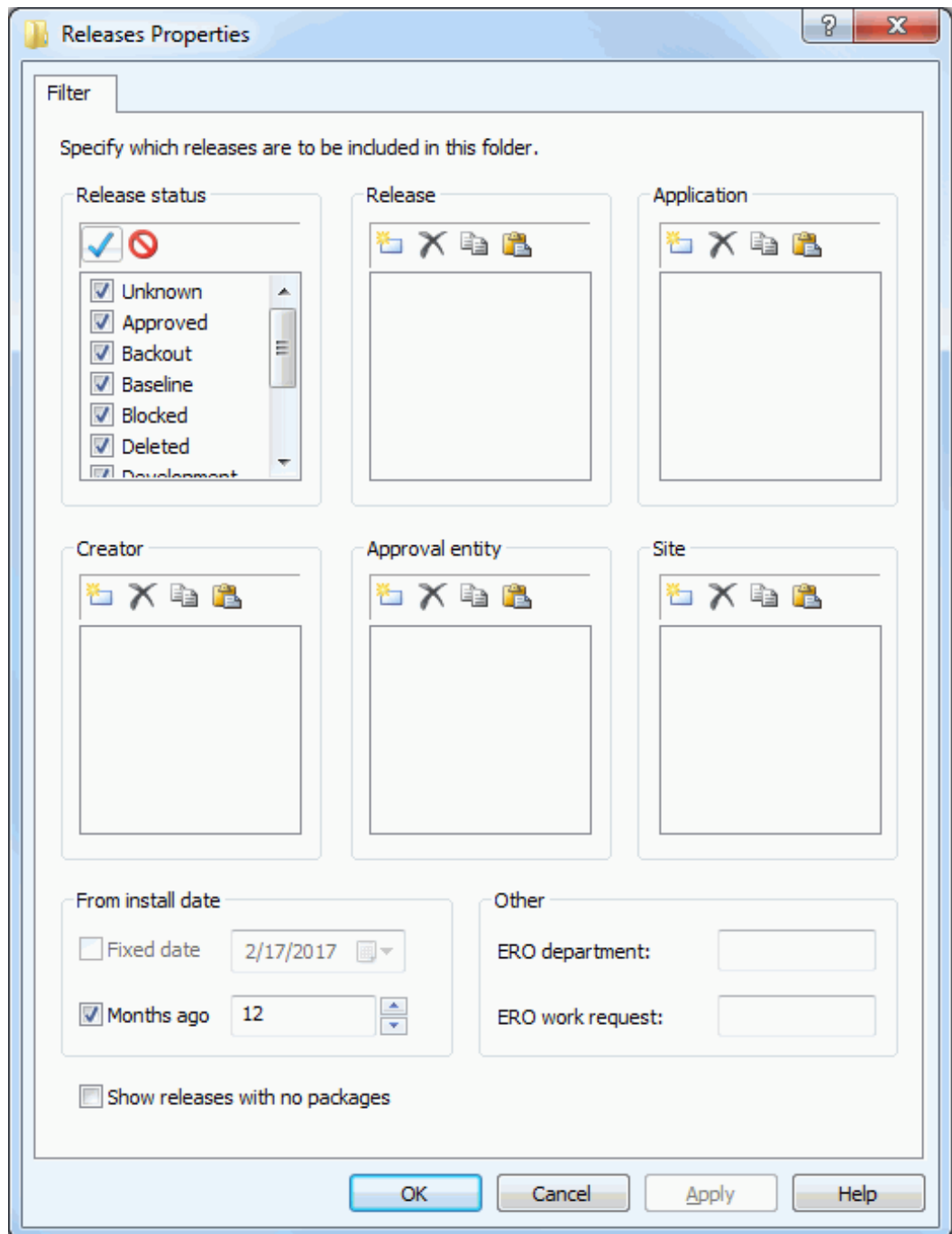
- Install dates from a specified number of months ago (months before current date)

Release Properties

There are three Properties pages for a release: Release, Install, and Status.

To display the Properties pages, right-click on a release folder and choose **Properties**

Release Page

The first page displayed is the **Release** page.

The following table describes the fields on the **Release** page.

Field / Box	Description
Description	Release description.
Requestor name	Requester name.
Requestor phone	Requester phone number.

Field / Box	Description
Department	Department name.
Work request	Work request ID.
Audit rule	Select an audit rule from the drop-down list.
Approval rule	Select an approval rule from the drop-down list.
Blocking rule	Select a blocking rule from the drop-down list.
Check-in rule	Select a check-in rule from the drop-down list.
Retrieve rule	Select a retrieve rule from the drop-down list.
Audit: ignore higher areas	**Default**: select No, Yes, or Conditional from the drop-down list. **Enforce setting**: Check this box to enforce the setting.

Auto cleanup of packages	Check the boxes for packages to be automatically cleaned up:
	    Development
	    Frozen
	    Approved

Other	Select **SYSLIB ascending** or **SYSLIB descending** to determine the SYSLIB order. Check the **Add related approvers** box to add related approvers.

Update the information as needed and click **Apply**.

Install Page

The second tab is the **Install** page.

The following table describes the fields on the **Install** page.

Field / Box	Description
Install date/time range	Enter a date/time range for the install.
Contingency	Select an option if there are problems with the installation.
Schedulers	Select the schedulers that may be used.

Field / Box	Description
Default scheduler	Select a default scheduler.
Installation instructions	Enter instructions for the installation.

Update the information as needed and click **Apply**.

Status Page

The third tab is the **Status** page. There are no updatable fields on this page.
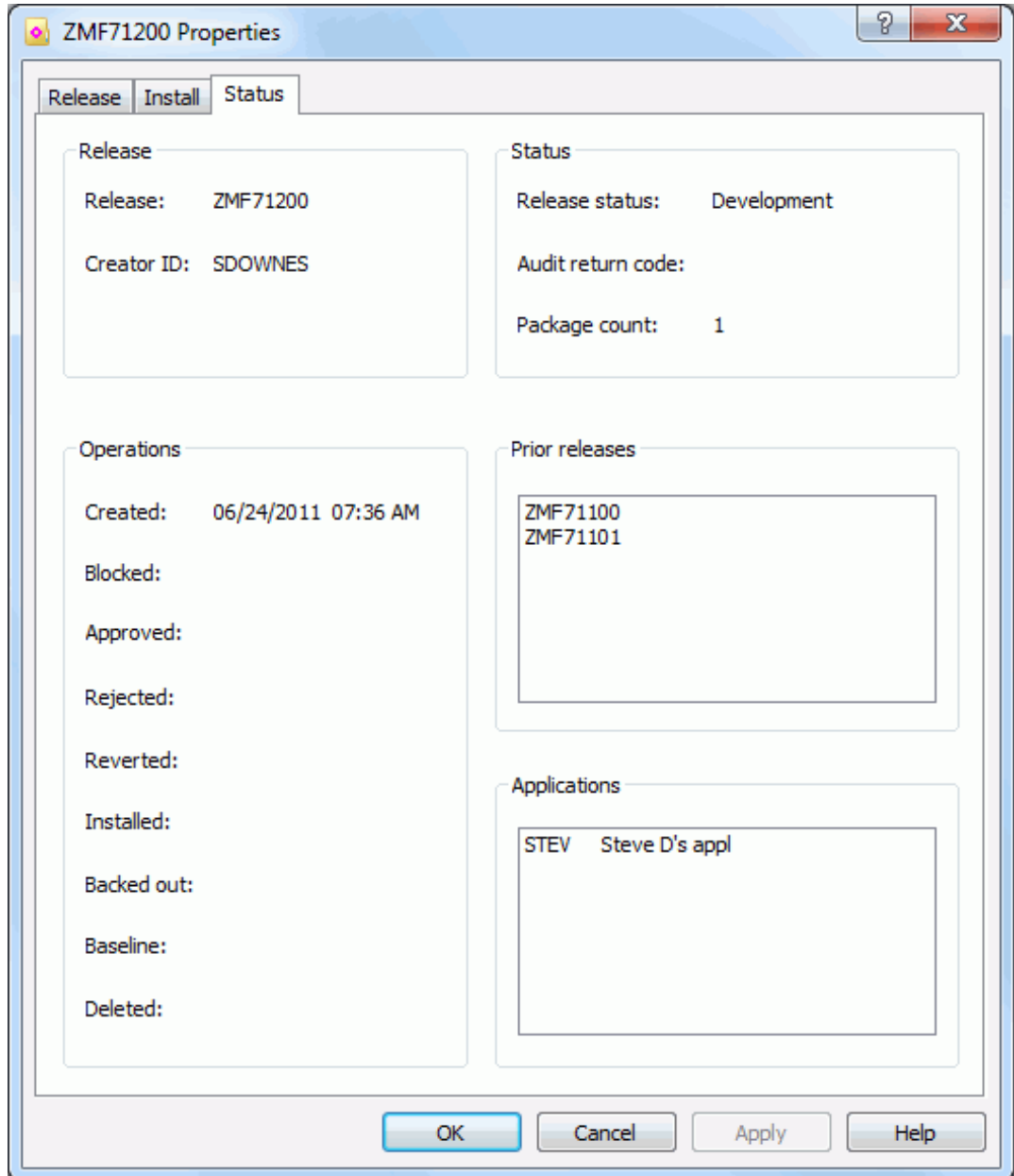
Release Area Properties

There are three Properties pages for a release area: General, Rules, and Status.

To display the Properties pages, right-click on a release area folder and choose **Properties**.

General Page

The **General** page is the initial page displayed

The following table describes the fields on the **General** page.

Field / Box	Description
Description	Release area description.
Area name	Display only.
Area type	Display only.

Field / Box	Description
Step number	Display only.
Next area	Display only.
Prior area	Display only.
Options	Select/deselect the available options.
Test area function excludes	Select/deselect the exclude options.

Update the information as needed and click **Apply**.

Rules Page

The second tab is the **Rules** page.
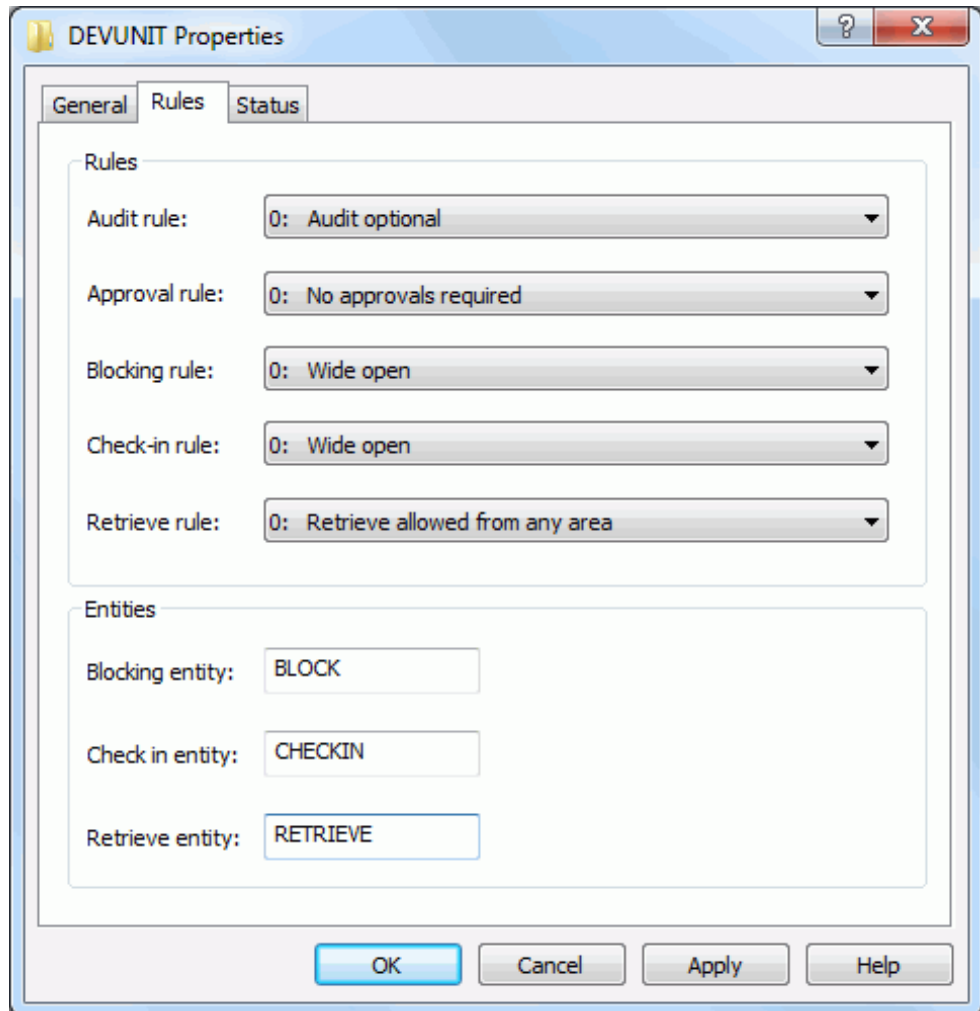
The following table describes the fields on the **Rules** page.

Field / Box	Description
Audit rule	Select an audit rule from the drop-down list.
Approval rule	Select an approval rule from the drop-down list.
Blocking rule	Select a blocking rule from the drop-down list.
Check-in rule	Select a check-in rule from the drop-down list.
Retrieve rule	Select a retrieve rule from the drop-down list.
Blocking entity	Blocking entity.
Check-in entity	Check-in entity.
Retrieve entity	Retrieve entity.

Update the information as needed and click **Apply**.

Status Page

The third tab is the **Status** page. There are no updatable fields on this page.
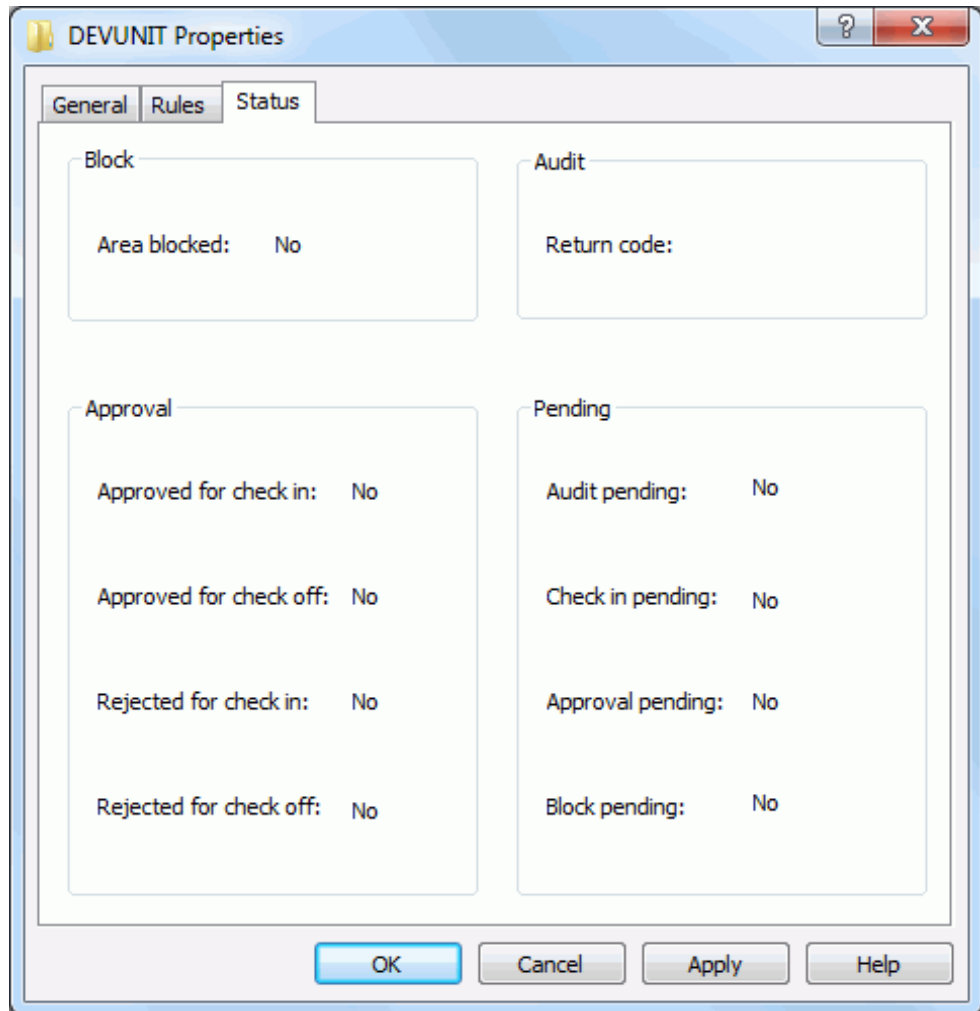
Release Application Properties

To display the Properties page for a release application, right-click on an application folder under a release area and choose **Properties**.
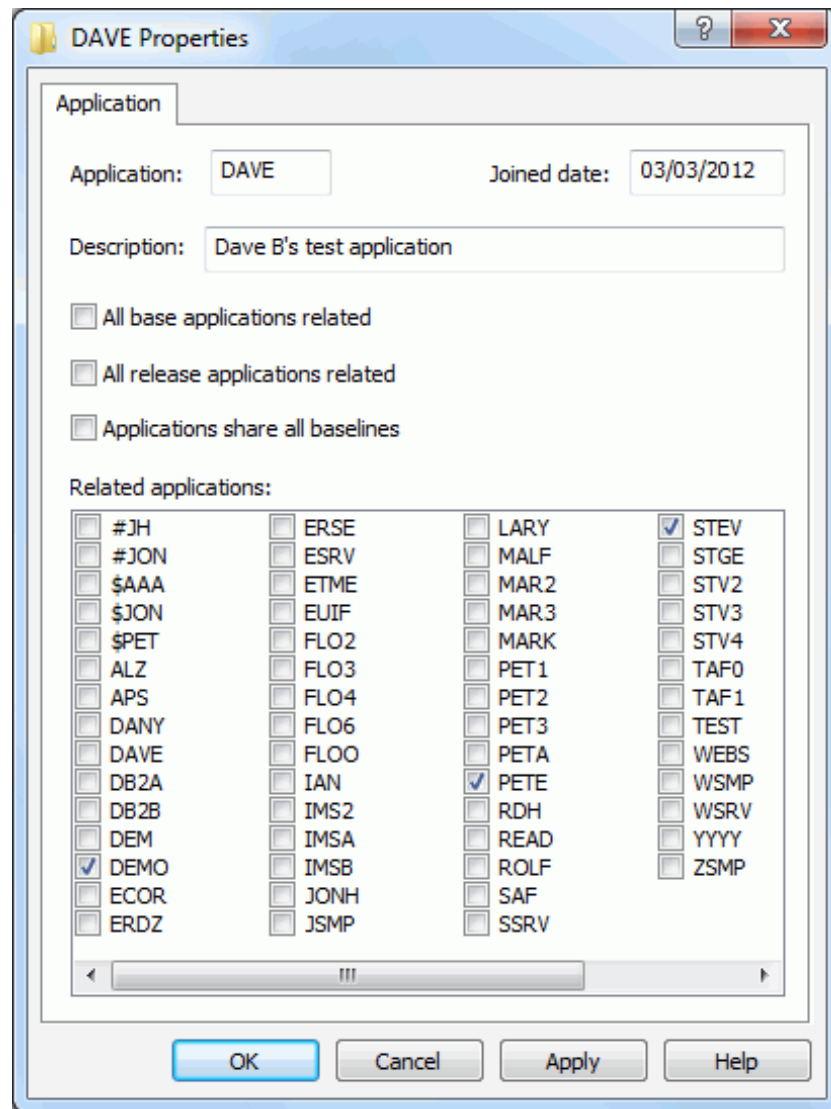
The following table describes the fields on the **Application** page.

Field / Box	Description
Application	Display only.
Joined date	Display only.
Description	Application description.
All base applications related	Select to have all base applications related.

Field / Box	Description
All release applications related	Select to have all release applications related.
Applications share all baselines	Select to have applications share all baseline libraries.
Related applications	Select which applications are to be related.

Update the information as needed and click **Apply**.

Release Package Properties
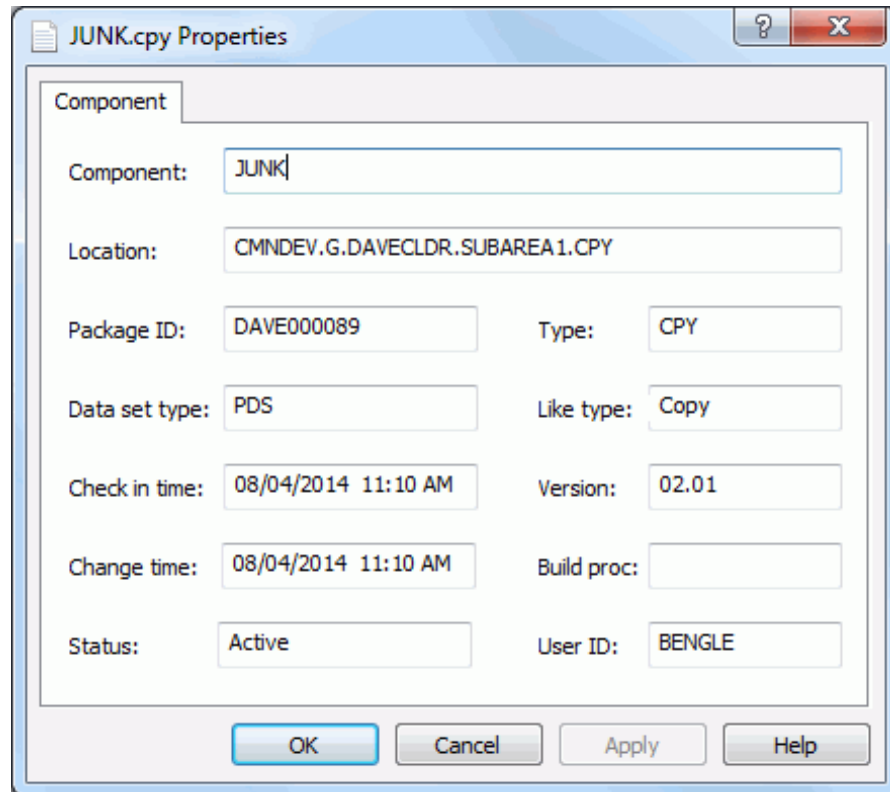
The Properties pages for a release package are the same as for a non-ERO package.

See "Updating Package Information" on page 228 for detailed information.

Release Component Properties

The property pages for components in release libraries display the status, location, user ID, and time stamps for the component. The property page is slightly different depending on whether the component is being viewed from the **Changes** folder or the **Summary** folder.

Changes Folder Component Properties
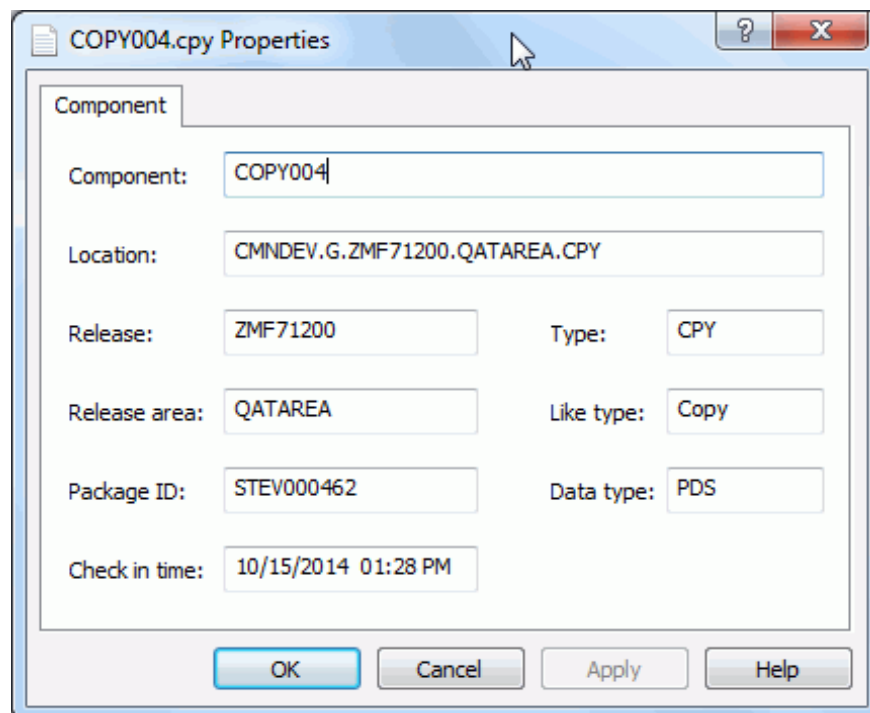
JUNK.cpy Properties

Component

Component: JUNK

Location: CMNDEV.G.DAVECLDR.SUBAREA1.CPY

Package ID: DAVE000089   Type: CPY

Data set type: PDS   Like type: Copy

Check in time: 08/04/2014 11:10 AM   Version: 02.01

Change time: 08/04/2014 11:10 AM   Build proc:

Status: Active   User ID: BENGLE

OK   Cancel   Apply   Help

Summary Folder Component Properties

COPY004.cpy Properties

Component

Component: COPY004

Location: CMNDEV.G.ZMF71200.QATAREA.CPY

Release: ZMF71200   Type: CPY

Release area: QATAREA   Like type: Copy

Package ID: STEV000462   Data type: PDS

Check in time: 10/15/2014 01:28 PM

OK   Cancel   Apply   Help

Displaying/Comparing/Merging Release Versions

The **All release versions** command is used to display, compare, and merge different release component versions.

Right-click on a release component in a package or under an area and choose **All release versions** to display the **Release Component Versions** dialog box.
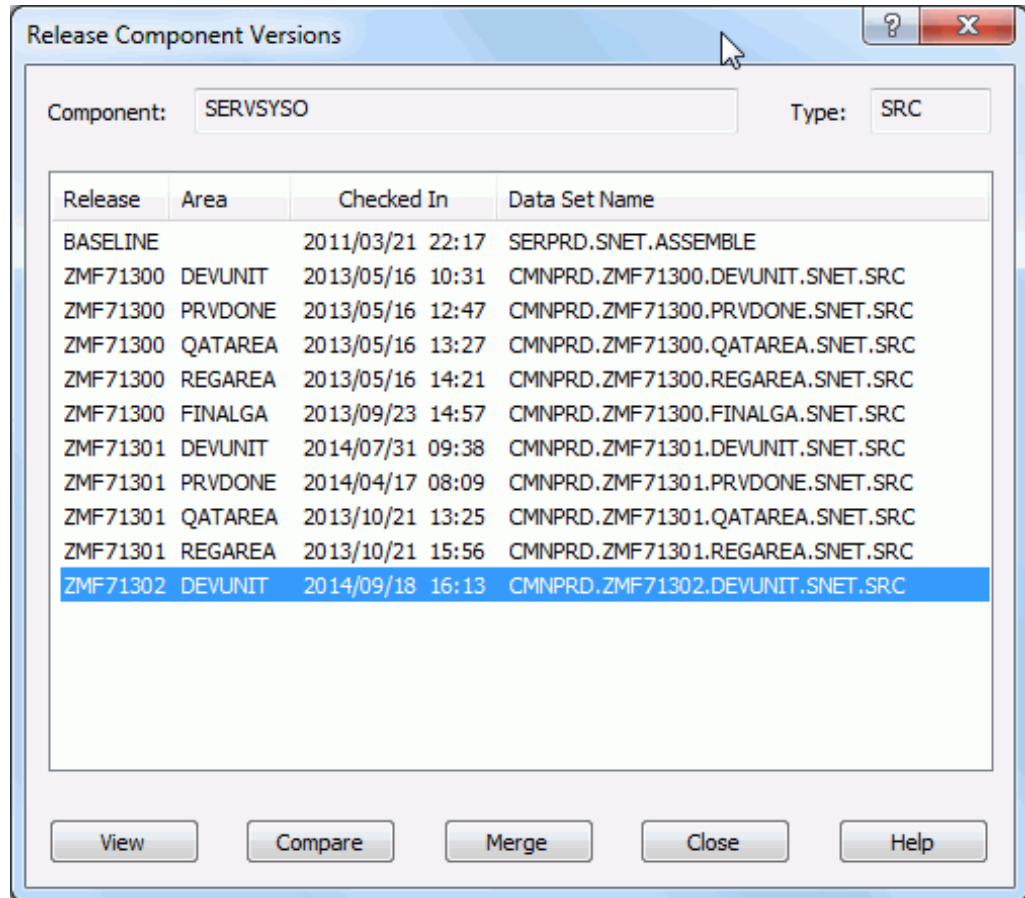
Select a component from the list and use the buttons as follows:

- **View** invokes ChangeMan Edit unless you have previously specified a different default editor.

  For more information about ChangeMan Edit, see the **ChangeMan ZDD Tools Guide**.

- **Compare** invokes ChangeMan Diff where you can compare the selected component with another component that you specify.

  For more information about comparing files, see the **ChangeMan ZDD Tools Guide**.

- **Merge** invokes ChangeMan Diff where you can merge the contents of the selected component with one or two other component versions and create a new merged version.

  For more information about merging files, see the **ChangeMan ZDD Tools Guide**.

Validating Component Versions

The "prior release version compatibility confirmation" facility helps you resolve prior release version regression without having to check out the component again from the prior release and reapply your changes in the current release.

Using this facility, you can:

- Find the prior release component that makes the current release version a potential regression.

- Compare the prior release component to the version in your current release to see code that might require forward-fitting into the current release version.

- Reset the meta data for the component to eliminate an ERR0417! in ERO audit.

IMPORTANT! The services that power this facility are resource intensive. The most efficient way to discover multiple prior release regressions is to run ERO audit. If components that were checked out from a prior release have been checked in to higher release areas, run an area audit with **Ignore Higher Areas** set to **Yes**.

Validate Component for Prior Release Regression

Right-click on a package component and choose **Validate versions**. If there is a prior release regression, the **Prior Release Version Regression** dialog box displays.
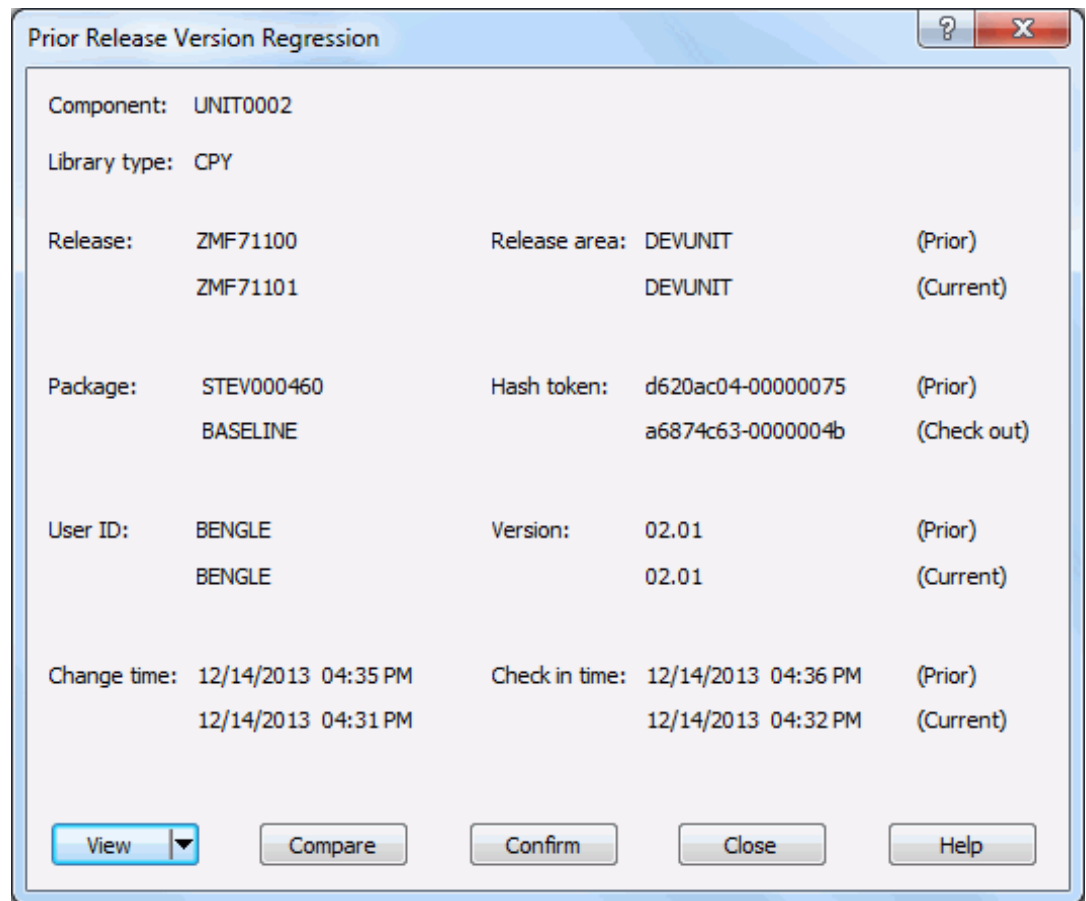
This dialog box displays detailed information for the prior and current releases.

Resolve the Prior Release Regression

Process and resolve the prior release regression using the **View**, **Compare**, and **Confirm** functions.

View

Click the **View** down arrow and select which component version you would like to view: Prior Release, Current Release, or Current Package. ChangeMan Edit is invoked unless you have previously specified a different default editor.

For more information about **ChangeMan Edit**, see the **ChangeMan ZDD Tools Guide**.

Compare

Click **Compare** to invoke ChangeMan Diff. A side-by-side comparison report is displayed. Compare the component in the prior release to the component in the current release and ensure that differences between the two versions are intentional.

For more information about comparing files, see the **ChangeMan ZDD Tools Guide**.

Confirm

If you are certain that the component versions in the current and prior releases are what you want, click **Confirm** to reset the meta data to eliminate an ERO audit error ERR0417! The component will no longer display as a regression.

> ⚠️ **CAUTION!** When you click **Confirm**, you are taking responsibility for any code differences between the prior version and the current version. If you are unsure about those differences, rerun the comparison report using the **Compare** button.

Checking Out to a Package

The **Check Out** function works the same in ChangeMan ZDD as it does in the ChangeMan ZMF ISPF interface, with these exceptions:

- You cannot check out a component to a personal library; you must check out the component to a package folder.
- If you check out a component in a library type for which Component Activity File is enabled, the corresponding component in the Component Activity File Type is not checked out. If you do not check out the corresponding component manually, Audit will detect a SYNCH6! error in the package.

You can check out components to your package from releases that have not been installed, or from a baseline or promotion library.

Checkout from release lets you start coding from a version of a component that is more recent than the version in baseline, and which already contains earlier changes from your project or another project.

If you check out a version of a component from a prior release, you may be able to avoid an out-of-sync audit error indicating regression in your release after the prior release is installed.

If you check out a component from an area in the current release, you will eventually encounter an overlay condition in package or area check-in unless the other version is retrieved.

> 📝 **NOTE** Your release manager can block an area from checkout by setting an indicator in the area definition. Ask your release manager what areas you are allowed to check out from.

Steps to Check Out to a Package

1 Right-click on a release, package, a baseline library, or a promotion library, and choose **Check out to package**. The **Check Out - Options** page displays.

The fields are described in the following table.

Field / Box	Description
To package	Select a target package for the components you are checking out.
Component type	Select a component type to be checked out.
Component name filters	Enter a component name pattern with wild characters.
Lock after check out	Select or deselect this option. The component must be locked to edit it from the package folder. You cannot lock a component that is locked by another user ID.
Save prior version	Saves staging version of preexisting component. This option applies only if ZMF's Save Staging Versions (SSV) feature is enabled. It has no effect on whether or not a component checked out will overlay a preexisting copy of that component in the package.
Show user variables	Displays the **Other Options** page which allows you to set user variables. This check box is disabled for online check out, since the **Other Options** page is displayed for batch operations only.
Check out from	Choose one of the following options: **Latest version** - Use this option when you want to start your coding from the latest version of a component checked in to your release or prior releases. **This release** - Use this option when you want to start your coding using a version of a component that has been checked in to any area in the current release. **Prior release -** Use this option if you want to start your coding using a version of a component that is in a release that is defined as a prior release. **Baseline** - Use this option when you want to start your coding from a version of a component in a baseline library. **Package** - Use this option when you want to start your coding from a version of a component in another package. Requires ChangeMan ZMF 8.1.2+. **Promotion** - Use this option when you want to start your coding from a version of a component in a promotion library.
Job Card	The job card is used for submitting a batch job. The job card field is available only when checking out a prior version (-1 to -99) of a baseline library or when the components are like type OTH. In all other cases, the check out is performed online. Default values are displayed initially. If you change the values, they will be stored in your registry and used as the defaults in the future. Each time this dialog displays, the last character of the jobname is incremented alphabetically. If the &SYSUID parameter in the Notify field is not overridden, the user ID is automatically substituted.

2   Update the fields in the **Check Out - Options** page and click **Next**. The **Check Out - Components** page displays.
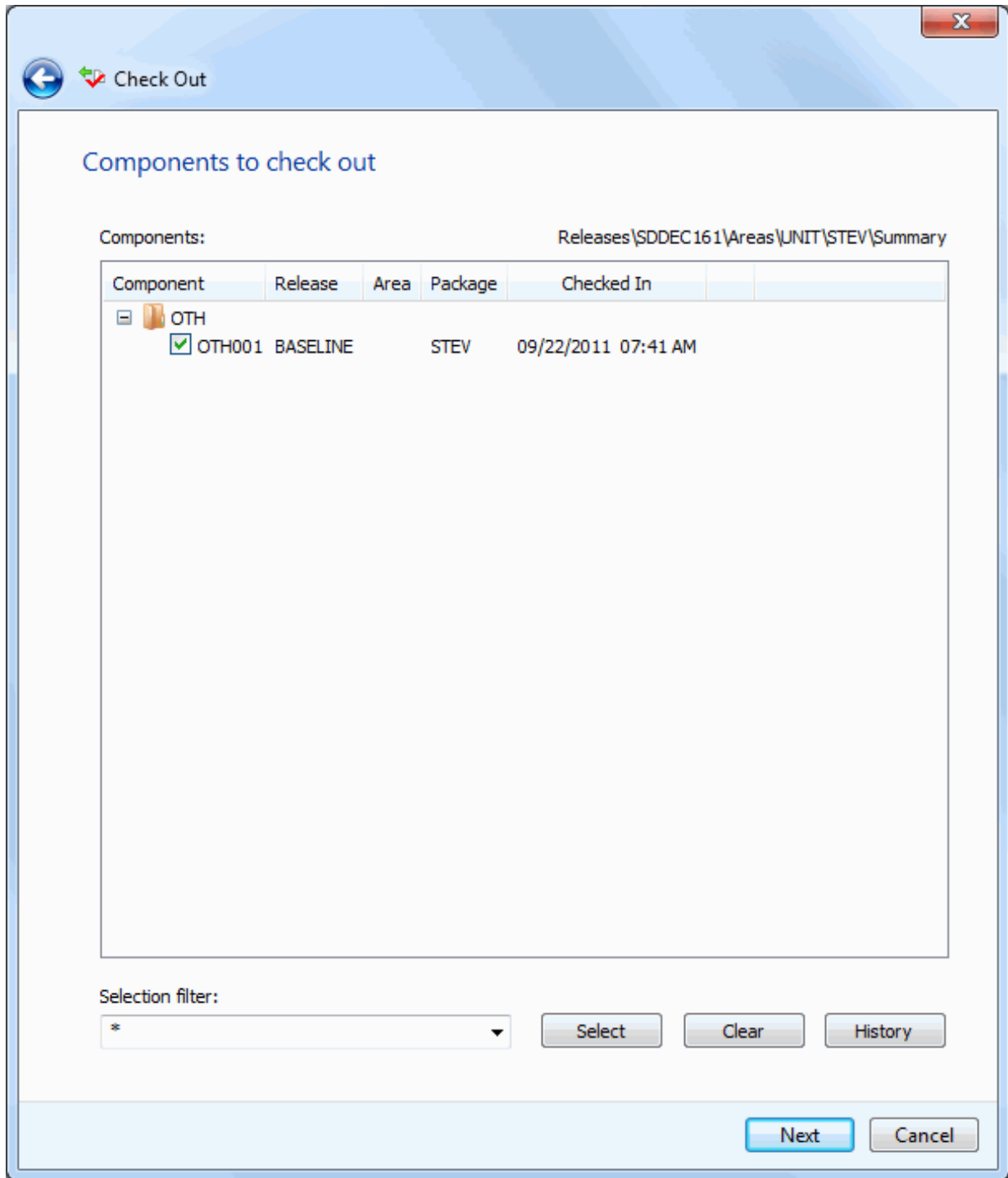
3   There are two ways to select or deselect components:

- Select or deselect components individually using the check boxes in the **Components** list.

- Use the **Selection filter** field to enter one or more name patterns with wild characters, delimited by semicolons. Then press the **Select** or **Clear** button.

When checking out components from another package, there is a check box labeled "Delete components from source package". This is useful when moving components from one package to another.

When this box is checked, after the check-out operation is complete, the "Delete Components" dialog will display to confirm the components to be deleted.

4 If you want to see history for selected components, select them in the **Components** list and click the **History** button. The **Concurrent Components** dialog box displays:
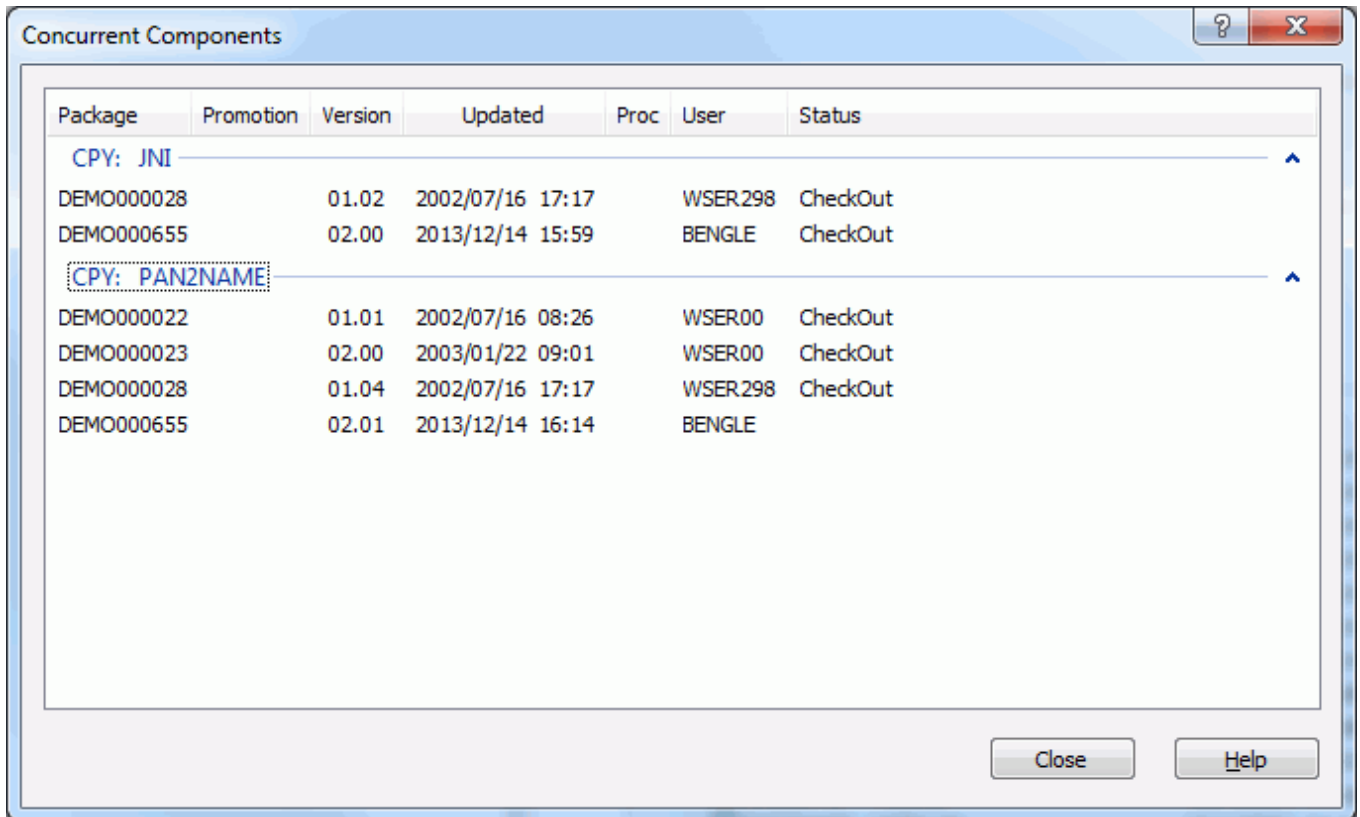
Other packages that contain the selected components are displayed. Only packages that have not been baselined are included in this list. This information will help you coordinate the changes with other developers who have checked out or staged the components into other packages.

5 After you have selected the components to be checked out in the **Check Out - Components** page, click **Finish** to check them out.

6 Under certain circumstances, there may be a third wizard page for **Other Options**.

The **Other Options** page is only used for batch check out operations, and displays only if customer-defined options have been specified in the CHECKOUT member of the ZDDOPTS library.

Batch check out is only used when checking out a prior version (-1 to -99) of a baseline library or when the components are like type OTH.

Checking In to a Release

Package check-in brings components from a package attached to a release into the starting subsystem area defined for that package. This step begins the integration of your package components with other release components that are in development in other change packages across the enterprise.

Package check-in accomplishes these objectives:

- Allocates area libraries for all areas in the release for the library types that are contained in the package.

- Populates starting release area libraries.

- Makes the components available to build processes in other packages in the same application that are attached to the release.

- Makes the components available to build processes in packages in other applications that have this application defined as a related application.

- Starts the process of resolving multiple versions of the same component that are in development at the same time and that will be installed at the same time.

> **NOTE** The base ChangeMan ZMF product encourages you to manage concurrent development by displaying checkout conflict messages and concurrent development messages. In contrast, ERO guarantees that a release will contain only one version of a component in an application by funneling all components through release area libraries that eventually converge in one set of libraries in the final system area.

Check-in package to area is subject to these rules and conditions.

- The target release and area for package check-in are predetermined. You define the release and starting area when you attach a package to a release.

- The check-in rule for the target area determines whether your package must be audited or approved before package check-in is allowed. The check-in rule can also restrict who can perform check-in to the target area.

- You can check-in all package components, or you can check-in selected package components.

- The library type of a package component must be defined to the application joined to the target release. Your ChangeMan ZMF administrator makes those definitions. If the library type is not defined in the joined application, check-in is skipped for those components.

- If a package component already exists in the target area library, you must explicitly override a "check-in components disallowed" condition to overlay the component.

- A component in an area library can only be overlaid by the person who checked in the component, and it can only be overlaid if it is checked in from the same package. This rule can be overridden in the definition of the target area.

- If a component that already exists in an area library cannot be overlaid, it must be retrieved before it can be checked in again.

- You cannot check-in a component that is locked under another TSO ID. However, a release manager can check-in components locked by others.

Steps to Check In to a Release

1   Right-click on a package or a package component and choose **Check in to release**.
The **Check in - Options** page displays.

This table describes the fields and options in the **Check in - Options** page.

Field / Box	Description
Package	Displays the package that you are checking in from.
Release	Displays the release that you are checking in to.
Area	Displays the starting subsystem area that you are copying package components into.

Field / Box	Description
Change description	Enter a description for the components that you are checking in to the area.
No superseded components	Select this option to display only components that are eligible for checkin, including overlays that may be overridden, but exclude any overlay by a component with a newer last-staged date, regardless of the hash token, SETSSI, user ID, or originating package. If this option is not selected, only components that are eligible for checkin, including overlays that may be overridden, will be displayed.

2   Update the fields in the **Check in - Options** page and press **Next**. The **Check in - Components** page displays.

This table describes the fields and options in the **Check in - Components** page.

Field / Box	Description
Release	Displays the current release.
From area	Displays the area that you are copying package components from.

Field / Box	Description
Selection filter	Enter one or more name patterns with wild characters, delimited by semicolons. Then press the **Select** or **Clear** button to select components for check in. Alternately, you may select components individually using the check boxes in the Component list.
Component list	Displays the components that are available for check in. Select components individually or use the **Selection filter** to select using a pattern.

3 After you have selected the components to be checked in to the next area, click **Next**. The **Check in - Overlay** page displays.

This page lists components that will be overlaid in the area you are checking in to. After reviewing this information, if you decide to check the components in, click **Finish**. Otherwise, click **Back** or **Cancel**.

4   After the check in operation is complete, the results are displayed in the **Check In - Results** page as shown below.

Just press the **Close** button after reviewing the results.

Checking In to Next Area

Area check-in copies components from the libraries for one area into the libraries for another area. Check-in advances release components through the hierarchy of areas that progressively integrate release components.

Area check-in accomplishes these objectives:

- Populates the area libraries for the next area defined for the release.

- Makes the components available to build processes in other packages in the same application that are attached to the release.

- Makes the components available to build processes in other packages in the same application that define this release as a prior release.

- Makes the components available to build processes in packages in other applications if this application is defined as a related application.

- Continues the process of squeezing out multiple versions of the same component that are in development at the same time and are intended for install at the same time.

Check-in to next area is subject to these rules and conditions.

- The target area for area check-in is predetermined. When you define an area in a release, you specify the next area.

- The check-in rule for the target area determines whether the area must be audited or blocked before check-in to the next area is allowed.

- The check-in rule for the target area can restrict who can perform check-in to the target area.

- A single check-in operation copies components from a set of release area application libraries into the corresponding set of area application libraries in the next area. If there are several applications joined to a release, you perform multiple check-in operations to copy all area components to the next area.

- You can check-in all components from a selected application, or you can check-in selected components from a selected application.

- If a component already exists in the target area library, you must explicitly override a "check-in components disallowed" condition to overlay the component.

- A component in a target area library can only be overlaid by the person who last checked in the component to the target area. This rule can be overridden in the definition of the target area.

- If a component that already exists in an area library cannot be overlaid, it must be retrieved before it can be checked in again.

Steps to Check in to Next Area

1 Right-click on a component in a release "Changes" folder and choose **Check in to next area**. The **Check in - Options** page displays.

This table describes the fields and options in the **Check in - Options** page.

Field / Box	Description
From Release area	Displays the release area that you are checking in from.
Application	Displays the application that you are checking in from.
To Release	Displays the release that you are checking in to.
To Area	Displays the area that you are copying package components into.
No superseded components	Select this option to display only components that are eligible for checkin, including overlays that may be overridden, but exclude any overlay by a component with a newer last-staged date, regardless of the hash token, SETSSI, user ID, or originating package. If this option is not selected, only components that are eligible for checkin, including overlays that may be overridden, will be displayed.

2   Update the fields in the **Check in - Options** page and press **Next**. The **Check in - Components** page displays.

This table describes the fields and options in the **Check in - Components** page.

Field / Box	Description
Release	Displays the current release.
From area	Displays the area that you are copying package components from.
Selection filter	Enter one or more name patterns with wild characters, delimited by semicolons. Then press the **Select** or **Clear** button to select components for check in. Alternately, you may select components individually using the check boxes in the Component list.
Component list	Displays the components that are available for check in. Select components individually or use the **Selection filter** to select using a pattern.

3   After you have selected the components to be checked in to the next area, click **Next**. The **Check in - Overlay** page displays.

This page lists components that will be overlaid in the area you are checking in to. After reviewing this information, if you decide to check the components in, click **Finish**. Otherwise, click **Back** or **Cancel**.

4   After the check in operation is complete, the results are displayed in the **Check In - Results** page as shown below.

Just press the **Close** button after reviewing the results.

Promoting a Release Area

Steps to Promote a Release Area

1   Right-click on a package, release, or release area and chose **Promote**. The **Promote - Options** page displays.

This table describes the fields and options in the **Promote - Options** page.

Field / Box	Description
Release	Displays the current release.

Promote from	Select which libraries to promote from:
	Release - Package starting area
	    Select a package from the **Package** drop-down list.
	Release - Any release area
	    Select a release area from the **Release area** drop-down list and an application from the **Application** drop-down list.
	Base - Package staging libraries
	    Select a package from the **Package** drop-down list.

2   Click **Next**. The **Promote - Location** page displays.
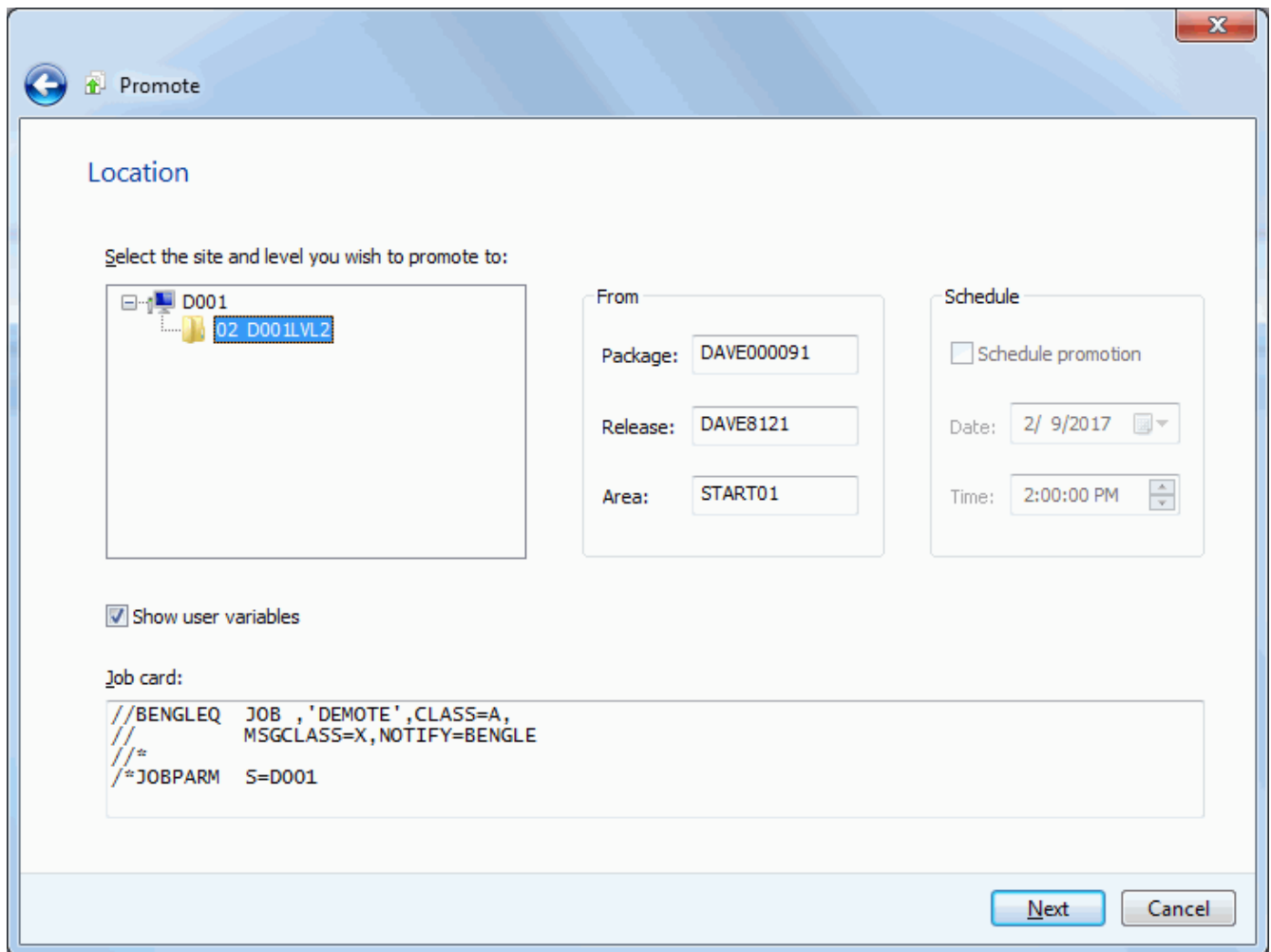
- The upper left window displays a directory tree of promotion sites and levels. Hold the mouse pointer over a promotion level to see a description, which would be one of the following:

  - First promotion for the site.

  - New level. Package has previously been promoted to a lower level for the site.

- • Promoted level with no components. Can be any level up to the highest promotion level for the site.

- • Promoted level with components. Can be any level up to the highest promotion level for the site.

- • Invalid level selection.

■ The Schedule box on the right side is disabled for ERO promotions.

■ The "Show user variables" check box displays the **Other Options** page which allows you to set user variables.

■ The lower window displays the job card for submitting the Promote job:

- • Default values are displayed initially. If you change the values, they will be stored in your registry and used as the defaults in the future.

- • Each time this dialog displays, the last character of the job name is incremented alphabetically.

- • If the &SYSUID parameter in the Notify field is not overridden, the user ID is automatically substituted.

3 Select a valid site/level to which you want to promote the package and change the job card if necessary.

4   Click **Next** to go to the **Promote - Components** page:

In this example, level 02 for site MP3000 was selected. The display window lists all of the components available for promotion.

5   To select or deselect components:

a   Select the option "Selective promotion from list below". This option will be preselected if you are promoting to a level where the package already exists.

b   Select or deselect components in one of the following ways:

- Use the check boxes in the list.

or

Use the "Selection filter" field to enter a name pattern with wild characters. Then press the **Select** or **Clear** button; the check boxes for all component names that match the filter are checked or unchecked.
You may enter multiple pattern names, one at a time, and press **Select** or **Clear** for each entry.

6   To hide components that have already been promoted to the target level, select the option "Hide components already at target level".

7   Click **Next** to go to the **Promote - Overlay** page:

The display window lists components already in the promotion library that will be overlaid if you proceed with this promotion. Because this is a promote to a new level where no packages have been promoted, there are no components to be overlaid.

8   Press **Next** to continue. The **Promote - User Options** page displays only if customer-defined options have been specified in the PROMOTE member of ZDDOPTS.

Update the options as needed, following the validation rules specified in the PROMOTE member of ZDDOPTS.

9   Click **Finish** to submit the Promote job. You can check the job status through ChangeMan ZDD or in ISPF.

> **NOTE** Components are promoted to all libraries that are defined for a promotion library type. (Multiple libraries for a library type for a promotion level display in ChangeMan ZDD with a number suffix. For example, if you have two libraries defined for JCL, they display as JCL.1 and JCL.2).

Demoting a Release Area

Steps to Demote Release Area

1 Right-click on a package, release, or release area and chose **Demote**. The **Demote - Options** page displays.

This table describes the fields and options in the **Demote - Options** page.

Field / Box	Description
Release	Displays the current release.

Promote from	Select which libraries to promote from:
	Release - Single package
	    Select a package from the **Package** drop-down list.
	Release - Any release area
	    Select a release area from the **Release area** drop-down list and an application from the **Application** drop-down list.
	Base - Package
	    Select a package from the **Package** drop-down list.

2   Press **Next**. The **Demote - Location** page displays.

■   The upper window displays a directory tree of promotion sites and levels. Hold the mouse pointer over a promotion level to see a description, which would be one of the following:

- First promotion for the site.

- New level. Package has previously been promoted to a lower level for the site.

- Promoted level with no components. Can be any level up to the highest promotion level for the site.

- Promoted level with components. Can be any level up to the highest promotion level for the site.

- Invalid level selection.

■ The "Show user variables" check box displays the **Other Options** page which allows you to set user variables.

■ The lower window displays the job card for submitting the Demote job:

- Default values are displayed initially. If you change the values, they will be stored in your registry and used as the defaults in the future.

- Each time this dialog displays, the last character of the jobname is incremented alphabetically.

- If the &SYSUID parameter in the Notify field is not overridden, the user ID is automatically substituted.

3 Select a valid site/level from which you want to demote the package, and change the job card if necessary.

4 Click **Next** to go to the **Demote - Components** page:

The display window lists all of the components available for demotion.

5   To select or deselect components:

a   Select the option "Selective demotion from component list below".

b   Select or deselect components in one of the following ways:

■   Use the check boxes in the list.

or

■   Use the "Selection filter" field to enter a name pattern with wild characters. Then press the **Select** or **Clear** button; the check boxes for all component names that match the filter are checked or unchecked. You may enter multiple pattern names, one at a time, and press **Select** or **Clear** for each entry.

At the bottom of the page, you will see either a **Finish** button or a **Next** button.

If you see a **Finish** button, go to .

If you see a **Next** button, click **Next** to continue.

6   The **Demote - User Options** page displays only if customer-defined options have been specified in the DEMOTE member of ZDDOPTS.

Update the options as needed, following the validation rules specified in the DEMOTE member of ZDDOPTS.

7 Click **Finish** to submit the Demote job. You can check the job status through ChangeMan ZDD or in ISPF.

Retrieving from a Release Area

The retrieve area function removes components from area libraries.

You must retrieve components from area libraries to:

- Detach a package from a release.

- Check-in a new version of the component from a different package.

Steps to Retrieve from a Release Area

1 Right-click on a release, release area, or a release package and chose **Retrieve components**. The **Retrieve - Options** page displays.

This table describes the fields and options in the **Retrieve - Options** page.

Field / Box	Description
Release area	Select the release area from which components are to be retrieved.
Application	Choose this option and select an application from the drop-down list to retrieve components regardless of package.
Package	Choose this option and select a pa package from the drop-down list to retrieve components for a particular package
All components	Check this box to remove all components from the release area. The component selection list will not be displayed.

2 Press **Next** to display the **Retrieve - Components** page in order to choose the components. However, if the **All components** box is checked, this page is not displayed, and there is a **Finish** button instead of a **Next** button.
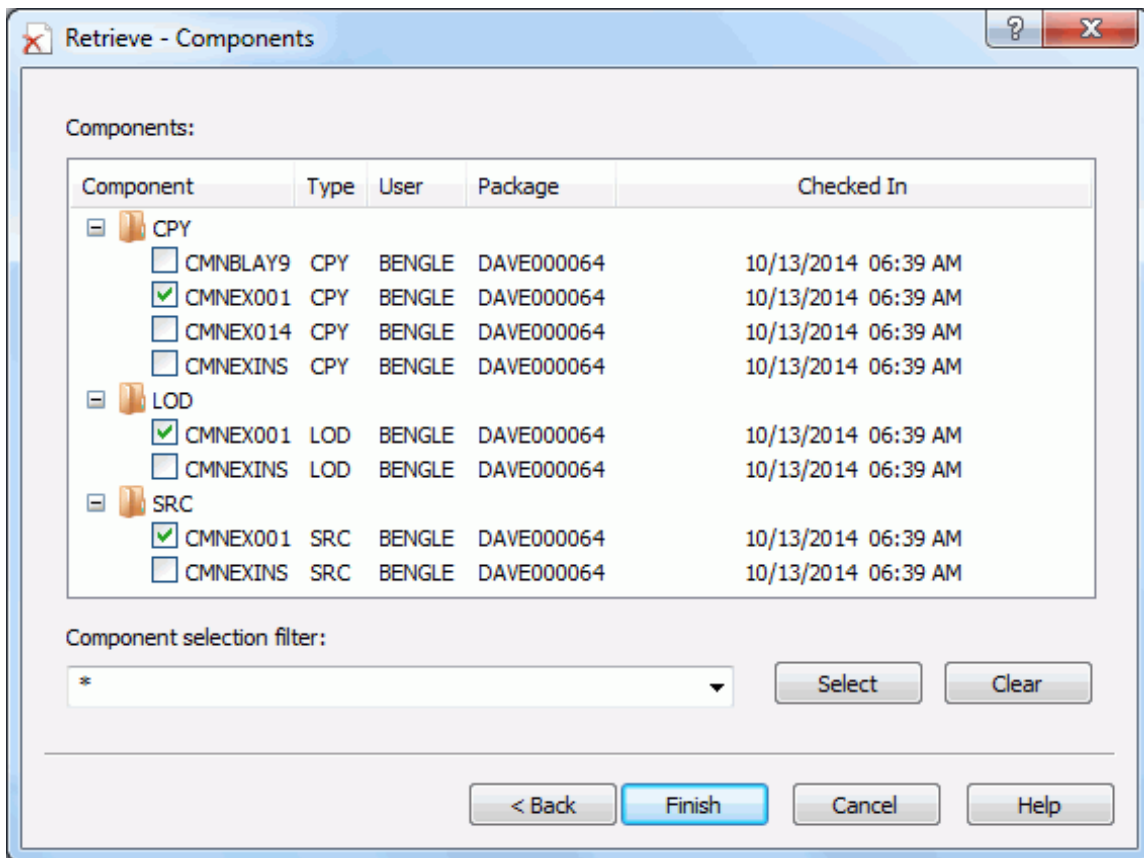
This table describes the fields and options in the **Retrieve - Components** page.

Field / Box	Description
Component list	Displays the components that are available to retrieve. Select components individually or use the **Selection filter** to select using a pattern.
Selection filter	Enter one or more name patterns with wild characters, delimited by semicolons. Then press the **Select** or **Clear** button to select or deselect components. Alternately, you may select components individually using the check boxes in the Component list.

After selecting the components to retrieve, press **Finish** to complete the operation. Otherwise, press **Back** or **Cancel**.

3   After the retrieve operation is complete, the results are displayed in the **Retrieve - Results** page as shown below.
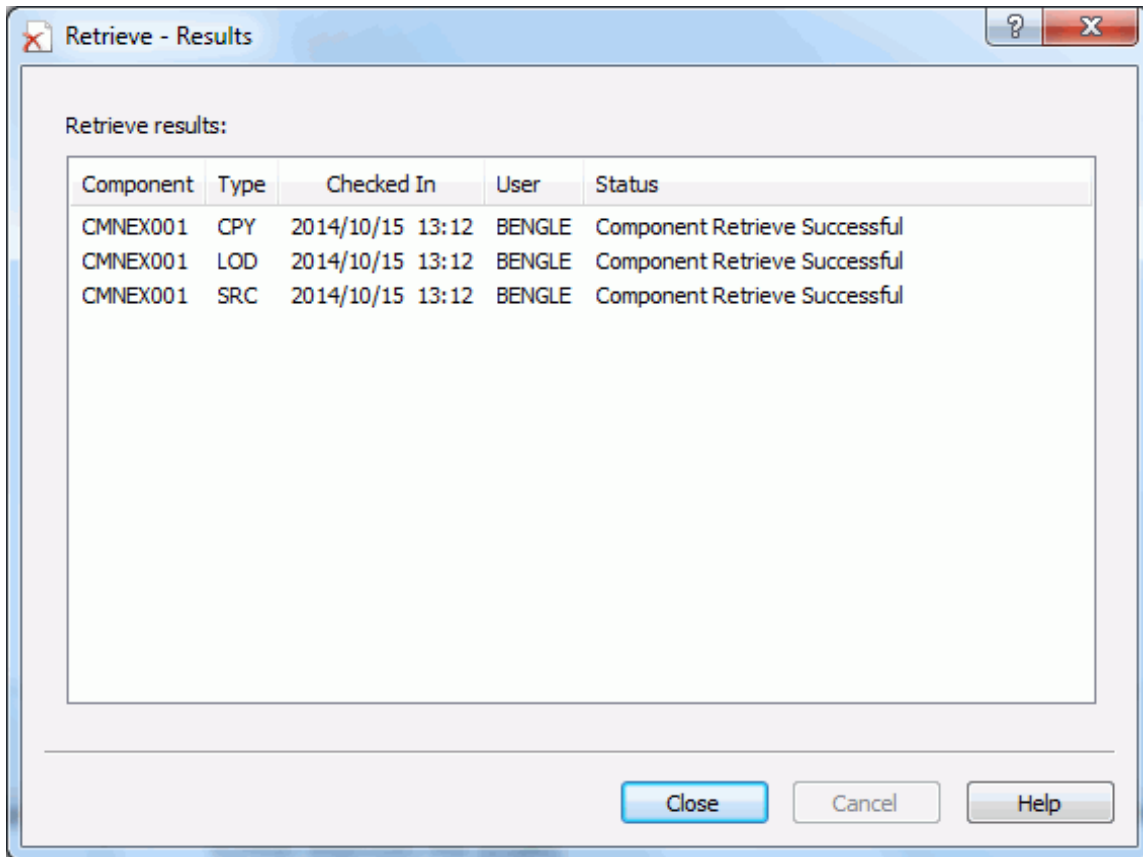
Just press the **Close** button after reviewing the results.

Auditing a Release Area

Area audit evaluates relationships between different versions of the same component, and it evaluates relationships between components and other components that they include such as copybooks and statically linked load modules.

Area audit examines the components in libraries for a particular release area, as well as libraries for areas in the chain of next areas in the same release, libraries in areas of prior releases that will be installed sooner, and baseline libraries.

Steps to Audit a Release Area

Right-click a release or a release area folder, then select **Serena Network → Audit release area** from the popup menu.

The first page displayed is the **Audit Release Area** dialog box displays.
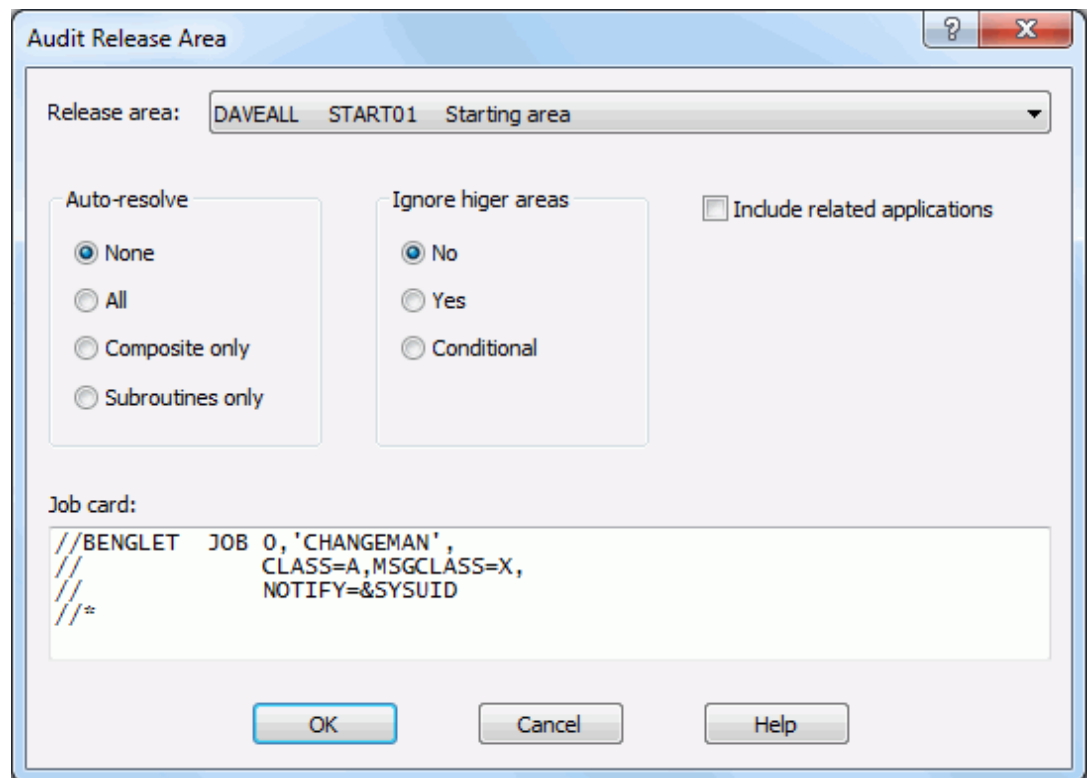
The following table describes the fields on the **Audit Release Area** dialog box.

Field / Box	Description
Release area	Select a release area to be audited from the drop-down list.
Auto-resolve	Specify how you want audit to resolve out-of-sync conditions: ■ **None** – Report out-of-sync conditions but to not resolve them. ■ **All** – Audit submits build jobs for all like-source and 77like-load. ■ **Composite only** – Audit submits build jobs that create like-load modules, including statically linked composite load modules. ■ **Subroutines only** – Audit submits build jobs that create like-NCAL load modules.
Ignore higher areas	Type an option to specify whether higher areas in the same release are included when area audit is run for non-final areas. Available options may be restricted by release administration settings. ■ **No** – Area audit includes higher areas in the same release. The area audit return code is updated. ■ **Yes** – Area audit ignores higher areas in the same release. Areas in prior releases are processed normally. The area audit return code is not updated; audits run with this setting are for information only. ■ **Conditional** – The behavior of area audit is determined by the structure of the current release. If the current release has only one starting area, then area audit runs as if the Ignore Higher Areas field is set to Yes. If there are multiple starting areas, area audit as if the Ignore Higher Areas field is set to No.
Include related applications	All related applications as well as the baselines belonging to applications attached to the release are to be included. Note: Area audit will run longer as the number of baselines included in the release is increased.
Job card	Default values are displayed initially. If you change the values, they will be stored in your registry and used as the defaults in the future. Each time this dialog displays, the last character of the jobname is incremented alphabetically. If the &SYSUID parameter in the Notify field is not overridden, the user ID is automatically substituted.

Reverting a Release

Revert release clears all release install approvals, unblocks the release, and changes the status of the release from APR, REJ, DIS, or BAK to DEV status.

The status of release areas are not changed, and packages attached to the release are not automatically reverted.

If your release was distributed to one or more ChangeMan ZMF production instances, you can initiate revert release at the development instance and revert release at some or all production sites.

If you revert a release that is waiting to install, scheduling information for packages attached to the release is removed from the scheduler, so even if you do not revert the packages, they will not install. However, you must revert a package to change any package contents.

Steps to Revert a Release

1 Right-click on a release that is in APR, REL,BAK, BLK or DIS status. Select **Serena Network → Revert release**. from the popup menu.

The **Revert Release** dialog box displays.
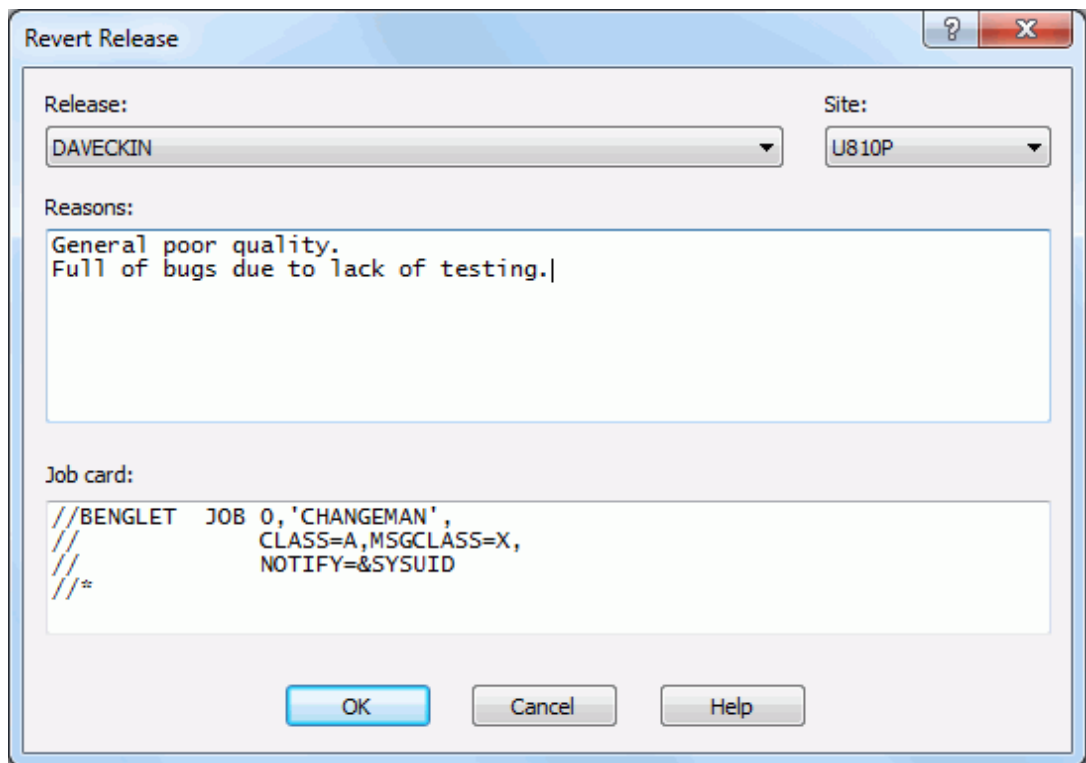
2 Update the fields as described in the following table:

Field / Box	Description
Package	Select the release to be reverted from the drop-down list.
Site	This field allows you to revert a package at another site.

Field / Box	Description
Reasons	Type a reason for reverting the release. You must type at least one character.
Job card	This field is enabled only when you are reverting a package at another site (if the local site is selected in the **Site** drop-down list, this field will be disabled).

3   Click **OK** to process the request.

Testing a Release Area

The ERO test area function compares the contents of a system or subsystem area to the contents of packages attached to the release. Error conditions are displayed by the wizard.

As you consolidate package components in a release and as you work in packages to correct errors you find in release testing, you may create mismatches between the contents of areas and the contents of packages attached to the release. When you block a release, ERO automatically executes a test to detect mismatches between the final release area and contents of release packages.

You can find these errors earlier in the release life cycle by manually executing the test area function against any release area.

These are some of the conditions that are detected by the test area function.

- A component is in multiple attached packages. Only one version can be installed with a release, so all but one version are invalid.

- A component is in only one attached package, but the version in the package is different from the version in the tested area.

- An attached package contains a component that is not checked in to the tested area.

An attached package contains no components, no utility requests (scratch or rename), and no Online Forms, so it is extraneous to the release.

To use the **Test Area** command, the release must be in APR, BLK, DEV, or REJ status, and the must not be past the install date.

Steps to Test a Release Area

1   Right-click on a release or release area, where the release is in an eligible status. Then choose **Serena Network** →**Test area** from the popup menu. The **Test Area - Options** page displays.
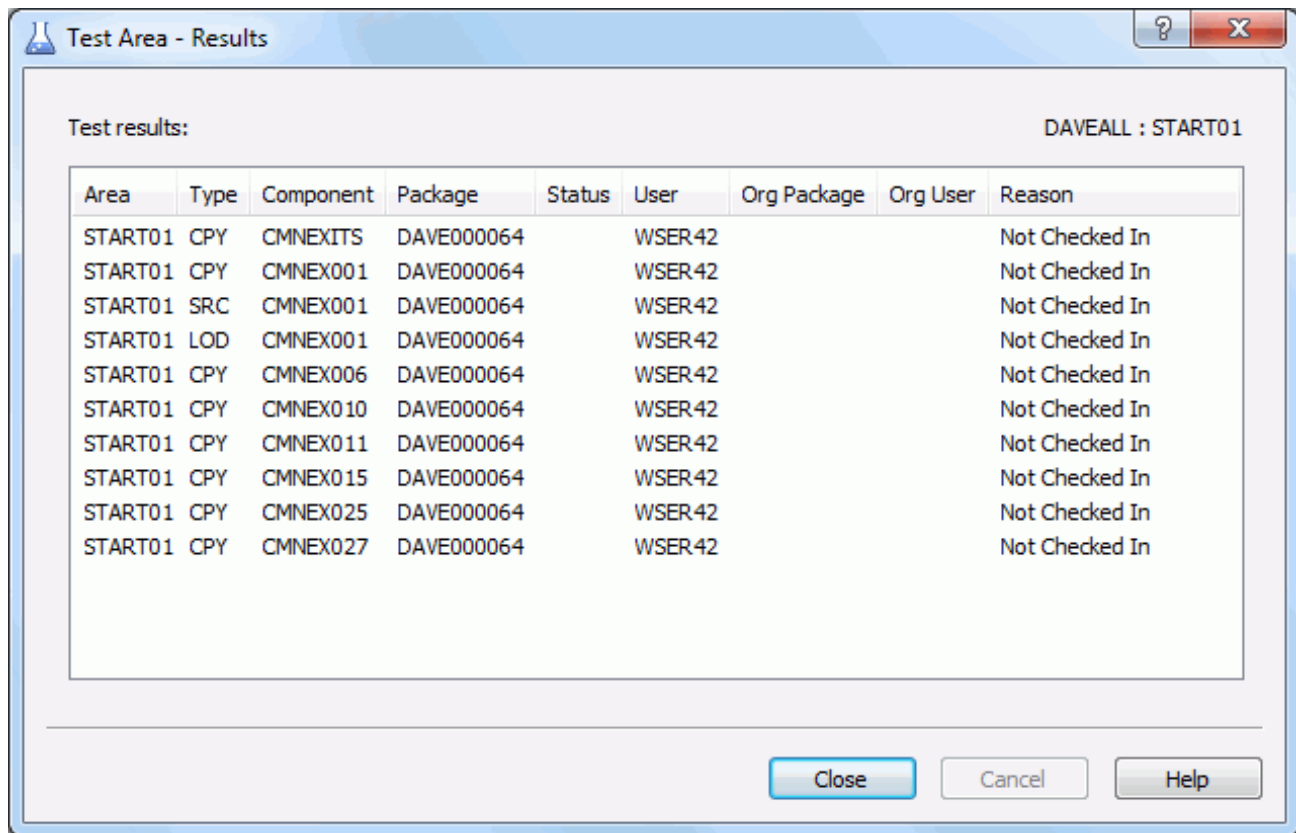
This table describes the fields and options in the **Test Area - Options** page.

Field / Box	Description
Release	Select the release whose area you are testing from the drop-down list.
Release area	Select the release area you are testing from the drop-down list.
Status	Displays the status of the selected release.
Install date	Displays the install date of the selected release.
Package	Package filter that allows to include or exclude a specified package name. The package name can be masked with the "*" wild card character.
Include only	Includes only the specified package name in the test.
Exclude	Excludes the specified package name.

2   Update the fields in the **Test Area - Options** page and press **Finish** to test the area.

3 After the check in operation is complete, the results are displayed in the **Test Area - Results** page as shown below.

Just press the **Close** button after reviewing the results.

Testing a Release

The ERO test release function executes the test area function against the final area of a release. You cannot block a release until all discrepancies between the final area and packages attached to the release are resolved.

If automatic cleanup is enabled in the release definition, then automatic cleanup is executed in test release the same as it is in test area.

To use the **Test Release** command, the release must be in APR, BLK, DEV, or REJ status, and the must not be past the install date.

Steps to Test a Release

1 Right-click on a release, where the release is in an eligible status. Then choose **Serena Network →Test release** from the popup menu. The **Test Release - Options** page displays.

This table describes the fields and options in the **Test Release - Options** page.

Field / Box	Description
Release	Select the release you are testing from the drop-down list.
Status	Displays the status of the selected release.
Install date	Displays the install date of the selected release.
Delete components from different packages	If different versions of a component exist in different packages, the version not checked into the release will be deleted from the package.
Delete components not checked into release	Automatically cleanup components that were not checked into release.
Detach empty packages from release	Automatically cleanup empty packages.

2 Update the fields in the **Test Release - Options** page and press **Finish** to test the area.

3 After the check in operation is complete, the results are displayed in the **Test Release - Results** page as shown below.

Just press the **Close** button after reviewing the results.

Approving or Rejecting a Release Area

The release area approvals function allows you to view, approve, or reject release area operations. There are two types of release area approvals:

- **Check in** – Grants permission to check components in to the release area.

- **Check off** – Grants permission to check components in to the next area.

There are three approval functions for release areas:

- **Notify** – Notifies users and begins the check-in or check-off process.

- **Approve** - Grants permission for check-in or check-ff.

- **Reject** - Denies permission for check-in or check-off.

Notifying Area Check-in Approvers

Check-in approval opens a release area for package or area check-in. Check-in approval notification starts the check-in approval process by sending email and/or MVS send messages to people specified in approval definitions. Check-in approvals cannot be entered until the check-in approval notification function is executed.

Check-in approval notification also adds associated check-in approvers from the Global Release Management Approver List where conditions specified in the global definition are met in the area.

If the approval rule for an area is set to require check-in approval, and there are no check-in approvers defined for the area, execution of the check-in approval notification function sets the check-in approval flag to Y.

Approving an Area for Check-in

Check-in approval is an administrative process that grants permission for developers or release managers to populate the libraries for an area through the check-in function.

The requirement for check-in approval is determined by the area approval rule. Check-in approvals cannot be entered until the check-in approval notification function is executed, even if there are no notifications defined for any of the approvers.

If a check-in approver rejects the area, you must execute the Reset Check-in Approvers function. All check-in approvals entered up to that point are cleared. You must initiate the check-in approver notification process, and then enter all check-in approvals again.

Rejecting an Area for Check-in

Check-in approvers can reject an area for check-in, denying release managers or developers permission to populate area libraries.

The requirement for check-in approval is determined by the area approval rule. Check-in approvals cannot be entered until the check-in approval notification function is executed, even if there are no notifications defined for any of the approvers.

If a check-in approver rejects the area, you must execute the Reset Check-in Approvers function. All check-in approvals entered up to that point are cleared. You must initiate the check-in approver notification process, and then enter all check-in approvals again.

Notifying Area Check-off Approvers

Check-off approval signifies that an area is ready for check-in to the next area.

Check-off approval notification starts the check-off approval process. Check-off approvals cannot be entered until the check-off approval notification function is executed, even if there are no notifications defined for any of the approvers.

An area must be blocked to notify check-off approvers.

If the approval rule for an area is set to require check-off approval, and there are no check-off approvers defined for the area, execution of the check-off approval notification function will set the check-off approval flag to Y.

Approving Area Check-off

Check-off approval is an administrative function that grants permission to check-in the contents of area libraries to the next area.

The requirement for check-off approval is determined by the area approval rule. Check-off approvals cannot be entered until the check-off approval notification function is executed, even if there are no notifications defined for any of the approvers.

If a check-off approver rejects the area, you must unblock the area. All check-off approvals entered up to that point are cleared. When the approver's issue is resolved, you must block the area, initiate the check-off approver notification process, and then enter all check-off approvals again.

Rejecting Area Check-off

Check-off approvers can reject an area for check-off, denying permission to check-in the contents of area libraries to the next area.

The requirement for check-off approval is determined by the area approval rule. Check-off approvals cannot be entered until the check-off approval notification function is executed, even if there are off notifications defined for any of the approvers.

If a check-off approver rejects the area, you must unblock the area. All check-off approvals entered up to that point are cleared. You must initiate the check-off approver notification process, and then enter all check-off approvals again.

Steps to Approve or Reject a Release Area

The following steps describe how to use the Package Approval functions.

1 Right-click a release or release area in an eligible state and choose **Serena Network → Check in approvals** or **Check off approvals** from the popup menu.

The **Release Area Approval** dialog box displays.

2   Select a release and release area from the drop-down lists.

3   Choose approval type, which can be either check-in or check-off.

4   Select an entry from the list of user roles. The buttons will be enabled or disabled depending on what functions are allowed for that role. The following table describes the functions:

Function	Description
Approve	Submits an "approve" request. When all approvers have approved the release area, check-in or check-off operations can proceed.
Reject	Displays the **Reject Reasons** dialog box for entering reject reasons. When you click **OK**, a "reject" request is submitted and check-in or check-off operations are disallowed.
Notify	Notifies approvers and begins the approval process.
Reset	Resets all check in approvals.
Block	Blocks the release area and locks it to prevent further changes.

Function	Description
Unblock	Unblocks an area and unlocks it to allow changes.
Test	Test the release area for errors. Compares the contents of a system or subsystem area to the contents of packages attached to the release

Approving or Rejecting a Release

The release approvals function allows you to view, approve, or reject a release for installation.

Approving a Release

After a release is blocked, all install approvers must enter their approvals before the release will install.

If a release is unblocked, all approvals entered up to that point are cleared, and they must be entered again after the release is blocked. If an approver rejects the release, the release must be reverted to clear the rejection, and all install approvals must be entered again.

Rejecting a Release

After a release is blocked, all install approvers must enter their approvals before the release will install. Approvers can prevent the installation of a blocked release by rejecting the release.

If an approver rejects the release, the release must be reverted to clear the rejection, and all install approvals must be entered again.

Steps to Approve or Reject a Release

The following steps describe how to use the Package Approval functions.

1 Right-click a release in an eligible state and choose **Serena Network** → **Release approvals** from the popup menu.

The **Release Approval** dialog box displays.
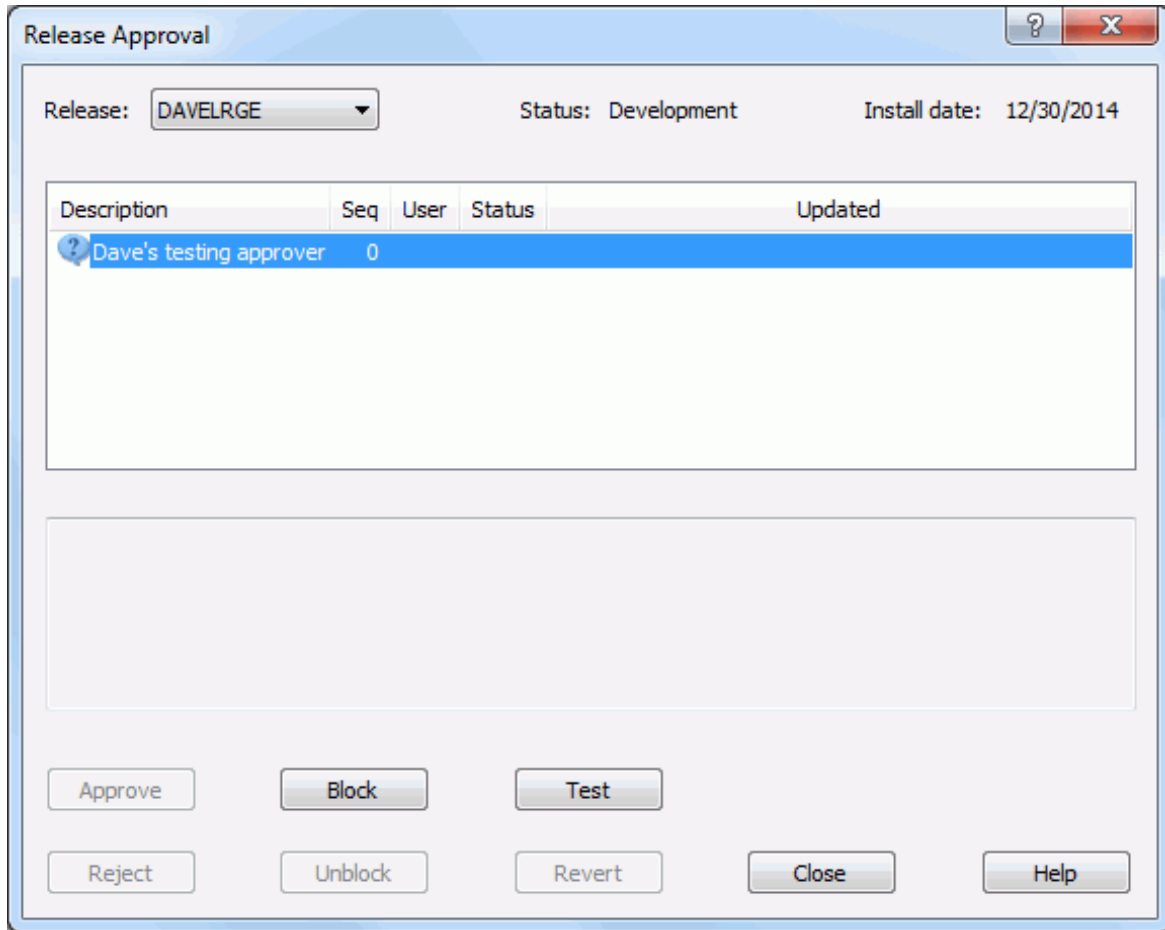
2   Select a release from the drop-down lists.

3   Select an entry from the list of user roles. The buttons will be enabled or disabled depending on what functions are allowed for that role. The following table describes the functions:

Function	Description
Approve	Submits an "approve" request. When all approvers have approved the release, the release can be installed.
Reject	Displays the **Reject Reasons** dialog box for entering reject reasons. When you click **OK**, a "reject" request is submitted an install is disallowed.
Block	Blocks the release and locks it in preparation for the install.
Unblock	Unblocks an release and unlocks it to allow changes.
Test	Test the release for errors. Executes the test area function against the final area of a release.

Backing Out a Release

Release backout backs out all baselined release packages, changes their status from BAS to BAK, and then changes the status of the release from BAS to BAK.

If your release was distributed to one or more ChangeMan ZMF production sites, you can initiate release backout at the development site and back out the release at some or all production sites.

When a release is backed out at a production site, all installed release packages at that site are backed out and their status is changed from INS to BAK. The status of the release at that site is changed from INS to BAK.

When backout for a distributed release is complete at all production sites, the release packages are backed out at the development site, and their status is changed from BAS to BAK. Then the status of the release at the development site is changed from BAS to BAK.

To return the release to DEV status, you must revert the release. To return packages to DEV status, you must revert each release package.

Steps to Back Out a Release

1 Right-click on a release in an eligible state and choose **Serena Network → Back out release** from the popup menu.

The **Back Out Release** dialog box displays:

2 Update the fields as described in the following table:

Field / Box	Description
Release	Select a release to be backed out from the list.
Site	This field allows you to back out a release at another site.
Reasons	Enter a reason for backing out the release. You must enter at least one character.
Job card	This field is enabled only when you are backing out a release at another site (if the local site is selected in the **Site** drop-down list, this field will be disabled).

3 Click **OK** to process the request.

Searching for Strings

The ChangeMan ERO Search Release facility allows you to search release libraries for character strings. This is much faster than using Windows Search or your text editor to search ChangeMan libraries and directories.

When you use Windows Search or your text editor, each file being searched must be transferred to your local computer in order to perform the search. With ChangeMan ZDD Search, the search is performed entirely on the server. Only the search results need to be transferred back to your Windows machine.

The Search Release facility allows you to search multiple library types at the same time. The latest version of each component will be searched, regardless of whether it resides in the specified release or in a prior release.

The search dialog box will display each line of text that matches the search arguments. You can double click on any line of the search results and the file will be displayed in the text editor, automatically positioned to the selected line.

Invoking Search

To invoke the Search facility, right click on the **Releases** folder, or a release, and choose S**earch release** from the **Serena Network** popup menu.

Search Arguments Page

The Search dialog box is shown in the illustration below. This dialog box has two pages. Initially, the dialog box displays the search arguments page.

Specifying Libraries to Be Searched

1 Select the release to search from the **Release** drop-down list. The latest version of each component will be searched, regardless of whether it resides in this release or in a prior release.

2 Select the release area to search from the **Release area** drop-down list.

3 Select the application to search from the **Application** drop-down list.

4 Check one or library types to search in the **Library types** list box.

Filtering by Component Name

If desired, you can limit the search to specific component names. For this, enter a component name, or pattern, in the **Component filter** field of the search dialog box.

The file name filter can include "*****" and "**?**" in any position. For example *XYZ* would search all components that contained the letters "XYZ".

Specifying the Search Strings

You can search for either one or two strings at a time. The search strings are entered into the **String 1** and **String 2** fields. The string fields have a drop-down list that allows you easily to recall recently used search strings.

To the right of the search strings are two radio buttons:

- **And**: Match only lines that contain both search strings.

- **Or**: Match lines that contain either search string.

Miscellaneous Options

At the bottom of the dialog box are two check boxes:

- **Ignore case**: Search strings are not case sensitive.

- **Exclude baseline**: Excludes baseline libraries from the search. This can make the search faster if baseline libraries are not needed.

Starting the Search

After all search argument information has been entered, press the **Search** button to begin the search. The dialog box will then display the search results page.

Search Results Page

The search results page displays the names of the library types and components, as well as the actual lines of text that match the search arguments. The search results page is illustrated below.
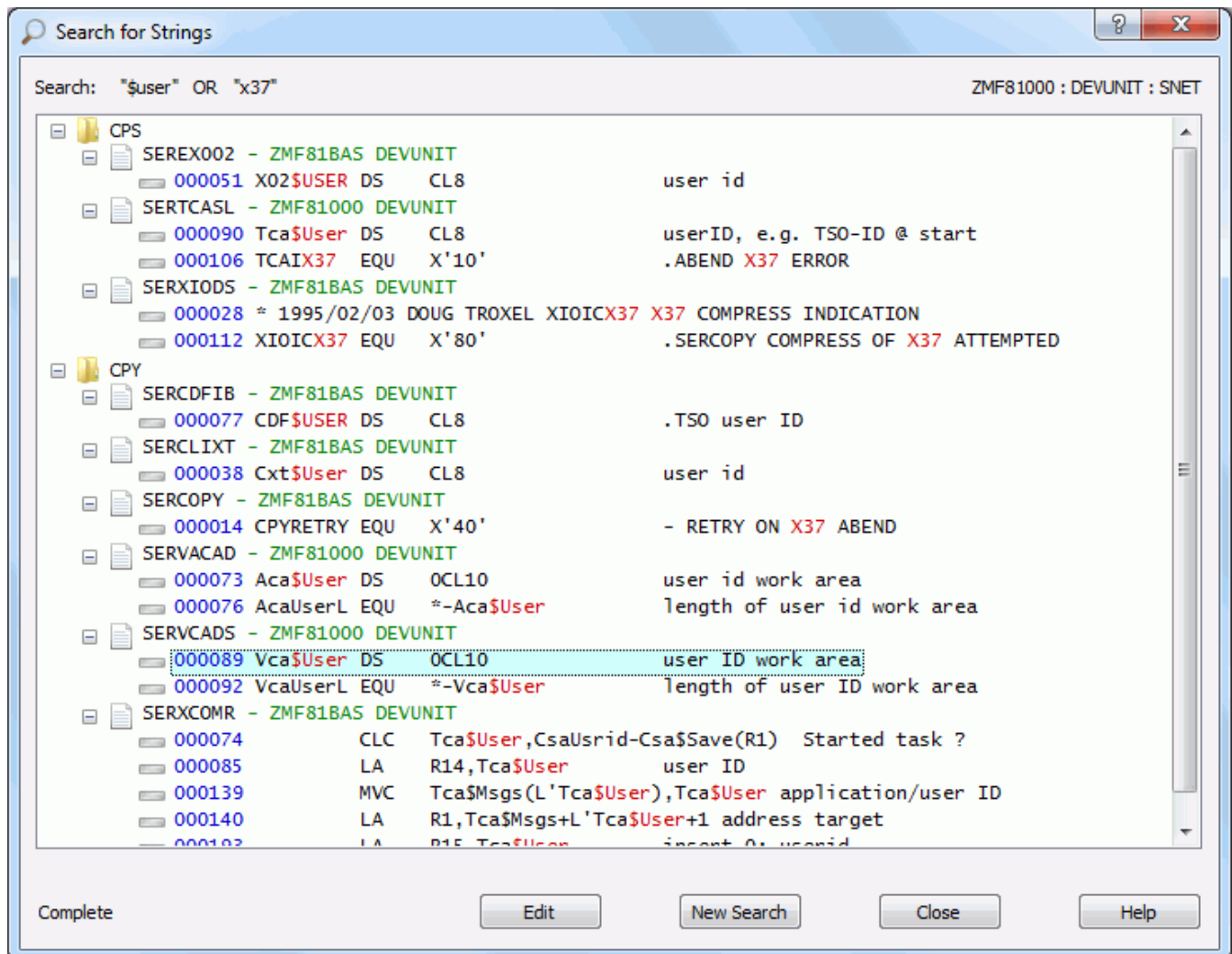
Search Progress Indicator

If you are searching multiple library types, the results are added for each library type, one at a time as each search completes. While the search is still in progress the status indicator in the lower left corner will display "Searching…" as flashing text.   Once the search has completed for all folders, the status indicator will display "Complete".

Results Format

The search results are displayed as a tree with three levels:

- Library type

  - Component name, plus release and release area where the component resides

    - Lines of matching text

The text lines are prefixed with the line number in blue. The search strings within the text are highlighted in red.

Editing the Matching Files

You can display or edit any of the components in the result tree using any of the following methods:

- Double-click on a component name or line of text.

- Right-click on a component name or line of text and select **Edit** from the popup menu.

- Left-click on a component name or line of text to select it, and then press the **Edit** button at the bottom of the dialog box.

When you edit a file, the file will be opened with ChangeMan Edit.   If you initiated the edit operation by clicking on one of the text lines, the cursor will automatically be positioned to that line number inside the editor.

Canceling a Search

You can cancel a search in progress by pressing the **Cancel** button. The **Cancel** button is displayed only while there is a search still in progress.

Starting a New Search

You can start a new search at any time by pressing the **New Search** button.   When you press the **New Search** button, the Search dialog box will return to the initial search arguments page.

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