Single Mailbox Recovery 7.0
Administration Guide

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Notice to Users

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This manual should not be construed as any representation or warranty with respect to the software named herein. Occasionally, changes or variations exist in the software that are not reflected in the manual.

Generally, if such changes or variations are known to exist and affect the product significantly, a release note or Read Me file will accompany the Administration Guide, or will be available on the web site. In that event, please read the release notes or Read Me file before using the product.

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Introduction

Overview

Welcome to NetApp® Single Mailbox Recovery 7.0, the mailbox recovery software that saves time, money, and resources when recovering Microsoft® Exchange Server data.

Single Mailbox Recovery works with your existing **Microsoft Exchange Server** backup architecture and procedures, and allows you to recover individual mailboxes, folders, messages, attachments, and even calendar, notes, and tasks directly to your production Microsoft Exchange Server or any PST file. This eliminates time-consuming and expensive single mailbox (brick-level) backups. This powerful software also lets you search and create a copy of all archived email that matches a given keyword or criteria.

Because Single Mailbox Recovery can work in conjunction with your existing **NetApp® SnapManager® for Microsoft® Exchange** environment, you can continue to use SnapManager to perform full, online backups of Exchange databases using NetApp Snapshot™ technology. This technology enables you to retain many Exchange backups on a **NetApp storage system** with minimal storage requirements for each incremental backup. Later, whenever you need to restore previously deleted, individual Microsoft Exchange Server mail items, use Single Mailbox Recovery to rapidly locate and then restore the items—at any level of granularity—directly to an existing mailbox on your **production Microsoft Exchange Server** or to a new or existing offline **Outlook PST file**.

- To restore mail items from an Exchange database (EDB) file in a **SnapManager backup set snapshot**, connect to the LUN in the snapshot on the storage system and then use Single Mailbox Recovery to restore the mail items directly from the SnapManager-created Snapshot copy.
- To restore mail items from an EDB file in a **tape or disk backup created using an Exchange-aware backup application**, first use the appropriate application-specific Single Mailbox Recovery ExtractWizard agent to read the Exchange Server backup directly from the backup media and restore the Exchange database to any alternate location where you can perform Single Mailbox Recovery processes. You can then use Single Mailbox Recovery to restore the mail items from the database. The use of a Single Mailbox Recovery ExtractWizard agent also enables you to use Single Mailbox Recovery to restore Exchange mail items from **an archived copy of a SnapManager-based full backup set** created by a supported, Exchange-aware backup application run in copy mode.
- To restore mail items from an **Outlook PST file** located on any alternate location where you can perform Single Mailbox Recovery processes, use the Single Mailbox Recovery PST agent.

Single Mailbox Recovery locates and restores Microsoft Exchange Server mail items without the assistance of the Microsoft Exchange Server, thereby eliminating the need for a recovery server. In contrast, most backup programs let you restore Microsoft Exchange Server data only to the same or duplicate server from which it was backed up.

Five Major Reasons for Using Single Mailbox Recovery

There are five primary ways you can benefit from using Single Mailbox Recovery:

Minimize the time to restore an individual mailbox. Single Mailbox Recovery can slash restore time, making it possible to restore mail items from a previous full backup directly into your production Microsoft Exchange Server, or directly into a new or existing PST file. This eliminates the need for a recovery server and the extra steps required to separately import mail back into Microsoft Exchange Server or Microsoft® Office Outlook®.

Eliminate backups of an individual mailbox. Single Mailbox Recovery eliminates the need to back up individual mailboxes because they can be restored directly from an EDB file.

Minimize the time to locate all email matching specific criteria. Single Mailbox Recovery includes an Advanced Find feature that can search across all mailboxes in an archive EDB file, rather than searching one mailbox at a time or bringing an old backup back online for analysis. And you can search by a variety of criteria, including keywords, subject, date and specific users.

Minimize storage space and the cost required to store and archive your backups. Because you do not need to back up mailboxes individually doing a brick-level backup, you eliminate the backup space, cost, and time associated with performing brick-level backups.

Minimize the time to back up all mailboxes. Single Mailbox Recovery eliminates the need to back up mailboxes individually. Normally, companies do a full Microsoft Exchange Server backup, and then run a second process to back up "Very Important Mailboxes" (VIMs) individually as well. Single Mailbox Recovery eliminates this second process.

Single Mailbox Recovery Editions

Single Mailbox Recovery 7.0 is available as a **fully-licensed** edition or as a **trial** edition. The trial edition supports all the features of the fully-licensed edition, but it is enabled for a maximum of 60 days before it expires.

To determine whether an installed copy of Single Mailbox Recovery 7.0 is a trial edition or a fully-licensed edition, select **Help > About** in the Single Mailbox Recovery main window.

Note: *To upgrade from a trial edition to fully-licensed edition, you must uninstall the trial edition and install the fully-licensed version.*

About this Guide

This guide shows you how to install Single Mailbox Recovery, how to use its commands and design features, and how to get help. It provides step-by-step instructions for completing specific tasks on the Windows platform.

Menu Commands and Shortcuts

This manual uses the following conventions for documenting menu commands and shortcuts:

Example	Describes
On the **File** menu, point to **Target PST**, and then click **Create New**.	Choosing the Create New command on the Target PST submenu on the File menu.
On the **Edit** menu, click **Paste Special**.	Choosing the Paste Special command on the Edit menu.
Press **Ctrl+S** (Open source EDB)	Holding down the Ctrl key and the S key at the same time and then releasing them.
Right-click	Clicking the right mouse button.

Shortcut Menu

You can access many of the same commands available on the menu bar and toolbar by right-clicking the mouse to display a shortcut menu. The contents of the shortcut menu depend on whether you right-click in the source or target pane. This manual seeks to teach you how to use commands on the menu bar and toolbar, and does not always specify when you can use the shortcut menu. Once you become familiar with Single Mailbox Recovery, the commands available to you on the shortcut menu should become apparent.

Notes and Tips

The notes and tips in this user guide follow the guidelines offered in the *Microsoft Manual of Style for Technical Publications*, 3rd Edition. Redmond, WA: Microsoft Press, 2004.

Keyboard Shortcuts

Menu Bar	Keyboard Shortcut
File Menu	
Open Source	Ctrl+S
Open Target PST	Ctrl+T
Open Target Microsoft Exchange Server	Ctrl+E
Close Store	Ctrl+L
Use Data Wizard	Ctrl+W
Exit	Alt+F4
Edit Menu	
Copy Selection to Clipboard	Ctrl+C
Paste Copied Item(s)	Ctrl+V
Paste Special	Ctrl+Y
Delete	DEL
Rename	Ctrl+R
New Folder	Ctrl+N
New Mailbox	Ctrl+M
Move To Folder (Microsoft Exchange Server as a target - Find window)	Ctrl+Shift+V
Cut (Microsoft Exchange Server as a target - Find window)	Ctrl+X
View Menu	

Menu Bar	Keyboard Shortcut
Refresh Screen	F5
Tools Menu	
Export	Ctrl+P
Export Organizational Forms	Ctrl+G
Integrity Check	Ctrl+I
Create Reports	Ctrl+Q
Find	F3
Online Help	
View Help	F1

Other Documents

In addition to this guide, you should be familiar with the following guides and have them at hand, available for reference during installation and administration:

- Release Notes
- Reference Documents
- For the Most Current Information

Note: *All of the documents can be found on the NetApp Support Site (NSS) site at http://support.netapp.com.*

Release Notes

The *NetApp® Single Mailbox Recovery 7.0 Release Notes* document contains additional information about the Single Mailbox Recovery, including:

- System requirements
- Installing and uninstalling Single Mailbox Recovery
- Single Mailbox Recovery Agents
- Upgrading from previous versions
- Technical support

Reference Documents

You should have the following documents readily available for reference.

For detailed information about...	Read
Connecting LUNs	*SnapDrive Installation and Administration Guide* for the version of SnapDrive that you are using.
Configuring a Windows server	Microsoft Windows documentation
Configuring Microsoft Outlook	Microsoft Outlook documentation
Configuring Microsoft Exchange	Microsoft Exchange documentation
Installing or upgrading SnapDrive™ software	*SnapDrive Installation and Administration Guide* for the version of SnapDrive that you are using.

For the Most Current Information

The following documents contain the most current information about NetApp products.

For detailed information about...	Read
Compatible versions of SnapDrive and Data ONTAP® software	*SnapDrive/ONTAP Compatibility Matrix*
SnapDrive system requirements: * Operating system * Hardware platform * Network	SnapDrive NSS Description page for the version of SnapDrive that you are using
Single Mailbox Recovery installation requirements	*Single Mailbox Recovery 7.0 NSS Description* page

Getting Help

NetApp provides you with the following ways to get help with Single Mailbox Recovery:

- Online Help
- Technical Support

Online Help

Online Help includes all of the information in the user guide and more, and it lets you quickly access this information by using one of three tabs. The Contents tab offers a hierarchical view of the contents of the user guide. The Search tab offers a full-text search of the user guide. The Index tab offers a keyword-based way to get to specific topics.

To start online Help

Do one of the following:

- On the **Help** menu, click **Contents**.
- Click on the toolbar.
- Press the **F1** key.

To identify a tool or control

- Position the pointer over a tool or control, and then pause. A tool tip shows the name of the item.

Technical Support

If you have questions or problems not answered in the user guide or the online Help (F1), call our Technical Support group. When reporting an issue, please include any information that might help us diagnose the problem. The following details are often the most helpful:

- The version of Single Mailbox Recovery you are using (on the **Help** menu, click **About**).
- The versions of the Windows® operating systems and Microsoft Office Outlook that you are running.
- The version of Microsoft Exchange Server that contained the source EDB file.
- The circumstances and sequence of steps that led to the problem.
- The text of the error messages (if any appeared), and the contents of the **Details** window.
- A list of other Windows-based programs that you were running when the error occurred.

Conventions in this Manual

This manual uses guidelines for documenting menu commands and shortcuts; commands available on shortcut menu; and notes and tips.

Chapter 1: Looking at the Interface

Overview

This chapter describes the parts of the main window of Single Mailbox Recovery and shows you how to preview messages, view details of an EDB, PST, or CAS file, and change the view.

Main Window

The main window is where you do most of your work. This window displays the source EDB, PST, or CAS file(s) as well as the target PST file(s), Microsoft Exchange Server or CAS. The target acts as a container for the restored files. The various work areas and controls are described in the following sections.

Note: *In the illustration below, the target pane displays a PST that acts as a container for restored files. Keep in mind that the target pane could just as easily display a Microsoft Exchange Server.*

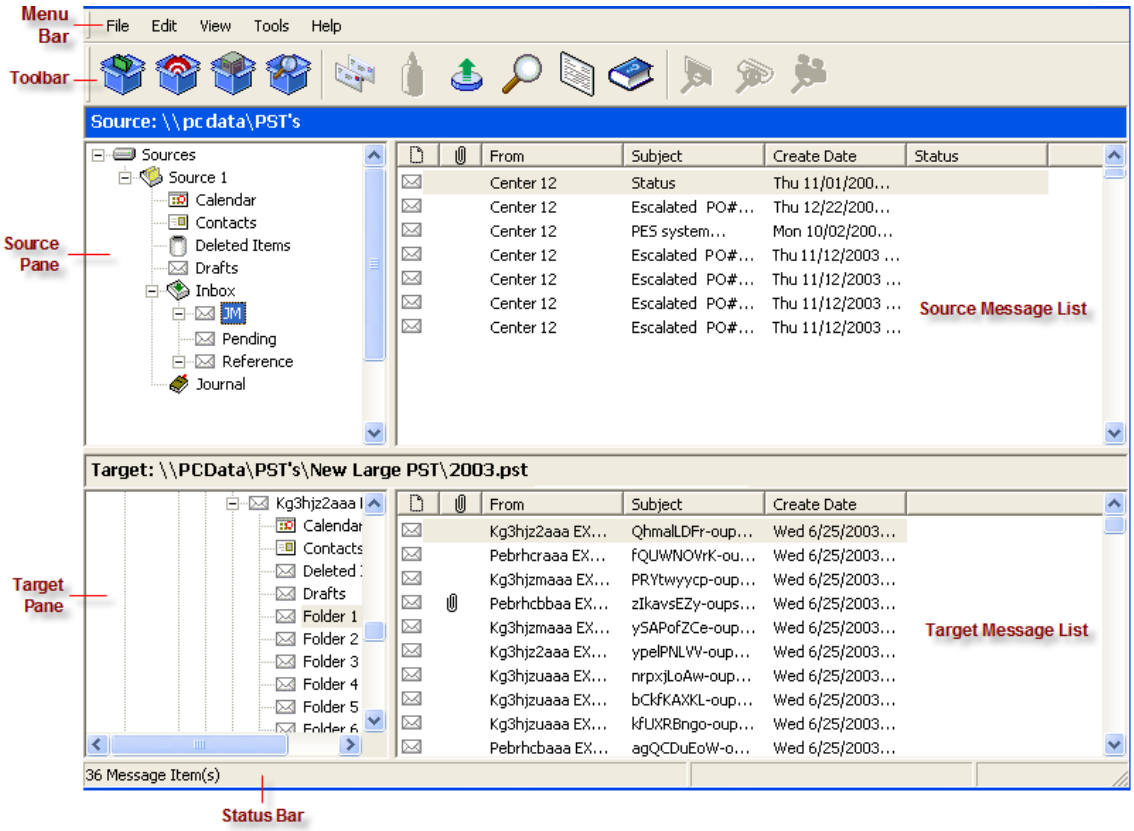


Figure 1-1: The main window with four panes

Source Pane

The source pane displays the data you intend to recover, such as the EDB file(s) or a content analysis store (CAS). The source pane can also display one or more PST files if you have purchased the "PST as Source File" agent.

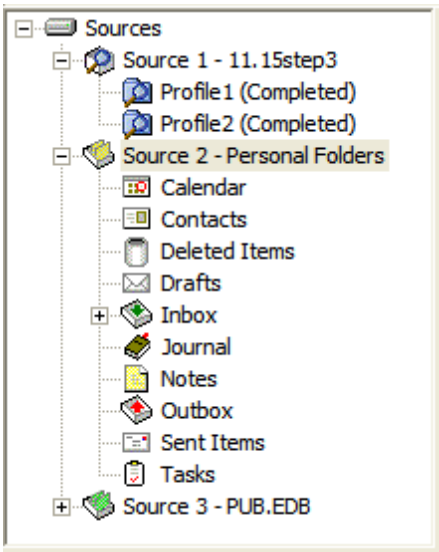


Figure 1-2: Sample icons with descriptions below

	Sources Root Node contains one or more source data stores that are pre-pended with a "SourceX" where X is a number starting with 1 and is incremented for each additional source opened. You can select the sources root node as your search source.
	Source EDB File (for example, Source 3 - PUB.EDB) contains the Microsoft Exchange Server Information Store data. Click the plus sign (+) next to an EDB file to expand its contents.
	Mailbox (for example, Personal Folders , Archive, and Public Folder) contain the Microsoft Office Outlook folders. Click the plus sign (+) next to a mailbox to expand its contents.
	Microsoft Office Outlook Folders (for example, Inbox, Contacts, Tasks) contain Microsoft Office Outlook message items. Select a folder to view its contents in the source message list.

	Source CAS File (for example, Source 1) contains the content analysis store data created to analyze content based on certain criteria.
	CAS Profile Folder (for example, Profile2 (Completed)) contains the results of a content analysis.
	Inaccessible Mailbox which displays if a mailbox is inaccessible. An inaccessible mailbox will present no visible content. Target mailbox access is controlled by the target Microsoft Exchange Server.
	Status indicator which indicates that Single Mailbox Recovery is licensed for the Agent for Administrative Services and that it is connected to Single Mailbox Recovery Administrative Server. This icon is located in the Status Bar of the Single Mailbox Recovery main window.
	Status indicator which indicates that Single Mailbox Recovery is either not licensed for the Agent for Administrative Services or it is licensed but not connected to the Single Mailbox Recovery Administrative Server. This icon is located in the Status Bar of the Single Mailbox Recovery main window.

Note: *In the above illustration, the source pane displays an EDB file, but it could just as easily display a PST file, CAS, or even multiple EDB and PST files.*

Source Message List

The source message list displays the message items in the Microsoft Office Outlook folder that you selected in the source pane. This folder is one of the Microsoft Office Outlook folders (for example, Inbox, Contacts, Tasks). In the illustration below, the source message list displays the messages in an Inbox.

From	Subject	Create Date	Status
Testa engr	RE: message 2	Tue 6/03/2003 ...	
Testa engr	RE: test meeting	Tue 6/03/2003 ...	
Testa engr	Message Recall ...	Tue 6/03/2003 ...	
Teste Engr	FW: stuff	Tue 6/03/2003 ...	
Teste Engr	recall test	Tue 6/03/2003 ...	
Teste Engr	message 4	Tue 6/03/2003 ...	
Teste Engr	1 recall test	Tue 6/03/2003 ...	
Teste Engr	test message 9	Tue 6/03/2003 ...	
Teste Engr	message10	Tue 6/03/2003 ...	
Teste Engr	message 11	Tue 6/03/2003 ...	
Teste Engr	another meeting	Tue 6/03/2003 ...	

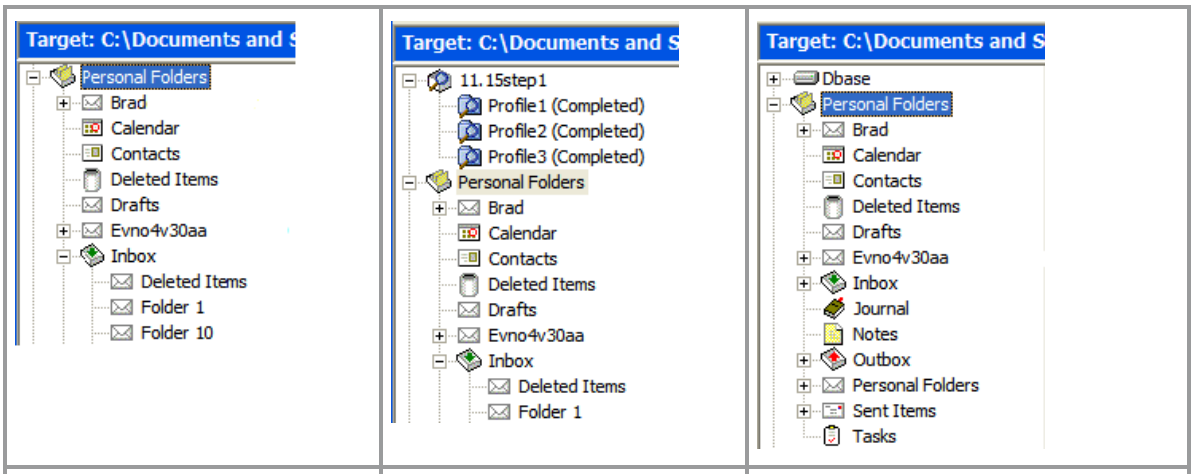
Figure 1-3: The Source Message List

The source message list displays metadata about the message items in six columns. The metadata includes file type; attachments, if any; message sender; subject; date; and status. The Sent Items folder also displays the "To" column. For more information on the message list, see **"Sorting Messages in the Message Lists" on page 19**.

The source content analysis store message list includes file type; Database #, Database, and Path. The source content analysis store profile folder message list includes file type; Attachment, if any; From; Subject; Create Date; Database #; Folder, and Status. For more information on content analysis stores, see **"Content Analysis Store" on page 156**.

Target Pane

The target pane can display one or more target PST files and/or one target mailbox, public folders and mailboxes from a Microsoft Exchange Server, and content analysis stores (CAS) with profile folders. The target acts as a container for your restored files. If a target is a newly created PST file, it defaults to 10 Microsoft Office Outlook folders. If a target is an existing PST file or Microsoft Exchange Server, it shows whatever folders are in the target. It is into these folders that you paste and restore your message items. For information on restoring message items, see **"Restoring Microsoft Exchange Server Data" on page 110**.



Target Panes for PST files	Target Pane for a CAS file	Target Pane for a Microsoft Exchange Server

Figure 1-4: Target panes with PST, CAS, and Microsoft Exchange Server files

Target Message List (Restored Messages)

The target message list displays the message items in the Microsoft Office Outlook folder that you selected in the target pane. If the target is a newly created PST file or CAS, the Outlook folders and message list will be empty. If the target is an existing PST file, CAS file, or Microsoft Exchange Server, or if you have restored message items to a newly created PST file, you can select a folder in the target pane to display messages in the target message list.

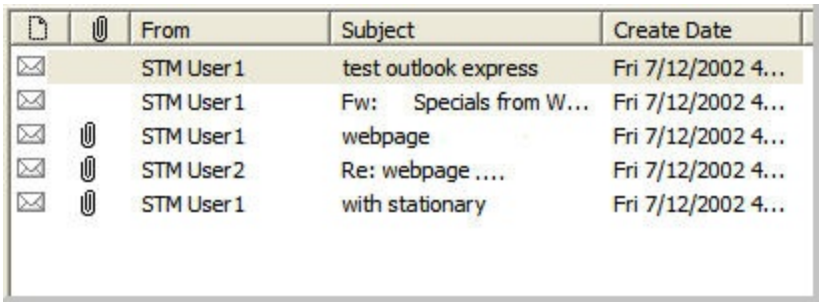


Figure 1-5: Target Message List displaying restored messages

The target message list displays metadata about the message items in five columns (instead of six columns in the source message list). The metadata includes file type; attachments, if any; message sender; Subject; and Create Date. The Sent Items folder also displays the "To" column. For more information on the message list, see **"Sorting Messages in the Message Lists" on page 19**.

The target content analysis store message list includes file type; Database #, Database, and Path. The target content analysis store profile folder message list includes file type; attachment, if any; From; Subject; Create Date; Database #; Folder; and Status. For more information on content analysis stores, see **"Content Analysis Store" on page 156**.

Menu Bar

Figure 1-6: The Menu Bar in the main window

The menu bar contains all of the commands for Single Mailbox Recovery. The menu commands, submenu commands, and resulting windows are discussed fully in the chapters that focus on those specific commands. See the Index to quickly locate the pages on which a menu command is discussed.

Help Menu - Administrative Services

The Administrative Services option is available in the Help menu when the Single Mailbox Recovery Administrative Server for Administrative Services is active. It displays information regarding the Single Mailbox Recovery Administrative Server that Single Mailbox Recovery is connected to and the services that are being used.

Note: *During normal operation, the auditing service (if activated) does not alter the behavior of Single Mailbox Recovery.*

Toolbar

Figure 1-7: The Button Toolbar in the main window

The buttons on the toolbar perform the following functions:

	Open Source displays the Open window, which lets you navigate to and select a source Microsoft Exchange Server Database (EDB), PST, or CAS file. The EDB, PST, or CAS file contains the message items you want to restore.
	Open Target PST displays the Open window, which lets you navigate to and select a target Personal Folders (PST) file. The target PST file is a container for restored message items.
	Open Target Microsoft Exchange Server displays the Target Type & Path Selection page of the Data Wizard, which lets you connect to a target Microsoft Exchange Server. The target Microsoft Exchange Server is a container for restored message items.
	Create/Open Content Analysis Store displays the Create Content Analysis File window which allows you to open an existing content analysis store or to create a new one in the target pane.
	Copy copies into the Clipboard the selected message(s) in the source message list; or the selected folder, mailbox, or EDB file in the source pane.
	Paste inserts the items from the Clipboard into the selected folder in the target pane. If you want to retain the directory structure of the restored messages, you must use the Paste Special command instead of the Paste command or Paste button.
	Export displays the Export window, which lets you export messages to a local or network drive destination. You can choose to save exported messages as plain text files (.txt) or as Microsoft Office Outlook files (.msg). You can also export EDBs to a PST.

	Search displays the Find window, which lets you specify the desired search criteria for finding messages in the source pane.
	Preview Pane displays the Preview pane on the Single Mailbox Recovery main window so you can read a message without opening it.
	View Help displays Single Mailbox Recovery Online Help, which includes all of the information in this user guide and more. Online Help lets you quickly access this information by using a Contents, Search, or Index tab.
	Message Table View is only available when a message in the source message list is highlighted. It opens a Message Table View of that message and any message related to it.
	Attachment Table View is only available when a message with an attachment in the source message list is highlighted. It opens an Attachment Table View of that message and attachment and all related messages and attachments.
	Conversation View is only available when a message in the source message list is highlighted. It shows the thread of that message with indentations to indicate the responses to each e-mail.

Previewing and Opening Messages

In the Preview pane, you can read the contents of a message item and open attachments. You can preview a message located in either the source message list or the target message list. The information displayed in the Message Header is different for messages, calendars, contacts, tasks, and distribution lists.

To open the preview pane

Do one of the following:

- On the **View** menu, click **Preview Pane**.
- On the toolbar, click the **Preview Pane** icon in the toolbar.

To hide the preview pane

- Repeat one of the previous steps.

> **Tip:** Hiding the Preview pane will allow you to scroll through messages faster.

To display a message in the preview pane

1. In the source or target message list, select a message.
2. Open the Preview pane by clicking on the **Preview Pane** icon in the toolbar.

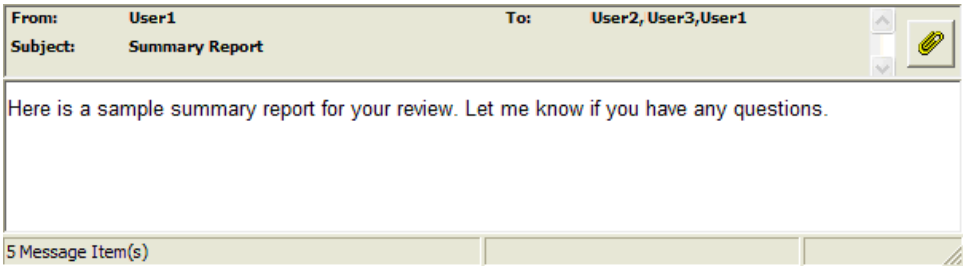


Figure 1-8: Preview pane for a message

To open a message in its own window

- In the source or target message list, double-click a message.

Opening Attachments

If you have the appropriate program installed on your computer, Single Mailbox Recovery will load the application to view the selected attachment (for example, to view an .xls file attachment, Single Mailbox Recovery will launch Microsoft® Excel®).

If no associated program is available for the attachment's file type, Single Mailbox Recovery presents a message window saying the attachment cannot be viewed.

Note: *Single Mailbox Recovery cannot view attached embedded graphics in HTML messages.*

To open an attachment in an open message

1. In the message list, double-click a message that has the Attachment icon next to its name.
2. Click the **Attachment** icon on the right side of the message header. A pop-up window

lists the attachments for the selected message.

3. Click the name of the attachment you want to view.

To open an attachment in the preview pane

1. In the message list, select a message that has the Attachment icon next to its name.
2. Open the Preview pane. In the Single Mailbox Recovery main window, click the **Preview Pane** icon . In the **Find** window, select the **Preview** check box.
3. Click the **Attachment** icon on the right side of the message header in the Preview pane. A pop-up window lists the attachments for the selected message.
4. Click the name of the attachment you want to view.

Saving Attachments

A "save attachments" option is available on the File menu and paperclip menu of an open message, as well as on the paperclip menu of the Preview pane. The Save Attachments window lists the attachments for the selected message and lets you select the attachments you want to save.

To save attachments in an open message

1. In the source or target message list, double-click a message that has the Attachment icon next to its name.
2. In the open message, do one of the following:
   - On the **File** menu, click **Save Attachments**.
   - Click the **Attachment** icon on the right side of the message header, and then click **Save Attachments**.
3. In the **Save Attachments** window, select one or more attachments, and click **OK**.
4. In the **Browse For Folder** window, select a location for the attachment(s), and click **OK**.

To save attachments in the preview pane

1. In the source or target message list, select a message that has the Attachment icon next to its name.
2. In the Preview pane, click the **Attachment** icon on the right side of the message header, and then click **Save Attachments**.
3. In the **Save Attachments** window, select one or more attachments, and click **OK**.
4. In the **Browse For Folder** window, select a location for the attachment(s), and click **OK**.

Changing the View

You can change the view in the Single Mailbox Recovery window by hiding the toolbar or status bar, by using split bars; by sorting message lists; and by refreshing the screen.

Viewing or Hiding the Toolbar and Status Bar

The toolbar and status bar appear by default in the main Single Mailbox Recovery window, but you can easily hide them.

To hide the toolbar or status bar

- On the **View** menu, click **Toolbar or Status Bar**. The check mark no longer appears next to the name of the toolbar or status bar.

To view the toolbar or status bar

- On the **View** menu, click **Toolbar or Status Bar**. The check mark appears next to the name of the toolbar or status bar.

Resizing Panes Separated by a Split Bar

You can use a split bar (the horizontal or vertical double line that separates two panes) to increase the area within one pane while simultaneously decreasing the area within the adjacent pane. The source pane, source message list, target pane, target message list, and Preview pane all border a split bar.

To resize panes separated by a split bar

1. Position the cursor over a split bar between two panes until a double arrow ↔ appears. A vertical double arrow ↕ appears if you position the cursor over a horizontal split bar.

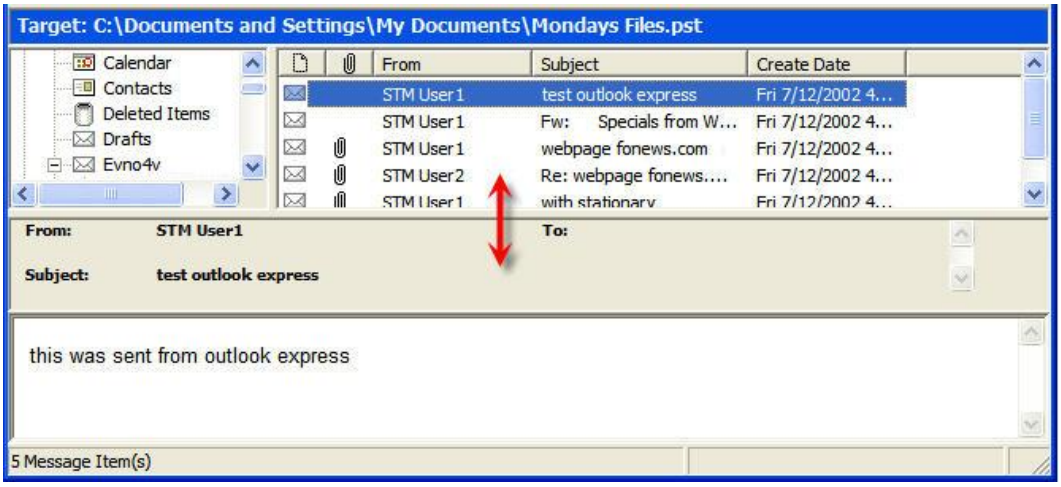


Figure 1-9: Before dragging the split bar between the target message list and the Preview pane

2. Drag the split bar until the two panes are the desired size.

Sorting Messages in the Message Lists

You can sort messages in the source and target message lists based on attachments, message sender, subject, date, and status. In addition, the source message list lets you sort messages based on status, and the Sent Items folder lets you sort items based on the "To" heading. Sorting messages on the From column, for example, can help to identify messages from a specific sender.

To sort a message list

1. Click a column heading to sort the messages based on that heading. For most headings, an arrow appears indicating the sort direction. An up arrow indicates that the messages appear in ascending (A-Z) order. A down arrow indicates that the messages appear in descending (Z-A) order.
2. To reverse the order of the messages based on that column heading, click the column heading again. Notice the arrow reverses directions.

   An example of sorting messages:

   - If you click the attachment column heading, messages are sorted in ascending order based on this heading, even though no arrow appears. This means that messages with attachments appear at the top of the message list, while messages with no attachments appear at the bottom of the document list. If you click the attachment column heading again, the order is reversed.

Note: *The view settings (sort order and column width) for a folder or mailbox are saved until you close the data store.*

Refreshing the Screen

You may want to refresh the screen occasionally when you are connected to a target Microsoft Exchange Server. That is because the information on the server may change while you are connected.

To refresh the screen

Do one of the following:

- On the **View** menu, click **Refresh**.
- Press the **F5** key.

Viewing the Properties of an EDB File, PST File, CAS File, CAS Profile Folder, Folder, or Mailbox

Single Mailbox Recovery makes it easy to view the properties of a source PST file, EDB file, CAS file, CAS profile folder, mailbox, or folder.

Note: *Only accessible mailboxes can produce property reports. For CAS files, inaccessible mailboxes within that data store are not included in the totals.*

Note: *When the* ***Show Recoverable Items*** *preference is enabled, the* ***Recoverable Items*** *folder, subfolders, and messages will appear in the folder and message counts in the EDB properties. If the preference is cleared, the* ***Recoverable Items*** *folders and messages are not included in the folder and message counts.*

To view the properties

1. In the source pane, right-click an EDB file, PST file, CAS file, CAS profile folder, mailbox, or folder.
2. On the shortcut menu, click **Properties**. A Properties dialog box appears.

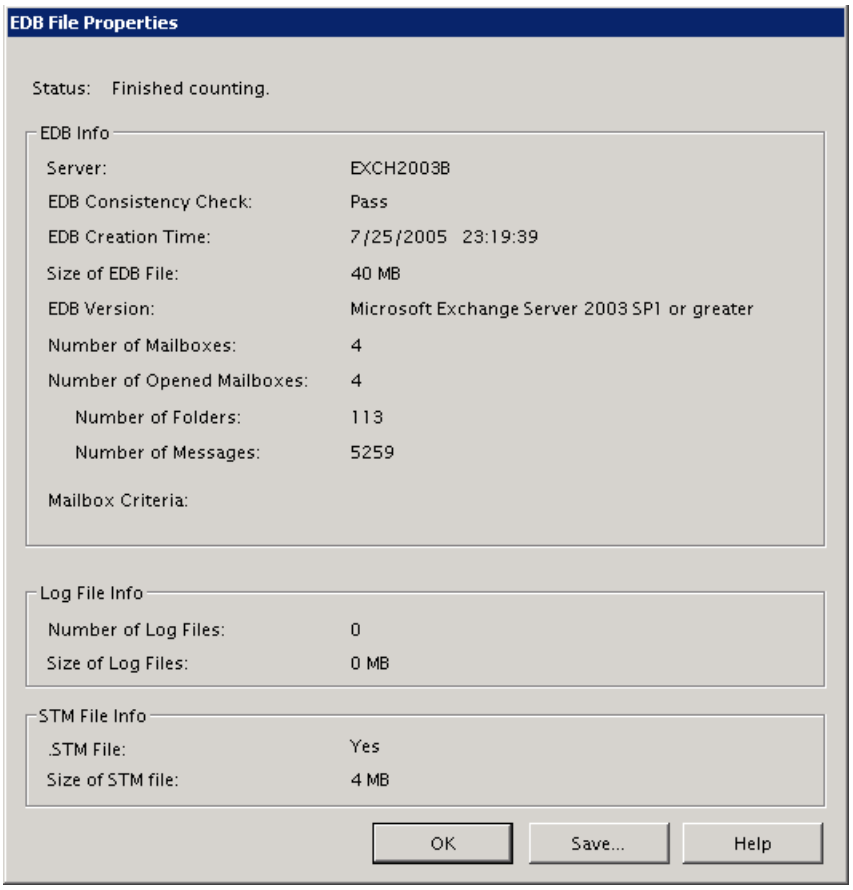


Figure 1-10: EDB File Properties dialog box (without Multi-Tenancy Support enabled)

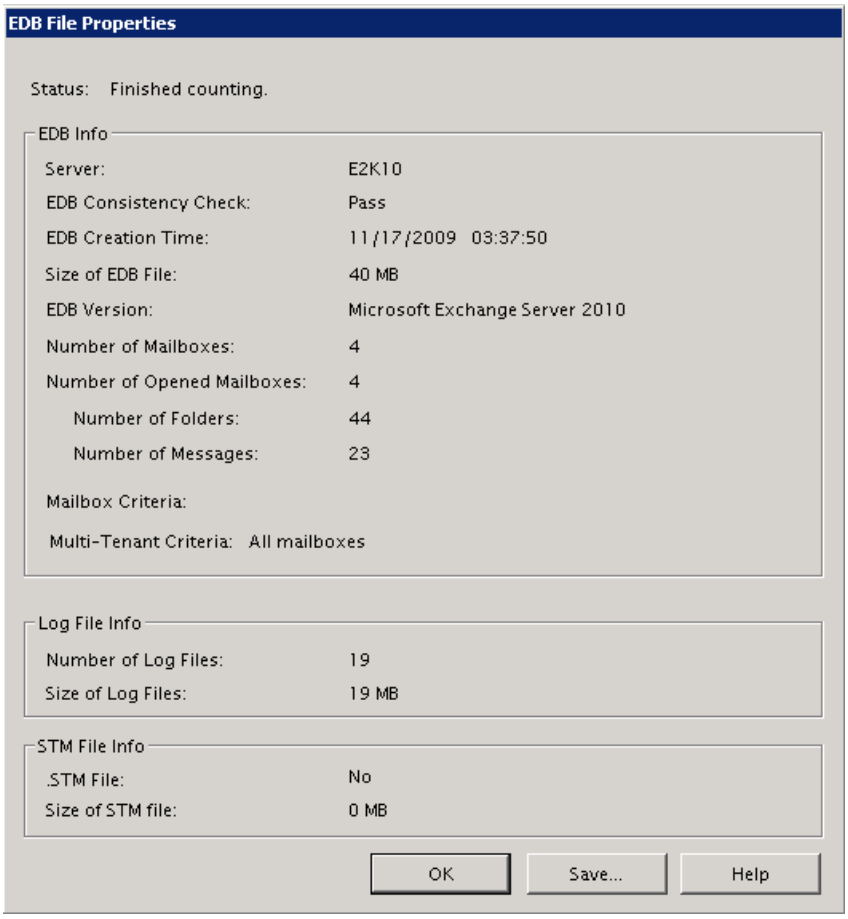


Figure 1-11: EDB File Properties dialog box (with Multi-Tenancy Support enabled)

3. Click **Save** to save the Microsoft Exchange Server name to your hard drive.

Note: *The Save button is only available for Microsoft Exchange Server 2010 and earlier databases.*

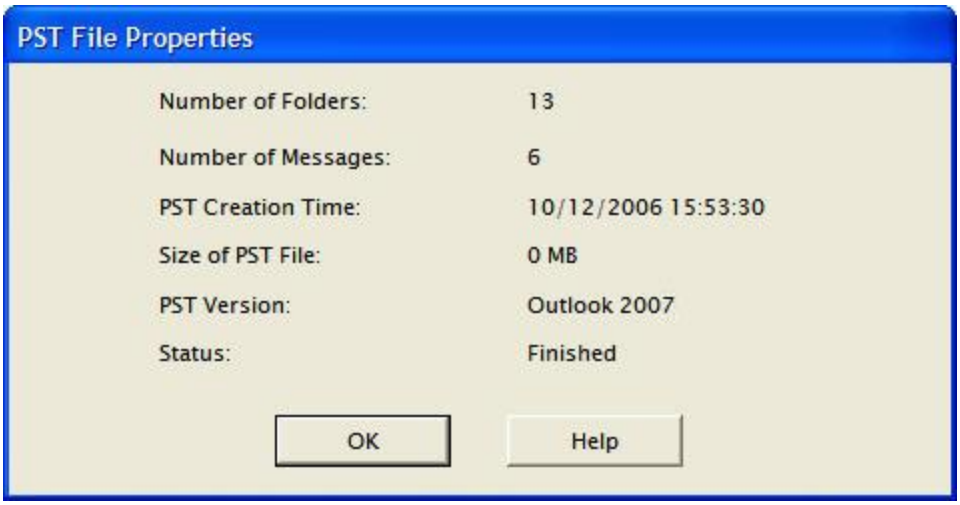


Figure 1-12: Properties of a PST File

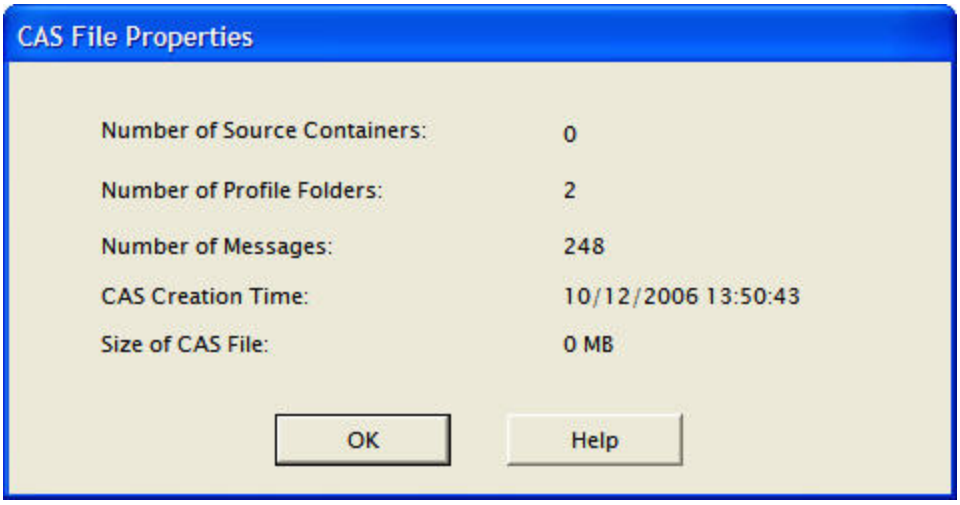


Figure 1-13: Properties of a Content Analysis Store (CAS) File

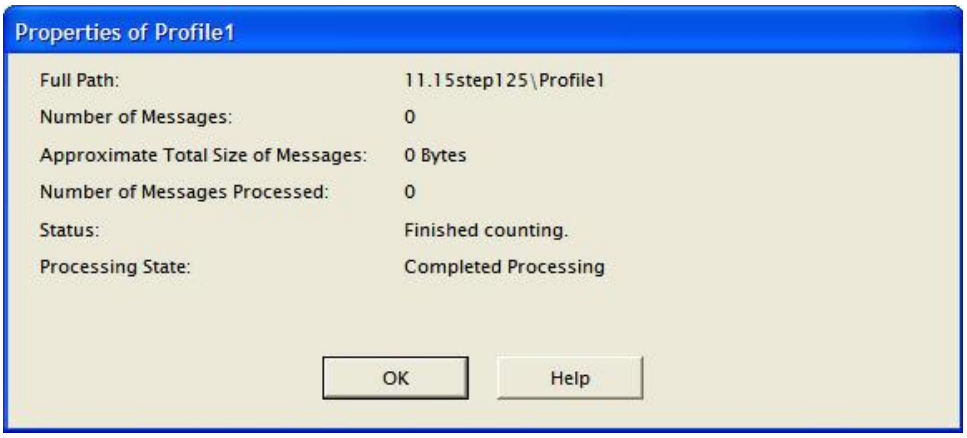


Figure 1-14: Properties of a Content Analysis Store (CAS) Profile Folder

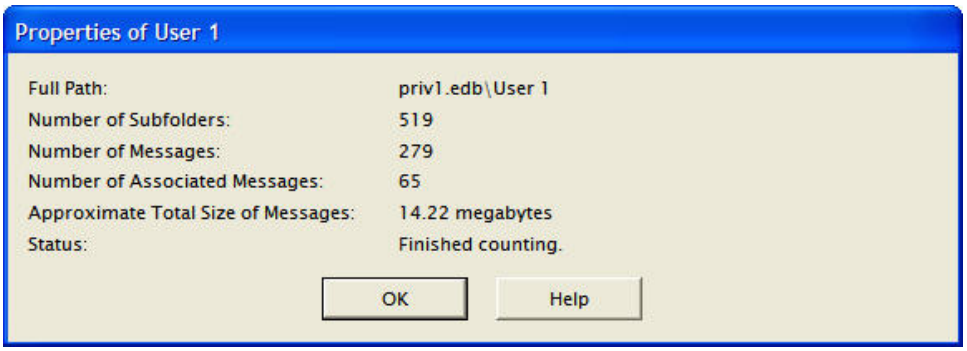


Figure 1-15: Properties of a Content Analysis Store (CAS) Profile Folder

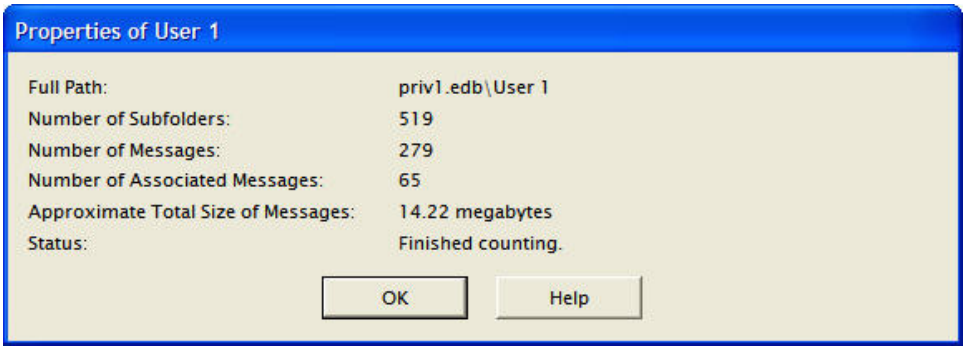


Figure 1-16: Properties of a Mailbox

An alternate way to view the properties of an EDB or PST file

Once you have viewed the properties of the source EDB or PST file as described above, you can then display the properties in the Preview pane.

1. Open the Preview pane by clicking the **Preview Pane** icon on the toolbar or by clicking the **View** menu and pointing to **Preview Pane**.
2. Right-click on the source EDB or PST file in the **source** pane and click **Properties**.

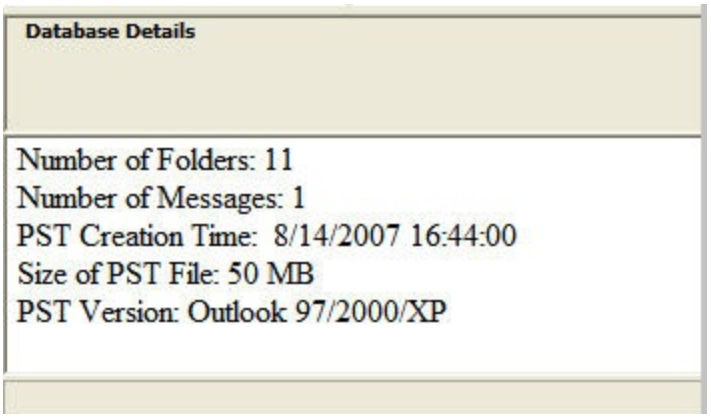


Figure 1-17: Properties of an EDB File

Performing an Integrity Check

You can perform an integrity check on messages, folders, mailboxes, PST files, CAS files, CAS profile folders, EDB files, and live Microsoft Exchange Server target search results. During the integrity check, Single Mailbox Recovery verifies that it can read all folder and message properties from the selected source.

To perform an integrity check

1. In the source pane, select an EDB file, PST file, CAS file, CAS profile folder, mailbox, folder, or message(s).
2. Do one of the following:

- On the **Tools** menu, click **Integrity Check**. The **Integrity Check** window appears.
- Right-click the item and click **Integrity Check** in the shortcut menu.

3. Click **Print** to print a copy of the integrity check.
4. Click **Save** to save a copy of the integrity check to file.

Viewing Deleted Messages

Single Mailbox Recovery can view and restore deleted messages that are held in the EDB file. These messages appear under the Status column in the source message list. If deleted messages have been purged from the EDB file due to the deleted retention schedule, Single Mailbox Recovery cannot view or restore these messages.

Content analysis store deleted messages in both the source and target panes also appear under the Status column in the message list.

Viewing Deleted Items in Microsoft Exchange Server 2010 and 2013 Databases

Deleted items do not have the same functionality as items from earlier databases. Instead of being stored in the folder they were deleted from, they are stored in a separate folder called "Recoverable Items."

By default, this separate folder is not displayed in the source tree under the mailbox. A preference setting allows you to display this folder in the source tree making the deleted items accessible to you. For more information, see Setting Preferences in the **"Security Tab" on page 28** for more information.

Recoverable Items Folder

When the Recoverable Items folder is visible to you, the subfolders are accessible as well including:

- **Deletions:** The Deletions folder holds messages that have been removed from the Inbox using the Delete key, menu item, or shortcut key.
- **Purges:** The Purges folder holds messages that have been removed from a mailbox via the "Recover Deleted Items" tool in Microsoft Office Outlook when a legal hold is set for a mailbox.
- **Versions:** The Versions folder holds sent and received messages that were edited by a user in a mailbox for which a legal hold was set.

You are able to perform source operations on the messages, including copying and exporting. The message in Recoverable Items and its subfolders are also included in searching, creating reports, integrity checks, and property counts.

Note: *The displaying of Recoverable Items in Microsoft Exchange Server 2010 and 2013 applies to sources only. They are not visible in target mailboxes.*

Setting Preferences

The Preferences dialog box allows you to streamline Single Mailbox Recovery operations. Most of the preference settings in the four tabs are selected by default. There are two exceptions: the "Display new PST when PST limit is reached" setting in the Target Options tab, and the "Enable Tamper-Proof Target" setting in the Security tab. If you change the settings, they are stored and reloaded on the next run of Single Mailbox Recovery.

General Tab

The General tab governs the tasks that Single Mailbox Recovery performs and the location of the license file.

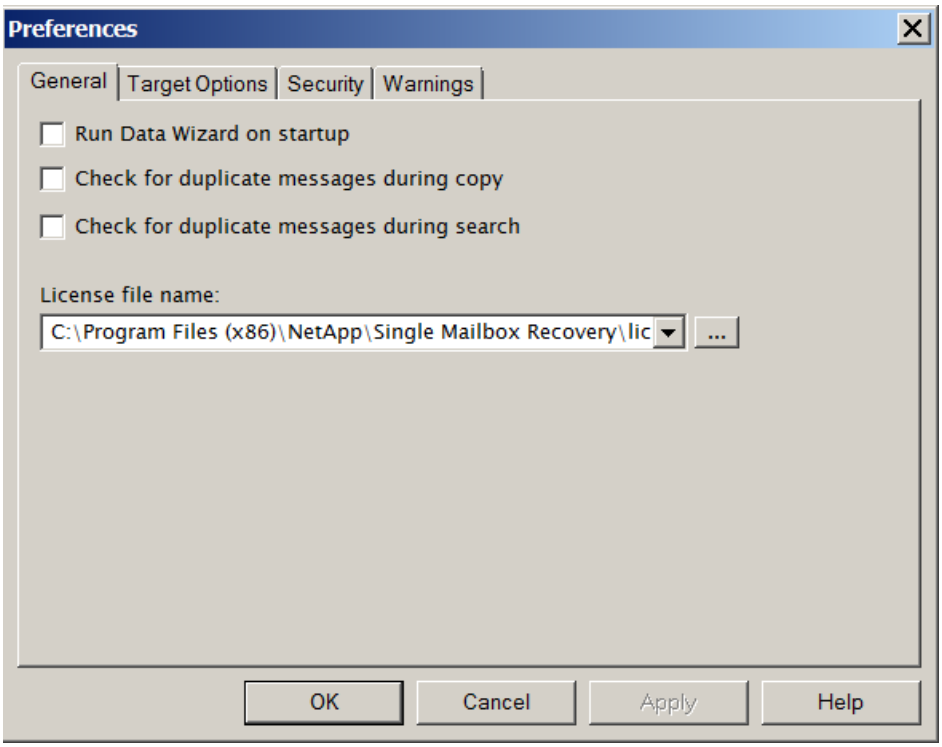


Figure 1-18: The General tab in the Preferences dialog box

To change the General preference settings

1. On the **Edit** menu, click **Preferences**, then click **General**.
2. Select or clear the following check boxes as desired:

- **Run Data Wizard on startup:** The Data Wizard will launch every time you open Single Mailbox Recovery.

- **Check for duplicate messages during copy:** When restoring Microsoft Exchange Server data, Single Mailbox Recovery does not copy duplicates of a message to the destination folder if a message already exists in the destination folder. Selecting this preference setting results in slower copy performance.
- **Check for duplicate messages during search:** Single Mailbox Recovery will not return duplicates of a message during a search. For example, if the same message exists in two or more data stores, only the first message found is listed in the search results. Selecting this preference setting results in slower search performance.
- **License file name:** This box displays the current location of the license file. To put this file in a different location, click Browse and navigate to the desired location. There are two ways to manage the location of the license file:
  - **Multiple Copies of Single Mailbox Recovery:** Put one license file in the Single Mailbox Recovery program directory of each Single Mailbox Recovery installation.
  - **Single Copy of Single Mailbox Recovery:** Put one license file in a single network folder to which all Single Mailbox Recovery installations make reference.

  Note: *For more information about the license file, see "The License File" in the Release Notes file.*

Target Options Tab

The Target Options tab governs the target-related tasks that Single Mailbox Recovery performs.

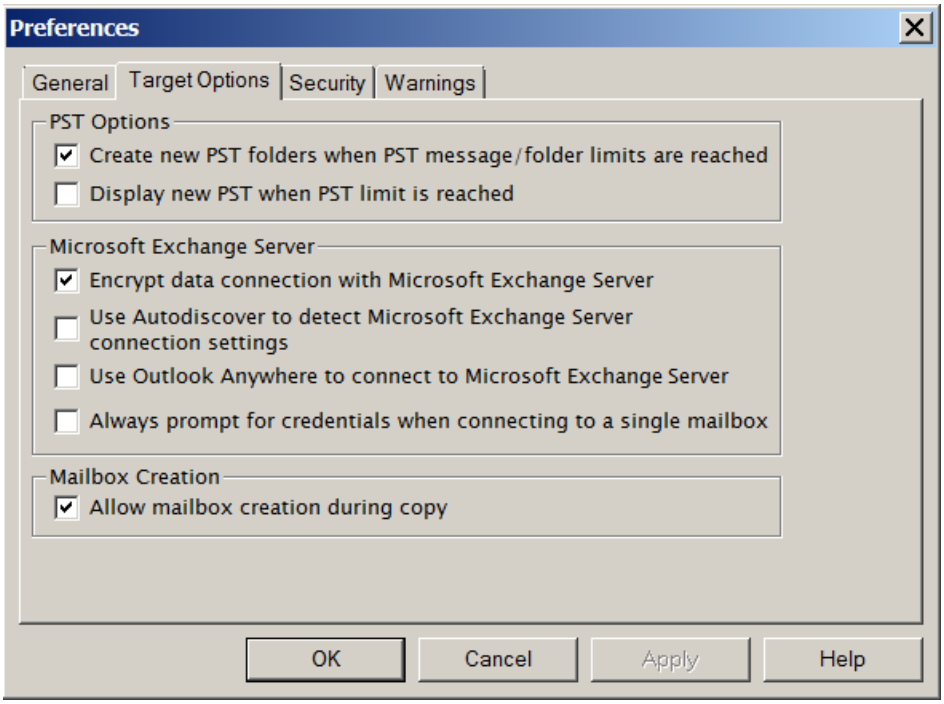


Figure 1-19: The Target Options tab in the Preferences dialog box

To change the Target Options preference settings

1. On the **Edit** menu, click **Preferences**, then click **Target Options**.
2. In the PST Options group, select or clear the following check boxes as desired:
   - **Create new PST folders when PST message/folder limits are reached:** Single Mailbox Recovery automatically creates new folders (for example, Inbox) when the 16,383 messages/folder limit is reached. After Single Mailbox Recovery creates a new folder, it continues to restore Microsoft Exchange Server data where it left off. For more information, see **"Limits for PST and Folder Targets" on page 112**.
   - **Display new PST when PST limit is reached:** When the limit for a PST is reached in the target pane, Single Mailbox Recovery automatically displays the overflow PST.
3. In the Microsoft Exchange Server group, select or clear the following check boxes as desired:
   - **Encrypt data connection with Microsoft Exchange Server:** If selected, Single Mailbox Recovery will use an encrypted connection to send data to the Microsoft Exchange Server. Clear this if you are using an unencrypted connection.
   - **Use Autodiscover to detect Microsoft Exchange Server connection settings:** If selected, Single Mailbox Recovery attempts to use Autodiscover to detect profile settings for connecting to the target Microsoft Exchange Server.
   - **Use Outlook Anywhere to connect to Microsoft Exchange Server:** If selected, Single Mailbox Recovery uses Outlook Anywhere settings to connect to the target Microsoft Exchange Server. For more information, see **"Outlook Anywhere and Autodiscover" on page 33**.
   - **Always prompt for credentials when connecting to a single mailbox:** If selected, Single Mailbox Recovery requests a username and password each time it connects to a mailbox on a Microsoft Exchange Server. This option requires a user to provide credentials when connecting to a single mailbox, even when the logged in user is connecting to their own mailbox, or when managed passwords are set up for the Microsoft Exchange Server.
4. In the Mailbox Creation group, select or clear the following check boxes as desired:
   - **Allow mailbox creation during copy:** If selected and a mailbox copy is initiated by you, mailboxes can be created during a mailbox copy. If it is cleared, mailbox creation cannot take place during copy. This setting has no effect on manual mailbox creation.

Security Tab

The Security tab controls the level of information available to the user when using the application and governs the tasks that person can perform.

The options in the Security tab are modifiable by default only by users that belong to the Administrator Group. The options are stored in the registry: HKEY_LOCAL_MACHINE\Software\NetApp\SMBR.

The Single Mailbox Recovery Installation program sets this registry key to have read/write access to users in the Administrators group and read-only access to any user in the Users group.

The settings on the Security tab can also be set and managed by an Administrator using the Settings service on the Single Mailbox Recovery Administrative Server. In that situation, you need to contact your Single Mailbox Recovery Administrative Server administrator to change the settings on the Security tab.

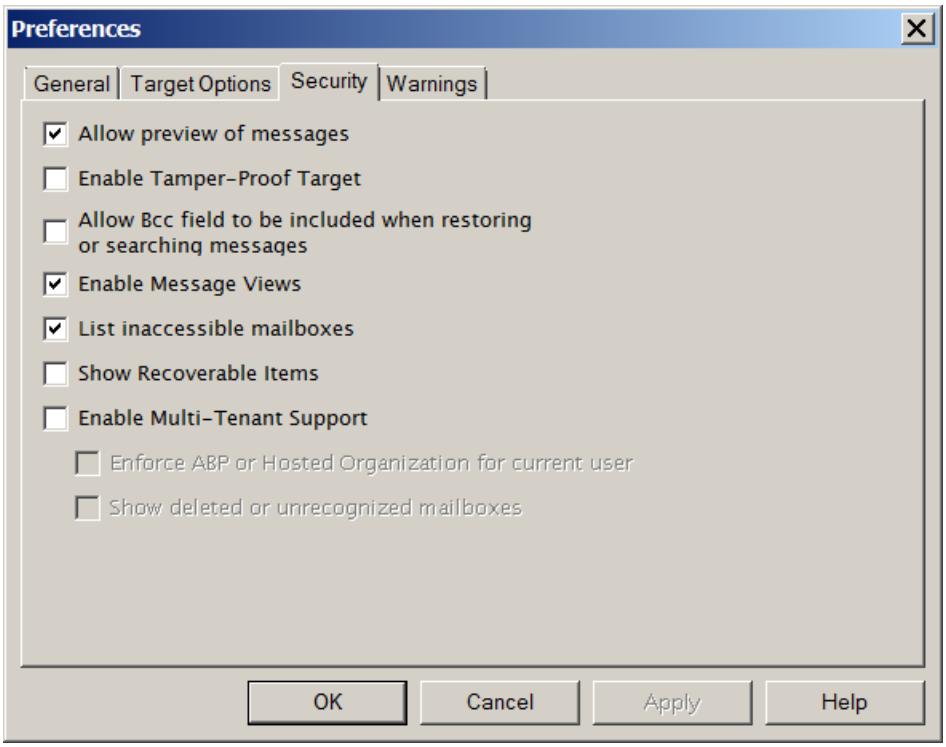


Figure 1-20: The Security tab in the Preferences dialog box

To change the security preference settings

1. On the **Edit** menu, click **Preferences**, then click **Security**.
2. Select or clear the following check boxes as desired:

- **Allow preview of messages:** If this option is not selected, you will not have the ability to open or preview messages in the source or target.

- **Enable Tamper-Proof Target:** If this option is selected, Single Mailbox Recovery does not allow you to delete messages or folders in the target or have the ability to rename folders in the target. You only have the ability to add (copy) to the target.
- **Allow Bcc field to be included when restoring or searching messages:** If this option is selected, Single Mailbox Recovery includes Bcc information when restoring or searching messages. This means that a recipient is able to see Bcc recipients that he or she was not intended to see. It also means that searching with the "Sent to" option returns messages for Bcc recipients.
- **Enable Message Views:** If this option is selected, it makes the Message Views available.
- **List inaccessible mailboxes:** When Single Mailbox Recovery connects to a Microsoft Exchange Server, it can display both accessible and inaccessible mailboxes. If this option is selected, the inaccessible mailboxes listed in the directory appear and are display-only.
- ***Note:*** *Clearing this option while you have mailboxes open refreshes the mailbox list and no longer displays the inaccessible mailboxes.*
- **Show Recoverable Items:** Selecting this option allows the "Recoverable Items" folder to be displayed under your mailbox, enabling you to have access to any deleted items. It also provides access to the "Purges" and "Versions" folders, which are also sub-folders of "Recoverable Items."

  Note: *This setting only applies to Microsoft Exchange Server 2010 and later.*

  > **Important:** Selecting the Show Recoverable Items preference causes your Microsoft Exchange Server 2010 and 2013 EDB sources to close. A warning message appears giving you the option to cancel or continue changing the setting.

- **Enable Multi-Tenant Support:** If this option is selected, multi-tenant support is enabled. This allows you to filter a source or target from a list of Microsoft Exchange Server 2010 SP1 and SP2 hosted organizations or Microsoft Exchange Server 2010 SP2 and Microsoft Exchange Server 2013 Address Book Policies (ABPs). It also selects and opens all mailboxes or displays mailboxes not contained in any hosted organization (hosted environment only).
  - **Enforce ABP or Hosted Organization for current user:** If this option is selected, you cannot select from a list of hosted organizations or Address Book Policies (ABPs) from source or target dialog boxes. Rather, you are limited to opening only the mailboxes included in the Global Address List (GAL) of your assigned ABP or mailboxes contained in the hosted organization to which you belong.

    Note: *This option is only available when Enable Multi-tenant Support is selected.*

  - **Show deleted or unrecognized mailboxes:** When this option is selected, Single Mailbox Recovery opens mailboxes not found in the current environment. These unrecognized mailboxes may have been previously present in the environment and were deleted or

are mailboxes from a different environment. Unrecognized mailboxes are opened and displayed in the source tree, in conjunction with the selected ABP or organization mailboxes. This option only applies to the opening of source EDBs.

Note: *This option is only available when Enable Multi-tenant Support is selected.*

Warnings Tab

The Warnings tab controls whether or not warning messages appear when various tasks are performed.

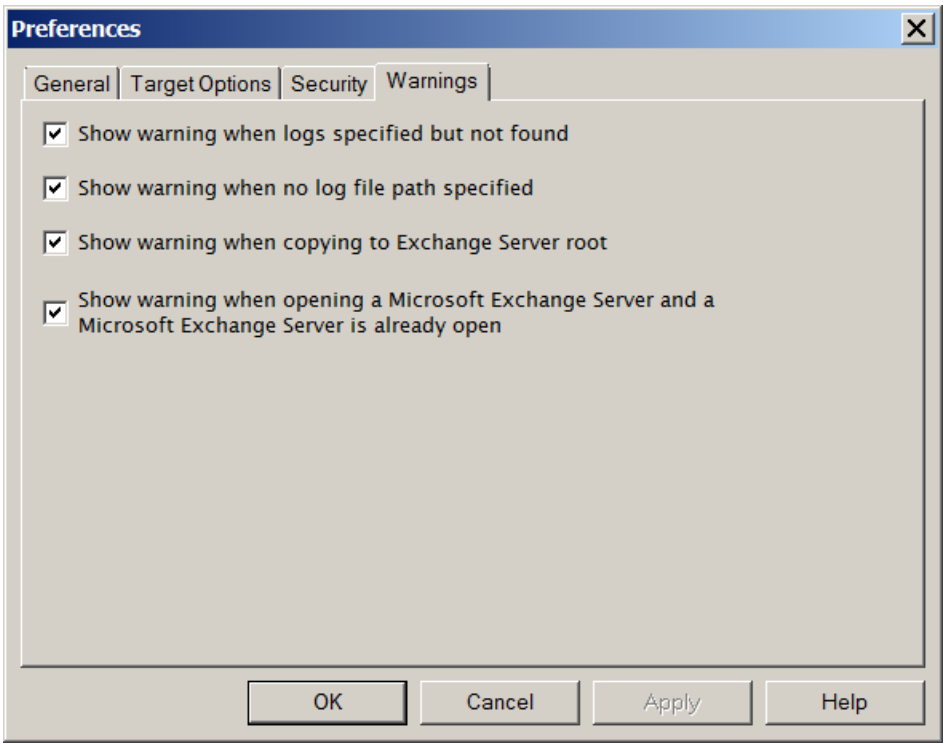


Figure 1-21: The Warnings tab in the Preferences dialog box

To change the security preference settings

1. On the **Edit** menu, click **Preferences**, then click **Warnings**.
2. Select or clear the following check boxes as desired:

- **Show warning when logs specified but not found:** Single Mailbox Recovery warns you when opening an EDB file if no .log files were found at the specified directory.
- **Show warning when no log file path specified:** Single Mailbox Recovery warns you when opening an EDB file if a .log file path has not been specified.
- **Show warning when copying to Microsoft Exchange Server root:** Single Mailbox Recovery warns you when you are about to copy a large amount of data to the Microsoft Exchange Server root.

- **Show warning when opening a Microsoft Exchange Server and a Microsoft Exchange Server is already open:** This warning appears when you attempt to connect to either a single mailbox or all mailboxes on a Microsoft Exchange Server when a target Microsoft Exchange Server connection is already open in Single Mailbox Recovery.

Chapter 2: Using Single Mailbox Recovery

Overview

This chapter describes how to open a source EDB file or PST file and specify a target PST file or target Exchange server. The following topics are covered:

Pointing Single Mailbox Recovery to a Single Mailbox Recovery device. In order for Single Mailbox Recovery to operate, you must point it to a storage system that exists in the same network environment.

Running the Data Wizard. The first time you start Single Mailbox Recovery, the Data Wizard starts. This section describes the Data Wizard, which guides you through the reading of EDB files or PST files into Single Mailbox Recovery and shows you how to specify the target PST file or Exchange server.

Opening the source and target from the main window. Instead of using the Data Wizard to open the source databases and target mailboxes, you can use individual commands from the Single Mailbox Recovery main window.

Opening multiple sources and targets. This section describes how you can display multiple sources in the source pane Single Mailbox Recovery main window and how you can display multiple targets in the target pane of the Single Mailbox Recovery main window.

Closing sources and targets. This section describes how to close sources and targets from the Single Mailbox Recovery main window.

Mailbox Criteria

When selecting the EDB Source Files, you can use the "Mailbox Criteria (optional)" box to limit the number of mailboxes that are opened and displayed in the Source Pane. This box appears on the Select Source Files dialog box (opened by clicking File then Open Source) or the Source Path Selection page of the DataWizard.

When you enter a string in the Mailbox Criteria box, Single Mailbox Recovery matches your entry against the display name and alias of the mailboxes to select data in the source database. Only mailboxes matching your entries are displayed on the Source Pane.

The mailbox criteria uses a simple "string contains" match and is not case sensitive. You can use a semi-colon to separate and enter multiple strings. If you want to include a semi-colon in one of your entries, use double quotes around that entry.

Mailbox criteria only works with mailbox stores, it does not work with public folder stores. If you use mailbox criteria on a public folder store, it is not used and all public folders are opened.

Note: *Any mailboxes which do not match the entered string do not appear in the Source Pane and are not included in any subsequent tasks, such as searching, copying, and exporting of the entire database.*

Multi-Tenancy Support

Microsoft Exchange Server 2010 and 2013 includes features that aid multi-tenancy deployments. Single Mailbox Recovery provides support for the Exchange Hosted Organizations feature (introduced in Microsoft Exchange Server 2010 SP1) and Address Book Policies (introduced in Microsoft Exchange Server 2010 SP2).

When selecting the Microsoft Exchange Server 2010 and 2013 EDB Source File or Target Server, you can use the Multi-Tenancy Criteria box to limit the number of mailboxes that are opened and displayed in the Source and Target Panes. The Multi-Tenancy Criteria box appears on the following:

- Select Source Files dialog box (opened by clicking File, then Open Source)
- Connect to Exchange Target dialog box (opened by clicking File, then Open\Create Target, and then Open Target Exchange Server)
- Source Path Selection page of the DataWizard
- Target Type & Path Selection page of the DataWizard

When Multi-Tenancy Support is enabled, you can filter a source or target from a list of hosted organizations or Address Book Policies (ABPs), as well as select and open all mailboxes or view mailboxes not contained in any hosted organization (hosted environment only).

Activate Multi-Tenancy Support using the Security tab on the Preferences dialog box. For more information, see **"Security Tab" on page 28**.

Outlook Anywhere and Autodiscover

In Microsoft Exchange Server, the Outlook Anywhere feature (also known as RPC over HTTP) allows clients to connect using HTTP. This enables users outside of an organization's network to connect to the Microsoft Exchange Server without having to use a VPN. Outlook Anywhere is supported by Microsoft Outlook 2003, 2007, 2010 and 2013, and Microsoft Exchange Server 2003, 2007, 2010 and 2013.

Note: *Microsoft Outlook 2003 is not supported for Microsoft Exchange Server 2013.*

With Microsoft Exchange Server 2013, Direct MAPI access to the Microsoft Exchange Server is no longer supported, so Outlook Anywhere is required to connect to the server.

Single Mailbox Recovery supports connecting to a Microsoft Exchange Server target using Outlook Anywhere

Chapter 2: Using Single Mailbox Recovery

Autodiscover simplifies the process of connecting to a Microsoft Exchange Server by returning the connection settings when requested by a client application. Clients such as Microsoft Outlook can retrieve the connection settings by issuing a request to Autodiscover with the user's SMTP email address. These settings are then used to configure the user's profile and connect. Autodiscover is supported by Microsoft Outlook 2007, 2010 and 2013, and Microsoft Exchange Server 2007, 2010 and 2013.

Single Mailbox Recovery supports using Autodiscover when connecting to a Microsoft Exchange Server target.

If you are using Outlook Anywhere to connect to a target Microsoft Exchange Server, Single Mailbox Recovery uses Autodiscover to determine the correct connection policies. If Autodiscover is not in use or cannot determine the connection polices, the Outlook Anywhere page appears.

The Outlook Anywhere page follows the Target Type & Path Selection page on the Data Wizard and records the protocol and verification method used when Single Mailbox Recovery connects to a target Microsoft Exchange Server. The Outlook Anywhere page displays the values from the most recent successful connection using Outlook Anywhere. The values are empty if no previous connection exists.

You can configure Single Mailbox Recovery to use Outlook Anywhere and Autodiscover on the Target Options tab of the Preference dialog box, where the Microsoft Exchange Server group contains the following check boxes:

- **Use Autodiscover to detect Microsoft Exchange Server connection settings**
- **Use Outlook Anywhere to connect to Microsoft Exchange Server**

The following table explains the actions Single Mailbox Recovery performs based on the possible combinations of selecting or clearing these two check boxes.

Use Autodiscover to detect Microsoft Exchange Server connection settings	Use Outlook Anywhere to connect to Microsoft Exchange Server	Action
Selected (and Autodiscover response successful)	Selected	Single Mailbox Recovery connects to the target Microsoft Exchange Server with Outlook Anywhere using the settings returned by Autodiscover.

Use Autodiscover to detect Microsoft Exchange Server connection settings	Use Outlook Anywhere to connect to Microsoft Exchange Server	Action
Selected (and Autodiscover not contacted)	Selected	If a server name was entered on the Target Type & Path Selection page, Outlook Anywhere page appears. If no server name was entered, an error message appears and the wizard stays on the Target Type & Path Selection page.
Selected (and Autodiscover response successful)	Cleared	Single Mailbox Recovery connects to the target Microsoft Exchange Server with RPC over TCP/IP using the server returned by Autodiscover.
Selected (and Autodiscover not contacted)	Cleared	If a server name was entered on the Target Type & Path Selection page, Single Mailbox Recovery connects to the target Microsoft Exchange Server with RCP over TCP/IP. If no server name was entered, an error message appears and the wizard stays on the Target Type & Path Selection page.
Cleared	Selected	The Outlook Anywhere page appears.
Cleared	Cleared	Single Mailbox Recovery connects to the target Microsoft Exchange Server with RCP over TCP/IP.

For more information, see **"Target Options Tab" on page 26**.

Opening a Microsoft Exchange Server as a Target

You can open live Microsoft Exchange Servers as a target within Single Mailbox Recovery using the DataWizard or Main Window. This means you can connect to one live Microsoft Exchange Server at a time, establishing a single mailbox connection or connecting to all accessible mailboxes and displaying a list of the mailboxes found in that Microsoft Exchange Server. A status indicator tells you if you have permission rights to view a mailbox.

Note: *The Microsoft Exchange Server as a target feature is only supported if the system running Single Mailbox Recovery is on the same domain as the Microsoft Exchange Server.*

Recommendation: If connecting to a Microsoft Exchange Server 2010 CAS Array, use the fully qualified domain name of the CAS Array for the Server Name (for example, `casarray.domain.name`).

Mailbox Access

When connecting to a single mailbox, the target pane populates with only the specified single mailbox. When connecting to all mailboxes on a Microsoft Exchange Server, the target pane populates with the list of mailboxes found in that Microsoft Exchange Server.

Note: *You can connect to only one live Microsoft Exchange Server at a time. If you attempt to connect to an additional live Microsoft Exchange Server while a server is already open, the current server connection closes.*

If your Administrator is running Single Mailbox Recovery Administrative Server and has the Mailbox Permission plug-in activated, your access to mailboxes within a mailbox store (private EDB file) may be affected depending on the permission settings.

If permission to access a mailbox is denied, you are not able to access the contents of that specific mailbox. The inaccessible mailbox either in the source or target pane displays with an inaccessible icon , or is hidden depending on your Preference setting. For more information, see **"Setting Preferences" on page 25**.

Note: *Contact your Single Mailbox Recovery Administrative Server systems administrator if you need access to inaccessible mailboxes.*

An EDB file that is denied access through the Single Mailbox Recovery Administrative Server Mailbox Permission setting affects:

- **Find Window:** An inaccessible mailbox's contents cannot be processed during a search.
- **Message Views:** Any message items in an inaccessible mailbox are not displayed in a Conversation Table View or an Attachment Table View.
- **CAS as a Target:** Only accessible mailbox messages in the EDB source are processed when populating a CAS profile.
- **Exporting:** Inaccessible mailboxes cannot be exported.
- **Copying:** Inaccessible mailboxes cannot be copied.

- **Integrity Checking:** Inaccessible mailboxes cannot have an Integrity Check performed on them.
- **Properties:** An inaccessible mailbox's properties cannot be viewed.
- **Reports:** Reports cannot be generated for inaccessible mailboxes.

Connection Interruption

If errors are encountered that interrupt the communication between Single Mailbox Recovery and the Single Mailbox Recovery Administrative Server, an error is displayed. You can choose to retry the failed communication attempt. If the error is transient (for example, a temporary network failure) and has been addressed, retrying allows Single Mailbox Recovery to continue.

Note: *If the error cannot be overcome, or more than 8 minutes has passed since the fault occurred, a successful retry is not possible.*

Mailbox Functions

Paste, Paste Special, folder creation, folder renaming, and the search functions are available for the accessible mailboxes. A mailbox or server cannot be renamed.

Pointing Single Mailbox Recovery to a NetApp Device

In order for Single Mailbox Recovery to operate, one or more storage systems must be present on the same network as the one on which Single Mailbox Recovery is installed.

The first time you start Single Mailbox Recovery, it is recommended that you complete the following steps to point Single Mailbox Recovery to the presence of a storage system that is running in the same network environment.

1. Click the **Start** button, and then point to **Programs**. Point to **NetApp**, point to **Single Mailbox Recovery**, and then click **Single Mailbox Recovery**.
2. When the **Data Wizard** appears, click **Close** to close it. And display your blank Single Mailbox Recovery panes.
3. Click **Help** and **About** and then click **License Info** to display the License Information page.
4. Locate the **Storage appliance name or IP address** field. Type or browse and select the name or IP address of any storage system on the network and press the **Enter** key.

   Note: *The name or IP address of any storage system in the environment will suffice, whether or not you intend to carry out Single Mailbox Recovery operations on it.*
5. After you press the **Enter** key, click the **Close** button (Be sure to press the **Enter** key first) to close the License information box.

6. Click **OK** to close the About box.
7. If you want to restart the Data Wizard, open the **File** menu and select **Use Wizard**.

Note: *After you have specified the name or IP address of a storage system in the environment once, you do not need to enter it again, as long as the specified storage system exists in this network environment.*

Validation Failure

If the Storage validation fails, an error displays. Possible reasons for failure are:

- It is not pointing to a real storage system.
- It is not connected to a computer with SnapDrive installed and configured with an active LUN from a storage appliance.

Alternate Ways to Specify a NetApp Device

In addition to your entering the name or IP Address of a storage system on the License Information page, the following alternative conditions also satisfy the requirement for the presence of a storage system:

- A LUN on a storage system is connected to an available drive letter on the Single Mailbox Recovery server. You do not need to use this LUN as the Destination Folder.
- The Destination Folder resides on CIFS share on a storage system, and the CIFS share is either mapped to a drive letter on the Single Mailbox Recovery server or is accessed by a specified UNC path.
- The Destination Folder resides on a CIFS share on a Windows server that has a LUN connected to it, and the CIFS share is either mapped to a drive letter on the Single Mailbox Recovery server or is accessed by a specified UNC path.

Using the Data Wizard

The Data Wizard guides you through the loading of EDB or PST files into Single Mailbox Recovery, and shows you how to specify the target PST file or Exchange server.

Configuring Single Mailbox Recovery for Microsoft Exchange Server

If Single Mailbox Recovery Administrative Server is connected and activated, you may have to manually locate a server if Single Mailbox Recovery cannot locate one automatically. By default, the automatic location is attempted. If it fails, an error message appears.

If you select "No," Single Mailbox Recovery closes. If you select "Yes," the Connection Point Manager window is displayed.

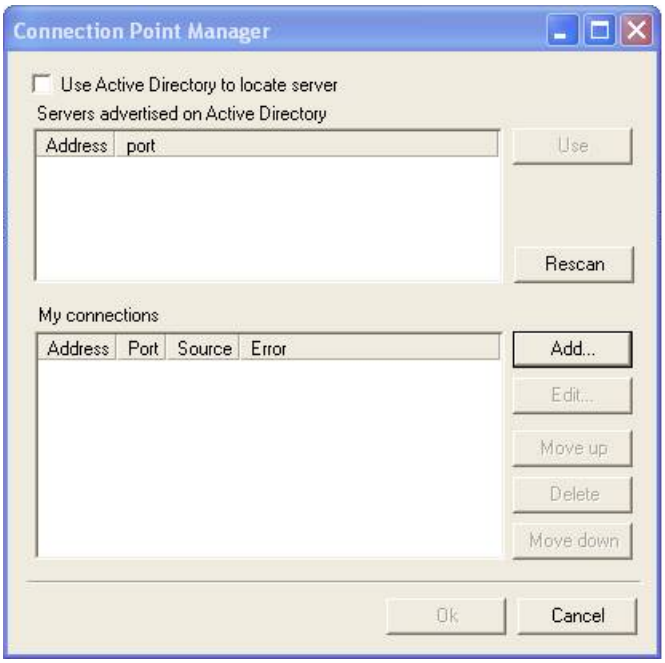


Figure 2-1: Connection Point Manager

To add a server

1. Clear **Use Active Directory to locate server** if it is selected.
2. Click **Add**. The **Server Information** window appears.

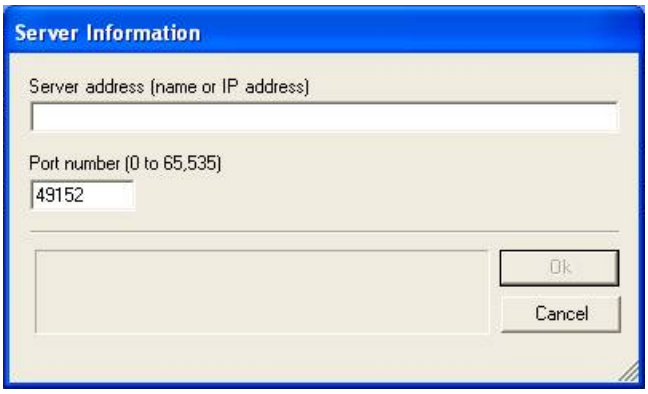


Figure 2-2: Enter Server Information

Before You Use the DataWizard

The following information describes what you need to do in order to be able to select the source of the mail items you want to recover.

If the Source File is...	Then do this:
An EDB file stored in a LUN on a storage system ***NOTE***: This includes SnapVault secondary storage system configurations	1. Use the SnapDrive Connect Wizard to connect that LUN to an available drive letter on the Single Mailbox Recovery server. For details, see "Connecting Virtual Disks" in *SnapDrive Installation and Administration Guide*. When you select the source Exchange database, the mounted LUN will be your source drive. ***NOTE***: Do not use the Data ONTAP LUN cloning feature to clone a virtual disk backed by a Snapshot copy that is connected using SnapDrive. SnapDrive considers such a disk to be temporary, and it deletes the disk upon disconnect. 2. Verify that there is sufficient hard drive space available to store temporary files that Single Mailbox Recovery creates. For details, see **"Verifying Hard Drive Space for .idx and .dat Files" on page 186**. CAUTION: Unmount this LUN as soon as your Single Mailbox Recovery restore operation is completed. Avoid maintaining a connection to a LUN in a Snapshot copy during a period when the storage system volume containing that LUN is scheduled for update Snapshot copies. While a LUN in a Snapshot copy is mounted, if one or more Snapshot copies are taken of the volume containing the LUN, a "busy Snapshot copy" will result, and you will be unable to unmount or delete that LUN until all the more recent Snapshot copies are deleted.
An EDB file in a backup created using a supported backup application other than SnapManager	1. Use Single Mailbox Recovery ExtractWizard to restore the files to a location accessible from the Single Mailbox Recovery server. 2. If the backup is an offline backup or in an online incremental or differential backup, organize the files for use by Single Mailbox Recovery. For details, see "Organizing Files Extracted From Other Backup Applications" on page 160. 3. Verify that there is sufficient hard drive space available to store temporary files that Single Mailbox Recovery creates. For details, see **"Verifying Hard Drive Space for .idx and .dat Files" on page 186**.
A PST file	Enable the PST source agent. For details, see "PST Source Agent" and "Task III: View and Enable Agents" in the Release Notes. ***NOTE***: You cannot open the same PST file as both source and target. Also, due to the database nature of the PST file and MAPI subsystem, PSTs opened as source will be modified.

Data Wizard: Welcome Page

The first time you start Single Mailbox Recovery, the Data Wizard launches.

To manually start the Data Wizard

1. Click **Start**, and then point to **Programs**. Point to **NetApp**, point to **Single Mailbox Recovery** and select **Single Mailbox Recovery**. The Data Wizard appears.

   Note: *Because Single Mailbox Recovery requires a storage system in the same network environment in order to carry out its operations, it is recommended that the first time you start Single Mailbox Recovery that you click Cancel to close the Data Wizard. Then complete the steps to specify an instance of a device described in* ***"Pointing Single Mailbox Recovery to a NetApp Device" on page 37****. After completing this task, you can then restart the Wizard by opening the* ***File*** *menu and selecting* ***Use Wizard***.

   - If you do not want to run the Data Wizard every time you start Single Mailbox Recovery, clear the **Run On Startup** check box.

2. Click **Next**.

Data Wizard: Source Path Selection

On the Source Path selection page of the Data Wizard, specify the source EDB file path along with its log file path and temporary file path; or specify the source PST file or CAS file path. If you do not want to open a source EDB, PST, or CAS file at this time, click Skip.

Note: *Due to the database nature of the PST file and MAPI subsystem, PSTs opened as source are modified.*

To specify a source file

1. In the **Source File** box, click **Browse** to find the source EDB file, source PST file, or source CAS file.
2. If you specified a PST or CAS file path, proceed to step 5. PST files do not require log file or temporary file paths.
3. In the **Log File Path** box, click **Browse** to find the log files associated with the source EDB file.

   Important: *After you select an EDB file, the Log File Path box defaults to the source EDB file path, even if the log files are not in the same directory as the source EDB file. Therefore, make sure you enter the correct log file path in the Log File Path box.*

4. In the **Temporary File Path** box, accept the default location for .idx and .dat files, or specify a new location if they require more hard drive space.
5. If you want to view a filtered display of mailboxes in the Source Pane, use the **Mailbox Criteria (optional)** box. For more information, see **"Mailbox Criteria" on page 32**.

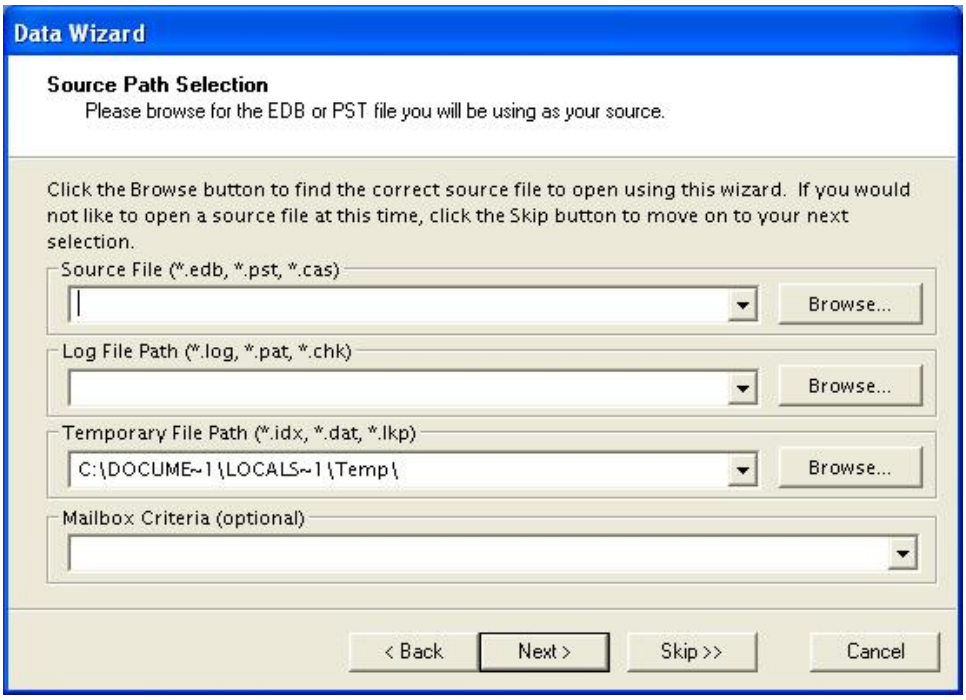


Figure 2-3: Browse to the EDB or PST file to use as source without multi-tenancy support

6. If multi-tenancy support is enabled, do one of the following in the **Multi-Tenancy Criteria** box:
   - If "Enforce ABP or Hosted Organization for current user" is not selected on the Security tab on the Preferences dialog box, use the Multi-Tenancy Criteria box to select hosted organizations or Address Book Policies from source or target dialog boxes.
   - If "Enforce ABP or Hosted Organization for current user" is selected on the Security tab on the Preferences dialog box, use the Multi-Tenancy Criteria box to view the organization or assigned address book policy.

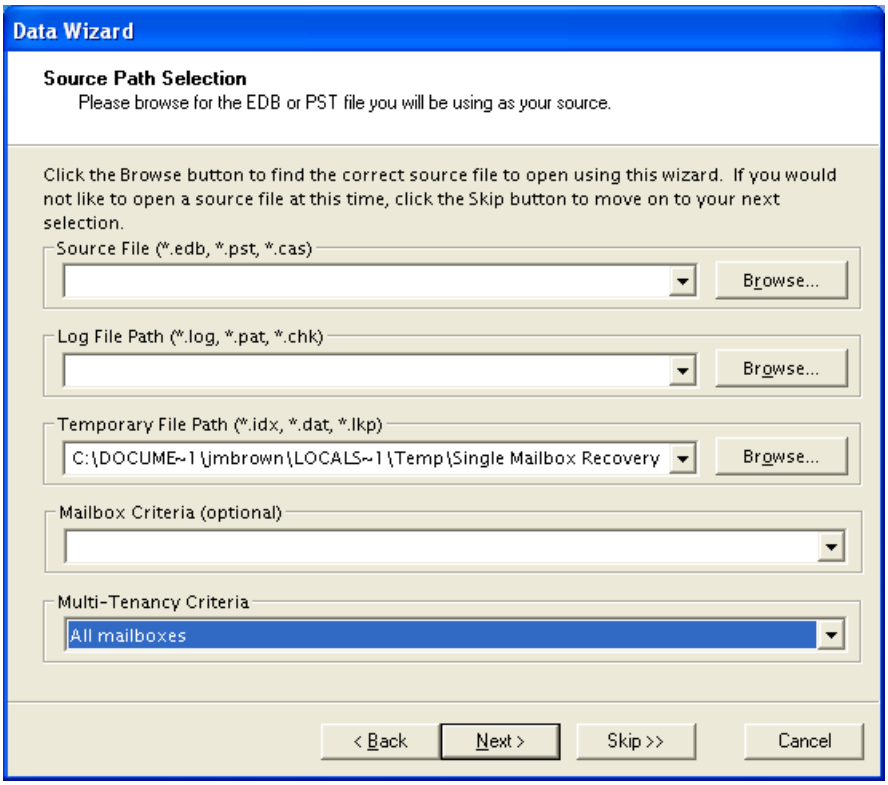


Figure 2-4: Browse to the EDB or PST file to use as source with multi-tenancy support

7. Click **Next**.

Before you can open a source, Single Mailbox Recovery checks for the following conditions:

- A LUN on a storage system is connected to an available drive letter on the Single Mailbox Recovery server. You do not need to use this LUN as the Destination Folder.
- An EDB file exists on either a drive letter on the Single Mailbox Recovery server that is mapped to CIFS share on a storage system or on a direct UNC path to a CIFS share on a storage system.

If Single Mailbox Recovery does not find any of the above conditions to be true, you cannot open a source file.

Data Wizard: Target Type and Path Selection

On the Target Type and Path Selection page of the Data Wizard, specify the type and path of the target file you are using as the container for your restored data from the following options:

- A PST file as the target for restored data
- A Content Analysis Store (CAS) file as the target for creation or processing

- A Microsoft Exchange Server single mailbox connection as the target for restored data (with or without Outlook Anywhere)
- A Microsoft Exchange Server all mailboxes connection as the target for restored data
- A Microsoft Exchange Server specific mailboxes connection with multi-tenancy support as the target for restored data

An option to open Public Folders is available upon connection to a Microsoft Exchange Server. Single Mailbox Recovery connects to all public folders hosted by the target Microsoft Exchange server, not specific databases or Public Folders mailboxes.

Note: *Click **Skip** if you do not want to select a target file at this time.*

To specify a PST File as the target for restored data

1. Select the **PST File** option.

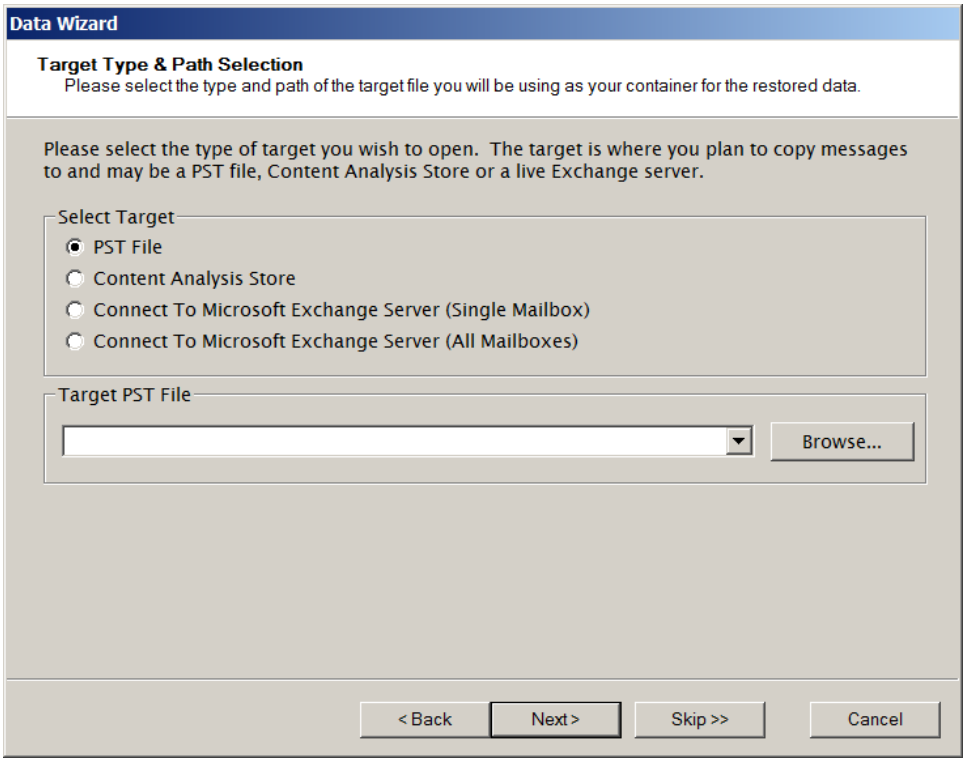


Figure 2-5: Select the PST File option in the Target Type & Path Selection window

2. Do one of the following:
   - If you know the target PST file path, type it in the **Target PST File** path box.
   - Click **Browse** to open the **Create PST File** window, and navigate to the desired location. Then create a new PST file by typing a name in the **File name** box, or select an existing PST file. Next, click **Open**. The path of the target PST file appears in the

Target PST File path box.

3. Click **Next**.

To specify a content analysis store

1. Select the **Content Analysis Store** option.

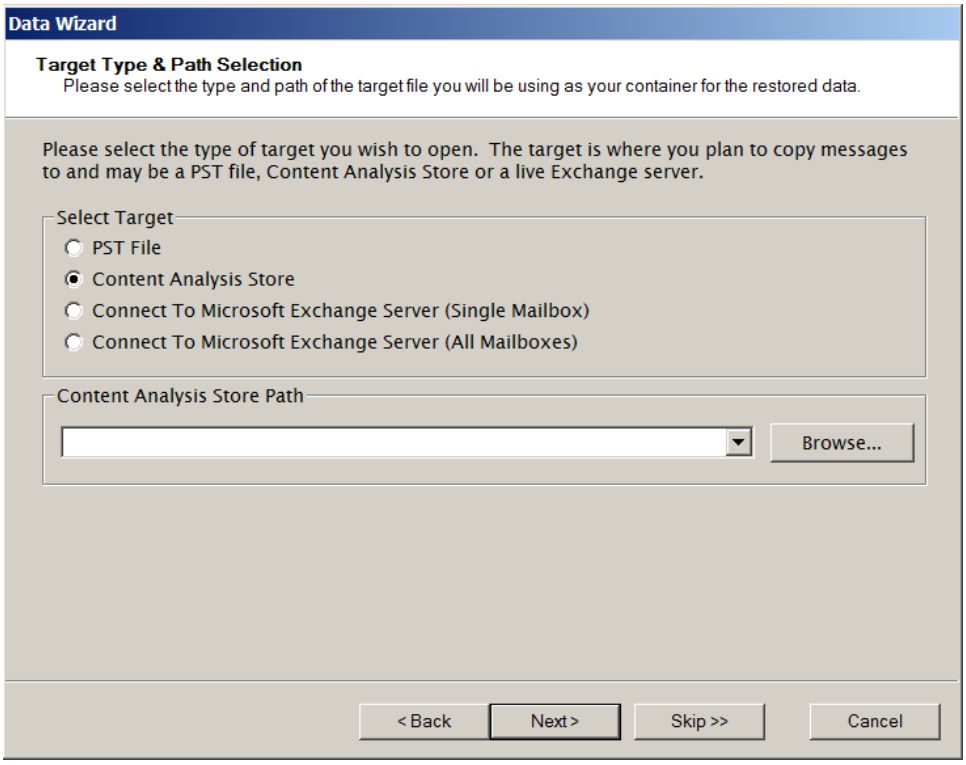


Figure 2-6: Select Content Analysis Store in the Target Type & Path Selection

2. Do one of the following:
   - If you know the target CAS file path, enter it in the **Content Analysis Store Path** box.
   - Click **Browse** to open the **Create Content Analysis File** window, and navigate to the desired location. Then create a new CAS file by typing a name in the **File name** box, or select an existing CAS file. Next, click **Open**. The path of the target CAS file appears in the **Content Analysis Store Path** box.
3. Click **Next**.

To specify a Microsoft Exchange Server as the target for restored data for a single mailbox

1. Select the **Connect to Exchange Server (Single Mailbox)** option.

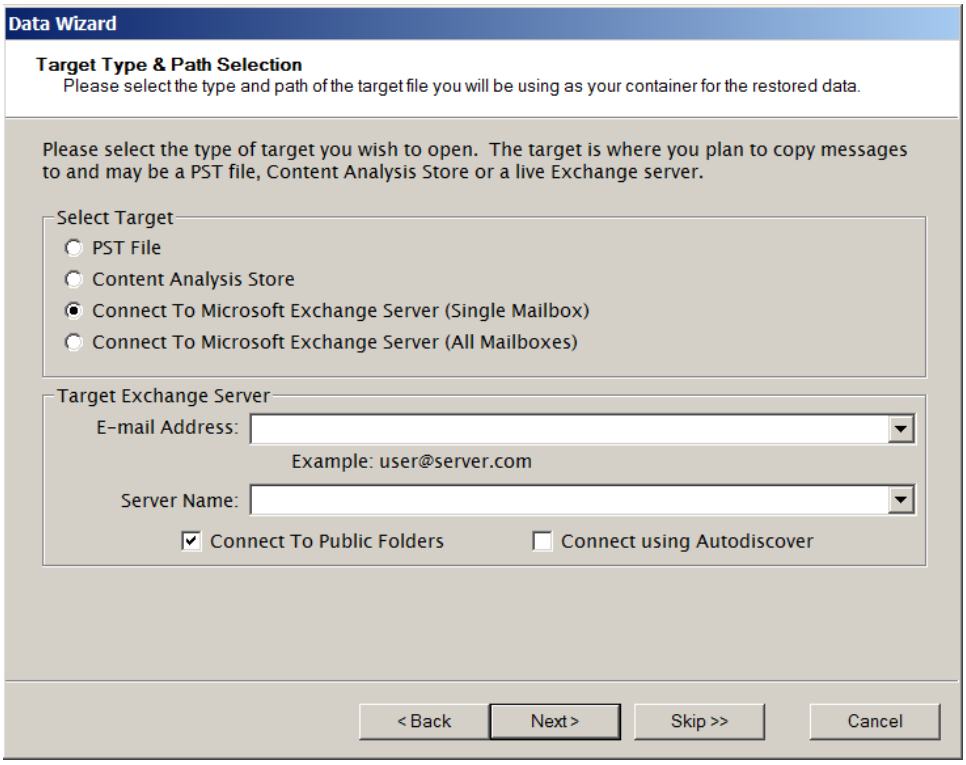


Figure 2-7: Selecting Connect To Microsoft Exchange Server (Single Mailbox) displays the target Microsoft Exchange Server

2. For **E-mail Address** and **Server Name** boxes, type the email address and server name.

   Tip: *If you are not using Autodiscover and you do not know the full name of the mailbox and , type the first letter of the mailbox in the **E-mail Address** box, and click **Next**. In the **Check Name** window that appears, select the mailbox from the list, and click **OK**. If you are using Autodiscover, you must type the full email address in the **E-mail Address** box.*

3. The **Connect To Public Folders** check box is selected by default. This allows you to open public folders as a target for restoring public folders or messages. If you do not want to restore to public folders, clear this check box. For more information, see **"Restoring to Public Folders" on page 122**.

4. The **Connect using Autodiscover** check box determines whether Single Mailbox Recovery will use Autodiscover to connect to Microsoft Exchange Server. This is checked or cleared depending on the selection in the Target Options tab on the Preferences dialog box. Select to connect to the target using Autodiscover. For more information, see **"Target Options Tab" on page 26** and **"Outlook Anywhere and Autodiscover" on page 33**.

5. If you are not connected to a domain, the **Enter Password** window appears. In this window, enter a user name that has full rights to the mailbox, a password, and a domain name. Then click **OK**. This window may appear again, which requires you to reenter this information.
6. Click **Next**.

To specify a Microsoft Exchange Server as the target for restored data for all mailboxes

1. Select the **Connect to Exchange Server (All Mailboxes)** option.

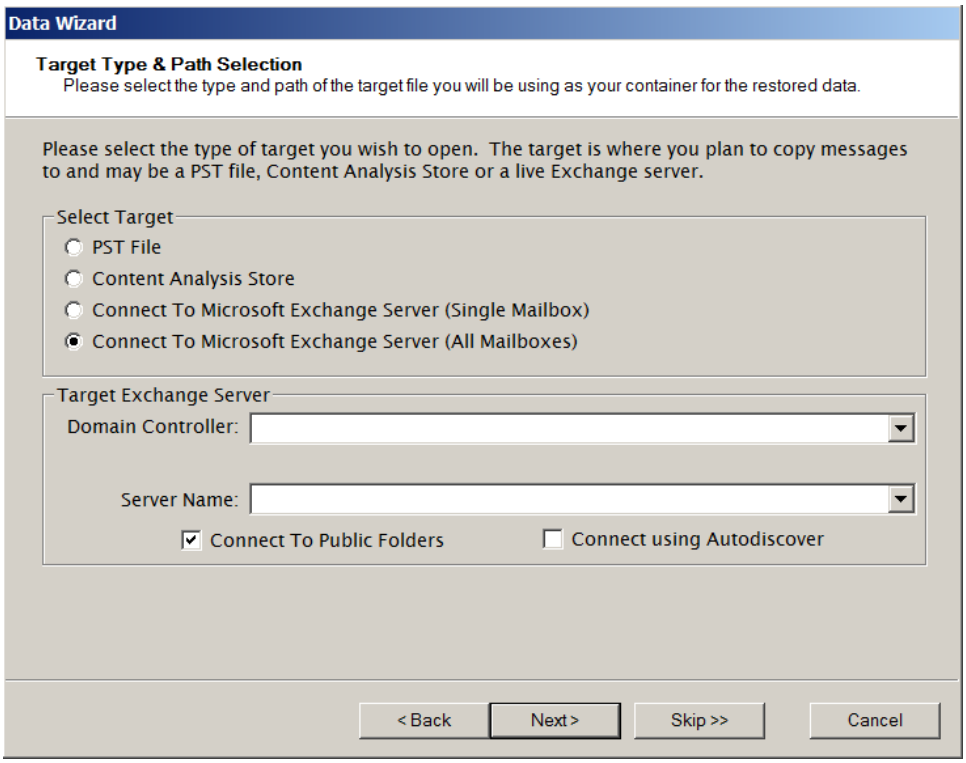


Figure 2-8: Selecting Connect To Microsoft Exchange Server (All Mailboxes) displays the target Microsoft Exchange Server

2. For **Domain Controller** and **Server Name** boxes, the domain controller and server names auto-populate.

   Note: *For Microsoft Exchange Server 2010, specify the name of the Client Access Server (CAS) that provides access to the mailboxes you want to access (not the mailbox server, unless the mailbox server has the client access role installed).*

   Note: *The mailboxes found will depend on both the Domain Controller and Microsoft Exchange Server entered. Only those mailboxes accessible through the entered Microsoft Exchange Server and listed in the Active Directory of the given Domain Controller will attempt to be opened.*

Note: For Microsoft Exchange Server 2013, specify the name of any of your Microsoft Exchange 2013 Servers, or leave this field blank to auto detect. The mailboxes found depend on the Domain Controller with only those mailboxes listed in the Active Directory of the given Domain Controller opened, subject to permissions.

3. The **Connect to Public Folders** check box is selected by default. This feature enables you to open public folders as a target for restoring public folders or messages. If you do not want to restore to public folders, clear this check box. For more information, see **"Restoring to Public Folders" on page 122**.
4. If you are not connected to a domain, the **Enter Password** window appears. In this window, enter a user name that has full rights to the mailbox, a password, and a domain name. Then click **OK**. This window may appear again, which requires you to reenter this information.
5. Click **Next**.

To specify a Microsoft Exchange Server as the target for restored data for Specific Mailboxes with multi-tenancy support

1. Select the **Connect to Exchange Server (Specified Mailboxes)** option.
   - If "Enforce ABP or Hosted Organization for current user" is cleared on the Security tab on the Preferences dialog box, use the Multi-Tenancy Criteria box to select hosted organizations or Address Book Policies from source or target dialog boxes.
   - If "Enforce ABP or Hosted Organization for current user" is selected on the Security tab on the Preferences dialog box, use the Multi-Tenancy Criteria box to view the organization or assigned address book policy.

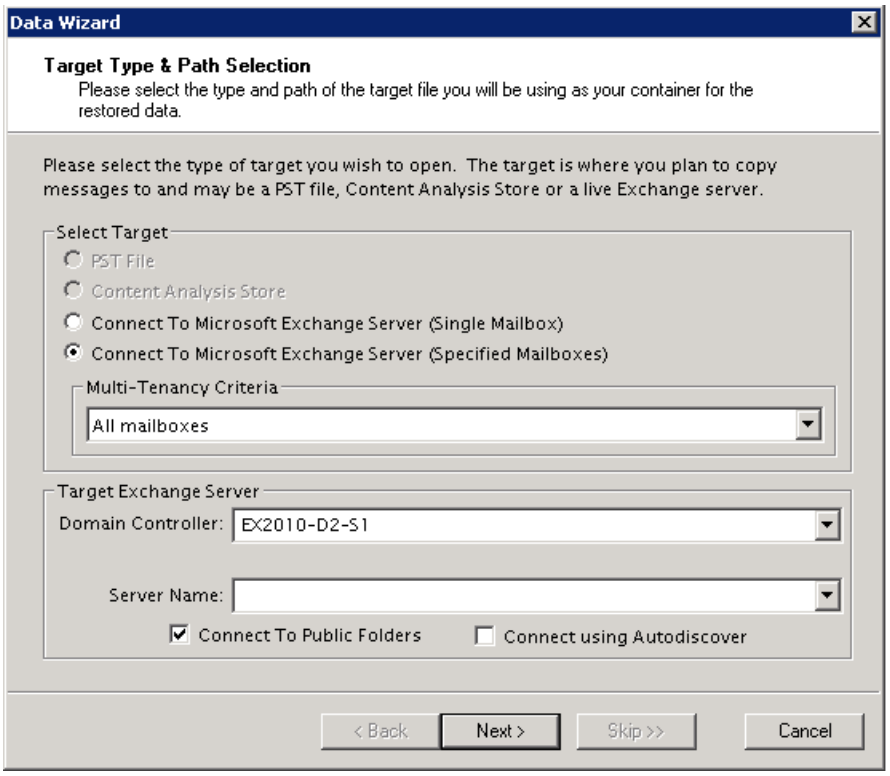


Figure 2-9: Selecting Connect To Microsoft Exchange Server (Specified Mailboxes) displays the target Microsoft Exchange Server

2. For **Domain Controller** and **Server Name** boxes, the domain controller and server names auto-populate.

   Note: *For Microsoft Exchange Server 2010, specify the name of the Client Access Server (CAS) that provides access to the mailboxes you want to access (not the mailbox server, unless the mailbox server has the client access role installed).*

   Note: *The mailboxes found will depend on both the Domain Controller and Microsoft Exchange Server entered. Only those mailboxes accessible through the entered Microsoft Exchange Server and listed in the Active Directory of the given Domain Controller will attempt to be opened.*

   Note: *For Microsoft Exchange Server 2013, specify the name of any of your Microsoft Exchange 2013 Servers, or leave this field blank to auto detect. The mailboxes found depend on the Domain Controller with only those mailboxes listed in the Active Directory of the given Domain Controller opened, subject to permissions.*

3. The **Connect to Public Folders** check box is selected by default. This allows you to open public folders as a target for restoring public folders or messages. If you do not want to restore to public folders, clear this check box. For more information, see **"Restoring to Public Folders" on page 122**.

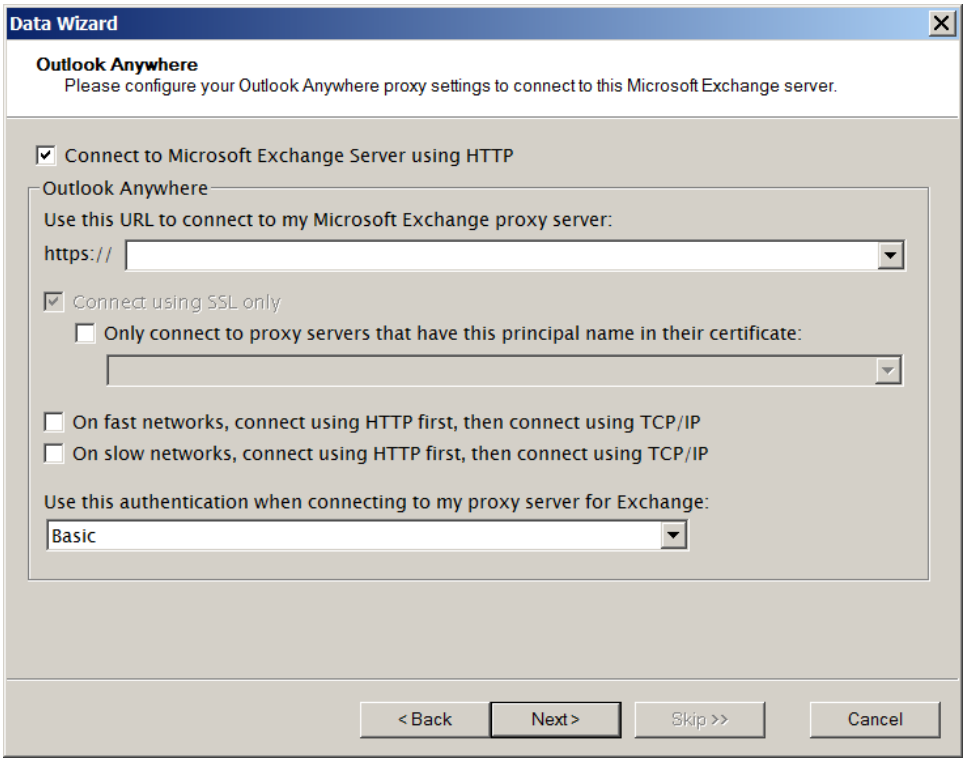
4. If you are not connected to a domain, the **Enter Password** window appears. In this window, enter a user name that has full rights to the mailbox, a password, and a domain name. Then click **OK**. This window may appear again, which requires you to reenter this information.
5. Click **Next**.

Data Wizard: Outlook Anywhere

The Outlook Anywhere page allows you to adjust the settings necessary for using Outlook Anywhere to connect to the target Microsoft Exchange Server. This page appears if you are using Outlook Anywhere, but not Autodiscover, to connect to Microsoft Exchange Server. This page also appears if you are using Outlook Anywhere and Autodiscover to connect, but the Autodiscover service cannot be contacted.

If Single Mailbox Recovery is configured to use Outlook Anywhere, but "Connect using Autodiscover" is not selected on the Data Wizard: Target Type & Path Selection page, the Outlook Anywhere page appears, allowing you to configure the Outlook Anywhere connection. If "Connect using Autodiscover" is selected, the Outlook Anywhere page does not appear, as Autodiscover automatically configures the connection.

Note: *The Outlook Anywhere page displays the values from the most recent successful connection using Outlook Anywhere. The values are empty if no previous connection exists.*



To complete the Outlook Anywhere page

1. Select **Connect to Microsoft Exchange Server using HTTP** to enable the Outlook Anywhere page and configure the proxy settings used to connect to the Microsoft Exchange Server.
2. In the Outlook Anywhere group, do the following:
   - In the **http://** drop-down list, enter or select the URL to use when connecting the Microsoft Exchange proxy server.
   - *If you want to connect using only secure sockets layer*, select **Connect using SSL only** and enter the connection URL in the **https://** drop-down list. You can require the use of an authentication of certificate by selecting **Only connect to proxy servers that have principal name in their certificate** and entering or selecting the principal name.
3. Select from the following to use HTTP on the first connection, and TCP/IP on all subsequent connections based on the speed of your network:
   - **On fast networks, connect using HTTP first, then connect using TC/IP**
   - **On slow networks, connect using HTTP first, then connect using TC/IP**

   Note: *Outlook defines a fast connection as a connection that is faster than 128 kilobits per second (Kbps).*
4. In the **Use this authentication when connecting to my proxy server for Exchange** drop-down list, select from the following:
   - **Basic:** Basic authentication uses clear text to send user and password information for authentication. If selected, the Connect using SSL only box is selected automatically and cannot be changed. This prevents passwords from being sent to the Microsoft Exchange proxy server in clear text when Basic authentication is used.
   - **NTLM Authentication:** If selected, NTLM authentication is used. This is a challenge/response scheme in which a hash of the password is used for authentication. The password is not sent over the network.
   - **Negotiate Authentication:** If selected, Kerberos is used for authentication, if possible. Otherwise, NTLM authentication is used.

Data Wizard: Now Processing Data File

The **Now Processing Data File** page of the Data Wizard reports the processing of the EDB file in three stages: *pre-scanning the log files* (integrity check); *scanning the log files* (i.e., playing the log files); and *hashing the EDB file* (building a folder hierarchy).

When the processing is complete, Single Mailbox Recovery automatically proceeds to the next page.

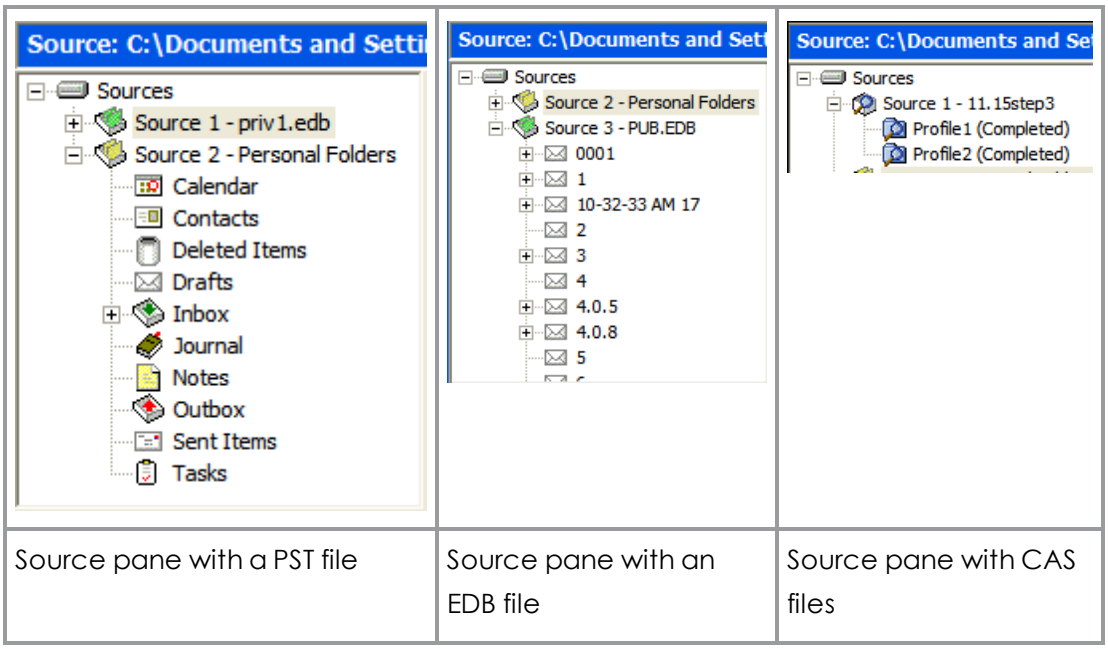
Note: *If Single Mailbox Recovery encounters bad or missing log files during log playing, you will be given the option to continue without playing the logs. If you choose to continue, Single Mailbox Recovery processes the EDB without logs.*

Data Wizard: Completing the Data Wizard

On the last page of the Data Wizard, click **Finish**. This page of the Data Wizard displays the source file results and the target file results.

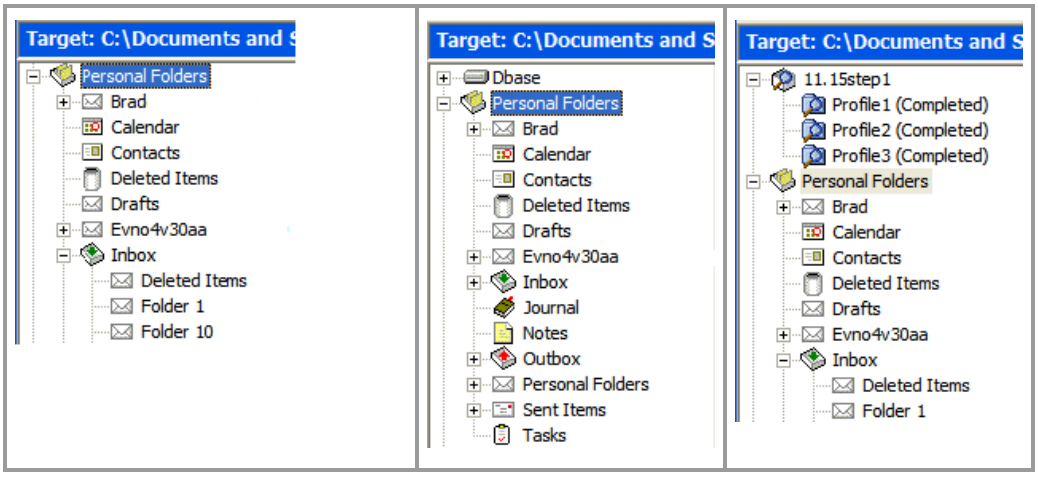
Looking at the Main Window After Using the Data Wizard

In the Single Mailbox Recovery main window, the source and target panes now contain a source EDB file, PST file, CAS, target PST file, a target Microsoft Exchange Server, or target CAS.



Source pane with a PST file	Source pane with an EDB file	Source pane with CAS files

Figure 2-10: Source panes with PST, EDB, and CAS files



Target pane with a PST file	Target pane for a Microsoft Exchange Server	Target pane with CAS files

Figure 2-11: Target panes for PST files, Microsoft Exchange Server, and CAS file

Returning to the Data Wizard

When working in the main window, you can return to the Data Wizard at any time.

To open the Data Wizard from the main window

- On the **File** menu, click **Use Wizard**.

Opening the Source Database and Target Mailboxes from the Main Window

Instead of using the Data Wizard to open the source databases and target mailboxes, you can open them from the main window.

Before You Open the Source Database from the Main Window

The following information describes what you need to do in order to be able to select the source of the mail items you want to recover.

If the Source File is...	Then do this:
An EDB file stored in a LUN on a storage system **Note:** *This includes SnapVault secondary storage system configurations.*	1. Use the SnapDrive Connect Wizard to connect that LUN to an available drive letter on the Single Mailbox Recovery server. For details, see "Connecting Virtual Disks" in SnapDrive Installation and Administration Guide. When you select the source Exchange database, the mounted LUN will be your source drive. **Note:** *Do not use the Data ONTAP LUN cloning feature to clone a virtual disk backed by a Snapshot copy that is connected using SnapDrive. SnapDrive considers such a disk to be temporary, and it deletes the disk upon disconnect.* 2. Verify that there is sufficient hard drive space available to store temporary files that Single Mailbox Recovery creates. For details, see "Verifying Hard Drive Space for .idx and .dat Files" on page 161. CAUTION: Unmount this LUN as soon as your Single Mailbox Recovery restore operation is completed. Avoid maintaining a connection to a LUN in a Snapshot copy during a period when the storage system volume containing that LUN is scheduled for update Snapshot copies. While a LUN in a Snapshot copy is mounted, if one or more Snapshot copies are taken of the volume containing the LUN, a "busy Snapshot copy" will result, and you will be unable to unmount or delete that LUN until all the more recent Snapshot copies are deleted.
An EDB file in a backup created using a supported backup application other than SnapManager	1. Use Single Mailbox Recovery ExtractWizard to restore the files to a location accessible from the Single Mailbox Recovery server. 2. If the backup is an offline backup or in an online incremental or differential backup, organize the files for use by Single Mailbox Recovery. For details, see **"Organizing Files Extracted from Other Backup Applications" on page 185**. 3. Verify that there is sufficient hard drive space available to store temporary files that Single Mailbox Recovery creates. For details, see **"Verifying Hard Drive Space for .idx and .dat Files" on page 186**.
A PST file	Enable the PST source agent. For details, see "PST Source Agent" and "Task III: View and Enable Agents" in the Release Notes. **Note:** *You cannot open the same PST file as both source and target. Also, due to the database nature of the PST file and MAPI subsystem, PSTs opened as source will be modified.*

Specifying a Source and a Target from the Main Window

The section explains how to perform the following tasks from the Main Window:

- "To open a source file" on page 55
- "To open an existing target PST" on page 58.
- "To create a new target PST" on page 58.
- "To open an existing target content analysis store" on page 59.
- "To open a new target content analysis store" on page 59.
- "To open a Microsoft Exchange Server as the target for restored data for a single mailbox" on page 59
- "To open a Microsoft Exchange Server as the target for restored data for all mailboxes " on page 60
- "To open a Microsoft Exchange Server as the target for restored data for Specific Mailboxes with multi-tenancy support " on page 60

To open a source file

1. Do one of the following:
   - On the **File** menu, click **Open Source**.
   - On the toolbar, click the **Open Source** icon .

   Important: Before you select a source EDB file in the window below, see "Before You Open the Source Database from the Main Window" on page 53.

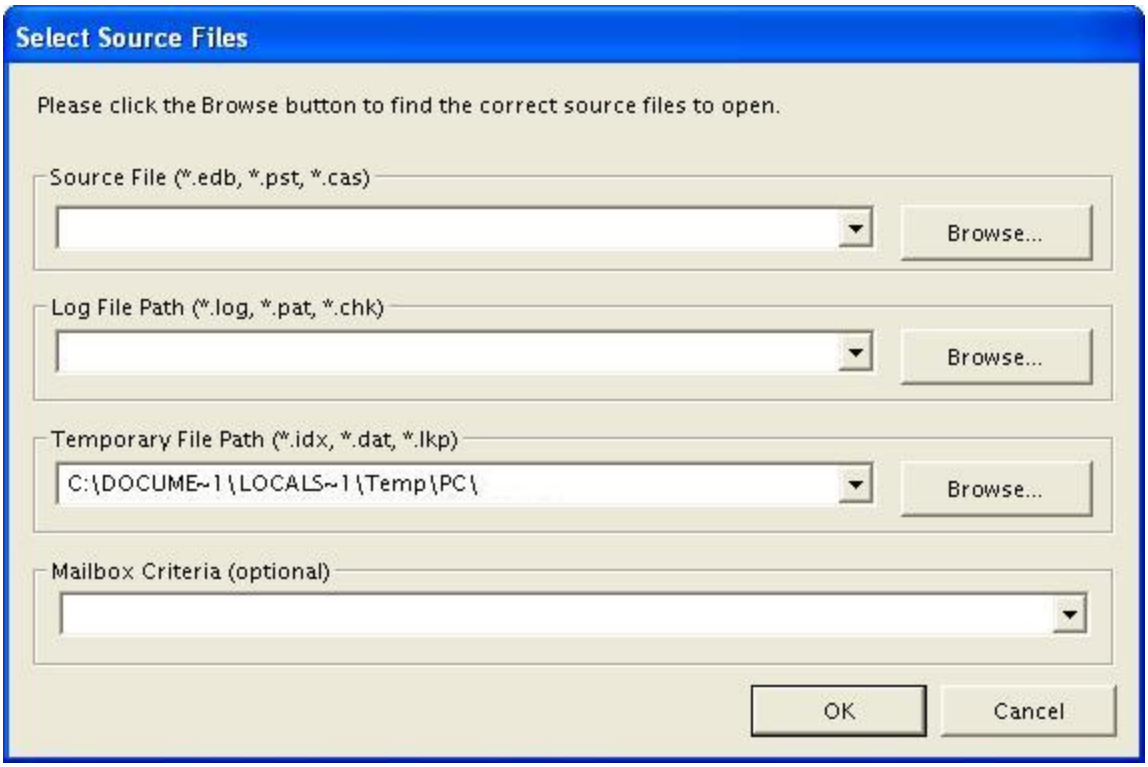


Figure 2-12: Browse to an EDB, PST, or CAS file to use as source without multi-tenancy support

2. In the **Source File** box, click **Browse** to find a source EDB, PST, or CAS file. The CAS files are used for the content analysis store feature.
3. If you selected a PST or CAS file, proceed to step 6. PST and CAS files do not require log file or temporary file paths.

   Note: *Due to the database nature of the PST file and MAPI subsystem, PSTs opened as source will be modified.*

4. In the **Log File Path** box, click **Browse** to find the log files associated with the source EDB file.

   Important: After you select an EDB file, the **Log File Path** box defaults to the source EDB file path, even if the log files are not in the same directory as the source EDB file. Therefore, make sure you enter the correct log file path in the **Log File Path** box.

5. In the **Temporary File Path** box, accept the default location for .idx and .dat files, or specify a new location if they require more hard drive space.
6. If you want to view a filtered display of mailboxes in the Source Pane, use the **Mailbox Criteria (optional)** box. For more information, see **"Mailbox Criteria" on page 32**.
7. If multi-tenancy support is enabled, do one of the following in the **Multi-Tenancy Criteria** box:

- If "Enforce ABP or Hosted Organization for current user" is not selected on the Security tab on the Preferences dialog box, use the Multi-Tenancy Criteria box to select hosted organizations or Address Book Policies from source or target dialog boxes.
- If "Enforce ABP or Hosted Organization for current user" is selected on the Security tab on the Preferences dialog box, use the Multi-Tenancy Criteria box to view the organization or assigned address book policy.

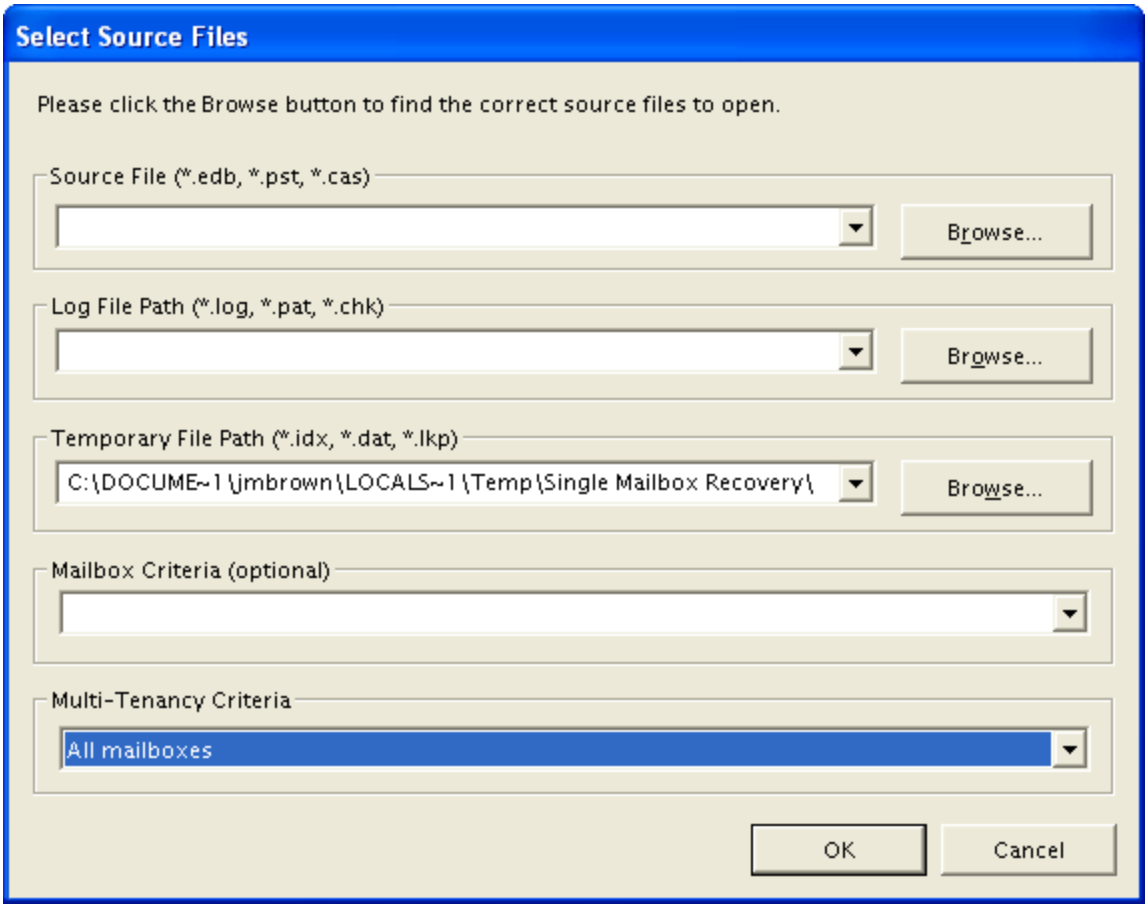


Figure 2-13: Browse to an EDB, PST, or CAS file to use as source with multi-tenancy support

8. Click **OK**. The EDB or PST file appears in the Single Mailbox Recovery source pane.

   Before you can open a source, Single Mailbox Recovery checks for the following conditions:

   - A LUN on a storage system is connected to an available drive letter on the Single Mailbox Recovery server. You do not need to use this LUN as the Destination Folder.
   - An EDB file exists on either a drive letter on the Single Mailbox Recovery server that is mapped to CIFS share on a storage system or on a direct UNC path to a CIFS share on a storage system.

If Single Mailbox Recovery does not find any of the above conditions to be true, you cannot open a source file.

If one or more of the above conditions are true, the EDB or PST file appears in the Single Mailbox Recovery Source pane.

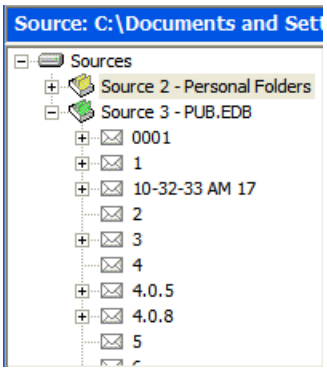


Figure 2-14: Source pane for an EDB file

Tip: You can use Windows Explorer to open an EDB, PST, or CAS file. In Windows Explorer, double-click the file or drag into the Single Mailbox Recovery source pane.

To open an existing target PST

1. Do one of the following:
   - On the **File** menu, point to **Open\Create Target**, then **Open Target PST**, and click **Open Existing**.
   - On the toolbar, click the **Open Target PST** icon .
2. In the **Open Target PST** window, navigate to the desired location, and select an existing PST file.
3. Click **Open**. The PST file appears in the Single Mailbox Recovery target pane.

Tip: In Windows Explorer, you can drag a PST file into the Single Mailbox Recovery target pane. Note that double-clicking a PST file does not open it when using Windows XP, Microsoft Office Outlook XP, or Microsoft Office Outlook 2003.

To create a new target PST

1. On the **File** menu, point to **Open\Create Target**, then **Open Target PST**, and click **Create New**.
2. In the **Create PST File** window, navigate to the desired location. You may want to create a new folder.
3. In the **File name** box, type a name for the new PST file.
4. Click **New**. The PST file appears in the Single Mailbox Recovery target pane.

Note: *With Microsoft Office Outlook 2003, you have to choose between the 97 and 2003 version of the PST.*

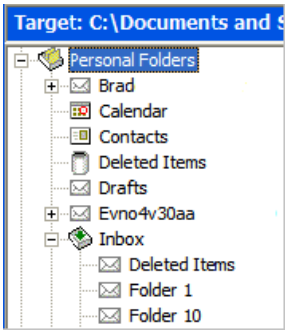


Figure 2-15: Target pane for a PST file

To open an existing target content analysis store

1. Do one of the following:
   - On the **File** menu, point to **Open\Create Target**, then click **Open Target Content Analysis Store**.
   - On the toolbar, click the **Open Target Content Analysis Store** icon . The **Opening a Content Analysis File** window appears.
2. In the **Opening a Content Analysis File** window, navigate to desired location and select an existing CAS file.
3. Click **Open**. The CAS file appears in the Single Mailbox Recovery target pane.

To open a new target content analysis store

1. Do one of the following:
   - On the **File** menu, point to **Open\Create Target**, then click **Open Target Content Analysis Store**.
   - On the toolbar, click the **Open Target Content Analysis Store** icon . The **Create Content Analysis File** window appears.
2. In the **Create Content Analysis File** window, navigate to desired location and select an existing CAS file.
3. Click **Open**. The CAS file appears in the Single Mailbox Recovery target pane.

To open a Microsoft Exchange Server as the target for restored data for a single mailbox

1. Do one of the following to display the **Target Type & Path Selection** page of the Data Wizard:

- On the **File** menu, click **Open\Create Target**, then click **Open Target Exchange Server**.
- On the toolbar, click the **Open Target Exchange Server** icon .

2. In the Select Target group, select **Connect To Microsoft Exchange Server (Single Mailbox)**.
3. Follow the instructions in the "Data Wizard: Target Type and Path Selection" topic **"To specify a Microsoft Exchange Server as the target for restored data for a single mailbox" on page 46**.

To open a Microsoft Exchange Server as the target for restored data for all mailboxes

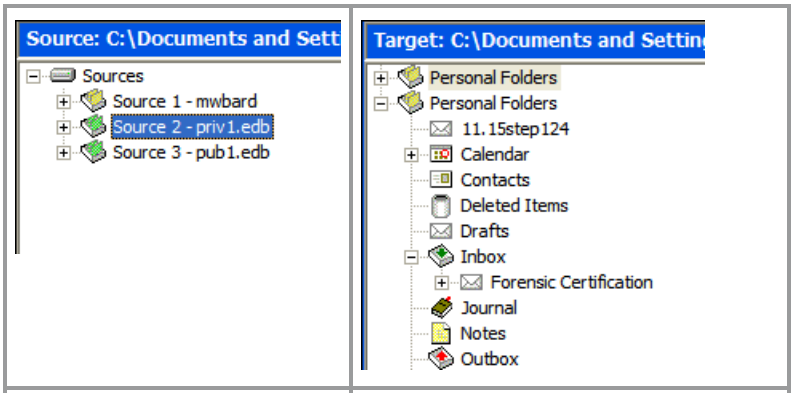
1. Do one of the following to display the **Connect To Exchange Server** window:
   - On the **File** menu, click **Open\Create Target**, and then click **Open Target Exchange Server**.
   - On the toolbar, click the **Open Target Exchange Server** icon .
2. Follow the instructions in the "Data Wizard: Target Type and Path Selection" topic **"To specify a Microsoft Exchange Server as the target for restored data for all mailboxes" on page 47**.

To open a Microsoft Exchange Server as the target for restored data for Specific Mailboxes with multi-tenancy support

1. Do one of the following to display the **Connect To Exchange Server** window:
   - On the **File** menu, click **Open\Create Target**, and then click **Open Target Exchange Server**.
   - On the toolbar, click the **Open Target Exchange Server** icon .
2. Follow the instructions in the "Data Wizard: Target Type and Path Selection" topic **"To specify a Microsoft Exchange Server as the target for restored data for Specific Mailboxes with multi-tenancy support" on page 48**.

Opening Multiple Sources and Targets

You can display multiple sources in the source pane and multiple targets in the target pane. Sources include EDB, PST, and CAS files. Targets include PSTs, CAS, and Microsoft Exchange Servers. See the instructions for using the Data Wizard or the main window to open one source or one target at a time.



Multiple sources	Multiple targets

Figure 2-16: Multiple sources and targets can be displayed

Closing Sources and Targets

You can close sources and targets from the Single Mailbox Recovery main window.

Avoid maintaining a connection to a LUN in a Snapshot copy during a period when the storage system volume in which that LUN is contained is scheduled for updating Snapshot copies.

Caution: If a LUN in a Snapshot copy is mounted, and while it is mounted one or more Snapshot copies are taken of the storage system volume in which it is contained, a "busy Snapshot copy" will result, and you will not be able to unmount or delete that LUN until all the more recent Snapshot copies are deleted. The chances of this situation are increased in configurations where a single secondary storage volume is used to coalesce Snapshot copies from numerous primary storage trees.

To close a source

1. In the source pane, select a source EDB, PST, or CAS file.
2. Do one of the following:
   - On the **File** menu, click **Close Store**.
   - Right-click the selection, and on the context menu click **Close Store**.
3. If the source is an EDB file in a SnapManager-based backup Snapshot copy, unmount the LUN as soon as your Single Mailbox Recovery restore operation is completed

To close all sources

1. In the source pane, right-click the **sources** root node.
2. On the context menu, click **Close All Stores**.
3. If the source is an EDB file in a SnapManager-based backup Snapshot copy, unmount the LUN as soon as your Single Mailbox Recovery restore operation is completed.

To close a target

1. In the target pane, select a PST file, Microsoft Exchange Server database, or CAS file.
2. Do one of the following:
   - On the **File** menu, click **Close Store**.
   - Right-click the selection, and on the context menu click **Close Store**.

Deleting Items in the Target Pane

Using the Delete key to remove an item (for example, folder, message) from the Single Mailbox Recovery target pane permanently deletes the item, similar to using Shift+Delete in Microsoft Office Outlook.

Note: *Messages within a content analysis store profile folder cannot be deleted.*

Creating New Mailboxes

You can create new mailboxes by either using the New Mailbox wizard or the Copy and Paste functions. Possible uses for this function are migrating user accounts from Microsoft Exchange Server 2000 or 2003 to a Microsoft Exchange Server 2007, 2010, or 2013 target or archiving legacy data.

Note: *To use Mailbox Creation Wizard on your computer, you must have the Exchange Server Management Tools for the version of Microsoft Exchange Server where you will be creating mailboxes. Ensure the Exchange Server Management Tools and Microsoft Exchange Server version, service pack, and roll up level are the same version. For supported operating system and prerequisite requirements for the Exchange Server Management Tools, please refer to the Exchange Server Management Tools documentation for your specific version.*

User Permission

In order to create mailboxes, he following are required:

- You must have the necessary Active Directory permissions to create a mailbox on the selected Microsoft Exchange Server.
- Both the user account logons and the Name field must be unique to create a new user account and mailbox. If you are creating a mailbox for an existing user, the Name field must match the full name of the existing user.

Tip: It is recommended that anyone creating mailbox-enabled users have fundamental knowledge of Microsoft Exchange Server administration and Active Directory.

Preference Settings

The Target Options tab of the Preferences dialog box contains a Mailbox Creation group with the following option:

- Allow mailbox creation during copy

When selected, a copy operation can create new mailboxes, so a copy operation can create a target mailbox for a source mailbox to allow it to be copied.

When cleared, new mailboxes are not created and only mailboxes that match an existing mailbox can be copied. Any mailboxes that do not match a target mailbox are skipped.

The Security tab of the Preferences dialog box contains the following option regarding mailboxes:

- List inaccessible mailboxes

When selected, mailboxes always appear the target pane and mailboxes will indicate if they are accessible. Otherwise, inaccessible mailboxes are not displayed.

For more information, see **"Setting Preferences" on page 25**.

Creating Mailboxes

You can create mailboxes with the New Mailbox wizard or by copying a single mailbox. You can also copy the root of a source EDB to the root of a target Microsoft Exchange Server.

If the mailbox already exists and is accessible, it is added to the target directory and shown as accessible. If the source mailbox did not exist in the target directory, a new mailbox is created on either a new user account or an existing user account. If the mailbox you create is not accessible, it appears in the target directory and shown as inaccessible.

Note: *Mailbox creation on disabled user accounts is not supported.*

Note: *The target Microsoft Exchange Server must be in the same domain as the Single Mailbox Recovery computer.*

Note: *In a Microsoft Exchange Server 2010 environment installed using the /hosting switch, mailboxes can only be created in the domain, not an Exchange Hosted Organization.*

Note: *In a Microsoft Exchange Server 2010 or 2013 environment that has deployed Address Book Policies, an Address Book Policy cannot be assigned when creating a mailbox.*

Creating Mailboxes Using the New Mailbox Wizard

You can manually create a single mailbox on a target Microsoft Exchange Server by using the New Mailbox wizard to specify user account and mailbox information.

To create a Microsoft Exchange Server 2000, 2003, or 2007 mailbox using the wizard

1. Open a target Microsoft Exchange Server in Single Mailbox Recovery.
2. Do one of the following to open the New Mailbox wizard:
   - Right-click the target Microsoft Exchange Server root directory and click **New Mailbox**.
   - On the **Edit** menu, click **New Mailbox**.

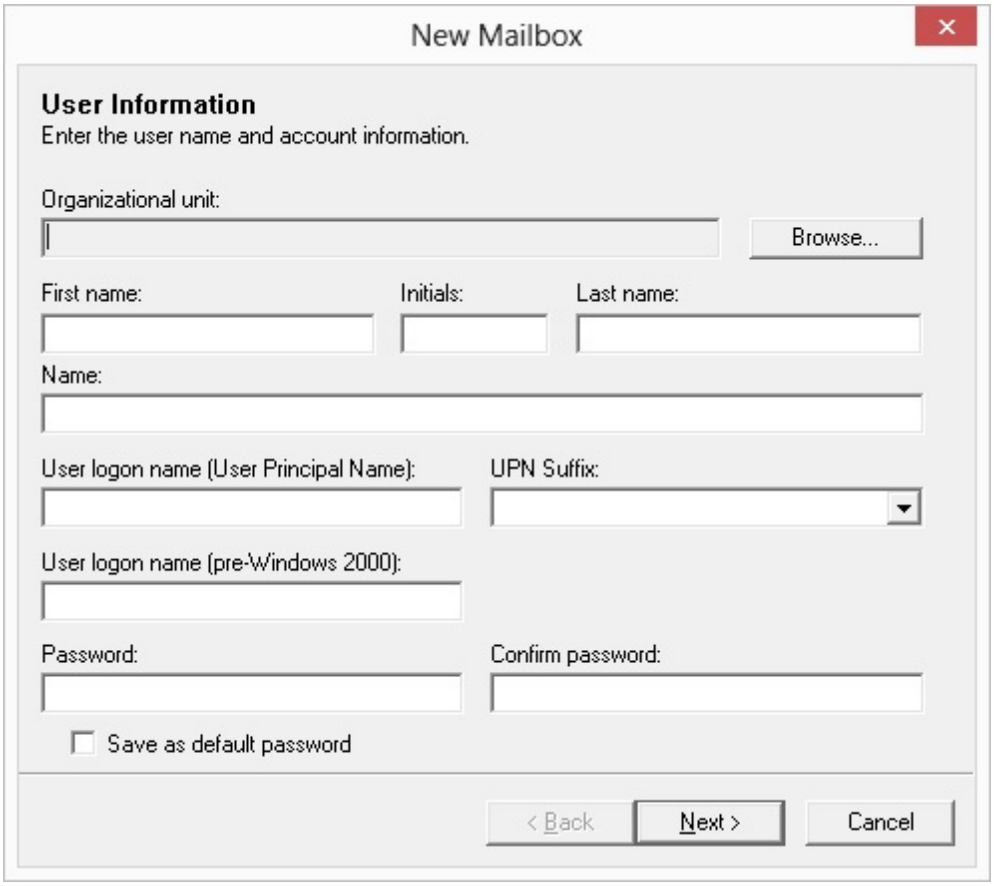


Figure 2-17: User Information page for Microsoft Exchange Server 2000, 2003, and 2007

3. On the **User Information** page, enter the following:
   - **Organizational unit:** This field is pre-populated. You can change it by clicking **Browse**.
   - **First name:** (Optional) Enter the first name of the user. If a user account already exists, but there is no mailbox based on this Name, the mailbox is created on the existing user account.
   - **Initials:** (Optional) Enter the initials of the user.

- **Last name:** (Optional) Enter the last name of the user. If a user account already exists, but there is no mailbox based on this Name, the mailbox is created on the existing user account.
- **Name:** This field auto-populates as the First name, Initials, and Last name are entered. This field can also be modified.
- **User logon name (User Principal Name):** Create a user logon name for the new account. If this name matches the same field of an existing user account, an error appears at the end of the process indicating that it is a duplicate.
- **UPN suffix:** This field adds the Organizational Unit selected as the second half of the logon name email address.
- **User logon name (pre-Windows 2000):** A user logon name for older versions of Windows.
- **Password and Confirm Password:** The password must meet the domain's minimum password requirements or the user/mailbox creation will fail.
- **Save as default password:** Select to designate the entered password as the default.

4. Click **Next**.

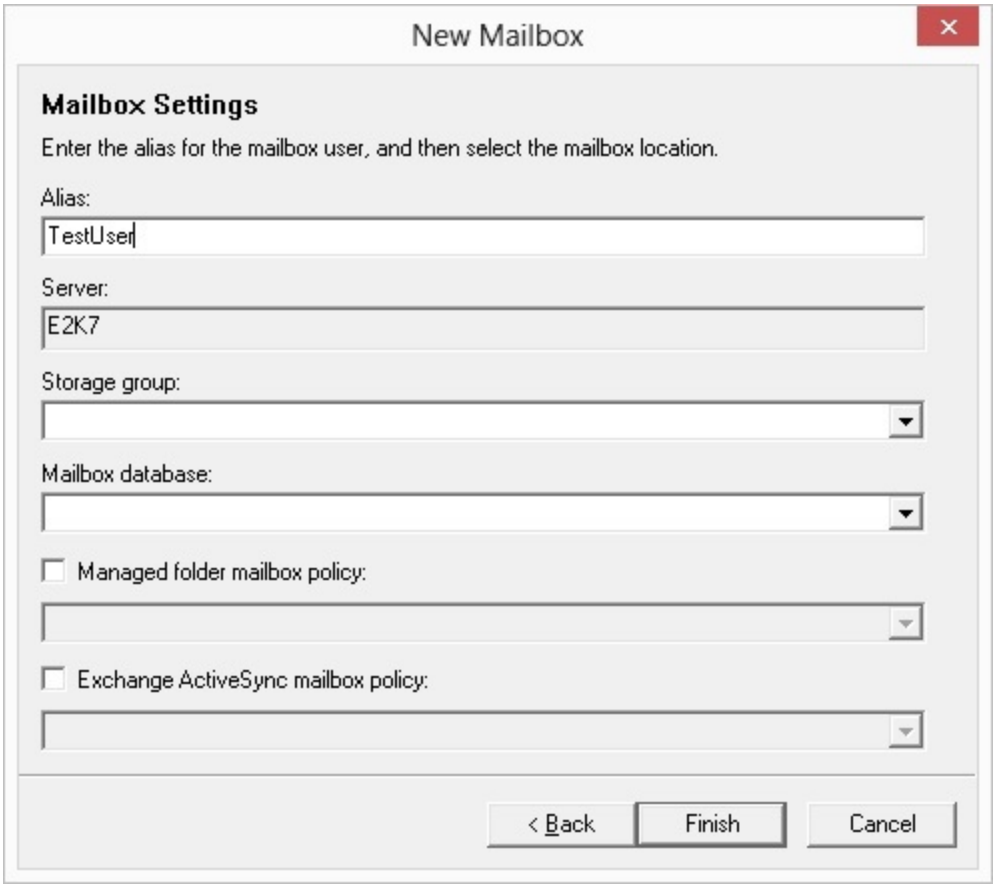


Figure 2-18: Mailbox Settings page for Microsoft Exchange Server 2000, 2003, and 2007

5. On the **Mailbox Settings** page, do the following:
   - **Alias:** Enter the alias for the mailbox user.
   - **Server:** Auto-populated with the **Storage group** and **Mailbox database**. Ensure these settings are correct.
   - **Mailbox database:** The mailbox database is automatically selected by the Microsoft Exchange Server if not specified. To specify the mailbox database, select the check box which enables the drop-down list of all available mailbox databases.
   - **Managed folder mailbox policy:** (Microsoft Exchange Server 2007 only) To apply a managed folder policy to your mailbox, select the check box which enables the drop-down list of all available managed folder mailbox policies in the organization.
   - **Exchange ActiveSync mailbox policy:** (Microsoft Exchange Server 2007 only) To apply an ActiveSync mailbox policy to your mailbox, select the check box which enables the drop-down list of all available ActiveSync mailbox policies in the organization.
6. Click **Finish**. The mailbox information is validated and the mailbox is created.

   Note: *If the Managed folder mailbox policy check box is selected, a warning appears stating: "When assigning a managed folder mailbox policy with managed custom folders to a mailbox, Microsoft Office Outlook clients older than Microsoft Office Outlook 2007 do not have all available client features and clients older than Microsoft Office Outlook 2003 SP2 are not supported. Are you sure you want to assign a managed folder mailbox policy to this mailbox?"*

To create a Microsoft Exchange Server 2010 or 2013 mailbox using the wizard

1. Open a target Microsoft Exchange Server in Single Mailbox Recovery.
2. Do one of the following to open the New Mailbox wizard:
   - Right-click the target Microsoft Exchange Server 2010 or 2013 root and click **New Mailbox**
   - On the **Edit** menu, click **New Mailbox**.

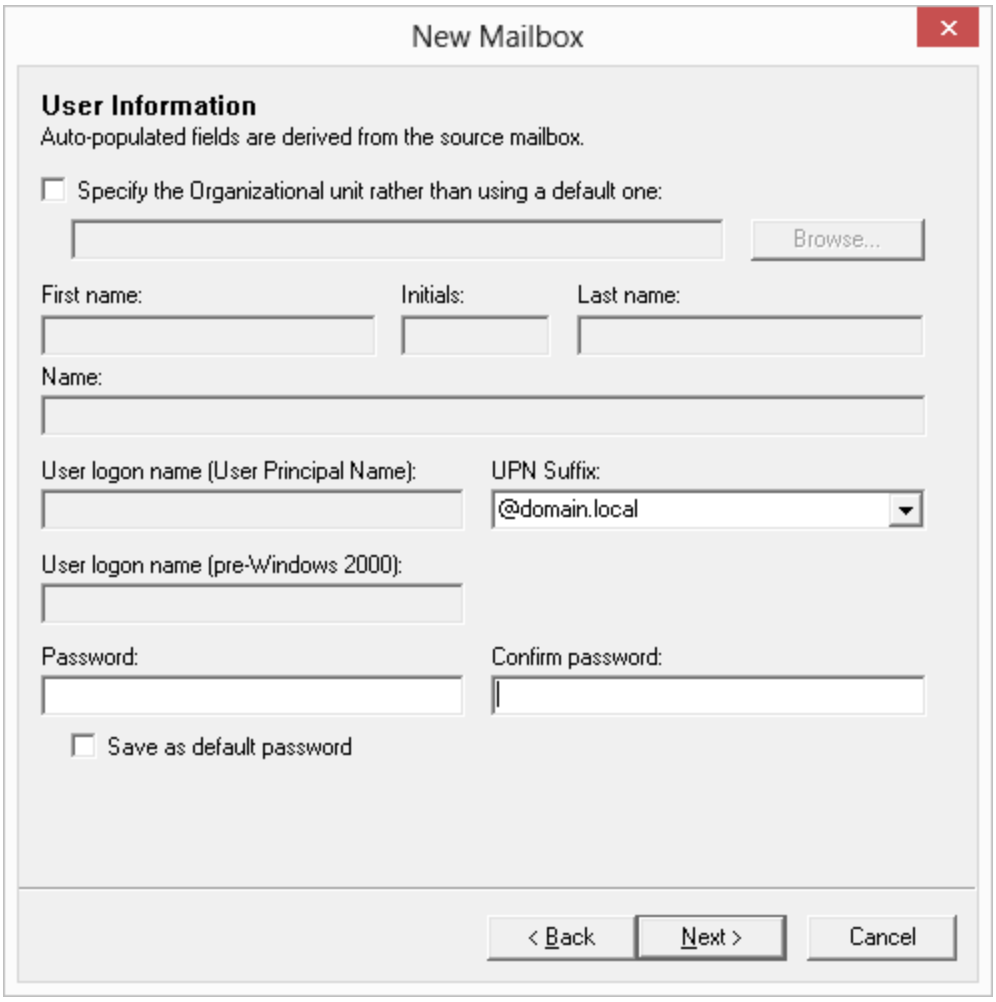


Figure 2-19: User Information page for Microsoft Exchange Server 2010 and 2013

3. On the **User Information** page, enter the following:
   - **Organizational unit:** The Organizational Unit is automatically selected by the Microsoft Exchange Server if not specified. You can change it by selecting the **Specify the Organizational unit rather than using a default one** check box. Select this check box to enable the **Browse** button where you can select a different Organizational unit.
   - **First name:** (Optional) Enter the first name of the user. If a user account already exists, but there is no mailbox based on this Name, the mailbox is created on the existing user account.
   - **Initials:** (Optional) Enter the initials of the user.
   - **Last name:** (Optional) Enter the last name of the user. If a user account already exists, but there is no mailbox based on this Name, the mailbox is created on the existing user account.

- **Name:** This field auto-populates as the First name, Initials, and Last name are entered. This field can also be modified.
- **User logon name (User Principal Name):** Create a user logon name for the new account. If this name matches the same field of an existing user account, an error appears at the end of the process indicating that it is a duplicate.
- **UPN suffix:** This field adds the Organizational Unit selected as the second half of the logon name email address.
- **User logon name (pre-Windows 2000):** A user logon name for older versions of Windows.
- **Password and Confirm Password:** The password must meet the domain's minimum password requirements or the user/mailbox creation will fail.
- **Save as default password:** Select this check box to designate the entered password as the default.

4. Click **Next**.

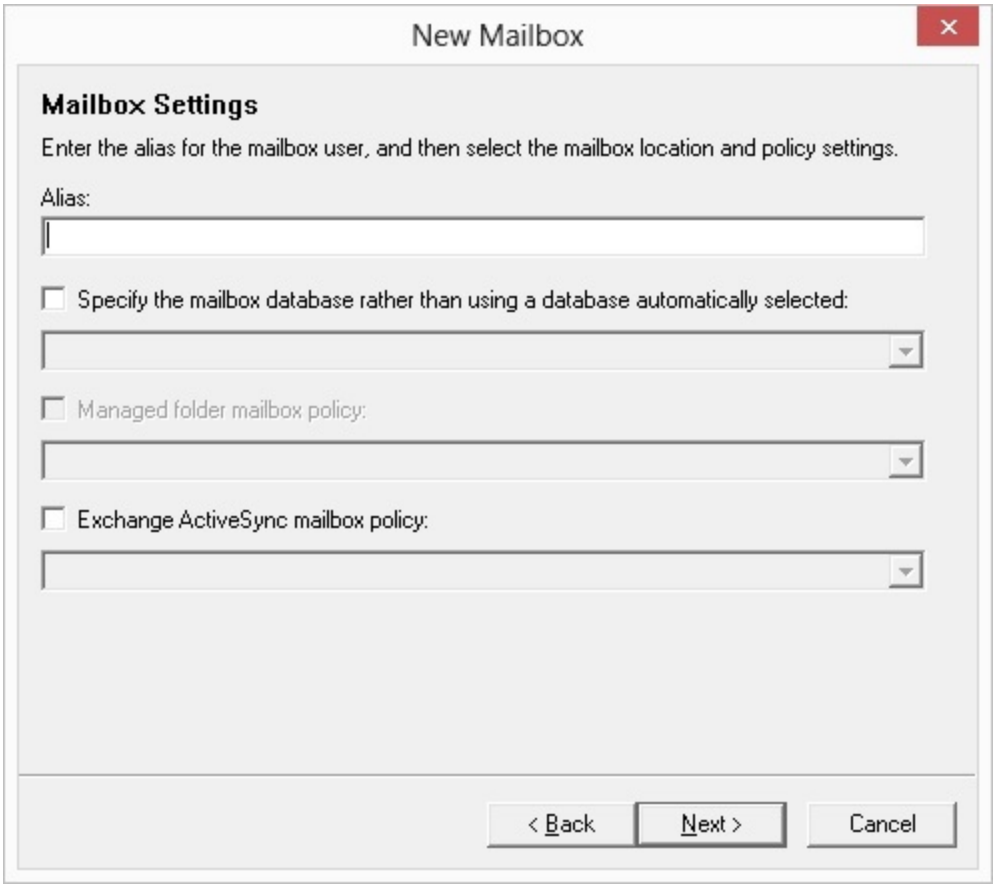


Figure 2-20: Mailbox Settings page for Microsoft Exchange Server 2010 and 2013

5. Enter the following **Mailbox Settings**:

- **Alias:** Enter the Alias for the mailbox user.
- **Mailbox database:** The mailbox database is automatically selected by the Microsoft Exchange Server if not specified. To specify the mailbox database, select the check box which enables the drop-down list of all available mailbox databases.
- **Managed folder mailbox policy:** (Microsoft Exchange Server 2010 only) To apply a managed folder policy to your mailbox, select the check box which enables the drop-down list of all available managed folder mailbox policies in the organization.
- **Exchange ActiveSync mailbox policy:** To apply an ActiveSync mailbox policy to your mailbox, select the check box which enables the drop-down list of all available ActiveSync mailbox policies in the organization.

  Note: *If the Managed folder mailbox policy check box is selected, a warning appears stating: "When assigning a managed folder mailbox policy with managed custom folders to a mailbox, Microsoft Office Outlook clients older than Microsoft Office Outlook 2007 do not have all available client features and clients older than Microsoft Office Outlook 2003 SP2 are not supported. Are you sure you want to assign a managed folder mailbox policy to this mailbox?"*

6. Click **Next**. The mailbox information is validated.
7. *If you are creating a Microsoft Exchange Server 2010 or 2013 mailbox*, and the **Archive Settings** page appears. Select the **Create an archive mailbox for this account** to associate an online archive mailbox with the user account. To specify the mailbox database, select the check box which enables the drop-down list of all available mailbox databases.

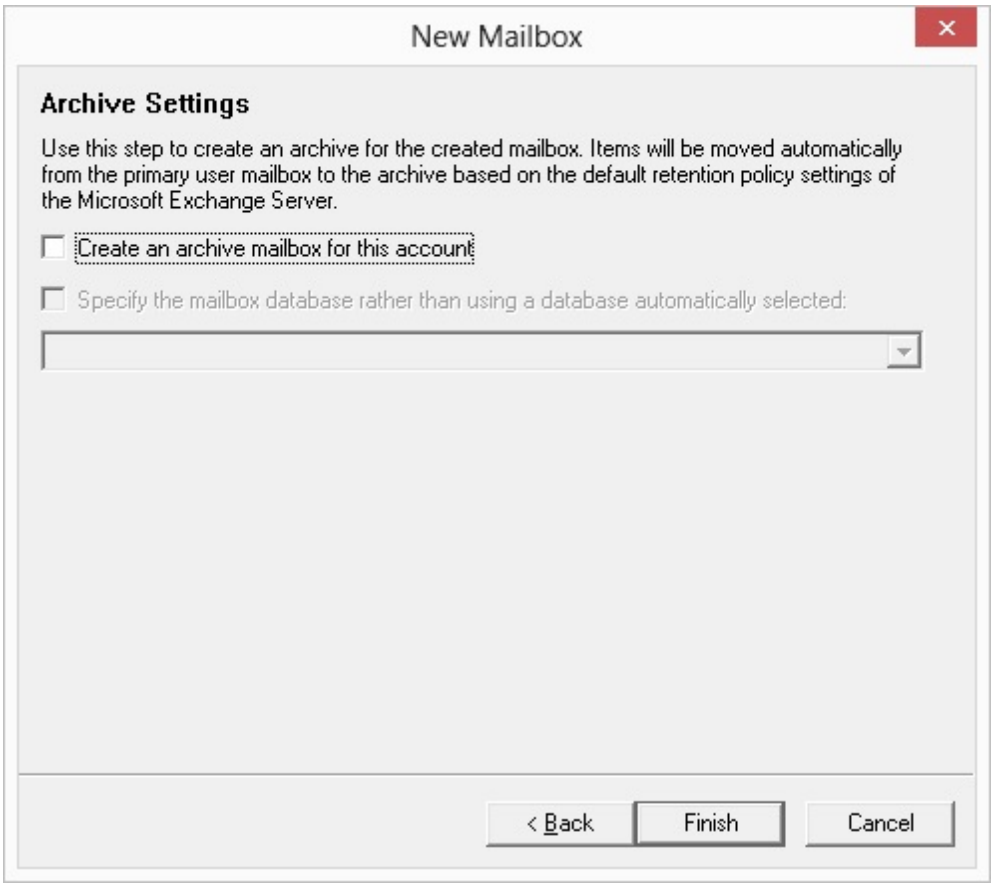


Figure 2-21: Archive Settings for Microsoft Exchange Server 2010 and 2013

Note: *If using Microsoft Exchange Server 2010 SP1 and later or Microsoft Exchange Server 2013, the mailbox database can be selected.*

8. Click **Finish**. The mailbox is created.

Creating Mailboxes Using Copy and Paste

You can create new mailboxes by using the Copy and Paste functions. Mailbox creation through copying can be made available or unavailable by selecting or clearing an option in the Mailbox Creation group on the Target Options page of the Preferences dialog box.

Note: *Source archive mailboxes are treated like regular mailboxes for the purposes of copy and creation. When copying an archive mailbox to a target Microsoft Exchange Server root, the application will attempt to identify an existing target user mailbox. If one cannot be found, a new mailbox is created and copied to. Target archive mailboxes will not be the destination of a single or multiple mailbox copy operation.*

To create a single mailbox using copy and paste

1. Verify that **Allow mailbox creation during copy** option in **Preferences** is selected. For more information, see **"Target Options Tab" on page 26**.
2. Right-click the single mailbox in the source pane and click **Copy**.
3. Highlight the target Microsoft Exchange Server and click **Paste**.

   Note: *If **Paste** is not available, you do not have access rights to the source mailbox.*

   Single Mailbox Recovery queries the Active Directory for an existing mailbox-enabled user account based on the source mailbox's GUID and name information. If the search finds both (a full match), Single Mailbox Recovery copies the mailbox to that full matching user's mailbox. If the search finds only a name match, it is considered a partial match. The name match includes checks for both the source mailbox name and alias (if it is available) in the target environment. When a partial match is found, the target mailbox may not be for the same user as the source mailbox. You are then prompted on how to proceed (either by skipping, copying to the matching mailbox, or creating a new mailbox and copying into that – see below for further details).

   Note: *Alias is not present in Microsoft Exchange Server 2013 sources, so only a match on the mailbox GUID is considered a full match for Microsoft Exchange Server 2013 source mailboxes. If no full matching user account exists, the New Mailbox wizard opens.*

4. If a full matching mailbox is not found in the target, the **New Mailbox** wizard opens the Mailbox Copy Options page.
5. *If no match is found on the target*, do one of the following in **No Match** group:
   - Select **Skip Mailbox** to skip this mailbox and not copy it. (The New Mailbox wizard closes and the process ends.)
   - Select **Create and copy to new mailbox** to proceed with the New Mailbox wizard and create a new target mailbox for this copy.

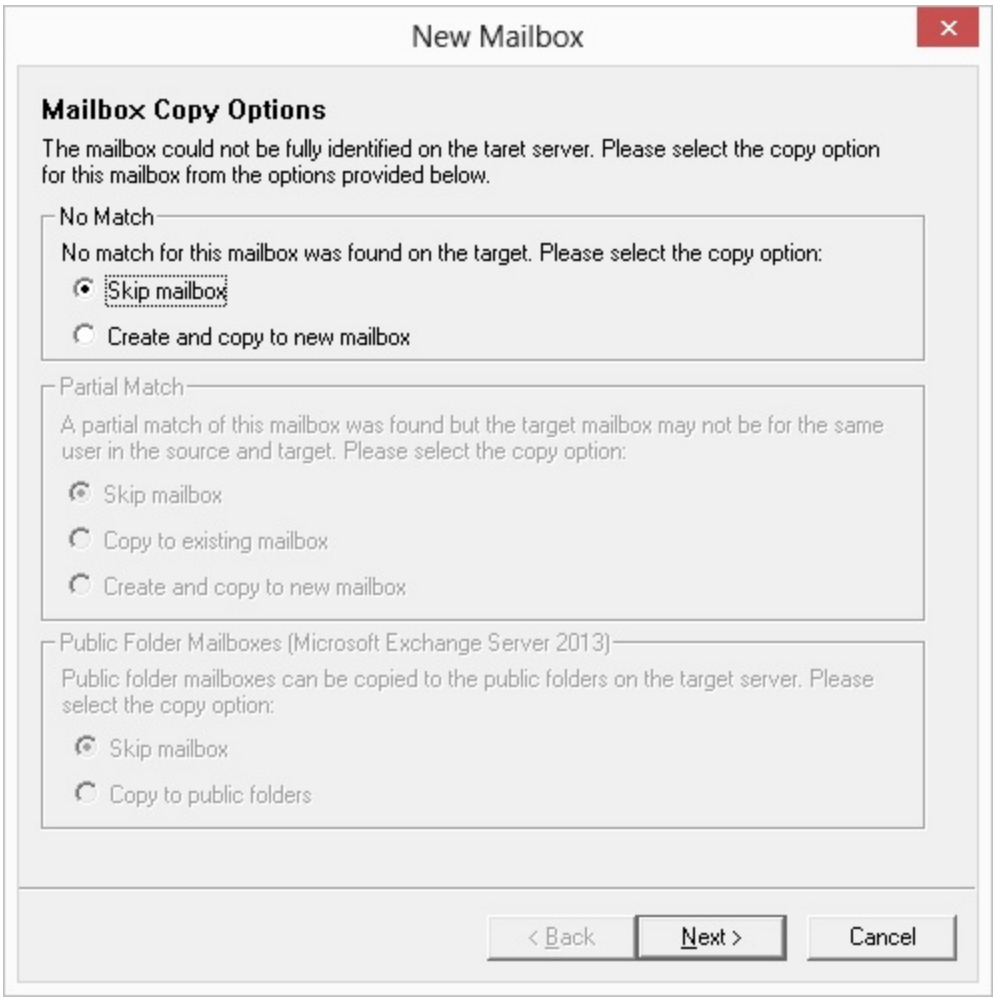


Figure 2-22: Mailbox Copy Options page - No Match

6. *If a partial match is found on the target,* do one of the following in **Partial Match** group:
   - Select **Skip Mailbox** to skip this mailbox and not copy it. (The New Mailbox wizard closes and the process ends.)
   - Select **Copy to existing mailbox** to copy the mailbox. (The New Mailbox wizard closes and the copy begins.)
   - Select **Create and copy to new mailbox** to proceed with the New Mailbox wizard and create a new target mailbox for this copy.

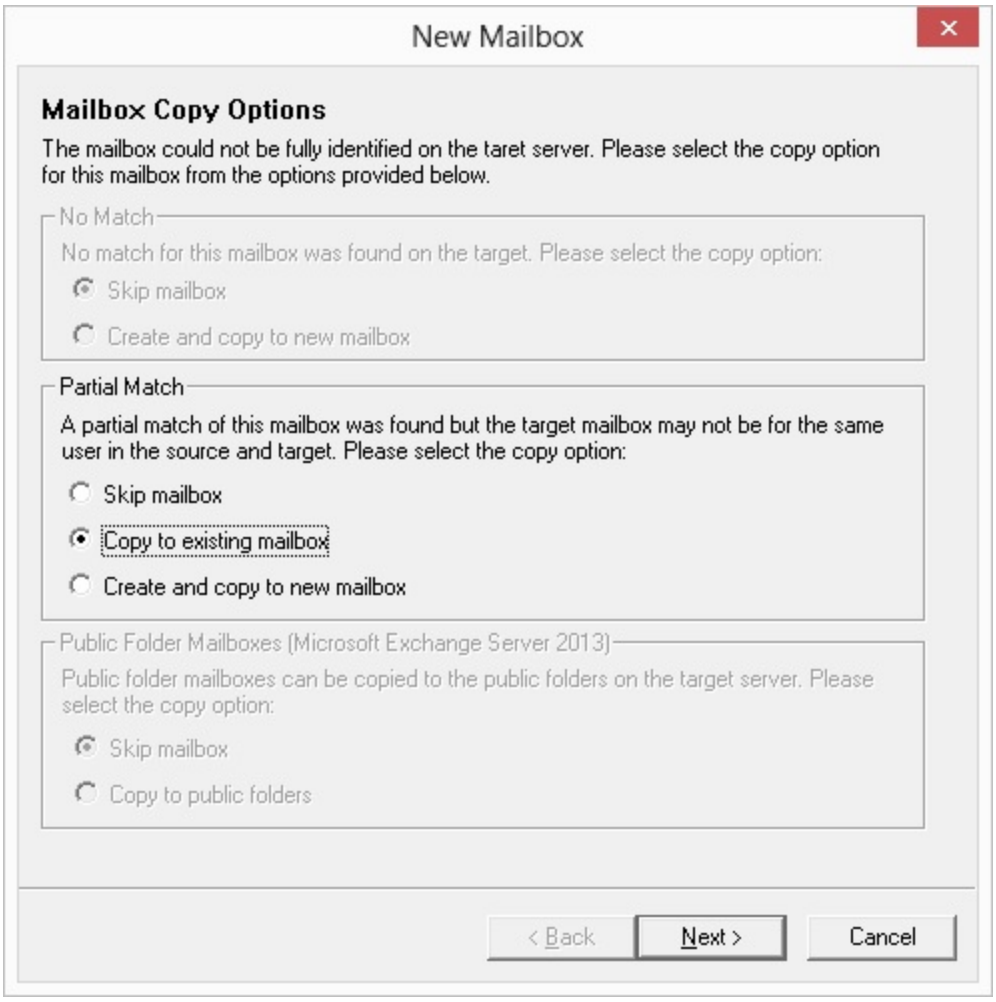


Figure 2-23: Mailbox Copy Options page - Partial Match

7. Click **Next**.
8. *If you selected the* ***Create and copy to new mailbox option***: Confirm the content of the **User Information** page is correct or make any changes and click **Next**.
9. Confirm the content of the **Mailbox Settings** is correct or make any changes and click **Finish** (or **Next**, if using Microsoft Exchange Server 2010 or later). The mailbox information is validated.

   Note: *If the source mailbox does not have an alias (as is the case with Microsoft Exchange Server 2013), the UPN, user logon name (pre-Windows 2000), and Alias are auto-generated based on the source mailbox name.*

10. *If you are using Microsoft Exchange Server 2010 or 2013*, the **Archive Settings** page appears. Select the **Create an archive mailbox for this account** to associate an online archive mailbox with the user account. To specify the mailbox database, select the check box which enables the drop-down list of all available mailbox databases.

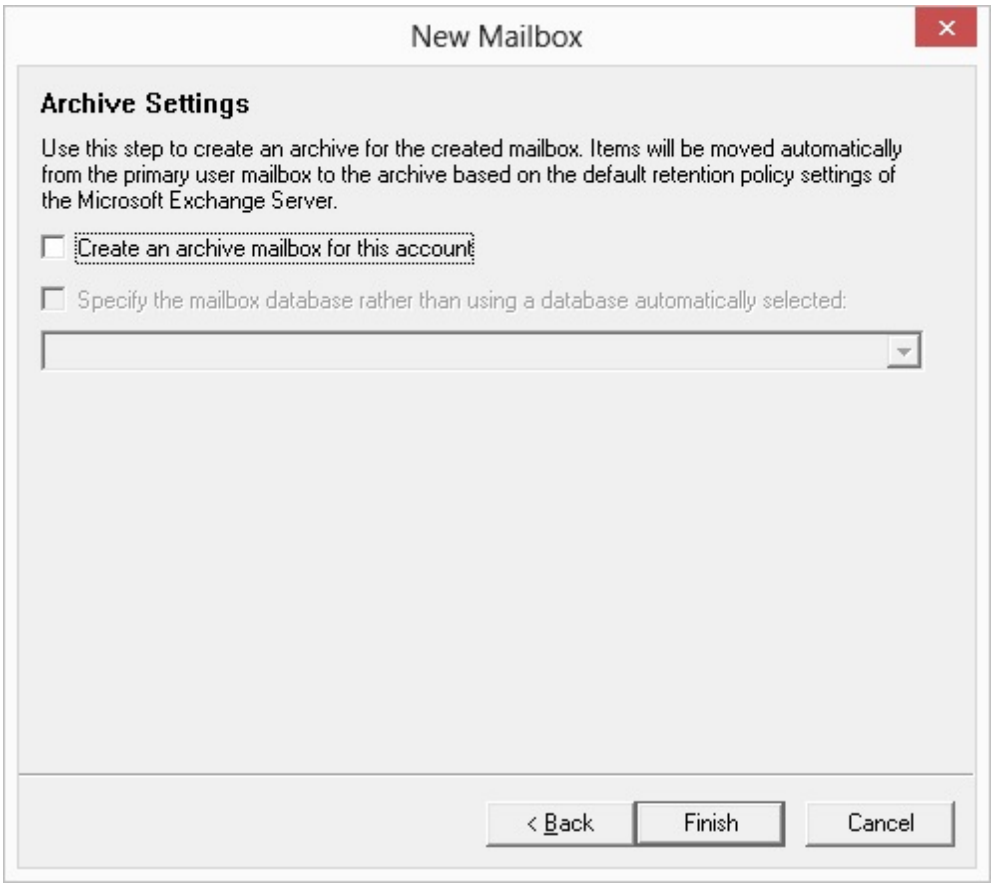


Figure 2-24: Archive Settings for Microsoft Exchange Server 2010 and 2013

Note: *If using Microsoft Exchange Server 2010 SP1 and later or Microsoft Exchange Server 2013, the mailbox database can be selected.*

11. Click **Finish**. The mailbox is created and the copy proceeds. Progress information appears in a Report dialog box.
12. Click **Print** to print the report, **Save** to save the report to your hard drive, or **Close** to close the Copy Progress window. The mailbox from the source EDB you copied is now a new mailbox in the target pane.

To create multiple Microsoft Exchange Server mailboxes using copy and paste

1. Verify that **Allow mailbox creation during copy** option in **Preferences** is selected. For more information, see **"Target Options Tab" on page 26**.
2. Do one of the following:
   - Right-click the EDB file root node in the source tree and click **Copy**. Then highlight the target Microsoft Exchange Server and click **Paste**.

     Note: *If **Paste** is not available, you do not have access rights to the source mailbox.*

- Select the EDB file root node in the source tree and drag it to the Microsoft Exchange Server node in the target tree.

The **New Mailbox** wizard opens the Mailbox Copy Options page, which allows you to customize the behavior when copying all the mailboxes in the source EDB. Here you configure the wizard to process the possible scenarios of no match, partial match, and public folder mailboxes during the copy. While the likelihood of each scenario during the copy is unknown, the Mailbox Copy Option page allows you to instruct the wizard how to process each one *if* it occurs during the copy.

3. *If no match is found on the target for one the source mailboxes*, choose one of the following in **No Match** group:
   - Select **Skip Mailbox** to skip the mailbox and not copy it. Mailboxes with no match found during the copy are skipped.
   - Select **Create and copy to new mailbox** to create a target mailbox and copy to it. Mailboxes with no match found during the copy have a new target mailbox created and copied to that new target mailbox.
4. *If a partial match is found on the target for of the source mailboxes*, choose one of the following in **Partial Match** group:
   - Select **Skip Mailbox** to skip the mailbox and not copy it. Mailboxes with a partial match found during the copy are skipped.
   - Select **Copy to existing mailbox** to copy the mailbox to the existing mailbox (no new mailbox is created). Mailboxes with a partial match found during the copy are copied to the partial matching mailbox.
   - Select **Create and copy to new mailbox** to create a new target mailbox and copy to the mailbox to that target. Mailboxes with a partial match found during the copy have a new target mailbox created and copied to that new target mailbox.

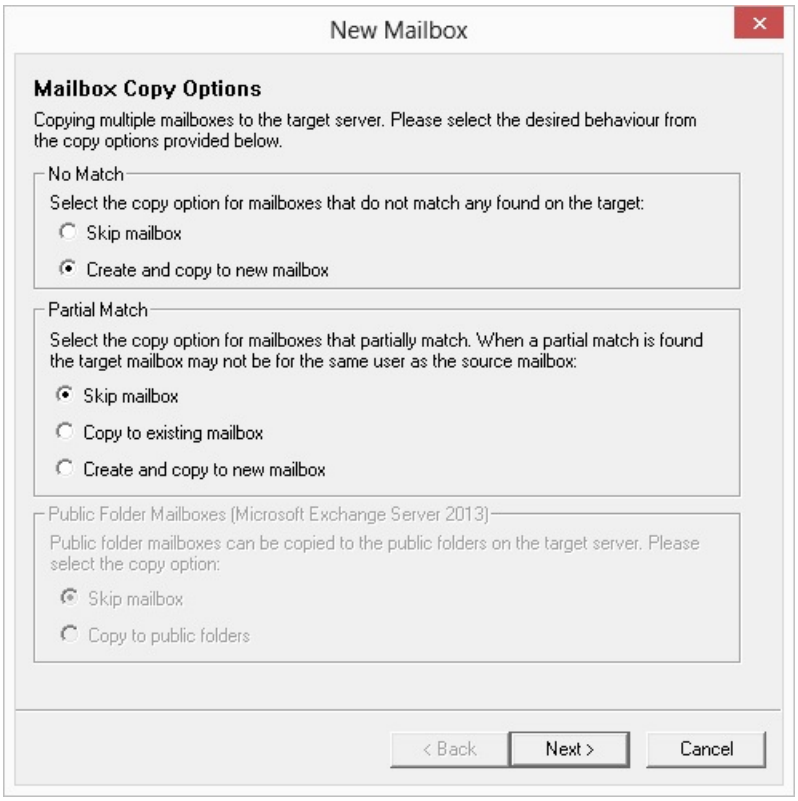


Figure 2-25: Mailbox Copy Options page

5. *If the source EDB originates from a Microsoft Exchange Server 2013 and the target is connected to All Public Folders*, choose one of the following in the **Public Folder Mailboxes (Microsoft Exchange Server 2013)** group:
   - Select **Skip Mailbox** to not copy the public folders contained in Public Folder mailboxes found during the copy.
   - Select **Copy to public folders** to copy the public folders in Public Folder mailboxes found during to copy to the target's All Public Folders.

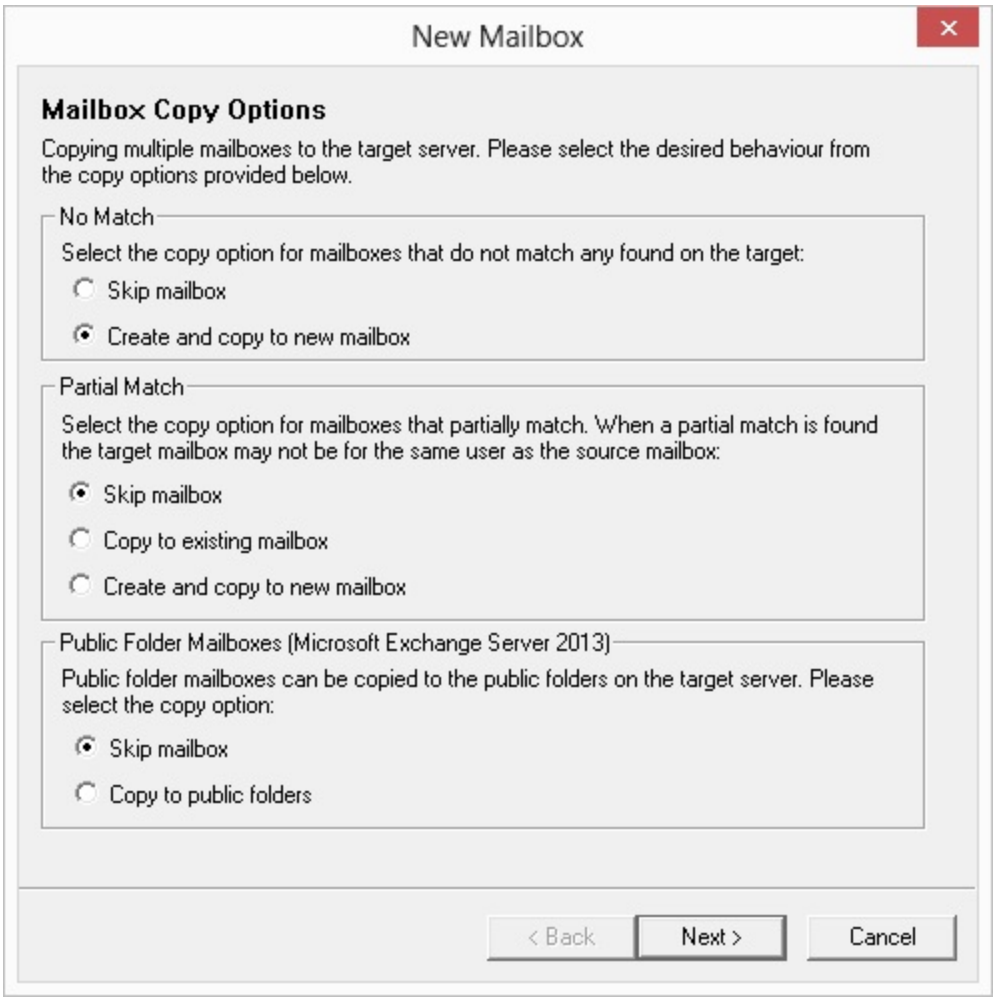


Figure 2-26: Mailbox Copy Options - Public Folder Mailboxes (Microsoft Exchange Server 2013)

6. Click **Next**.

   If you selected **Create and copy to a new mailbox** in No Match or Partial Match, the New Mailbox wizard proceeds. Otherwise, the copy begins.

7. Confirm the content of the **User Information** page is correct or make any changes and click **Next**.

   Note: *Not all fields can be changed.*

8. Confirm the content of the **Mailbox Settings** is correct or make any changes and click **Next**.

   Note: *When copying multiple mailboxes, the UPN, user logon name (pre-Windows 2000), and Alias for new mailboxes are auto-generated based on the source mailbox. If the source mailbox contains an alias (Microsoft Exchange Server 2010 and earlier) this is used. If the source mailbox does not contain an alias (as is the case with Microsoft Exchange Server 2013), the source mailbox name is used (after removing any illegal characters).*

Alternatively, a different type value can be used. By selecting the 'Alias base' check box, these fields are set to an auto-generated value that is a number appended to the Alias base (or just a number if the Alias base is empty). If you choose, you can change the field values on the New Mailbox Summary page for any mailbox being created as part of the copy.

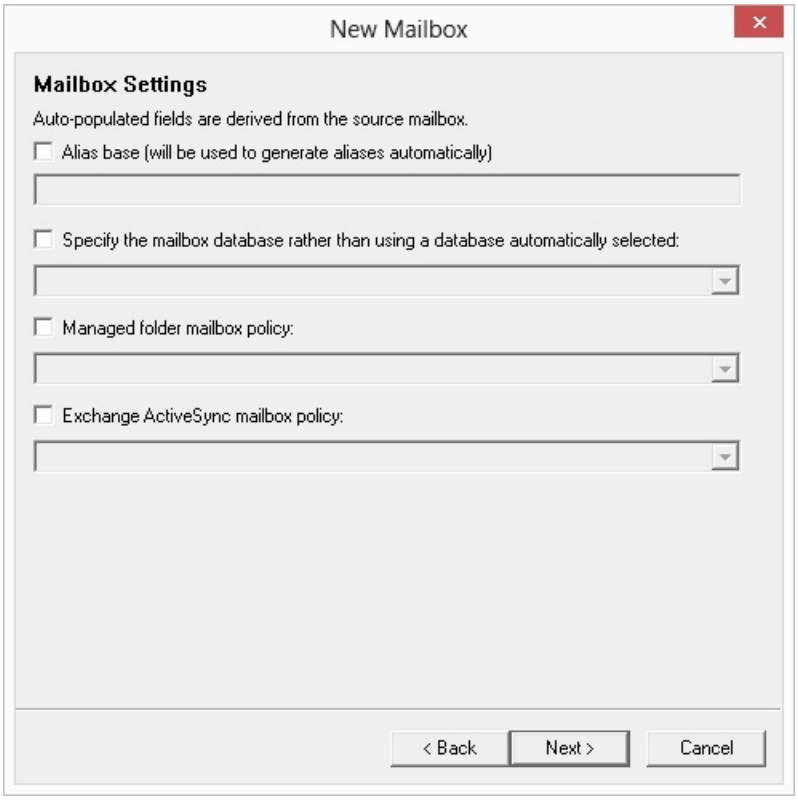


Figure 2-27: Mailbox Settings (Microsoft Exchange Server 2010 and 2013) - Multiple copy

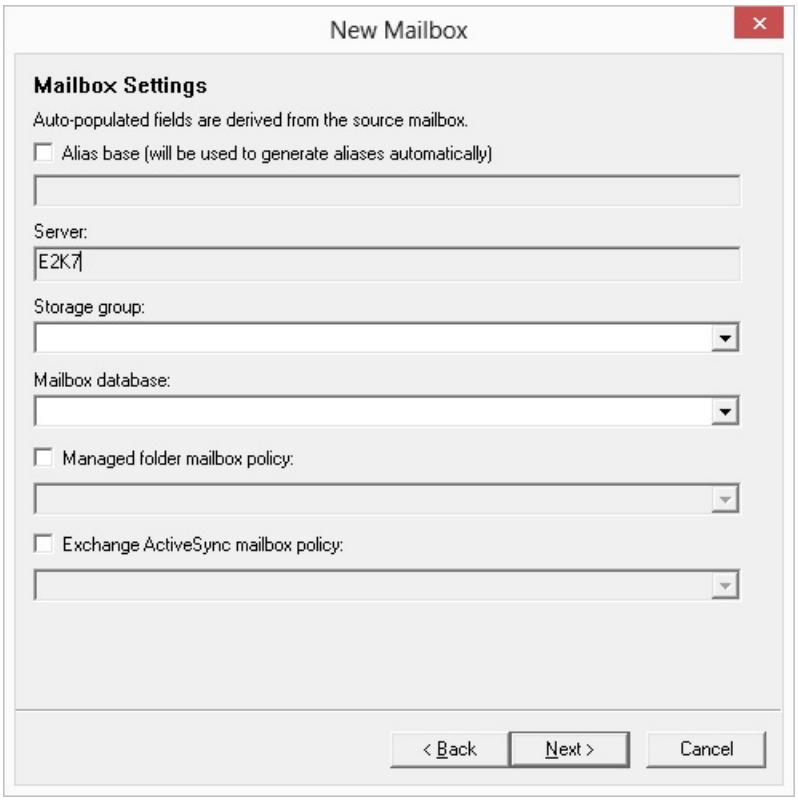


Figure 2-28: Mailbox Settings (Microsoft Exchange Server 2007 and earlier) - Multiple copy

Note: *If **Managed folder mailbox policy** is selected, a warning appears stating: "When assigning a managed folder mailbox policy with managed custom folders to a mailbox, Microsoft Office Outlook clients older than Microsoft Office Outlook 2007 do not have all available client features and clients older than Microsoft Office Outlook 2003 SP2 are not supported. Are you sure you want to assign a managed folder mailbox policy to this mailbox?"*

9. *If you are using Microsoft Exchange Server 2010 or 2013*, the **Archive Settings** page appears. Select the **Create an archive mailbox for this account** to associate an online archive mailbox with the user account. To specify the mailbox database, select the check box which enables the drop-down list of all available mailbox databases.

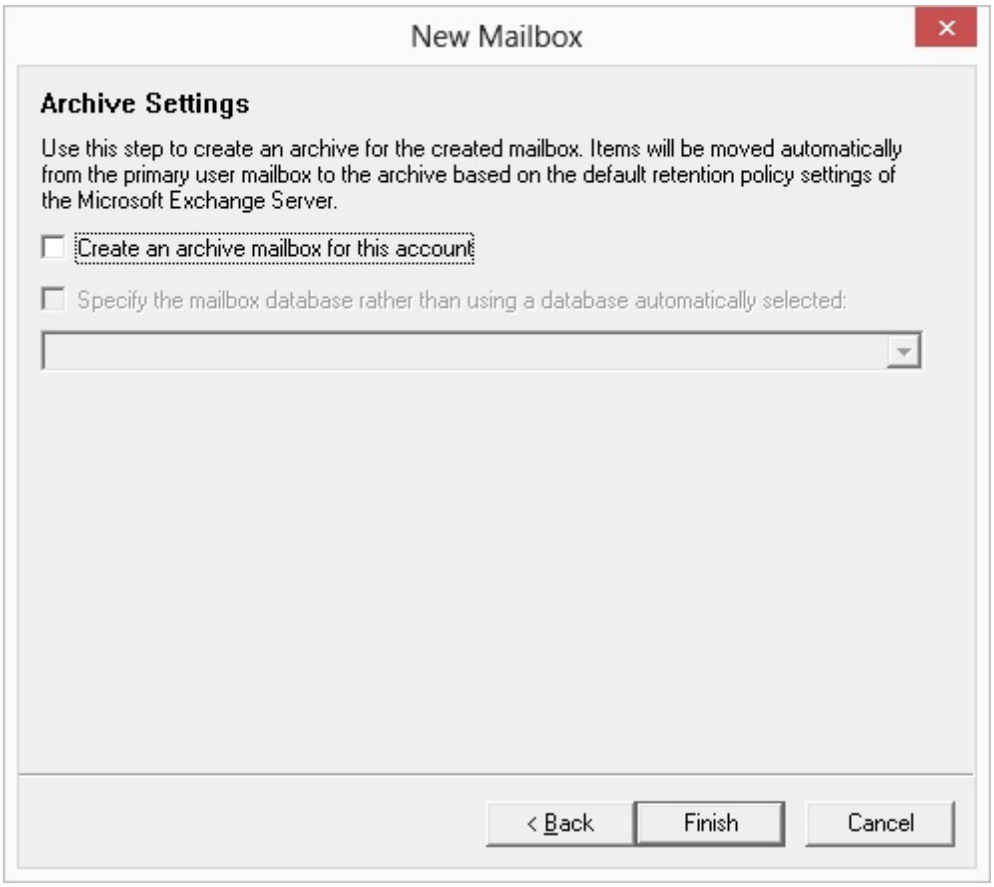


Figure 2-29: Archive Settings for Microsoft Exchange Server 2010 and 2013

Note: *If using Microsoft Exchange Server 2010 SP1 and later or Microsoft Exchange Server 2013, the mailbox database can be selected.*

10. Click **Next**. Single Mailbox Recovery analyzes the source and target selections to determine the new mailboxes that will be created on the target. While performing this analysis, the Identifying New Mailboxes page appears and displays progress information.

    Note: *If the 'Alias base' check box on the Mailbox Settings page is selected, the UPN, user logon name, and Alias are auto-generated using the Alias base field value. Otherwise, the values are set based on the source mailbox. This initial auto-generated value can be modified on the New Mailbox Summary page using the Edit Mailbox Item dialog box.*

11. When Single Mailbox Recovery finishes analyzing, the progress information clears and the New Mailbox wizard displays the New Mailbox Summary page.
12. On the New Mailbox Summary page, review the list of mailboxes to be created.

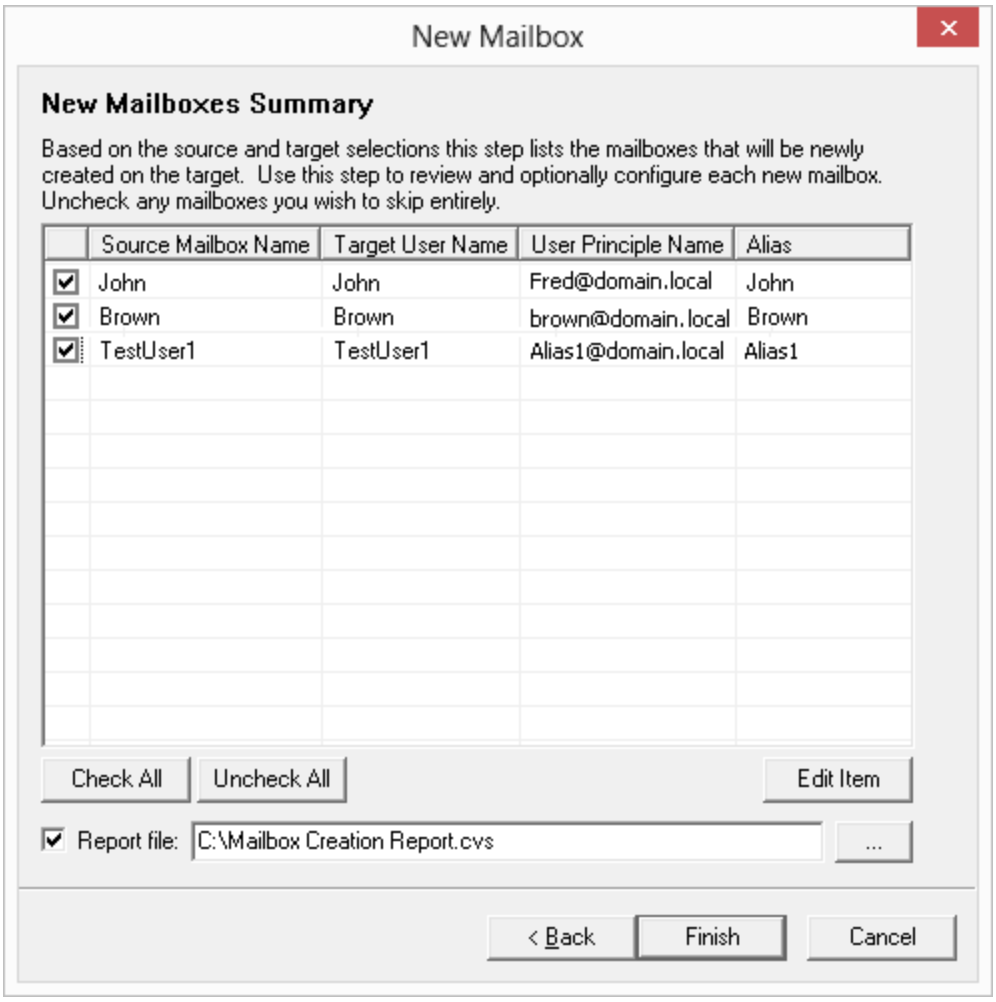


Figure 2-30: New Mailboxes Summary page

13. *If you want to edit a mailbox,* do the following:
    - Select the mailbox and click **Edit Item** or double-click the mailbox.
    - Use the Edit Mailbox Item dialog box to make changes to any target information and click **OK** to validate the new content.

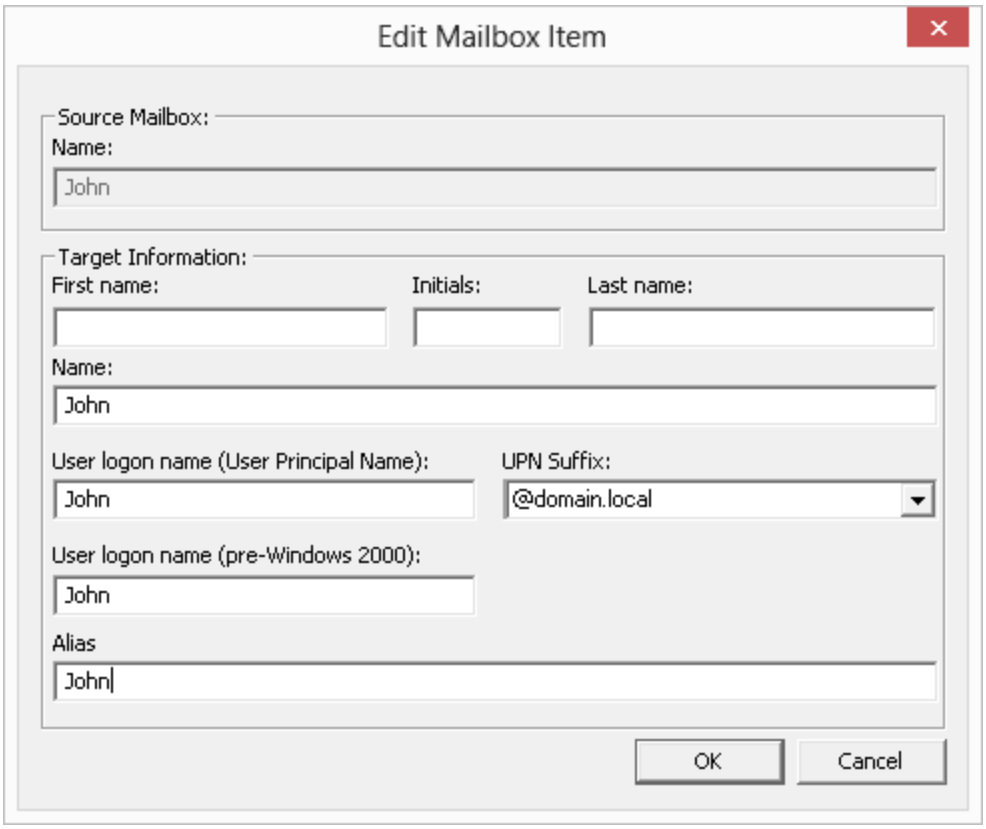


Figure 2-31: Edit Mailbox Item dialog box

- If the information you supply is not valid, an error message appears. Correct the issue on the Edit Mailbox Item dialog box and click **OK**.

14. On the New Mailbox Summary page, clear the check box for any mailboxes you want to skip entirely (do not create and copy). You can select or clear the entire list by clicking **Check All** or **Uncheck All**.
15. Select **Report file** if you want to generate a CSV file listing the Source Mailbox Name, Target User Name, User Principal Name, and Alias for each mailbox created during the copy.
16. Click **Finish** and the copy proceeds with progress information appearing in the Report dialog box.
17. Click **Print** to send the report to a printer, **Save** to save the report to a hard drive, or **Close** to close the Copy Progress window. Each mailbox from the source EDB you copied that did not previously exist is now listed as a new mailbox in the target pane.

Licensing Information

License information for the Microsoft Exchange Server database currently in use can be obtained by right-clicking on the source root in the source pane and selecting Save Licensing Information.

The file saves into a text format and automatically names it "ServerProperties.txt."

Auditing Failure

If your Administrator is running the Single Mailbox Recovery Administrative Server auditing service, any failure of the audit log warns you with a message, giving you the option to retry, re-connect, or abort Single Mailbox Recovery or Single Mailbox Recovery ExtractWizard. Once the audit log is confirmed to have failed, Single Mailbox Recovery or Single Mailbox Recovery ExtractWizard starts the process of shutting down.

Contact your Administrator if restarting the applications is not successful.

Chapter 3: Finding Messages

Overview

The Find in Source window lets you search a source EDB, PST, or CAS file for message items that are defined by such criteria as keywords, message senders and recipients, and message creation dates. In addition, this window lets you define the scope of your search: an EDB, PST, or CAS file, one or more mailboxes or folders (for example, Inbox), dates, or even previous search results.

The Find in Exchange Server Target window adds the ability to search a live Microsoft Exchange Server target and perform actions on the search results.

Guidelines for Using the Find Window

- The **Find Now** button only becomes available if *at least one* of the following conditions is met:
  - At least one **Search in** check box is selected.
  - The **Sent from** or **Sent to** box contains at least one character.
  - The **Created Dated after** or **Created Dated before** check box is selected.
- Each **Search in** check box that you select is run as a separate query, and the results of the query are combined (i.e., OR'd together). For example, if you enter "solution" in the **Search for words** box, and then select the **Message Subject** and **Message Body** check boxes, Single Mailbox Recovery will return message items that contain "solution" in either the message subject or message body.
- If you select one or more **Search in** check boxes, but specify no additional search criteria, Single Mailbox Recovery will return all of the message items in the folder(s) undergoing the search.
- Single Mailbox Recovery can search multiple information stores at the same time. In the **Find in Source** window, click **Browse** and you will see a tree view of all of the open source data stores. You can then select multiple mailboxes or folders to include in your search.
- Single Mailbox Recovery does not return duplicates of a message item during a search as long as the "Check for duplicate messages during search" preference is selected. For example, if the same message item exists in two or more data stores, only the first message item found is listed in the search results.
- The contents of an inaccessible EDB mailbox cannot be searched.

- Messages in the Microsoft Exchange Server 2010 or 2013 **Recoverable Items** folder are included in search results only if the **Show Recoverable Items** preference is enabled. See "Security Tab" for more information setting preferences.
- If you use the "Mailbox Criteria (optional)" box on the Select Source Files dialog box or the Source Path Selection page of the DataWizard, only EDB mailboxes containing your entry (or entries) are displayed on the Source Pane. Any mailboxes that do not match the entered string(s) do not appear in the Source Pane and are not be included in any subsequent tasks (such as searching, copying, and exporting of the entire database). For more information, see **"Mailbox Criteria" on page 32**.
- If you use the "Multi-Tenancy Criteria" box on the Select Source Files dialog box, the Source Path Selection page of the DataWizard, the Connect to Exchange Server dialog box, or the Target Type & Path Selection page of the DataWizard, only mailboxes contained in the selected Address Book Policy or Organization appear in the Source or Target Panes. Only these mailboxes are included in any subsequent tasks (such as searching, copying, and exporting of the entire database). For more information, see **"Multi-Tenancy Support" on page 33**.

Searching Sources

The Find in source window provides the ability to search single or multiple mailboxes and perform actions on the search results.

Tip: CAS and PST files are searchable in the source pane but not in the target pane.

The actions allowed to perform on search results are copying or exporting message items, performing Integrity Checks, and viewing message items using the Message Views options. You can have several Find in Source windows open at a time.

To search for message items in sources

1. In the source pane, select the folder (for example, EDB or PST file, mailbox, Inbox) you want to search. The folder(s) you select defines the scope of your search.
2. Do one of the following:
   - Click **Find** in the toolbar to display the **Find in Source** window. The name of the folder you selected appears next to the **Search in folder** box.
   - Right-click the file and click **Find**.
   - On the **Tools** menu, click **Find**.
   - Press **F3**

Note: *The first time you search for a message item, the* ***Search in folder*** *option is automatically selected. For information on using the* ***Search in results*** *option, see* ***"Searching Within Results" on page 90***.

3. To search multiple mailboxes or folders, click **Browse**. In the **Select Folder(s)** window, select the items you want to search. In the illustration below, two mailboxes have been selected.

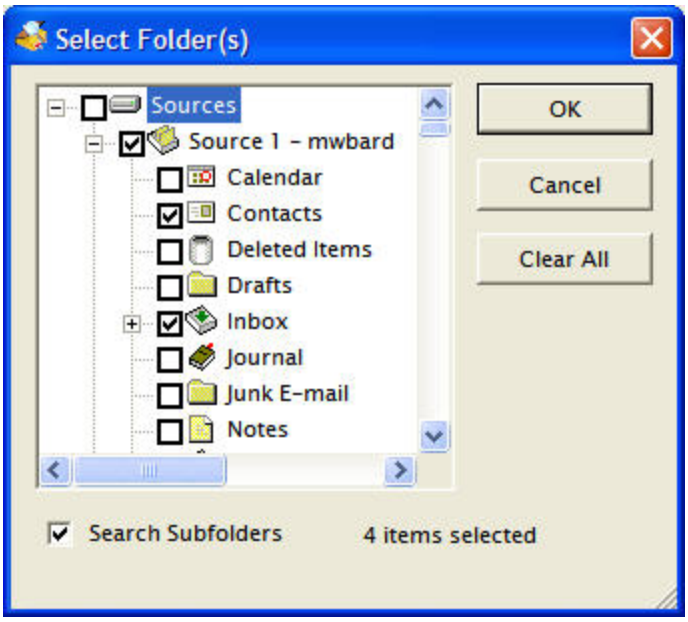


Figure 3-1: You can select multiple folders or mailboxes to search.

Note: *If you select the Search Subfolders check box, Single Mailbox Recovery includes subfolders in the search.*

4. Click **OK** to return to the **Find in Source** window.

   In the following illustration, the Search in folder box now displays "Multiple folders selected."

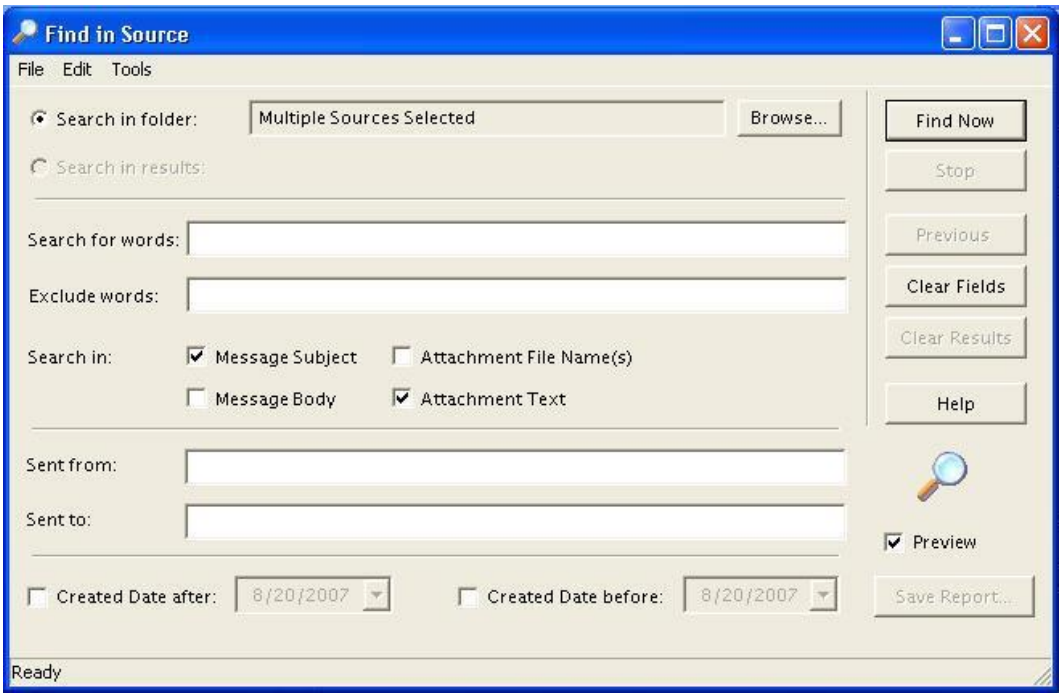


Figure 3-2: Result when multiple folders are selected

5. In the Search for words box, enter one or more words or phrases if you want to execute a keyword search. Keep in mind the following points:
   - Put a space between words or phrases to perform an AND operation (i.e., all words must be matched in order to include a message item with the search results).
   - Put a comma between words or phrases to perform an OR operation (i.e., only one of the words must be matched in order to include a message item with the search results).
   - Put quotation marks around word phrases (i.e., the exact phrase must be matched in order to include a message item with the search results).

     Example: Search for words: dog cat mouse, rat

     Search results: Message items that contain ["dog" AND "cat" AND "mouse"] OR ["rat"] are included in the search results.

6. In the **Exclude words** box, enter words or phrases if you want to perform a NOT operation. If matched, these words or phrases will exclude a message item from the search results. The rules for using spaces, commas, and quotation marks apply when excluding words from a search.

   Example: Search for words: dog cat mouse, rat

   Exclude words: bird

Search results: Message items that contain ["dog" AND "cat" AND "mouse"] OR ["rat"] BUT NOT ["bird"] are included in the search results.

7. For **Search in**, select one or more of the following check boxes: **Message Subject**, **Message Body**, **Attachment File Name(s)**, or **Attachment Text**. Each **Search in** check box that you select is run as a separate query, and the results of the query are combined (i.e., OR'd together).

   Note: *Single Mailbox Recovery has the ability to search multiple levels of embedded message items. Select* ***Attachment Text*** *in the* ***Select in*** *check box. See* ***"Searching Embedded Message Items" on page 89*** *for more information.*

   Note about searching within attachments: Single Mailbox Recovery *does not search within archive file types such as .zip or .rar files. For more information, see* ***"Searching Within Attachments" on page 95***.

8. In the **Sent from** and **Sent to** boxes, enter the appropriate names, if desired. Using the **Sent to** box is particularly useful if you are trying to find a message item sent to multiple people. The rules for using spaces, commas, and quotation marks apply when using the **Sent from** and **Sent to** boxes.
9. For **Created Dated after** and **Created Dated before**, select the appropriate check box, if desired. You may select both check boxes. Then type or select the part of the date you want to change.
   - **Created Dated after:** Searches for documents created on or after the selected date.
   - **Created Dated before:** Searches for documents created on or before the selected date.
10. When you have finished specifying search criteria, click **Find Now**. The results of your search appear in the message item list.
11. To preview the message items returned by the search, click the **Preview** check box.

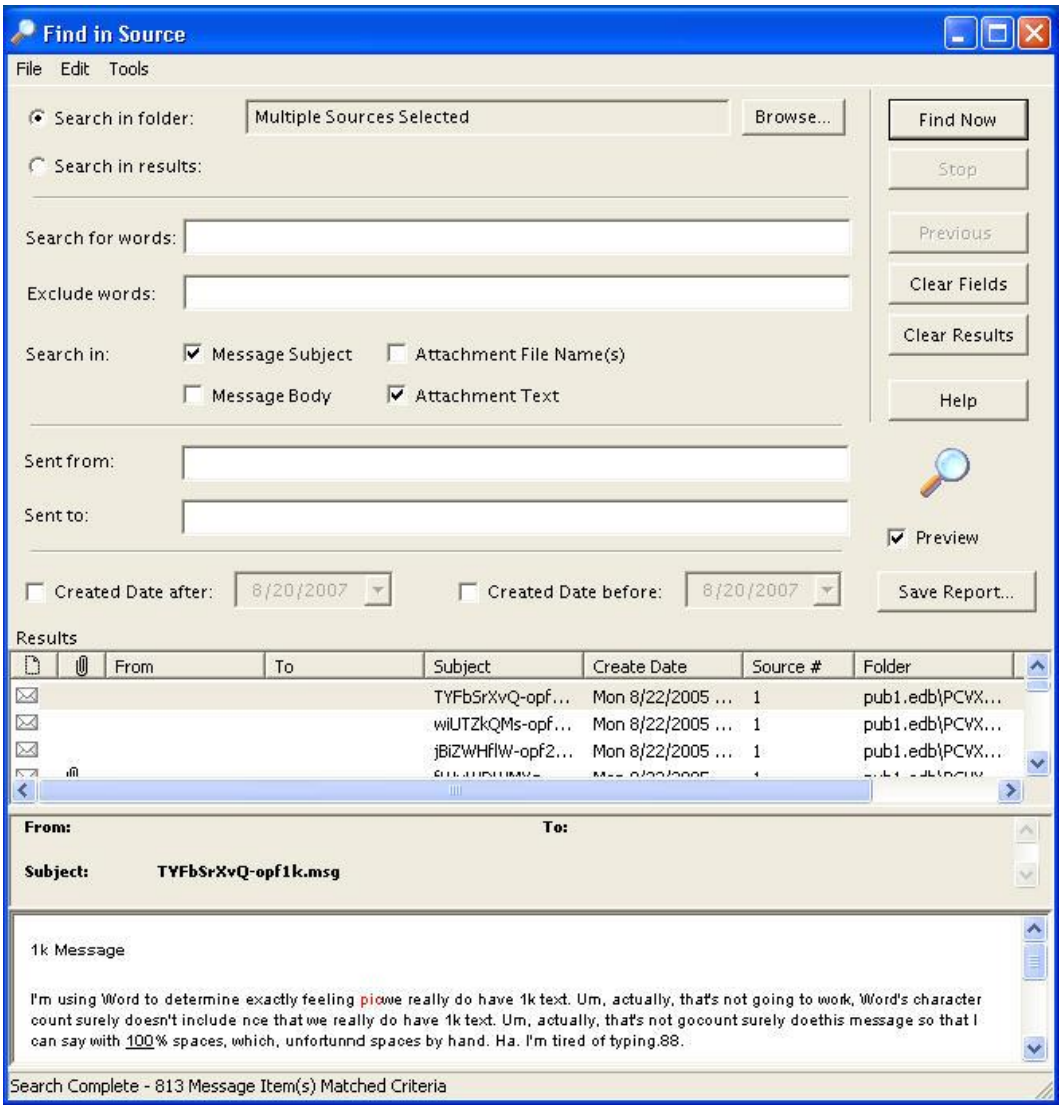


Figure 3-3: Find window with results and message pane

Searching Embedded Message Items

You can search multiple levels of embedded message items in Single Mailbox Recovery.

Note: *Searching attachments (email and non-email) is available only when the Agent for Advanced Searching for Microsoft Exchange Server is enabled.*

To search embedded message items

1. Perform steps 1 through 6 in **"Searching Sources" on page 85**.
2. For **Search in**, click **Attachment Text**.
3. Continue with step 8 in the **"Searching Sources" on page 85** process.

Searching Within Results

The Search in results option lets you refine the search process using the previous search results.

To search within results

1. To make the **Search in results** option available, you must perform at least one search.
2. Modify the search criteria as desired. For information on specifying search criteria, see **"Searching Sources" on page 85**.
3. Select the **Search in results** option at the top left of the **Find in Source** window.
4. Click **Find Now**. The results of your new search appear in the message item list.
5. To preview the message items returned by the search, click the **Preview** check box.

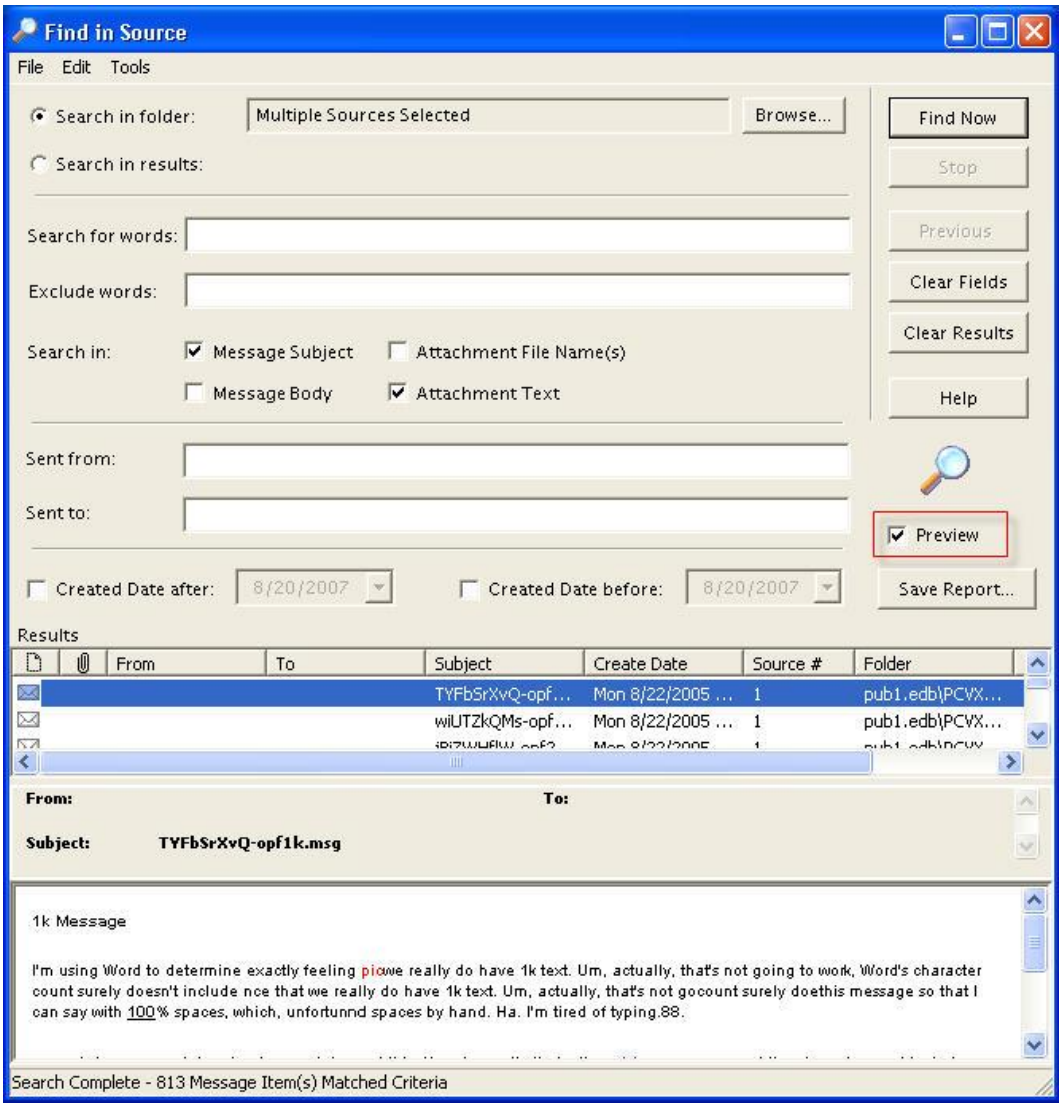


Figure 3-4: Checking the Preview option adds a message Preview pane

Viewing Previous Search Results

You can click the Previous button multiple times to return to any previous search criteria and search results. This button becomes unavailable when there are no more previous results.

To view previous search results

1. Perform at least two searches so the **Previous** button becomes available.
2. Click **Previous**. The results of the previous search appear in the in the message item list.
3. You can now view the previous search, or you can modify the search criteria and conduct a new search. For information on specifying search criteria, see **"Searching Sources" on page 85**.

Clearing Fields and Results

If you click the Clear Fields button, all of the search criteria that you entered in the Find in Source window are returned to the default settings. If you click the Clear Results button, all current and past search results are cleared.

Searching Microsoft Exchange Server Target

You can search a live Microsoft Exchange Server target and delete, move, copy, or export the search results. This means you can search and delete, or move specific message items from a Microsoft Exchange Server target. You can have only one search session Find in Exchange Target window open at one time.

Note: *Only accessible mailboxes and public folders of the Microsoft Exchange Server can be searched.*

Tip: CAS and PST files are not searchable in the target pane but are searchable in the source pane.

To search a Microsoft Exchange Server target

1. Do one of the following to display the **Find in Exchange Target** window:
   - Right-click the valid object in the target pane and click **Find**.
   - On the **Tools** menu, click **Find**.
   - On the toolbar, click the **Find** icon .
   - Press **F3**.
2. Conduct search as described in **"Searching Sources" on page 85**.

Tip: Microsoft Exchange Server target search results can have an Integrity Check performed either by right-clicking the message or clicking Integrity Check in the Tools menu.

Managing Message Items

Once you have performed a target search, several functions are available on the search results including cut, move, export, copy, and delete.

Moving Message Items

Moving message items from the search results to another folder within the target directory removes the message items from the original location. You can move message items by using the Move To Folder function, or by dragging and dropping to the destination folder.

Move to Folder

Single Mailbox Recovery presents you with a Move To Folder option and a corresponding Move Items destination selection window.

Note: *Message items cannot be moved to a Content Analysis Store (CAS).*

To move to folder using Move To Folder

1. Do one of the following to display the **Move Items** window:
   - Right-click the message item(s) in the search results and click **Move To Folder**.
   - On the **Edit** menu, click **Move To Folder**.
2. Select a folder as the destination and click **OK**. The **Copy Progress** window appears.
3. Select **Print** to print the progress report, **Save** to save the progress report to your hard drive, or **Close** to close the window.

Moving Message Item using Drag and Drop

Drag and drop from a Find in Target search result list has a "Move" option. This option behaves in the same manner as the Move to Folder function or cut and paste.

To move to folder using drag and drop

1. Right-click the message item in the search results and drag to a mailbox in the target pane.
2. At the destination mailbox, a shortcut menu appears with the options of **Paste**, **Move**, **Paste Special**, or **Cancel**. Select one and the **Copy Progress** window appears.
3. Click **Print** to print the progress report, **Save** to save the progress report to your hard drive, or **Close** to close the window.

Copying Message Items

You can copy message items to Microsoft Exchange Server and PST file targets. Only valid targets are displayed in the Copy Items window.

Copy to Folder

Single Mailbox Recovery presents you with a Copy To Folder option which copies the item and keeps it in its original location to be pasted in a designated location.

To copy to folder

1. On the **Edit** menu, click **Copy To Folder**. The **Copy Items** window appears.
2. Select a folder as the destination and click **OK**. The message item is now copied and pasted to the designated location.
3. In the **Copy Progress** window, click **Print** to print the progress report, **Save** to save the progress report to your hard drive, or **Close** to close the window.

Cutting and Deleting Message Items

The target search results has two new actions, cutting message items and deleting message items, which are only available in the target search results window.

Cutting Message Items

Cutting a message item moves the item from the original location to a given target.

Deleting Message Items

Deleting a message item in the search results works in a similar manner as deleting message items from the main target list. When you delete message items from the search results list, they are also deleted from the main target list if the same message item is currently displayed.

Note: *You cannot delete message items from the main target list if the Find in Exchange Target dialog is open.*

Saving and Using Search Profiles

Single Mailbox Recovery allows you to save search criteria to a text file for the purpose of using the search criteria in future searches. There are two menu commands that allow you to perform these functions: "Save Criteria" and "Use Previous Criteria." In addition, if you want to modify the search criteria in a search profile, you can edit the text file with a text editor.

When creating a search profile, you can save the following search criteria. The "Search For," "Exclude Words," "Sent from," and "Sent to" fields have a maximum of 4,095 characters.

- Search for words
- Exclude words
- Search in
- Sent from
- Sent to

- Created Dated after
- Created Dated before

Note: *The saved criteria of a content analysis store profile folder can be used for a search. Conversely, the saved criteria for a search can be used to create a content analysis store profile folder. For more information on content analysis stores, see* ***"Content Analysis Store" on page 156***.

To create a search profile

1. Open the **Find in Source** window, and enter search criteria.
2. On the **File** menu in the **Find in Source** window, click **Save Criteria**.
3. In the **Save As** window, specify a name and location for the search profile text file.
4. Click **Save**.

To edit a search profile

1. Locate and open the search profile that you want to edit.
2. Modify the search criteria as desired and save the text file.

To use a search profile when performing a search

1. Open the **Find in Source** window.
2. On the **File** menu in the **Find in Source** window, click **Use Previous Criteria**.
3. In the **Open** window, locate and open the search profile that you want to use for your search.
4. Click **Open**. The **Find in Source** window is populated with the search criteria specified in the search profile.

Using Multiple Search Windows

Single Mailbox Recovery allows you to open multiple instances of the Find in Source window to search any combination of information stores at the same time. There is no limit other than system resources for the number of concurrent searches you can initiate.

When searching on a live Microsoft Exchange Server target, you are able to have only one instance of a search session Find in Exchange target window at one time.

Note: *If you are using multiple instances of the Find in Source window to search within the same mailbox, you may notice a slowdown in performance.*

Searching Within Attachments

In both the Find in Source and Find in Exchange Target windows, you can search the text of email attachments. The Searching within Attachments feature supports Unicode text and is available for EDB, PST, CAS sources, and Microsoft Exchange Server targets. Single Mailbox Recovery supports Microsoft Office documents and many other popular file types.

Note about the licensing agent: *The "Agent for Advanced Searching" must be enabled in order to search attachments. For more information, see "Task III: View and Enable Agents" in the Release Notes file.*

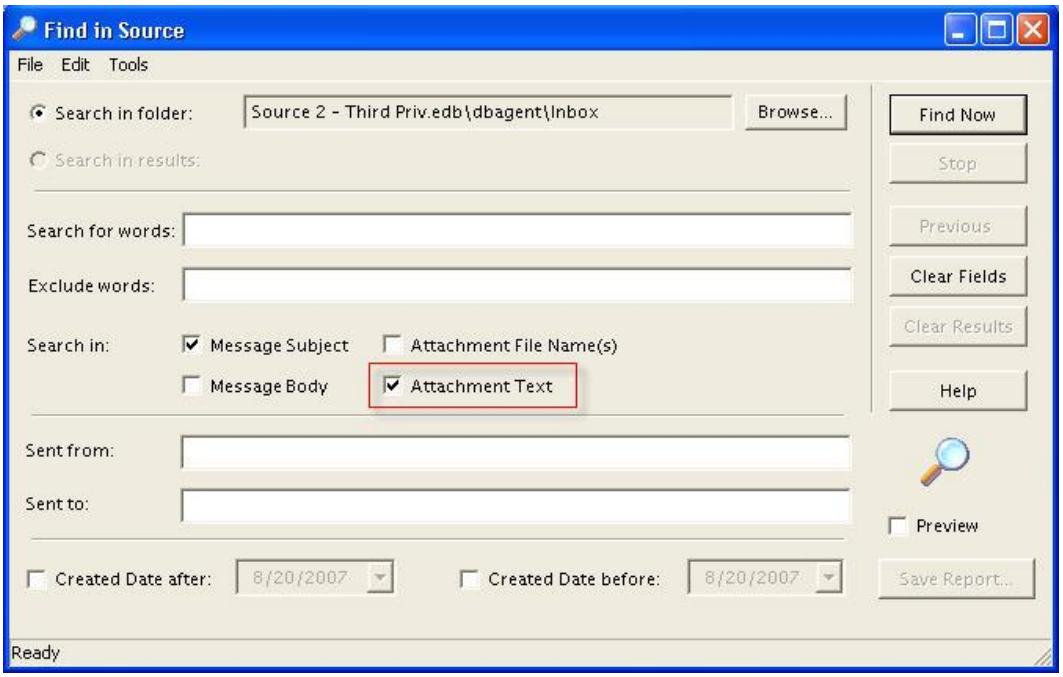


Figure 3-5: Select the Attachment Text option to include in your search

To search within attachments

1. In the **Find in Source** or **Find in Exchange Target** window, select the **Attachment Text** check box.
2. Specify other desired search criteria. For more information, see "Searching Sources".
3. Click **Find Now**. If Single Mailbox Recovery matches a keyword or phrase in the text of the attachment, it will return a "Hit" just as it would if it found a keyword or phrase in the body or subject of a message item.

Exceptions When Searching Within Attachments

Single Mailbox Recovery does *not* search for the following items:

- Archive files (for example, .zip, .rar)
- Binary files (for example, .dll, .exe, .jpg)
- Metadata associated with files (for example, author and company information in an .xls file)

Other Single Mailbox Recovery Features Available Through the Find Window

In addition to the search features described in the previous sections, there are several Single Mailbox Recovery features available through the Find window.

Opening and Saving Attachments in the Find Window

For instructions on opening and saving attachments, see **"Opening Attachments" on page 16** and **"Saving Attachments" on page 17**.

Keep in mind that you must have an application on your computer that can open the attachment's file type. If no associated program is available for the attachment file type, Single Mailbox Recovery will present a message dialog box saying the attachment cannot be viewed.

Exporting Message Items from the Find Window

The Export feature allows you to copy individual message items from the Find window to a local or network drive destination. You can choose to save exported message items as plain text files (.txt) or Microsoft Office Outlook® files (.msg). For more information, see **"Exporting Messages" on page 99**.

Restoring Message Items from the Find Window

The results of conducting a search appear in the message item list in the Find window. You can restore the message items in this list by dragging them or copying and pasting them into the target folder. If you want to maintain the directory structure of restored individual message items, use the Paste Special command.

You can also restore message items by browsing in the main window and dragging and dropping or copying and pasting from the main window to the target. You do not need to search to restore message items. For more information, see **"Restoring Microsoft Exchange Server Data" on page 110**.

Performing an Integrity Check on Message Items in the Find in Source Window

The Find in Source window allows you to perform an integrity check on one or more message items in the Results area. During the integrity check, Single Mailbox Recovery verifies that it can read all of the properties of the message items.

Note: *Only accessible mailboxes can have an Integrity Check performed.*

To perform an integrity check on message items in the Find in Source window

1. In the **Find in Source** window, perform a search.
2. In the **Results** area, select the message items for which you want to perform an integrity check.
3. On the **Tools** menu in the **Find in Source** window, click **Integrity Check**. The **Integrity Check** window appears.

Search Results Report

You can save a text-based report of the search results to your local drive without having to copy or export any of the search results. The search results report is saved into a file that includes the search criteria, date/time the search was started, and a report of message items that matches the criteria.

Save Report

You can save the search results report once a search has been performed and either completed or stopped.

The Save Report button creates two text-based reports. One report contains a search session summary (**Summary Report**) and the other report contains search session message item results (**Message Report**).

Summary Report

The information included in the Summary report is the search session details and the user-defined search criteria for the search.

Message Report

The information included in the Message report is based on the column headings in the search results, message type, attachments, From and To, etc.

To save the report

1. After conducting the search, click **Save Report**. The **Browse For Folder** window appears.
2. Select the destination for the report and click **OK**. The search results reports creates both a Message Report and a Summary Report, and are saved on your hard drive in a .txt format.

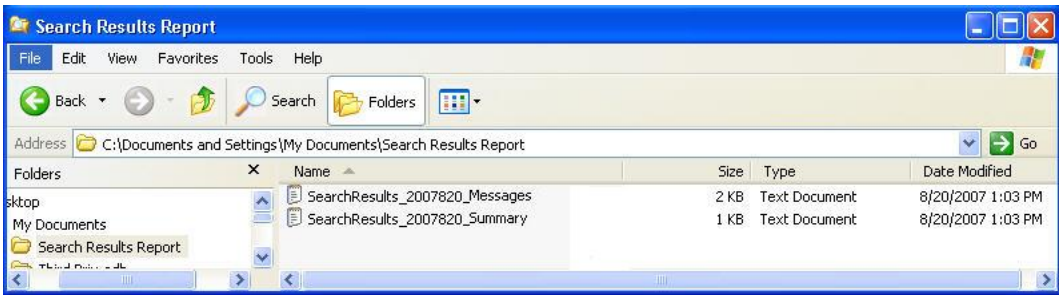


Figure 3-6: Summary and Messages Reports

The files are named using the date of the search and a suffix indicating the type of report. For example, if you run a search on 5/8/2007, the report names are:
SearchResults_20070508_Summary.txt for the summary report, or
SearchResults_20070508_Messages.txt for the message report.

For cases where you choose to create more than one set of reports on the same date, files are named using an incremental numbering convention starting with "1." If you run a second search on 5/8/2007, the report names are:
SearchResults_20070508(1)_Summary.txt for the summary report, or
SearchResults_20070508(1)_Messages.txt for the message report.

3. Clicking **Cancel** during the report generation progress terminates the process and any reports created for this Save Report action are deleted from the report destination.

Using the Report

The text summary or message report is tab delimited and can be imported into a spreadsheet if desired. Simply drag the .txt file from its location into a blank spreadsheet. The source # in the search results is replaced with the full path to its location in the report.

Chapter 4: Exporting Messages

Overview

You can export mail from an EDB, PST, or CAS source file to a local or network drive destination. Exported messages can be saved as Microsoft® Office Outlook® files (.msg) or plain text files (.txt). This can assist you in copying old email backups into an alternate or non-email system. You can export at all levels: an EDB file, a PST file, a CAS file, a CAS profile folder, a mailbox, a folder, and individual messages. EDB files can be exported to PSTs.

You can also export forms from an organizational forms library in a public folder EDB or public folder mailbox. These exported files can be saved as Microsoft Office Outlook forms (.oft).

General Information about Exporting Messages

- The **file name** for an exported message is its subject. The file name for an exported organizational form is the form's name. A duplicate file name will create a file with the same name but with an (x) appended to the filename: x = 1 for the first duplicate, x = 2 for the next duplicate, and so on. If the subject or form name contains illegal file name characters, each offending character will be replaced with an underscore.
- **Associated messages** and **folder properties** will not be exported.
- When **exporting individual messages**, you have the option to keep the folder/mailbox hierarchy, similar to the paste special feature. When **exporting a mailbox or folder**, you have the option to also export the subfolders.
- Messages in the Microsoft Exchange Server 2010 and 2013 **Recoverable Items** folders can be exported if the **Show Recoverable Items** preference is enabled.
- When exporting the **Recoverable Items** folder, it is renamed to distinguish the copied version from the actual version. The folder is renamed using the localized short date in parenthesis and appended to the folder name. **Example:** "Recoverable Items (10/22/2009) "
- If you use the "Mailbox Criteria (optional)" box on the Select Source Files dialog box or the Source Path Selection page of the DataWizard, only EDB mailboxes containing your entry (or entries) are displayed on the Source Pane. Any mailboxes that do not match the entered string(s) do not appear in the Source Pane and are not be included in any subsequent tasks (such as searching, copying, and exporting of the entire database). For more information, see **"Mailbox Criteria" on page 32**.
- If you use the "Multi-Tenancy Criteria" box on the Select Source Files dialog box, the Source Path Selection page of the DataWizard, the Connect to Exchange Server dialog box, or

the Target Type & Path Selection page of the DataWizard, only mailboxes contained in the selected Address Book Policy or Organization appear in the Source or Target Panes. Only these mailboxes are included in any subsequent tasks (such as searching, copying, and exporting of the entire database). For more information, see **"Multi-Tenancy Support" on page 33**.

About Message (.msg), Text (.txt), and PST Export

The file type for an exported message can be either Microsoft Office Outlook (.msg) or plain text (.txt). EDB files can be exported to a PST.

Message (.msg) export

A .msg file (OLE compound document) can be imported directly into Microsoft Office Outlook. This file type encapsulates the entire message including attachments.

Text (.txt) export

A .txt file is created with the following information. Note that neither message attachments nor message properties are exported.

PST export

The Export to PST option allows you to generate PST files for one or all users'; mailboxes from an off-line EDB file. Single Mailbox Recovery generates a single PST file for each user's mailbox. See **"Exporting to PST" on page 104** for more information.

Exporting Messages

The following instructions show you how to export an EDB file, a PST file, a CAS file, a CAS profile folder, mailboxes, folders, and messages from the source pane in the Single Mailbox Recovery main window. They also show you how to export messages from the Find in Source or Find in Exchange Target window.

Note: *Only accessible mailbox items can be exported. If you are exporting a CAS file, only accessible mailboxes are included in the export.*

To export an entire EDB file

1. In the source pane, select the EDB file.
2. Do one of the following:
   - On the **Tools** menu, click **Export**.
   - On the toolbar, click the **Export** icon .

- Right-click the EDB file, and on the shortcut menu, click **Export**. The **Export EDB** window appears.

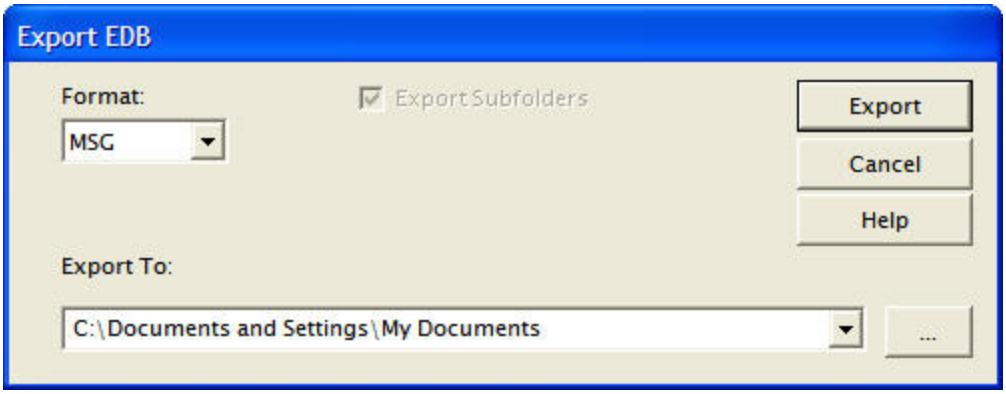


Figure 4-1: MSG or TXT format can be selected for Export

3. In the **Format** box, select MSG or TXT.
4. In the **Export To** box, specify the location for the exported EDB file.
5. Click **Export**.
6. In the **Export Progress** window, verify the EDB file was successfully exported, and click **Close**.

To export a PST file, a mailbox, or a folder

1. In the source pane, select a PST file, a mailbox or a folder (for example, Inbox).
2. Do one of the following:
   - On the **Tools** menu, click **Export**.
   - On the toolbar, click the **Export** icon .
   - Right-click the mailbox or folder, and on the shortcut menu, click **Export**. The **Export Mailbox** or **Export Folder** window appears.

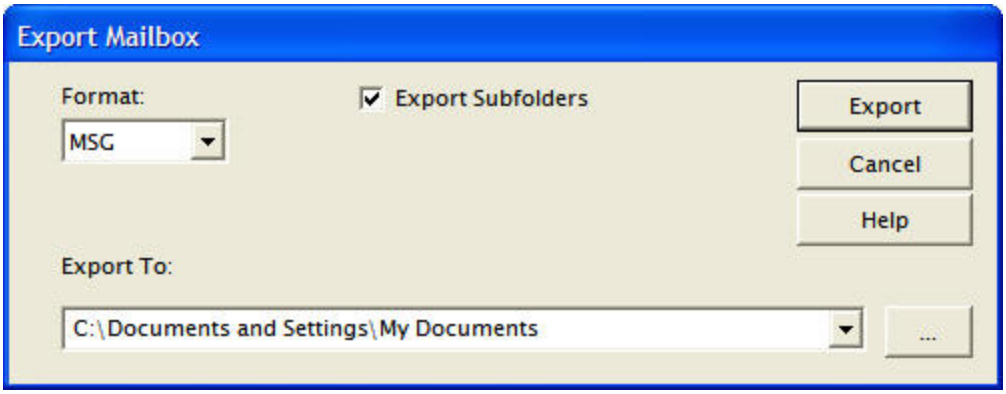


Figure 4-2: Export Mailbox window

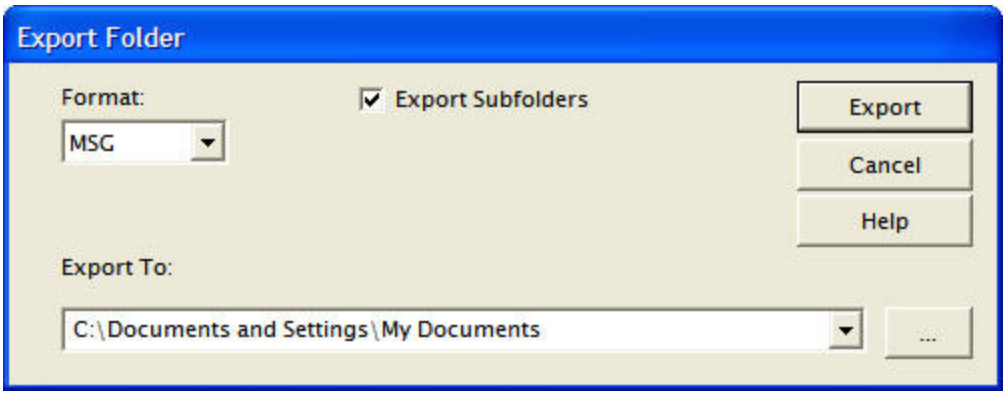


Figure 4-3: Export Folder window

3. In the **Format** box, select MSG or TXT.
4. In the **Export To** box, specify the location for the exported mailbox or folder.
5. Select the **Export Subfolders** check box if you want to export all of the subfolders for the selected mailbox or folder.
6. Click **Export**.
7. In the **Export Progress** window, verify the mailbox or folder was successfully exported, and click **Close**. The mailbox or folder appears in the specified location. In the illustration below, the exported folder is the Inbox.

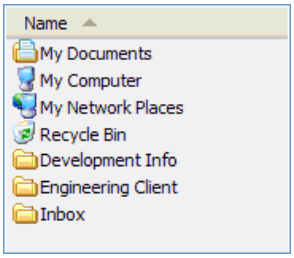


Figure 4-4: The exported Inbox appears in the specified location

To export individual messages

1. In the source pane, select one or more messages from the message list.
2. Do one of the following:
   - On the **Tools** menu, click **Export**.
   - On the toolbar, click the **Export** icon .
   - Right-click the selection, and on the shortcut menu, click **Export**. The **Export Messages** dialog box appears.

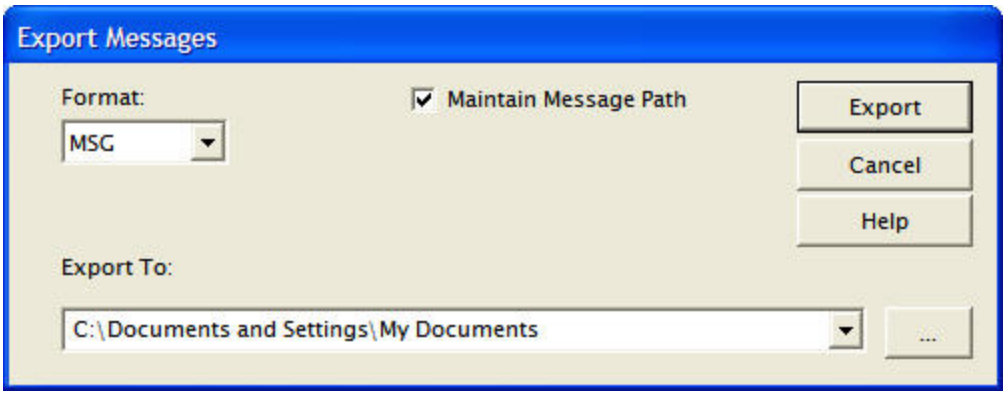


Figure 4-5: MSG or TXT format can be exported

3. In the **Format** box, select MSG or TXT.
4. In the **Export To** box, specify the location for the exported messages.
5. Select the **Maintain Message Path** check box if you want to maintain the directory structure of the exported messages.
6. Click **Export**.
7. In the **Export Progress** window, verify your messages were successfully exported, and click **Close**. The messages appear in the specified location. In the illustration below, the exported messages come from the "User 1" mailbox.

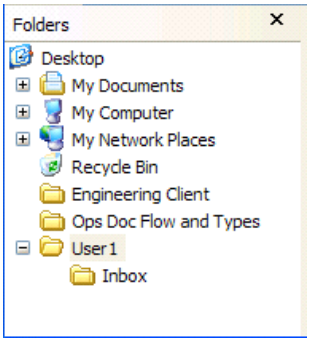


Figure 4-6: Messages appear in specified location

To export individual messages from the Find window

1. In the **Find in Source** or **Find in Exchange Target** window, select one or more messages from the message list.
2. Right-click the selection, and on the shortcut menu, click **Export**.
3. Perform steps 3-7 in the preceding section.

To export individual messages from the source content analysis store profile folders

1. In the source message pane, select a profile folder, then select one or more messages from the message list.

2. Do one of the following:
   - On the **Tools** menu, click **Export**.
   - On the toolbar, click the **Export** icon .
   - Right-click the selection, and on the shortcut menu, click **Export**. The **Export Messages** window appears.

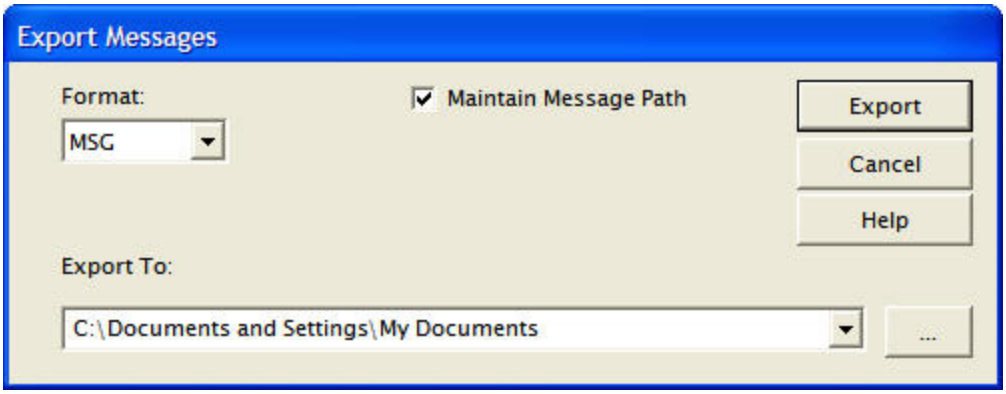


Figure 4-7: MSG or TXT format can be exported

3. In the **Format** box, select MSG or TXT.
4. In the **Export To** box, specify the location for the exported messages.
5. Select the **Maintain Message Path** check box if you want to maintain the directory structure of the exported messages.
6. Click **Export**.
7. In the **Export Progress** window, verify your messages were successfully exported, and click **Close**.

Exporting to PST

The Export to PST option allows you to generate PST files for one or all users' mailboxes from an off-line EDB file. Single Mailbox Recovery generates a single PST file for each user's mailbox. If Microsoft Office Outlook 2003 or greater is installed on your computer, you have the option of creating either Microsoft Office Outlook 97-2002 style PST files or Microsoft Office Outlook 2003 style PST files.

This feature is available with the following source selections in the source pane:

- **EDB Source(s)**-Export all mailboxes to PST files
- **One mailbox within an EDB Source**-Export EDB mailbox to PST files

Note: *EDB sources that are a result of a search cannot be exported to PST.*

Note: *Before exporting to PST, ensure that you have sufficient disk space available at the destination of the PST export.*

To export to PST

1. Highlight the item to export.
2. Do one of the following:
   - Right-click and click **Export**
   - On the toolbar, click the Export icon .
   - On the **Tools** menu, click **Export**.
3. Select **PST** in the **Format** drop-down list.
4. Select the destination in **Export To** field.
5. Click **Export**. The **Outlook Version** window appears.

   Note: *If your system has Microsoft Office Outlook 2003 or later installed, then Single Mailbox Recovery has the capability to create either Microsoft Office Outlook 97-2002 or Microsoft Office Outlook 2003 style PST files. If this is the case, you are presented with a window prompting you to select which style of PST you want to create.*

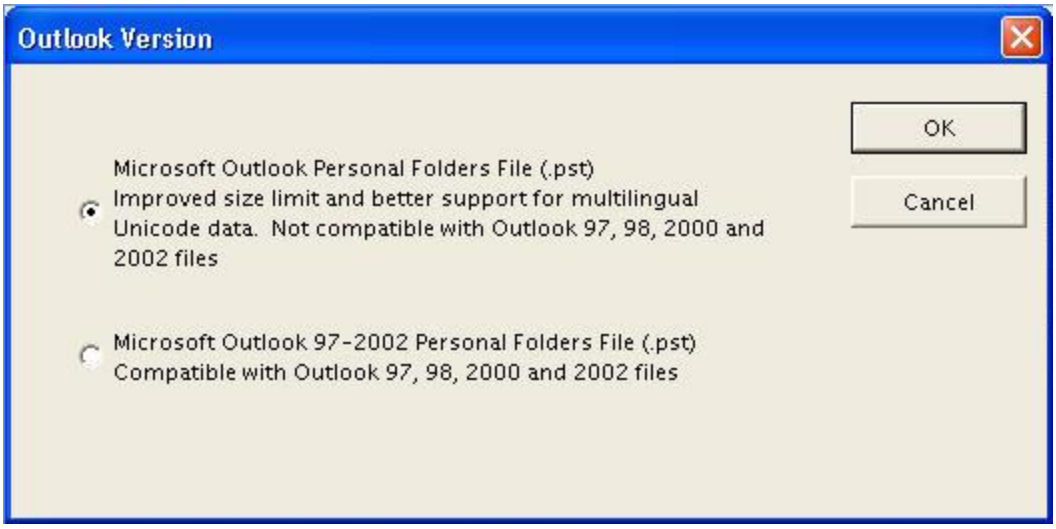


Figure 4-8: Select Microsoft Office Outlook Version

6. Select the appropriate version of Microsoft Office Outlook and click **OK**. The **Export Progress** window is displayed.
7. After the export has completed, click **Print** to send to printer, **Save** to save a .txt report of the export to your local drive, or **Close** to close the window.

To use exported PST

1. Navigate to the location where the PST was created.
2. Drag and drop the PST into Single Mailbox Recovery in either the source or the target pane. The **Select Source Files** window appears.
3. Click **OK**. The PST now appears in the target or source directory.

Output

Note: *By default, the limit for a .pst file in Microsoft Office Outlook 2003 and in Microsoft Office Outlook 2007 is configured to be 20 GB. As a result, exporting Microsoft Office Outlook 2003 or Microsoft Office Outlook 2007 .pst files larger than 20 GB is not supported.*

The PST files generated are named according to the mailbox name and placed in a folder named after the EDB. For example, if you wanted to export all the mailboxes from Priv1.edb (John Doe, Jane Doe, and User5), and you selected C:\PST as the "Export To:" folder, the exported folders and PST files would look like:

```
C:
    PST
        Priv1.edb
                John Doe.pst
                Jane Doe.pst
                User5.pst
```

Already Existing Files

If any of the exported PST files already exist, Single Mailbox Recovery adds a number in parenthesis to the file name so that it does not conflict with an existing file. For example, if John Doe.pst already exists, then the exported PST for John Doe would be named "John Doe(1).pst." If John Doe(1).pst also exists, then the exported PST would be named "John Doe(2).pst."

Note: *There is a 2 GB limit for Microsoft Office Outlook 97-2002 style PSTs. For more information, see* ***"Limits for PST and Folder Targets" on page 112***.

Exporting Organizational Forms

Microsoft Exchange Organizational Forms libraries are stored in public folder databases or public folder mailboxes. When a public folder EDB or public folder mailbox containing one or more Organizational Forms folders is loaded as a source in Single Mailbox Recovery, you can export the forms from the Organizational Forms library folder(s).

To export organizational forms

1. In the source tree, select the root of the public folder EDB or public folder mailbox.
2. Do one of the following to open the **Export Organizational Forms** dialog box:

- On the **Tools** menu, click **Export Organizational Forms**.
- Press **Ctrl+G**.
- Right-click the selection, and on the shortcut menu, click **Export Organizational Forms**.

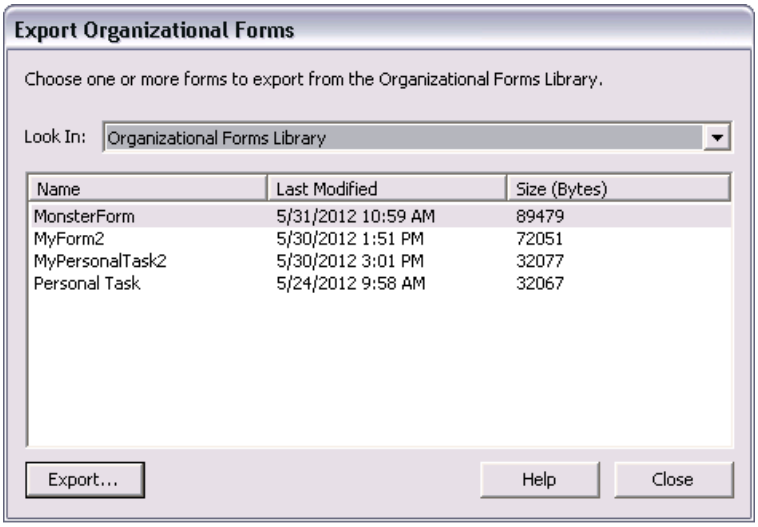


Figure 4-9: Export Organizational Forms dialog box

3. In the **Look In** box, select the organizational forms folder containing the forms you want to export.

   Note: *Organizational Forms Library folders can be stored in different public folder databases or public folder mailboxes. All public folder databases and mailboxes list all public folders and Organizational Forms Library folders, not just those they store content for. Only the Organizational Forms Library folders stored within the selected public folder database or mailbox will contain items.*

4. In the table below the Look In box, select the form(s) you want to export.
5. Click **Export**. The **Export Forms** dialog box appears with OFT selected in the Format list box.

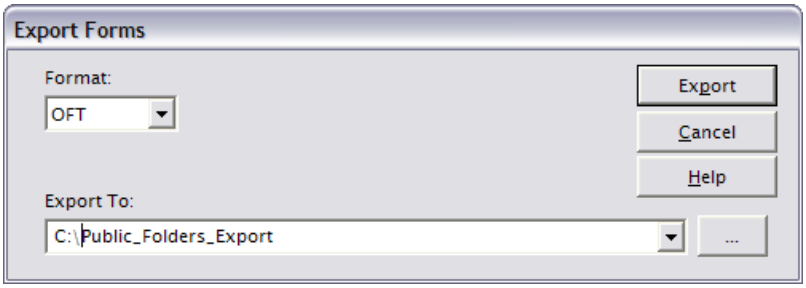


Figure 4-10: Export Forms dialog box

6. In the **Export To** box, enter the folder path to where you want the forms exported.

Note: *You can use the browse button to open the Browse For Folder dialog box to select the path.*

7. Click **Export**.
8. Use the Export Progress dialog box to verify your forms were successfully exported, and click **Close**.
9. On the Export Organizational Forms dialog box, click **Close**.

About the Export Progress Window

Each time you attempt to export messages, the **Export Progress** window appears. This window displays the following information:

- Source and target
- Export start time
- Number of folders to export
- Number of messages to export
- Warnings or errors encountered during the export process. If an error occurs on a message, the message subject and source path along with an error message will be displayed. If the message does not have a subject, the date (created) and message sender will be displayed instead.
- Total folders and messages successfully exported

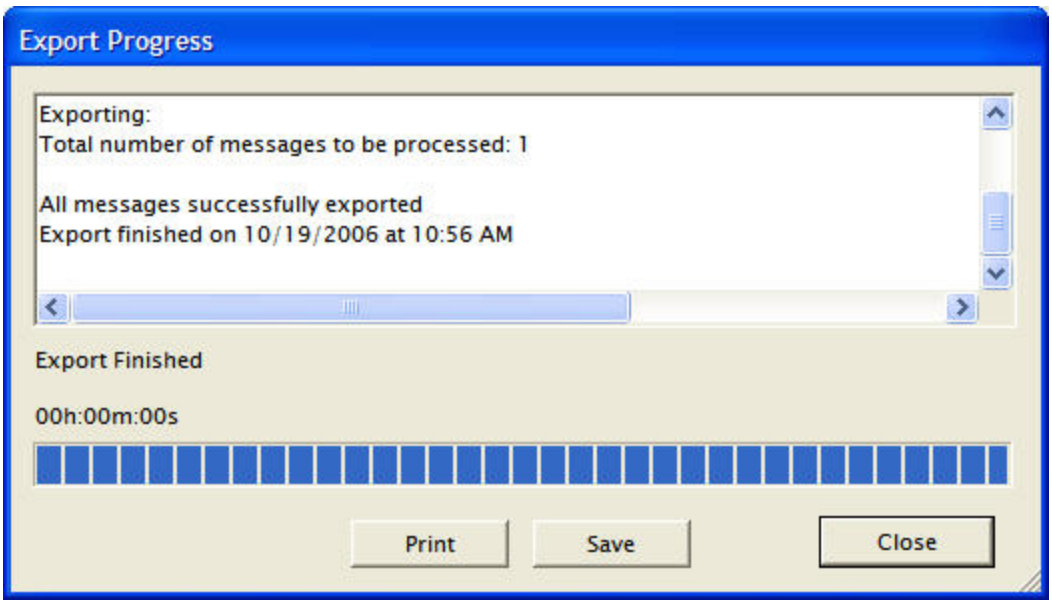


Figure 4-11: The export progress is shown

Note:

- *If an error occurs that Single Mailbox Recovery can recover from, such as a corruption that prevents it from getting a message property, Single Mailbox Recovery will log an error, stop processing that message, and continue.*
- *If an error occurs from which Single Mailbox Recovery cannot recover, such as a major corruption error, Single Mailbox Recovery will log an error to the Export Progress window and stop exporting.*

Saving and Printing the Report

The contents of the export report can be saved by clicking **Save**. This opens a Save File dialog box allowing you to select the location and name of the file. The default name of the report is "ExportProgress.txt."

The export report can also be printed by clicking **Print**.

Chapter 5: Restoring Microsoft Exchange Server Data

Overview

This chapter describes how to restore Microsoft Exchange Server data (an EDB file, a PST file, a mailbox, or a folder) to a Microsoft Exchange Server. The following topics are covered:

Quick look at restoring your Exchange data. The first part of this chapter provides you with a quick look at restoring your Exchange database, so you can begin to use Single Mailbox Recovery immediately.

Examples of restoring your Exchange data. The second part of this chapter provides examples of restoring messages, folders, mailboxes, and even an entire EDB file to the desired destination.

Note: *The concepts in this chapter apply to EDB, PST, and CAS files (unless otherwise noted), even though all of the examples of sources are EDB files.*

Note: *If you use the "Mailbox Criteria (optional)" box on the Select Source Files dialog box or the Source Path Selection page of the DataWizard, only EDB mailboxes containing your entry (or entries) are displayed on the Source Pane. Any mailboxes that do not match the entered string (s) do not appear in the Source Pane and are not be included in any subsequent tasks (such as searching, copying, and exporting of the entire database). For more information, see* ***"Mailbox Criteria" on page 32***.

Note: *If you use the "Multi-Tenancy Criteria" box on the Select Source Files dialog box, the Source Path Selection page of the DataWizard, the Connect to Exchange Server dialog box, or the Target Type & Path Selection page of the DataWizard, only mailboxes contained in the selected Address Book Policy or Organization appear in the Source or Target Panes. Only these mailboxes are included in any subsequent tasks (such as searching, copying, and exporting of the entire database). For more information, see* ***"Multi-Tenancy Support" on page 33***.

Quick Look at Restoring Your Microsoft Exchange Server Data

Restoring data from a source EDB, PST, or CAS file to a target destination is a simple process. Just drag and drop or use the Copy and Paste/Paste Special commands.

- **"Restoring Your Microsoft Exchange Server Data in Three Easy Steps" on page 111**
- **"Limits for PST and Folder Targets" on page 112**
- **"About Restoring Messages to a Microsoft Exchange Server" on page 112**
- **"About the Copy Progress Window " on page 113**

- "Creating, Renaming, and Deleting Folders in the Target Pane" on page 113
- "Copying and Pasting or Dragging and Dropping" on page 114

Restoring Your Microsoft Exchange Server Data in Three Easy Steps

If you copy an EDB file, a PST file, a mailbox, or a folder from the source pane and paste it to any target destination, Single Mailbox Recovery will preserve the directory structure of all restored messages. When restoring individual messages, you must use the Paste Special command to preserve their directory structure.

To restore individual messages with copy-paste

1. In the source pane or **Find in Source** window, copy messages from the message list.
2. In the target pane, paste the messages into a folder.
3. In the **Copy Progress** window, verify that your messages were successfully copied, and click **Close**.

To restore individual messages with copy-paste special

1. In the source pane or **Find in Source** window, copy messages from the message list.
2. In the target pane, use **Paste Special** to paste the messages into a folder, mailbox, PST root, or Microsoft Exchange Server root.
3. In the **Copy Progress** window, verify that your messages were successfully copied, and click **Close**.

   Tip: Use the **Paste Special** command to retain the directory structure of messages copied from the **Find in Source** or **Find in Exchange Target** window, because messages in this window often come from several source locations.

To restore a folder, a mailbox, an EDB file, a CAS file, or a PST file

1. In the source pane, copy a folder, a mailbox, an EDB file, a CAS file, or a PST file.
2. In the target pane, paste the copied item into a folder, mailbox, PST root, or Microsoft Exchange Server root.
3. In the **Copy Progress** window, verify that your messages were successfully copied, and click **Close**.

   Note: *You cannot open the same PST as a source and target. In addition, you cannot restore messages from a PST file to a Microsoft Exchange Server root node.*

To restore data even faster, use drag-and-drop

- **Example:** To restore an entire EDB file, drag it to the target Microsoft Exchange Server root.

Limits for PST and Folder Targets

When restoring Microsoft Exchange Server Data to a target PST or folder, Microsoft Office Outlook 97-2002 style PSTs have the following limits:

2 GB PST Limit

When a target PST file reaches 1.8 GB, Single Mailbox Recovery creates a new PST for the additional messages. The new PST file has the same name as the original target PST file, plus an appended number in parentheses: Personal Folders (1), Personal Folders (2), and so on. Single Mailbox Recovery creates the folder path in the new PST and continues to restore Microsoft Exchange Server data where it left off.

Note: *The 1.8 GB limit applies only to PST files created by Microsoft office Outlook 2002 and earlier. This limit does not apply to the new type of PST files created by Microsoft Office Outlook 2003 or 2007.*

16,383 Messages Per Folder (for example, Inbox) Limit

When a target folder (for example, Inbox) reaches 16,383 messages, Single Mailbox Recovery creates a new PST folder for the additional messages. The new folder has the same name as the original target folder plus an appended number in parentheses: Inbox (1), Inbox (2), and so on. Single Mailbox Recovery creates the folder path in the new folder and continues to restore Microsoft Exchange Server data where it left off.

Note: *If you have upgraded the PST file to a large table format, the PST can hold 64,000 messages per folder. However, when a target folder (for example, Inbox) reaches 16,383 messages, Single Mailbox Recovery still creates a new PST folder for the additional messages.*

To turn off the preference setting for the PST messages per folder limit

If you do not want Single Mailbox Recovery to create new folders when the number of messages reaches 16,383, do the following:

1. On the **Edit** menu, click **Preferences**.
2. In the **Preferences** window, click the **Options** tab, and then clear the **Create new PST folders when PST message/folder limits are reached** check box.

Note: *If you turn off the preference, all messages above the messages per folder limit will fail to copy correctly, and the PST file may become corrupt.*

About Restoring Messages to a Microsoft Exchange Server

You must have sufficient access rights to all of the Microsoft Exchange Server mailboxes you are trying to restore messages to. Keep in mind that you can connect to only one mailbox at a time.

Restoring Messages to Microsoft Exchange Server 2000/2003/2007/2010/2013

In Microsoft Exchange Server 2000/2003/2007/2010/2013, the permission that controls whether or not any mailbox can be copied to is Full Mailbox Access. You must have Full Mailbox Access set to "Allow" in order to copy to a mailbox other than the one you logged in under.

About the Copy Progress Window

Each time you attempt to restore messages to the target pane, the **Copy Progress** window appears. This window displays the following information about the copy operation:

- Time of copy operation
- Number of messages, associated messages, and folders
- Errors, if any
- Mailboxes that Single Mailbox Recovery connected to or failed to connect to when copying to a Microsoft Exchange Server
- Copy results

Important: Viewing the copy results in Copy Progress window is especially important when attempting to restore multiple items to a Microsoft Exchange Server root node. That is because Single Mailbox Recovery restores one mailbox at a time; therefore, the only way you will know if all of the mailboxes were successfully copied to the Microsoft Exchange Server will be to look at the copy results listed in this window.

If you do not have full access rights to the mailboxes you are trying to restore messages to, Single Mailbox Recovery will be unable to connect to the mailboxes. For more information, see **"About Restoring Messages to a Microsoft Exchange Server" on page 112**.

Creating, Renaming, and Deleting Folders in the Target Pane

The target pane has folders in which you can place your restored messages. However, you may want to create new folders for your messages. You can also rename or delete any folder in the target pane.

To create a new folder in the target pane

1. In the target pane, select a folder, a PST root node, or a Microsoft Exchange Server mailbox.
2. Do one of the following:
   - On the **Edit** menu, click **New Folder**.
   - Right-click and on the shortcut menu, click **New Folder**.
   - Press **Ctrl+N**.
3. In the **Create New Mail Folder** window, name the folder and click **OK**. A subfolder is created in the target folder.

To rename a folder in the target pane

1. In the target pane, select a folder.
2. Do one of the following:
   - On the **Edit** menu, click **Rename**.
   - Right-click and on the shortcut menu, click **Rename**.
   - Press **Ctrl+R**.
3. Type a new name for the folder.

   Note: *You can also rename a PST root.*

To delete a folder in the target pane

1. In the target pane, select a folder.
2. Do one of the following:
   - On the **Edit** menu, click **Delete**.
   - Press the **Delete** key.

Copying and Pasting or Dragging and Dropping

In Single Mailbox Recovery, you can restore data to the target pane by using Copy-Paste, Copy-Paste Special, or Drag-and-Drop.

Note: *If you copy the Recoverable Items folder, it is renamed to distinguish the copied version from the actual version. The folder is renamed using the localized short date in parenthesis and appended to the folder name.* ***Example:*** *"Recoverable Items (10/22/2009)"*

To copy an item in the source pane or Find window

1. In the source pane or **Find in Source** window, select messages, a folder, a mailbox, or the entire EDB file.

   Note: *In the* ***Find in Source*** *window, you can only select messages.*
2. Do one of the following:
   - On the **Edit** menu, click **Copy**.
   - Right-click the selected item(s), and on the shortcut menu, click **Copy**.
   - Click the Copy Mail Item icon on the toolbar.
   - Press **Ctrl+C**.

To paste an item in the target pane

1. In the target pane, select a folder, a mailbox, the PST root node, or the Microsoft Exchange Server root node.

2. Do one of the following:
   - On the **Edit** menu, click **Paste**.
   - Right-click the selected item, and on the shortcut menu, click **Paste** or **Paste Special**. For more information on using the Paste Special command, see **"Restoring Messages with Copy-Paste" on page 115**.
   - Click the **Paste** icon on the toolbar.
   - Press **Ctrl+V** (Paste) or **Ctrl+Y** (Paste Special).

To use drag-and-drop

- Drag an item from the source pane into a folder in the target pane. Dragging and dropping achieves the same results as copying and pasting.

To use drag-and-drop when right-clicking a source item

1. In the source pane, select one or more messages.
2. Right-click the selected messages and drag them to a folder in the target pane.
3. When you let go of the mouse, a shortcut menu appears. On the shortcut menu, click **Paste** or **Paste Special**. For more information on using the Paste Special command, see **"Restoring Messages with Paste Special" on page 116**.

Examples of Restoring Your Microsoft Exchange Server Data

This section provides examples of restoring messages, folders, mailboxes, and even an entire EDB file to the desired destination. In each case, it provides guidelines for restoring messages.

Note: *The concepts in this chapter apply to both EDB and PST files (unless otherwise noted), even though all of the following examples are EDB files.*

Restoring Messages with Copy-Paste

The following instructions show you how to restore individual messages to a *folder* in a target PST file or Microsoft Exchange Server by using Copy-Paste. Keep in mind that using Drag-and-Drop achieves the same results.

Guidelines for Restoring Messages

- You can copy messages from the message list in the source pane or the **Find in Source** window.

- You can use **Drag-and-Drop** or **Copy-Paste** to restore individual messages to a *folder* in the target pane.
- You cannot use **Drag-and-Drop** or **Copy-Paste** to restore individual messages to a PST root node, a Microsoft Exchange Server root node, or a Microsoft Exchange Server mailbox. However, you can use **Paste Special** to restore individual messages to these locations.
- Using **Drag-and-Drop** or **Copy-Paste** to restore individual messages does not preserve the directory structure of the restored messages. If you want to preserve the directory structure of restored individual messages, use **Paste Special**.
- You cannot copy-paste inaccessible mailboxes.

Tip: For information on **Paste Special**, see **"Restoring Messages with Paste Special" on page 116**.

To restore messages with copy-paste

1. In the source pane or **Find in Source** window, copy messages from the message list.
2. In the target pane, paste the messages into a folder (for example, Inbox) in the target PST file or Microsoft Exchange Server.
3. In the **Copy Progress** window, verify that your messages were successfully copied. You can also print or save the copy report by doing one of the following.
   - Click **Print** to print the copy report.
   - Click **Save** to save the copy report as a text file.
4. In the **Copy Progress** window, click **Close** to return to the main window.

Results of Restoring Messages with Copy-Paste

All unduplicated messages appear in the target folder.

Restoring Messages with Paste Special

You can use the Paste Special command to preserve the directory structure of restored individual messages. The Paste Special command is especially useful when restoring messages from the message list in the Find window, since these messages often come from several source locations.

Guidelines for Restoring Messages with Paste Special

- You can use the Paste Special command to restore individual messages to any target destination. Using the Paste Special command preserves the directory structure of the restored messages.

- You can use the Paste Special command to restore *individual messages* only. You cannot use the Paste Special command to restore an entire EDB file, a mailbox, or a folder.
- You *cannot* use Paste Special to restore messages to a public folder.
- **If the target is a PST root node or folder**, Single Mailbox Recovery creates a folder to represent each mailbox. Each mailbox is a subfolder of the folder the user selected for the Paste Special operation.
- **If the target is a Microsoft Exchange Server mailbox or folder**, Single Mailbox Recovery copies all messages to the target. Each mailbox is a subfolder of the folder the user selected for the Paste Special operation.
- **If the target is a Microsoft Exchange Server root node**, the Paste Special code attempts to connect to each mailbox one at a time and copies each message to its corresponding mailbox and folder. If the folder does not exist, it will be created. If the mailbox does not exist, Single Mailbox Recovery logs an error in the copy results, skips the entire mailbox, and continues the Paste Special operation.

> ***Note:*** *You cannot restore messages from a PST file to a Microsoft Exchange Server root node.*

To restore messages to a PST root or folder with Paste Special

If the target is a PST root node or folder, Single Mailbox Recovery creates a folder to represent each mailbox. Each mailbox is a subfolder of the folder you selected for the Paste Special operation.

1. In the source pane or **Find in Source** window, copy messages from the message list.
2. In the target pane, use **Paste Special** to paste the messages into a PST root node or folder.
3. In the **Copy Progress** window, verify that your messages were successfully copied. You can also print or save the copy report by doing one of the following.
   - Click **Print** to print the copy report.
   - Click **Save** to save the copy report as a text file.
4. In the **Copy Progress** window, click **Close** to return to the main window.

Results of Restoring Messages to a PST Root Node or Folder with Paste Special

All unduplicated messages appear in the target destination, and their directory structure will be preserved.

To restore messages to a Microsoft Exchange Server mailbox or folder with Paste Special

If the target is a Microsoft Exchange Server mailbox or folder, Single Mailbox Recovery copies all messages to the target. Each mailbox is a subfolder of the folder you selected for the Paste Special operation.

1. In the source pane or **Find in Source** window, copy messages from the message list.
2. In the target pane, use **Paste Special** to paste the messages into a Microsoft Exchange Server mailbox or folder.
3. In the **Copy Progress** window, review your results to make sure all the messages were copied to the target destination. You can also print or save the copy report by doing one of the following.
   - Click **Print** to print the copy report.
   - Click **Save** to save the copy report as a text file.
4. In the **Copy Progress** window, click **Close** to return to the main window.

Results of Restoring Messages to a Microsoft Exchange Server Mailbox or Folder with Paste Special

Each mailbox is a subfolder of the target destination, and all unduplicated messages are restored. In addition, their directory structure is preserved.

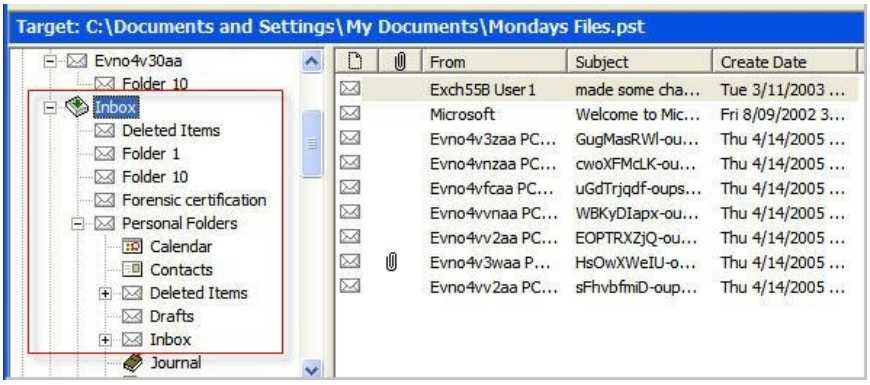


Figure 5-1: Results of using Paste Special on a target Microsoft Exchange Server mailbox

To restore messages to a Microsoft Exchange Server root node with Paste Special

If the target is a Microsoft Exchange Server root node, Single Mailbox Recovery attempts to connect to each mailbox one at a time and copies each message to its corresponding mailbox and folder. If the folder does not exist, it is created. If the mailbox does not exist, Single Mailbox Recovery logs an error in the Copy Progress window, skips the entire mailbox, and continues the Paste Special operation.

Important: The source mailbox must exist on the target Microsoft Exchange Server, and you must have full mailbox access rights to all of the Microsoft Exchange Server mailboxes to which you are trying to restore messages. For more information on access rights, see **"About Restoring Messages to a Microsoft Exchange Server" on page 112**.

1. Select one or more messages from the message list in the **Find in Source** window or the source pane.

2. In the source pane or **Find in Source** window, copy messages from the message list.
3. In the target panes use **Paste Special** to paste the messages into a Microsoft Exchange Server root node.
4. In the **Copy Progress** window, verify your results to make sure that your messages from all mailboxes were copied to the target destination. You can also print or save the copy report by doing one of the following:

   - Click **Print** to print the copy report.
   - Click **Save** to save the copy report as a text file.

5. In the **Copy Progress** window, click **Close** to return to the Single Mailbox Recovery main window.

Results of Restoring Messages to a Microsoft Exchange Server Root Node with Paste Special

All unduplicated messages are restored in each mailbox that Single Mailbox Recovery can connect to, and the directory structure of the messages is preserved.

When attempting to restore multiple mailboxes to a Microsoft Exchange Server root node, you must look at the Copy Progress window to verify that your messages from all mailboxes were successfully copied to the Microsoft Exchange Server. That is because Single Mailbox Recovery displays only one mailbox at a time in the target pane.

Restoring a Folder

The following instructions show you how to restore a folder to any target destination by using Copy-Paste. Keep in mind that using Drag-and-Drop achieves the same results.

Guidelines for Restoring a Folder

- You can use **Drag-and-Drop** or **Copy-Paste** to restore a folder to a target PST root node or folder, or to a Microsoft Exchange Server mailbox or folder. If the folder does not exist in the target destination, it is created.
- You *cannot* restore a folder to a Microsoft Exchange Server root node.
- You *cannot* restore a private folder to a public folder. But you *can* restore messages from a private folder to a public folder.
- You *cannot* use the **Paste Special** command to restore a folder. You can use the **Paste Special** command to restore individual messages only.
- If you copy the Recoverable Items folder, it is renamed to distinguish the copied version from the actual version. The folder is renamed using the localized short date in parenthesis and appended to the folder name. **Example:** "Recoverable Items (10/22/2009)"

To restore a folder

1. In the source pane, copy a folder (for example, Inbox).
2. In the target pane, paste the folder into a folder, mailbox, or PST root node.
3. In the **Copy Progress** window, verify your results to make sure that your messages from all mailboxes were copied to the target destination. You can also print or save the copy report by doing one of the following.
   - Click **Print** to print the copy report.
   - Click **Save** to save the copy report as a text file.
4. In the **Copy Progress** window, click **Close** to return to the *Single Mailbox Recovery* main window.

Results of Restoring a Folder

All unduplicated messages in the folder are restored and their directory structure is preserved. If the folder does not exist in the target destination, it is created.

Note: *No folder is created because the copied folder (Inbox) already exists in the target Microsoft Exchange Server mailbox.*

Restoring a Mailbox

The following instructions show you how to restore a mailbox to any target destination by using Copy-Paste. Keep in mind that using Drag-and-Drop achieves the same results.

Guidelines for Restoring a Mailbox

- You can use **Drag-and-Drop** or **Copy-Paste** to restore a mailbox to a target PST root node or folder, or to a Microsoft Exchange Server root node, mailbox, or folder.
- **If you restore a mailbox to a target PST root node:** Messages from folders in the source PST are restored to corresponding folders in the target PST (for example, messages from the source Inbox are restored to the target Inbox). If a corresponding folder does not exist in the target destination, it is created.
- **If you restore a mailbox to a to a target PST folder, or to a Microsoft Exchange Server, mailbox, or folder:** If the mailbox does not exist in the target destination, a folder with its name is created.

Important: If you want to restore a mailbox to a target Microsoft Exchange Server root node, the source mailbox must exist on the target Microsoft Exchange Server, and you must have full mailbox access rights to all of the Microsoft Exchange Server mailboxes you are trying to restore messages to. For more information on access rights, see **"About Restoring Messages to a Microsoft Exchange Server" on page 112**.

- You *cannot* restore a mailbox to a public folder. But you *can* restore messages from a mailbox to a public folder.
- You *cannot* use the **Paste Special** command to restore a mailbox. You *can* use the Paste Special command to restore individual messages only.

To restore a mailbox

1. In the source pane, copy a mailbox (for example, User 1).
2. In the target pane, paste the mailbox into a folder, mailbox, PST root node, or Microsoft Exchange Server root node.
3. In the **Copy Progress** window, verify your results to make sure that your messages from all mailboxes were copied to the target destination. You can also print or save the copy report by doing one of the following.
   - Click **Print** to print the copy report.
   - Click **Save** to save the copy report as a text file.
4. In the **Copy Progress** window, click **Close** to return to the Single Mailbox Recovery main window.

Results of restoring a mailbox

All unduplicated messages in a mailbox are restored and their directory structure is preserved.

If the mailbox does not exist in the target destination, a folder with its name is created. However, if you restore a mailbox to a target PST root node, a mailbox is not created. Instead, messages from folders in the source PST are restored to corresponding folders in the target PST.

Restoring an EDB File

The following instructions show you how to restore an entire EDB file to any target destination with Copy-Paste. Keep in mind that using Drag-and-Drop achieves the same results.

Guidelines for Restoring an EDB File

- It is recommended that you restore an EDB file to a target Microsoft Exchange Server root node.
- You can use **Drag-and-Drop** or **Copy-Paste** to restore an entire EDB file. You cannot use the **Paste Special** command to restore an EDB file. You can use the Paste Special command to restore individual messages only.

Important: If you restore an EDB file to a target Microsoft Exchange Server root node, the source mailbox must exist on the target Microsoft Exchange Server, and you must have full mailbox access rights to all of the Microsoft Exchange Server mailboxes to which you are trying to restore messages. For more information on access rights, see **"About Restoring Messages to a Microsoft Exchange Server" on page 112**.

To restore an EDB file

1. In the source pane, select the EDB file.
2. On the **Edit** menu, click **Copy**.
3. In the target pane, select the Microsoft Exchange Server root node.
4. On the **Edit** menu, click **Paste**.
5. In the **Copy Progress** window, review your results to make sure all the messages were copied to the target destination. You can also print or save the copy report by doing one of the following.
   - Click **Print** to print the copy report.
   - Click **Save** to save the copy report as a text file.
6. In the **Copy Progress** window, click **Close** to return to the Single Mailbox Recovery main window.

Results of restoring an EDB file

Single Mailbox Recovery attempts to connect to each mailbox in the target pane one at a time and copies each message to its corresponding mailbox and folder. If the folder does not exist, it will be created. If the mailbox does not exist, Single Mailbox Recovery an error in the Copy Progress window, skips the entire mailbox, and continues the operation.

Restoring to Public Folders

The following instructions show you how to restore messages or public folders to a public folder target. An option to open public folders is available upon connection to a Microsoft Exchange Server.

Important: Single Mailbox Recovery opens public folders and your mailbox when you connect to a Microsoft Exchange Server target. You will see those folders that you have permission to see.

Guidelines for Restoring to Public Folders

- You can restore folders from a pub.edb database or Public Folder mailbox to a public folder target. All public folder permissions are transferred to the target folders. However, folder permissions may not transfer if the version of the source Microsoft Exchange Server is different than the version of the target Microsoft Exchange Server.

  Note: *Public folder permissions cannot be transferred to Microsoft Exchange Server 2013 targets.*

- You *can* restore messages from any database source or search results to a public folder target.
- You *cannot* restore a folder or non-Public Folder mailbox from a mailbox database to a public folder target. But you *can* restore messages in a folder or non-Public Folder mailbox to a public folder.
- You *cannot* use Paste Special when restoring messages to a public folder target.

Note: *The ability to restore to public folders is also available at the command line.*

To restore messages to a target Public Folders

1. In the source pane or **Find in Source** window, copy messages from the message list.
2. In the target pane, paste the messages into the target root public folder or a folder in the public folder.
3. In the **Copy Progress** window, verify that your messages were successfully copied. You can also print or save the copy report by doing one of the following.
   - Click **Print** to print the copy report.
   - Click **Save** to save the copy report as a text file.
4. In the **Copy Progress** window, click **Close** to return to the Single Mailbox Recovery main window.

To restore a folder from a public database or Public Folder mailbox to a target Public Folders

1. In the source pane copy a folder from a public database, or Public Folder mailbox in a Microsoft Exchange Server 2013 mailbox database.
2. In the target pane, paste the folder into the target root public folder or a folder in the public folder.
3. In the **Copy Progress** window, verify that your messages were successfully copied. You can also print or save the copy report by doing one of the following.
   - Click **Print** to print the copy report.
   - Click **Save** to save the copy report as a text file.
4. In the **Copy Progress** window, click **Close** to return to the Single Mailbox Recovery main window.

Note: *Public folders can be stored in different public folder databases or public folder mailboxes. All source public folder databases and mailboxes list all public folders, not just those they store content for. Only the public folders stored within the selected public folder database or mailbox will contain items in the source pane.*

Results of Restoring to Public Folders

Chapter 5: Restoring Microsoft Exchange Server Data

When you restore folders from a pub.edb database or Public Folder mailbox to a public folder target, the following occurs:

- All public folder permissions are transferred to the target folders. However, folder permissions may not transfer if the version of the source Microsoft Exchange Server is different than the version of the target Microsoft Exchange Server.

  Note: *Public folder permissions cannot be transferred to Microsoft Exchange Server 2013 targets.*

- The Microsoft Exchange Server user doing the restore will be added to all public folder permissions with owner rights.
- If you have IFS (also known as "M:drive") enabled on your Microsoft Exchange Server, permissions for child folders may be merged with permissions for parent folders.

Chapter 6: Using the Command Line

Overview

The command line feature allows you to easily batch repetitive processes such as multiple copy and export tasks without initiating the Single Mailbox Recovery user interface. This feature is extremely beneficial in Single Mailbox Recovery production environment implementations.

Command Line Syntax

The syntax is as follows:

<< >> Required for all operations

< > Required for copy/export operations

[ ] Optional

Command Line Syntax

smbr [Program Options] <<Operation>> [Operation options] <<Source Store>> [Source options] <Source Folder Path> <Target Store>[Target options] <Target Folder Path>

[Program Options]

-Server[=Address]

This program option provides control of the choice of Single Mailbox Recovery Administrative Server. Without an address the switch forces the display of the Single Mailbox Recovery Administrative Server Connection Point Manager dialog box. This dialog box allows you to use a server different from the server advertised in the Active Directory. Without an address this option is only valid when running in GUI mode.

Address:

(address=<address>);(port=<port>) - forces a connection attempt at the specified address and port. For example: "-server=(address=192.168.0.2);(port=49152)" forces a connection to a server running on IP address 192.168.0.2 on port 49152.

<Operation>

-Copy

-Export

-List (report information about the database)

-Integ (Integrity Check)

-h (help)

[Operation options]+

-f <format>

format:

msg - messages will be exported as .msg (.msg is the default)

:txt - message will be exported as .txt

:pst - messages will be exported to a PST

-p <format>

:97 - create a 97-2002 style PST for export/copy

:2003 - create a 2003 style PST for export/copy

-r

export/copy subfolders

-o <filename>

name of file to output progress information to default is CON

Note: *If the file exists, Single Mailbox Recovery will append to the output progress file. If the file does not exist, Single Mailbox Recovery will create it.*

-da <mm/dd/yyyy>

Process messages dated on or after this date

-db <mm/dd/yyyy >

Process message dated on or before this date

-v <verbose>

<Source Store>

Full path of EDB file, CAS file, or PST file

[Source options]

-l <Log file path>

-t <Temp file path>

-m <Mailbox criteria>

< Source Folder Path >

full path, including mailbox to the source folder, or profile folder to be copied/exported or $ROOT for root datastore folder

If specifying a mailbox, the mailbox name can be its display name. If specifying a source mailbox that is in the current environment, the mailbox name can be its display name or the UPN (for example, mailbox@dom.local).

Note: *If the "Enforce ABP or Hosted Organization for current user" security preference is selected on the Security tab of the Preferences dialog box, only matching mailboxes can be accessed. For more information, see* ***"Multi-Tenancy Support" on page 33***.

<Target Store>

ServerName;mailbox or Full path of PST

Ex. Pcpdc;jJones

Pcpdc;hJohnson

C:\archive.pst

Note: *The ServerName can be omitted if Autodiscover is being used.*

Note: *The Target Store is not needed for export.*

[Target options]

-pub - connect to target's Public Folders

-partialmatch:<copy | skip>

copy - allow copy of partial match mailboxes into target

skip - skip all partial match mailboxes during copy

-autodiscover:<on | off>

on – use Autodiscover to connect to the target mailbox

off – do not use Autodiscover to connect to the target mailbox

-outlookanywhere:<on:off>

on – use Outlook Anywhere to connect to the target mailbox

off – do not use Outlook Anywhere to connect to the target mailbox

<Outlook Anywhere Required Options> (Not needed and ignored if –autodiscover:on is specified)

-proxy <proxy server>

Name of Exchange proxy server for Outlook Anywhere

-authentication:<authentication mode>

:basic – use basic authentication

:ntlm – use NTLM authentication

:negotiate – use Negotiate authentication

[Outlook Anywhere Options] (ignored if –autodiscover:on is specified)

-ssl

use SSL for Outlook Anywhere connection, required if using basic authentication

-principal <certificate principal name>

Principal name to look for when validating proxy server certificate

-httpfirstonfast

On fast networks, use HTTP to connect first, then use TCP/IP

-httpfirstonslow

On slow networks, use HTTP to connect first, then use TCP/IP

<Target Folder Path>

Full path, including mailbox to the target folder to be copied/exported to or $ROOT for root datastore folder or $PUBLIC_ROOT for root of "All Public Folders".

Note: *Only message containers (i.e., mailboxes, folders, entire EDB) can be selected for copy/export. All messages contained are copied/exported. Individual messages cannot be selected from the command line.*

Command Line Parameters

Parameter	Description
<Operation> — required for all operations	
	Pre-populate the EDB file, log and temp path fields of the open source dialog
-Copy	
-Export	
-List	Report information about the database
-Integ	Database integrity check
-h	Help

[Operation options]	
-f :msg	Messages will be exported as .msg (the default)
-f :txt	Messages will be exported as .txt
-r	Export/copy subfolders
-o <filename>	Name of file to output progress information to default is CON **Note:** *If the file exists, Single Mailbox Recovery appends to the output progress file. If the file does not exist, Single Mailbox Recovery creates it.*
-da <dd/mm/yyyy>	Process messages dated on or after this date
-db <dd/mm/yyyy>	Process messages dated on or before this date
-v	Verbose

<Source Store> — required for all operations
Full path of EDB file or PST file

[Source options]
-l <Log file path>
-t <Temp file path>

<Source Folder Path> — required for copy and export operations
full path, including mailbox to the source, folder to be copied/exported or $ROOT for root datastore folder

<Target Store>	
ServerName;mailbox or Full path of PST	Examples. Pcpdc;jJones, Pcpdc;hJohnson, C:\archive.pst **Note:** *The ServerName can be omitted if Autodiscover is being used.* **Note:** *The Target Store is not needed for export.*

[Target Options]	
-pub	Connect to target's Public Folders
-partialmatch:copy	Allow copy of partial match mailboxes into target
-partialmatch:skip	Skip all partial match mailboxes during copy
-autodiscover:on	Use Autodiscover to connect to the target mailbox
-autodiscover:off	Do not use Autodiscover to connect to the target mailbox
-outlookanywhere:on	Use Outlook Anywhere to connect to the target mailbox
-outlookanywhere:off	Do not use Outlook Anywhere to connect to the target mailbox
<Outlook Anywhere Required Options>	***Note:*** *Not needed and ignored if -autodiscover:on is specified*
-proxy <proxy server>	Name of Exchange proxy server for Outlook Anywhere
-authentication:basic	Use basic authentication
-authentication:ntlm	Use NTLM authentication
-authentication:negotiate	Use Negotiate authentication
[Outlook Anywhere Options]	***Note:*** *Ignored if -autodiscover:on is specified*
-ssl	Use SSL for Outlook Anywhere connection, required if using basic authentication
-principal <certificate principal name>	Principal name to look for when validating proxy server certificate
-httpfirstonfast	On fast networks, use HTTP to connect first, then use TCP/IP
-httpfirstonslow	On slow networks, use HTTP to connect first, then use TCP/IP

<Target Folder Path> — required for copy and export operations	
Full path, including mailbox, to the target folder to be copied/exported to or $ROOT for root datastore folder or $PUBLIC_ROOT for root of "All Public Folders"	***Note:*** *Only message containers (i.e., mailboxes, folders, entire EDB) can be selected for copy/export. All messages contained will be copied/exported. Individual messages cannot be selected from the command line. $PUBLIC_ROOT should be used when copying public folder mailboxes.*

Examples of Using the Command Line

The following examples are for pre-populate EDB file, copy, export, integrity check, and list (i.e., report information about the database).

Example 1: Pre-populate the EDB file, log and temp path fields of the Open Source dialog.

c:\data.edb -l c:\edb -t c:\edb

<Operation>	Explanation
	Pre-populate the EDB file, log and temp path fields of the open source dialog
[Operation options]	**Explanation**
	Not applicable
-o c:\out1.txt	Output report file name
<Source Store>	**Explanation**
c:\data.edb	Path to the EDB file
-l c:\edb	Log file path
-t c:\edb	Temporary file path

Example 2: Copy pcuser1's Inbox and all subfolders from c:\pcdata.edb to the Inbox in c:\target.pst. c:\out1.txt will contain the copy report.

smbr -copy -r -o c:\out1.txt c:\pcdata.edb -l c:\edb -t c:\edb pcuser1\inbox c:\target.pst $ROOT

<Operation>	**Explanation**
-copy	Perform a copy operation
[Operation options]	**Explanation**
-r	Copy subfolders
-o c:\out1.txt	Output report file name
<Source Store>	**Explanation**
c:\p cdata.edb	Path to the database file name
[Source options]	**Explanation**
-t c:\edb	Temporary file path
<Source Folder Path>	**Explanation**
pcuser1\inbox	Source folder to copy
<Target Store>	**Explanation**
c:\target.pst	Target data store
<Target Folder Path>	**Explanation**
$ROOT	Copy to the root folder of the data store

Example 3: Copy pcuser1's Inbox and all subfolders from c:\pcdata.edb to user1's Inbox on Microsoft Exchange Server pcpdc. c:\out1.txt will contain the copy report.

smbr -copy -r -o c:\out2.txt c:\pcdata.edb -t c:\ pcuser1\inbox pcpdc;user1 inbox

<Operation>	**Explanation**
-copy	Perform a copy operation
[Operation options]	**Explanation**
-r	Copy subfolders
-o c:\out2.txt	Output report file name
<Source Store>	**Explanation**
c:\p cdata.edb	Path to the database file name
[Source options]	**Explanation**
-t c:\	Temporary file path
<Source Folder Path>	**Explanation**
pcuser1\inbox	Source folder to copy
<Target Store>	**Explanation**
pcpdc;user1	Target data store (Microsoft Exchange Server name and logon ID)
<Target Folder Path>	**Explanation**
inbox	Copy to the inbox

Example 4: Export pcuser1's mailbox and all subfolders from pcdata.edb as text to c:\export

smbr -export -r -f:txt -o c:\out3.txt c:\pcdata.edb -t c:\ pcuser1 c:\export

<Operation>	Explanation
-export	Perform an export operation
[Operation options]	**Explanation**
-r	Export subfolders
-f:txt	Messages will be exported as .txt
-o c:\out3.txt	Export report file name
<Source Store>	**Explanation**
c:\p cdata.edb	Path to the database file name
[Source options]	**Explanation**
-t c:\	Temporary file path
<Source Folder Path>	**Explanation**
pcuser1	Source folder to copy
<Target Store>	**Explanation**
NA	Target data store
<Target Folder Path>	**Explanation**
c:\export	Root folder of the export

Example 5: Provides information on the databases including a list of mailboxes.

Tip: When performing the -list operation, use the -o filename option in order to see the mailboxes. Otherwise, the operation proceeds so fast that you will not be able to see the mailboxes.

smbr -list -o c:\mblist.txt c:\priv1.edb

<Operation>	Explanation
-list	Perform a list operation
[Operation options]	**Explanation**
-o c:\mblist.txt	Output report file name
<Source Store>	**Explanation**
c:\priv1.edb	Path to the database file name

Example 6: Provides information on the databases including a list of mailboxes using mailbox criteria.

Tip: When performing the -list operation, use the -o filename option in order to see the mailboxes. Otherwise, the operation proceeds so fast that you will not be able to see the mailboxes.

smbr -list -o c:\mblist.txt c:\priv1.edb –m pcuser1;pcuser2

<Operation>	Explanation
-list	Perform a list operation
[Operation options]	**Explanation**
-o c:\mblist.txt	Output report file name
<Source Store>	**Explanation**
c:\priv1.edb	Path to the database file name
[Source options]	**Explanation**
-m pcuser1;pcuser2	Only open pcuser1 and pcuser2 mailboxes

Example 7: Perform an integrity check on an entire EDB.

smbr -integ -r -o c:\output.txt c:\priv1.edb $ROOT

<Operation>	Explanation
-integ	Perform an integrity check on a database
[Operation options]	**Explanation**
-o c:\output.txt	Output report file name
<Source Store>	**Explanation**
c:\priv1.edb	Path to the database file name
<Source Folder Path>	**Explanation**
$ROOT	Root of the EDB (entire EDB)

Example 8: Copy a folder from a pub EDB to public folders (only copy messages dated after 01/01/2000)

smbr -copy -r -o c:\out2.txt -da 01/01/2000 c:\pub1.edb newsgroups pc2000;administrator -pub $ROOT

<Operation>	Explanation
-copy	Perform a copy operation
[Operation options]	**Explanation**
-r	Copy subfolders
-o c:\out2.txt	Output report file name
-da 01/01/2000	Only copy messages that were created after this date
<Source Store>	**Explanation**
c:\pub1.edb	Path to the database file name

<Operation>	Explanation
<Source Folder Path>	**Explanation**
newsgroups	Source folder to copy
<Target Store>	**Explanation**
pc2000;administrator	Target data store (Microsoft Exchange Server name and logon ID)
<Target Options>	**Explanation**
-pub	Copy to public folders
<Target Folder Path>	**Explanation**
$ROOT	Public folders root

Important: All paths with spaces need to be in quotes. If a PST does not exist in the target. Single Mailbox Recovery will create a PST file compatible with Microsoft Office Outlook 97, 98, 2000, and XP.

Example 9: Perform an integrity check on an entire Content Analysis Store.

smbr -integ -r -o c:\out1.txt c:\source.cas $ROOT

<Operation>	Explanation
-integ	Perform an integrity check on a database
[Operation options]	**Explanation**
-r	check subfolders
-o c:\out1.txt	output report file name
<Source Store>	**Explanation**

<Operation>	Explanation
c:\source.cas	Path to the Content Analysis Store file name
<Source Folder Path>	**Explanation**
$ROOT	Root of the CAS (entire CAS)

Example 10: Copy Profile1 from c:\source.cas to the root in c:\target.pst.

smbr -copy -r -o c:\out2.txt c:\source.cas Profile1 c:\target.pst $ROOT

<Operation>	Explanation
-copy	perform a copy operation
[Operation options]	**Explanation**
-r	copy subfolders
-o c:\out2.txt	output report file name
<Source Store>	**Explanation**
c:\source.cas	path to the Content Analysis Store file name
<Source Folder Path>	**Explanation**
Profile1	source folder to copy
<Target Store>	**Explanation**
c:\target.pst	target data store
<Target Folder Path>	**Explanation**
$ROOT	copy to the root folder of the data store

Example 11: Export Profile2 from source.cas as text to c:\export

smbr -export -r -f:txt -o c:\out3.txt c:\source.cas Profile2 c:\export

<Operation>	**Explanation**
-export	perform an export operation
[Operation options]	**Explanation**
-r	export subfolders
-f:txt	messages will be exported as .txt
-o c:\out3.txt	export report file name
<Source Store>	**Explanation**
c:\source.cas	path to the Content Analysis Store file name
<Source Folder Path>	**Explanation**
Profile2	source folder to copy
<Target Store>	**Explanation**
NA	target data store
<Target Folder Path>	**Explanation**
c:\export	Root folder of the export

Example 12: Copy all subfolders and messages from the pcuser1 mailbox in c:\pcdata.edb to the mailbox at mailbox1@exchserver1.local. Use Autodiscover to connect, but do not use Outlook Anywhere to connect.

-copy -r -o c:\output.txt c:\pcdata.edb -t c:\temp pcuser1 ;mailbox1@exchserver1.local -autodiscover:on -outlookanywhere:off $ROOT

<Operation>	**Explanation**
-copy	Perform a copy operation
[Operation options]	
-r	Copy subfolders
-o c:\output.txt	Output report file name
<Source Store>	**Explanation**
C:\pcdata.edb	Path to the database file
[Source options]	**Explanation**
-t c:\temp	Temporary file path
<Source Path>	**Explanation**
Pcuser1	Source folder to copy
<Target Store>	**Explanation**
;mailbox@exchserver1.local	Use Autodiscover to connect. Autodiscover will detect the Exchange server
[Target options]	**Explanation**
-autodiscover:on	Use Autodiscover to connect. Autodiscover will detect the Exchange server
-outlookanywhere:off	Do not use Outlook Anywhere to connect
<Target Path>	**Explanation**
$ROOT	Copy to the root of the mailbox

Example 13: Copy all subfolders and messages from the pcuser1 mailbox in c:\pcdata.edb to the mailbox at mailbox1@exchserver1.local. Do not use Autodiscover to connect. Use the Outlook Anywhere with settings as follows: proxy server is exchservervas.exchserver.local, connecting using SSL, use basic authentication.

-copy-r -o c:\output.txt c:\pcdata.edb -t c:\temp pcuser1 exchserver1;mailbox1@exchserver.local -autodiscover:off -outlookanywhere:on -proxy exchservercas.exchserver.local -authentication:basic -SSL $ROOT

<Operation>	**Explanation**
-copy	Perform a copy operation
[Operation options]	
-r	Copy subfolders
-o c:\output.txt	Output report file name
<Source Store>	**Explanation**
C:\pcdata.edb	Path to the database file
[Source options]	**Explanation**
-t c:\temp	Temporary file path
<Source Path>	**Explanation**
Pcuser1	Source folder to copy
<Target Store>	**Explanation**
exchserver1;mailbox@exchserver1.local	Target Exchange server and mailbox. Server must be specified because Autodiscover is not being used

Chapter 7: Reporting

Overview

This section shows you how to create reports, view the statistics in the generated reports, and save the reports as either tab-delimited or comma-delimited text files. Any data store opened as a source can be the source of a report.

Note: *If you use the "Mailbox Criteria (optional)" box on the Select Source Files dialog box or the Source Path Selection page of the DataWizard, only EDB mailboxes containing your entry (or entries) are displayed on the Source Pane. Any mailboxes that do not match the entered string (s) do not appear in the Source Pane and are not be included in any subsequent tasks (such as searching, copying, and exporting of the entire database). For more information, see* ***"Mailbox Criteria" on page 32***.

Note: *If you use the "Multi-Tenancy Criteria" box on the Select Source Files dialog box, the Source Path Selection page of the DataWizard, the Connect to Exchange Server dialog box, or the Target Type & Path Selection page of the DataWizard, only mailboxes contained in the selected Address Book Policy or Organization appear in the Source or Target Panes. Only these mailboxes are included in any subsequent tasks (such as searching, copying, and exporting of the entire database). For more information, see* ***"Multi-Tenancy Support" on page 33***.

Creating Reports

You can generate reports on an EDB, PST, or CAS source data store in Single Mailbox Recovery. The reports contain statistics about the data store such as sizes and counts for attachments and messages, and may be generated per attachment type, domain, mailbox, database, and date. The Mailbox and Date reports are available for Priv EDB data sources only.

Note: *Only accessible mailboxes can generate a report.*

To create one or more reports

1. In the source pane, select an EDB, PST, or CAS data source.
2. On the **Tools** menu, click **Create Reports**. The **Create Reports** window appears.
   - If you selected a Priv EDB as the source for the report, the list pane displays all mailboxes in the EDB.
   - If you selected a PST or Pub EDB as the source, the list pane displays all folders immediately under the root of the PST or Pub EDB.

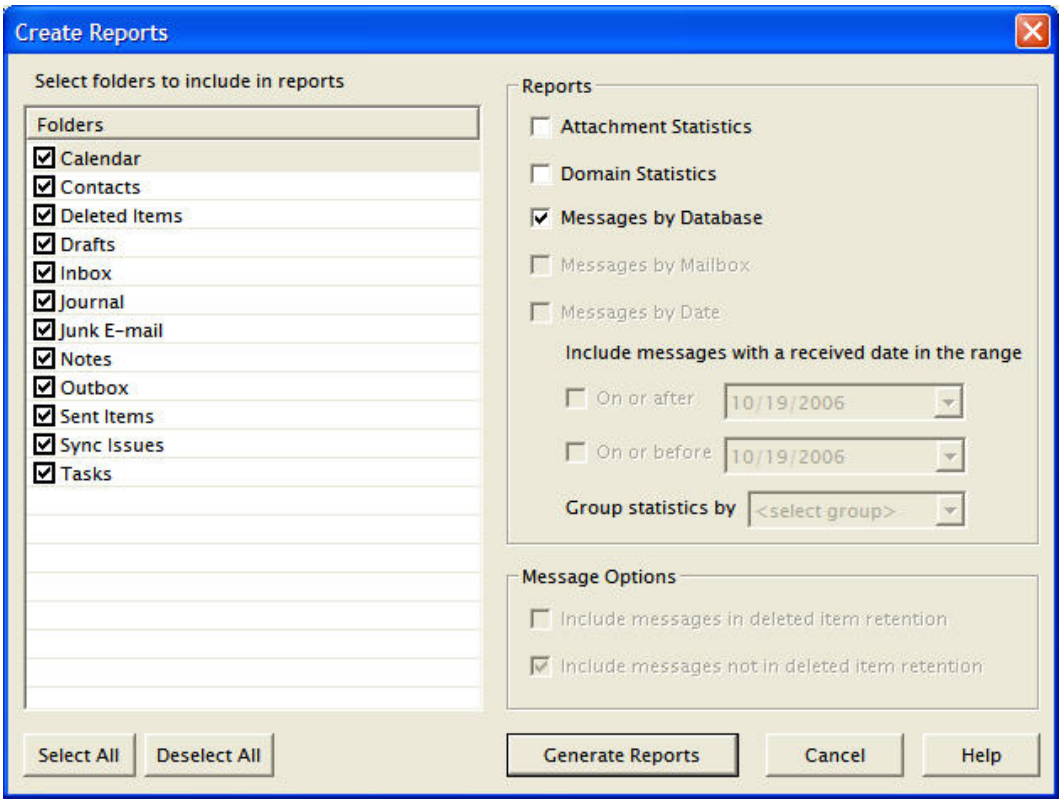


Figure 7-1: The Create Reports dialog box

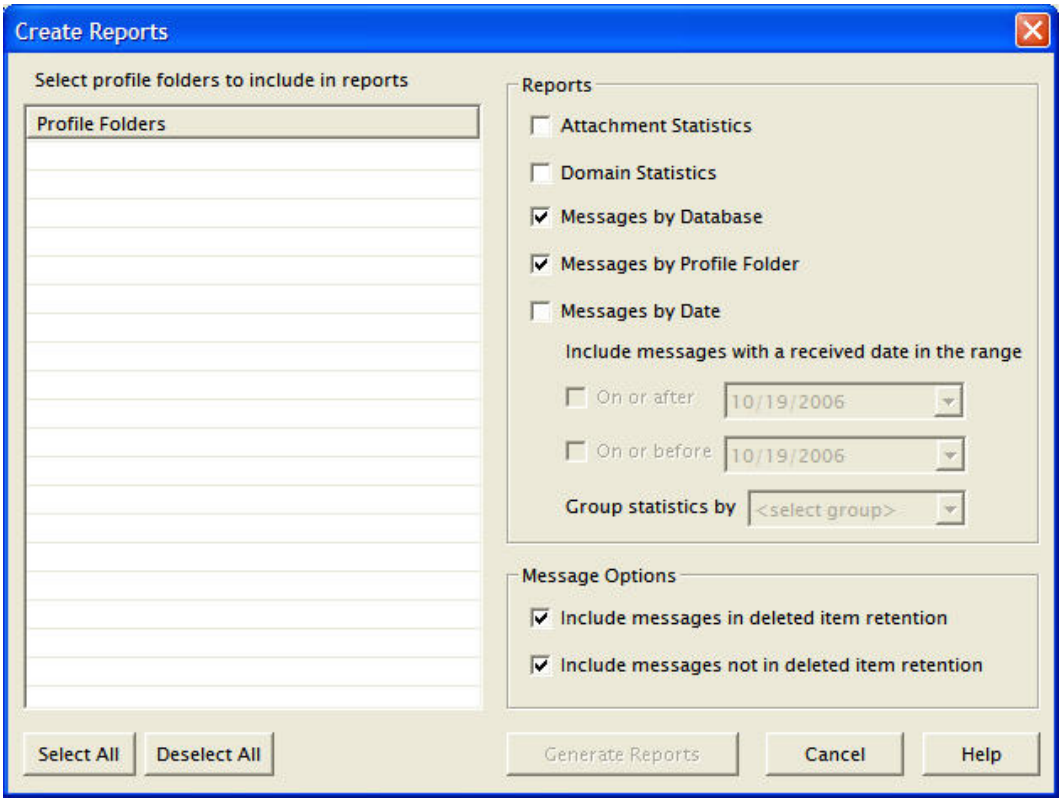


Figure 7-2: The Create Reports window for a CAS

3. Do one of the following:
   - **For Priv EDB:** Under **Mailboxes**, select the mailboxes to be included in the report(s). All mailboxes are selected by default.
   - **For Pub EDB or PST:** Under **Folders**, select the folders to be included in the report(s). All folders are selected by default.
   - **For CAS:** Under Profile Folders, select the folders to be included in the report(s). All folders are selected by default.
4. Under **Reports**, select one or more reports that you would like to create:
   - **Attachment Statistics**
   - **Domain Statistics**
   - **Messages by Database**
   - **Messages by Profile Folder:** This report is available for CAS data sources only.
   - **Messages by Mailbox:** This report is available for Priv EDB data sources only.
   - **Messages by Date:** If you select this report, then specify the appropriate options for received date range and date unit (for example, hour, day, week, month). This report is available for Priv EDB and CAS data sources only.
5. Under **Message Options**, select the appropriate deleted item retention option(s). Both options are selected by default. For PST sources, the first option is cleared. You cannot modify the default options for PST sources.
   - **Include messages in deleted item retention:** Select this option to include messages in deleted item retention.

     Note for Microsoft Exchange Server 2010 and 2013 sources: *When the Show Recoverable Items preference is enabled (see Setting Preferences in "Security Tab"), the messages in the* ***Recoverable Items*** *folder are included in the reports for Microsoft Exchange Server 2010 and 2013 sources only if the* ***Include messages in deleted item retention*** *check box is selected. If the preference setting is cleared, then the* ***Include messages in deleted item retention*** *check box is unchecked and disabled for Microsoft Exchange Server 2010 and 2013 reports.*
   - **Include messages not in deleted item retention:** Select this option to include messages that are not in deleted item retention. In most cases, this option represents most of the messages in the source data store.
6. Click **Generate Reports**. The **Reports** window appears. For more information the contents of the reports, see "Viewing Reports".

Viewing Reports

The Reports window shows the progress of the report generation and also shows the reports themselves. This window consists of a tabbed view of the reports, with each tab containing a single report.

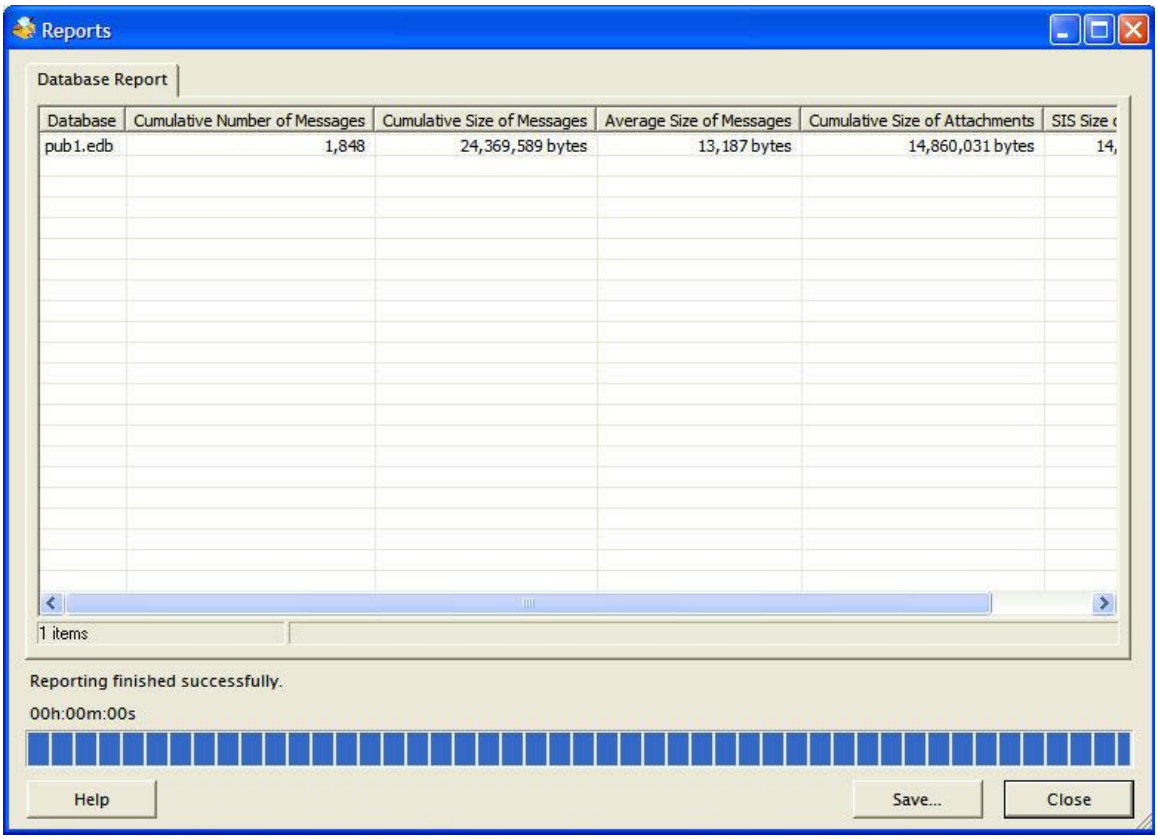


Figure 7-3: The Reports progress window

Single Instance Storage (SIS) vs. Cumulative Counts

The Attachment Statistics and Messages by Database reports use the terms "SIS" (Single Instance Storage) and "Cumulative" when referring to the number and size of attachments in the data store. The term "SIS" counts attachments only once and does not include their duplicates. The term "cumulative" refers to all of the attachments or messages, including their duplicates.

Example: An attachment of type .doc of size 100 KB is being shared by three messages. As the table shows, the SIS size more closely estimates how much of the EDB size is attributed to the attachment.

The cumulative size more closely estimates how much of the EDB size is attributed to attachments if the data store did not have SIS.

Method of Counting Attachments/Messages	Total # of .doc Attachments	Total Size of .doc Files
SIS Count	1	100 KB
Cumulative Count	3	300 KB

Attachment Statistics Report

The Attachment Statistics report provides statistics on all of the attachments contained in messages in the selected source. The attachments are categorized by extension, which appears in upper case letters (for example, .doc, .xls). Attachments without extensions are put into a separate row called "No Extension."

Column Heading	Description
Attachment Extension	Attachment type by extension (for example, .doc, .ppt, .pdf).
Cumulative Number of Attachments Found in Messages	Cumulative number of attachments of each type found in the processed messages.
Cumulative Size of Attachments	Cumulative size of attachments of each type found in messages.
Average Attachment Size	Cumulative size of attachments of each type divided by the cumulative number of attachments found in messages.
Percent of Total by Number	Number of attachments of each type divided by total attachments of all types.
Percent of Total by Size	Total size of attachments of each type divided by the total size of attachments of all types.
SIS Number of Attachments	SIS number of attachments of each type. NA for PST sources.

Column Heading	Description
SIS Size of Attachments	SIS size of attachments of each type. NA for PST sources.
SIS Percent of Total by Size	SIS size of attachments of each type divided by SIS size of attachments of all types in attachment table. NA for PST sources.

Domain Statistics Report

The Domain Statistics report provides statistics on messages grouped by the domain from which the messages were sent.

The domain is determined using the PR_SENDER_ADDRTYPE in combination with the PR_SENDER_EMAIL_ADDRESS as follows:

- If PR_SENDER_ADDRTYPE is "EX" or "SYSTEM," then it is a Microsoft Exchange Server message and the domain is "internal."
- If PR_SENDER_ADDRTYPE is "SMTP", then the domain is whatever follows the @ in the PR_SENDER_EMAIL_ADDRESS property.
- If PR_SENDER_ADDRTYPE is something else, then the domain is "unknown."

Column Heading	Description
Domain	The name of the domain (for example, http://www.netapp.com) from which the message was sent. All messages whose domain cannot be determined are placed into an "unknown" domain. All Microsoft Exchange Server messages are placed into an "internal" domain.
Number of Messages	Total count of messages that were received from each domain.

Column Heading	Description
Total Size of Messages	Total size of all messages that were received from each domain.
Percent of Total by Number	Number of messages from each domain divided by the total number of messages from all domains.
Percent of Total by Size	Total size of messages from each domain divided by the total size of messages from all domains.

Messages by Database Report

The Messages by Database report provides statistics on the database that contains the processed messages. In the current version of Single Mailbox Recovery, reports are limited to a single EDB or PST, which means the database report has only one row of information. For example, the database report for Priv1.edb has one row of information listing all message statistics for Priv1.edb and its mailboxes.

Column Heading	Description
Database (EDB, PST, or CAS)	The database name (for example, Priv1.edb, Pub1.edb, Microsoft Office Outlook XP.pst, User1.cas).

Column Heading	Description
Cumulative Number of Messages	Cumulative number of messages.
Cumulative Size of Messages	Cumulative size of all messages processed.
Average Size of Messages	Cumulative size of messages divided by cumulative number of messages.
Cumulative Size of Attachments	Cumulative size of attachments in all messages processed.
SIS Size of Attachments	SIS total size of attachments. This column applies only to EDB sources. For PST and CAS data stores, this column is NA.

Important: The statistics in the Database report refer only to the mailboxes (for a Priv EDB) or the folders (for a PST, Pub EDB, or CAS profile folders) you selected in the Create Reports window. The statistics also depend on the options you specified in the Message Options area. In other words, unless all mailboxes/folders are selected, the Database report does not provide statistics for the entire database.

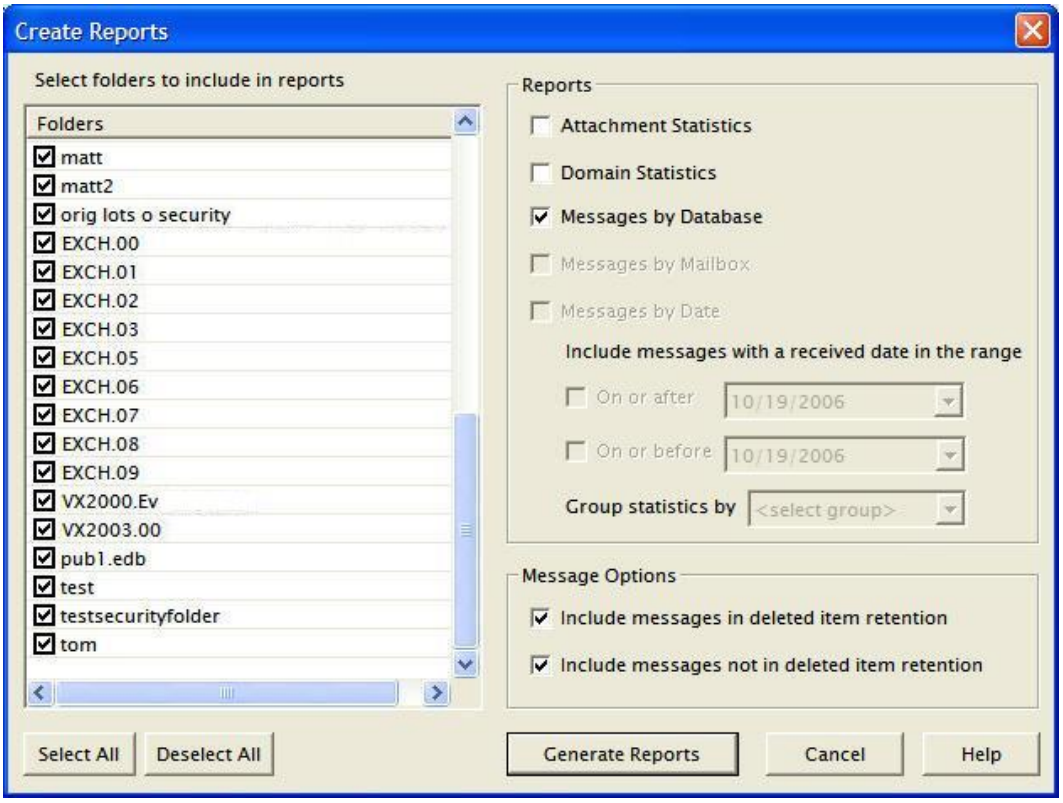


Figure 7-4: The Create Reports dialog box for a Priv EDB source

Messages by Mailbox Report

The Messages by Mailbox report provides message statistics for all selected mailboxes in a Priv EDB data store.

Note: *This report is available only for a Priv EDB.*

Column Heading	Description
Mailbox	Name of the mailbox: Display name (alias)
Number of Messages	Total number of messages in the mailbox.
Total Size of Messages	Total size of all messages in the mailbox.

Column Heading	Description
Average Size of Messages	Total size of messages divided by number of messages.
Total Attachment Size	Total size of attachments in all messages in this mailbox. Attachments in messages in this mailbox that are also in messages in another mailbox are counted in both mailboxes.
Shared Attachment Size	Size of attachments that are found more than once, either multiple times in this mailbox or in this mailbox and other mailboxes. Calculated as total size of attachments minus the non-shared attachment size.
Non-shared Attachment Size	Size of attachments that are *not* shared with other messages.
Internal Received Messages	Received messages of type "EX" or "SYSTEM."
SMTP Received Messages	Received messages of type "SMTP."
Other Received Messages	Received messages not of type "EX," "SMTP," or "SYSTEM."

Note: *For a definition of "received message," see the* ***"Glossary" on page 187****.*

Messages by Date Report

The Messages by Date report provides statistics for messages in a date range, such as 1/1/2004 to 1/1/2005, and a unit of hours, days, weeks, or months. The report is keyed off of the received date of the message.

Note: *This report is available only for a Priv EDB and CAS files.*

Column Heading	Description
Hour/Day/Week/Month	The date unit that was selected in the Create Reports window. Examples are: Hour: "12/25/2004 - 9 PM" Day: "12/25/2004" Week: "12/26/2004 - 1/1/2005" (Weeks start on Sunday and end on Saturday.) Month: "12/2004"
Internal Received Messages	Received messages of type "EX" or "SYSTEM."
Total Size of Internal Received Messages	The sum of the internal received message sizes.
SMTP Received Messages	Received messages of type "SMTP."
Total Size of SMTP Received Messages	The sum of the SMTP received message sizes.
Other Received Messages	Received messages *not* of type "EX," "SMTP," or "SYSTEM."
Total Size of Other Received Messages	The sum of the other received message sizes.

Note: *For a definition of "received message," see the* ***"Glossary" on page 187***.

Messages by Profile Folder

The Messages by Profile Folder report provides statistics for messages in a profile folder, the number of messages, total size of messages, average size of messages, total attachment size, shared attachment size, non-shared attachment size, internal received messages, SMTP received messages, and other received messages. The report is keyed off of the profile folder.

Note: *The Messages by Profile Folder report only includes information gathered from accessible mailboxes.*

Note: *This report is available only for a CAS.*

Column Heading	Description
Profile Folder	Title of the profile folder.
Number of Messages	Total number of messages in the profile folder.
Total Size of Messages	Total size of all messages in the profile folder.
Average Size of Messages	Total size of messages in the profile folder divided by number of messages.
Total Attachment Size	Total size of attachments in all messages in the profile folder.
Shared Attachment Size	Size of attachments that are found more than once, either multiple times in this profile folder or in this profile folder and other profile folders.
Non-shared Attachment Size	Size of attachments that are not shared with other messages.
Internal Received Messages	Received messages of type "EX" or "SYSTEM."
SMTP Received Messages	Received message of type "SMTP."
Other Received Messages	Received messages not of type "EX," "SMTP," or "SYSTEM."

Note: *For a definition of "received message," see the* ***"Glossary" on page 187***.

Sorting Reports

The Attachment Statistics and Messages by Database reports use the terms "SIS" (Single Instance Storage) and "Cumulative" when referring to the number and size of attachments in the data store. The term "SIS" counts attachments only once and does not include their duplicates. The term "cumulative" refers to all of the attachments or messages, including their duplicates.

Example: An attachment of type .doc of size 100 KB is being shared by three messages. As the table shows, the SIS size more closely estimates how much of the EDB size is attributed to the attachment. The cumulative size more closely estimates how much of the EDB size is attributed to attachments if the data store did not have SIS.

Method of Counting Attachments/Messages	Total # of .doc Attachments	Total Size of .doc Files
SIS Count	1	100 KB
Cumulative Count	3	300 KB

To sort the statistics in a report

1. Click a column heading to sort the statistics based on that heading. An arrow appears indicating the sort direction. An up arrow indicates the statistics appear in ascending (A-Z) order. A down arrow indicates that the statistics appear in descending (Z-A) order.
2. To reverse the order of the statistics based on that column heading, click the column heading again. The arrow reverses directions.

An Example of Sorting

The Attachment Statistics report is originally sorted based on the ascending order of attachment extensions (for example, .doc precedes .txt). If you click the Attachment Extension heading, the down arrow appears and statistics are sorted in descending order (for example, .txt precedes .doc).

If you click the "Number of Attachments Found in Messages" column heading, the up arrow appears and statistics are sorted based on ascending order. This means that the attachment extension occurring least frequently in the data source appears first in the report.

Saving Reports

You may save the currently active report as either a tab-separated or comma-separated text file. The report name defaults to the name shown on the report tab, without the spaces and with a .txt extension (for example, MailboxReport.txt). The file type defaults to a tab-separated text file.

To save a report

1. In the **Reports** window, make the desired report active by clicking its tab (for example, Attachment Report, Database Report).
2. Click **Save**.
3. In the **Save Report** window, specify the name, location, and file type for the report. You may save the report as either a tab-separated or comma-separated text file.
4. Click **Save** to return to the **Reports** window.
5. Repeat steps 1-4 for each report you want to save.

Chapter 8: Content Analysis Store

Overview

The content analysis store (CAS) enables you to automate and save search results by selecting sources. Sources include entire EDB files, individual mailboxes from an EDB, or folders from an EDB. Any number of sources is allowed, including multiple EDBs.

After selecting specific sources, you can create profile folders as subfolders to the content analysis store. Each profile folder has the same criteria as the search criteria, such as, "From," "To," "Subject," etc. Only messages matching the criteria are contained in the profile. Multiple profile folders are possible. Every profile folder processes simultaneously. This allows you to make many separate searches (profiles) for the same set of sources.

After the processing is complete, you can open the content analysis store as a source. This allows you to use the CAS for searching, copying, exporting, and integrity checks. It allows you to copy the data out of the CAS into PSTs or to a Microsoft Exchange Server. It allows you to repeatedly use a specific set of profile results without having to rerun the profile processing. The results of the profile can be saved between sessions using the CAS. You can also save the CAS on one computer and reopen it on a different computer to share the results of a profile.

Content analysis stores provide a method for an email administrator to perform content analysis offline from their production server. This feature:

- Minimizes the time it takes to detect/filter out emails that include specific content.
- Minimizes the time it takes to detect/filter out a specific type of email file that is being sent or received (for example, specific extension, subject, date).
- Analyzes the number of emails being sent/received that contain what could be legally damaging content (for example, admission of guilt).
- Analyzes the number of emails being sent/received that contain politically incorrect content (for example, tasteless jokes, pornography).
- Analyzes the number of emails with confidential content that go out unprotected - unencrypted.
- Minimizes the time it takes to determine if someone is using the system for unauthorized activity (for example, spamming, inappropriate downloads, starting a business).

Creating a Content Analysis Store

A new content analysis store can be created from the File menu, from the toolbar, or from the Data Wizard. After the CAS file is created, a new content analysis store shows in the target pane.

To create a content analysis store using the toolbar

1. On the toolbar, click the **Create/Open Target Content Analysis Store** icon located on the toolbar. The **Opening a Content Analysis File** window appears.
2. Enter a **File name** and in the **Look in** box, select a destination.
3. Click **Open**. The name of the store defaults to the file name you entered in step 2. It can be renamed as any other target folder.

To open or create a target Content Analysis Store using the menu

1. To display the **Opening a Content Analysis File** window, on the **File** menu, point to **Open Target Content Analysis Store** and click **Open Existing** or **Create New**.
2. If creating a new target CAS, enter a **File name** and click **Open**.
3. If opening an existing target CAS, select the CAS from the list and click **Open**.

To open or create a target Content Analysis Store using the Data Wizard

1. On the **File** menu, click **Use Wizard**. The **Data Wizard** appears.
2. Click **Next**. The **Source Path Selection** page opens.

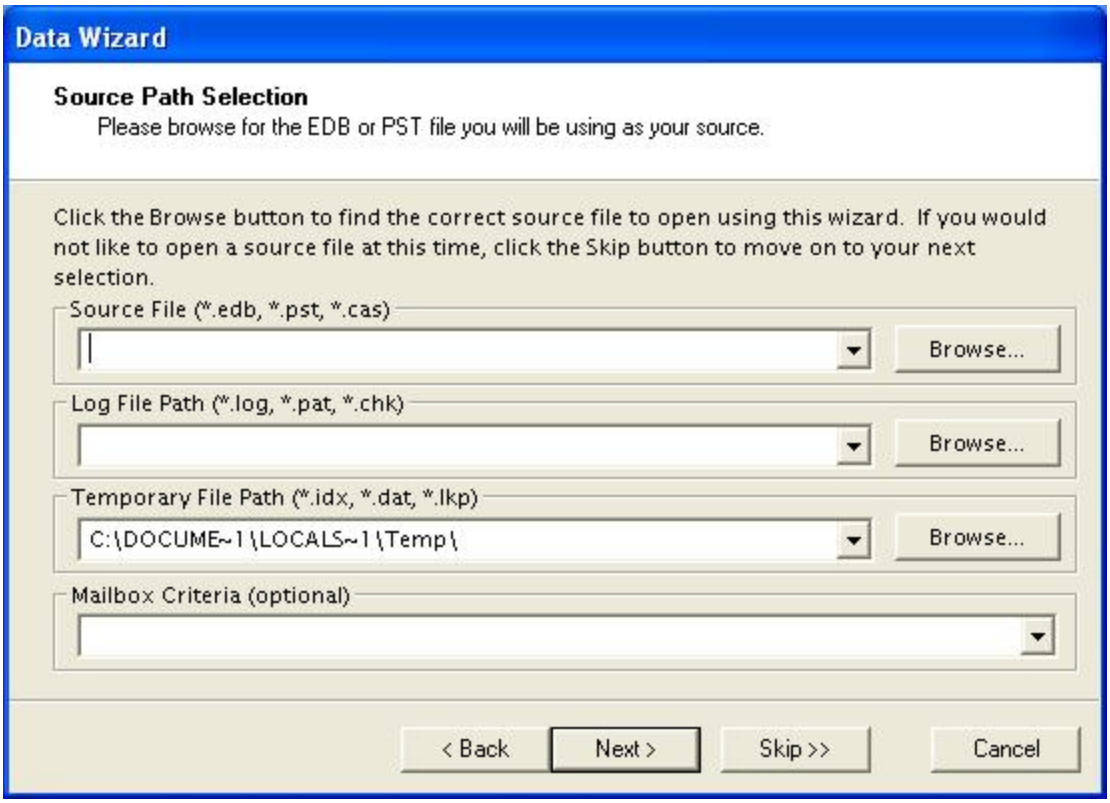


Figure 8-1: Selecting a CAS file in the Source Path Selection

3. In the **Source File** box, click **Browse** to find the source EDB you want to search. If you do not want to open a source EDB file at this time, click **Skip**. If you want to view a filtered display of mailboxes in the Source Pane, use the **Mailbox Criteria (optional)** box. (For more information, see **"Mailbox Criteria" on page 32**.)
4. Click **Next**. The **Target Type & Path Selection** page of the Data Wizard appears.

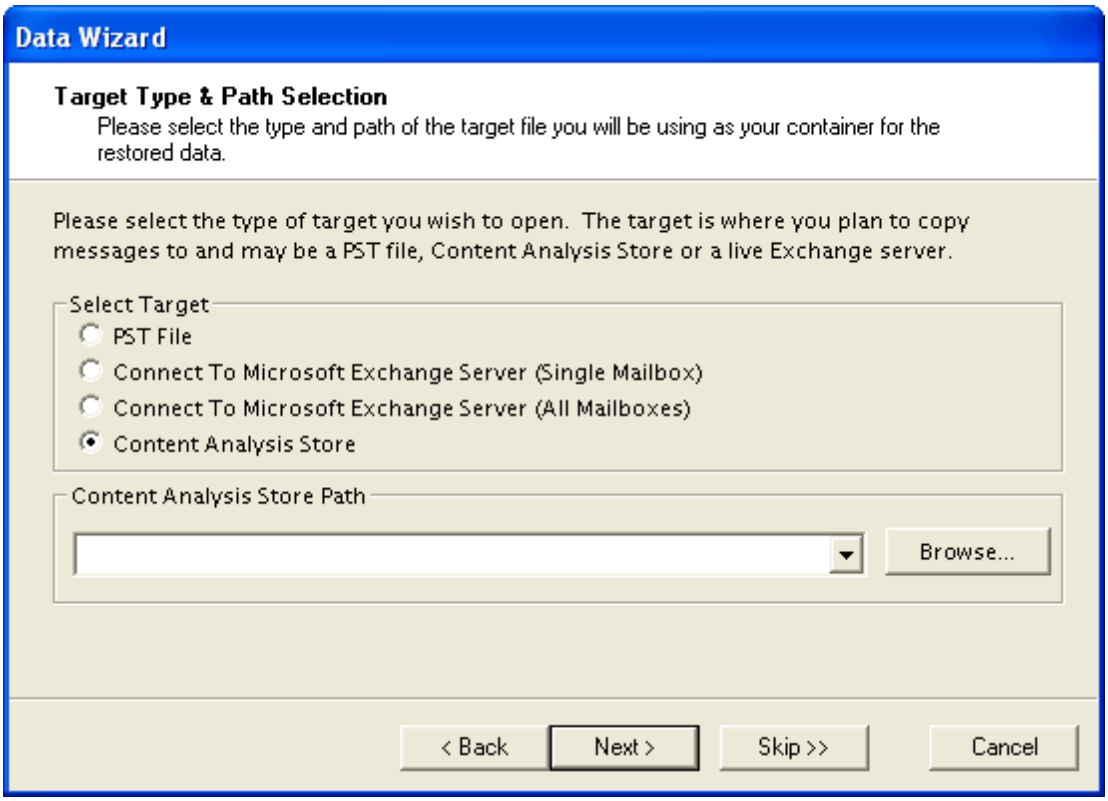


Figure 8-2: The Target Type & Path Selection window

5. Select **Content Analysis Store**.
6. Do one of the following:
   - If you know the target CAS file path, type it in the **Content Analysis Store Path** box.
   - Click **Browse** to open the **Create Content Analysis Store** window, and navigate to the desired location. Then create a new CAS file by typing a name in the **File name** box, or select an existing CAS file. Then click **Open**. The path of the target CAS file appears in the **Content Analysis Store Path** box.
7. Click **Next**. The **Completing the Data Wizard** page of the Data Wizard appears.
8. Click **Finish**.

Important: For more details, see **"Pointing Single Mailbox Recovery to a NetApp Device" on page 37**.

Creating a Content Analysis Store with Microsoft Exchange Server 2010 and 2013 Data

Any source or target content analysis store (CAS) created with Microsoft Exchange Server 2010 and 2013 data is subject to different handling based on the Recoverable Items preference settings. See Setting Preferences in "Security Tab".

When a CAS is created, whatever the Recoverable Items preference setting is at that time will be stored with that CAS. If you attempt to open a CAS as a source or target, the preference stored in the CAS is checked against the current preference setting. If they do not match, the following message displays: *"The current `Show Recoverable Items' preference setting does not match the setting for the Content Analysis Store. The Content Analysis Store cannot be opened unless its setting is changed. To change the setting the Content Analysis Store, click `OK.' The Content Analysis Store will be opened as a target and all profiles will be reprocessed. Click `Cancel' to cancel opening the Content Analysis Store."*

Note: *If a Microsoft Exchange Server 2010 or 2013 source EDB file has multi-tenancy criteria applied, it cannot be added to a target CAS file.*

Creating and Processing Content Analysis Store Profile Folders

A content analysis store profile folder is created as a subfolder of the content analysis store to filter EDB messages (only) based on the profile criteria.

When the profile folder is created, a folder appears under the content analysis store and Single Mailbox Recovery searches all the sources in the content analysis store for messages that match the criteria for the profile folder.

During processing (searching), the profile folder is green and its status will indicate that processing is taking place. The status bar at the lower left also indicates the status. The message pane on the right populates with the results when the profile folder is selected or when the screen is refreshed.

Deduplication can be performed on a per profile basis and if selected does not return duplicates of a message during a search. For example, if the same message exists in two or more data stores, only the first message found is listed in the search results. Selecting this option may result in slower search performance.

Note: *Only accessible mailboxes in the EDB source can populate the CAS target profile with messages.*

Note: *If a source EDB is opened with multi-tenancy restrictions, it cannot be used as a source for a target CAS.*

To create and process a content analysis store profile folder

1. Select a target content analysis store root.
2. In the **Profile** menu on the menu bar, click **Create Profile**. The **Create Profile** window opens with "Profile1" as the default **Profile Name**. Once created, the content analysis store profile folder can be renamed just as any folder would be.
3. Enter the criteria for the content analysis. This window offers similar search options as the **Find** window. For more information, see "Finding Messages".

   Note: *The **profile** criteria can be saved and imported.*

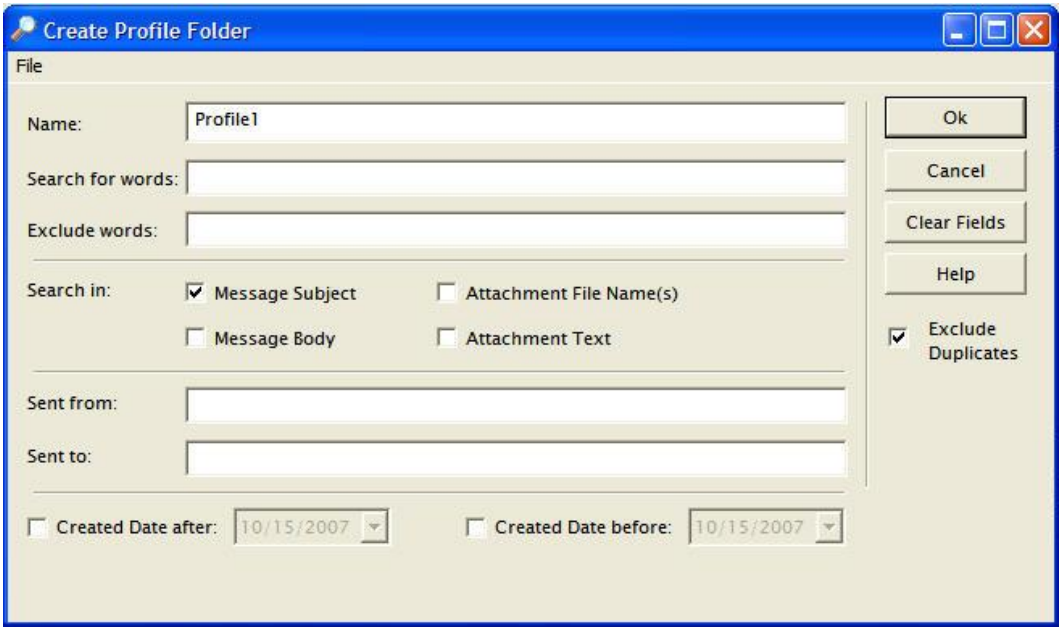


Figure 8-3: The Create Profile Folder window is used to enter profile criteria

4. Click **OK**. Single Mailbox Recovery indicates that a profile is processing when the color of the profile folder is green and its status states "Processing." When the profile is selected, the status shown in the status bar at the lower left of the main window indicates that the profile is processing. For more information, see "Profile Processing Statuses".
5. When the processing for a profile is complete, the color of the profile icon changes from green to blue and its status states "Completed." All messages from the content analysis store EDBs that match the criteria are contained in the profile folder.

   Note: *A content analysis store cannot be opened as a source until all profile processing has completed.*

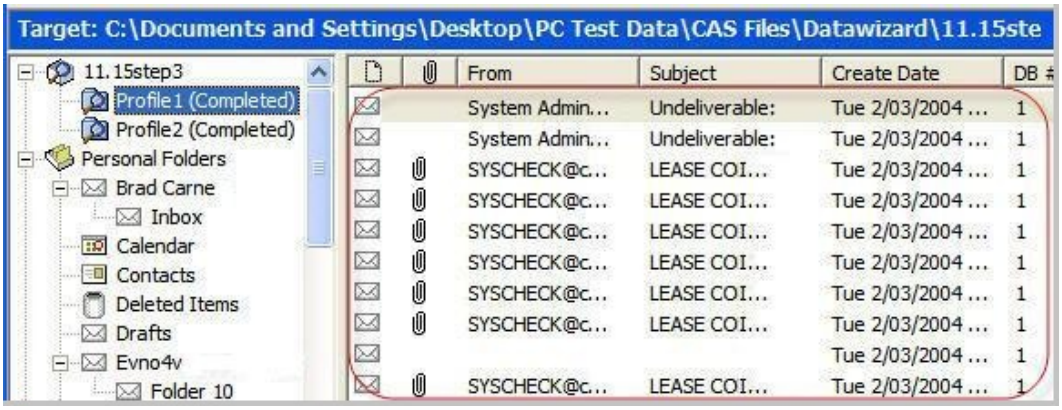


Figure 8-4: Messages displayed after profile folder created

Note: *If the same source is added to the content analysis store twice for processing, Single Mailbox Recovery ignores the second copy. The source is not listed twice nor is an error message displayed.*

DB # Column

The content analysis store profile folder message views include a column to display a database number to enable you to trace back to the actual database in the content analysis store. This number does not correlate to the profile folder number or source #, i.e., "Profile1" or "Source 1" does not necessarily correlate with DB #1. The correlation is between the profile folder message and the source database.

Example:

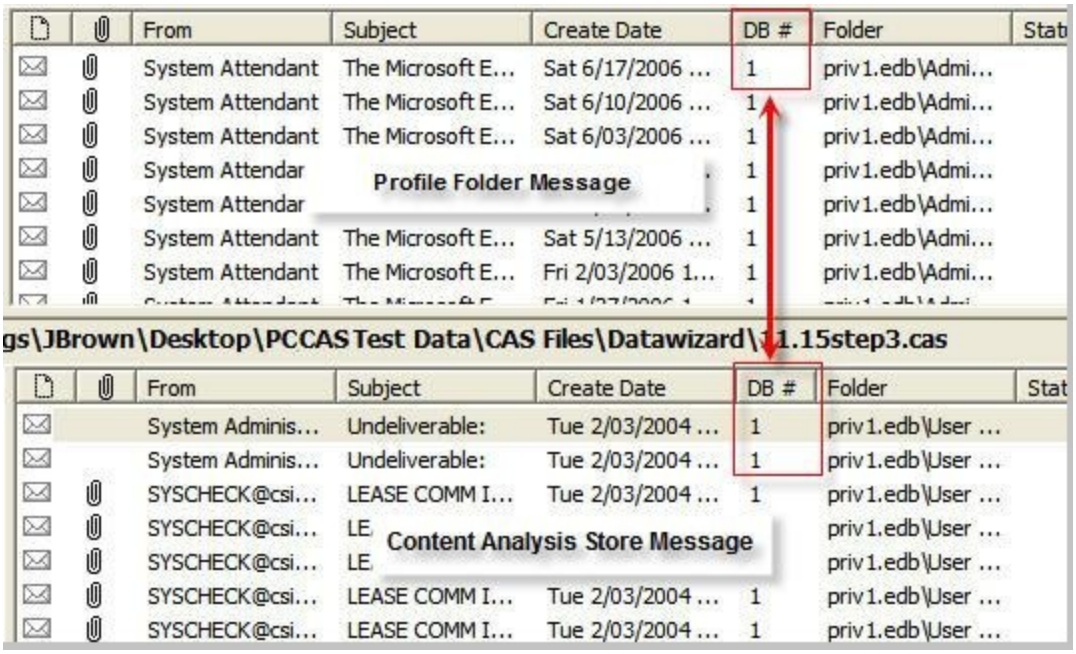


Figure 8-5: The Database numbers are tied to the actual database.

Note: *Database (DB) numbers are tied to the actual database, not the folder so each folder from the same EDB will have the same DB number. DB numbers increment from 1 for each different database added to the content analysis store, not for each folder.*

Profile Processing Statuses

When the profile is processing, there are four possible statuses that are displayed: **Processing**, **Suspended**, **Completed**, and **Completed with errors**.

Figure 8-6: Profile Processing Status folders are indicated by different colors

Processing

After entering the profile criteria, the profile is created and is represented by a folder under the content analysis store. During processing (searching), the profile folder is green and its status states "Processing." Selecting the profile folder or pressing F5 populates the message pane with messages when the processing is complete.

Processing occurs when a new profile is created, when removing a source, when adding a source, when editing a profile, when copying a source profile folder to a target content analysis store, or when resuming a suspended profile.

Note: *If unrecoverable errors are encountered during processing then the profile is not fully processed and is blue in color with a red* ***!*** *indicating the error.*

Suspended

Processing can be suspended on any profile folder during processing. Suspended profile folders are red in color. The status also indicates that the profile is suspended. For more information, see **"Suspending and Resuming Content Analysis Store Profile Folders" on page 163**.

Completed

Once the processing is complete, the profile folder turns blue and its status states "Completed."

Completed with errors

If Single Mailbox Recovery detects corruption or some other issues while processing, the profile folder status states "Completed with errors." To obtain details on the error, view the Properties on the profile folder by right-clicking on the profile folder and selecting Properties.

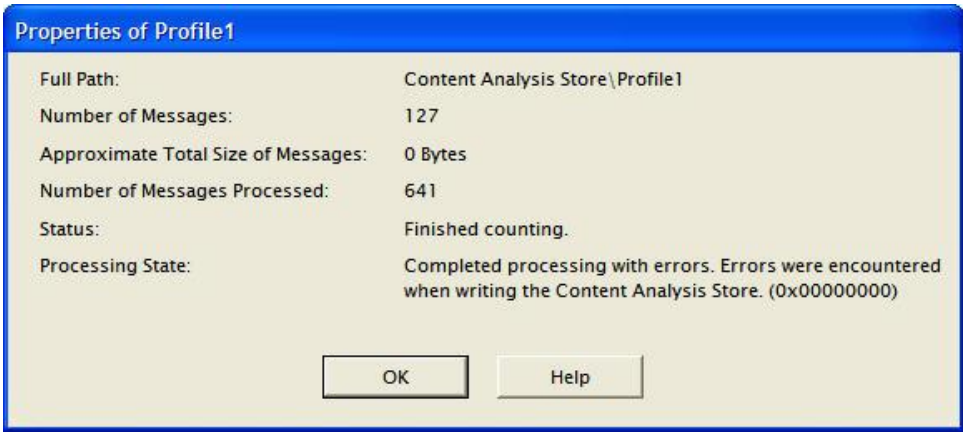


Figure 8-7: An error message displays when processing cannot be completed

Saving and Importing Profile Criteria

Profile criteria can be saved and later imported into a new profile in the Create Profile window to save time.

To save a profile criteria

1. On the **File** menu, click **Save Criteria**.
2. In the **Save As** window, enter a **File name** and click **Save**. Be sure to note where the criteria file is being saved in the **Look in:** box.

   Note: *The profile folder name is not saved.*

To import saved profile criteria

1. On the **File** menu, click **Use Previous Criteria**.
2. In the **Open** window, select the previously saved profile criteria .txt file.
3. Click **Open**. All previously saved profile criteria, except for the Profile Name, reads from the file and is placed into the **Create Profile** fields.
4. Enter a new **Profile Name**.

   Note: *Search criteria from previous and current versions of Single Mailbox Recovery can be imported into Single Mailbox Recovery for find and profile criteria.*

Suspending and Resuming Content Analysis Store Profile Folders

You can pause the processing of one or more profile criteria folders and then resume processing at a later time. Suspended profile folders are red in color and then turn to green when processing is resumed. The folder then turns to blue when processing is complete. For more information, see "Profile Processing Statuses".

Important: Processing of all profiles is suspended automatically if you exit Single Mailbox Recovery or if you close the content analysis store before processing is complete.

To suspend the processing on profiles

- Do one of the following:
  - Select the profile folder, click the **Profile** menu and click **Suspend Processing**.
  - Right-click the profile folder and click **Suspend Processing**.

To suspend processing on all profiles

- Do one of the following:
  - Select the content analysis store root, click the **Profile** menu and click **Suspend Processing**.
  - Right-click the content analysis store root and click **Suspend Processing**.

Note: *Suspended profiles are red in color. The status also indicates that the profile is suspended.*

To resume processing on profiles

- Do one of the following:
  - Select a profile folder, click the **Profile** menu and click **Resume Processing**.
  - Right-click the profile folder and click **Resume Processing**.

To resume processing of all profiles

- Do one of the following:
  - Select the content analysis store root, click the **Profile** menu and click **Resume Processing**.
  - Right-click the profile folder and click **Resume Processing**.

Adding Sources to Content Analysis Stores

Only EDB store objects, EDB mailboxes, or EDB folders can be drag and dropped or copied and pasted from the source into the new content analysis store root to prepare for analysis.

If you open a source with a set of mailbox criteria, create a CAS using that source, then close and re-open the source with different mailbox criteria, no additional folders or mailboxes can be added from that source. Re-open the source with the matching mailbox criteria or remove all references to the original source before re-adding.

Note: *Messages or folders cannot be copied directly to a profile folder (results folder).*

To add a folder, a mailbox, or an EDB file with copy-paste

1. In the source pane, select a folder, a mailbox, or an EDB file.
2. Do one of the following:

   - On the **Edit** menu, click **Copy**.
   - Right-click the selected item(s), and on the shortcut menu, click **Copy**.
   - Click the **Copy Mail Item** icon on the toolbar.
   - Press **Ctrl+C** (Copy).

3. In the target pane, click the content analysis store root and do one of the following:

   - On the **Edit** menu, click **Paste**.
   - Right-click the selected item, and on the shortcut menu, click **Paste**.
   - Click the **Paste** icon on the toolbar.
   - Press **Ctrl+V** (Paste).

4. In the **Copy Progress** window, verify that your messages were successfully copied, and click **Close**.

To add data even faster, use drag-and-drop

- To move entire EDB store objects, EDB mailboxes, or EDB folders, drag to the target content analysis store root. Dragging and dropping achieves the same results as copying and pasting.

To use drag-and-drop when right-clicking a source item

1. In the source pane, select one or more messages.
2. Right-click the selected message containers and drag them to a content analysis store in the target pane.
3. When you let go of the mouse, a shortcut menu appears. On the shortcut menu, click **Paste**.

   Important: If a new source (Inbox, Deleted items, Outbox, etc.) is dropped into the content analysis store or the user removes a source store from the content analysis store, all profiles automatically process the new source.

Editing and Deleting Profiles

Deleting a profile stops any processing on that profile and removes that profile and all data associated with it from the content analysis store. Deleting a profile does not modify the EDB sources.

To edit a profile

1. To edit a profile, right-click the profile folder and click **Edit Profile** or click on the **Profile** menu and click **Edit Profile**.
2. The **Edit Profile Folder** window appears. Edit any or all of the criteria. When new criteria is entered, all messages in the profile are deleted, the icon changes to its processing color (green), the profile status will update, and the process begins.

To delete a profile

- Do one of the following:
  - Right-click the profile folder and click **Delete**.
  - Click profile folder, and on the **Edit** menu, click **Delete**.
  - Select the profile folder and press the **Delete** key on the keyboard.

Closing a Content Analysis Store

Closing a content analysis store root closes the root as well as all of the profile folders created under that root.

To close a content analysis store (CAS)

- Do one of the following:
  - Right-click the CAS and click **Close Store**.
  - Click the CAS and on the **File** menu, click **Close Store**.

Opening a Content Analysis Store as Source

When all profile processing has completed, you can open the content analysis store as a source, for which the following source operations can be performed: Copy/Paste, Paste Special, Export, Find, Integrity Check, Properties, and Create Reports. Use copy/paste to copy source profile search criteria to a target content analysis store.

If a content analysis store is opened as a source and it has not completed processing all profiles, a window indicates that the content analysis store has not completed its processing. There is then an option to open the CAS as a target. If that option is selected, Single Mailbox Recovery opens it as a target and resumes processing on all remaining profiles.

To open a content analysis store as source

1. One the **File** menu, click **Open Source**. The **Select Source Files** dialog box opens.

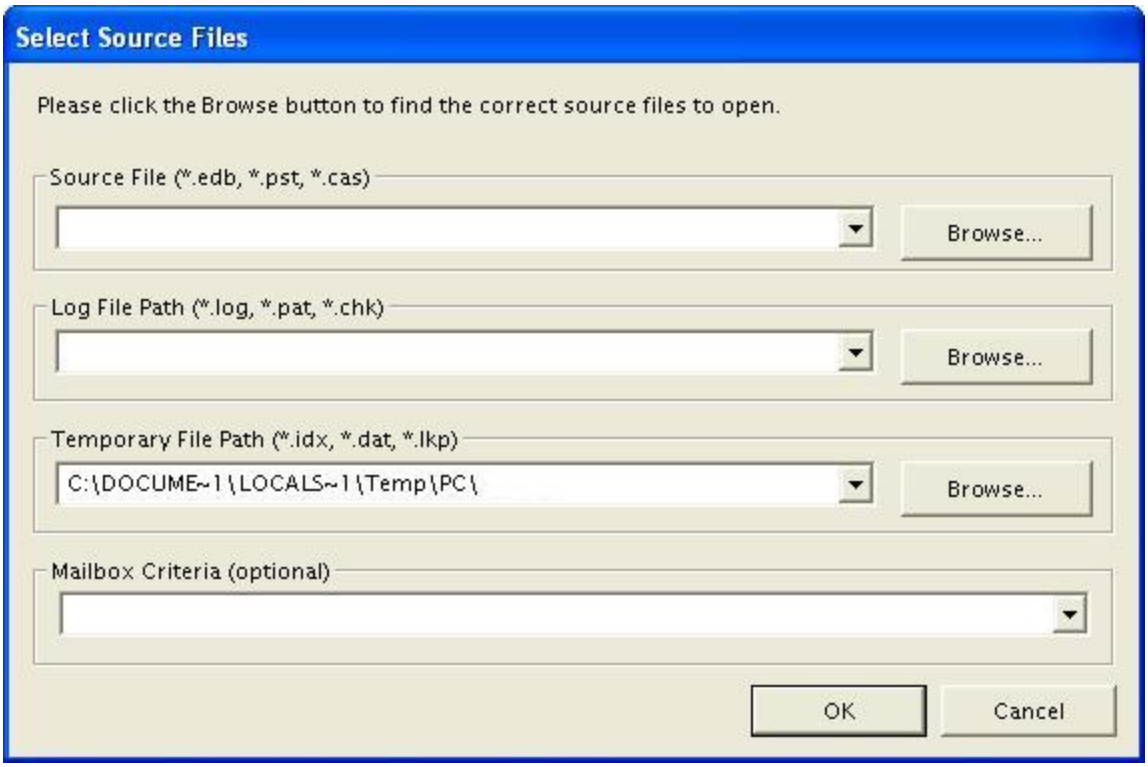


Figure 8-8: The Select Source Files dialog box is used to open a CAS as source

2. Click **Browse** to the right of **Source File (*.edb, *.pst, *.cas)**.
3. In the Open dialog box, select a .cas file and click **Open**.
4. In the **Select Source Files** dialog box, click **OK**. A source content analysis store appears in the left pane of source.

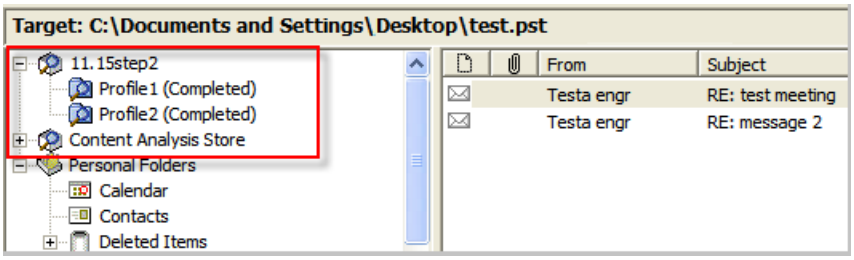


Figure 8-9: A source content analysis store root and profile folders

Viewing Properties of a Content Analysis Store

To view the properties of a content analysis store

- To display the **CAS File Properties** window, right-click the CAS in either the source or target pane and click **Properties**.

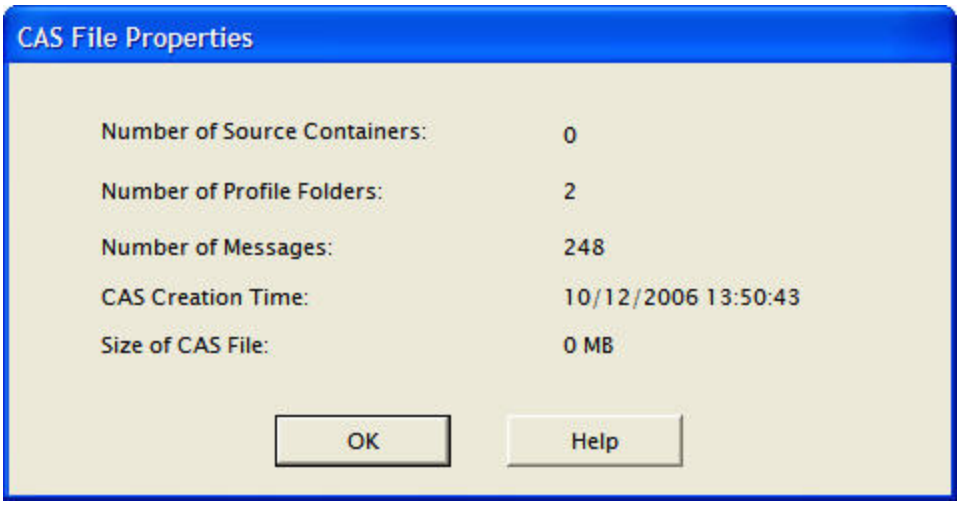


Figure 8-10: The Properties of the selected CAS file

To view the properties of a content analysis store profile folder

- Right-click the profile folder and click **Properties**.

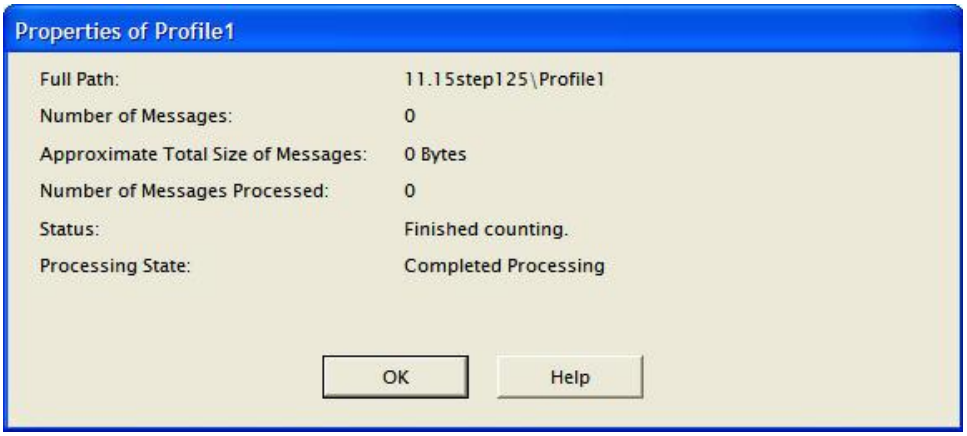


Figure 8-11: The Properties of the CAS profile folder

Creating Reports in Content Analysis Store

You can create reports of the source content analysis store by right-clicking the source content analysis store root. The reports are:

- Attachment statistics
- Domain statistics
- Messages by Database
- Messages by Profile Folder
- Messages by Date

See "Reporting" for instructions on creating reports.

Viewing Profiles in Content Analysis Store

The Viewing Profiles option allows you to view what profile criteria has been used for a specific content analysis. All fields are read only.

To view a profile

1. Do one of the following to display the **Profile Folder Properties** page:
   - Right-click the profile folder in either the source pane or target pane and point to **View Profile Folder**.
   - Click the profile in either the source pane or target pane, click the **Profile** menu and click **View Profile Folder**.

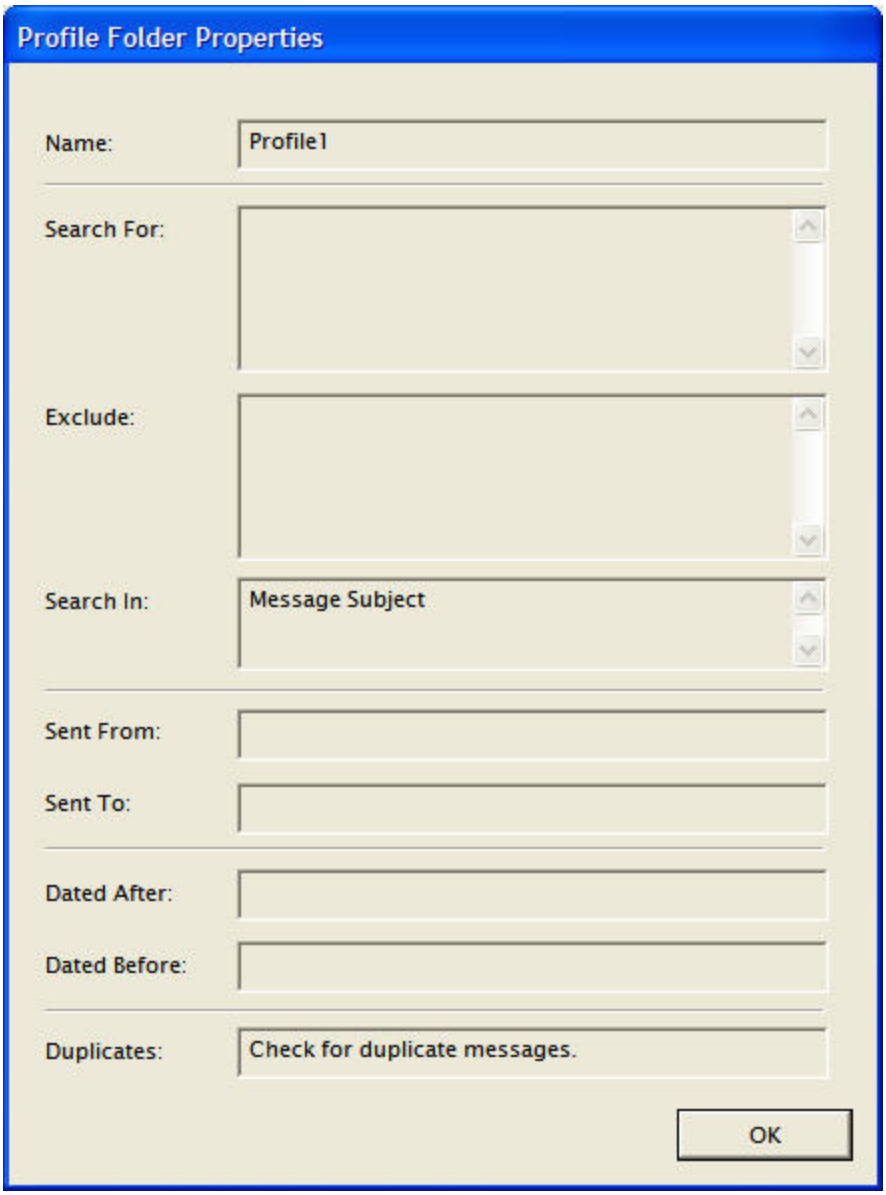


Figure 8-12: Profile Folder Properties

2. Click **OK** to exit.

Missing Database Files

If an EDB or log file that belongs to a content analysis store is moved and then the content analysis store is opened, there is a prompt to find or remove the missing database files. If the EDB is located but the STM is missing, Single Mailbox Recovery displays an error indicating that the STM needs to be located in the same directory as the EDB.

Missing EDB

When there is a wrong EDB, you are prompted to locate the file.

To locate the missing EDB

1. On the **Missing Database File** error message, click **Browse**. The **Open** window appears.
2. Navigate to the EDB files and double-click the appropriate file.
3. Click **OK**. The source pane now populate with files.
4. If you are unable to locate the EDB file, click **Remove** on the **Missing Database File** error message. A message asking you to confirm your decision to remove the file is displayed.
5. Click **OK**.

Important: When an EDB is removed, the complete source EDB is removed from the CAS as well as any source folders or mailboxes that also reference that EDB.

Missing Log Files

When there are missing log files, you are prompted to locate the log directory. The Browse button opens a Browse for Folder dialog and defaults to the last known location of the logs.

To locate missing log files

1. On the **Missing Database File** error message, click **Browse**. The **Open** window appears.
2. Navigate to the directory containing the logs and click **OK**. The source pane now populates with files.

Important: When logs are removed, the complete source EDB is removed from the CAS as well as any source folders or mailboxes that also reference that EDB and logs.

Missing STM Files

When there are missing .stm files, you are prompted to remove the files.

To remove missing .stm files

1. On the **Missing Database File** error message, click **Remove**.
2. A message asking you to confirm your decision to remove the file is displayed. Click **OK**.

Important: When the .stm is removed, the complete source EDB is removed from the CAS as well as any source folders or mailboxes that also reference that EDB and .stm.

Missing Temp Files Directory Location

When there are missing temp file directory locations, you are prompted to locate the temp file directory location. The Browse button opens a Browse for Folder window and defaults to the current temporary path set by Single Mailbox Recovery.

To locate missing temp file directory location

1. On the **Missing Database File** error message, click **Browse**. The **Open** window appears.
2. Navigate to the directory containing the temp files.
3. Click **OK**. The source pane now populates with files.

> ***Note:*** *If just the temp files are missing but the directory exists, it recreates the temp files.*

Wrong Database Files

When Single Mailbox Recovery finishes opening the EDB, it checks the database for the correct file in the content analysis store. If it does not locate the correct file, it determines that there is a different EDB at the original location than when the CAS was originally created. An error is displayed and prompts you to remove the file from the CAS.

To remove wrong files

1. On the **Wrong Database File** error message, click **Remove**.
2. A message appears asking if you are sure you want to remove the source and all related messages from the content analysis store. Click **OK**.

Chapter 9: Message Views

Overview

You can view all instances of a given message or attachment in the EDB source(s) within the same database as well as messages related by conversation in the Message Views option. This option is particularly useful in assisting with administrative tasks such as database cleanup activities, determining the history or dissemination of a message, or grouping messages by conversation thereby allowing you to view them together in context without missing a reply or forward.

Message views are available for messages in the source pane, find results pane, and also from another message view. Message views are available only on single messages. If multiple messages are selected in the message pane, the message view menu items and toolbar buttons are unavailable.

You can view a message in various ways, depending on the message view option selected. Upon option selection, you are presented the following:

- **Message Table View** - all the messages that are referenced by the same message table row as the selected message.

  Note: *The Message Table View does not support Microsoft Exchange Server 2007, Microsoft Exchange Server 2010 EDB, or Microsoft Exchange Server 2013 EDB sources as Microsoft stopped supporting single instance storage with Microsoft Exchange Server 2007.*

- **Attachment Table View** - all the messages that have an attachment that are referenced by the same attachment table row as the selected attachment.

  Note: *The Attachment Table View does not support Microsoft Exchange Server 2007, Microsoft Exchange Server 2010 EDB, or Microsoft Exchange Server 2013 EDB sources as Microsoft stopped supporting single instance storage with Microsoft Exchange Server 2007.*

- **Conversation View** - messages that are related by conversation, with the sorting order of the email thread based on who replied to whom within the thread. Messages are indented to show the thread timeline of when replies occurred.

Note: *If you use the "Mailbox Criteria (optional)" box on the Select Source Files dialog box or the Source Path Selection page of the DataWizard, only EDB mailboxes containing your entry (or*

entries) are displayed on the Source Pane. Any mailboxes that do not match the entered string (s) do not appear in the Source Pane and are not be included in any subsequent tasks (such as searching, copying, and exporting of the entire database). For more information, see ***"Mailbox Criteria" on page 32***.

Note: *If you use the "Multi-Tenancy Criteria" box on the Select Source Files dialog box, the Source Path Selection page of the DataWizard, the Connect to Exchange Server dialog box, or the Target Type & Path Selection page of the DataWizard, only mailboxes contained in the selected Address Book Policy or Organization appear in the Source or Target Panes. Only these mailboxes are included in any subsequent tasks (such as searching, copying, and exporting of the entire database). For more information, see* ***"Multi-Tenancy Support" on page 33***.

Message Views Menus and Toolbars

The message views are accessible via the Tools menu, toolbar buttons, and a sub-menu on the shortcut menu in the message panes.

Message Views Menus

The Tools menu contains a sub-menu with menu items for each message view.

Figure 9-1: The Tools menu leads to the Message Views options

Message Views Toolbar Icons

A toolbar button exists for each message view: Message Table View, Attachment Table View, and Conversation View.

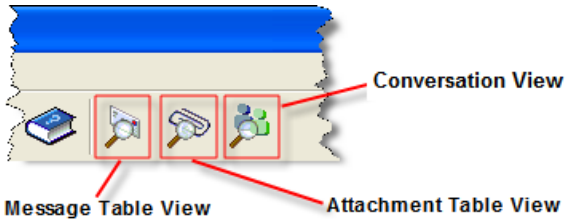


Figure 9-2: The toolbar provides another option for accessing the Message Views

Message View Shortcut Menu

The source pane shortcut menu has a Message Views sub-menu with menu items for each message view. As with the main menu, the new Message Views menu items provides status bar text when they are highlighted.

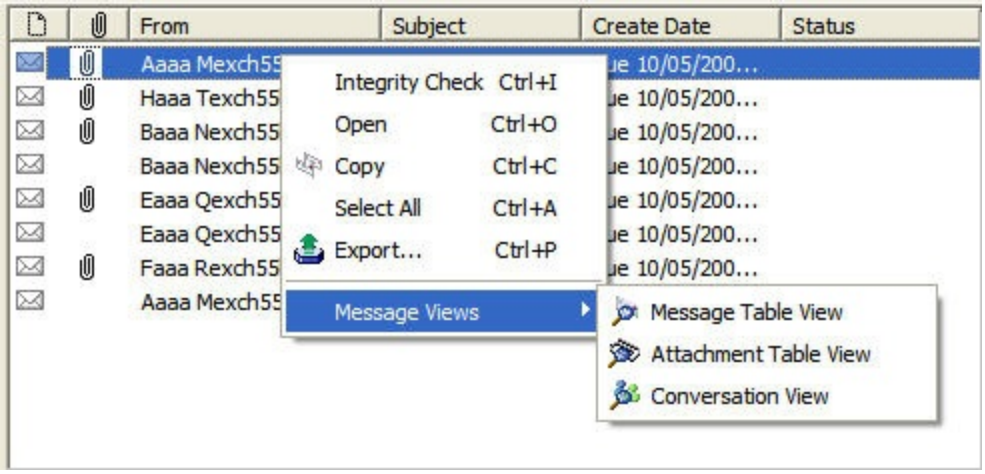


Figure 9-3: The Message View options can be reached by right-clicking an EDB message in the upper message pane.

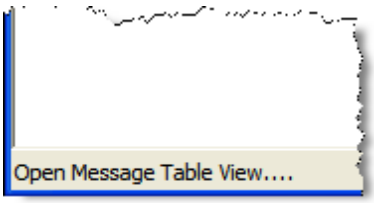


Figure 9-4: The Status Bar

Message View Pane

The Message View Pane is the area that hosts the various message views. The pane provides you the ability to view the related messages and perform various actions (for example, viewing messages in alternate views, exporting messages to your directory, checking the integrity).

Other Options Available in the Message View

Other actions can be performed within a Message View, such as Exporting messages, Integrity Check, copying messages, and viewing a message in another Message View.

Figure 9-5: Other options available in the Tools menu are Copy, Export, and Integrity Check

These options are available in any Message View:

- **Copying Messages**-Messages within a Message View can be copied and pasted into folders in the target pane via the Edit menu or shortcut menu. For more information about copying messages, see **"Restoring Microsoft Exchange Server Data" on page 110**.
- **Exporting Messages**-Messages within a Message View can be exported as any message can via the Tools menu or shortcut menu. For more information, see **"Exporting Messages" on page 99**.
- **Integrity Check** -Messages within a Message View can have an integrity check performed on them via the Tools menu or shortcut menu. For more information, see **"Looking at the Interface" on page 9**.
- **Message Views** -Messages within a Message View can be viewed in any of the three Message View options, Message Table View, Attachment Table View, or Conversation View. The message view options are only available if a single message is selected.

Message View Options

You have the option of viewing all instances of a given message or attachment in the EDB source(s) in three different ways-Message Table, Attachment Table View, and Conversation View.

Note: *The Message Table and Attachment Table Views do not support Microsoft Exchange Server 2007, Microsoft Exchange Server 2010 EDB, or Microsoft Exchange Server 2013 EDB sources as Microsoft stopped supporting single instance storage with Microsoft Exchange Server 2007.*

Message Table View

Choosing the Message Table View option displays all the messages from the same EDB that reference the same message table row (Single Instance Storage).

Note: *The Message Table View does not support Microsoft Exchange Server 2007, Microsoft Exchange Server 2010 EDB, or Microsoft Exchange Server 2013 EDB sources as Microsoft stopped supporting single instance storage with Microsoft Exchange Server 2007.*

Example:

A message is sent to User1, User2, and User3. The message is stored in the message table once. If a user opens up the database and right-clicks the message in User1's Inbox and chooses Message Table View, a table opens with three messages in it: One in User1's Inbox (or deleted items), one in User2's Inbox, and one in User3's Inbox as long as they are all in the same Microsoft Exchange Server database (EDB). If User 1, 2, or 3 are in a different EDB, those messages will not appear in this view.

Sample

From	Subject	Create Date	Status
Aaaa Mexch55b-outl0	IRGEReHAE-ou...	Tue 10/05/200...	
Haaa Texch55b-outl7	wggfIvjky-oups...	Tue 10/05/200...	
Baaa Nexch55b-outl1	PmpGxhHeq-ou...	Tue 10/05/200...	
Baaa Nexch55b-outl1	YxrjEQbxS-oup...	Tue 10/05/200...	Deleted
Eaaa Qexch55b-outl4	FyiACraJd-oups...	Tue 10/05/200...	Deleted
Eaaa Qexch55b-outl4	VPYgqRYQr-ou...	Tue 10/05/200...	Deleted
Faaa Rexch55b-outl5	CXTCIoSMl-oup...	Tue 10/05/200...	
Aaaa Mexch55b-outl0	FbMURxGFg-ou...	Tue 10/05/200...	

Figure 9-6: The Message Table View displays messages that have been deleted.

The message pane displays the related messages in a report format showing the Message Type, Attachment, From, To, Subject, Folder, Date, and Status (indicating if message has been deleted).

Note: *Only messages within the same EDB can be viewed in the Message Table View.*

To open and view messages in the Message Table View

1. In the message pane, select an EDB message.
2. Do one of the following to display the **Message Table View**:
   - Click the **Message Table View** icon on the toolbar.
   - Right-click a message and point to **Message Views**, then click **Message Table View**.
   - Click the **Tools** menu, point to **Message Views**, then click **Message Table View**.

Note: *The first time opening a view on this EDB, a message appears stating that a Message View file needs to generate.*

Attachment Table View

Choosing the Attachment Table View option displays all of the messages in the same EDB that have an attachment referencing the same attachment table row as the selected attachment (Single Instance Storage). If the message contains multiple attachments, a sub-menu listing each individual attachment allows the selection of an individual attachment.

Note: *The Attachment Table View does not support Microsoft Exchange Server 2007, Microsoft Exchange Server 2010 EDB, or Microsoft Exchange Server 2013 EDB sources as Microsoft stopped supporting single instance storage with Microsoft Exchange Server 2007.*

Example:

A message with an attachment is sent from User1 to User2 and User3. User3 forwards the email to User4. The attachment is stored in the attachment table only once (single instance storage). A

user opens up the Microsoft Exchange Server database (EDB) containing these messages and creates an Attachment Table View on the message in User's "Sent Items" folder. The Attachment Table View contains five messages: one in User1's Sent Items, one in User2's Inbox, one is User's Inbox, one in User3's Sent Items and one in User4's Inbox as long as they are all in the same EDB.

As in the Message Table View, the Attachment Table View shows the related messages in a report format with Message Type, Attachment, From, To, Subject, Folder, Date, and Status (including indicating if message has been deleted).

Note:

- *Only messages with attachments can be viewed in the Attachment Table View.*
- *Only attachments within the same EDB can be viewed in the Attachment Table View.*
- *Attachments within inaccessible mailboxes cannot be viewed in the Attachment Table View.*

To open the Attachment Table View

1. In the message pane, select a message.
2. Do one of the following to display the **Attachment Table View**:
   - Click the **Attachment Table View** icon on the toolbar.
   - Right-click a message and point to **Message Views**, then click **Attachment Table View**.
   - Click the **Tools** menu, point to **Message Views**, then click **Attachment Table View**.

   Note: *The first time opening a view in this EDB, a message appears stating that a Message View file needs to generate.*

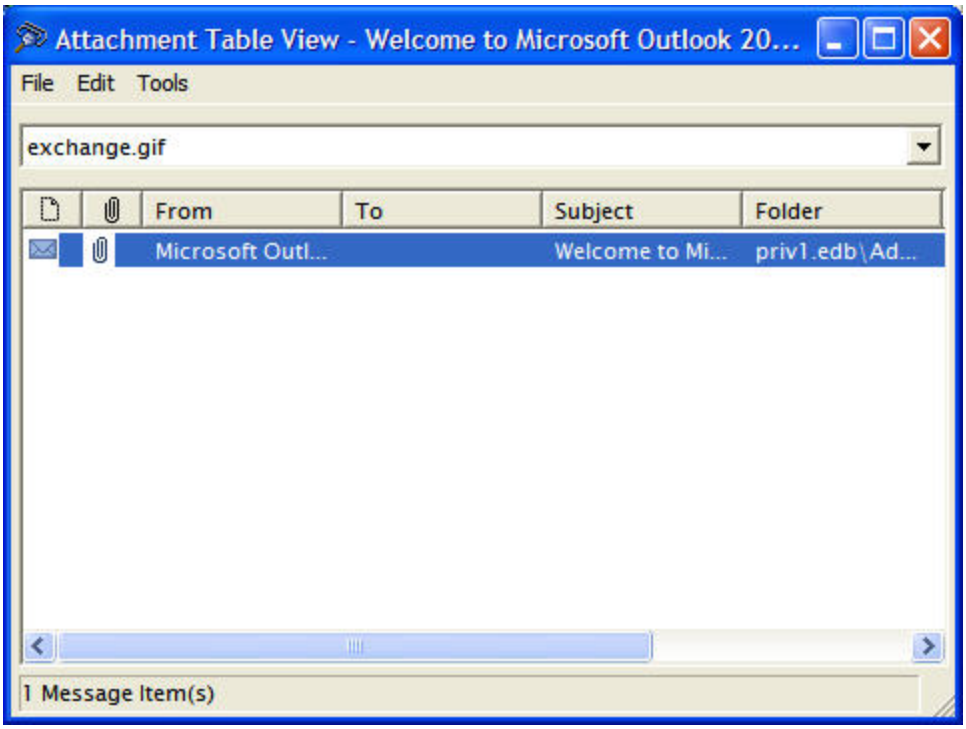


Figure 9-7: The Attachment Table View displays messages with attachments

3. To view a message within the **Attachment Table View**, right-click a message, point to **Message Views** and select one of the following options:
   - Message Table View
   - Attachment Table View
   - Conversation View
4. Any message in the Attachment Table View can be opened by double-clicking the message in the table.

Conversation View

Choosing the Conversation View option displays the messages that are related by conversation showing the Message Type, Attachment, From, To, Subject, Folder, Date, and Status (including indicating if message has been deleted). Messages are indented to show the chain of replies and forwards.

Example:

If a user composes and sends Email 1 to another user, and that user sends Email 2, a reply to Email 1, then Email 1 has no indention and Email 2 is indented one level. If the first user then replies to Email 2 with Email 3, then Email 3 is indented two levels.

Note:

- *Only conversation threads within the same EDB can be viewed in the Conversation View.*
- *Messages within inaccessible mailboxes cannot be viewed in the Conversation View.*

To open a Conversation View

1. In the message pane, select a message.
2. Do one of the following to display the **Conversation View**:
   - Click the **Conversation View** icon on the toolbar.
   - Right-click a message and point to **Message Views**, then click **Conversation View**.
   - Click the **Tools** menu, point to **Message Views**, then click **Conversation View**.

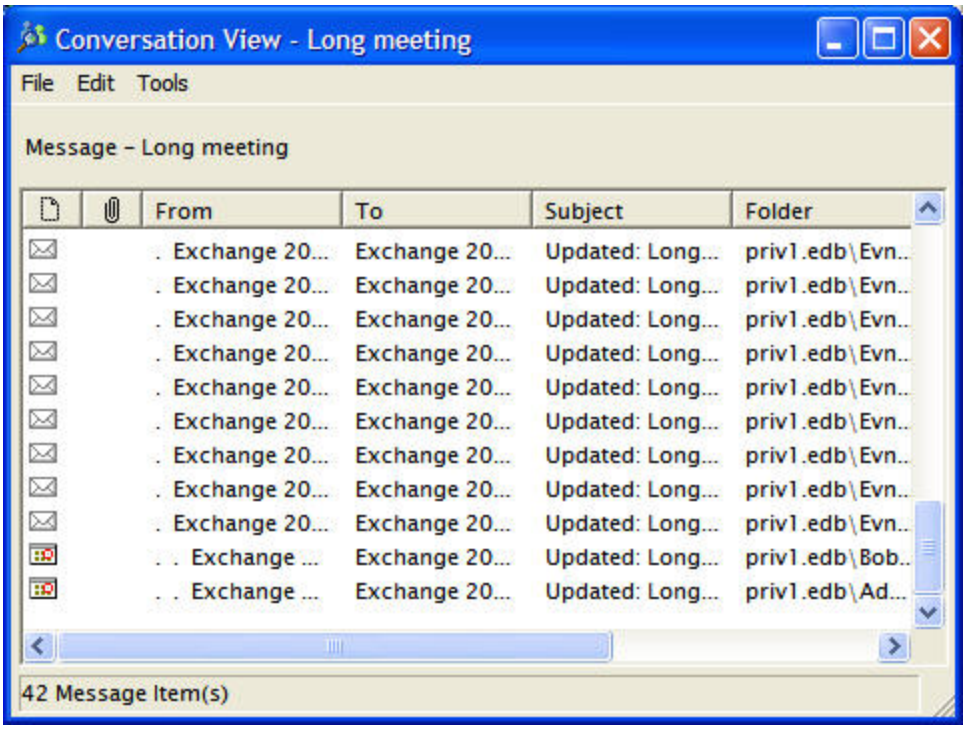


Figure 9-8: The Conversation View displays the conversation threads which are indicated by indentations.

Note:

- *The first time opening a view on this EDB, a message appears stating that a Message View file needs to generated.*
- *If the first message is missing, the next message in the thread is still indented indicating that it is not the original message.*

3. To view a message within the **Conversation View**, right-click a message, point to **Message Views** and select one of the following options:
   - Message Table View
   - Attachment Table View

- Conversation View

4. Any message in the Conversation View can be opened by double-clicking the message in the table.

Opening a View for the First Time

To create a Message View for the first time

1. The first time you create any Message Table View, Attachment Table View, or Conversation View, Single Mailbox Recovery creates a Message View file. If no file exists, you are prompted to create the file.

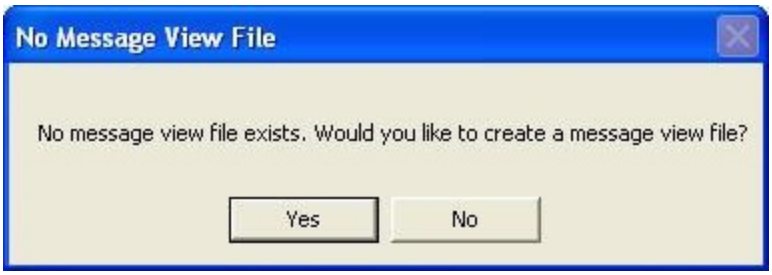


Figure 9-9: This message informs the user that an initial message view file does not exist

2. Click **Yes** to create the file. A progress window is displayed to indicate the stage, progress text, estimated time, elapsed time, and a grow bar.

   For Microsoft Exchange Server 2007 and earlier, there are 5 stages: Initializing file, Processing attachments, Processing messages, Processing rows, and Saving file.

   For Microsoft Exchange Server 2010 and later, there are 3 stages: Creating the file, processing the conversation messages, and saving the file.

   After the message view file has been created, if creating a Message Table View, the **Creating Message View File** progress window is replaced by another progress dialog that tracks the progress of view preparation. A **Preparing Message Table View** progress window appears.

   If you click **Cancel** during this process, the Message Table View is not shown.

3. To view a message within the **Message Table View**, **Attachment Table View**, or **Conversation View**, right-click a message, point to **Message Views** and select one of the following options:
   - Message Table View
   - Attachment Table View
   - Conversation View

4. To open a message in the Message Table View, Attachment Table View, or Conversation View, double-click on the message in the table.

Find in Source Window in Message Views

You can open a message view from the Find in Source window by using the Message Views sub-menu on the Find Window's top-level Tools menu. The messages in the Find in Source window's results pane also have the Message Views shortcut menu by right-clicking on a message and pointing to Message Views.

Note: *The Attachment Table View does not support Microsoft Exchange Server 2007, Microsoft Exchange Server 2010 EDB, or Microsoft Exchange Server 2013 EDB sources as Microsoft stopped supporting single instance storage with Microsoft Exchange Server 2007.*

To open messages in Find in Source window result pane in different views

1. Click the **Find** icon on the toolbar. The **Find in Source** window is displayed.
2. Enter search criteria in the appropriate fields.
3. Click **Find Now**. The **Results** pane appears with the search results.

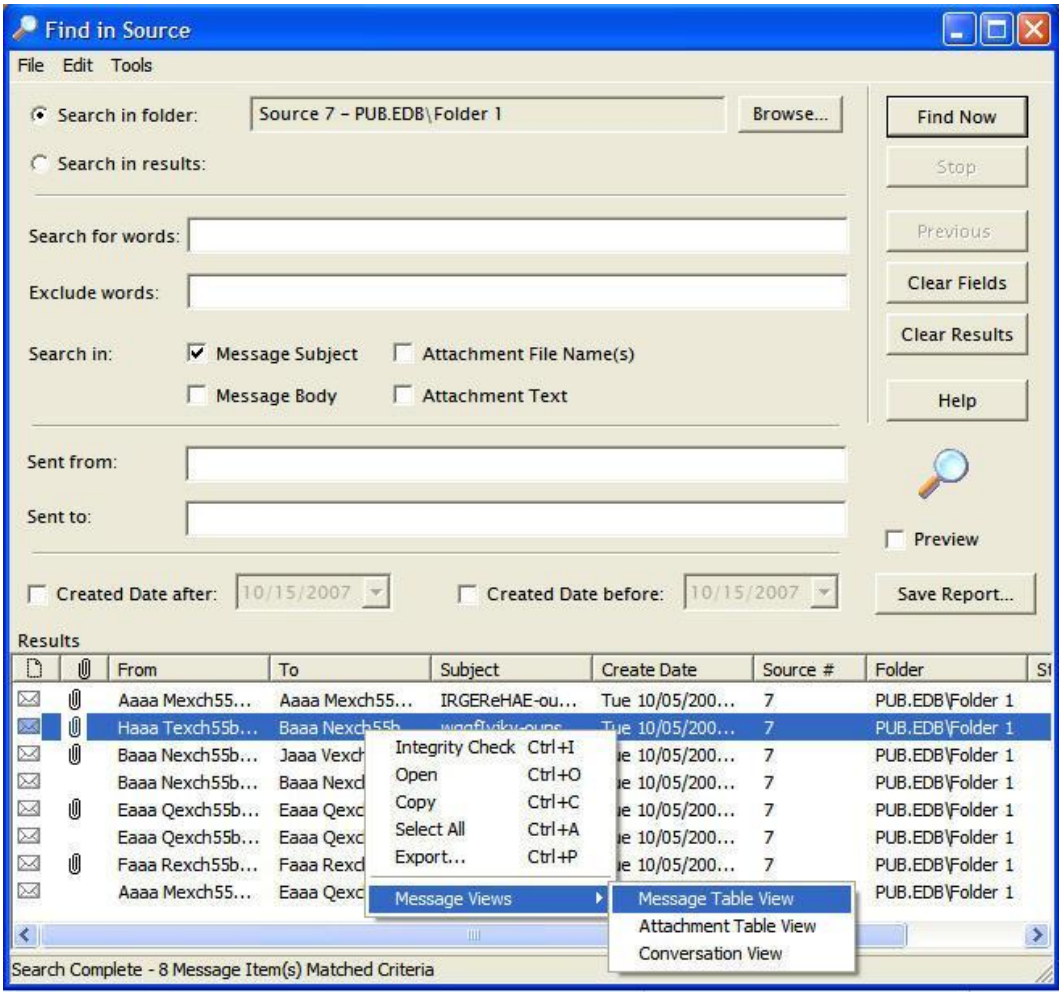


Figure 9-10: The Find results can be displayed in each of the Message Views

4. Do one of the following:

- Click the **Tools** menu, point to **Message Views**, then click the desired view in the sub-menu.
- Right-click the message, point to **Message Views**, then click the desired view in the sub-menu.

Appendix A: Before You Open an EDB File as a Source

Overview

This section describes information you need to know and tasks you need to perform to restore Exchange mail items from an EDB file:

- **"About the Microsoft Exchange Server Database" on page 184**
- **"Organizing Files Extracted from Other Backup Applications" on page 185**
- **"Verifying Hard Drive Space for .idx and .dat Files" on page 186**

About the Microsoft Exchange Server Database

Note: *The information in this section is taken from Microsoft Training and Certification: Implementing and Managing Microsoft Exchange 2000. Workbook. Redmond, WA: Microsoft Press, 2001.*

The Microsoft Exchange Server database consists of the following files:

File (s)	Description
.edb file	This is a **rich text database file** that contains data placed in the store through MAPI, as well as all the database tables that define mailboxes, messages, folders, and attachments.
.stm file	This is a **streaming database file** that contains common Internet formatted content, such as Multipurpose Internet Mail Extensions (MIME) content, that protocols other than the MAPI protocol place in the store. ***Note:*** *The .stm file is new to Microsoft Exchange Server 2000. Microsoft Exchange Server 5.5 does not contain .stm files.*
.log files	These are **transaction logs**, or history files that record server activity. These files are useful in restoring and backing up Microsoft Exchange Server data. All Microsoft Exchange Server 2000 transaction logs are 5 MB in size. Each storage group uses its own set of transaction log files. For example, if a storage group contains five stores, all transactions for all five stores are recorded in a single series of transaction log files. You can determine where to locate the transaction log files for each storage group.

Appendix A: Before You Open an EDB File as a Source

File (s)	Description
.chk files	These are **checkpoint files** used for recovering (playing back) data from transaction logs into EDB files. The checkpoint is the place marker in the EDB.CHK file that indicates which transactions have been committed. Whenever data is written to an EDB file from the transaction log, the EDB.CHK file is updated with information specifying that the transaction was successfully committed to the respective EDB file. Separate Exx.chk files are maintained for each storage group using ESE (Extensible Storage Engine).
.pat files	These are **patch files** that are used to record information on page splits in Microsoft Exchange Server 5.5 through Microsoft Exchange Server 2000 (SP1). In Microsoft Exchange Server 2000 (SP2) and later, the functionality provided by .pat files is incorporated into Exchange log files.

The information in this section is taken from Microsoft Training and Certification: Implementing and Managing Microsoft Exchange 2000. Workbook. Redmond, WA: Microsoft Press, 2001.

Organizing Files Extracted from Other Backup Applications

If the source EDB is in an offline backup or in an online incremental or differential backup (as opposed to a full online backup) created by an application other than SnapManager, then-after you have extracted the files to a location accessible from the Single Mailbox Recovery server-use the following guidelines for organizing the files according to the backup type.

If the source EDB is contained in an online incremental or differential backup: For best results, do the following:

- Put the .edb and .stm files in one directory.
- Put the associated log files (e.g., .log, .pat, .chk) in one directory.

The two directories can be different.

Single Mailbox Recovery does not require .stm or .log files, but you should include them to ensure that all email data is recovered. You may get corruption errors if these files are not present. In other words, the quality of the recovery is better if you include the .stm and log files.

If the source EDB is contained in an offline backup: You need to use the .edb and .stm files. To ensure that all email data is recovered, you should also include all .log files, as well as .pat and .chk files if they exist. Single Mailbox Recovery performs its own verification process and will include the .log and .pat files to determine if it needs them to recover the data.

Note: *Microsoft Exchange Server 5.5, Microsoft Exchange Server 2007, Microsoft Exchange Server 2010, and Microsoft Exchange Server 2013 do not use .stm files.*

Verifying Hard Drive Space for .idx and .dat Files

Single Mailbox Recovery never modifies an .edb file or its associated files (.log, .stm, .pat, or .chk files). However, it does create **.idx** and **.dat** files the first time you open an .edb file from a directory that contains log files; the interface prompts you to accept the default location for .idx and .dat files or specify a new location if the files require more hard drive space. Be sure you have a sufficient amount of hard drive space for .dat and .idx files. These files may require hard drive space **equal to the size of the .log files**. Therefore, you may need to change the default file path for .idx and .dat files if you need more space.

Each time you reopen the .edb file, Single Mailbox Recovery uses the information in the .idx and .dat files so it can open the .edb file quicker.

Glossary

Term	Description
ABP	Address Book Policies. A feature that allows users to restrict the users and mailboxes they can view when sending emails in an environment using Microsoft Exchange Server 2010 SP2 and Microsoft Exchange Server 2013. Users can be assigned ABPs. ABPs include a Global Address List (GAL) that defines the mailboxes a user assigned an ABP can view.
Attachment Table View	A table that displays all the messages that have an attachment referenced by the same attachment table row as the selected message.
CAS	See Content Analysis Store
CHK	Checkpoint files (.chk files) are used for recovering (playing) data from transaction logs into EDB files. The checkpoint is the place marker in the EDB.CHK file that indicates which transactions have been committed. Whenever data is written to an EDB file from the transaction log, the EDB.CHK file is updated with information specifying that the transaction was successfully committed to the respective EDB file. Separate Exx.chk files are maintained for each storage group using ESE (Extensible Store Engine).
Content Analysis Store (CAS)	A data store type where each message in the root level container identifies a source container. A source container can either be an EDB, an EDB mailbox, or an EDB folder. The CAS is used to analyze messages based on profile criteria entered before processing.
Conversation View	A table that displays all messages in the database that are related by conversation. The conversation thread is indented to indicate replies.

Term	Description
Data Store	A unified collection of folders and messages contained in a single storage medium. A PST file is a data store. A Microsoft Exchange Server Information Store is also a data store. In a basic case, Microsoft Exchange Server has two live data stores, one for the private mailboxes and one for the public folders.
Data Wizard	The first time you start Single Mailbox Recovery, the Data Wizard starts. The Data Wizard guides you through the loading of Microsoft Exchange Server Database (EDB), PST files, or content analysis store (CAS) files into Single Mailbox Recovery, and shows you how to specify the target PST file or Microsoft Exchange Server.
Deduplication	Deduplication is performed on a per profile basis and if selected does not return duplicates of a message during a search. For example, if the same message exists in two or more data stores, only the first message found is listed in the search results.
EDB	See Microsoft Exchange Server Database.
EIS	See Microsoft Exchange Server Information Store.
Exchange Hosted Organization (or **Hosted Organization)**	An organizational unit created in an environment that has deployed Microsoft Exchange Server 2010 SP1 or SP2 using the /hosting switch (Hosting Mode). Users and associated mailboxes created in a hosted organization can only see other users and mailboxes created in the same hosted organization.
Log Files	Transaction log files (.log files) are history files recording server activity. These files are useful in restoring and backing up Microsoft Exchange Server data. Transaction logs for Microsoft Exchange Server 5.5, 2000, and 2003 are 5 MB in size. Transaction logs for Microsoft Exchange Server 2007, 2010, and 2013 are 1 MB in size.

Term	Description
Messages	Messages are found in the folders of a Microsoft Exchange Server Information Store. Messages can mean "email," but Microsoft Office Outlook *Contacts* are also messages, as are *Appointments, Journal Entries, Sticky Notes,* and *Tasks*.
Message Table View	A table that displays all messages that are referenced by the same message table row as the selected message. For example: A message that is sent to three different users is displayed three times, one in each users Inbox.
Microsoft Exchange Server Database	This file, which usually has an EDB extension, contains the mailbox, folders, and messages you see when connecting to a Microsoft Exchange Server. The Microsoft Exchange Server reads and writes to this file in response to incoming email and events from the clients. On Microsoft Exchange Server 2000, this is one of the two files that make up the Microsoft Exchange Server Information Store, the other being the STM file.
Microsoft Exchange Server Information Store	This is the set of files that compose the data store for private mailboxes and public folders on a Microsoft Exchange Server. On Microsoft Exchange Server 5.5, this is the single Microsoft Exchange Server Database file usually named priv1.edb and pub1.edb. On Microsoft Exchange Server 2000 and 2003, the private mailbox data store consists of the files priv1.edb and priv1.stm and the public folder data store consists of pub1.edb and pub1.stm. On Microsoft Exchange Server 2007 and 2010, a private mailbox data and public folder store consist of the EDB file without a STM file. On Microsoft Exchange Server 2013, a mailbox data store consists of the EDB file without a STM file.

Term	Description
Multi-Tenancy Support	Support included in Single Mailbox Recovery and Single Mailbox Recovery Administrative Server for multi-tenant deployments of Microsoft Exchange Server 2010. Specifically support is provided for environments that are utilizing the Microsoft Exchange Server 2010 SP1, SP2 Hosting Mode or Microsoft Exchange Server 2010 SP2 and 2013 Address Book Policy feature. Support includes the ability to limit the source and target mailboxes a user can access based on Exchange Hosted Organizations or Address Book Policies. For information regarding Hosting Mode using the "/hosting" switch, see http://technet.microsoft.com/en-us/library/ff923272.aspx and http://social.technet.microsoft.com/wiki/contents/articles/1110.exchange-2010-sp1-information-for-hosted-service-providers.aspx. For information regarding Address Book Policies, see http://technet.microsoft.com/en-us/library/hh529948.aspx and http://technet.microsoft.com/en-us/library/hh529916.aspx.
PAT	Patch files (.pat files) are used to record information on page splits in Microsoft Exchange Server 5.5 through Microsoft Exchange Server 2000 (SP1). In Microsoft Exchange Server 2000 (SP2) and later, the functionality provided by .pat files is incorporated into Microsoft Exchange Server log files.
Profile Folder	A subfolder of the content analysis store containing the results of profile criteria entered for processing.
PST	Personal Storage file. This file, used by Microsoft Office Outlook, contains folders and messages that have been retrieved from a user's Microsoft Exchange Server mailbox and copied locally.

Term	Description
Received Messages	Messages that have been sent through a Microsoft Exchange Server to another mailbox. Messages in the "Sent Items" folder are copies of messages sent through a Microsoft Exchange Server and are not considered to be "received messages." Because messages in the "Drafts" folder, "Notes" folder, and other similar items are not sent through a Microsoft Exchange Server, they too are not considered to be "received." ***Note:*** *Because recovery software such as Single Mailbox Recovery restores messages from a source to a Microsoft Exchange Server mailbox without sending them, the messages that Single Mailbox Recovery restores are not considered to be "received messages."*
Shortcut Menu	This menu is accessed by right-clicking on an item.
Source Data Store	This is the data store from which folders and messages are copied. The source is read-only, so items cannot be copied into, deleted from, or changed in the source.
STM	For Microsoft Exchange Server 2000 and 2003, this is one of the two files that make up the Microsoft Exchange Server Information Store, the other being the EDB file. The STM file stores certain data for emails that come into the Microsoft Exchange Server through the POP or SMTP port. This email data may eventually get moved into the EDB file over time.
Target Data Store	This is the data store to which folders and messages are copied. The target is read-write allowing items to be added, deleted, and changed. The target data store can be a Microsoft Exchange Server or PST file.

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