



Single Mailbox Recovery 8.3

# Administration Guide

June 2020 | 215-14994\_A0  
doccomments@netapp.com

## Notice to Users

Single Mailbox Recovery software has been developed, copyrighted, and licensed by KLDiscovey Ontrack, LLC. Use of the software is governed by the terms and conditions of the end user license agreement contained within the software.

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 website. In that event, please read the release notes or Read Me file before using the product.

# Contents

## Contents .....

### Introduction .....

Overview .....	1
Five Major Reasons for Using Single Mailbox Recovery .....	2
Other Documents .....	2
Release Notes .....	3
Reference Documents .....	3
For the Most Current Information .....	3
Getting Help .....	4
Online Help .....	4
Technical Support .....	4

### Chapter 1: Looking at the Interface .....

Overview .....	6
Main Window .....	6
Source Pane .....	7
Source Message List .....	8
Target Pane .....	9
Target Message List (Restored Messages) .....	10
Menu Bar .....	10
Toolbar .....	11
Shortcut Menu .....	12
Previewing and Opening Messages .....	12
Changing the View .....	13
Viewing or Hiding the Toolbar and Status Bar .....	13

Resizing Panes Separated by a Split Bar .....	13
Sorting Messages in the Message Lists .....	14
Refreshing the Screen .....	15
Opening Attachments .....	15
Saving Attachments .....	16
Viewing the Properties of an EDB File, PST File, CAS File, CAS Profile Folder, Folder, or Mailbox ..	16
Performing an Integrity Check .....	19
Creating a Mailbox List .....	20
Viewing Deleted Messages .....	20
Viewing Deleted Items in Microsoft Exchange Server Databases .....	20
Setting Preferences .....	21
General Tab .....	21
Target Options Tab .....	22
Security Tab .....	24
Warnings Tab .....	26
Auto Support Tab .....	27

## **Chapter 2: Using Single Mailbox Recovery .....** 29

Overview .....	29
Backup Selection .....	29
Mailbox Criteria .....	30
Multi-Tenancy Support .....	31
Outlook Anywhere and Autodiscover .....	31
Connecting to Office 365 .....	33
Keyboard Shortcuts .....	33
Opening a Microsoft Exchange Server as a Target .....	34
Using the Data Wizard .....	36
Configuring Single Mailbox Recovery .....	36
Before You Use the Data Wizard .....	38

Opening the Data Wizard .....	39
Data Wizard: Source Selection .....	39
Data Wizard: Target Selection .....	44
Data Wizard: Outlook Anywhere .....	51
Data Wizard: Connection Settings .....	52
Data Wizard: Now Processing Data File .....	54
Results of Data Wizard .....	54
Opening the Source Database and Target Mailboxes from the Main Window .....	56
Before You Open the Source Database from the Main Window .....	56
Opening a Source and a Target from the Main Window .....	57
Opening Multiple Sources and Targets .....	60
Closing Sources and Targets .....	61
Deleting Items in the Target Pane .....	62
Creating New Mailboxes .....	62
User Permission .....	62
Preference Settings .....	62
Creating Mailboxes .....	63
Creating Mailboxes Using the Mailbox Creation Wizard .....	63
Creating Mailboxes Using Copy and Paste .....	69
Licensing Information .....	79
Auditing Failure .....	80
<b>Chapter 3: Finding Messages .....</b>	<b>81</b>
Overview .....	81
Guidelines for Using the Find Window .....	81
Searching Sources .....	82
Searching Embedded Message Items .....	85
Searching Within Results .....	85
Searching Microsoft Exchange Server Target .....	87

Managing Message Items .....	87
Saving and Using Search Profiles .....	89
Using Multiple Search Windows .....	90
Searching Within Attachments .....	90
Exceptions When Searching Within Attachments .....	91
Other Single Mailbox Recovery Features Available Through the Find Window .....	91
Opening and Saving Attachments in the Find Window .....	92
Exporting Message Items from the Find Window .....	92
Restoring Message Items from the Find Window .....	92
Performing an Integrity Check on Message Items in the Find in Source Window .....	92
Search Results Report .....	93
Save Report .....	93

## **Chapter 4: Exporting Messages ..... 95**

Overview .....	95
General Information about Exporting Messages .....	95
About Message (.msg), Text (.txt), and PST Export .....	96
Exporting Messages .....	96
Exporting to PST .....	103
Exporting Organizational Forms .....	111
About the Export Progress Window .....	112
Saving and Printing the Report .....	113

## **Chapter 5: Restoring Microsoft Exchange Server Data ..... 114**

Overview .....	114
Quick Look at Restoring Your Microsoft Exchange Server Data .....	114
Restoring Your Microsoft Exchange Server Data in Three Easy Steps .....	115
Limits for PST and Folder Targets .....	116
About Restoring Messages to a Microsoft Exchange Server .....	116

About the Copy Progress Window .....	117
Creating, Renaming, and Deleting Folders in the Target Pane .....	117
Copying and Pasting or Dragging .....	118
Examples of Restoring Your Microsoft Exchange Server Data .....	119
Restoring Messages with Copy-Paste .....	119
Restoring Messages with Paste Special .....	120
Restoring a Folder .....	123
Restoring a Mailbox .....	124
Restoring an EDB File .....	125
Restoring to Public Folders .....	126

## **Chapter 6: Using the Command Line .....** 128

Overview .....	128
Command Line Syntax .....	128
Command Line Parameters .....	133
Examples of Using the Command Line .....	135

## **Chapter 7: Reporting .....** 143

Overview .....	143
Creating Reports .....	143
Viewing Reports .....	146
Single Instance Storage (SIS) vs. Cumulative Counts .....	147
Attachment Statistics Report .....	147
Domain Statistics Report .....	148
Messages by Database Report .....	149
Messages by Mailbox Report .....	150
Messages by Date Report .....	151
Messages by Profile Folder .....	152
Sorting Reports .....	153

Saving Reports .....	154
----------------------	-----

## **Chapter 8: Content Analysis Store .....** 155

Overview .....	155
Creating a Content Analysis Store .....	155
Creating a Content Analysis Store with Microsoft Exchange Server 2010 and 2013 Data .....	157
Creating and Processing Content Analysis Store Profile Folders .....	158
Suspending and Resuming Content Analysis Store Profile Folders .....	162
Adding Sources to Content Analysis Stores .....	163
Editing and Deleting Profiles .....	164
Closing a Content Analysis Store .....	164
Opening a Content Analysis Store as Source .....	165
Viewing Properties of a Content Analysis Store .....	166
Creating Reports in Content Analysis Store .....	166
Viewing Profiles in Content Analysis Store .....	167
Missing Database Files .....	168
Wrong Database Files .....	170

## **Chapter 9: Message Views .....** 171

Overview .....	171
Message Views Menus and Toolbars .....	172
Message Views Menus .....	172
Message Views Toolbar Icons .....	172
Message View Shortcut Menu .....	172
Message View Pane .....	173
Other Options Available in the Message View .....	173
Message View Options .....	174
Message Table View .....	174
Attachment Table View .....	175

Conversation View .....	177
Opening a View for the First Time .....	178
Find in Source Window in Message Views .....	179
<b>Appendix A: Before You Open an EDB File as a Source .....</b>	<b>181</b>
Overview .....	181
About the Microsoft Exchange Server Database .....	181
Organizing Files Extracted from Other Backup Applications .....	182
Verifying Hard Drive Space for .idx and .dat Files .....	183
<b>Appendix B: Granular Recovery of Mailbox using Single Mailbox Recovery with ONTAP System Manager or NetApp PowerShell cmdlets .....</b>	<b>184</b>
Overview .....	184
<b>Glossary .....</b>	<b>188</b>
<b>Copyright Information .....</b>	<b>192</b>
<b>Trademark Information .....</b>	<b>193</b>
<b>How to Send Comments About Documentation and Receive Update Notifications .....</b>	<b>194</b>
<b>Index .....</b>	<b>195</b>

# Introduction

## Overview

Welcome to NetApp® Single Mailbox Recovery, 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 enables 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** and **NetApp® SnapCenter® Plug-in for Microsoft® Exchange Server** environments, you can continue to use SnapManager or SnapCenter 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 Exchange database (EDB) file in a **SnapCenter backup set snapshot**, mount the selected SnapCenter snapshot using Single Mailbox Recovery.
- 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:

### **1. 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®.

### **2. Eliminate backups of an individual mailbox.**

Single Mailbox Recovery eliminates the need to back up individual mailboxes because they can be restored directly from a Microsoft Exchange Server Database (EDB) file.

### **3. 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.

### **4. 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.

### **5. 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.

## Other Documents

In addition to this guide, you should be familiar with the Release Notes and reference guides (as well as the most current information) and have them at hand, available for reference during installation and administration.

**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 Release Notes document contains additional information about the Single Mailbox Recovery, including:

- Supported environments
- Installing and uninstalling Single Mailbox Recovery
- Single Mailbox Recovery licensing
- 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	<i>SnapDrive Installation and Administration Guide</i> 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	<i>SnapDrive Installation and Administration Guide</i> 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	<i>SnapDrive/ONTAP Compatibility Matrix</i>
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	<i>Single Mailbox Recovery NSS Description page</i>

# 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. You can quickly access this information using the following online Help tabs:

- **Contents:** Displays a hierarchical view, similar to the Contents of the user guide.
- **Index:** Provides a list of key words to locate specific topics.
- **Search:** Offers a full-search of the Help file.

### To start online Help

Do one of the following:

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

### Context Sensitive Help

You can click the Help button that appears on many of the dialog boxes when using Single Mailbox Recovery to open the online Help topic related to the current task.

### Tooltip

When you position the pointer over a tool or control and pause, a message box appears with a definition of your selected 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.

See "Contact Information" at the beginning of this user guide.

# 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 or PST file(s) or Content Analysis Store (CAS), 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.

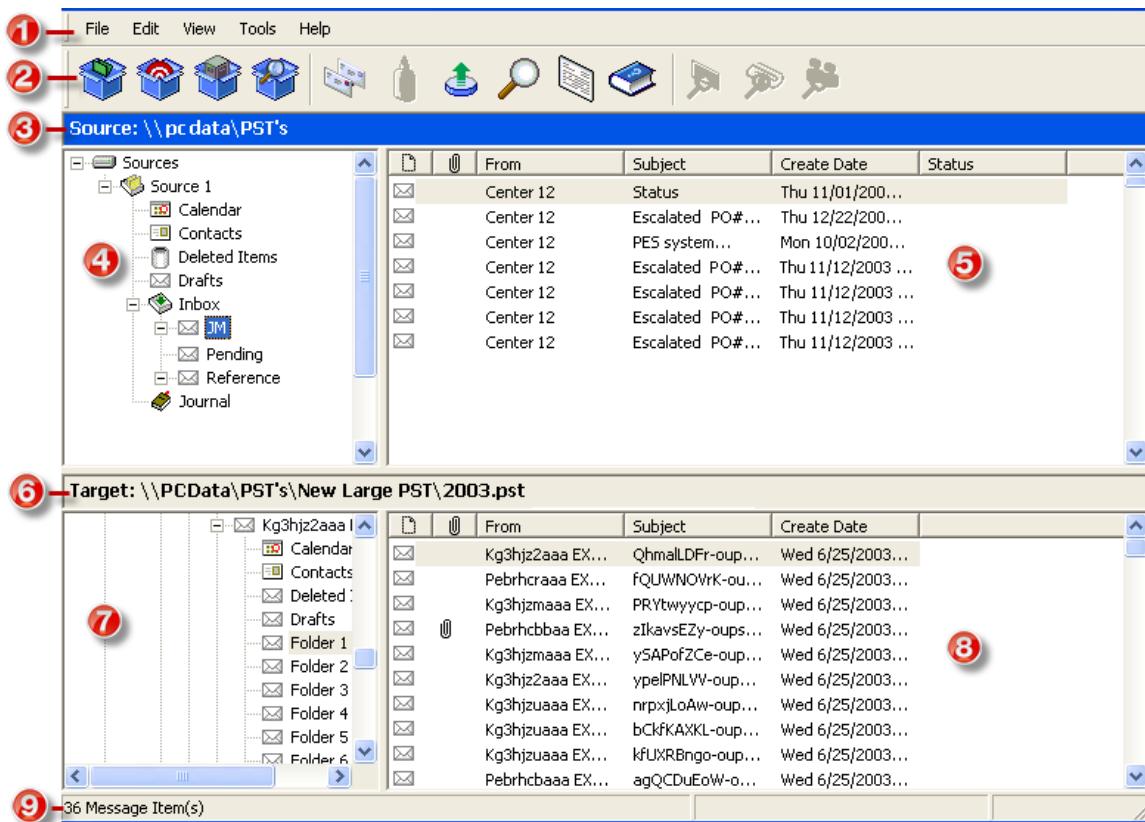


Figure 1-1: The main window with four panes

Key items on the Single Mailbox Recovery main window:

1. Menu Bar
2. Toolbar
3. Source Location

4. Source Pane
5. Source Message List
6. Target Location
7. Target Pane
8. Target Message List
9. Status Bar

**Note:** In the illustration above, 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. 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.

## Source Pane

The Source pane displays the data you intend to recover, such as the EDB file(s) or a content analysis store (CAS).

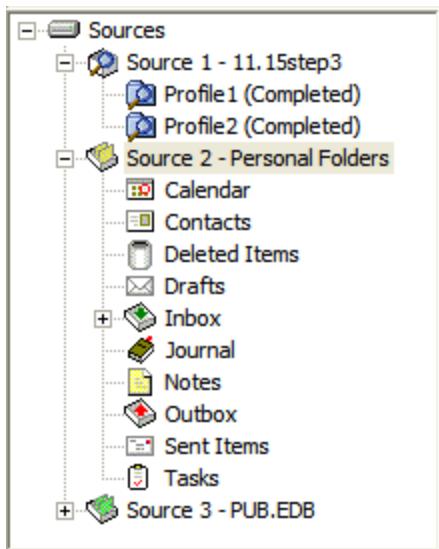


Figure 1-2: Example of Source pane (description of icons in table below)

Icon	Description
	<b>Sources Root Node</b> 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.
	<b>Source EDB File</b> (for example, <b>Source 3 - PUB.EDB</b> ) contains the Microsoft Exchange Server Information Store data. Click the plus sign (+) next to an EDB file to expand its contents.

Icon	Description
	<b>Mailbox</b> (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.
	<b>Microsoft Office Outlook Folders</b> (for example,  Inbox,  Contacts,  Tasks) contain Microsoft Office Outlook message items. Select a folder to view its contents in the Source Message list.
	<b>Source CAS File</b> (for example,  Source 1) contains the content analysis store data created to analyze content based on certain criteria.
	<b>CAS Profile Folder</b> (for example,  Profile2 (Completed)) contains the results of a content analysis.
	<b>Inaccessible Mailbox</b> which displays if a mailbox is inaccessible. An inaccessible mailbox presents no visible content. Target mailbox access is controlled by the target Microsoft Exchange Server.
	Status indicator noting 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 noting 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.

## 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).

	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 (displaying messages in an Inbox)

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 14](#).

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 155](#).

## Target Pane

The Target pane can display one or more target PST files and/or one or more 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 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 114](#).

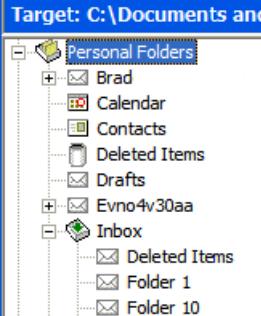
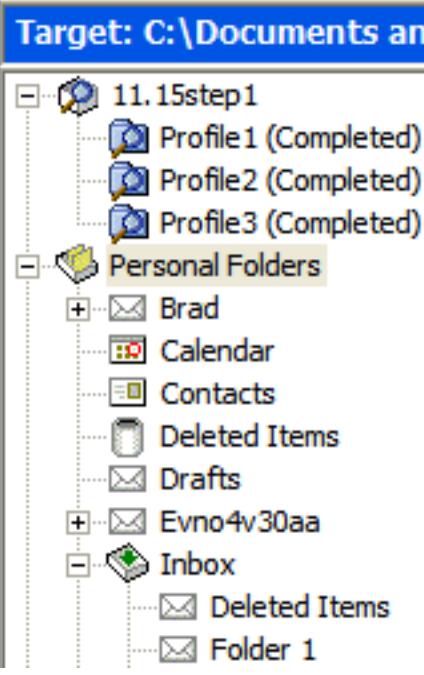
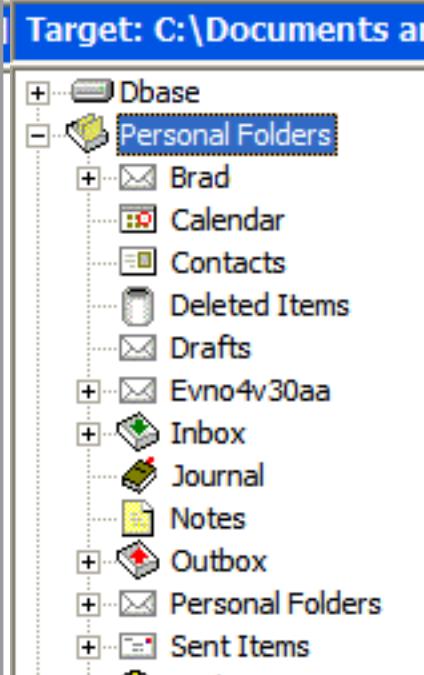
Target: C:\Documents and S	Target: C:\Documents and S	Target: C:\Documents and S
 <p>Target panes for PST files</p>	 <p>Target pane for a CAS file</p>	 <p>Target pane for a Microsoft Exchange Server</p>

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.

	From	Subject	Create Date
✉	STM User1	test outlook express	Fri 7/12/2002 4...
✉	STM User1	Fw: Specials from W...	Fri 7/12/2002 4...
✉	STM User1	webpage	Fri 7/12/2002 4...
✉	STM User2	Re: webpage ....	Fri 7/12/2002 4...
✉	STM User1	with stationary	Fri 7/12/2002 4...

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 14](#).

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 155](#).

## 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:

Toolbar Button	Function
	<b>Open Source</b> opens the Source Selection page of the Data Wizard, where you can 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.
	<b>Open Target PST</b> opens the Open Target PST dialog box, where you can navigate to and select a target Personal Folders (PST) file. The target PST file is a container for restored message items.
	<b>Open Target Microsoft Exchange Server</b> opens the Target Selection page of the Data Wizard, where you select the type and path of the target location for the data you want to restore.
	<b>Create/Open Content Analysis Store</b> displays the Create Content Analysis File window, where you can open an existing content analysis store or to create a new one in the Target pane.
	<b>Copy</b> 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.
	<b>Paste</b> 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.
	<b>Export</b> displays the Export window, where you can export messages to a local or network drive destination. You can choose to save exported messages as plain text files (.txt), Microsoft Office Outlook files (.msg), or Outlook Data files (.pst).
	<b>Search</b> displays the Find window, where you can specify the desired search criteria for finding messages in the Source pane.
	<b>Preview Pane</b> displays the Preview pane on the Single Mailbox Recovery main window, where you can read a message without opening it.

Toolbar Button	Function
	<b>View Help</b> displays Single Mailbox Recovery Online Help, which includes all of the information in this user guide. You can quickly access the Online Help information using its Contents, Index, Search, and Favorite tabs.
	<b>Message Table View</b> 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.
	<b>Attachment Table View</b> 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.
	<b>Conversation View</b> 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.

## Shortcut Menu

You can access many of the same commands available on the menu bar and toolbar by right-clicking the mouse to view a shortcut menu. The contents of the shortcut menu depend on whether you right-click in the Source or Target pane. This manual explains 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.

## 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.

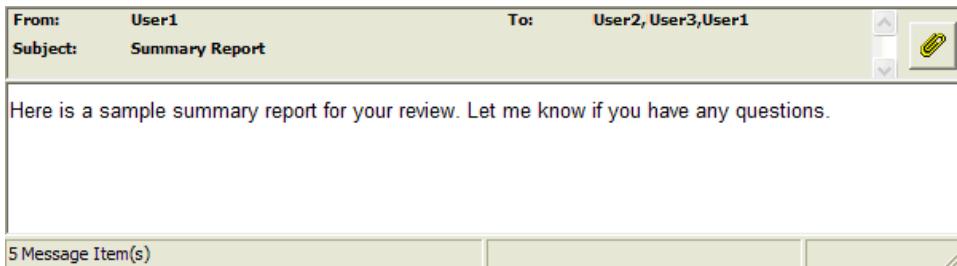


Figure 1-8: Preview pane for a message

#### To open a message in its own window

- In the Source or Target Message list, double-click a message.

## 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 pointer over a split bar between the two panes on either the vertical or horizontal split bar.

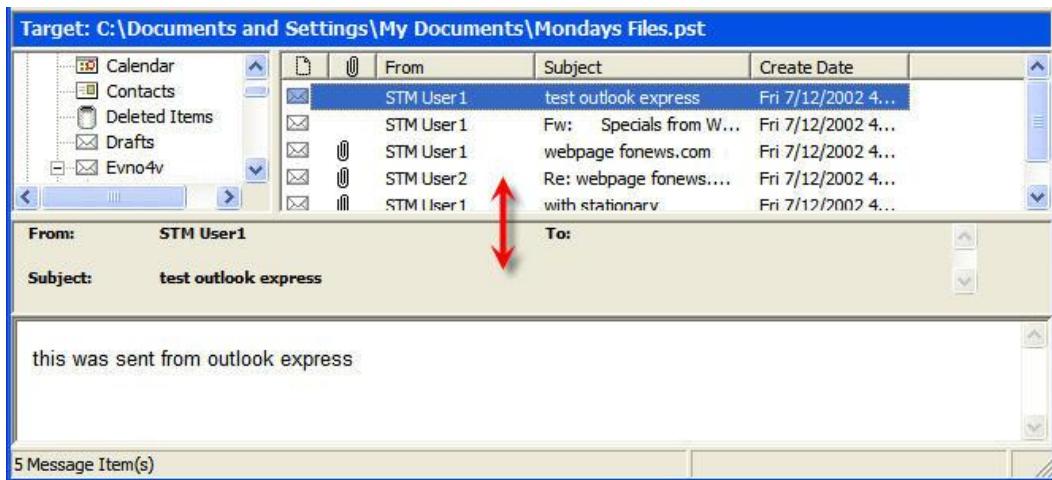


Figure 1-9: Before dragging the split bar between the Target Message list and the Preview pane

2. When the pointer becomes a double-headed arrow, drag it to resize the pane.

## 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.

## Opening Attachments

If you have the appropriate program installed on your computer, Single Mailbox Recovery loads 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**.

## 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**. One of the following Properties dialog boxes appears:

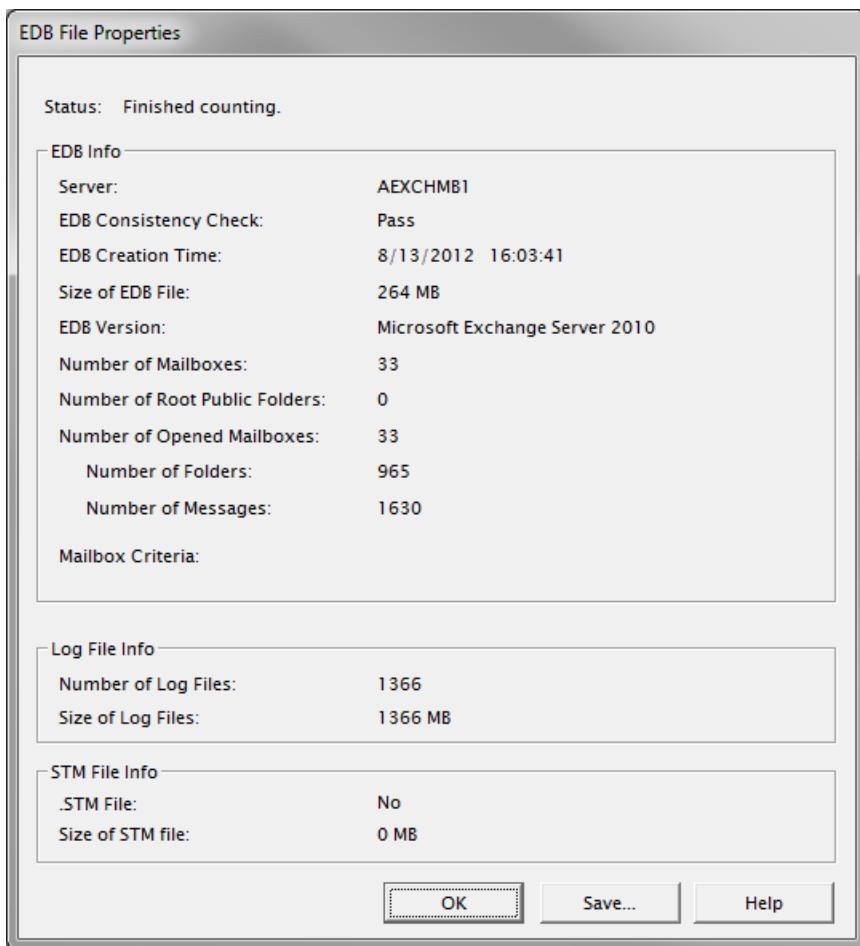


Figure 1-10: EDB File Properties dialog box

**Note:** The Save button is only available for Microsoft Exchange Server 2010 and earlier databases. Click **Save** to save the Microsoft Exchange Server name to your hard drive.



Figure 1-11: PST File Properties dialog box

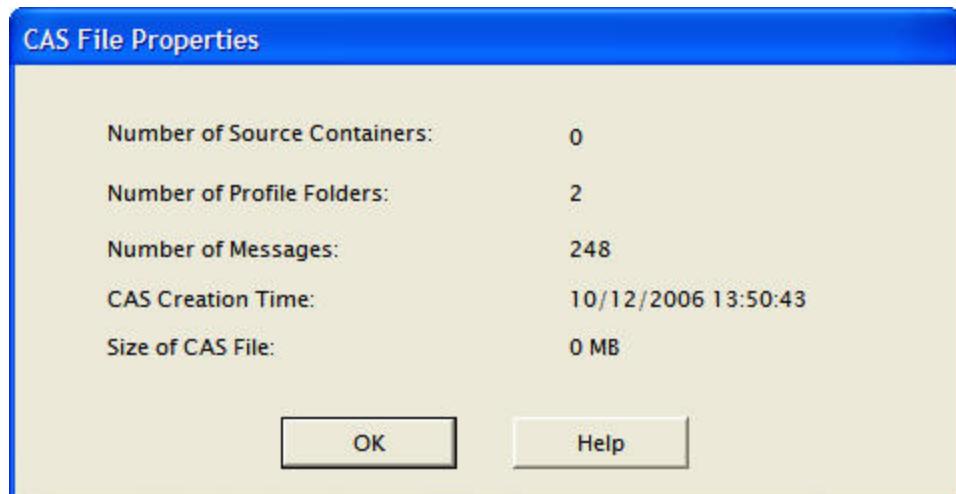


Figure 1-12: Content Analysis Store (CAS) File dialog box

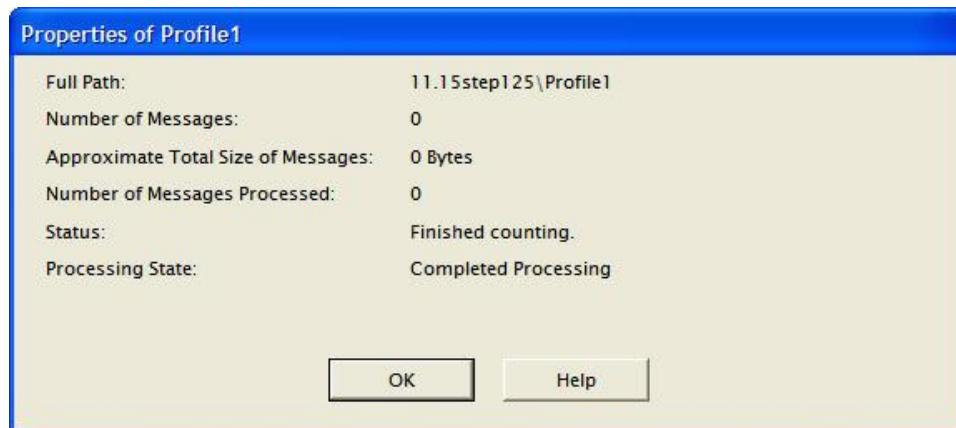


Figure 1-13: Content Analysis Store (CAS) Profile Folder dialog box

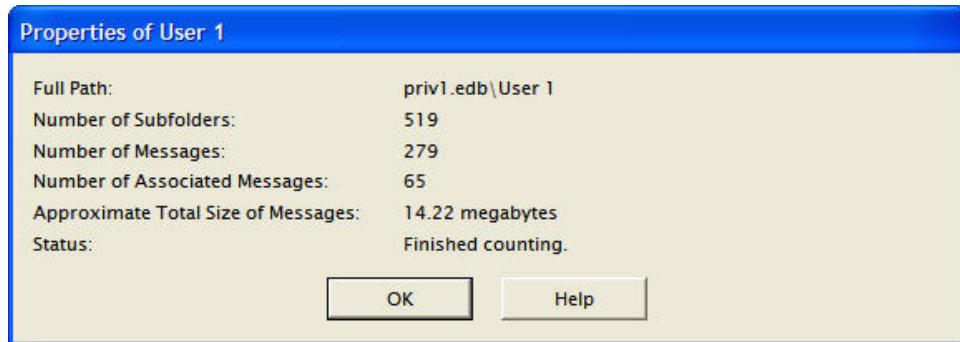


Figure 1-14: Properties of a Mailbox dialog box

#### 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. Click the source EDB or PST file in the Source pane and click **Properties**.

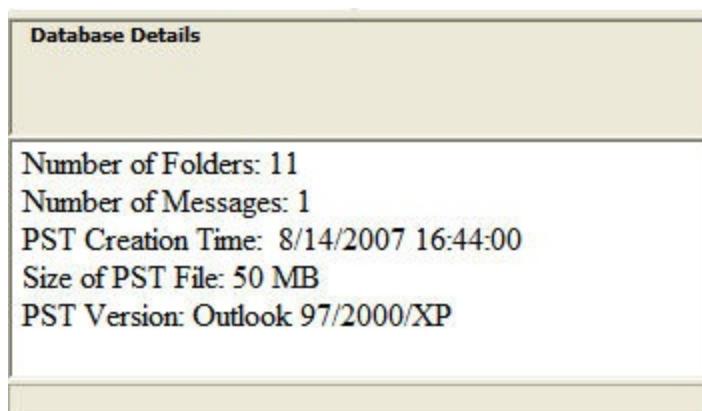


Figure 1-15: Properties of an EDB File

## 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.

## Creating a Mailbox List

You can create a text file with a list of all mailboxes available in an EDB source file.

**Note:** This is similar to the **-list** command line parameter.

### To create an mailbox list

1. In the Source pane, select an EDB file.
2. Do one of the following:
  - Right-click the EDB files and select **Create Mailbox List** in the shortcut menu.
  - Press **Ctrl+Alt+L**.
3. On the Save mailbox list dialog box, select the path and enter a **File name**, then click **Save**.

## Viewing Deleted Messages

Single Mailbox Recovery can view and restore deleted messages that are held in the EDB file. These messages appear with the value "Deleted" in the Status column of 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 with the value "Deleted" in the Status column of the message list.

## Viewing Deleted Items in Microsoft Exchange Server 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 "Recoverable Items" folder.

**Note:** The Recover Items folder only appears when using Microsoft Exchange Server 2010 databases and later.

By default, this separate folder does not appear in the source tree under the mailbox. A preference setting allows you to view 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 24](#).

## Recoverable Items Folder

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

- **Audits:** Holds audit log entries for the mailbox, if audit logging is enabled on the Microsoft Exchange Server.
- **Calendar Logging:** Holds calendar changes that occur within a mailbox.
- **Deletions:** Holds messages that have been removed from the Inbox using the Delete key, menu item, or shortcut key.
- **DiscoveryHolds:** Holds all items that meet the hold query parameters and are purged.
- **Purges:** 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:** Holds sent and received messages that were edited by a user in a mailbox for which a legal hold was set.

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

**Note:** Viewing the Recoverable Items folder applies to sources only. It is 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.

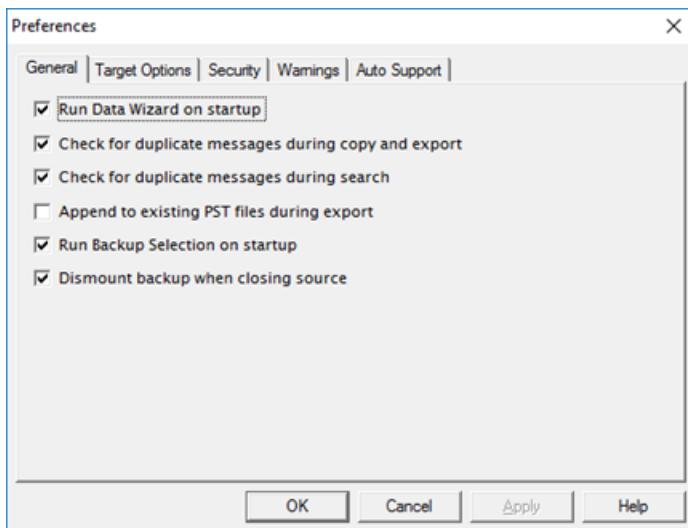


Figure 1-16: The General tab in the Preferences dialog box

#### 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.  
**Note:** Does not apply if "Run Backup Selection on startup" is selected.
  - **Check for duplicate messages during copy and export:** 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.
  - **Append to existing PST files during export:** If selected, Single Mailbox Recovery updates previously exported PST files with new messages from the export process. If cleared, a new PST file is created when exporting data.
  - **Run Backup Selection on startup:** The Backup Selection will launch every time you open Single Mailbox Recovery.
  - **Dismount backup during closing source:** If selected, mounted backups will automatically dismount on closing of source.

## Target Options Tab

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

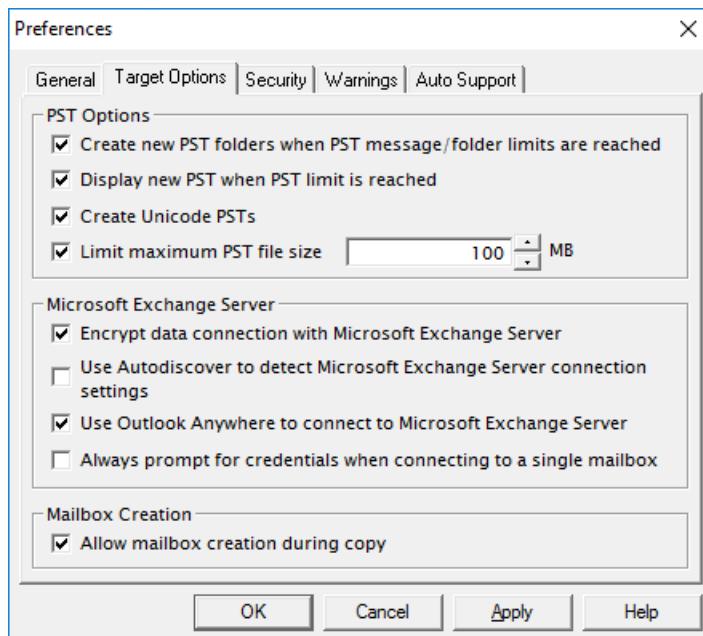


Figure 1-17: The Target Options tab in the Preferences dialog box

### 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 116](#).
  - **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.
  - **Create Unicode PSTs:** If selected, Single Mailbox Recovery always creates Unicode PSTs. If cleared, Single Mailbox Recovery creates non-Unicode PSTs.

**Note:** The default maximum size for Unicode PST files is typically set by the locally installed version of Microsoft Office Outlook. For information on adjusting this limitation, see <https://support.microsoft.com/en-us/kb/832925>.

  - **Limit maximum PST file size:** If selected, Single Mailbox Recovery automatically creates a new PST file when the **MB** size is reached during export. For more information, see ["Setting a Global Limit for PST Files" on page 110](#)

**Note:** The MB field should not exceed 48640.
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 31](#).
- **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 OAS administrator to change the settings on the Security tab.

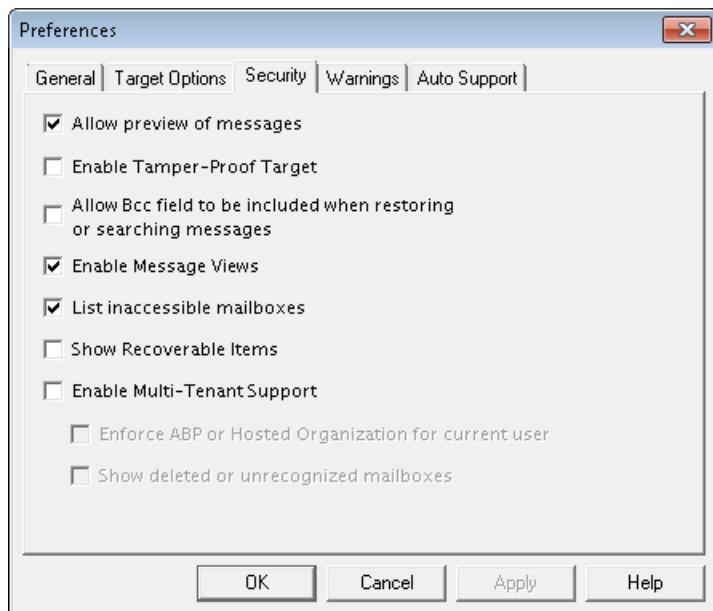


Figure 1-18: The Security tab in the Preferences dialog box

#### 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 later 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 through SP3 hosted organizations or Microsoft Exchange Server 2010 SP2 and later 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.

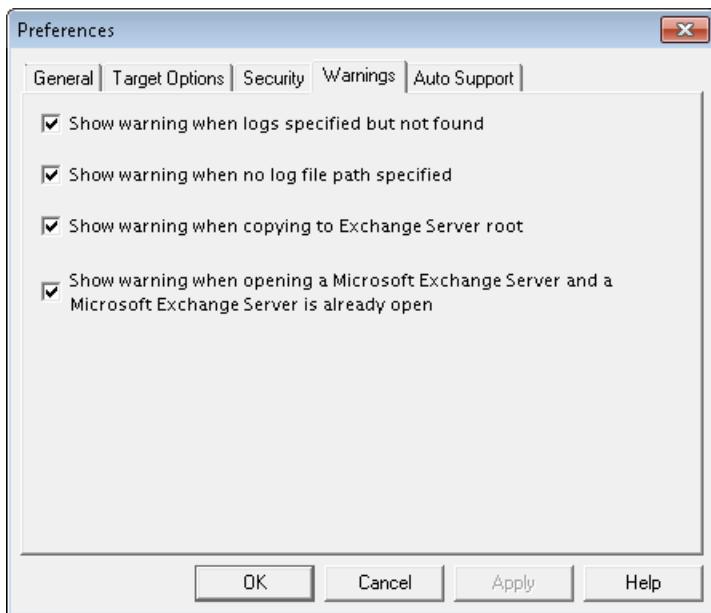


Figure 1-19: The Warnings tab in the Preferences dialog box

#### To change the warnings 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.

## Auto Support Tab

Use the Auto Support tab to govern whether messages about the following Single Mailbox Recovery and Single Mailbox Recovery ExtractWizard tasks, when performed, are sent to the NetApp storage appliance:

Task	Message Details	Single Mailbox Recovery	Single Mailbox Recovery ExtractWizard
Start of application	Two messages: 1. Start of application. 2. Environment application was started in.	X	X
Abnormal exit of application	Details of the exit  <b>Note:</b> The storage appliance can be configured to automatically forward this to NetApp.	X	X
Opening a data set	Details of a dataset and information about the storage appliance (if Single Mailbox Recovery is running from a different machine than Snap Manager for Exchange).	X	
Opening a backup	Details of backup and information about the storage appliance (if Single Mailbox Recovery is running from a different machine than Snap Manager for Exchange).		X
Restoring data	Details of source and target used for restoring data	X	

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

### To change the auto support settings

1. On the **Edit** menu, click **Preferences**, then click **Auto Support**.
2. Select or clear the following check box as desired, then enter the required information in the text boxes:
  - **Enable Auto Support:** If selected, Single Mailbox Recovery logs usage information and customer configuration data to the NetApp storage appliance.
  - **Storage Appliance:** Enter the name or IP address of the NetApp storage appliance where the Auto Support messages are logged.
  - **Username:** Enter a username for an account with permissions to log an ASUP message on the NetApp storage appliance.
  - **Password:** Enter the password for account with permissions to log an ASUP message on the NetApp storage appliance.

# 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:

**Running the Backup Selection.** This section describes the Backup Selection, which guides you through the loading backup files into Single Mailbox.

**Running the Data Wizard.** 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.

## Backup Selection

At the start of Single Mailbox Recovery, the Backup Selection window displays the backups available on the Microsoft Exchange Server. Use this window to select a backups and create a local folder with a copy of its EDB file and logs. This is then available as a source on the Single Mailbox Recovery DataWizard.

The Backup Selection list contains detailed information about the backup ID, its name, type, and creation time.

### To manually open the Backup Selection window

- Do one of the following:
  - On the **File** menu, click **Open backup**.  
-or-
  - Press **Ctrl+B**.

## To mount a backup

1. On the SnapCenter authentication window, enter the following

Field	Description
<b>Base URL</b>	The SnapCenter URL
<b>User name</b>	Your SnapCenter URL user credentials
<b>Password</b>	
<b>Exch Server</b>	The Microsoft Exchange server name or IP address (required only on machine other than the Microsoft Exchange server)

2. Click **Ok**.
3. On the Backup Selection window, select the database from the **Database Name** drop list.
4. If you choose, select a backup date range to filter the backups in view by timestamp.
5. Click **Load**.
6. Select **Local Mount Location** and click **Mount/Launch**.

## 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 Source Selection dialog box (opened by clicking File then Open Source) or the Source Selection page of the Data Wizard.

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.

**Note:** With Microsoft Exchange Server 2013 and later, Single Mailbox Recovery matches your Mailbox Criteria box string entry against the display name only.

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 later 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 later 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 pages of the Data Wizard:

- Source Selection page
- Target Selection page

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 24](#).

## 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 and later, and Microsoft Exchange Server 2007 and later.

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

With Microsoft Exchange Server 2013 and later, Direct RPC 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

**Note:** With Microsoft Outlook 2016 and later, only connection with Autodiscover is supported.

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 and later, and Microsoft Exchange Server 2007 and later.

**Note:** Microsoft Exchange Server 2007 is not supported for Microsoft Outlook 2016 or later.

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 policies, the Outlook Anywhere page appears.

The Outlook Anywhere page follows the Target 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.
Selected (and Autodiscover not contacted)	Selected	If a server name was entered on the Target Selection page, Outlook Anywhere page appears. If no server name was entered, an error message appears and the wizard stays on the Target 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.

Use Autodiscover to detect Microsoft Exchange Server connection settings	Use Outlook Anywhere to connect to Microsoft Exchange Server	Action
Selected (and Autodiscover not contacted)	Cleared	If a server name was entered on the Target 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 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 22](#).

## Connecting to Office 365

When connecting to a hybrid environment (where both on-premise and Office 365 mailboxes are present), the following apply:

- Selecting All Mailboxes (on-premise) filters out Office 365 mailboxes and displays only on-premise mailboxes.
- Mailbox creation creates mailboxes in the on-premise environment, but only if connecting to on-premise mailboxes. This includes connect-to-all.
- Copy edb to root of server (with mailbox creation) "Creates mailboxes in the on-premise environment, but only if connecting to on-premise mailboxes. This includes connect-to-all.
- Copy mailbox to root of server (with mailbox creation) "Creates mailboxes in the on-premise environment, but only if connecting to on-premise mailboxes. This includes connect-to-all
- Multi-tenancy filters out Office 365 mailboxes and displays only on-premise mailboxes. If the ABP contains both on-premise and Office 365, only on-premise mailboxes are displayed. If ABP contains only Office 365 mailboxes, no mailboxes are displayed.

## Keyboard Shortcuts

The following table contains keyboard shortcuts for many of the common tasks performed when using Single Mailbox Recovery.

Menu Bar	Keyboard Shortcut
File Menu	
Open Source	Ctrl+S

Menu Bar	Keyboard Shortcut
Open Backup	Ctrl+B
Open Target PST	Ctrl+T
Open Target Microsoft Exchange Server	Ctrl+E
Close Store	Ctrl+L
Use Data Wizard	Ctrl+W
Exit	Alt+F4
<b>Edit Menu</b>	
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
<b>View Menu</b>	
Refresh Screen	F5
<b>Tools Menu</b>	
Export	Ctrl+P
Export Organizational Forms	Ctrl+G
Create Mailbox List	Ctrl+Alt+L
Integrity Check	Ctrl+I
Create Reports	Ctrl+Q
Find	F3
<b>Online Help</b>	
View Help	F1

## Opening a Microsoft Exchange Server as a Target

You can open live Microsoft Exchange Servers as a target within Single Mailbox Recovery using the Data Wizard 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 21](#).

**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 appears. 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.

## 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

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 appears.

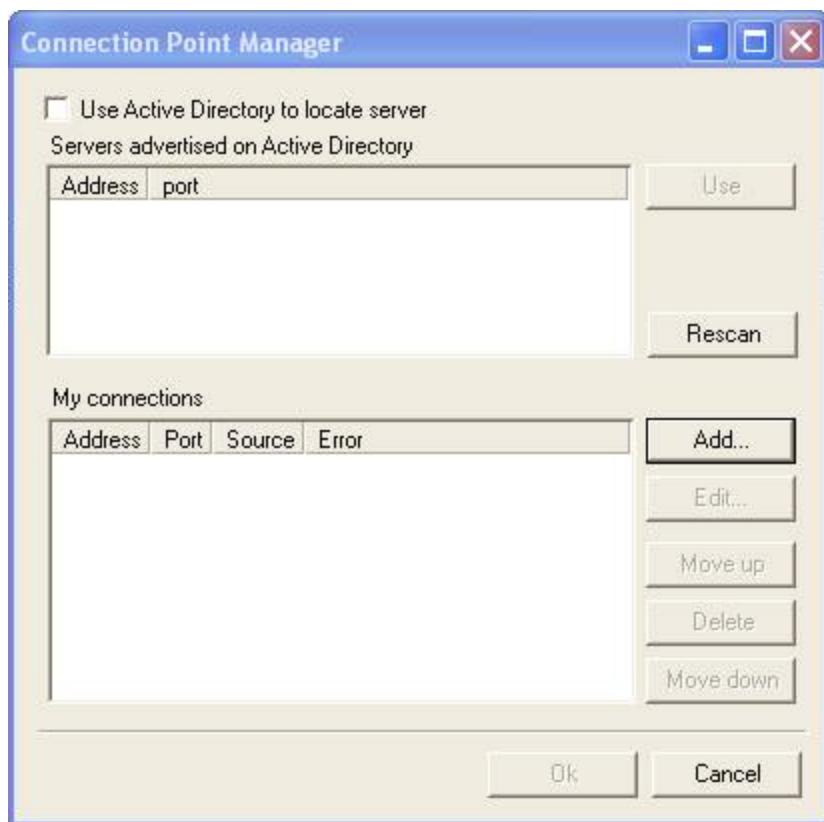


Figure 2-1: Connection Point Manager

#### To add a server

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

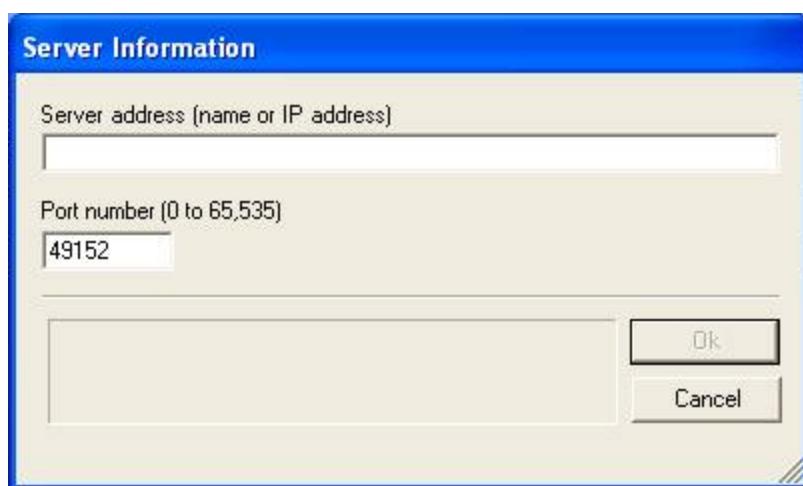


Figure 2-2: Enter Server Information

3. Enter the **Server address** name or IP address and click **OK**.

## Before You Use the Data Wizard

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:
<p>An EDB file stored in a LUN on a storage system</p> <p><b>NOTE:</b> This includes SnapVault secondary storage system configurations</p>	<ol style="list-style-type: none"><li>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 <i>SnapDrive Installation and Administration Guide</i>. When you select the source Exchange database, the mounted LUN will be your source drive.</li></ol> <p><b>NOTE:</b> 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.</p> <ol style="list-style-type: none"><li>2. Verify that there is sufficient hard drive space available to store temporary files that Single Mailbox Recovery creates. For details, see <a href="#">"Verifying Hard Drive Space for .idx and .dat Files" on page 183</a>.</li></ol> <p><b>CAUTION:</b> 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.</p>
<p>An EDB file in a Snapshot created using SnapCenter</p>	<ol style="list-style-type: none"><li>1. Run Backup Selection.</li><li>2. To connect to SnapCenter, provide the SnapCenter URL credentials (and optionally the Microsoft Exchange server name or IP), then click <b>Load</b>.</li><li>3. Select <b>Backup</b>.</li><li>4. To populate the Single Mailbox Recovery Data Wizard, select <b>Local Mount Location</b> and click and <b>Mount/Launch</b>.</li></ol>

If the Source File is...	Then do this:
An EDB file in a backup created using a supported backup application other than SnapManager or SnapCenter	<ol style="list-style-type: none"> <li>1. Use Single Mailbox Recovery ExtractWizard to restore the files to a location accessible from the Single Mailbox Recovery server.</li> <li>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.</li> <li>3. Verify that there is sufficient hard drive space available to store temporary files that Single Mailbox Recovery creates. For details, see <a href="#">"Verifying Hard Drive Space for .idx and .dat Files" on page 183</a>.</li> </ol>
A PST file	<p>Enable the PST source agent. For details, see "PST Source Agent" and "Task III: View and Enable Agents" in the Release Notes.</p> <p><b>NOTE:</b> 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.</p>

## Opening the Data Wizard

The first time you start Single Mailbox Recovery, the Data Wizard opens at the Source Selection page.

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

### To manually start the Data Wizard

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

## Data Wizard: Source Selection

On the Source Selection page of the Data Wizard, specify the type and path of the source from the following options:

- A PST file
- An EDB file
- A Content Analysis Store

### Note:

- If you do not want to select a source file at this time, click **Skip**.
- If you do not want to run the Data Wizard every time you start Single Mailbox Recovery, clear the **Run on Startup** check box.

### To specify a PST file as the source

1. On the Source Selection page, click **Outlook Data File (\*.pst)** in **Select Source** list.

**Note:** You can also open Microsoft Explorer, click the PST file you want to open as the source, then drag it to the Select Source list and skip the next step.

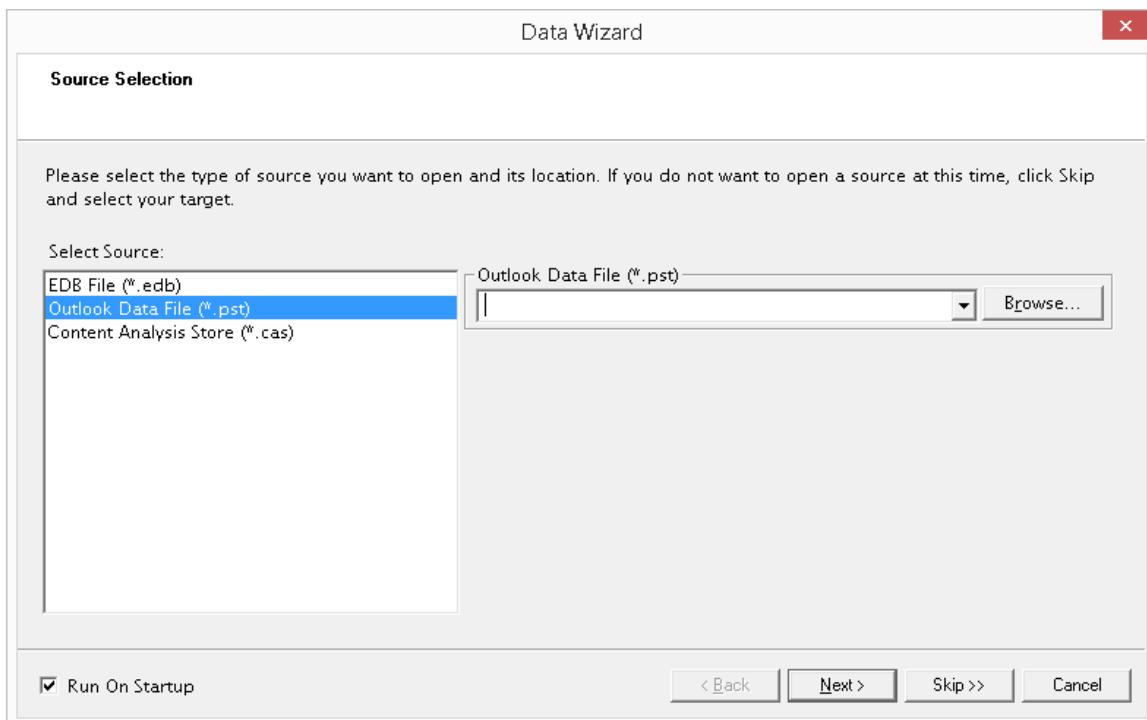


Figure 2-3: Selecting a PST file as the source

2. In the **Outlook Data File (\*.pst)** box, click **Browse** to open the Create PST File window and locate the source PST file.
3. Click **Next**.

### To specify an EDB file as the source

1. On the Source Selection page, click **EDB File (\*.edb)** in **Select Source** list.

**Note:** You can also open Microsoft Explorer, click the EDB file you want to open as the source, then drag it to the Select Source list and skip to step 6.

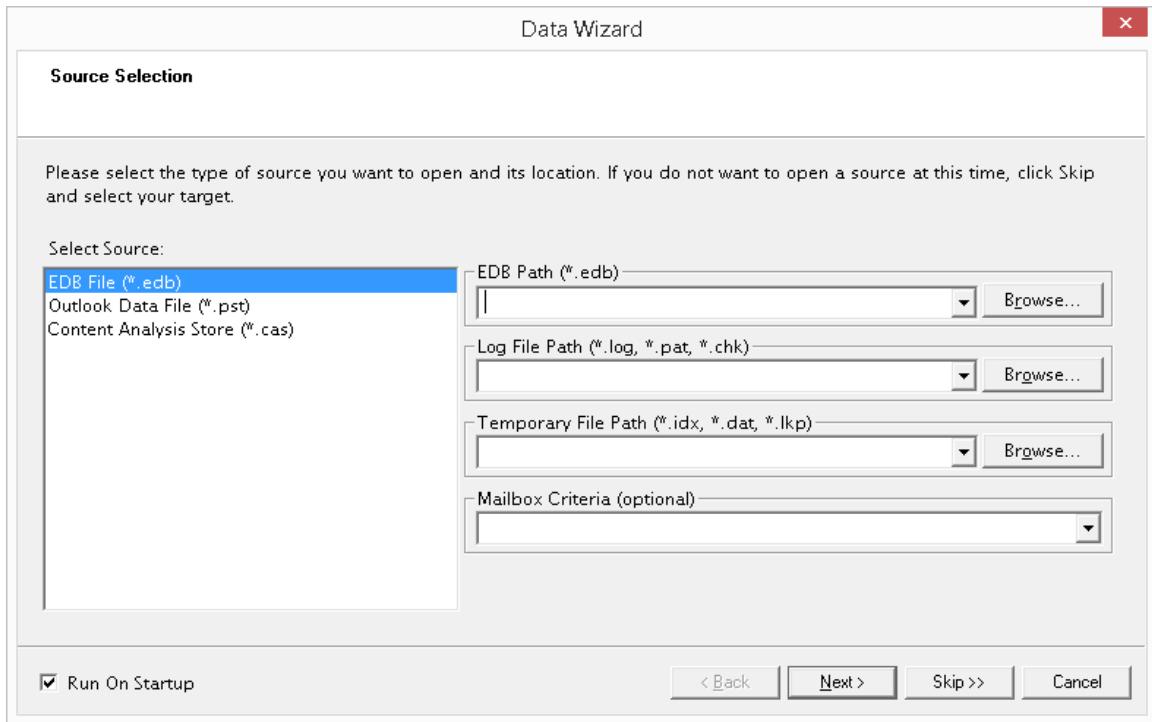


Figure 2-4: Selecting an EDB file as the source

2. In the **EDB Path (\*.edb)** box, click **Browse** and use the Open window to locate the source EDB file.
3. In the **Log File Path (\*.log, \*.pat, \*.chk)** box, click **Browse** to and use the Browse For Folder window to choose 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 (\*.idx, \*.dat, \*.lkp)** 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 30](#)".
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.

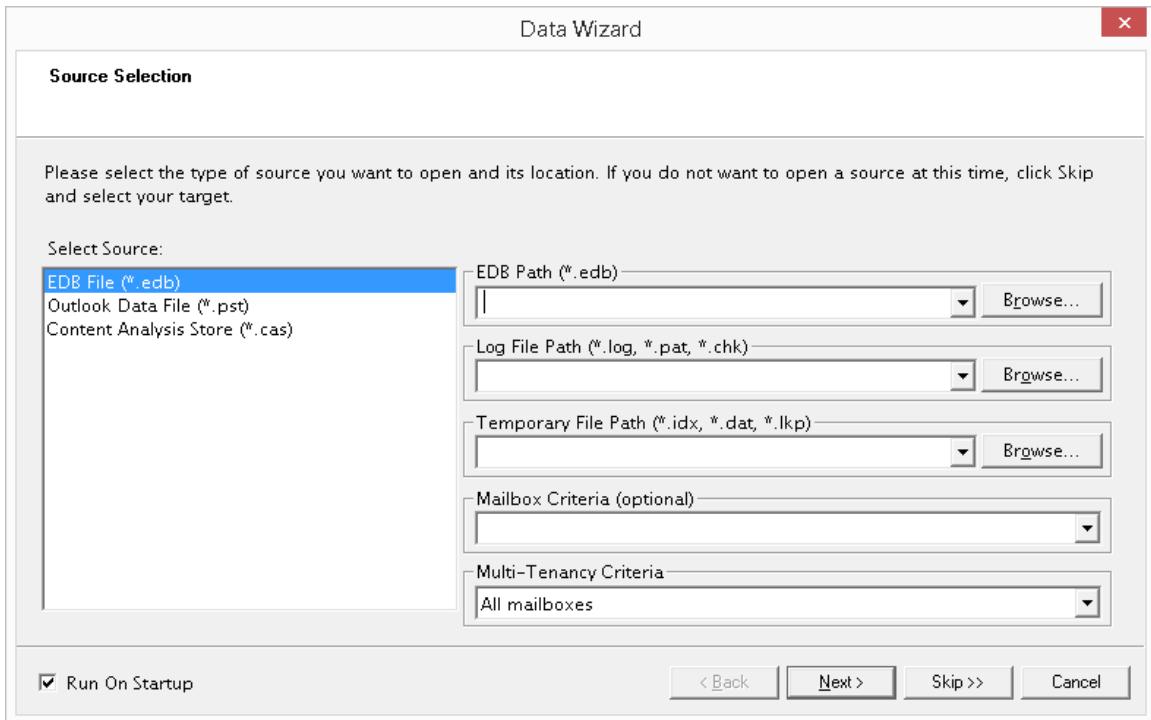


Figure 2-5: Selecting an EDB file as the source with multi-tenancy support

7. Click **Next**.

#### To specify a Content Analysis Store as the source

1. On the Source Selection page, click **Content Analysis Store (\*.cas)** in **Select Source** list.

**Note:** You can also open Microsoft Explorer, click the CAS you want to open as the source, then drag it to the Select Source list and skip the next step.

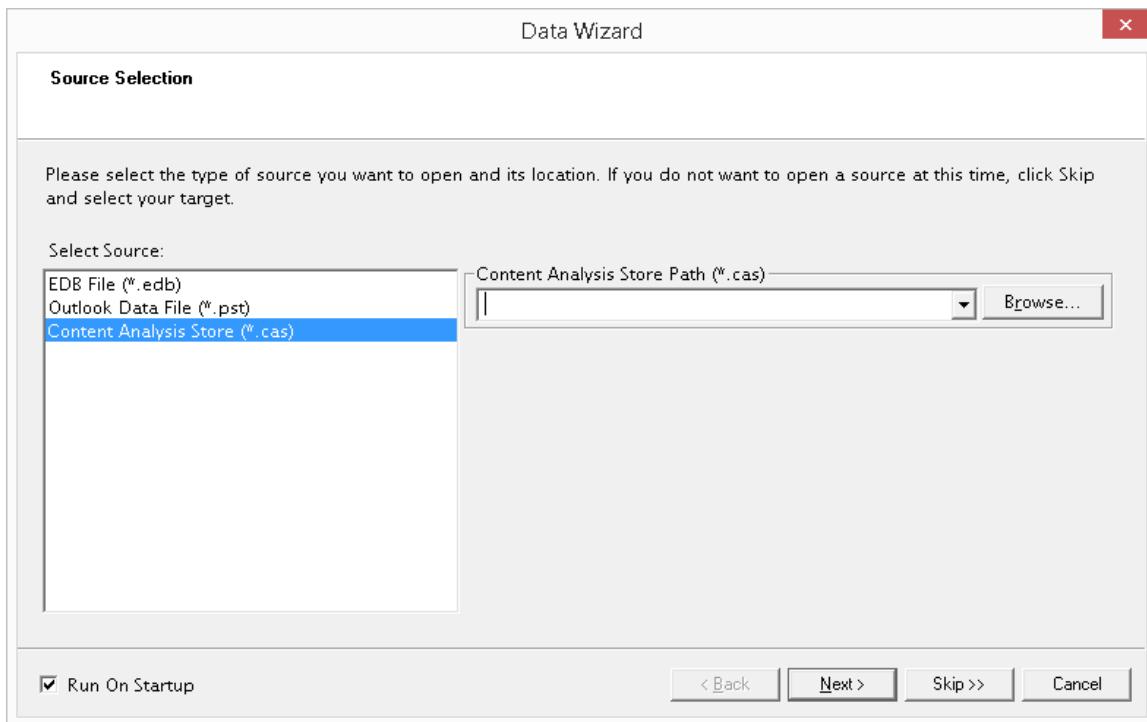


Figure 2-6: Selecting a CAS as the source

2. In the **Content Analysis Store Path (\*.cas)** box, click **Browse** to open the Create Content Analysis File window and locate the source CAS.
3. Click **Next**.

The EDB or PST file appears in the Single Mailbox Recovery Source pane.

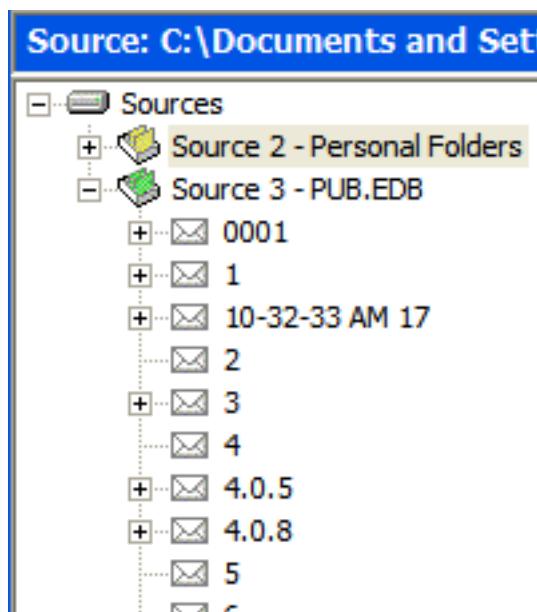


Figure 2-7: Source pane for an EDB file

**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.

## Data Wizard: Target Selection

On the Target Selection page of the Data Wizard, specify the type and path of the target location for the data you want to restore from the following options:

- A PST file
- A Content Analysis Store (CAS)
- A Microsoft Exchange Server as the target for a single mailbox (either on-premise or with Office 365 and with or without Outlook Anywhere)
- A Microsoft Exchange Server as the target for all mailboxes
- A Microsoft Exchange Server as the target for specific mailboxes with multi-tenancy support

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. On the Target Selection page, click **Outlook Data File (\*.pst)** in Select Target list.

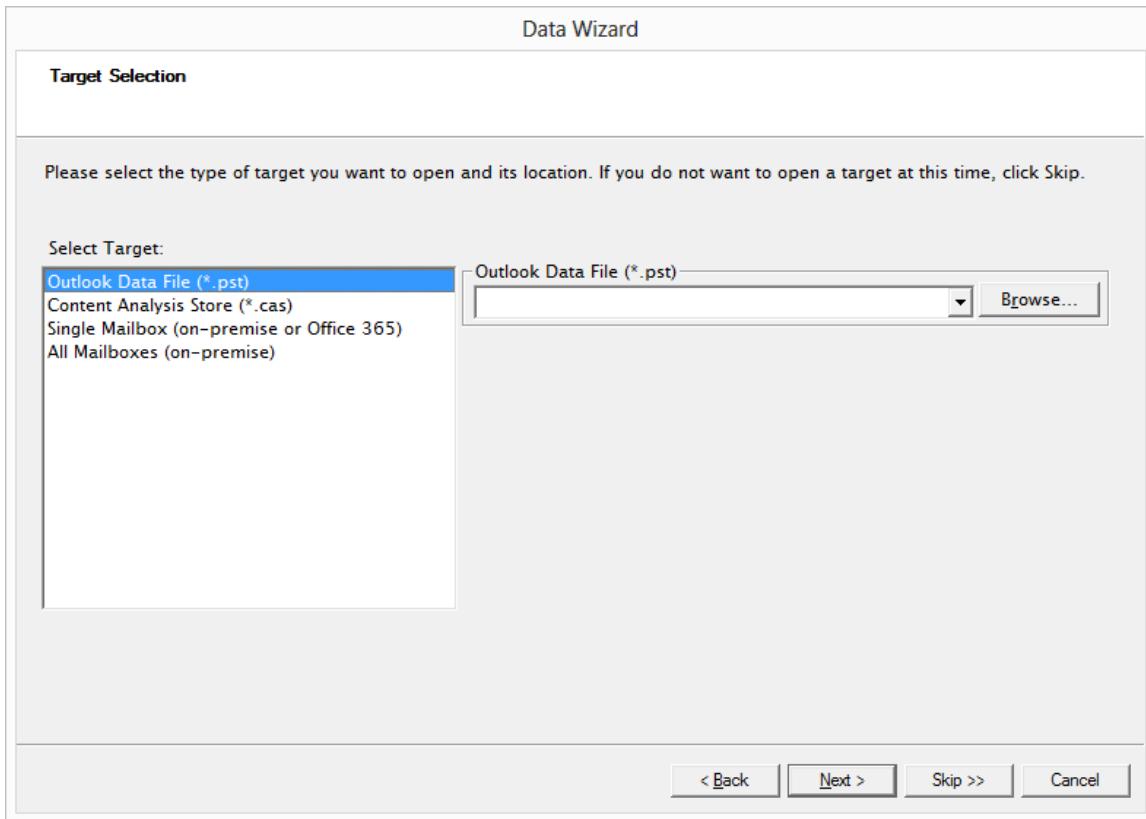


Figure 2-8: Selecting the PST File option on the Target Selection page

2. Do one of the following:
  - If you know the target PST file path, type it in the **Outlook Data File (.pst)** box.
  - Click **Browse** to open the **Create PST File** window and navigate to the desired location. 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. On the Target Selection page, click **Content Analysis Store (\*.cas)** in Select Target list.

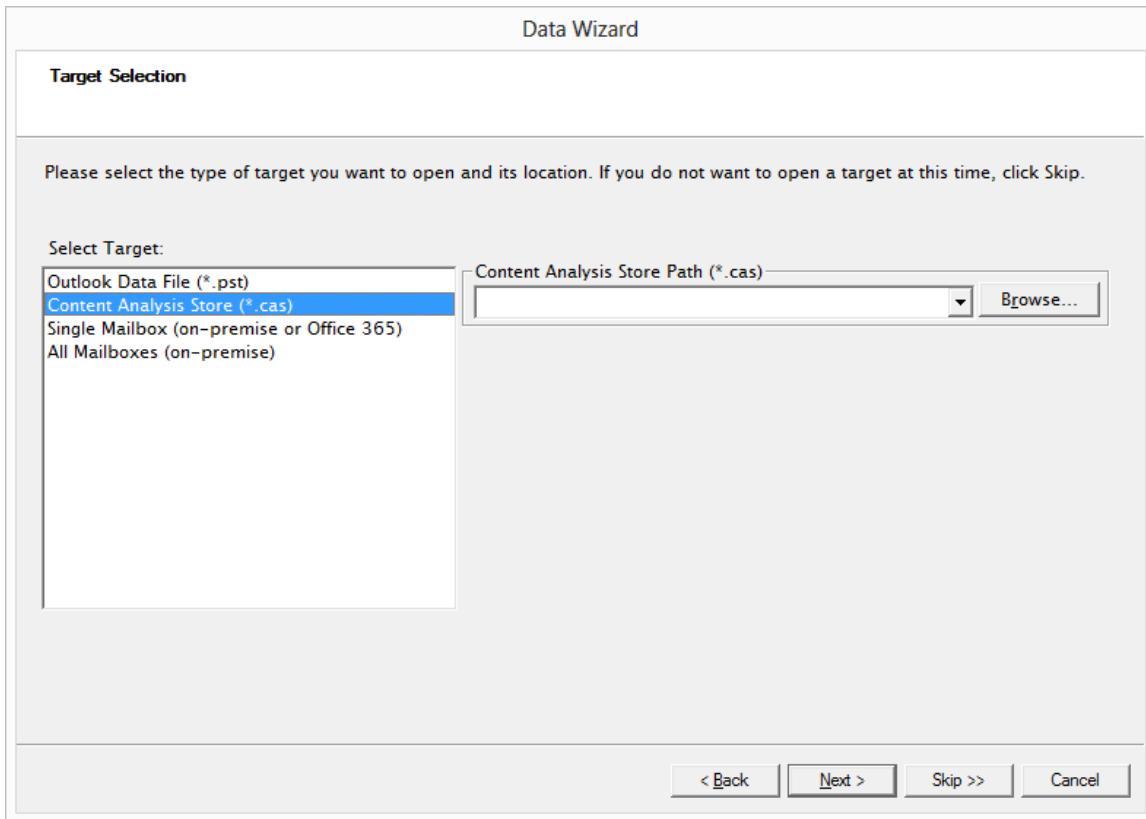


Figure 2-9: Selecting Content Analysis Store on the Target Selection page

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. 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 a single mailbox (on-premise or Office 365)

1. On the Target Selection page, click **Single Mailbox (on-premise or Office 365)** in Select Target list.

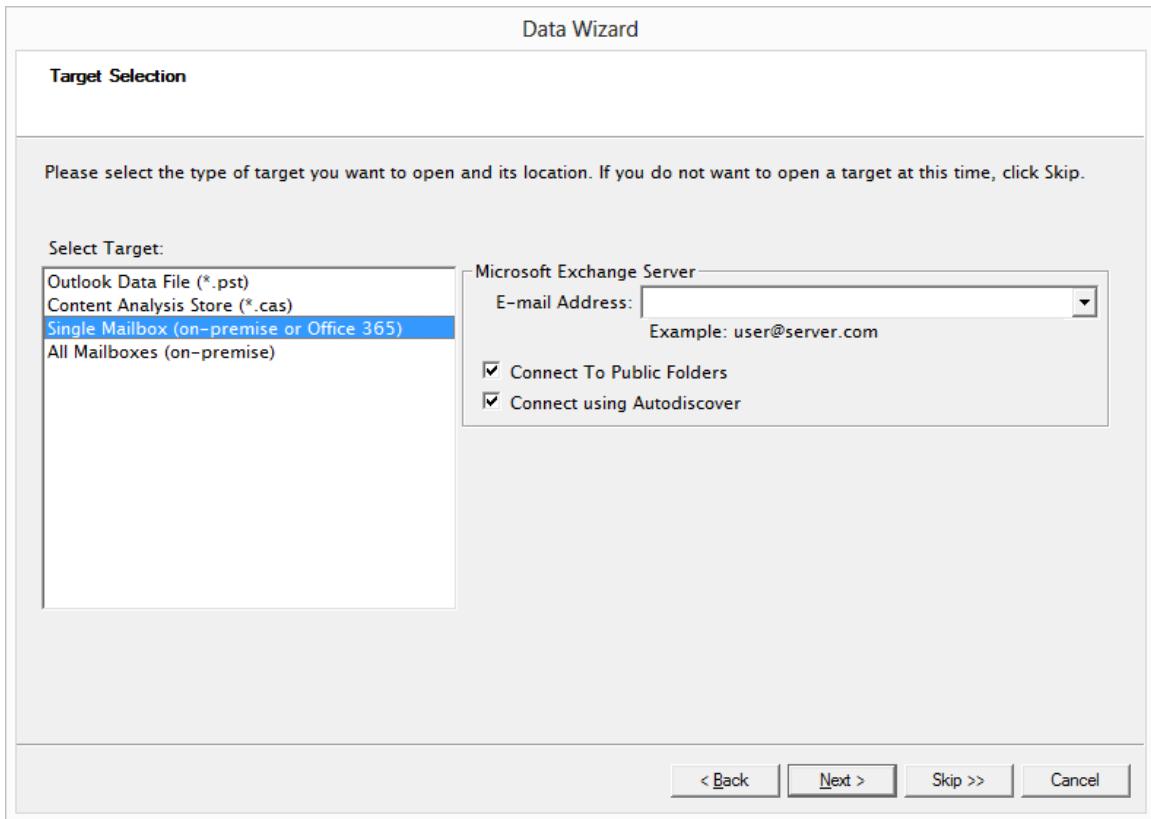


Figure 2-10: Selecting Single Mailbox (on-premise or Office 365) displays the target Microsoft Exchange Server

2. In the **E-mail Address** box, type the email address name.

**Tip:** If you are not using Autodiscover and you do not know the full name of the mailbox, 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. With **Connect To Public Folders** selected, you can 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 126](#).
4. The **Connect using Autodiscover** check box determines whether Single Mailbox Recovery will use Autodiscover to connect to Microsoft Exchange Server. The default setting is selected or cleared using the Target Options tab on the Preferences window. Do one of the following:
  - Select to connect to the target using Autodiscover. For more information, see ["Target Options Tab" on page 22](#) and ["Outlook Anywhere and Autodiscover" on page 31](#).
  - Clear and then use the **Connection type** drop-down list to select either "Exchange On-Premise" or "Office 365."

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 all mailboxes

1. On the Target Selection page, click **All Mailboxes (on-premise)** in Select Target list.

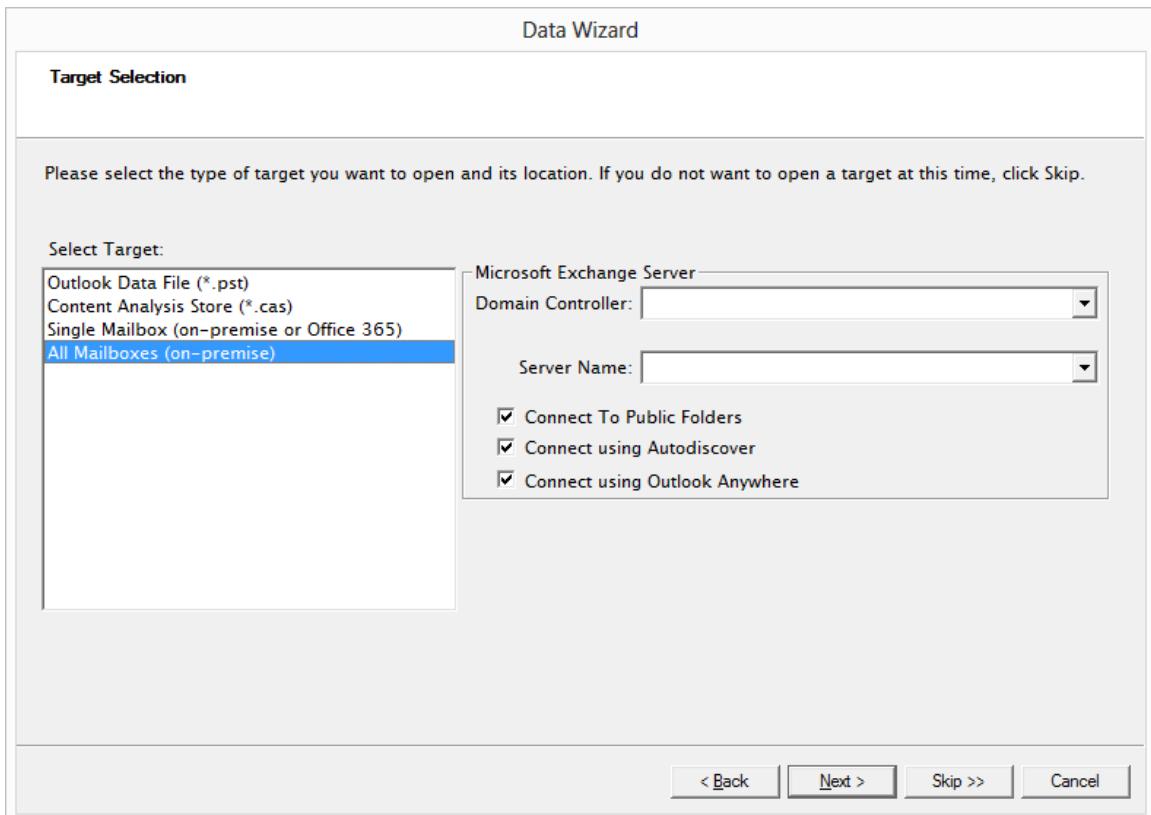


Figure 2-11: Selecting All Mailboxes (on-premise) displays the target Microsoft Exchange Server

2. In the **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 or later, specify the name of any of your Microsoft Exchange 2013 or later 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. With **Connect to Public Folders** selected, you can 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 126](#).
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 specific mailboxes with multi-tenancy support**

1. On the Target Selection page, click **Specified Mailboxes (on-premise)** in Select Target list.
2. Do one of the following:
  - 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.

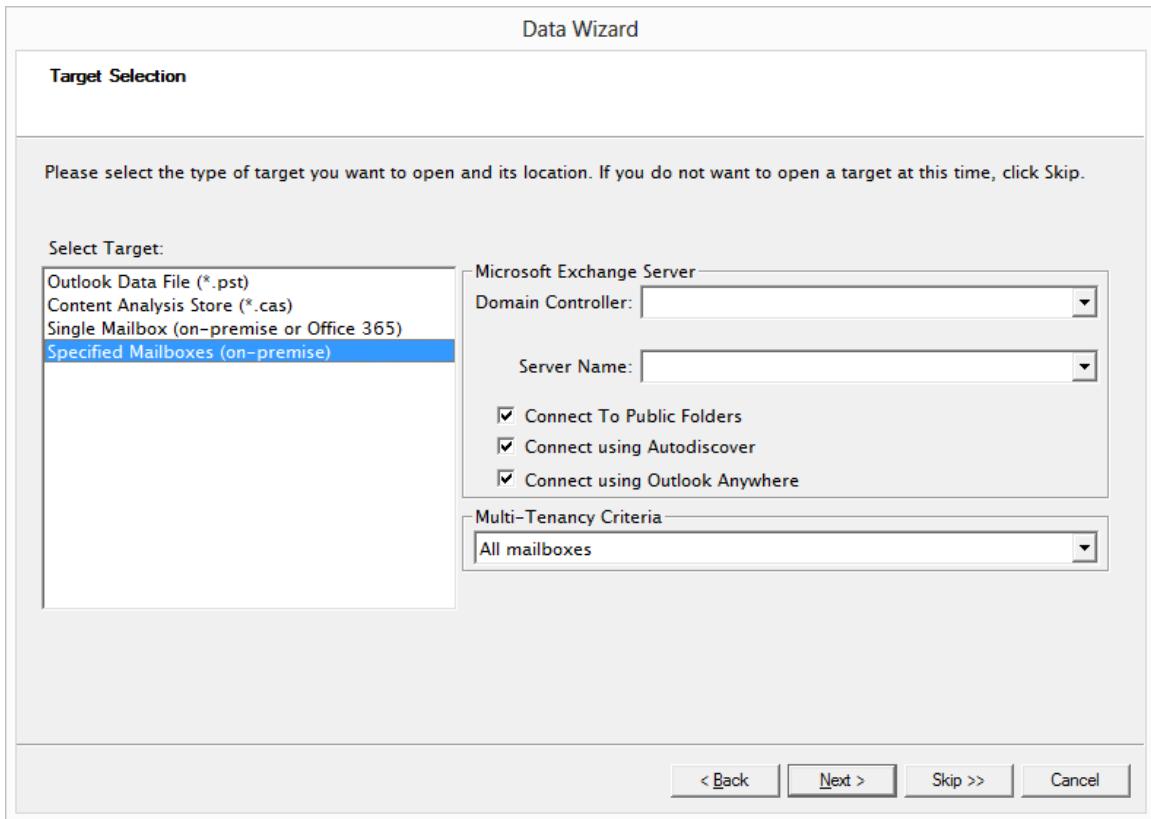


Figure 2-12: Selecting Specified Mailbox (on-premise) displays the target Microsoft Exchange Server

3. In the **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 or later, specify the name of any of your Microsoft Exchange 2013 or later 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.

4. With **Connect to Public Folders** selected, you can 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 126](#).

5. If you are not connected to a domain, the **Enter Password** window appears. 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, requiring you to reenter this information.
6. Click **Next**.

## Data Wizard: Outlook Anywhere

With the Outlook Anywhere page, you can adjust the settings 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 Selection page, the Outlook Anywhere page appears so you can 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.

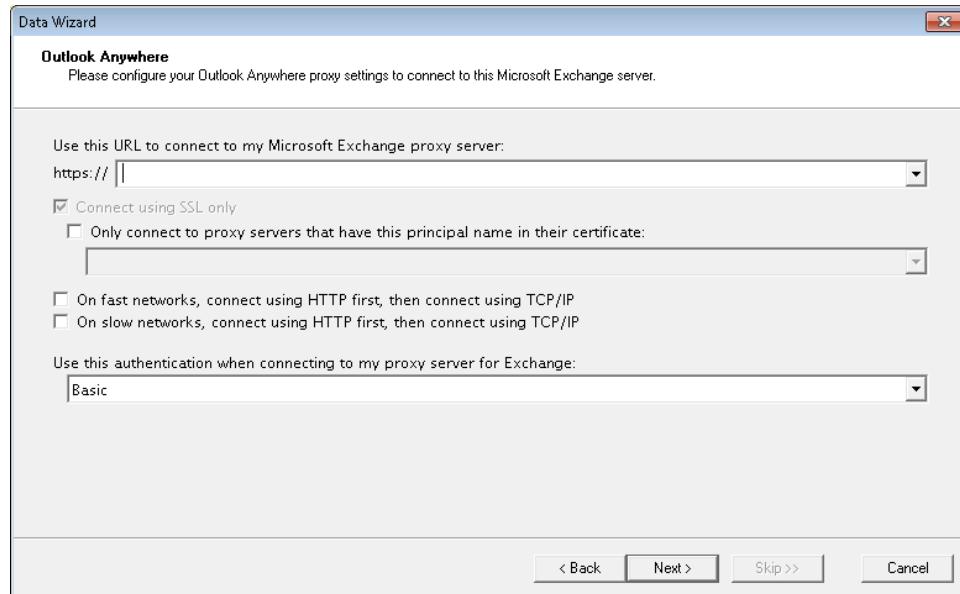


Figure 2-13: Outlook Anywhere page

### To complete the Outlook Anywhere page

1. On the Outlook Anywhere page, 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.

2. 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).

3. 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.

4. Click **Next**.

## Data Wizard: Connection Settings

With the Connection Settings page, you can adjust the settings to connect to the target Microsoft Exchange Server. This page appears if Autodiscover fails to connect to the target server or Autodiscover is not enabled in on the Preferences dialog box.

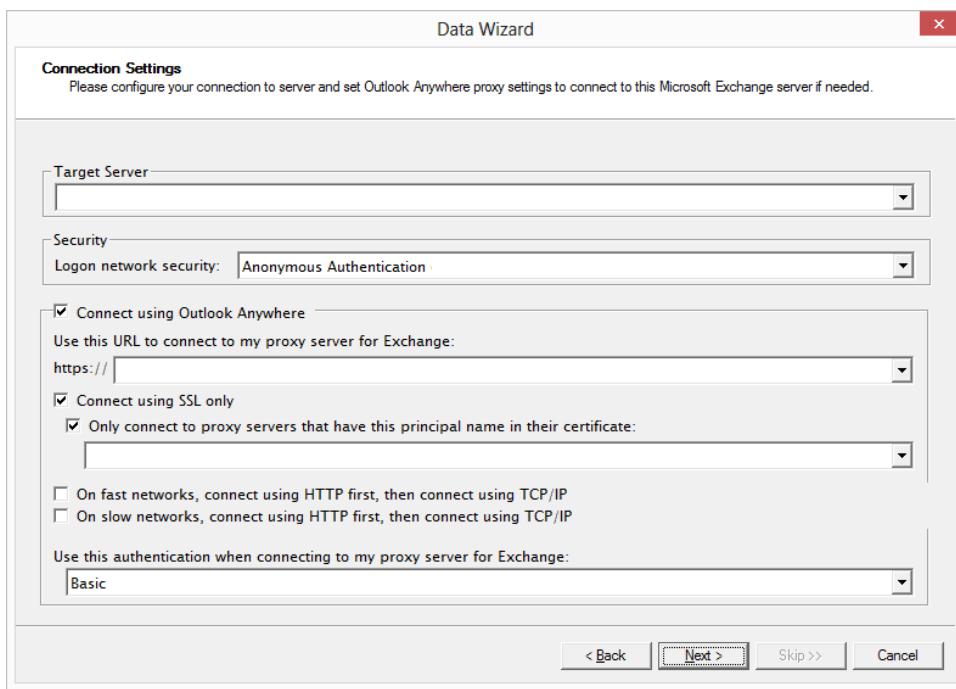


Figure 2-14: Connection Settings page

### To complete the Connection Settings page

1. On the Connection settings page, type the server name of the **Target Server**.
2. In the **Security** drop-down list, select the method of security when logging on to the target server network.
3. The Connect using Outlook Anywhere check box determines whether Single Mailbox Recovery will use Outlook Anywhere (also known as RPC over HTTP) to connect to Microsoft Exchange Server. The default setting is selected or cleared using the Target Options tab on the Preferences window. If you choose Connect using Outlook Anywhere, do the following:
  - In the **https://** 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.
4. 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 TCP/IP**
  - **On slow networks, connect using HTTP first, then connect using TCP/IP**

**Note:** Outlook defines a fast connection as a connection that is faster than 128 kilobits per second (Kbps).

5. 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.
6. Click **Next**.

## 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:

1. Pre-scanning the log files (integrity check)
2. Scanning the log files (playing the log files)
3. Hashing the EDB file (building a folder hierarchy)

When the processing is complete, the Data Wizard closes.

**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.

## Results of Data Wizard

When you complete the Data Wizard, the Source and Target panes in the main window now contain a source EDB file, PST file, CAS, target PST file, a target Microsoft Exchange Server, or target CAS.

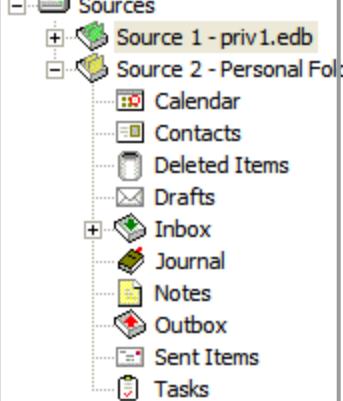
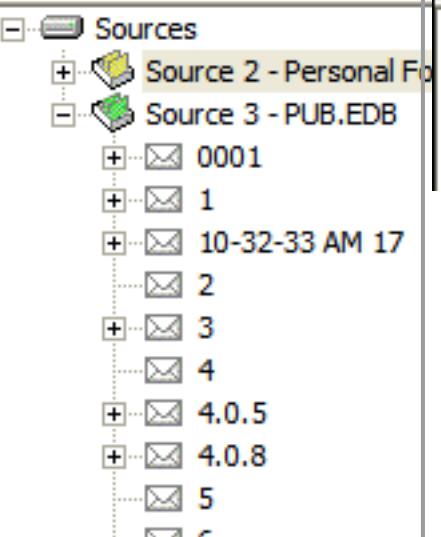
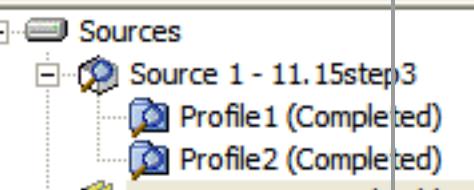
Source: C:\Documents and	Source: C:\Documents and	Source: C:\Documents and Se
 <p>Source pane with a PST file</p>	 <p>Source pane with an EDB file</p>	 <p>Source pane with CAS files</p>

Figure 2-15: Source panes with PST, EDB, and CAS files

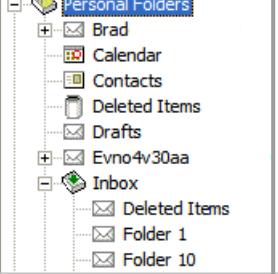
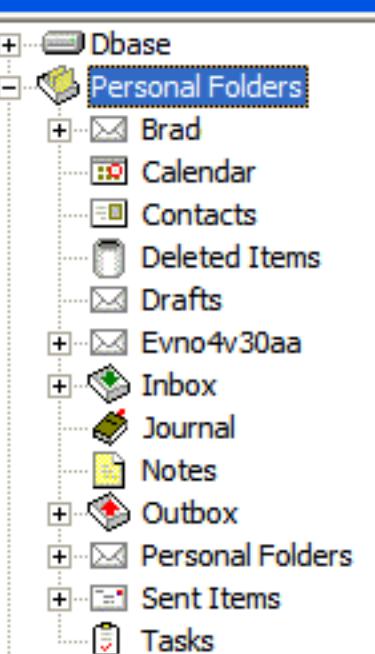
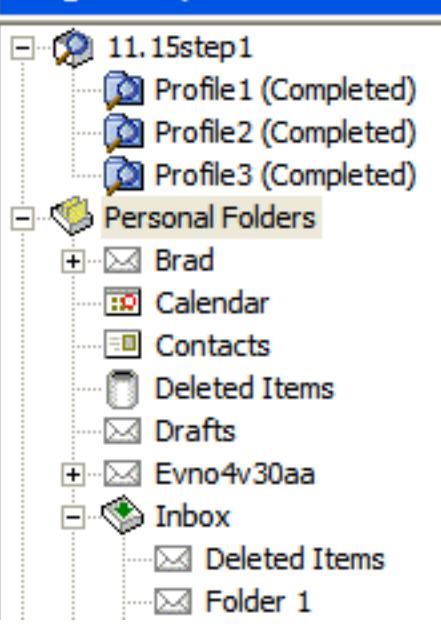
Target: C:\Documents and	Target: C:\Documents and	Target: C:\Documents and S
 <p>Target pane with a PST file</p>	 <p>Target pane for a Microsoft Exchange Server</p>	 <p>Target pane with CAS files</p>

Figure 2-16: Target panes for PST files, Microsoft Exchange Server, and CAS file

## 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  <b>Note:</b> This includes SnapVault secondary storage system configurations.	<ol style="list-style-type: none"><li>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.  <b>Note:</b> 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.</li><li>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.</li></ol>

If the Source File is...	Then do this:
An EDB file in a Snapshot created using SnapCenter	<ol style="list-style-type: none"> <li>1. Run Backup Selection.</li> <li>2. To connect to SnapCenter, provide the SnapCenter URL credentials (and optionally the Microsoft Exchange server name or IP), then click <b>Load</b>.</li> <li>3. Select <b>Backup</b>.</li> <li>4. To populate the Single Mailbox Recovery Data Wizard, select <b>Local Mount Location</b> and click <b>Mount/Launch</b>.</li> </ol>
An EDB file in a backup created using a supported backup application other than SnapManager or SnapCenter	<ol style="list-style-type: none"> <li>1. Use Single Mailbox Recovery ExtractWizard to restore the files to a location accessible from the Single Mailbox Recovery server.</li> <li>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 <a href="#">"Organizing Files Extracted from Other Backup Applications" on page 182</a>.</li> <li>3. Verify that there is sufficient hard drive space available to store temporary files that Single Mailbox Recovery creates. For details, see <a href="#">"Verifying Hard Drive Space for .idx and .dat Files" on page 183</a>.</li> </ol>
A PST file	<p>Enable the PST source agent. For details, see "PST Source Agent" and "Task III: View and Enable Agents" in the Release Notes.</p> <p><b>Note:</b> 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.</p>

## Opening 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 58](#).
- ["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 \(on-premise or Office 365\)" 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 .
2. Follow the instructions in the "Data Wizard: Source Selection" topic "["Data Wizard: Source Selection" on page 39](#)".
3. Click **OK**. The EDB, PST, or CAS file appears in 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.

## 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 **Open**. 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.

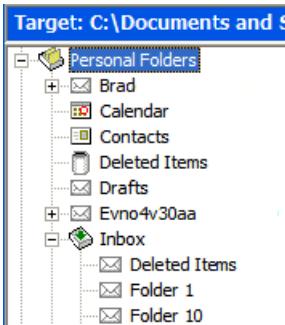


Figure 2-17: Target pane for a PST file

#### 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** and click **Opening Existing...**
  - On the toolbar, click the **Open Target Content Analysis Store** icon
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** and click **Create New...**
  - On the toolbar, click the **Open Target Content Analysis Store** icon
2. In the **Create Content Analysis File** window, navigate to desired location and type a **File Name** for the new 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 (on-premise or Office 365)

1. Do one of the following to display the **Target 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. Follow the instructions in the "Data Wizard: Target Selection" topic ["To specify a Microsoft Exchange Server as the target for a single mailbox \(on-premise or Office 365\)" on page 46](#).

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

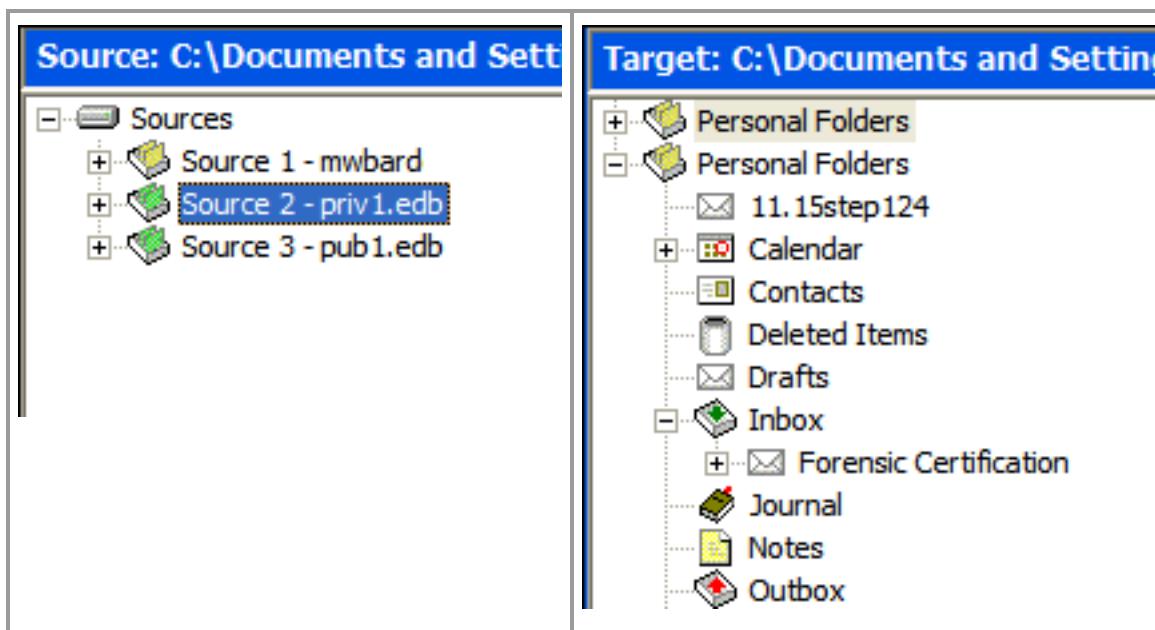
1. Do one of the following to display the **Connect To Exchange Server** window:
  - On the **File** menu, click **Open\Create Target**, and then click **Open Target Exchange Server**.
  - On the toolbar, click the **Open Target Exchange Server** icon .
2. Follow the instructions in the "Data Wizard: Target Selection" topic ["To specify a Microsoft Exchange Server as the target for all mailboxes" on page 48](#).

### 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 Selection" topic ["To specify a Microsoft Exchange Server as the target for specific mailboxes with multi-tenancy support" on page 49](#).

## 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 2-18: 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 copy, unmount the LUN as soon as your Single Mailbox Recovery restoration completes.*  
*If the source is an EDB file in a SnapCenter-based backup Snapshot copy, it will automatically unmount when the source is closed.*

### 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 copy, unmount the LUN as soon as your Single Mailbox Recovery restoration completes.*  
*If the source is an EDB file in a SnapCenter-based backup Snapshot copy, it will automatically unmount when the source is closed.*

### 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 Mailbox Creation wizard or the Copy and Paste functions. Possible uses for this function are migrating user accounts from an older version of Microsoft Exchange Server 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, the 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 in 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 21](#).

## Creating Mailboxes

You can create mailboxes with the Mailbox Creation 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 Mailbox Creation Wizard

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

### To create a Microsoft Exchange Server 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 Mailbox Creation wizard :
  - Right-click the target Microsoft Exchange Server root directory and click **New Mailbox**.
  - On the **Edit** menu, click **New Mailbox**.

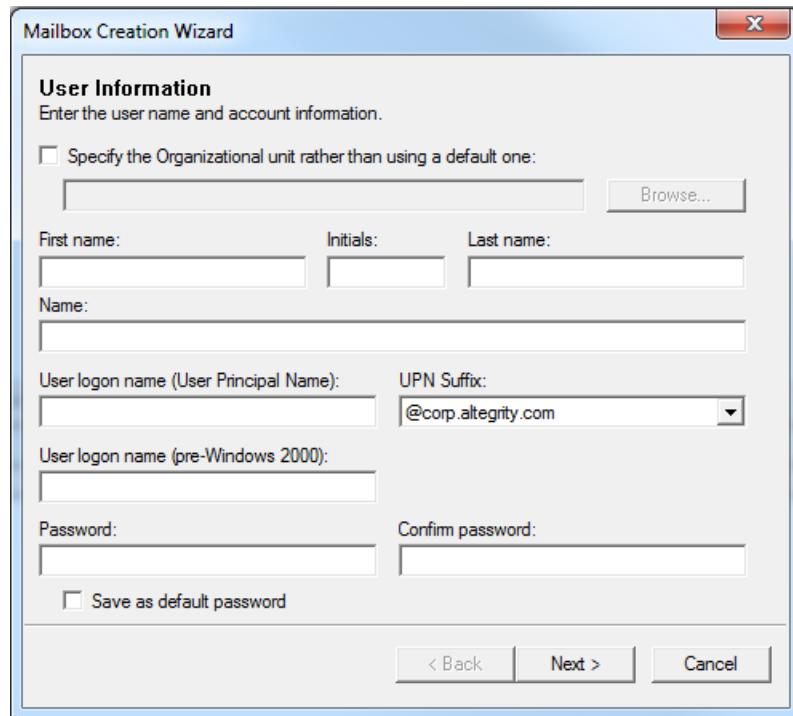


Figure 2-19: User Information page for Microsoft Exchange Server 2007

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**.

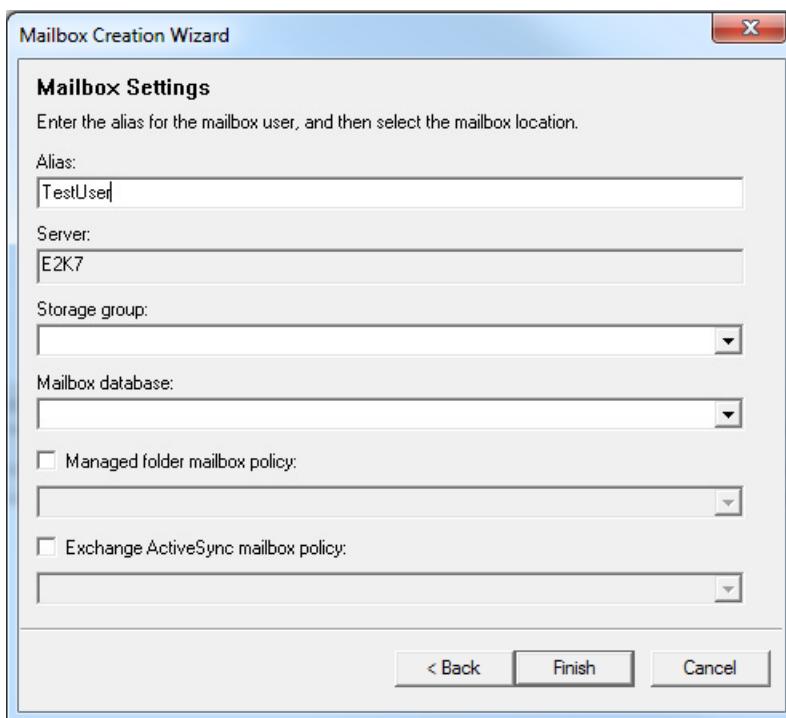


Figure 2-20: Mailbox Settings page for Microsoft Exchange Server 2007

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 (and later) mailbox using the wizard

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

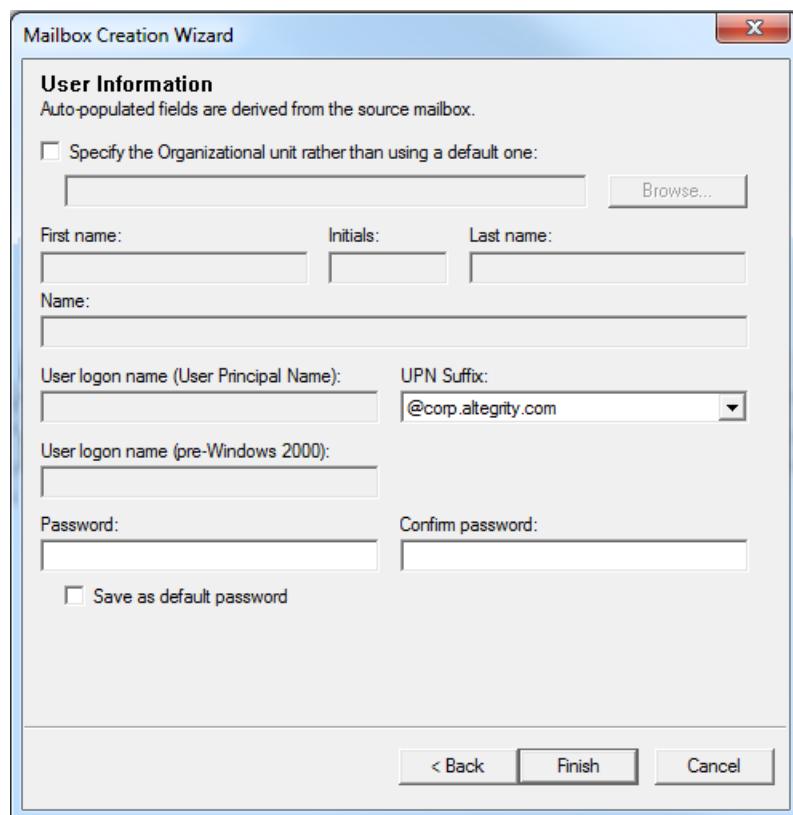


Figure 2-21: User Information page for Microsoft Exchange Server 2010 and later

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**.

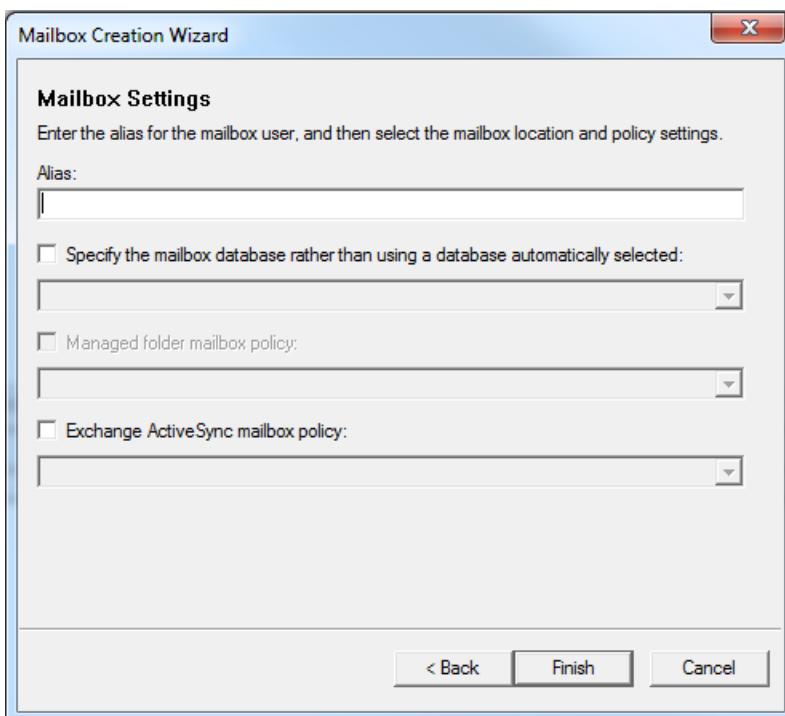


Figure 2-22: Mailbox Settings page for Microsoft Exchange Server 2010 and later

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 later) 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.

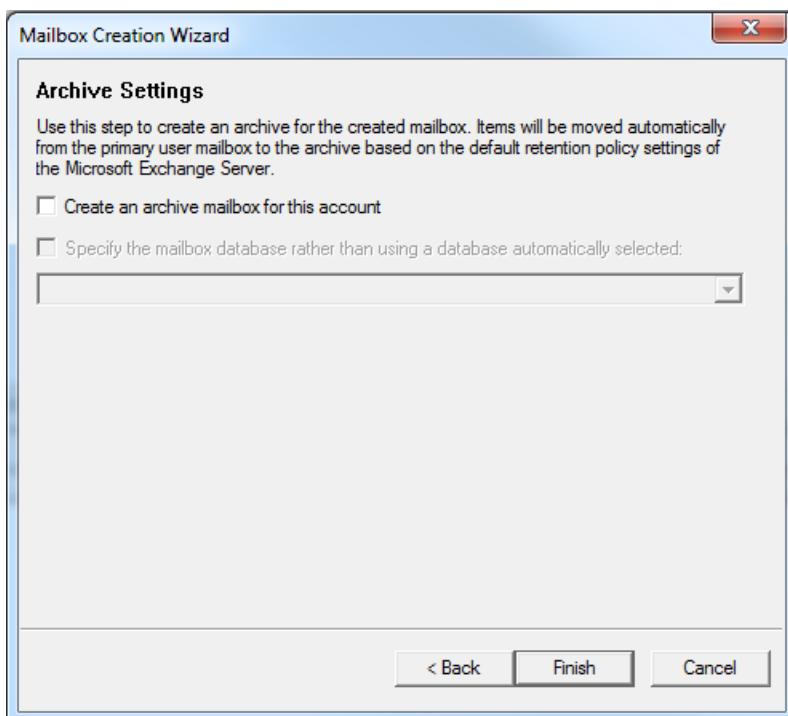


Figure 2-23: Archive Settings for Microsoft Exchange Server 2010 and later

**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 22](#)".
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 and later sources, so only a match on the mailbox GUID is considered a full match for Microsoft Exchange Server 2013 and later source mailboxes. If no full matching user account exists, the Mailbox Creation wizard opens.

4. If a full matching mailbox is not found in the target, the **Mailbox Copy** 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 Mailbox Creation wizard closes and the process ends.)
- Select **Create and copy to new mailbox** to proceed with the Mailbox Creation wizard and create a new target mailbox for this copy.

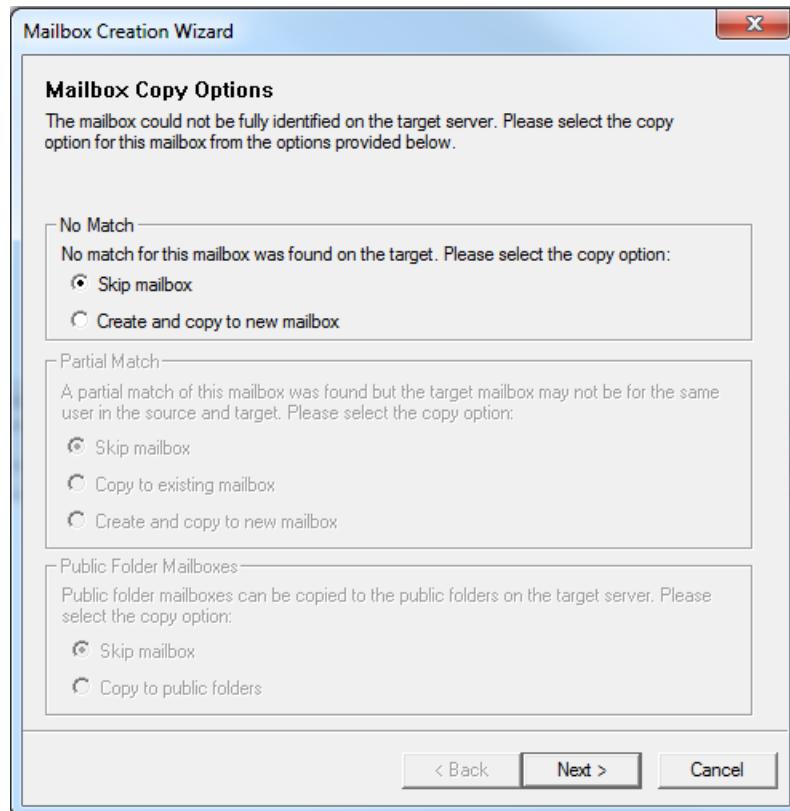


Figure 2-24: Mailbox Copy Options page - No Match

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 Mailbox Creation wizard closes and the process ends.)
  - Select **Copy to existing mailbox** to copy the mailbox. (The Mailbox Creation wizard closes and the copy begins.)
  - Select **Create and copy to new mailbox** to proceed with the Mailbox Creation wizard and create a new target mailbox for this copy.

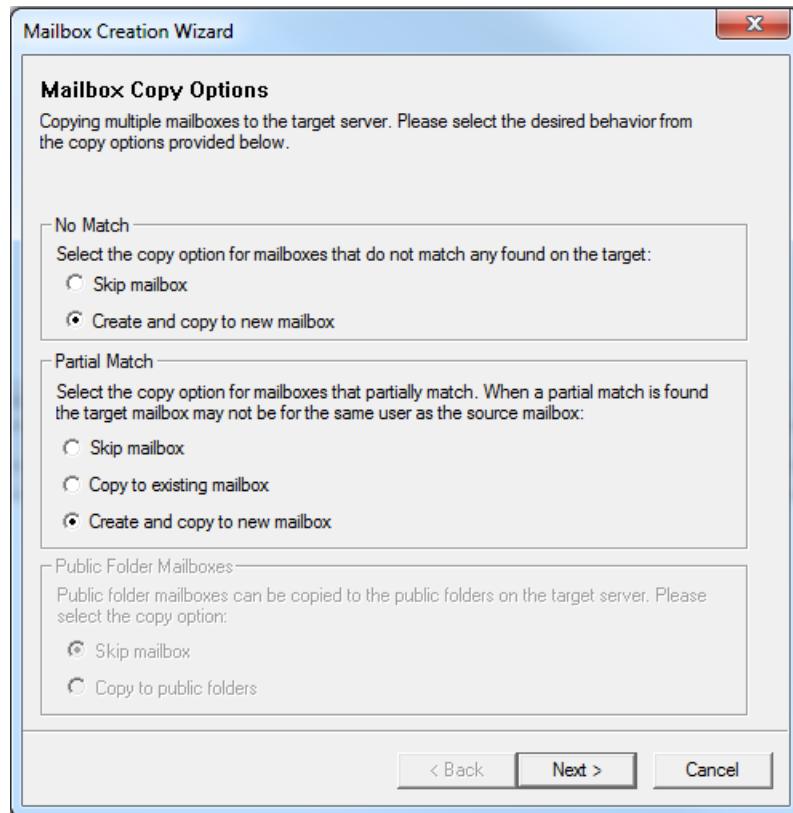


Figure 2-25: Mailbox Copy Options page - Partial Match

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 later, 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.

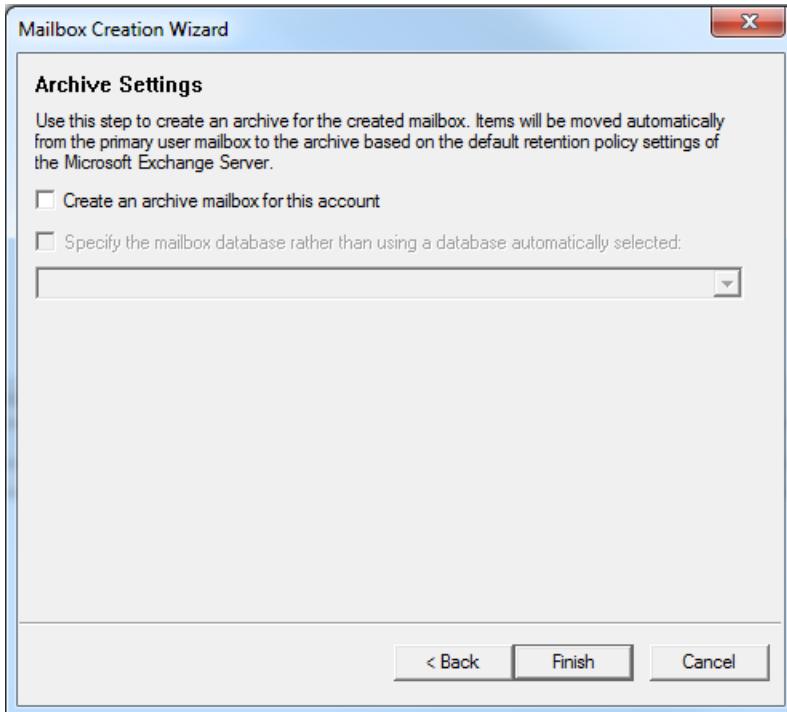


Figure 2-26: Archive Settings for Microsoft Exchange Server 2010 and later

**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 22](#)".
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 of 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 one 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.

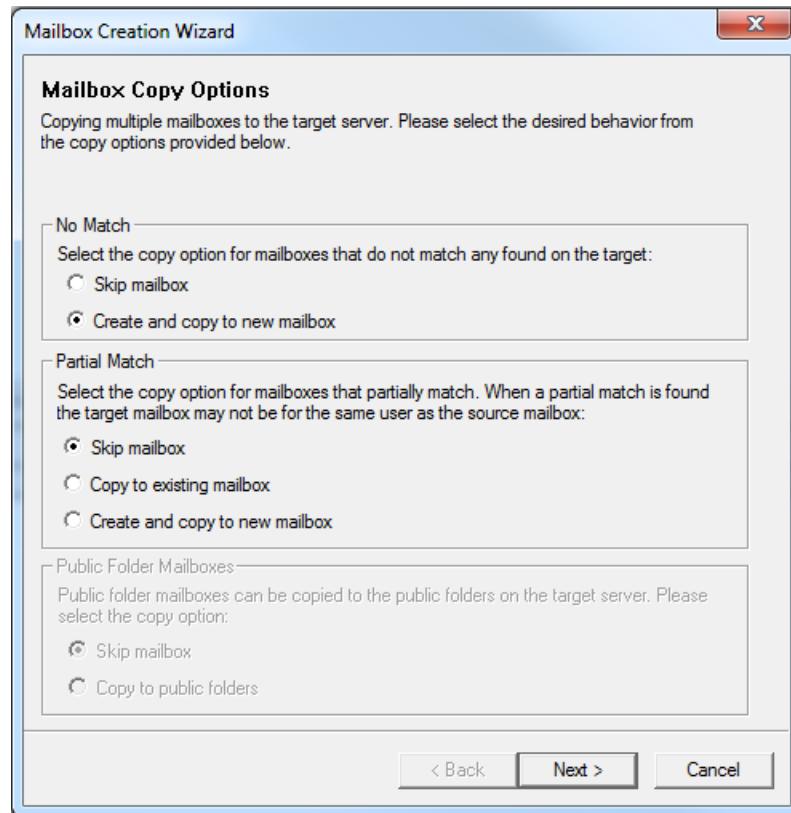


Figure 2-27: Mailbox Copy Options page

5. If the source EDB originates from a Microsoft Exchange Server 2013 and later and the target is connected to All Public Folders, choose one of the following in the **Public Folder Mailboxes** 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.

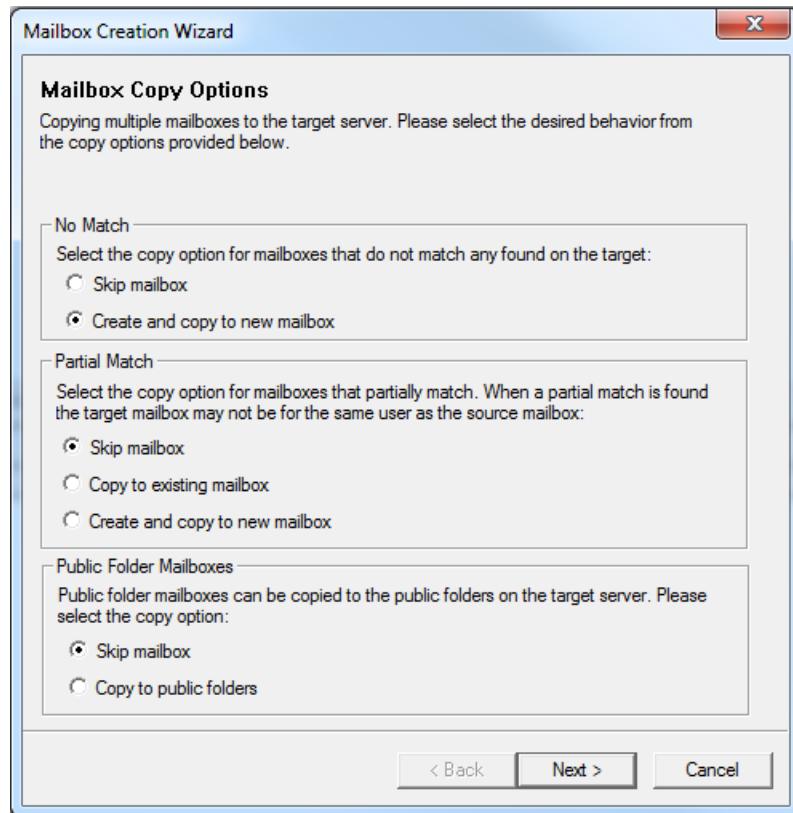


Figure 2-28: Mailbox Copy Options - Public Folder Mailboxes

6. Click **Next**.

If you selected **Create and copy to a new mailbox** in No Match or Partial Match, the Mailbox Creation 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.

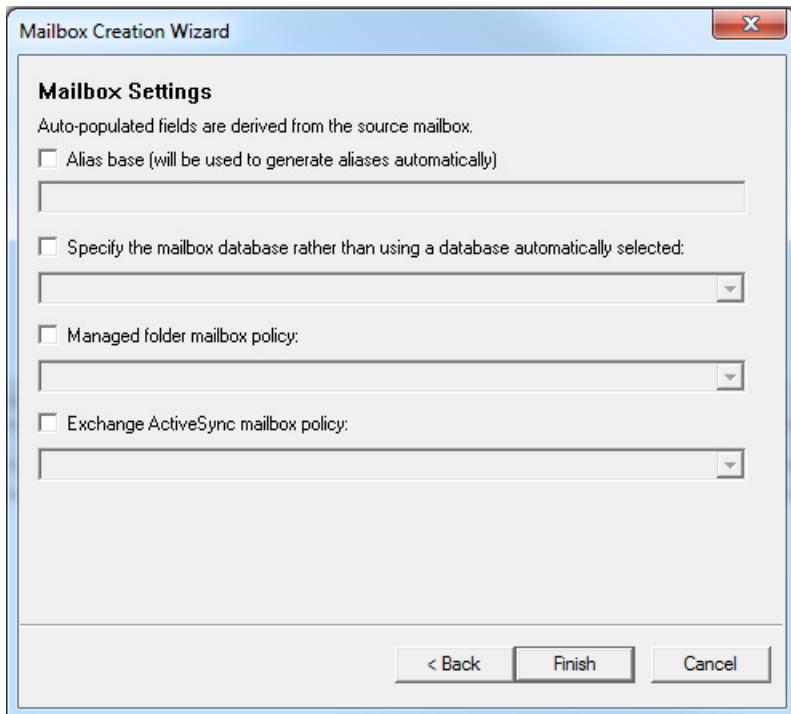


Figure 2-29: Mailbox Settings (Microsoft Exchange Server 2010 and later) - Multiple copy

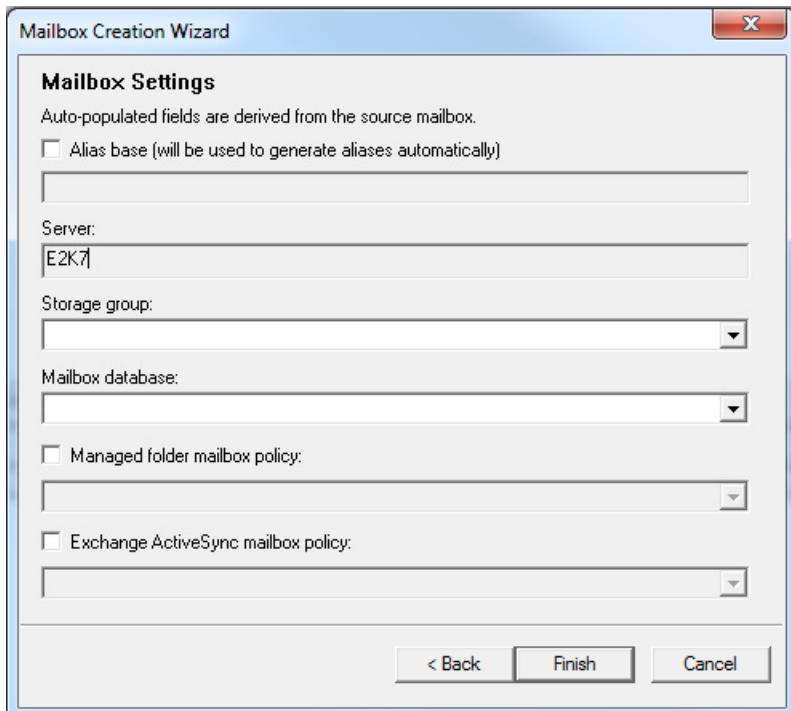


Figure 2-30: Mailbox Settings (Microsoft Exchange Server 2007 and earlier) - Multiple copy

**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 later, 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.

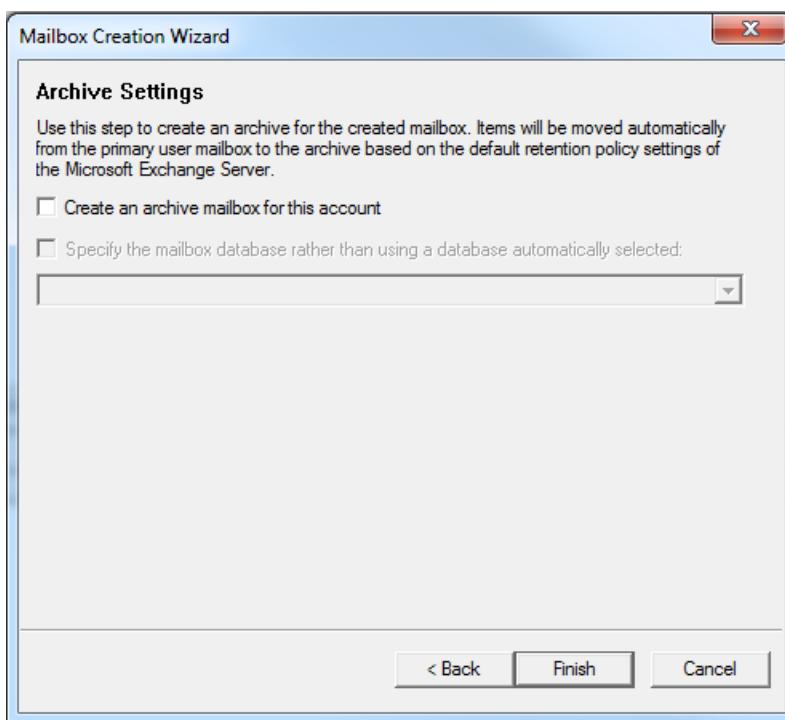


Figure 2-31: Archive Settings for Microsoft Exchange Server 2010 and later

**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 Mailbox Creation wizard displays the New Mailbox Summary page.

12. On the New Mailbox Summary page, review the list of mailboxes to be created.

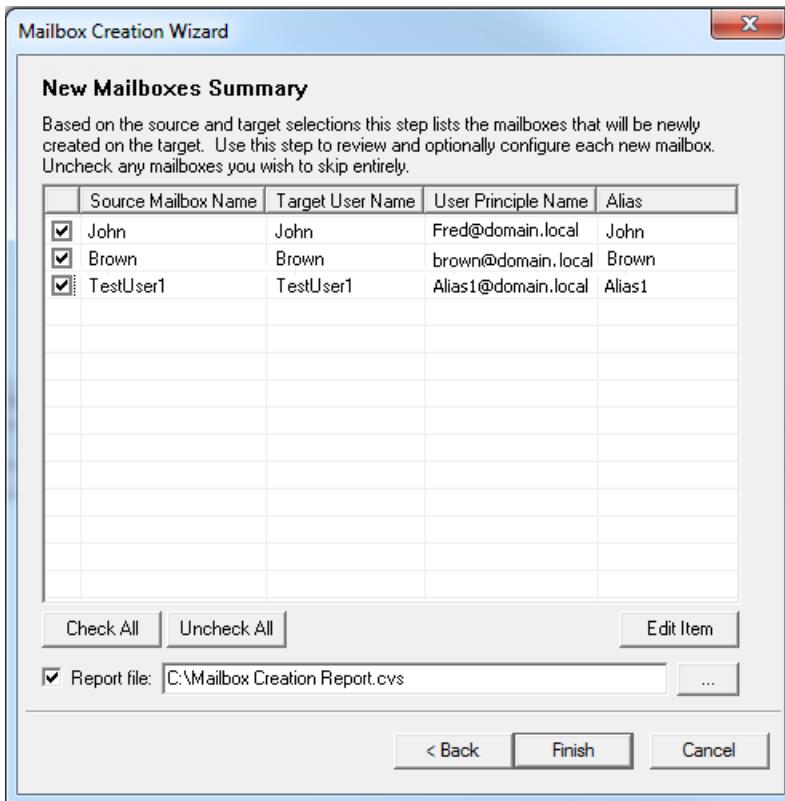


Figure 2-32: New Mailboxes Summary page

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.

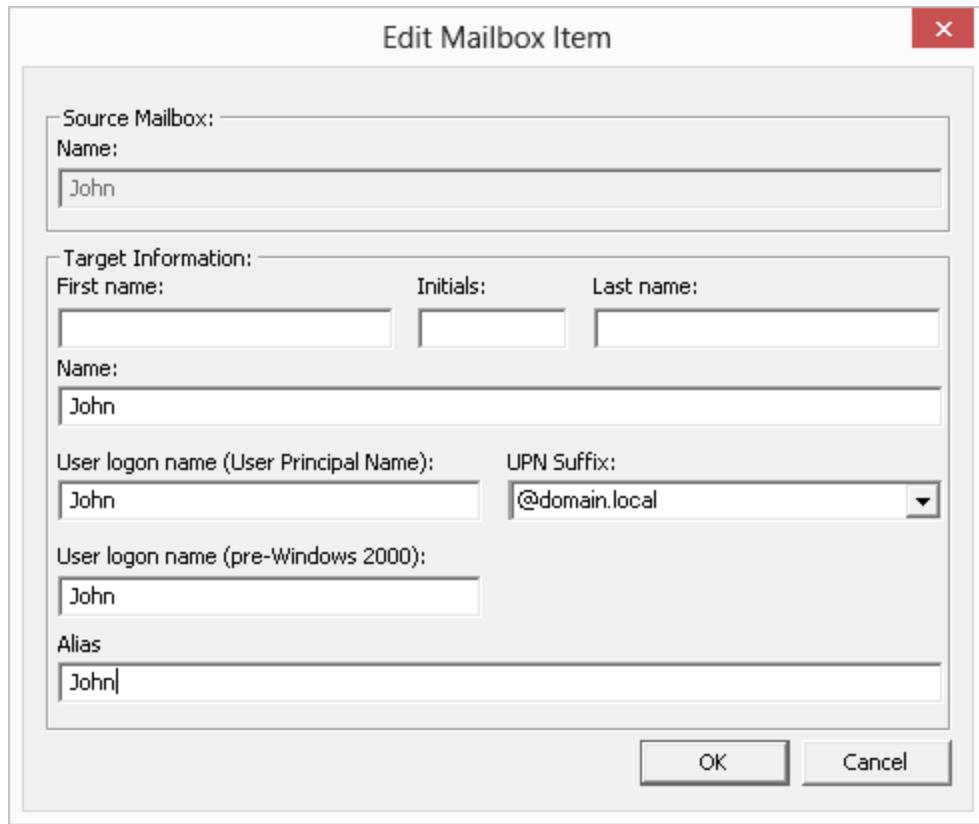


Figure 2-33: Edit Mailbox Item dialog box

- 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 later **Recoverable Items** folder are included in search results only if the **Show Recoverable Items** preference is enabled. For more information about setting preferences, see "["Security Tab" on page 24](#)".
- If you use the "Mailbox Criteria (optional)" box on the Select Source Files dialog box or the Source Selection page of the Data Wizard, 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 included in any subsequent tasks (such as searching, copying, and exporting of the entire database). For more information, see ["Mailbox Criteria" on page 30](#).

- If you use the "Multi-Tenancy Criteria" box on the Select Source Files dialog box, the Source Selection page of the Data Wizard, the Connect to Exchange Server dialog box, or the Target Selection page of the Data Wizard, 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 31](#).

## 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 85](#).

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 folders have been selected.

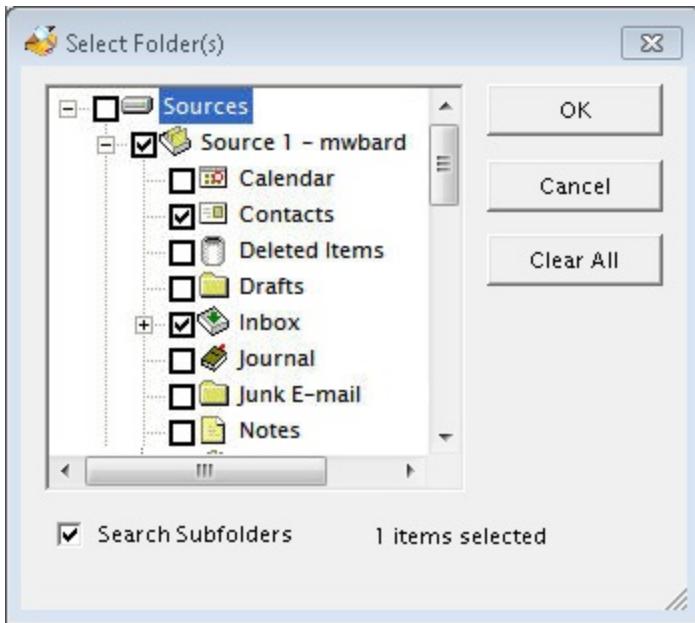


Figure 3-1: You can select multiple folders or mailboxes to search.

**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.
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 85](#) 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 90](#).

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 **Date**, select an action performed on the document (such as Received, Sent, or Due) as a search criteria, if desired. This searches for documents based on when that action occurred.
10. For **After** and **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.
  - **After:** Searches for documents created on or after the selected date.
  - **Before:** Searches for documents created on or before the selected date.
11. When you have finished specifying search criteria, click **Find Now**. The results of your search appear in the message item list. In Search Results column, the Date displays the time of the action selected in the Time search criteria.
12. To preview the message items returned by the search, click the **Preview** check box.

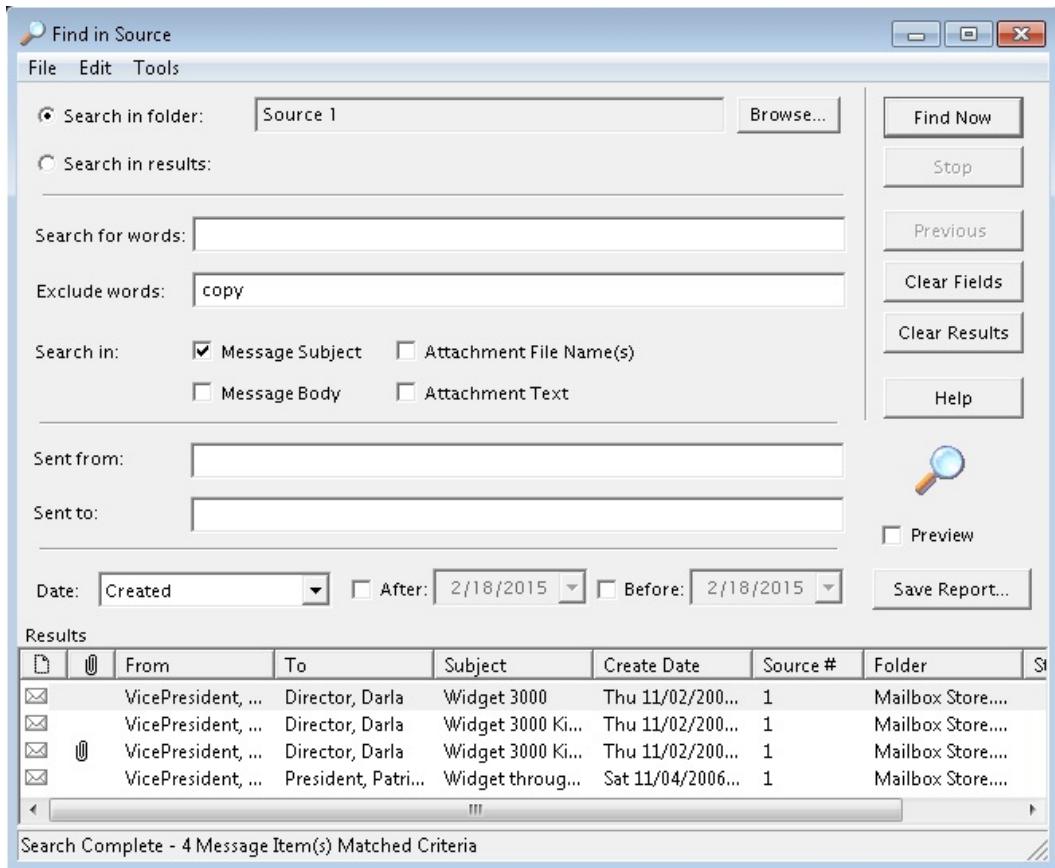


Figure 3-2: Find window with results and message pane

## 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 82](#).
2. For **Search in**, click **Attachment Text**.
3. Continue with step 8 in the ["Searching Sources" on page 82](#) 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 82](#).
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.

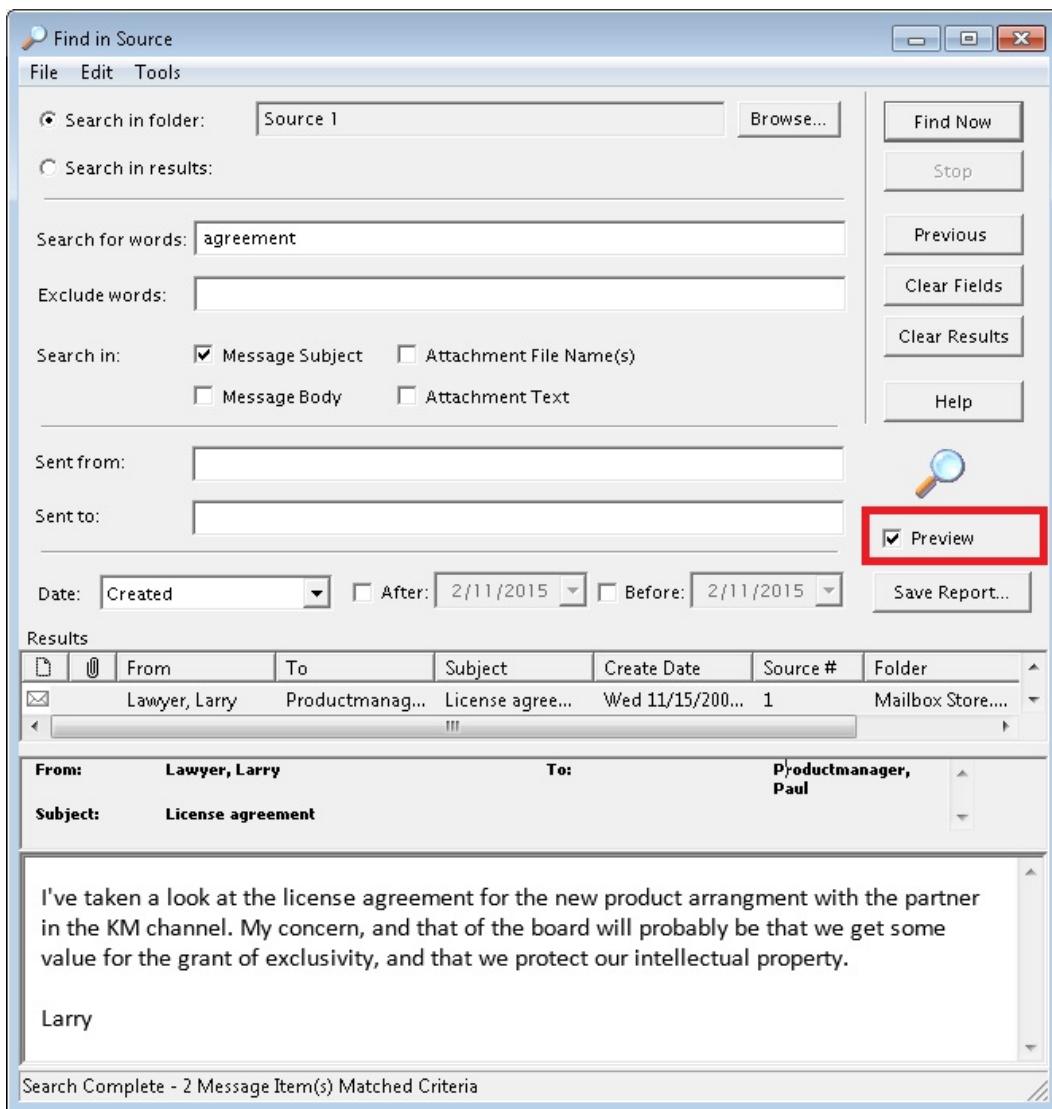


Figure 3-3: Checking the Preview option adds a message Preview pane

## 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 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 82](#).

### 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 82](#).

**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 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.

### Dragging a Message

Dragging 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 drag to a folder

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 155.](#)

#### 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.

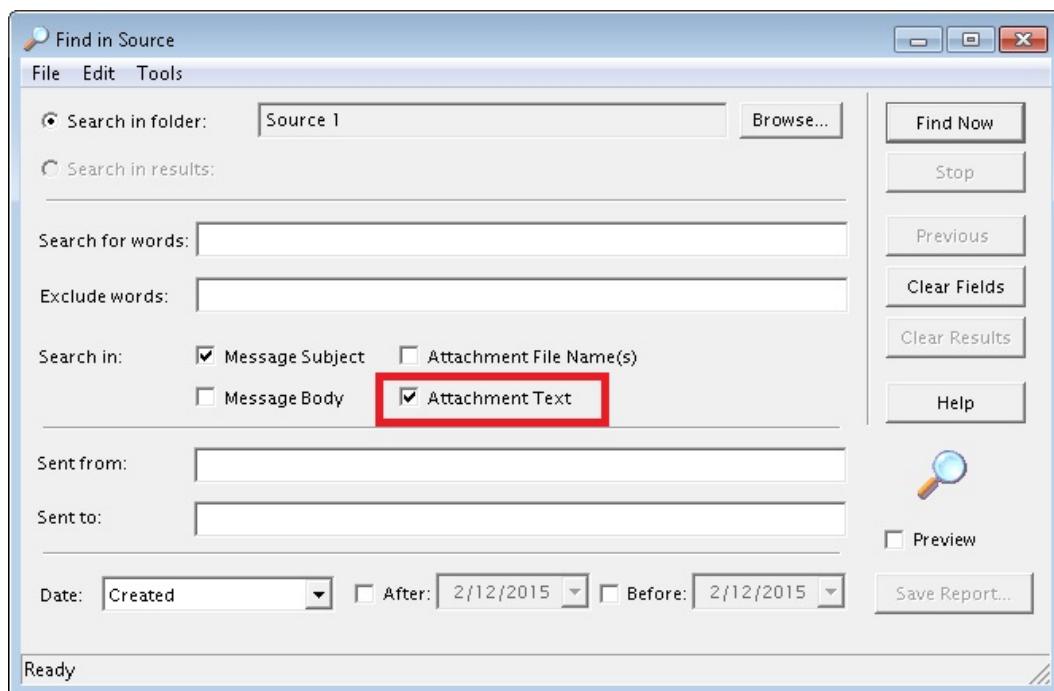


Figure 3-4: Select the Attachment Text option to include in your search

#### 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" on page 82](#)".
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 15](#) and ["Saving Attachments" on page 16](#).

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), Microsoft Office Outlook files (.msg), or Outlook Data files (.pst). For more information, see ["Exporting Messages" on page 95](#).

### To export message items from the Find window

1. In the **Find in Source** or **Find in Exchange Target** window, perform a search.
2. In the **Results** area, select the message items you want to export.
3. On the **Tools** menu in the **Find in Source** or **Find in Exchange Target** window, click **Export**.
4. In the **Export** window, specify options and click **Export**. For more information on the export options, see ["Exporting Messages" on page 95](#).

## 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 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 114](#).

## 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.

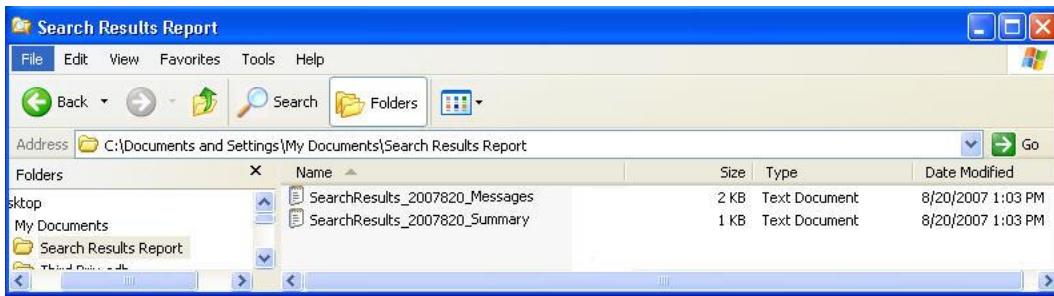


Figure 3-5: Summary and Messages Reports

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 or live target Microsoft Exchange Server to a local or network drive destination. Exported messages can be saved as Microsoft Office Outlook files (.msg), saved as plain text files (.txt), or become contents of a PST file. This can assist you in copying old email backups into an alternate or non-email system. You can export at all levels (mailbox, folder, and individual messages) for the corresponding file type.

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.

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

## General Information about Exporting Messages

- When saving exported message items as plain text files (.txt) or Microsoft Office Outlook files (.msg), the **file name** for an exported message is its subject. The file name for an exported organizational form is the form's name. When saving exported message items to Outlook Data files (.pst), the file name is either based on the name of the mailbox or set by the user depending on the level of the source being exported. 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 later **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 (1/22/2009)"
- If you use the "Mailbox Criteria (optional)" box on the Source Selection page of the Data Wizard, 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 included in any subsequent tasks (such as searching, copying, and exporting of the entire database). For more information, see "["Mailbox Criteria" on page 30](#)".

- If you use the "Multi-Tenancy Criteria" box on the Source Selection page of the Data Wizard, the Connect to Exchange Server dialog box, or the Target Selection page of the Data Wizard, 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 31.

## 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) or 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 at all levels of the following:

- Off-line private store EDB files
- Off-line public store EDB files (Microsoft Exchange Server 2010 and earlier)
- CAS files
- PST files

You can also export to PST files from a target and source Find window. For more information, see "[Exporting to PST](#)" on page 103.

## Exporting Messages

You can export an EDB file, a source PST file, a source CAS file, a source CAS profile folder, mailboxes, folders, messages, and a live Microsoft Exchange Server target.

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

The section explains how to perform the following export tasks from the Single Mailbox Recovery main window:

- "To export an entire source private EDB file, mailbox, or PST file" on page 97
- "To export a source PST folder, a folder, a CAS file, a profile CAS folder, or a public EDB file" on page 98
- "To export a mailbox or a folder from a Microsoft Exchange Server target" on page 99
- "To export individual source or target messages" on page 101
- "To export individual messages from the Find window to a TXT or MSG file" on page 102

### To export an entire source private EDB file, mailbox, or PST file

1. In the Source pane, select the root of the EDB file, mailbox, or PST 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** , or **Export Mailbox** window appears.

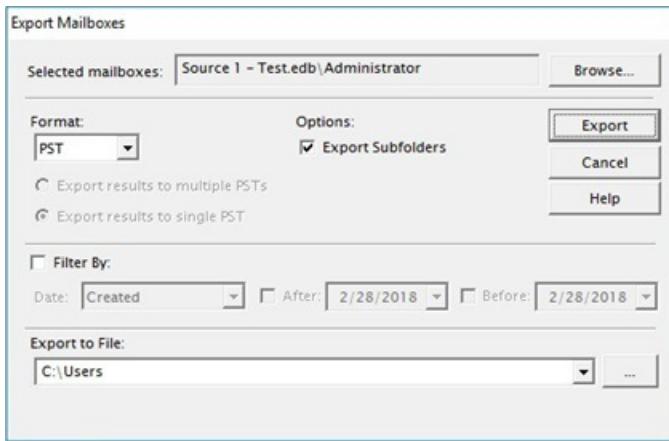


Figure 4-1: PST, MSG, or TXT format can be selected for export

3. If you want to export multiple objects (mailboxes, PST files), click **Browse** and in the Selected Mailboxes dialog box, select the mailbox or PST file you want to export, then click **Ok**. (You can select more than one).
4. In the **Format** box, select **PST**, **MSG**, or **TXT**. If you selected **PST**, **Export results to multiple PSTs** is selected by default.
5. If you want to limit the documents exported by when an action was performed (such as Received, Sent, or Due), select **Filter By** and do the following:
  - In the **Date** box, select an action performed on the document.
  - For **After** and **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. **After** searches for documents created on or after the selected date. **Before** searches for documents created on or before the selected date.

6. In the **Export to Folder** or **Export to File** box, specify the location of the exported EDB file.
7. Click **Export**.
8. In the **Export Progress** window, verify the EDB file was successfully exported, and click **Close**.

**To export a source PST folder, a folder, a CAS file, a profile CAS folder, or a public EDB file**

1. In the Source pane, select a PST folder, a folder, a CAS file, a profile CAS folder, or a public EDB file root.
2. Do one of the following:
  - On the **Tools** menu, click **Export**.
  - On the toolbar, click the **Export** icon .
  - Right-click a PST folder, a folder, a CAS file, a profile CAS folder, or a public EDB root, and on the shortcut menu, click **Export**. The **Export EDB**, **Export Folder**, or **Export CAS** window appears.

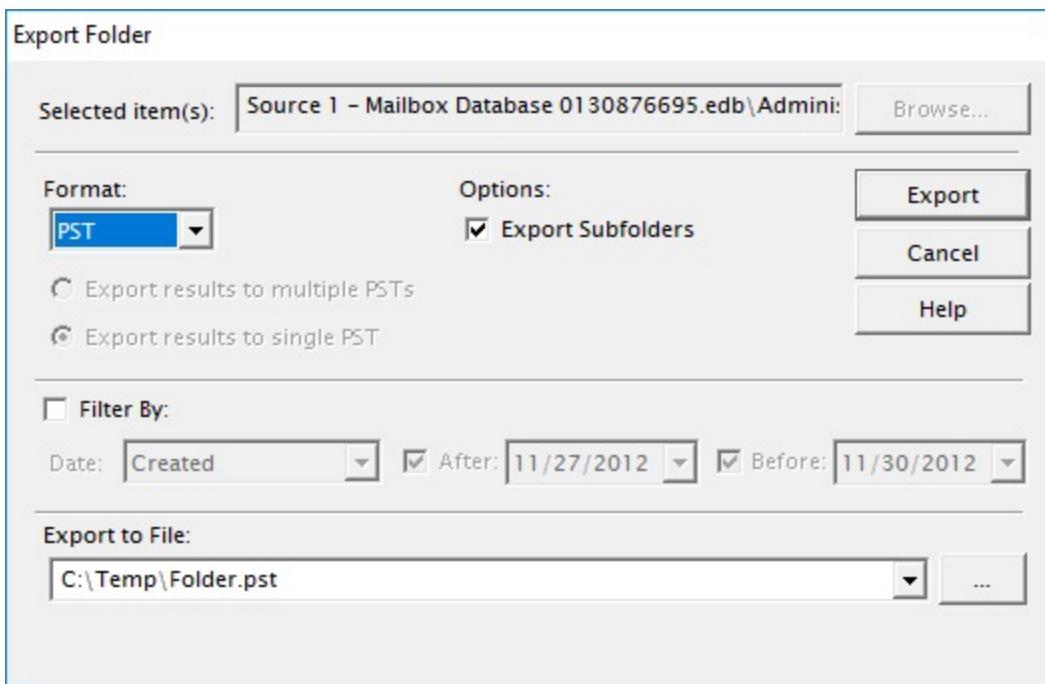


Figure 4-2: Export Folders window

3. In the **Format** box, select **PST**, **MSG**, or **TXT**.
4. In the **Export to File** or **Export to Folder** box, do one of the following:
  - If you selected the **PST** format, enter the name of the resulting PST file. If you are exporting a mailbox, the name of the PST file defaults to the name of mailbox (which can be modified).

- If you selected the MSG or TXT format, enter the location of the exported mailbox, folder, or public EDB file.

5. Select the **Export Subfolders** check box if you want to export all of the subfolders for the selected mailbox or folder.

**Note:** This option is selected automatically when exporting the EDB public root.

6. If you want to limit the documents exported by when an action was performed (such as Received, Sent, or Due), select **Filter By** and do the following:
  - In the **Date** box, select an action performed on the document.
  - For **After** and **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.
   
**After** searches for documents created on or after the selected date. **Before** searches for documents created on or before the selected date.
7. Click **Export**.
8. 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. For PSTs, the exported mailbox or folder is included in the PST file.

#### **To export a mailbox or a folder from a Microsoft Exchange Server target**

1. In the Target pane, select a PST file, a mailbox or a profile CAS folder, or the public EDB file root.
2. Do one of the following:
  - On the **Tools** menu, click **Export**.
  - On the toolbar, click the **Export** icon .
  - Right-click the mailbox, folder, or public EDB root, and on the shortcut menu, click **Export**. The **Export Mailbox** or **Export Folder** window appears.

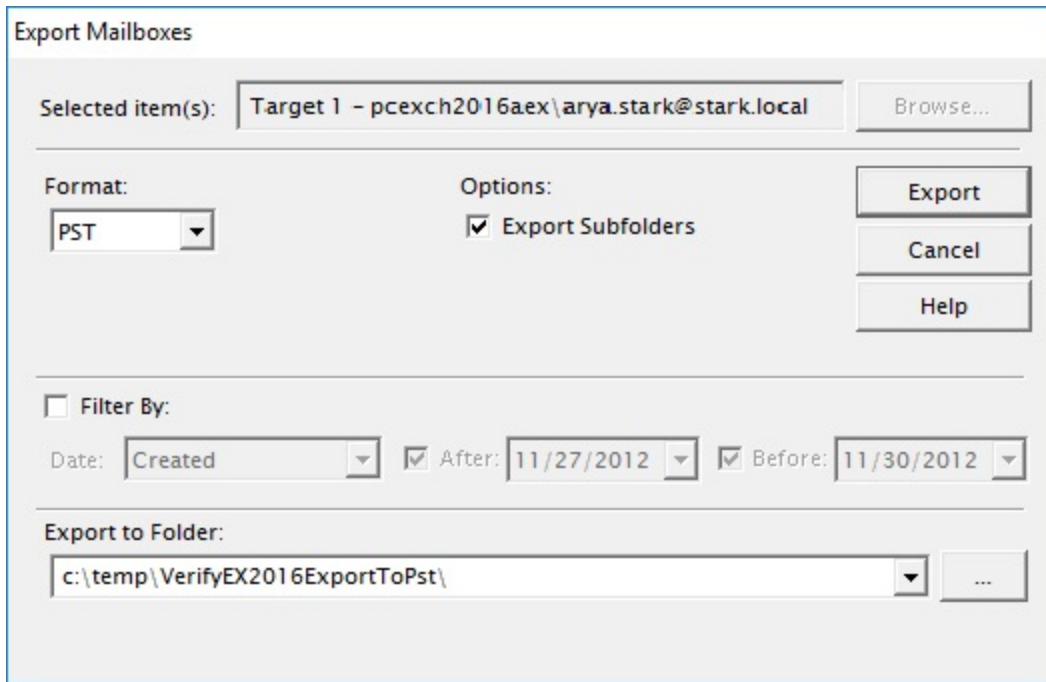


Figure 4-3: Export Mailboxes window

3. In the **Format** box, select **PST**, **MSG**, or **TXT**.
4. In the **Export to File** or **Export to Folder** box, do one of the following:
  - If you selected the *PST* format, enter the name of the resulting *PST* file. If you are exporting a mailbox, the name of the *PST* file defaults to the name of mailbox (which can be modified).
  - If you selected the *MSG* or *TXT* format, enter the location of the exported mailbox, folder, or public *EDB* file.
5. Select the **Export Subfolders** check box if you want to export all of the subfolders for the selected mailbox or folder.

**Note:** This option is selected automatically when exporting the *EDB* public root.
6. If you want to limit the documents exported by when an action was performed (such as Received, Sent, or Due), select **Filter By** and do the following:
  - In the **Date** box, select an action performed on the document.
  - For **After** and **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.  
**After** searches for documents created on or after the selected date. **Before** searches for documents created on or before the selected date.
7. Click **Export**.
8. 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. For *PSTs*, the exported mailbox or folder is included in the *PST* file.

## To export individual source or target messages

1. In the Source or Target 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.

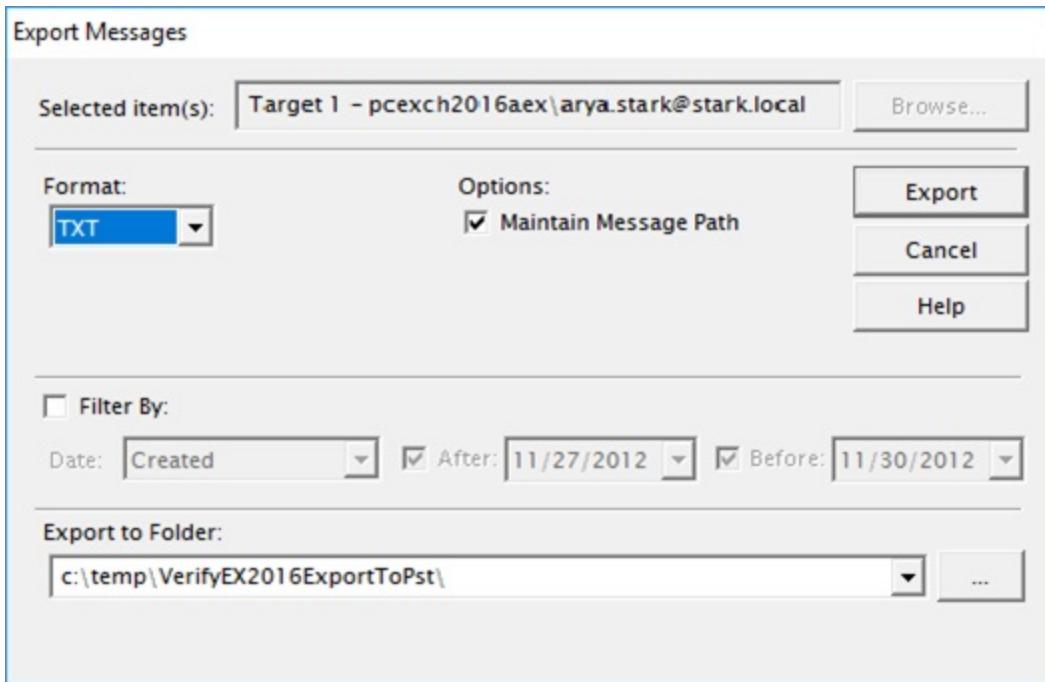


Figure 4-4: PST, MSG, or TXT format can be exported

3. In the **Format** box, select **PST**, **MSG** or **TXT**.
4. Select the **Maintain Message Path** option if you want to maintain the directory structure of the exported messages.
5. If you are exporting message from the Source pane to PST, you can also select **Skip mailbox folder** to merge the exported message into the resulting PST without maintaining the mailbox folder.
6. If you want to limit the documents exported by when an action was performed (such as Received, Sent, or Due), select **Filter By** and do the following:
  - In the **Date** box, select an action performed on the document.
  - For **After** and **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.  
**After** searches for documents created on or after the selected date. **Before** searches for documents created on or before the selected date.
7. In the **Export to File** or **Export to Folder** box, do one of the following:

- If you selected the **PST** format, enter the name of the resulting PST file.
- If you selected the **MSG** or **TXT** format, enter the location of the exported mailbox, folder, or public EDB file.

8. Click **Export**.
9. In the **Export Progress** window, verify the mailbox or folder was successfully exported, and click **Close**. The messages appear in the specified location. For PSTs, the exported mailbox or folder is included in the PST file.

#### To export individual messages from the Find window to a TXT or MSG file

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. In the **Format** box, select **MSG** or **TXT**.

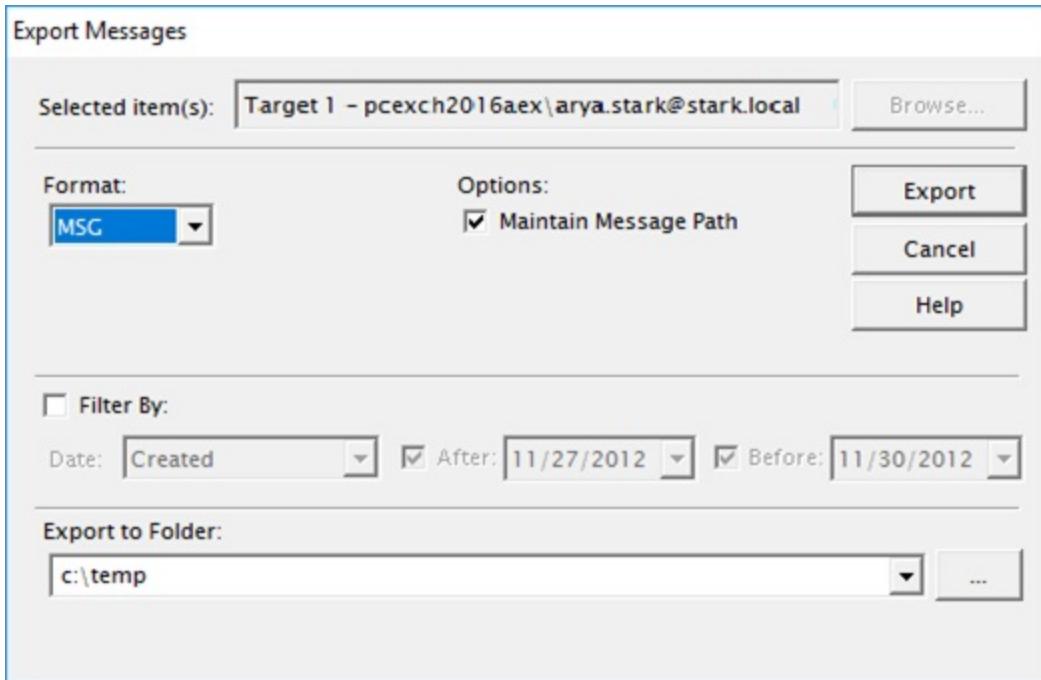


Figure 4-5: Exporting the MSG or TXT format

4. If you want to maintain the directory structure of the exported messages, select the **Maintain Message Path** option.
5. If you want to limit the documents exported by when an action was performed (such as Received, Sent, or Due), select **Filter By** and do the following:
  - In the **Date** box, select an action performed on the document.
  - For **After** and **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.

**After** searches for documents created on or after the selected date. **Before** searches for documents created on or before the selected date.

6. In the **Export To Folder** box, specify the location for the exported messages.
7. Click **Export**.
8. In the **Export Progress** window, verify your messages were successfully exported, and click **Close**. The messages appear in the specified location.

## Exporting to PST

You can export to a PST file from the Source and Target panes, the Source and Target Message lists, and the Source and Target Find windows.

### Exporting to PST from the Source Pane

When exporting to PST from the Source Pane, follow the instructions **To export individual source or target messages** in ["Exporting Messages" on page 96](#).

In the Export to File or Export to Folder box, enter the name of the resulting PST file. The exported mailbox or folder is included in the PST file.

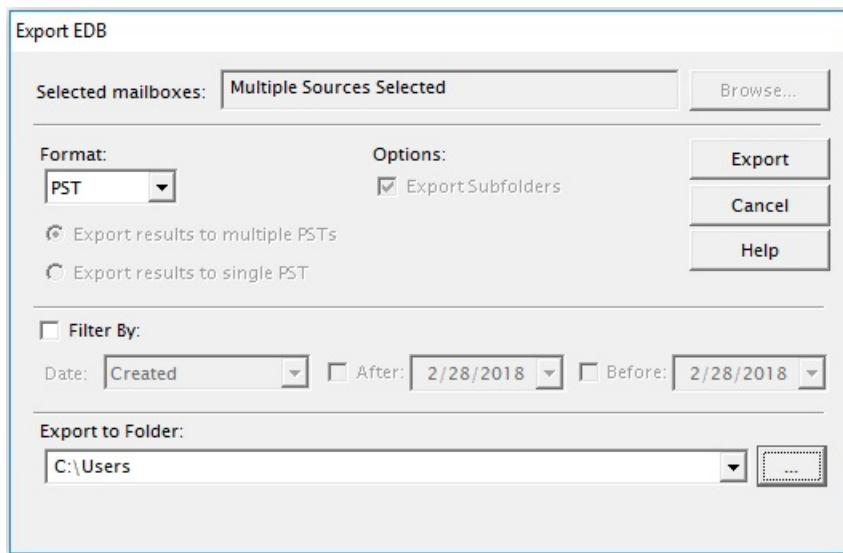


Figure 4-6: Exporting to PST from the Source Pane

### Exporting to PST from the Target Pane

When exporting to PST from the Target Pane, follow the instructions **To export a mailbox or a folder from a Microsoft Exchange Server target** in ["Exporting Messages" on page 96](#).

If you want to export all of the subfolders for the selected mailbox or folder, select the **Export Subfolders** check box.

**Note:** You can only export a single mailbox on the target, not multiple mailboxes.

In the Export to File or Export to Folder box, enter the name of the resulting PST file. The exported mailbox or folder is included in the PST file.

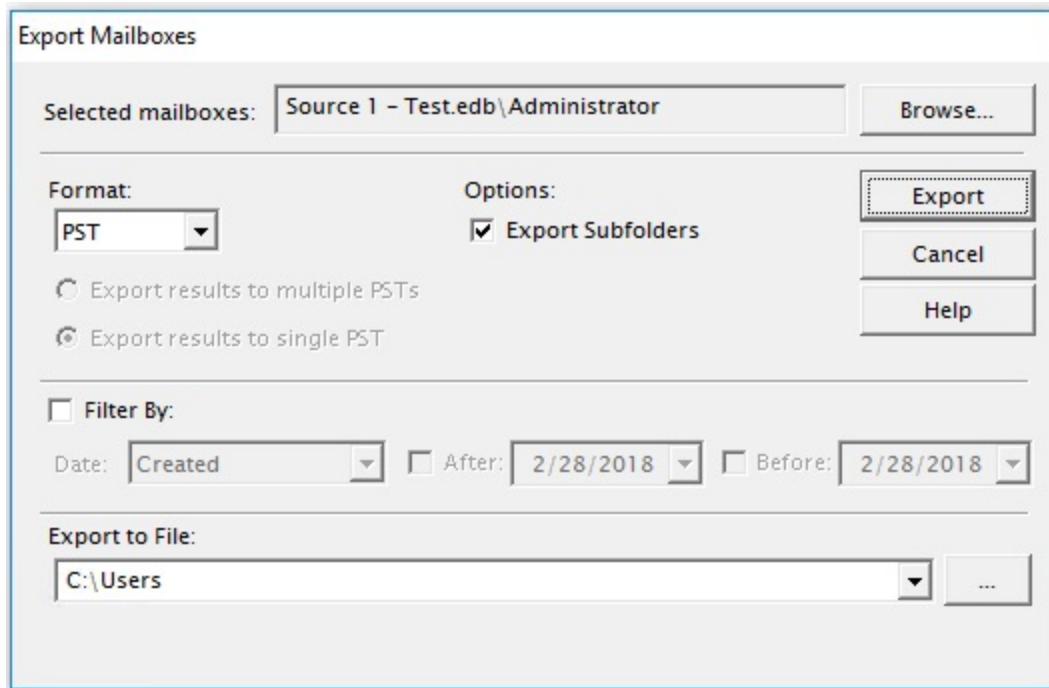


Figure 4-7: Exporting to PST from the Target Pane

## Exporting to PST from the Message List

When exporting messages from the Message List view, you can use the Skip Mailbox Folder option on the Export dialog box to merge the exported message into the resulting PST without maintaining the mailbox folder.

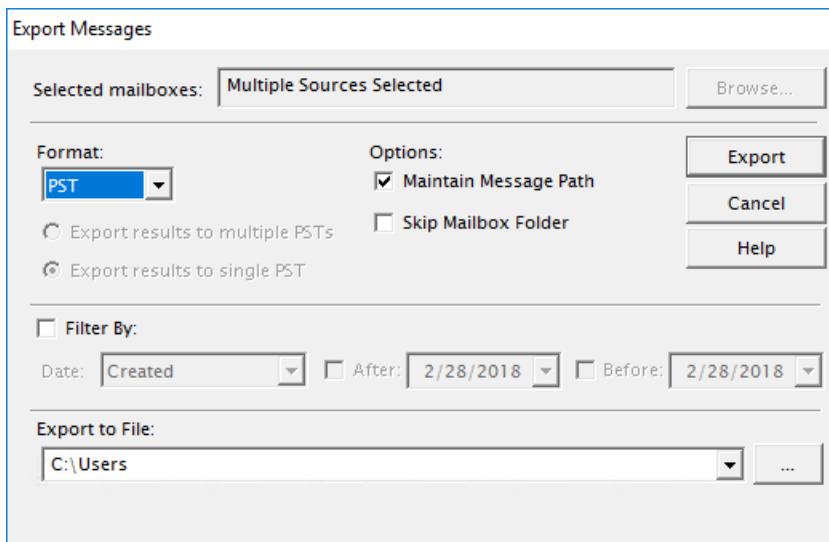


Figure 4-8: Exporting to PST from the Message List

## Exporting to PST from the Find Window

The following two options are available when exporting to PST from the Find window.

- **Export results to multiple PSTs:** If selected, search results are exported based on which mailbox or CAS profile folder they were originally stored in. One PST will be created for every mailbox and CAS profile folder. If **Maintain Message Path** is also selected, the directory structure of the exported messages inside PST is maintained. In such cases, PST files receive the name of the respective mailbox or CAS profile folder in which the messages were found. Exported public EDB files are named "All Public Folders.pst."
- **Export results to single PST:** If selected, search results are exported to a single PST. If **Maintain Message Path** is also selected, the directory structure of the exported messages inside PST is maintained. If **Merge Mailboxes** is selected, results are exported to a single PST file with all the standard PST folders. With **Export results to a single PST**, you can choose a name for a PST file.

### To export individual messages from the Find window to a PST file

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. In the **Format** box, select **PST**.

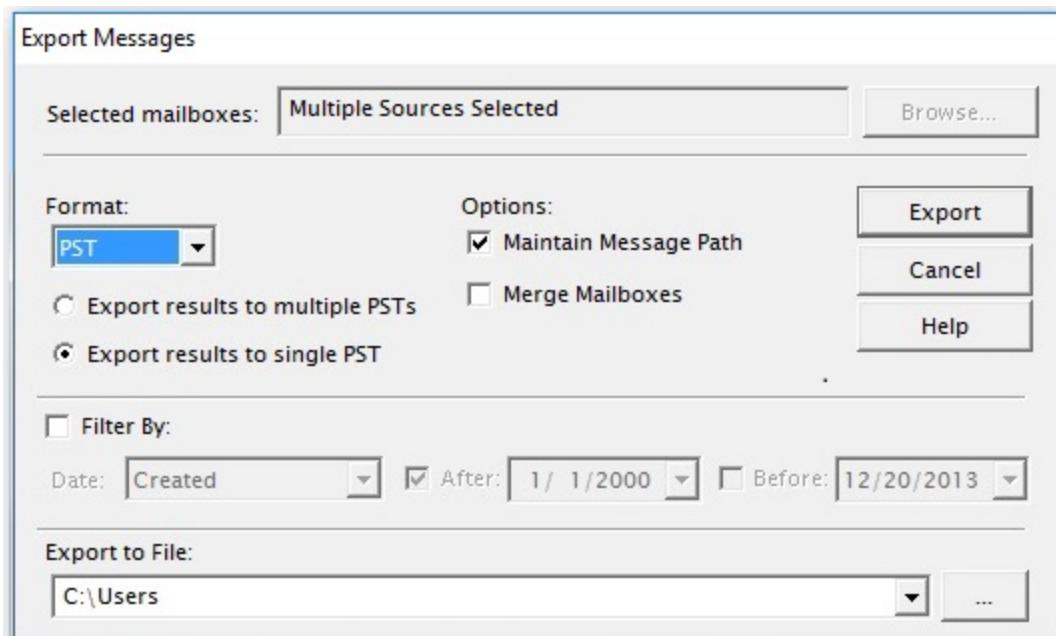


Figure 4-9: Exporting the PST format

4. In the **Export to File** box, specify the location for the exported messages.
5. Do one of the following:

- To export all of the selected messages to one PST, choose **Export results to single PST**.
- To export messages from different mailboxes, CAS profiles, or public folders in respectively named separate PST files, choose **Export results to multiple PSTs**.

6. If you want to maintain the directory structure of the exported messages, select the **Maintain Message Path** option.
7. If you selected **Export results to single PST** you can choose **Merge Mailboxes**. This option removes the mailbox level from the directory structure of the exported messages. For more information, see the Scenarios section that follows.
8. If you want to limit the documents exported by when an action was performed (such as Received, Sent, or Due), select **Filter By** and do the following:
  - In the **Date** box, select an action performed on the document.
  - For **After** and **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. **After** searches for documents created on or after the selected date. **Before** searches for documents created on or before the selected date.
9. Click **Export**.
10. In the **Export Progress** window, verify your messages were successfully exported, and click **Close**.

When exporting message from the Source pane, you can also use the **Skip Mailbox Folder** option on the Export dialog box. This option merges the exported message into the resulting PST without maintaining the mailbox folder.

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

## Scenarios

### Scenarios for exporting multiple mailboxes from the Find Window to a single PST

#### Scenario 1

A folder with the mailbox name for every mailbox in which messages are found is created in the new PST. The message path is maintained, even if the higher level folder does not contain messages. The PST name is created by the user.

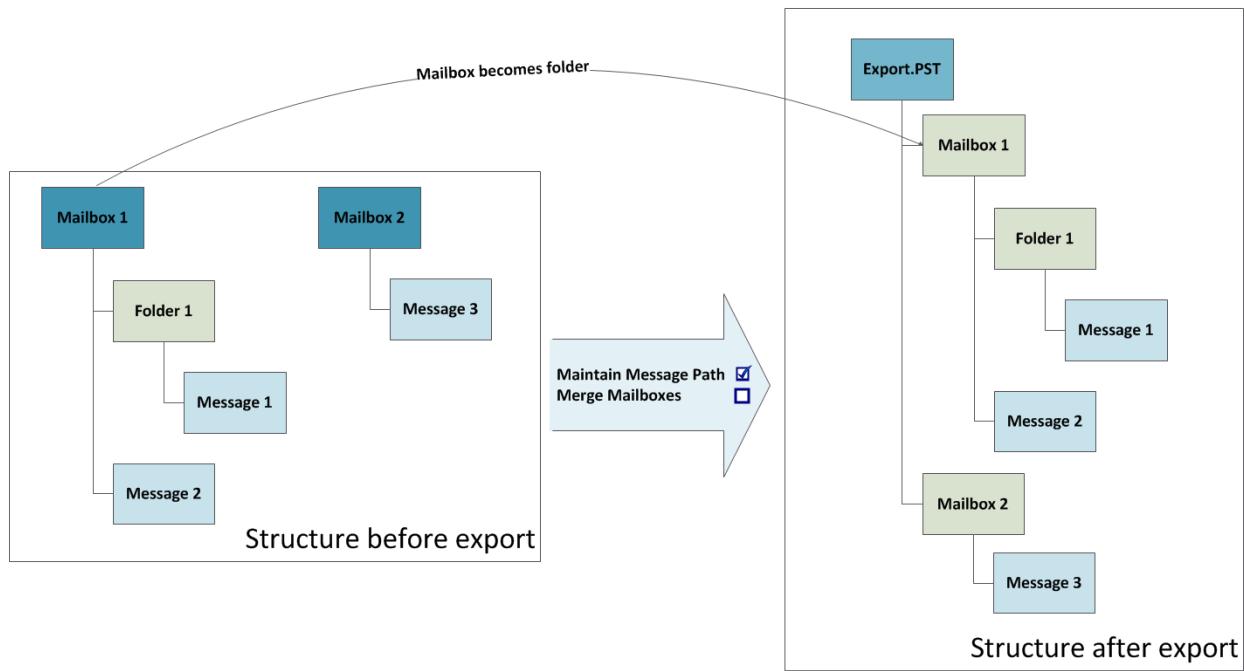


Figure 4-10: Scenario 1

## Scenario 2

Folders in which messages are found are created in the resulting PST. The message path is maintained from the root level (even if the higher level folder does not include messages). Mailbox names are removed. If the folder already exists, the messages found in a different folder with the same name and at the same hierarchy level are placed in the existing folder in the resulting PST. The PST name is created by the user.

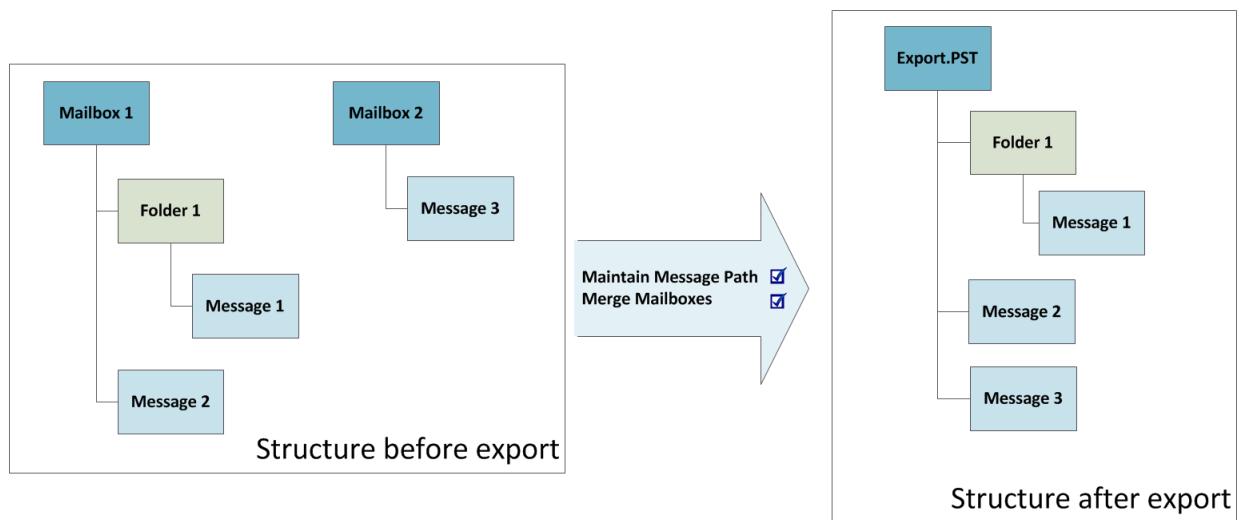


Figure 4-11: Scenario 2

### Scenario 3

All messages found are exported to the PST at the root level. The PST name is created by the user.

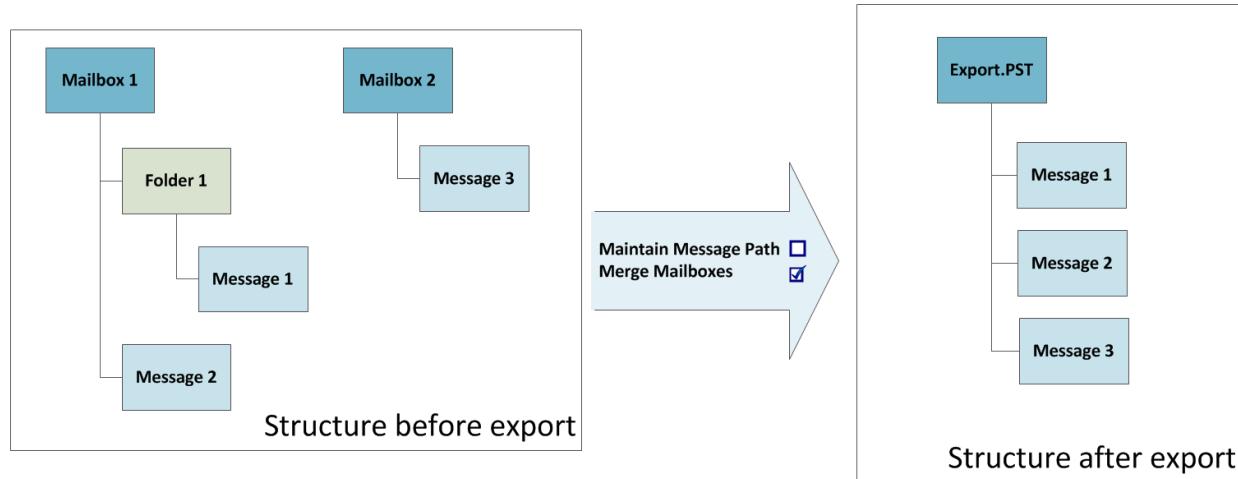


Figure 4-12: Scenario 3

### Scenario 4

A folder with the mailbox name for every mailbox in which messages are found is created in a new PST. Messages found in these mailboxes reside in these new mailbox folders, without the folder structure in which they were located originally. PST name is created by the user.

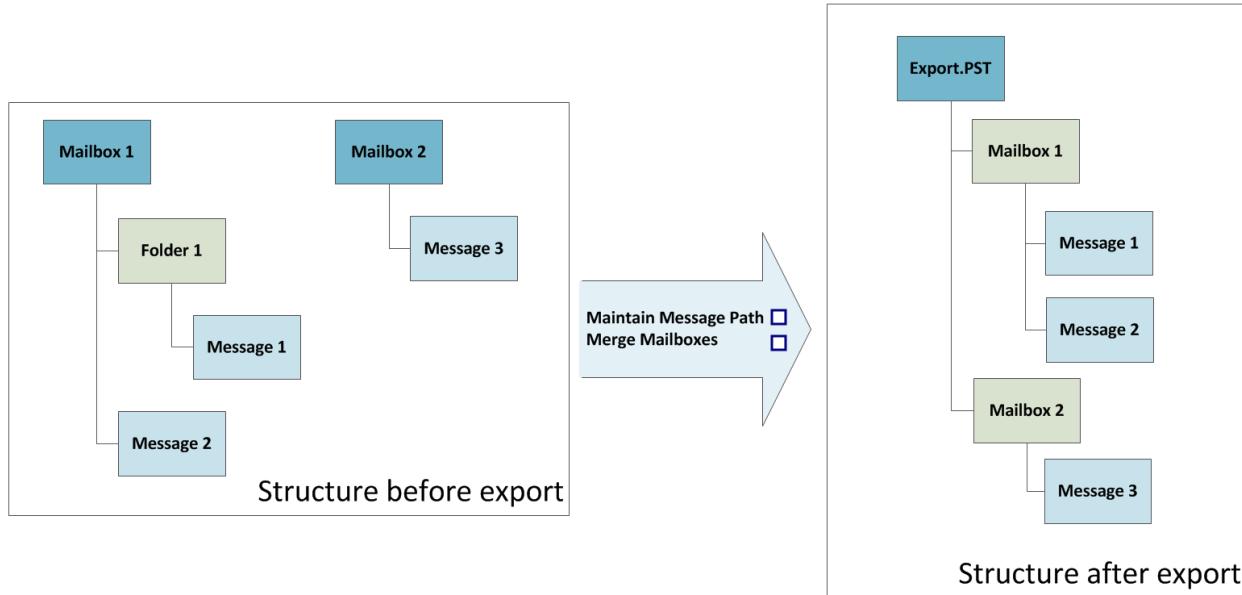


Figure 4-13: Scenario 4

## Scenarios for exporting multiple mailboxes from the Find Window to multiple PSTs

### Scenario 5

All the folders with messages found are created, starting from the first PST level folder and not the mailbox name. PST is named after the corresponding EDB mailbox name.

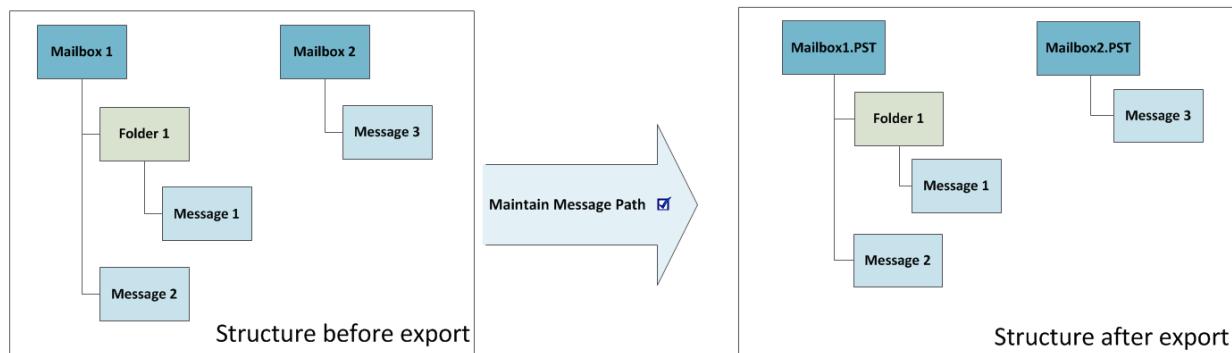


Figure 4-14: Scenario 5

### Scenario 6

All the messages are located in the root of the PST. PST is named after the corresponding EDB mailbox name.

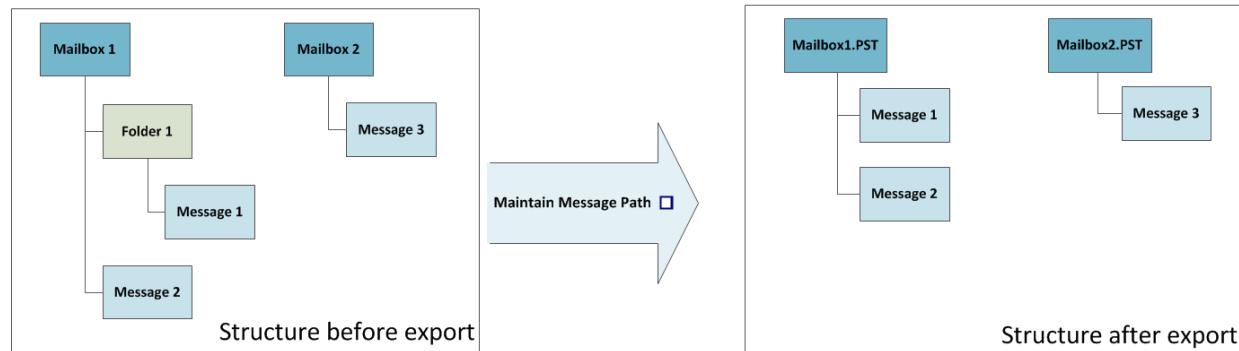


Figure 4-15: Scenario 6

## Using an Exported PST

### To use an exported PST

1. Navigate to where the PST was created.
2. Drag the PST into Single Mailbox Recovery in either the source or the Target pane. The **Select Source Files** window appears.
3. In the **Select Source Files** window, click **OK**.

The PST now appears in the target or source directory.

## Appending Messages to Existing PST Files

You can configure Single Mailbox Recovery to append messages to existing PST files. Selecting the **Append to existing PST files during export** option on the Preferences dialog box updates previously exported PST files with new messages from the export process.

If this option is cleared, Single Mailbox Recovery does not append messages to an existing PST file, but creates a new PST file with a number in parenthesis added to the name of the exported PST file. For example, if John Doe.pst already exists, a new PST files is created and named John Doe(1).pst. If John Doe(1).pst also exists, then the most recently exported PST would be named John Doe(2).pst.

**Note:** You can only append messages to existing PST files which are not password protected.

### To append messages to existing PST files

1. On the **Edit** menu, click **Preferences**, then click **General**.
2. On the General tab of the Preferences dialog box, select **Append to existing PST files during export** and click **OK**.
3. Perform the export to PST. For more information, see [To export to PST in "Exporting Messages" on page 96](#)
4. Do one of the following:
  - If you selected Export results to single PST, choose the existing PST file to which you want to append the new messages.
  - If you selected Export results to multiple PSTs, choose a folder with PSTs you exported previously,
5. In the Export Progress window, verify new messages were successfully added to existing PST, then click **Close**.

**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 116](#)

## Setting a Global Limit for PST Files

When exporting PST files, you can define the maximum size of single Unicode PST file using the Target Options tab of the Preference dialog box or the Command Line.

### Target Options tab

When **Limit maximum PST file size** is selected, Single Mailbox Recovery automatically creates a new PST file when the size in the **MB** field is reached during export. Single Mailbox Recovery saves the processed PST file with its original name and creates the next file with the same name and a \_001.pst suffix, with the folders structure similar to the original file. Single Mailbox Recovery then continues exporting messages to the newly created \_001.pst file, saves it at the maximum size, and continues the process, increasing the numbered suffix (\_001.pst, \_002.pst, \_003.pst ...) until the entire original PST file is exported.

Single Mailbox Recovery appends files to existing ones also enforces the global size limit so it tries to add files into existing pst file and if it reaches size limit it overflows to another file.

If files are present from a previous PST file export in which where size limit was reached (For example, OriginalFileName.pst, OriginalFileName001.pst, and OriginalFileName002.pst) Single Mailbox Recovery exports files to OriginalFileName002.pst until the limit is reached and continues, creating OriginalFileName003.pst.

**Note:** Microsoft supports PST files up to 47.5GB with an absolute limit of 50GB, so the MB field should not exceed 48640.

## 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**.

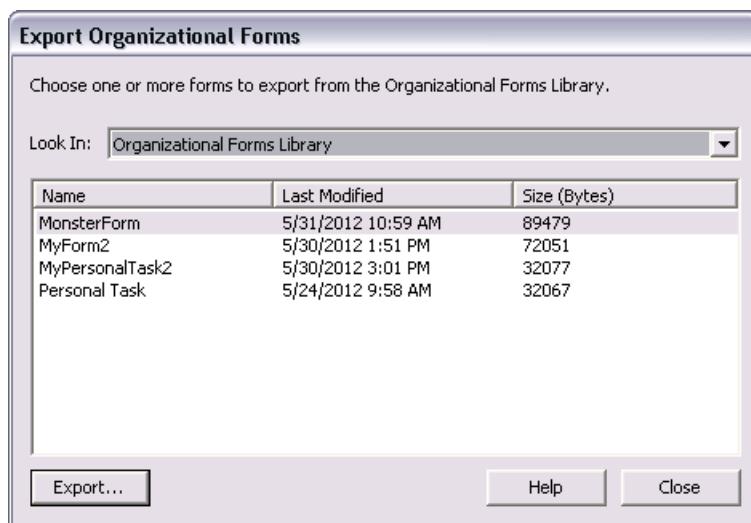


Figure 4-16: Export Organizational Forms dialog box

3. In the **Look In** drop list, 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, 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 4-17: 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

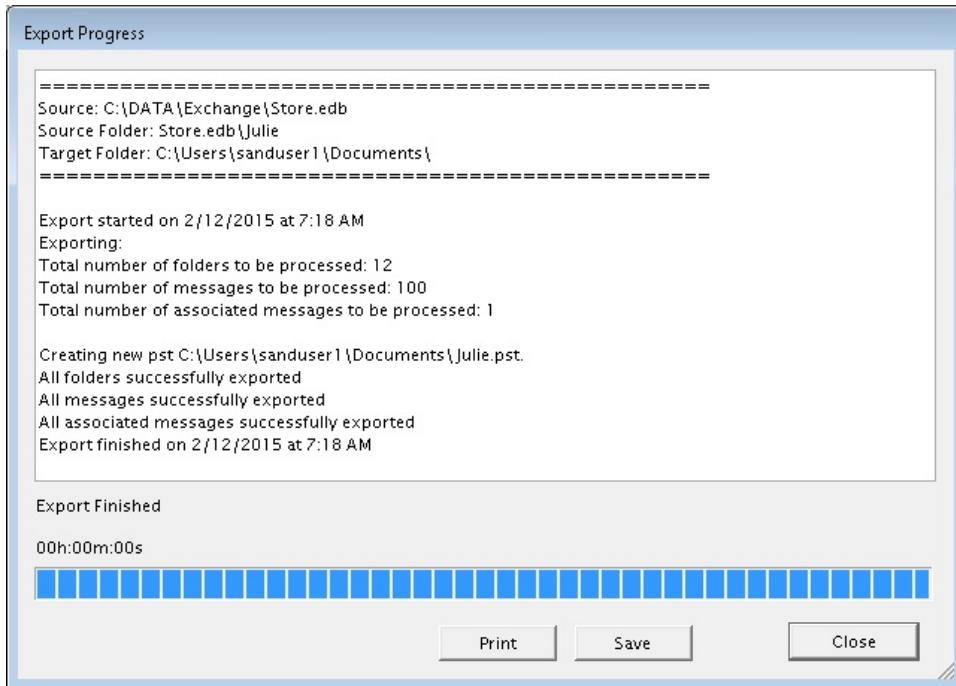


Figure 4-18: The export progress is shown

**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 Selection page of the Data Wizard, 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 30](#).

**Note:** If you use the "Multi-Tenancy Criteria" box on the Select Source Files dialog box, the Source Selection page of the Data Wizard, the Connect to Exchange Server dialog box, or the Target Selection page of the Data Wizard, 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 31](#).

## 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 or use the Copy and Paste/Paste Special commands.

- ["Restoring Your Microsoft Exchange Server Data in Three Easy Steps" on page 115](#)
- ["Limits for PST and Folder Targets" on page 116](#)
- ["About Restoring Messages to a Microsoft Exchange Server" on page 116](#)

- "About the Copy Progress Window" on page 117
- "Creating, Renaming, and Deleting Folders in the Target Pane" on page 117
- "Copying and Pasting or Dragging" on page 118

## 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 by dragging

- **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:

### Global Limits for PST Limit

The global limit can be set for any PST file. For more information, see ["Setting a Global Limit for PST Files" on page 110](#).

### 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 **Target 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.

### Restoring Messages to Microsoft Exchange Server 2007 and later

In Microsoft Exchange Server 2007 and later, 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

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 116](#).

## 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

In Single Mailbox Recovery, you can restore data to the Target pane by using Copy-Paste, Copy-Paste Special, or dragging.

**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.
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 119](#).



- Click the **Paste** icon  on the toolbar.
- Press **Ctrl+V** (Paste) or **Ctrl+Y** (Paste Special).

#### To drag an item to the Target pane

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

#### To use drag 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 120](#).

## 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 dragging 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 drag or copy and paste to restore individual messages to a folder in the Target pane.
- You cannot drag or copy and 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.

- Dragging or copying and pasting 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 120](#).

#### 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.

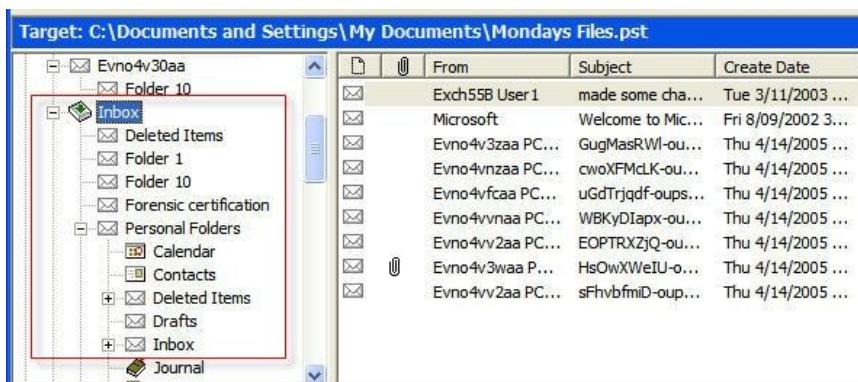


Figure 5-1: Results of using Paste Special on a target Microsoft Exchange Server mailbox

### 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 116](#).

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 dragging achieves the same results.

### Guidelines for Restoring a Folder

- You can drag or copy and 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 dragging achieves the same results.

### Guidelines for Restoring a Mailbox

- You can drag or copy and 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 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 116](#).

- 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 dragging 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 drag or copy and 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 116](#).

### 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 displays 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 or later 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 or later 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

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 or later 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.

**Note:** Only message containers (such as 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 Syntax

The syntax is as follows:

<>> Required for all operations

<> Required for copy/export operations

[ ] Optional

### Command Line Syntax

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

#### <>>

-copy

Copy source selection to the data store specified by the Target details.

-export

Export source selection, creating a new item type specified by the -f option, in the specified Target Folder Path.

-list

List top level folders or mailboxes for source selection.

-integ

Perform integrity check of source selection.

-h

Open the Command Line options help.

#### [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>)

Force 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 options]**

**-f: <format option>**

The format option will be the data type created during an **-export** command.

msg

Export message as .msg (.msg is the default).

txt

Export message as .txt.

pst

Export message to a PST.

**-p: <format option>**

97

Create a 97-2002 style PST (ANSI) during export.

2003

Create a 2003 style PST (Unicode) during export.

**Note:** See "[Exporting Messages](#)" on page 95 for further detail.

**-r**

Include all subfolders of source selection in the export/copy function .

**-d:<date criteria>**

received

sent

```
due
expires
created
modified
starts
ends
completed
-da <mm/dd/yyyy>
    Process messages dated on or after this date
-db <mm/dd/yyyy >
    Process messages dated on or before this date.
-o <path ending with output filename>
    Generate a process log.
```

-v

Write verbose data to the output file (-o c:\output.txt).

**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.

### **<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>
```

Filter available mailboxes by text string. Use ; to separate multiple strings.

**Note:** For more information, see "["Mailbox Criteria" on page 30.](#)

-a

Automatically open the specified EDB source and view it in the source tree without using the Data Wizard.

### **< Source Folder Path >**

The internal path to the desired data; the mailbox to the source folder, profile folder, or \$ROOT for all folders.

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@domain.local).

If specifying multiple folders or mailboxes, separate their names with a pipe “ | ” symbol (for example, folder1 | folder2 | folder3).

**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 31](#)".

#### <Target Store>

The ServerName;mailbox , path to folder, or Full path and name of PST.

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

**Note:** The Target Store is not needed for export. Default path for output will be the current path of the command line.

#### [Target options]

-pub

Connects 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>**

Target destination: the full path, including mailbox to the target folder to be copied/exported to, **\$ROOT** for root datastore folder, or **\$PUBLIC\_ROOT** for root of "All Public Folders".

\$ROOT

# 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  <b>Note:</b> 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

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

<b>[Target Options]</b>	
-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
<b>&lt;Outlook Anywhere Required Options&gt;</b>	
-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
<b>[Outlook Anywhere Options]</b>	
-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

<b>&lt;Target Folder Path&gt; — required for copy and export operations</b>	
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"	<p><b>Note:</b> 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.</p>

# Examples of Using the Command Line

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

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

```
smbr c:\ExchangeDb.edb -l c:\Log_Dir -t c:\Temp_Dir
```

<Operation>	Explanation
	Pre-populate the EDB file, log and temp path fields of the open source dialog
<Source Store>	Explanation
c:\ExchangeDb.edb	Path to the EDB file
-l c:\Log_Dir	Log file path
-t c:\Temp_Dir	Temporary file path

**Example 2:** Open an EDB file from the command line without using the Data Wizard.

```
smbr c:\ExchangeDb.edb -l c:\Log_Dir -t c:\Temp_Dir -a
```

<Operation>	Explanation
c:\ExchangeDb.edb	Path to the EDB file
-l c:\Log_Dir	Log file path
-t c:\Temp_Dir	Temporary file path
-a	Automatically open the source without using the Data Wizard

**Example 3:** Copy mbxUser 's Inbox and all subfolders from c:\ExchangeDb.edb to the Inbox in c:\Target.pst. c:\OutputReport.txt will contain the copy report.

```
smbr -copy -r -o c:\OutputReport.txt c:\ExchangeDb.edb -l c:\LogDir -t c:\TempDir mbxUser\inbox c:\Target.pst $ROOT
```

<Operation>	Explanation
-copy	Perform a copy operation
[Operation options]	Explanation
-r	Copy subfolders
-o c:\OutputReport.txt	Output report file name
<Source Store>	Explanation
c:\ExchangeDb.edb	Path to the database file name
[Source options]	Explanation

<Operation>	Explanation
-l c:\LogDir	Log file path
-t c:\TempDir	Temporary file path
<Source Folder Path>	<b>Explanation</b>
mbxUser\inbox	Source folder to copy
<Target Store>	<b>Explanation</b>
c:\target.pst	Target data store
<Target Folder Path>	<b>Explanation</b>
\$ROOT	Copy to the root folder of the data store

**Example 4:** Copy mbxUser's Inbox and all subfolders from c:\ExchangeDb.edb to mbxUser's Inbox on an active Microsoft Exchange Server ExchangeTarget. c:\OutputReport.txt will contain the copy report.

```
smbr -copy -r -o c:\OutputReport.txt c:\ExchangeDb.edb -l c:\LogDir -t
c:\TempDir mbxUser\inbox ExchangeTarget;mbxUser inbox
```

<Operation>	Explanation
-copy	Perform a copy operation
<b>[Operation options]</b>	<b>Explanation</b>
-r	Copy subfolders
-o c:\OutputReport.txt	Output report file name
<Source Store>	<b>Explanation</b>
c:\ExchangeDb.edb	Path to the database file name
<b>[Source options]</b>	<b>Explanation</b>
-l c:\LogDir	Log file path
-t c:\TempDir	Temporary file path
<Source Folder Path>	<b>Explanation</b>
mbxUser\inbox	Source folder to copy
<Target Store>	<b>Explanation</b>
ExchangeTarget;mbxUser	Target data store (Microsoft Exchange Server name and logon ID)
<Target Folder Path>	<b>Explanation</b>
inbox	Copy to the inbox

**Example 5:** Export mbxUser's mailbox and all subfolders from ExchangeDb.edb as text to c:\ExportDir.

```
smbr -export -r -f:txt -o c:\OutputReport.txt c:\ExchangeDb.edb -l c:\LogDir
-t c:\TempDir mbxUser c:\ExportDir
```

<Operation>	Explanation
-export	Perform an export operation
<b>[Operation options]</b>	<b>Explanation</b>
-r	Export subfolders
-f:txt	Messages will be exported as .txt
-o c:\OutputReport.txt	Export report file name
<b>&lt;Source Store&gt;</b>	<b>Explanation</b>
c:\p cdata.edb	Path to the database file name
<b>[Source options]</b>	<b>Explanation</b>
-l c:\LogDir	Log file path
-t c:\TempDir	Temporary file path
<b>&lt;Source Folder Path&gt;</b>	<b>Explanation</b>
mbxUser	Source folder to copy
<b>&lt;Target Store&gt;</b>	<b>Explanation</b>
c:\ExportDir	Target data store

**Example 6:** Provides information on the databases including a list of mailboxes.

```
smbr -list -o c:\mblist.txt c:\ExchangeDb.edb -l c:\LogDir -t c:\TempDir
```

-list	Perform a list operation
<b>[Operation options]</b>	<b>Explanation</b>
-o c:\mblist.txt	Output report file name
<b>&lt;Source Store&gt;</b>	<b>Explanation</b>
c:\ExchangeDb.edb	Path to the database file name
<b>[Source options]</b>	<b>Explanation</b>
-l c:\LogDir	Log file path
-t c:\TempDir	Temporary file path

**Example 7:** Provides information on the databases including a list of mailboxes filtered by mailbox criteria.

```
smbr -list -o c:\mbxlist.txt c:\ExchangeDb.edb -l c:\LogDir -t c:\TempDir -m
mbxUser1;mbxUser2
```

<b>&lt;Operation&gt;</b>	<b>Explanation</b>
-list	Perform a list operation
<b>&lt;Operation&gt;</b>	<b>Explanation</b>
-o c:\mblist.txt	Output report file name
<b>&lt;Source Store&gt;</b>	<b>Explanation</b>
c:\ExchangeDb.edb	Path to the database file name
<b>[Source options]</b>	Log file path
-l c:\LogDir	Temporary file path
-t c:\TempDir	Only open pcuser1 and pcuser2 mailboxes

**Example 8:** Perform an integrity check on an entire EDB.

```
smbr -integ -r -o c:\OutputReport.txt c:\ExchangeDb.edb -l c:\LogDir -t
c:\TempDir $ROOT
```

<b>&lt;Operation&gt;</b>	<b>Explanation</b>
-integ	Perform an integrity check on a database
<b>[Operation options]</b>	<b>Explanation</b>
-o c:\OutputReport.txt	Output report file name
<b>&lt;Source Store&gt;</b>	<b>Explanation</b>
c:\ExchangeDb.edb	Path to the database file name
<b>[Source options]</b>	<b>Explanation</b>
-l c:\LogDir	Log file path
-t c:\TempDir	Temporary file path
<b>&lt;Source Folder Path&gt;</b>	<b>Explanation</b>
\$ROOT	Root of the EDB (entire EDB)

**Example 9:** Copy a folder from a pub EDB to public folders (only copy messages dated after 01/01/2000).

```
smbr -copy -r -o c:\OutputReport.txt -da 01/01/2000 c:\ExchangePUB.edb -l
c:\LogDir -t c:\TempDir newsgroups ExchangeTarget;mbxUser -pub $PUBLIC_ROOT
```

<b>&lt;Operation&gt;</b>	<b>Explanation</b>
-copy	Perform a copy operation
<b>[Operation options]</b>	<b>Explanation</b>
-r	Copy subfolders
-o c:\OutputReport.txt	Output report file name
-da 01/01/2000	Only copy messages that were created after this date
<b>&lt;Source Store&gt;</b>	<b>Explanation</b>

<Operation>	Explanation
c:\ExchangeDb.edb	Path to the database file name
<b>[Source options]</b>	<b>Explanation</b>
-l c:\LogDir	Log file path
-t c:\TempDir	Temporary file path
<b>&lt;Source Folder Path&gt;</b>	<b>Explanation</b>
newsgroups	Source folder to copy
<b>&lt;Target Store&gt;</b>	<b>Explanation</b>
ExchangeTarget;mbxUser	Target data store (Microsoft Exchange Server name and logon ID)
<b>&lt;Target Options&gt;</b>	<b>Explanation</b>
-pub	Copy to public folders
<b>&lt;Target Folder Path&gt;</b>	<b>Explanation</b>
\$PUBLIC_ROOT	Public folders root

**Example 10:** Perform an integrity check on an entire Content Analysis Store.

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

<Operation>	Explanation
-integ	Perform an integrity check on a database
<b>[Operation options]</b>	<b>Explanation</b>
-r	Check subfolders
-o c:\OutputReport.txt	output report file name
<b>&lt;Source Store&gt;</b>	<b>Explanation</b>
c:\source.cas	Path to the Content Analysis Store file name
<b>&lt;Source Folder Path&gt;</b>	<b>Explanation</b>
\$ROOT	Root of the CAS (entire CAS)

**Example 11:** Copy Profile1 from c:\source.cas to the root in c:\target.pst.

```
smbr -copy -r -o c:\OutputReport.txt c:\source.cas Profile1 c:\Target.pst
$ROOT
```

<Operation>	Explanation
-copy	Perform a copy operation
<b>[Operation options]</b>	<b>Explanation</b>
-r	Copy subfolders

<Operation>	Explanation
-o c:\OutputReport.txt	output report file name
<b>&lt;Source Store&gt;</b>	<b>Explanation</b>
c:\source.cas	Path to the Content Analysis Store file name
<b>&lt;Source Folder Path&gt;</b>	<b>Explanation</b>
Profile1	Source folder to copy
<b>&lt;Target Store&gt;</b>	<b>Explanation</b>
c:\target.pst	Target data store
<b>&lt;Target Folder Path&gt;</b>	<b>Explanation</b>
\$ROOT	Copy to the root folder of the data store

**Example 12:** Export Profile2 from source.cas as text to c:\export.

```
smbr -export -r -f:txt -o c:\OutputReport.txt c:\source.cas Profile2
c:\ExportDir
```

<Operation>	Explanation
-export	Perform an export operation
<b>[Operation options]</b>	<b>Explanation</b>
-r	Export subfolders
-f:txt	Messages will be exported as .txt
-o c:\OutputReport.txt	Export report file name
<b>&lt;Source Store&gt;</b>	<b>Explanation</b>
c:\source.cas	Path to the Content Analysis Store file name
<b>&lt;Source Folder Path&gt;</b>	<b>Explanation</b>
Profile2	Source folder to copy
<b>&lt;Target Store&gt;</b>	<b>Explanation</b>
c:\ExportDir	Target data store

**Example 13:** Copy all subfolders and messages from the mbxUser mailbox in c:\ExchangeDb.edb to the mailbox at mail@exchserver.local. Use Autodiscover to connect, but do not use Outlook Anywhere to connect.

```
smbr -copy -r -o c:\OutputReport.txt c:\ExchangeDb.edb -l c:\LogDir -t
c:\TempDir mbxUser mailbox1@exchserver1.local -autodiscover:on -
outlookanywhere:off $ROOT
```

<Operation>	Explanation
-copy	Perform a copy operation
<b>[Operation options]</b>	

<b>&lt;Operation&gt;</b>	<b>Explanation</b>
-r	Copy subfolders
-o c:\OutputReport.txt	Output report file name
<b>&lt;Source Store&gt;</b>	<b>Explanation</b>
C:\ExchangeDb.edb	Path to the database file
<b>[Source options]</b>	<b>Explanation</b>
-l c:\LogDir	Log file path
-t c:\TempDir	Temporary file path
<b>&lt;Source Path&gt;</b>	<b>Explanation</b>
mbxUser	Source folder to copy
<b>&lt;Target Store&gt;</b>	<b>Explanation</b>
;mailbox@exchserver1.local	Target mailbox (autodiscovery provides the Exchange environment)
<b>[Target options]</b>	<b>Explanation</b>
-autodiscover:on	Use Autodiscover to connect. Autodiscover will detect the Exchange server
-outlookanywhere:off	Do not use Outlook Anywhere to connect
<b>&lt;Target Path&gt;</b>	<b>Explanation</b>
\$ROOT	Copy to the root of the mailbox

**Example 14:** Copy all subfolders and messages from the mbxUser mailbox in c:\ExchangeDb.edb to the mailbox at mbxUser@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:\OutputReport.txt c:\ExchangeDb.edb -l c:\LogDir -t c:\TempDir
mbxUser ExchangeTarget;mbxUser@ExchangeTarget.local -autodiscover:off -
outlookanywhere:on -proxy ExchangeCAS.ExchangeTarget.local -
authentication:basic -SSL $ROOT
```

<b>&lt;Operation&gt;</b>	<b>Explanation</b>
-copy	Perform a copy operation
<b>[Operation options]</b>	
-r	Copy subfolders
-o c:\OutputReport.txt	Output report file name
<b>&lt;Source Store&gt;</b>	<b>Explanation</b>
C:\ExchangeDb.edb	Path to the database file
<b>[Source options]</b>	<b>Explanation</b>

<Operation>	Explanation
-l c:\LogDir	Log file path
-t c:\TempDir	Temporary file path
<Source Path>	<b>Explanation</b>
mbxUser	Source folder to copy
<Target Store>	<b>Explanation</b>
ExchangeTarget;mbxUser@ExchangeTarget.local	Target Exchange server and mailbox. Server must be specified because Autodiscover is not being used
<Target options>	<b>Explanation</b>
-autodiscover:off	Do not use Auto Discover to connect to target mailbox.
-outlookanywhere:on	Use Outlook Anywhere to connect to the target mailbox.
<Outlook Anywhere Required Options>	<b>Explanation</b>
-proxy ExchangeCAS.ExchangeTarget.local	Name of Exchange proxy server for Outlook Anywhere.
-authentication:basic	Use basic authentication
<Outlook Anywhere Options>	<b>Explanation</b>
-SSL	Use SSL for Outlook Anywhere connection, required if using basic authentication
<Target Folder Path>	<b>Explanation</b>
\$ROOT	\$ROOT for the root of the mailbox "mbxUser"

# 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 Selection page of the Data Wizard, 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 30](#).

**Note:** If you use the "Multi-Tenancy Criteria" box on the Select Source Files dialog box, the Source Selection page of the Data Wizard, the Connect to Exchange Server dialog box, or the Target Selection page of the Data Wizard, 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 31](#).

## 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.

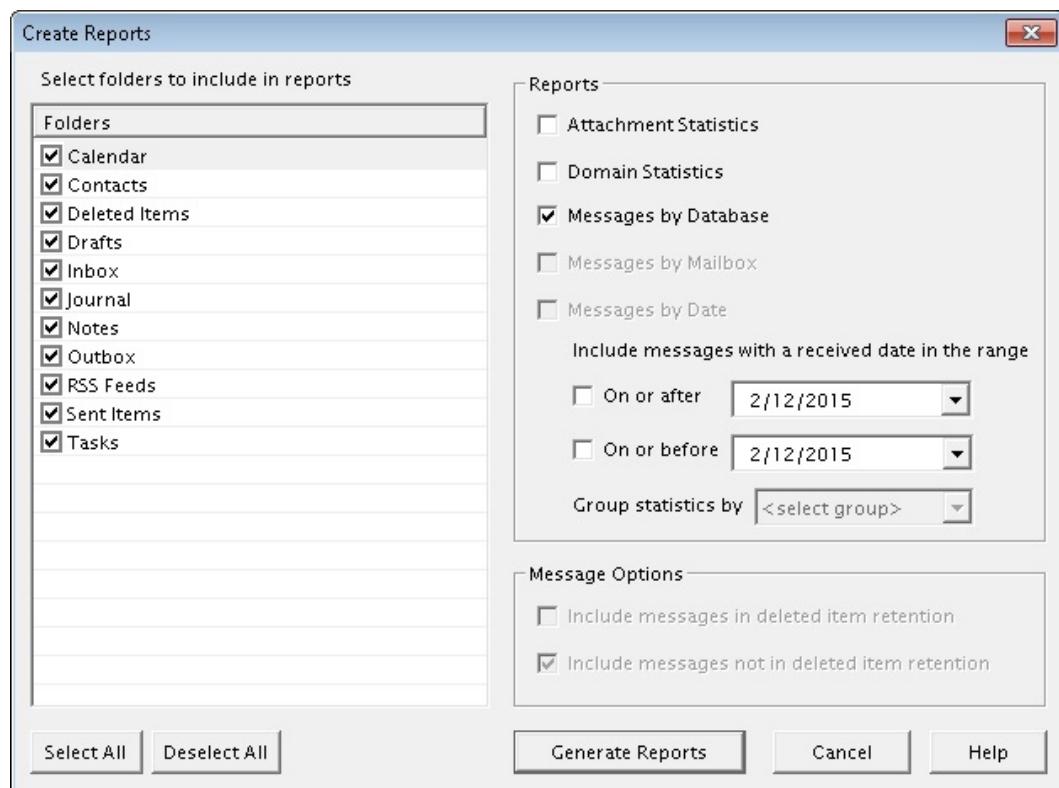


Figure 7-1: The Create Reports dialog box

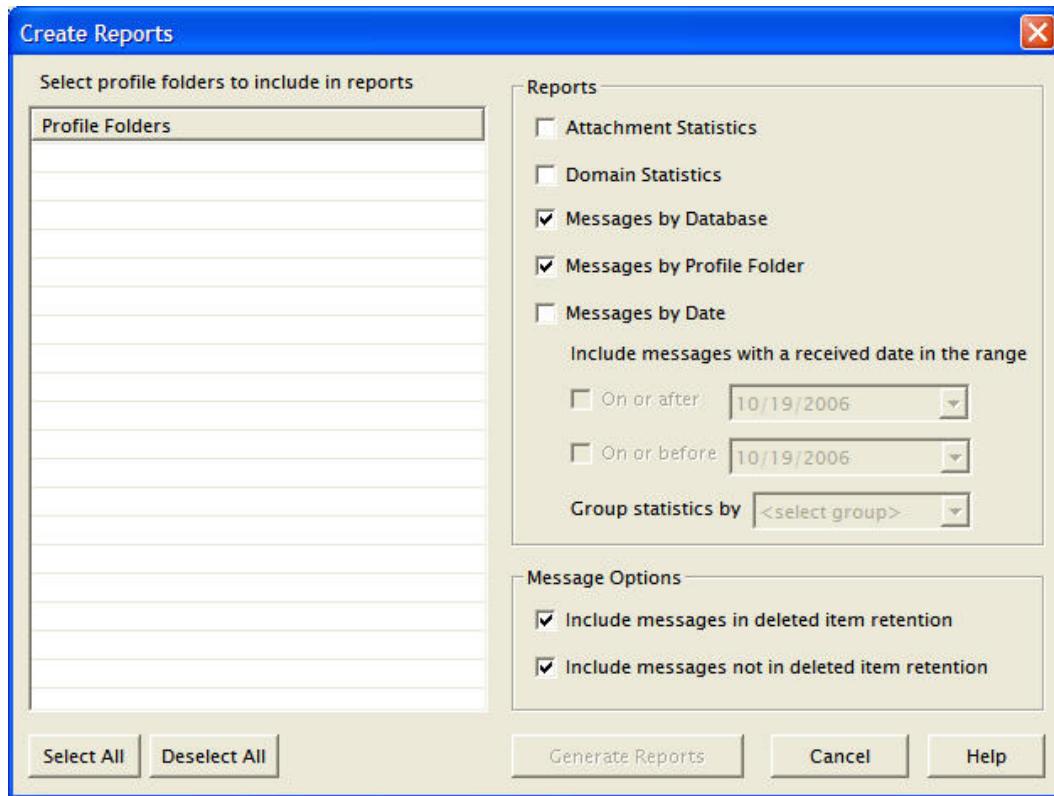


Figure 7-2: The Create Reports window for a CAS

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 (for more information, see ["Security Tab" on page 24](#)), 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" on page 146](#).

## 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.

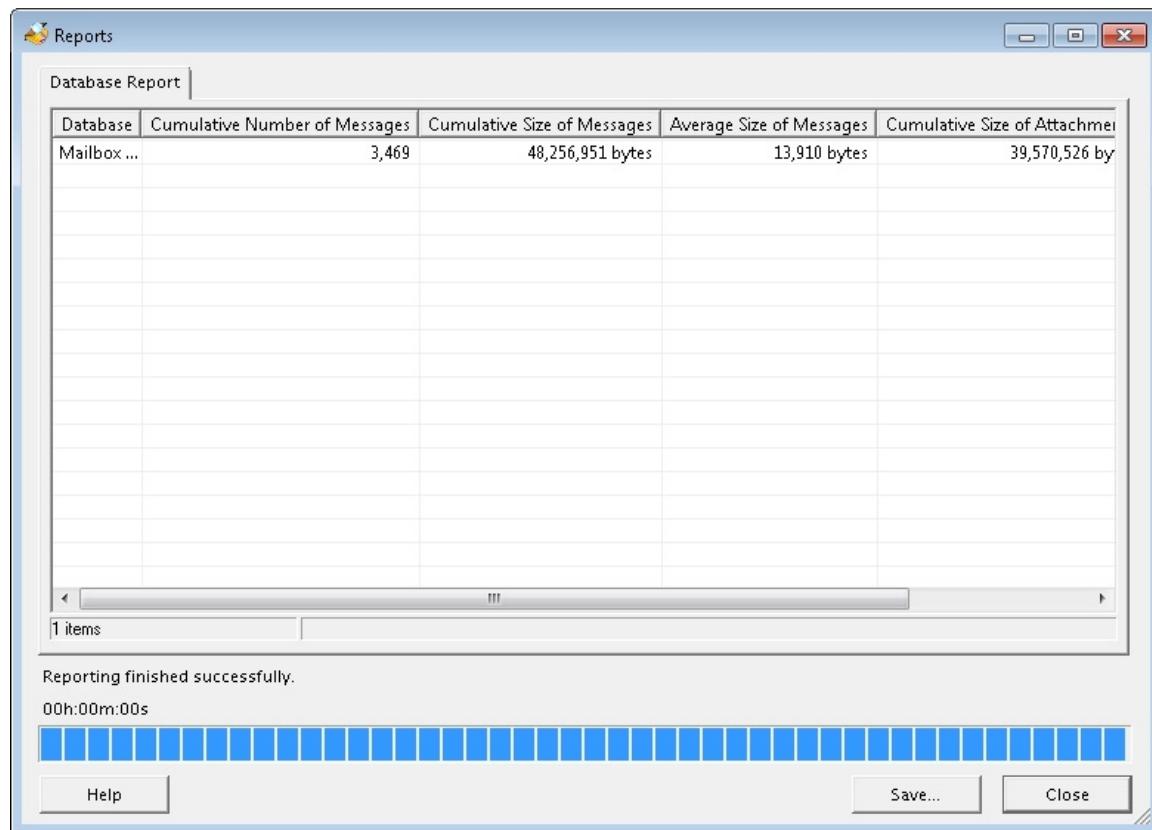


Figure 7-3: The Reports progress window

## 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.

Column Heading	Description
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.
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.pst, User1.cas).
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.

Column Heading	Description
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.

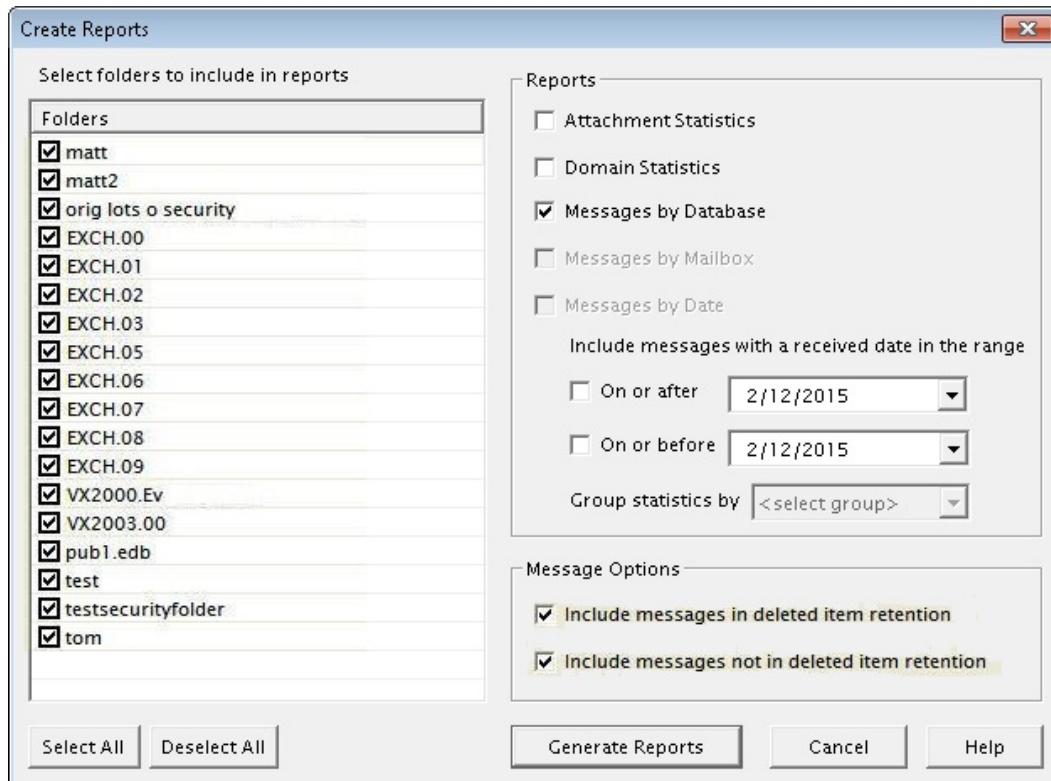


Figure 7-4: The Create Reports dialog box for a Priv EDB source

## 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.
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 <i>not</i> 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 188](#).

## 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 188](#).

## 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 Head-ing	Description
Profile Folder	Title of the profile folder.

Column Head- ing	Description
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 188](#).

## 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**.
2. On the Source Selection page, click **Content Analysis Store (.cas)** in Select Source list.

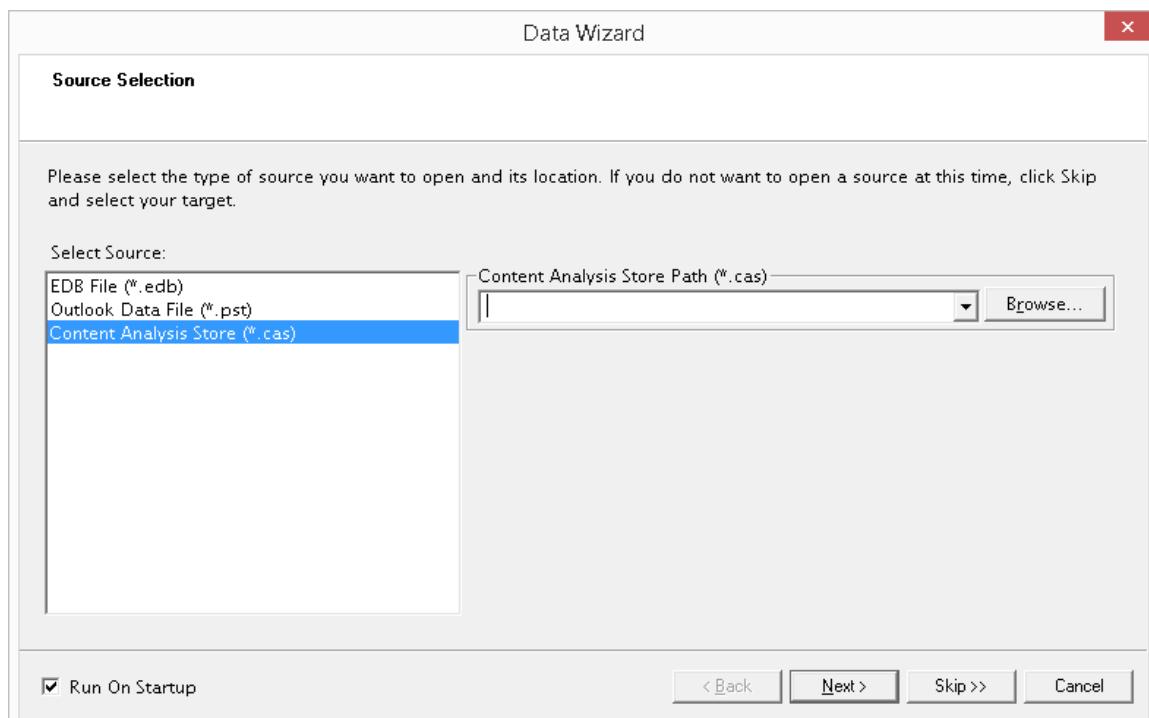


Figure 8-1: Selecting a CAS on the Source Selection page

3. On the **Content Analysis Store (.cas)** box, click **Browse** to open the Create Content Analysis File window and locate the source CAS.
4. Click **Next**.
5. On the Target Selection page, click **Content Analysis Store (.cas)** in Select Target list.

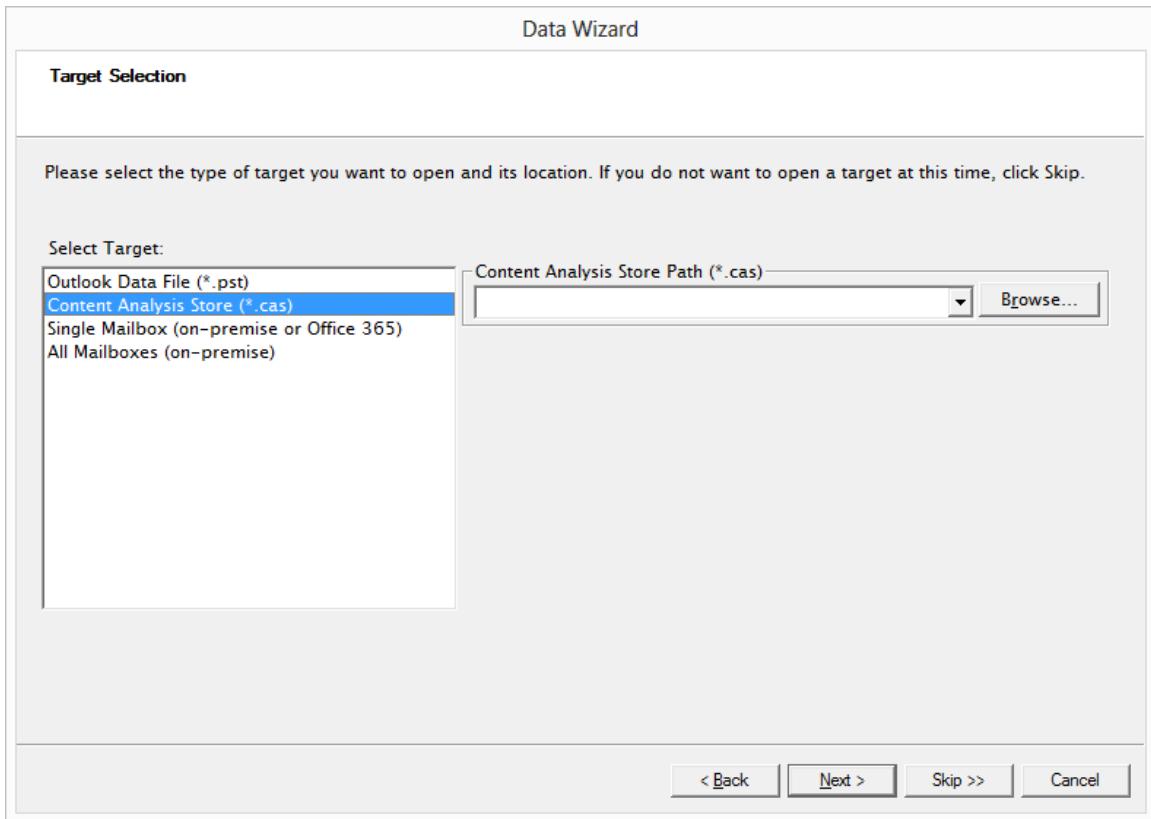


Figure 8-2: Selecting Content Analysis Store on the Target Selection page

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**.

**Important:** For more details, see "[Pointing Single Mailbox Recovery to a NetApp Device](#)".

## 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. For more information, see "[Security Tab" on page 24](#)".

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 "Profile 1" 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" on page 81](#).

**Note:** The **profile** criteria can be saved and imported.

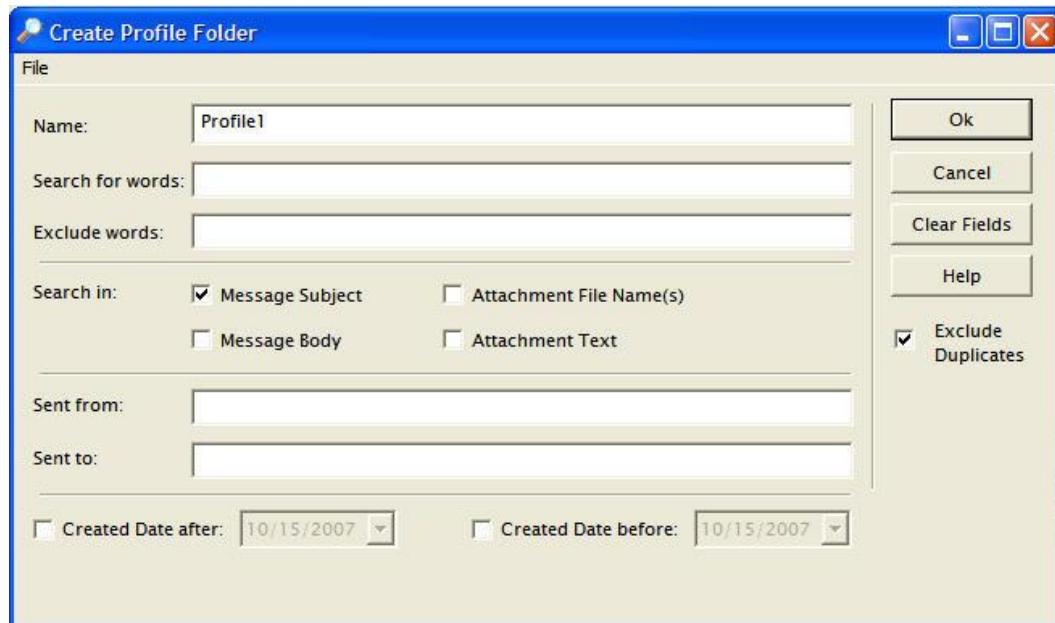


Figure 8-3: The Create Profile Folder window is used to enter profile criteria

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" on page 160](#).
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.

Target: C:\Documents and Settings\Desktop\PC Test Data\CAS Files\Datwizard\11.15ste		From	Subject	Create Date	DB #
11.15step3	Profile1 (Completed)		System Admin...	Undeliverable: Tue 2/03/2004 ...	1
	Profile2 (Completed)		System Admin...	Undeliverable: Tue 2/03/2004 ...	1
Personal Folders			SYSCHECK@c...	LEASE COI...	1
Brad Carne			SYSCHECK@c...	LEASE COI...	1
	Inbox		SYSCHECK@c...	LEASE COI...	1
	Calendar		SYSCHECK@c...	LEASE COI...	1
	Contacts		SYSCHECK@c...	LEASE COI...	1
	Deleted Items		SYSCHECK@c...	LEASE COI...	1
	Drafts		SYSCHECK@c...	LEASE COI...	1
Evo4v			SYSCHECK@c...	LEASE COI...	1
	Folder 10		SYSCHECK@c...	LEASE COI...	1

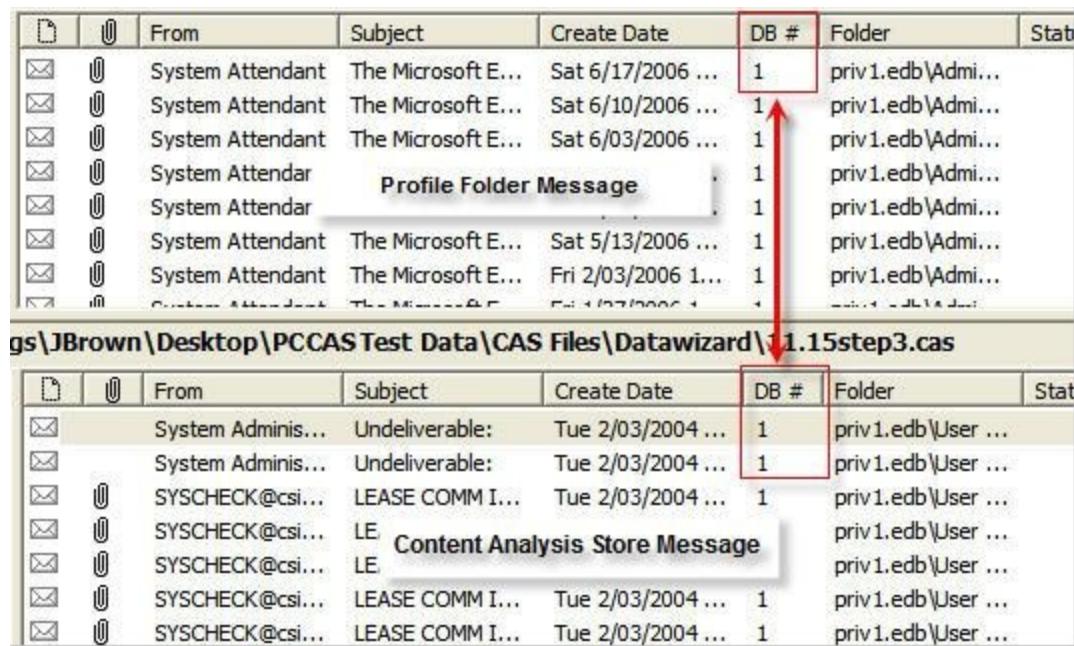
Figure 8-4: Messages displayed after profile folder created

**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., "Profile 1" or "Source 1" does not necessarily correlate with DB #1. The correlation is between the profile folder message and the source database.

### Example:



	From	Subject	Create Date	DB #	Folder	Stat
✉	System Attendant	The Microsoft E...	Sat 6/17/2006 ...	1	priv1.edb\Admi...	
✉	System Attendant	The Microsoft E...	Sat 6/10/2006 ...	1	priv1.edb\Admi...	
✉	System Attendant	The Microsoft E...	Sat 6/03/2006 ...	1	priv1.edb\Admi...	
✉	System Attendant	Profile Folder Message		1	priv1.edb\Admi...	
✉	System Attendant			1	priv1.edb\Admi...	
✉	System Attendant	The Microsoft E...	Sat 5/13/2006 ...	1	priv1.edb\Admi...	
✉	System Attendant	The Microsoft E...	Fri 2/03/2006 1...	1	priv1.edb\Admi...	
✉	System Attendant	The Microsoft E...	Fri 1/27/2006 1...	1	priv1.edb\Admi...	

	From	Subject	Create Date	DB #	Folder	Stat
✉	System Adminis...	Undeliverable:	Tue 2/03/2004 ...	1	priv1.edb\User ...	
✉	System Adminis...	Undeliverable:	Tue 2/03/2004 ...	1	priv1.edb\User ...	
✉	SYSCHECK@csi...	LEASE COMM I...	Tue 2/03/2004 ...	1	priv1.edb\User ...	
✉	SYSCHECK@csi...	LE	Content Analysis Store Message		priv1.edb\User ...	
✉	SYSCHECK@csi...	LE			priv1.edb\User ...	
✉	SYSCHECK@csi...	LEASE COMM I...	Tue 2/03/2004 ...	1	priv1.edb\User ...	
✉	SYSCHECK@csi...	LEASE COMM I...	Tue 2/03/2004 ...	1	priv1.edb\User ...	

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**.

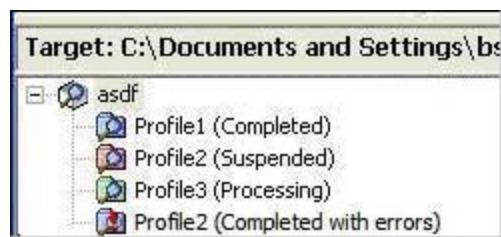


Figure 8-6: Profile Processing Status folders are indicated by different colors

## 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 162](#).

## 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.

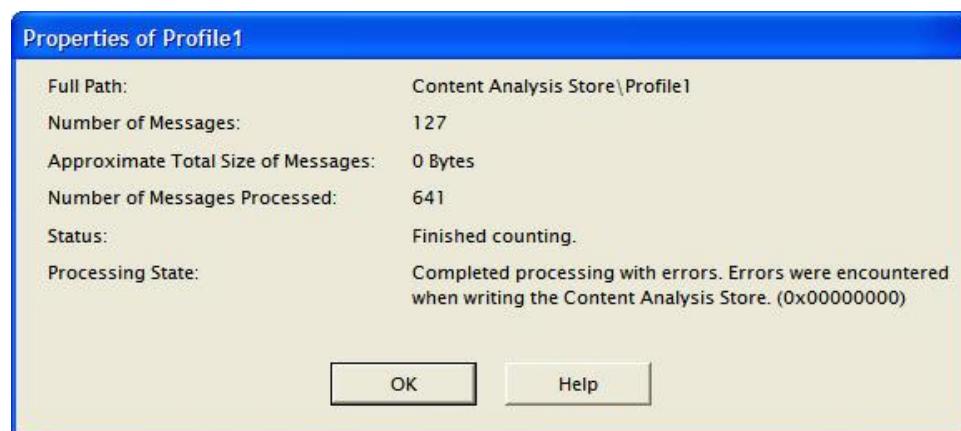


Figure 8-7: An error message displays when processing cannot be completed

## 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" on page 160](#).

**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 dragged 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 dragging

- To move entire EDB store objects, EDB mailboxes, or EDB folders, drag to the target content analysis store root. Dragging achieves the same results as copying and pasting.

#### To drag 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. Release the mouse and on the shortcut menu, click **Paste**.

**Important:** If a new source (Inbox, Deleted items, Outbox, etc.) is dragged to 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 on the **Profile** menu, select **Edit Profile**.
2. On the **Edit Profile Folder** window, 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.

**Note:** Opening a Content Analysis Store with Microsoft Exchange Server 2016 or later data is not supported. When a CAS open as a source containing Microsoft Exchange Server 2016 or later data, you have the option to open the CAS as a target and remove all Microsoft Exchange Server 2016 or later data.

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. On the **File** menu, click **Open Source**.
2. On the **Select Source Files** dialog box, 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.

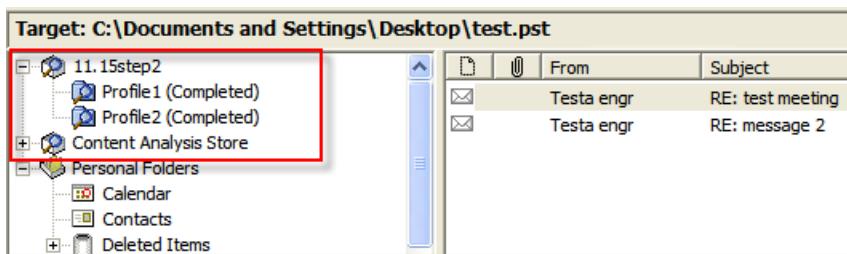


Figure 8-8: A source content analysis store root and profile folders

## 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**.

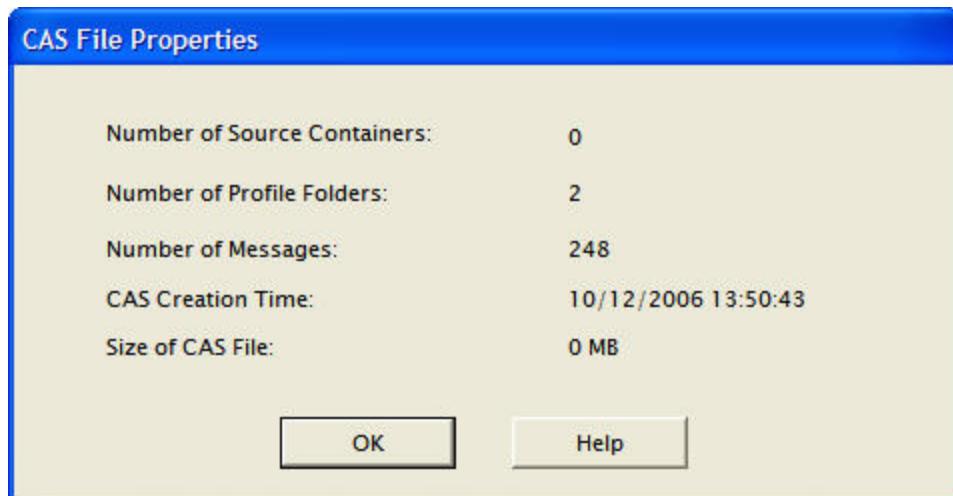


Figure 8-9: The Properties of the selected CAS file

### To view the properties of a content analysis store profile folder

- Right-click the profile folder and click **Properties**.

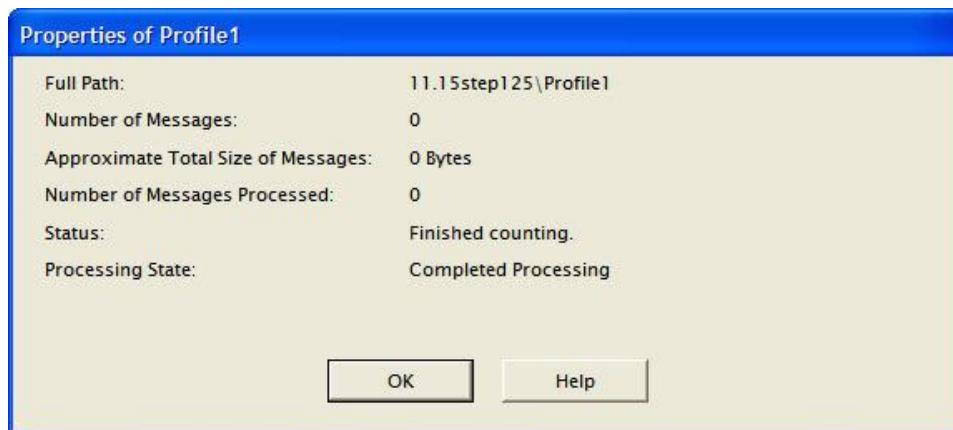


Figure 8-10: The Properties of the CAS profile folder

## 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

For instructions on creating reports, see ["Reporting" on page 143](#).

## 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**.

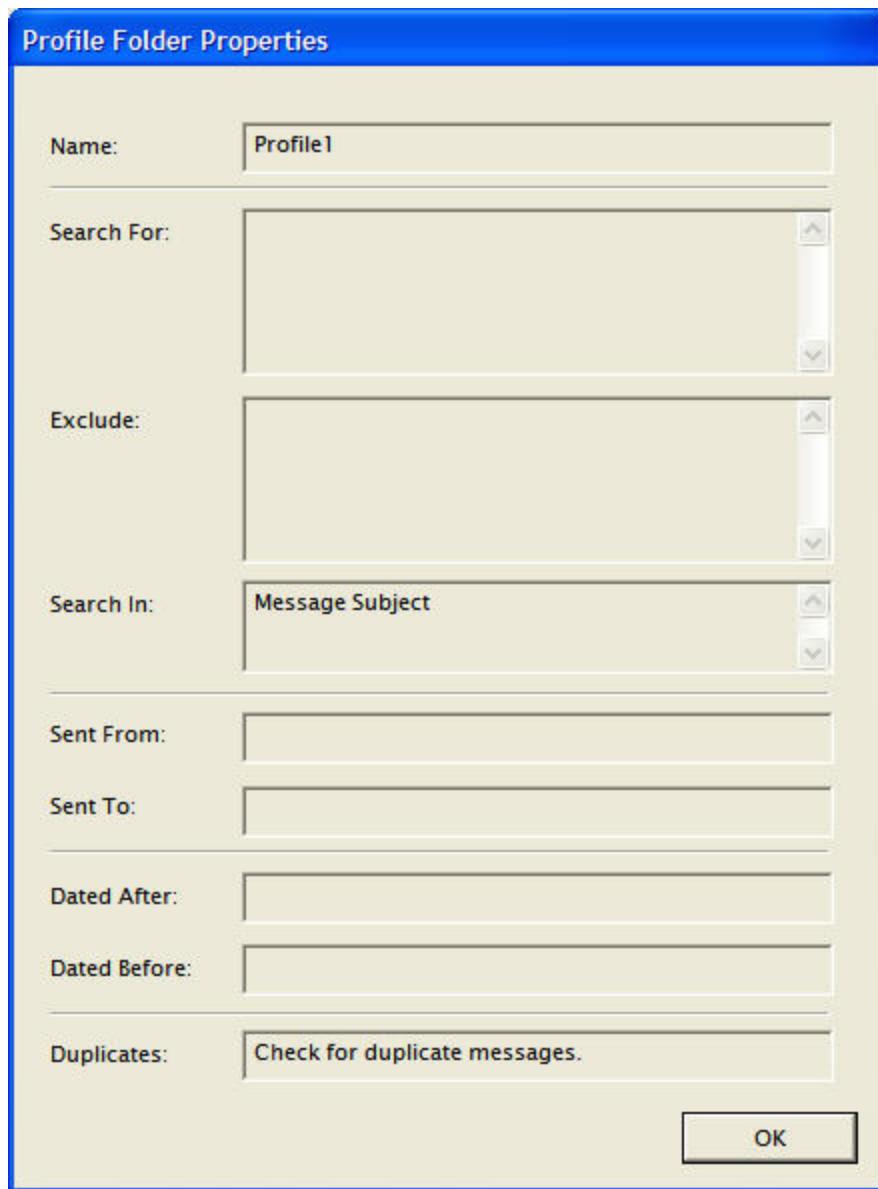


Figure 8-11: Profile Folder Properties

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 populates with files.
4. If you are unable to locate the EDB file, click **Remove** on the **Missing Database File** error message.
5. When asked to confirm, 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. When asked to confirm, click **OK**.

**Important:** When the .stm file 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 appears 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.
- **Attachment Table View** - All the messages that have an attachment that are referenced by the same attachment table row as the selected attachment.
- **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 Selection page of the Data Wizard, 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 included in any subsequent tasks (such as searching, copying, and exporting of the entire database). For more information, see "["Mailbox Criteria" on page 30](#).

**Note:** If you use the "Multi-Tenancy Criteria" box on the Select Source Files dialog box, the Source Selection page of the Data Wizard, the Connect to Exchange Server dialog box, or the Target Selection page of the Data Wizard, 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 31](#).

# 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.

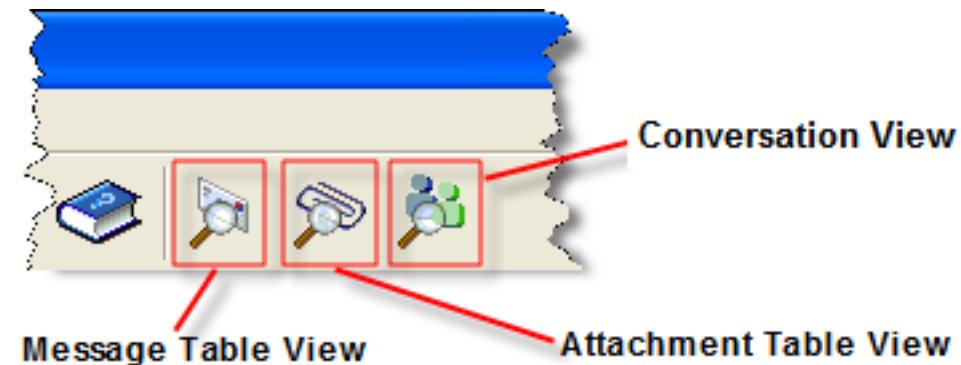


Figure 9-2: The toolbar provides another option for accessing the Message Views

## 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.

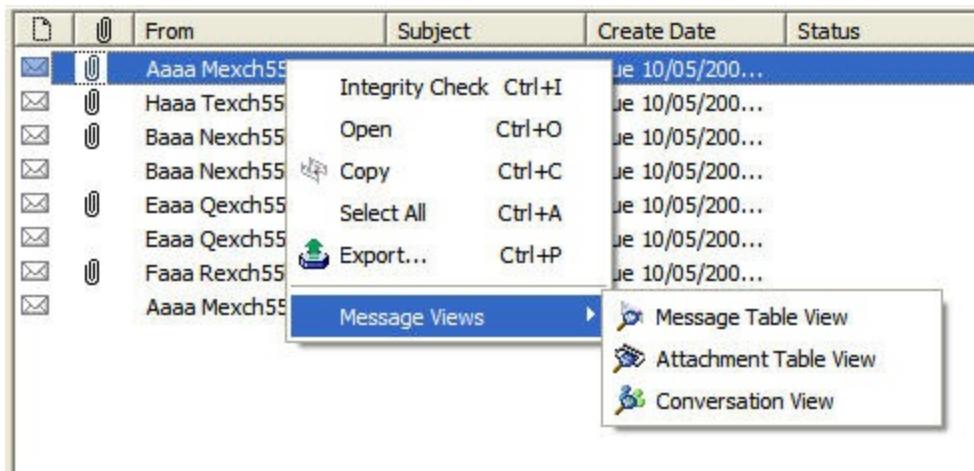


Figure 9-3: The Message View options can be reached by right-clicking an EDB message in the upper message pane.

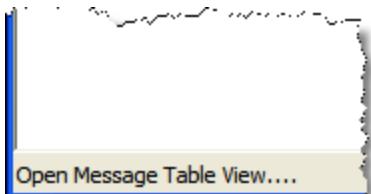


Figure 9-4: The Status Bar

## 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 114.
- **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 95.
- **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 6.
- **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.

### 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).

#### 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	wggfIvky-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	CXTCIoSMI-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 or later 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 in User3'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.

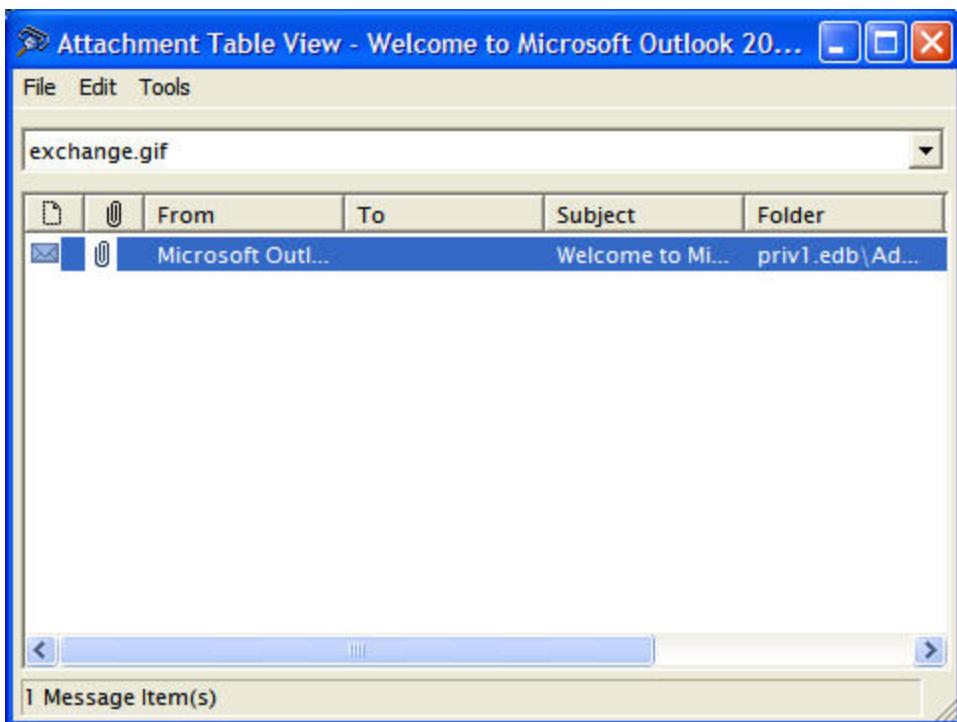


Figure 9-7: The Attachment Table View displays messages with attachments

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 indentation 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**.

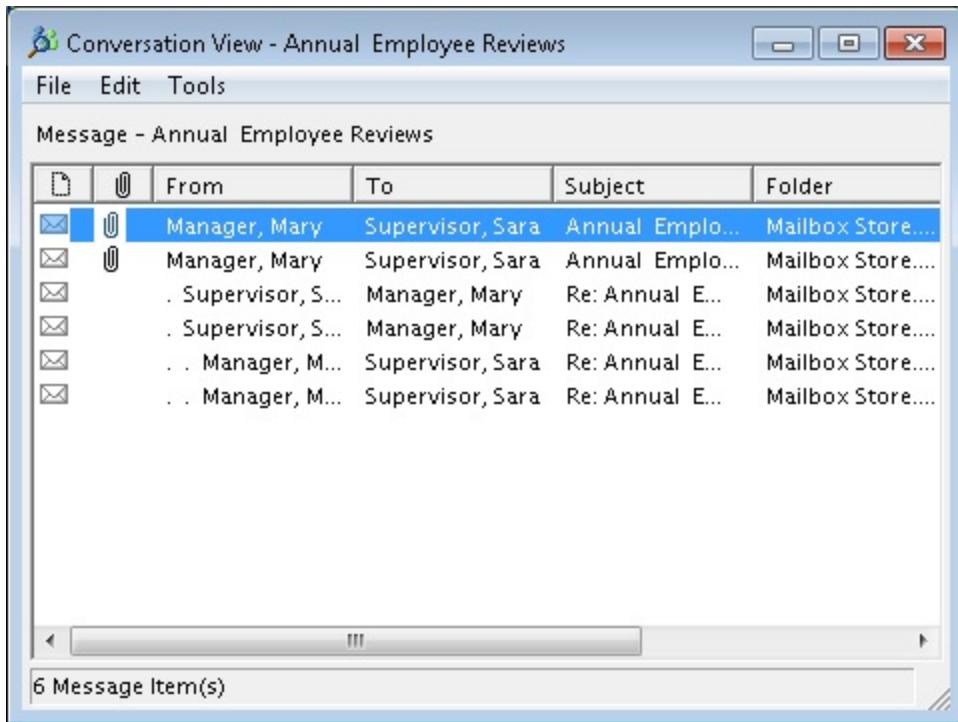


Figure 9-8: The Conversation View displays the conversation threads which are indicated by indentations.

**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

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.

### To create a Message View for the first time

1. When the No Message View File dialog box appears, click **Yes** to create the file.

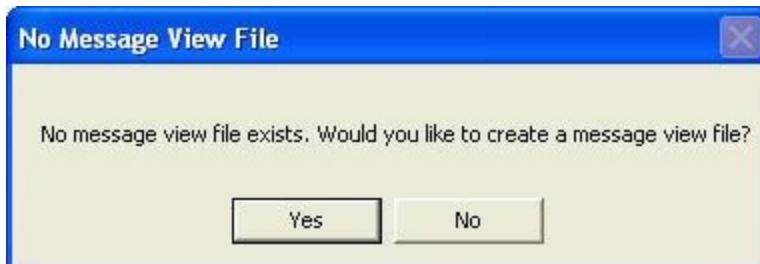


Figure 9-9: This message informs the user that an initial message view file does not exist

A progress window appears displaying 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 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.

### To open messages in Find in Source window result pane in different views

1. Click the **Find** icon

 on the toolbar.

2. In the **Find in Source** window, enter search criteria in the appropriate fields.
3. Click **Find Now**. The **Results** pane appears with the search results.

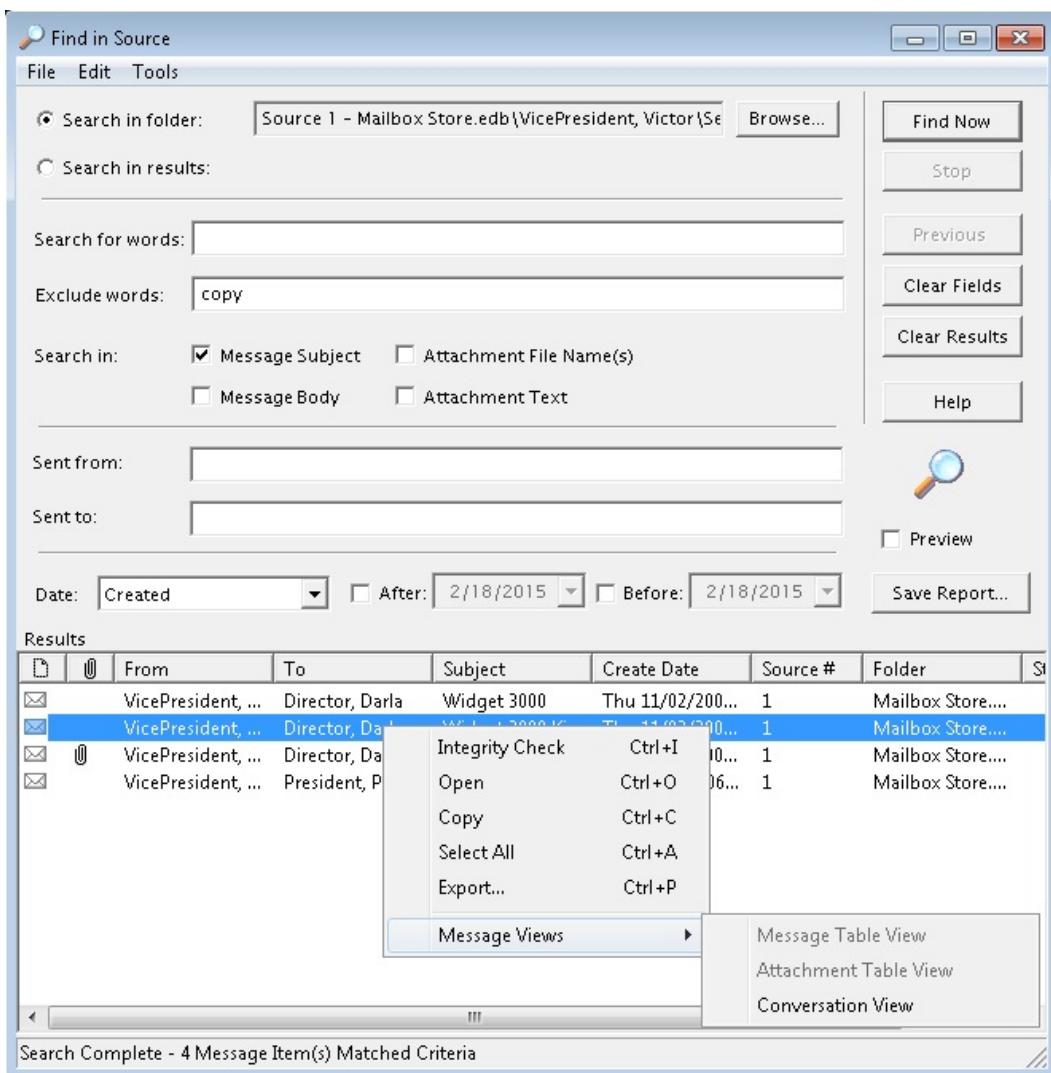


Figure 9-10: The Find results can be displayed in each of the Message Views

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 181](#)
- ["Organizing Files Extracted from Other Backup Applications" on page 182](#)
- ["Verifying Hard Drive Space for .idx and .dat Files" on page 183](#)

## 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
<b>.edb file</b>	This is a <b>rich text database file</b> that contains data placed in the store through MAPI, as well as all the database tables that define mailboxes, messages, folders, and attachments.
<b>.stm file</b>	This is a <b>streaming database file</b> 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.  <b>Note:</b> The .stm file is new to Microsoft Exchange Server 2000. Microsoft Exchange Server 5.5 does not contain .stm files.
<b>.log files</b>	These are <b>transaction logs</b> , 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.

File(s)	Description
.chk files	These are <b>checkpoint files</b> 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 <b>patch files</b> 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 or SnapCenter, 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 and later 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.

# Appendix B: Granular Recovery of Mailbox using Single Mailbox Recovery with ONTAP System Manager or NetApp PowerShell cmdlets

## Overview

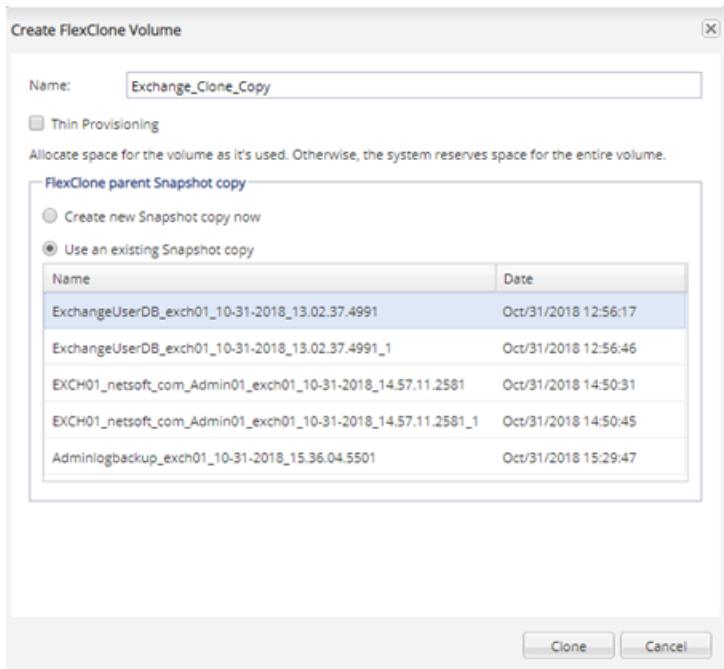
In the current version of Single Mailbox Recovery 8.x for SnapCenter, Single Mailbox Recovery queries the localhost having the active Microsoft Exchange database and enumerates the available snapshot. Based on the selected snapshot, the user mailbox is recovered. This method requires Single Mailbox Recovery to be installed on active Microsoft Exchange database, along with the Microsoft Outlook client. The process to recover mailbox is explained in Chapter 2: Using Single Mailbox Recovery.

You can alternatively recover mailbox by mounting a clone copy of the LUN with the active Microsoft Exchange database and passing the folder path containing exchange database (edb/log files).

**Note:** Below steps are valid if the Microsoft Exchange databases are on iSCSI disk.

### To recover mailbox by mounting a clone copy of the LUN

1. Login to the ONTAP System Manager.
2. On the left pane, click **Storage > Volume**.
3. Select the appropriate volume containing the Microsoft Exchange database files
4. Right-click the selected volume and click **Clone > Create > Volume**.
5. On the Create FlexClone Volume dialog box, enter the **Name** of the FlexClone volume.
6. In the FlexClone parent Snapshot copy section, select **Use an existing Snapshot copy** and select the appropriate Snapshot copy.



7. Click **Clone**.

A clone copy of the LUNs associated with the volume is created in Storage > LUNs.

8. Individually select each LUNs hosting the Microsoft Exchange data file and log file and map the LUNs to initiator group

**Note:** Ensure the initiator group for the separate server where the LUNs are to be mapped is already created in the OnCommand System Manager).

Once the LUNs are mapped to server, disk will be available to server in offline.

9. Click **Server Manager >Tools > Computer Management**, bring the disk online, and assign drive letters to both the data and log disk.

10. View the EDB/log files on each of the newly created disk and copy the paths of the files.

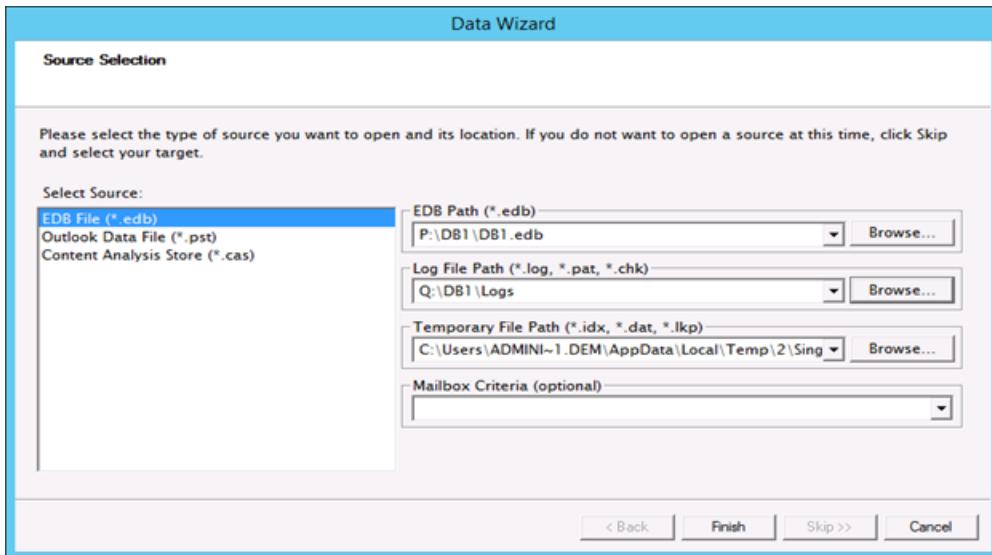
11. Click **Cancel** to exit SnapCenter authentication windows.

12. Open Single Mailbox Recovery.

13. Click **File > Open Source....**

14. On the Data Wizard Source Selection page, in the **Select Source** list, click **EDB file (\*.edb)**.

15. Select the **EDB Path** and the **Log File Path**.



16. Click **Finish** to load all the emails from the databases.
17. Open the desired user mailbox and browse through Inbox to recover mail
18. After the mail has been recovered, exit Single Mailbox Recovery.
19. Dismount the disk from OnCommand system manager by doing the following:
  - Click **Storage > Volumes > Clone Volume**.
  - Right-click the clone volume and click **Change status to > Offline**.
  - Select the volume and delete it.

Steps from 1-8 above can also be performed using NetApp PowerShell cmdlets.

#### To create and mount a clone copy of volume using NetApp PowerShell cmdlets

1. Install the latest NetApp PowerShell Toolkit from NetApp community site on Windows server.

**Note:** The SVM, vservername, volume name, Snapshot name are case sensitive.

2. PS C:\Import-Module DataONTAP  
(If DataONTAP dll is installed on different location, then provide complete path of dll while importing module.)
3. PS C:\Connect-NAController <<clustername/ipaddress>> -HTTPS (provide the filer username and password).
4. Note the name of the snapshot from SnapCenter > Resources > Microsoft Exchange Server > Database Name > Snapshot name.
5. Note the onetime svmname and parent volume name (case sensitive).
6. PS C:\New-NcVolclone -clonevolume <<new clonename>> -parentsnapshot <<snapshot name>> -vservercontext "<<svmname>>" -parentvolume <<volumename>>

7. PS C:\get-nclun -volume <<new clonename>> | add-nclunmap -initiatorgroup <<initiator group name >>
8. Activate the disk and assign drive letters from computer management tool
9. Repeat the steps 9-18 from **To recover mailbox by mounting a clone copy of the LUN.**
10. Drop the volume from PowerShell cmdlets by doing the following:
  - Set the volume to offline:  
PS C:\set-ncvol <<new clonename>> -offline -vservercontext "<<svmname>>"
  - Delete the clone volume:  
PS C:\remove-ncvol <<new clonename>> -vservercontext "<<svmname>>"

# Glossary

Term	Description
<b>ABP</b>	Address Book Policies. With this feature, you can restrict the users and mailboxes they can view when sending emails in an environment using Microsoft Exchange Server 2010 SP2 and later. Users can be assigned ABPs. ABPs include a Global Address List (GAL) that defines the mailboxes a user assigned an ABP can view.
<b>Attachment Table View</b>	A table that displays all the messages that have an attachment referenced by the same attachment table row as the selected message.
<b>CAS</b>	See Content Analysis Store
<b>CHK</b>	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).
<b>Content Analysis Store (CAS)</b>	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.
<b>Conversation View</b>	A table that displays all messages in the database that are related by conversation. The conversation thread is indented to indicate replies.
<b>Data Store</b>	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.
<b>Data Wizard</b>	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.

Term	Description
<b>Deduplication</b>	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.
<b>EDB</b>	See Microsoft Exchange Server Database.
<b>EIS</b>	See Microsoft Exchange Server Information Store.
<b>Exchange Hosted Organization (or Hosted Organization)</b>	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.
<b>Log Files</b>	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 and later are 1 MB in size.
<b>Messages</b>	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.
<b>Message Table View</b>	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 appears three times, one in each user's Inbox.
<b>Microsoft Exchange Server Database</b>	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.

Term	Description
<b>Microsoft Exchange Server Information Store</b>	<p>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 or later, a mailbox data store consists of the EDB file without a STM file.</p>
<b>Multi-Tenancy Support</b>	<p>Support included in Single Mailbox Recovery and Single Mailbox Recovery Administrative Server for multi-tenant deployments of Microsoft Exchange Server 2010 and later. 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 later 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.</p> <p>For information regarding Hosting Mode using the "/hosting" switch, see <a href="http://technet.microsoft.com/en-us/library/ff923272.aspx">http://technet.microsoft.com/en-us/library/ff923272.aspx</a> and <a href="http://social.technet.microsoft.com/wiki/contents/articles/1110.exchange-2010-sp1-information-for-hosted-service-providers.aspx">http://social.technet.microsoft.com/wiki/contents/articles/1110.exchange-2010-sp1-information-for-hosted-service-providers.aspx</a>.</p> <p>For information regarding Address Book Policies, see <a href="http://technet.microsoft.com/en-us/library/hh529948.aspx">http://technet.microsoft.com/en-us/library/hh529948.aspx</a> and <a href="http://technet.microsoft.com/en-us/library/hh529916.aspx">http://technet.microsoft.com/en-us/library/hh529916.aspx</a>.</p>
<b>PAT</b>	<p>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.</p>
<b>Profile Folder</b>	<p>A subfolder of the content analysis store containing the results of profile criteria entered for processing.</p>
<b>PST</b>	<p>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.</p>

Term	Description
<b>Received Messages</b>	<p>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."</p> <p><b>Note:</b> Because recovery software such as <i>Single Mailbox Recovery</i> restores messages from a source to a Microsoft Exchange Server mailbox without sending them, the messages that <i>Single Mailbox Recovery</i> restores are not considered to be "received messages."</p>
<b>Shortcut Menu</b>	<p>This menu is accessed by right-clicking on an item.</p>
<b>Source Data Store</b>	<p>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.</p>
<b>STM</b>	<p>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.</p>
<b>Target Data Store</b>	<p>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.</p>

# Copyright Information

Copyright © 1994 - 2020 NetApp, Inc. All rights reserved. Printed in the U.S.

Copyright © 2020 KLDiscovey Ontrack, LLC. All rights reserved.

Copyright 1991 - 2019 dtSearch Corp. All rights reserved.

The software is based in part on the work of the Independent JPEG Group.

No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

# Trademark Information

NETAPP, the NETAPP logo, and the marks listed on the NetApp Trademarks page are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.

<http://www.netapp.com/us/legal/netapptmlist.aspx>.

Document version number: 8.3.0.3

# How to Send Comments About Documentation and Receive Update Notifications

You can help us to improve the quality of our documentation by sending us your feedback. You can receive automatic notification when production-level (GA/FCS) documentation is initially released or important changes are made to existing production-level documents.

If you have suggestions for improving this document, send us your comments by email to [techsupport@ontrack.com](mailto:techsupport@ontrack.com). To help us direct your comments to the correct division, include in the subject line the product name, version, and operating system.

If you want to be notified automatically when production-level documentation is released or important changes are made to existing production-level documents, follow Twitter account [@NetAppDoc](#).

You can also contact Ontrack or NetApp in the following ways:

NetApp, Inc.  
495 East Java Drive  
Sunnyvale, CA 94089

Telephone: +1 (408) 822-6000  
Fax: +1 (408) 822-4501  
Support telephone: +1 (888) 463-8277

KLDiscovey Ontrack, LLC  
9023 Columbine Road  
Eden Prairie, MN 55347

Toll Free: 1-800-645-3649  
Phone: 1-952-937-5161  
Fax: 1-952-937-5750  
Web: [www.ontrack.com](http://www.ontrack.com)

# Index

## A

access rights  
Microsoft Exchange Server mailboxes 124  
access rights to a Microsoft Exchange Server 116  
Address Book Policies 31, 188-189  
attachment table view 175, 188  
attachments  
opening and saving 15  
opening and saving in the Find dialog box 92  
searching for 90  
Auto Support Tab 27  
Autodiscover 31

## C

CAS 188  
CHK 188  
closing a content analysis store 165  
closing sources and targets 61  
Command Line  
examples 135  
syntax 128  
Connect to Public Folders 47  
content analysis store  
creating 155  
creating reports 166  
Microsoft Exchange Server 2010 data 157  
opening as source 165  
viewing profiles 167  
viewing properties 166  
content analysis store (CAS) 188  
closing 165  
content analysis store profile  
viewing properties 166  
continue loading EDB file without logs 54  
conventions in this manual  
shortcut menu 12  
conversation view 177, 188  
Copy Progress dialog box 117  
Copy To Folder 88  
copying and pasting 118  
create a mailbox  
Microsoft Exchange Server 2007 63  
Microsoft Exchange Server 2010 or 2013 66

wizard 63

create a new single mailbox

Copy 69

create mailboxes 63

create multiple mailboxes

Copy 72

Create New Mail Folder dialog box 117

creating

content analysis store profile folders 158

creating a content analysis store 155

creating a new folder in the target pane 117

creating reports

content analysis store 166

## D

Data Wizard 188  
Connection Selection 52  
Now Processing Data File 54  
Opening 39  
opening a target content analysis store 156  
Source Selection 39, 51  
Target Selection 44  
deleted items in Microsoft Exchange Server  
viewing 20  
deleting a folder in the target pane 118  
deleting profile 164  
disabled user accounts 63  
displaying a message in the preview pane 13  
dragging 118

## E

EDB 189  
EDB file  
in source pane 7  
restoring a folder 123  
restoring a mailbox 124  
restoring an entire EDB file 125  
restoring in three easy steps 115  
restoring messages with Copy-Paste 119  
restoring messages with Paste Special 120  
restoring to a Microsoft Exchange Server 116  
editing a profile 164  
EIS 189  
embedded messages  
searching 84-85  
Enter Password dialog box 48-49, 51  
exclude words 83

export messages  
    Find window 92  
export report  
    printing 113  
    saving 113  
Export to PST 103  
exported PST  
    output 109  
    using 109  
exporting 111  
    individual messages 111  
    individual messages from the Find window  
        to a PST file 105  
    messages from the Find dialog box 92  
exporting messages  
    about MSG and TXT files 96  
    general information 95

## F

Find dialog box  
    exporting messages from the Find dialog  
        box 92  
    guidelines for using 81  
    performing an integrity check on  
        messages 92  
    restoring messages 92  
    saving search profiles 90  
    searching within attachments 91  
    searching within results 85  
    viewing previous search results 86  
Find in Exchange Target 87, 90  
Find in Source 90  
Find in Sources 81  
Find window  
    opening messages 179  
Folders in the Target Pane  
    creating 117  
    deleting 117  
    renaming 117

## G

guidelines  
    for restoring messages 119  
    for restoring messages with Copy-Paste 120  
    for restoring messages with Paste  
        Special 120  
restoring a folder 123  
restoring an EDB file 125  
restoring to public folders 126  
using the Find dialog box 81

## H

Help  
    online Help 4  
hiding the preview pane 12  
hiding the toolbar and status bar 13  
hosted organization 31

## I

importing  
    profile criteria 162  
inputting  
    saved profile criteria 162  
Integrity Check 19

## L

Live Microsoft Exchange Server 34  
log files 189

## M

mailbox-enabled user  
    create 62  
mailbox access 35  
mailbox creation 62  
mailbox criteria 30  
Mailbox List, Creating a 20  
Main window  
    menu bar 10  
    Source message list 8  
    source pane 7  
    Target pane 9  
    toolbar 11  
menu bar 10  
message (.msg) export 96  
Message Report 93  
message table view 174, 189  
message view options  
    attachment table view 175  
    conversation view 177  
    message table view 173  
message view pane 173  
message views  
    exporting messages 174  
    menus and toolbars 172  
messages  
    cutting 89  
    deleting 89  
    exporting 96  
    moving 88  
    searching 82

Microsoft Exchange Server 2010  
    creating a content analysis store 157  
Microsoft Exchange Server database 189  
Microsoft Exchange Server information  
    store 190  
Microsoft Exchange Server targets  
    searching 81, 87  
missing database files  
    missing temp files location 169  
Move To Folder 88  
moving messages 88  
    dragging 88  
    using Move To Folder 88  
moving or copying a folder, a mailbox, or an  
    EDB file with Copy-Paste 163  
Multi-Tenant Support 31, 190  
    enabling 26  
multiple levels  
    searching 85  
multiple mailboxes  
    opening 60  
multiple search windows 90

## N

new mailboxes 62  
Now Processing Data File 54

## O

Office 365 33  
online Help 4  
Open Existing Target PST command 58  
open messages in Find window 179  
Open Source command 58  
Open Target Content Analysis Store  
    command 59-60  
opening  
    a target content analysis store 59  
    an existing target PST 58  
    attachments 15  
    attachments in Find dialog box 91  
    conversation view 177  
    Data Wizard 39  
    message table view messages 175  
    messages 13  
    multiple sources 60  
    target content analysis store using the Data  
        Wizard 156  
    the preview pane 12  
Options Tab 21-22  
Organizational Forms 111

Outlook Anywhere 31

## P

Paste Special  
    restoring messages 120  
PAT 190  
permission rights 34  
permissions of public folders 126  
preferences 21  
Preferences  
    setting 21  
preview pane  
    displaying a message in 13  
    hiding 12  
    opening 12  
    opening attachments in 15  
    saving attachments in 16  
previewing and opening messages 12  
previous search results  
    viewing 87  
processing  
    content analysis store profile folder 158  
processing on profiles  
    resuming 163  
    suspending 162  
profile folder 190  
properties of an EDB file, PST file, CAS file,  
    CAS profile folder, mailbox, or folder 17  
PST 190  
PST and folder limits 116  
PST export 96  
PST file  
    creating a new target 58  
    opening an existing target 58  
    restoring in three easy steps 115  
PST files  
    as displayed in target pane 9  
PST messages per folder limit  
    turning off 116  
public folders  
    permissions 126

**R**

Readme File 3  
recoverable items  
    content analysis store 157  
    EDB properties 17  
    viewing 21  
refreshing the screen 15  
renaming a folder in the target pane 117

report  
saving 93  
using 94  
reporting  
attachment statistics report 147  
creating reports 143  
domain statistics report 148  
mailbox report 150  
messages by database report 149  
messages by date report 151  
messages by profile folder report 152  
saving reports 154  
sorting reports 153  
reports. See reporting 143  
restore messages  
Microsoft Exchange Server root node 122  
restoring a folder  
guidelines 123  
results 123  
restoring a mailbox  
guidelines 124  
results 124  
restoring an EDB file  
guidelines 125  
results 125  
restoring messages  
guidelines 119  
Paste Special 120  
restoring messages from the Find dialog  
box 92  
restoring messages with Copy-Paste  
results 120  
restoring messages with Paste Special  
guidelines 120  
restoring Microsoft Exchange Server data  
looking at the target pane 9  
restoring Microsoft Exchange Server data to  
a Microsoft Exchange Server  
restoring individual messages with Copy-  
Paste 115  
restoring Microsoft Exchange Server data to  
a Microsoft Exchange Server  
about the Copy Progress dialog box 117  
restoring a folder 123  
restoring a folder, a mailbox, an EDB file, a  
CAS file, or a PST file 115  
restoring a mailbox 124  
restoring an EDB file 125  
restoring individual messages with Paste  
Special 115

restoring messages to a Microsoft  
Exchange Server root node with  
Paste Special 122  
restoring messages to Microsoft Exchange  
Server 116  
restoring to public folders 126  
restoring Microsoft Exchange Server data to  
a Microsoft Exchange Server mailbox or  
folder with Copy-Paste 119  
restoring Microsoft Exchange Server data to  
a PST file  
about the Copy Progress dialog box 117  
looking at the target message list 10  
restoring a folder 123  
restoring a folder, a mailbox, an EDB file, a  
CAS file, or a PST file 115  
restoring an EDB file 125  
restoring individual messages with Copy-  
Paste 115  
restoring individual messages with Paste  
Special 115  
restoring PST and folder targets  
limits 116  
restoring to public folders 126  
guidelines 126  
results 127  
restoring your Microsoft Exchange Server  
data in three easy steps 115  
resuming processing on profiles 163  
rights  
access rights to a Microsoft Exchange  
Server 116

## S

saving  
attachments 16  
attachments in the Find dialog box 92  
profile criteria 162  
reports 154  
saving search profiles 89  
search  
performing 90  
search criteria  
report 93  
Search in  
Attachment File Name(s) 84  
Attachment Text 84  
Message Body 84  
Message Subject 84

search profile  
    creating 89  
    editing 90  
search profiles 89  
search results report 93  
searching  
    for attachments 84  
    using multiple search windows 90  
    within attachments 90  
    within results 85  
searching within attachments  
    exceptions 91  
Security Tab 24  
Shortcut Menu 12  
single instance storage (SIS) vs. cumulative  
    counts 147  
single mailbox  
    opening 59  
Single Mailbox Recovery  
    getting help 4  
sorting messages in the message list 14  
Source  
    EDB or PST file 7  
    message list 8  
Source data store 191  
Source Selection 39  
split bar, using to resize panes 13  
STM 191  
Summary Report 93  
suspending the processing on profiles 162

**T**  
target content analysis store  
    opening 156  
target message list 10  
Target message list  
    in main window 10  
target pane  
    creating a new folder 117  
    deleting a folder 118  
    pasting an item 118  
    renaming a folder 117  
Target Selection 44  
technical support 4  
text (.txt) export 96  
toolbar  
    in main window 11

**U**  
User Information 66

user permission 62  
using Find window in message views 179  
using multiple search windows 90  
using search profiles 89

**V**  
view the properties of a content analysis  
    store profile 166  
viewing  
    message table view messages 175  
    previous search results 86  
    the properties of a PST file, EDB file, folder,  
        or mailbox 16  
    the toolbar or status bar 13  
viewing profiles in content analysis store 167  
viewing the properties of a content analysis  
    store 166

**W**  
Warnings Tab 26