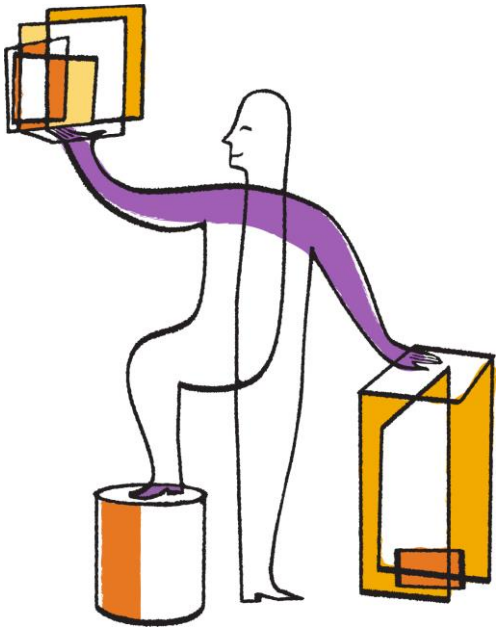
Single Mailbox Recovery 7.1.1

ExtractWizard Administration Guide



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Notice to Users

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

Generally, if such changes or variations are known to exist and affect the product significantly, a release note or Read Me file will accompany the User 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 i

Introduction 1

Overview 1

Single Mailbox Recovery Editions 2

About This Guide 2

- Menu Commands and Shortcuts 2
- Shortcut Menu 2

Other Documents 3

- Release Notes 3
- Reference Documents 3
- For the Most Current Information 3

Getting Help 4

- Online Help 4
- Technical Support 4

Credentials and Permissions 5

Chapter 1: Using the Single Mailbox Recovery ExtractWizard Direct Method 6

Overview 6

- Direct Method Requirements 6

Using the Direct Method with the Single Mailbox Recovery ExtractWizard 7

- Welcome Page 7

Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device 7

- Method of Extraction 8
- Extraction Source 8

Catalog Performance Options 9
Catalog Progress 11
File Selection 12
Destination Folder 19
Copy Progress 19
Completing the Wizard 20
Organizing the Extracted Files for Single Mailbox Recovery 20

Chapter 2: Using the Single Mailbox Recovery ExtractWizard Advanced Method 21

Overview 21
Advanced Method Requirements 21
API Method 22
Using the API Method 22
Emulation Method 22
Requirements for Using the Emulation Method 22
Two Basic Steps for Using the Emulation Method 23
Using the Emulation Method 23

Chapter 3: Using the API Method for IBM Tivoli Storage Manager 24

Overview 24
Configuring the Tivoli Client to Extract VSS Backups 27

Chapter 4: Using the API Method for EMC NetWorker 31

Overview 31
Using EMC NetWorker 7.3 and older 31
Using EMC NetWorker 7.4 or 7.5 31
Using EMC NetWorker 7.6 31

Chapter 5: Using the Emulation Method with Windows NT Backup 37

Overview 37

Windows NT Backup with Microsoft Exchange Server 2000, 2003, or 2007 on Windows 2000 or Windows Server 2003 37

Windows NT Backup with Microsoft Exchange Server 5.5 on Windows 2000 or Windows Server 2003 41

Windows NT Backup with Microsoft Exchange Server 5.5 on Windows NT 4 45

Chapter 6: Using the Emulation Method with HP Data Protector 48

Overview 48

HP Data Protector with Microsoft Exchange Server 2010 48

HP Data Protector with Microsoft Exchange Server 2000, 2003, or 2007 52

HP Storage Data Protector with Microsoft Exchange Server 5.5 55

Chapter 7: Using the Emulation Method with Symantec Backup Exec60

Overview 60

Symantec Backup Exec 2010 through 2010 R3 with Microsoft Exchange Server 2003, 2007, or 2010 60

Symantec Backup Exec 12.0 or 12.5 with Microsoft Exchange Server 2000, 2003, or 2007 65

Symantec Backup Exec 11d with Microsoft Exchange Server 2000, 2003, or 2007 69

Symantec Backup Exec 9.1 or 10.1 with Microsoft Exchange Server 2000 or 2003 73

Symantec Backup Exec 9.1 or 10.1 with Microsoft Exchange Server 5.5 77

Symantec Backup Exec 8.6 with Microsoft Exchange Server 2000 or 2003 80

Symantec Backup Exec 8.6 with Microsoft Exchange Server 5.5 84

Chapter 8: Using the Emulation Method with Symantec NetBackup ..88

Overview 88

Symantec NetBackup 7.6 with Microsoft Exchange Server 2013 88

Configuring Symantec NetBackup 7.6 for Microsoft Exchange Server 2013 92

Symantec NetBackup 7.1 and 7.5 with Microsoft Exchange Server 2000, 2003, 2007, or 2010 96

Configuring Symantec NetBackup 7.1 and 7.5 for Microsoft Exchange Server 2010 102

Configuring Symantec NetBackup 7.1 and 7.5 for Microsoft Exchange Server 2007 106

Symantec NetBackup 6.5.4-7.0 with Microsoft Exchange Server 2000, 2003, or 2007 108

Symantec NetBackup 6.0 with Microsoft Exchange Server 2000 or 2003 112

Symantec NetBackup 6.0 with Microsoft Exchange Server 5.5 116

Symantec NetBackup 4.5-5.1 with Microsoft Exchange Server 2000 or 2003 119

Symantec NetBackup 4.5-5.1 with Microsoft Exchange Server 5.5 123

Chapter 9: Using the Emulation Method with CA ARCserve Backup . 128

Overview 128

CA ARCserve Backup R15 and R16 with Microsoft Exchange Server 2000, 2003, 2007, or 2010 128

CA ARCserve Backup 9.x-11.5 with Microsoft Exchange Server 2000 or 2003 135

CA ARCserve Backup 9.x-11.5 with Microsoft Exchange Server 5.5 139

Chapter 10: Using the Emulation Method with EMC NetWorker 144

Overview 144

EMC NetWorker Server 8.0 with NMM v2.4 with Microsoft Exchange Server 2007 144

Configuring EMC NetWorker Server 8.0 with NMM for Microsoft Exchange Server 2007 149

EMC NetWorker Server 7.6 with NMM v2.3 with Microsoft Exchange Server 2007 or 2010 151

Configuring EMC NetWorker Server 7.6 with NMM for Microsoft Exchange Server 2010 157

Configuring EMC NetWorker Server 7.6 with NMM for Microsoft Exchange Server 2007 161

Chapter 11: Using the Emulation Method with CommVault Simpana and Galaxy Backup & Recovery 164

Overview 164

CommVault Simpana 9.0 and Microsoft Exchange Server 2010 164

CommVault Simpana 9.0 and Galaxy Backup & Recovery 6.1, 7.0, or 8.0 with Microsoft Exchange Server 2007 168

CommVault Simpana 9.0 and Galaxy Backup & Recovery 5.0, 5.9, 6.1, 7.0, or 8.0 with Microsoft Exchange Server 2000 or 2003 172

CommVault Galaxy Backup & Recovery 5.0 or 5.9 with Microsoft Exchange Server 5.5 177

Chapter 12: Using the Emulation Method with UltraBac 181

Overview 181

UltraBac and Microsoft Exchange Server 2000 or 2003 181

UltraBac and Microsoft Exchange Server 5.5 184

Appendix A: Single Mailbox Recovery ExtractWizard Emulation and Active Directory Objects 188

Using Single Mailbox Recovery ExtractWizard to Remove Active Directory Objects 188

Glossary 189

Copyright Information 191

Trademark Information 192

How to Send Comments About Documentation and Receive Update Notifications 193

Index 194

Introduction

Overview

Welcome to NetApp® Single Mailbox Recovery 7.1.1, the mailbox recovery software that saves time, money, and resources when recovering Microsoft® Exchange Server data.

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

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

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

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

Single Mailbox Recovery Editions

Single Mailbox Recovery 7.1.1 is available as a **fully-licensed** edition or as a **trial** edition. The trial edition supports all the features of the fully-licensed edition, but it is enabled for a maximum of 60 days before it expires.

To determine whether an installed copy of Single Mailbox Recovery 7.1.1 is a trial edition or a fully-licensed edition, select **Help > About** in the Single Mailbox Recovery main window.

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

About This Guide

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

Menu Commands and Shortcuts

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

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

Shortcut Menu

You can access many of the same commands available on the menu bar and toolbar by right-clicking the mouse to display a shortcut menu. The contents of the shortcut menu depend on whether you right-click in the Source or Target pane. This manual seeks to teach you how to use commands on the menu bar and toolbar, and doesn't 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.

Other Documents

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

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

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

Release Notes

The *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes* document contains additional information about the Single Mailbox Recovery ExtractWizard, including:

- Supported environments
- Installing and uninstalling Single Mailbox Recovery ExtractWizard
- Single Mailbox Recovery ExtractWizard Agents
- Upgrading from previous versions
- Technical support

Reference Documents

You should have the following documents readily available for reference.

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

For the Most Current Information

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

For detailed information about...	Read
Compatible versions of SnapDrive and Data ONTAP® software	*SnapDrive/ONTAP Compatibility Matrix*
SnapDrive system requirements: * Operating system * Hardware platform * Network	SnapDrive NSS Description page for the version of SnapDrive that you are using
Single Mailbox Recovery installation requirements	*Single Mailbox Recovery 7.1.1 NSS Description* page

Getting Help

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

- 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 online Help.

To start online Help

- Click the **Help** button.

Technical Support

If you have questions or problems not answered in the administrator's guide or the online help, call technical support at 1-888-4NETAPP. 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 version of Data ONTAP you are using.
- The version of SnapDrive you are using.
- The versions of Windows and Outlook that you are running.
- The version of Exchange 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 dialog box.
- A list of other Windows programs that you were running when the error occurred.

Credentials and Permissions

The credentials (username and password) used to log into the Windows system running Single Mailbox Recovery ExtractWizard must have the permissions and rights to perform the following Single Mailbox Recovery ExtractWizard tasks:

- Emulate Microsoft Exchange server for Advanced mode (Emulation method)
- Perform restores using Advanced mode (API method)

If the credentials do not have the correct permissions, you cannot complete the tasks.

Chapter 1: Using the Single Mailbox Recovery ExtractWizard Direct Method

Overview

If you have not yet extracted backed-up Microsoft Exchange Server Information Store data, try using Single Mailbox Recovery ExtractWizard. The Single Mailbox Recovery ExtractWizard extracts both private and public Microsoft Exchange Server Information Store data from tape, disk backups, to any alternate location (for example, machine, volume, folder), thereby eliminating the need for a recovery server. In contrast, most backup programs let you restore data only to the same or duplicate server from which it was backed up.

You can select private and public Microsoft Exchange Server Information Store data to extract into objects containing the log files, .edb, and .stm files.

The Single Mailbox Recovery ExtractWizard offers two methods of extracting backed-up data:

- Direct Method
- Advanced Method

This chapter explains how to use the Single Mailbox Recovery ExtractWizard with the Direct Method.

Note: *For information on using the Advanced Method of extracting backed-up Microsoft Exchange Server, see* ***"Using the Single Mailbox Recovery ExtractWizard Advanced Method" on page 21***.

Direct Method Requirements

The Direct Method has the following requirements:

- The tape drive must be directly attached to the computer and configured and active in the Windows Device Manager.
- The latest Windows drivers supplied directly from the manufacturer of the tape drive hardware should be installed for best results.
- Both online and offline Microsoft Exchange Server backups are supported.
- As Single Mailbox Recovery ExtractWizard reads tapes one at a time, you must manually insert and eject each tape when prompted.
- If Single Mailbox Recovery ExtractWizard is installed on your backup server, make sure the services for the backup software are disabled.

Using the Direct Method with the Single Mailbox Recovery ExtractWizard

Note: *Before proceeding with Single Mailbox Recovery ExtractWizard, see "Prerequisites" in the Release Notes.*

Single Mailbox Recovery ExtractWizard guides you through the extracting process of both private and public Microsoft Exchange Server Information Store data from tape or disk backups to any alternate location.

Welcome Page

The first page of Single Mailbox Recovery ExtractWizard is the Welcome page which describes the wizard and gives you access to the licensing information.

1. Click **Start**, and then point to **Programs**. Point to **Single Mailbox Recovery ExtractWizard** and select **Single Mailbox Recovery ExtractWizard**.
2. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under **License File Name**, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes.*
3. Click **Next**.

Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device

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

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

1. When the Single Mailbox Recovery ExtractWizard Welcome page appears, click **About** and then click **License Info** to display the License Information page.
2. In the **Storage appliance name or IP address** field, enter the name or IP address of the NetApp storage appliance and press the **Enter** key.
3. Click the **Close** button to close the License information box.
4. Click **OK** to close the About box and redisplay the Single Mailbox Recovery ExtractWizard Welcome page.
5. Click **Next**.

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

Method of Extraction

- On the Method of Extraction page, select **Direct Method** and click **Next**.

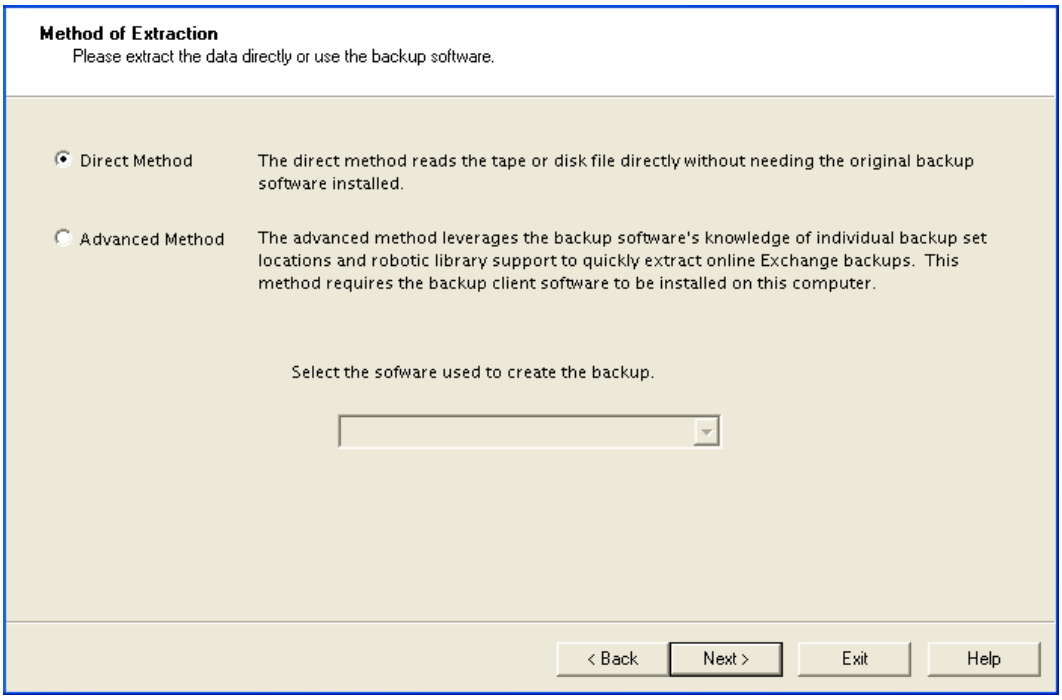

Figure 1-1: Method of Extraction Page for Direct Method

Extraction Source

1. On the next page of the Single Mailbox Recovery ExtractWizard, select the extraction Source.

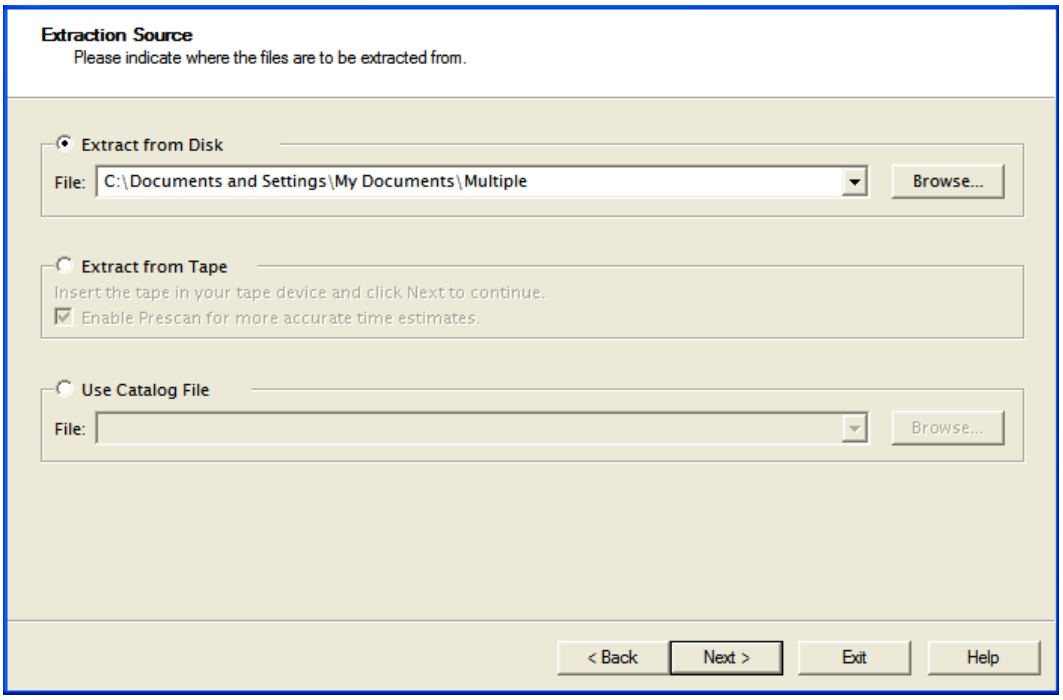

Figure 1-2: Extraction Source Page

2. Do one of the following:
   - Select **Extract from Disk**. Then type the extraction Source file path, use the history drop-down list, or browse to it. Click **Next**.
   - Select **Extract from Tape**. Then insert a backup tape in your tape device and, if desired, select the **Enable Prescan** option for more accurate time estimates. Click **Next**.
   - If the Single Mailbox Recovery ExtractWizard cannot locate a tape in the selected device, it will prompt you to insert the tape. If you have more than one tape device connected to your system, another screen will appear. Select the device containing the tape.
   - Select **Use Catalog File**. Then browse to a previously created catalog file, or use the history drop-down list. Look for the .ewc extension on the file. Click **Next**.

   Important: *In order to select this option, you must have previously created one or more Single Mailbox Recovery ExtractWizard catalog files. For information on creating a Single Mailbox Recovery ExtractWizard catalog file, see* ***"Step 3: Save a Catalog File" on page 18.***

Catalog Performance Options

The Catalog Performance Options page of the Single Mailbox Recovery ExtractWizard offers many options for cataloging backup data sets. All of the options automatically skip over known backup types that do not contain Exchange Information Store files. These types include registry backups, UNIX backups, image backups, NetWare backups, and Macintosh backups.

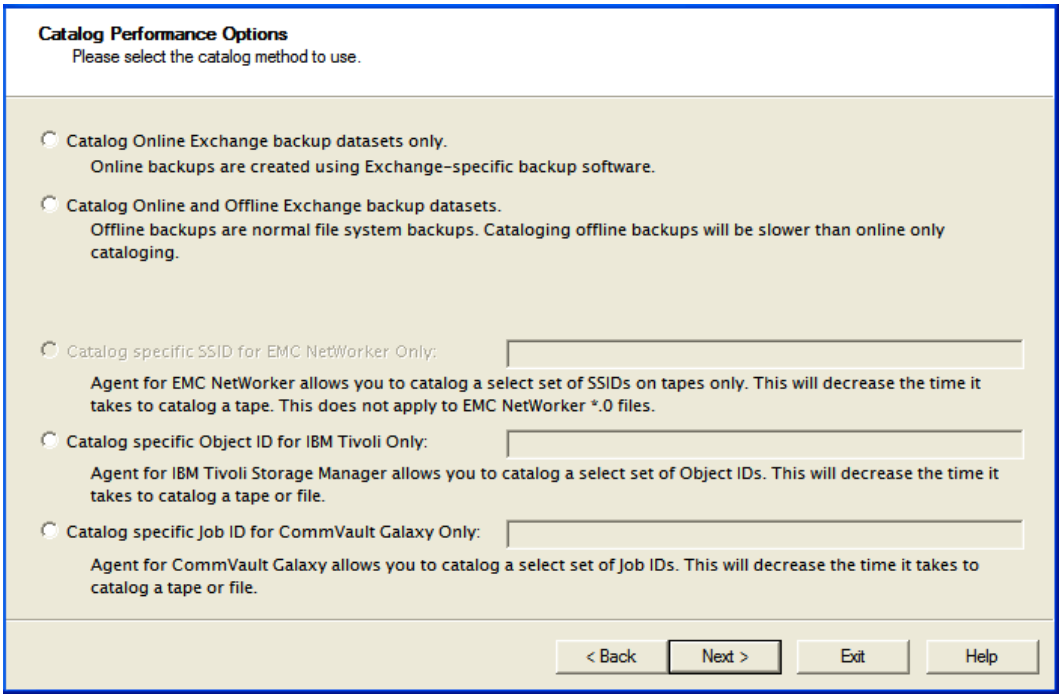

Figure 1-3: Catalog Performance Options

To choose a catalog performance option

1. Select one of the following options. Note that all these options will skip known non-Microsoft Exchange Server backups (for example, registry, Unix, Mac, Netware).
   - **Catalog Online Exchange backup datasets only:** This option catalogs only known online Microsoft Exchange Server backup datasets. It skips all other types of backups. If the backup type is unknown, it is skipped.
   - **Catalog Online and Offline Exchange backup datasets:** This option catalogs known online and offline Microsoft Exchange Server backup datasets. If an unknown backup type is encountered, Single Mailbox Recovery ExtractWizard catalogs it just in case it is a new backup identifier for Microsoft Exchange Server backups. This option is slower because it catalogs more types of backups.
   - **Catalog SSID for EMC NetWorker only:** Enter a specific Save Set ID (SSID) or a list of SSIDs, separated by commas, in the box. This option is available only if the EMC NetWorker agent is installed and you selected a tape source. Single Mailbox Recovery ExtractWizard catalogs only the SSIDs listed. When Single Mailbox Recovery ExtractWizard detects the end of the SSIDs in the list, it stops immediately and rewind the tape.
     This option greatly increases the catalog speed for EMC NetWorker users who want to start on a tape in the middle of a span set. If you select a specific SSID search on a non-EMC NetWorker tape, it behaves identically to the second option (Catalog Online and Offline Exchange backup datasets).
   - **Catalog specific object ID for IBM Tivoli only:** Enter a specific object ID or a list of object IDs, separated by commas, in the box. This option is available only if the IBM Tivoli agent is installed. Single Mailbox Recovery ExtractWizard catalogs only the

object IDs listed. When Single Mailbox Recovery ExtractWizard detects the end of the object IDs in the list, it immediately stops processing.
This option greatly increases the catalog speed for Tivoli users who know the Object ID of the backup they want to extract. If you select a specific Object ID search on a non-Tivoli tape, it behaves identically to the second option (Catalog Online and Offline Exchange backup datasets).

- **Catalog specific job ID for CommVault Simpana only:** Enter a specific job ID or a list of job IDs, separated by commas, in the box. This option is available only if the CommVault Simpana agent is installed. Single Mailbox Recovery ExtractWizard catalogs only the sessions associated with the Job IDs entered, both online and offline sessions. Single Mailbox Recovery ExtractWizard is unable to know when all data associated with the Job ID has been processed; therefore, Single Mailbox Recovery ExtractWizard is unable to stop cataloging early and still needs to process the entire tape. Using this option still greatly increases the speed of the catalog, because all other sessions can be quickly skipped over.

  This option greatly increases the catalog speed for CommVault Simpana users who know the job IDs of the backup they want to extract. This option also applies to CommVault backup-to-disk files. If you select a specific job ID search on a non-CommVault Simpana tape, it behaves identically to the second option (Catalog Online and Offline Exchange backup datasets).

Note: *All five options skip known non-Microsoft Exchange Server backups (such as registry, SQL, Unix, Mac, and Netware).*

2. Click **Next**.

Catalog Progress

The Catalog Progress page of the Single Mailbox Recovery ExtractWizard displays the progression of the cataloging process and the time remaining until completion. The Single Mailbox Recovery ExtractWizard catalogs the disk or tape and locates the data. Cataloging a disk backup is much faster than cataloging a full tape. During cataloging, the Single Mailbox Recovery ExtractWizard can be in one of four states: initializing, reading (processing one block at a time), scanning (seeking ahead multiple blocks), and rewinding.

In addition, CommVault Simpana displays a pre-cataloging stage (reading session information from the backup) after the initializing stage.

Do one of the following:

- Click **Cancel** if you want to stop the catalog process. If you click **Cancel**, the Single Mailbox Recovery ExtractWizard catalog will display all files that it found to that point.
- When the catalog is completed, click **Next** to proceed to the next page of the Single Mailbox Recovery ExtractWizard.

File Selection

On the File Selection page of the Single Mailbox Recovery ExtractWizard, you can select both the private and public Exchange Information Store files from which you want to extract. This page of the wizard requires you to perform four steps:

Step 1: View a Microsoft Exchange Server Backup

Step 2: Extract an Online or Offline Backup

Step 3: Save a Catalog File

Step 4: Complete the File Selection

Step 1: View a Microsoft Exchange Server Backup

1. On the left side of the window, click the plus sign (+) next to a backup set to view its volumes.
2. Select a volume (select its name, not its check box) to display the files on the right side of the window.

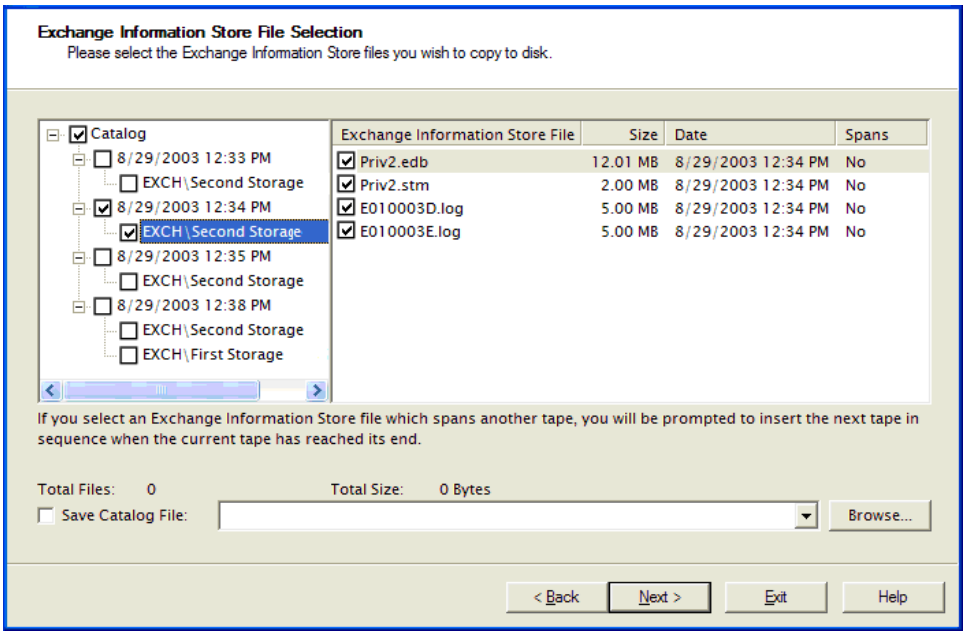

Figure 1-4: Viewing a full online disk backup

Step 2: Extract an Online or Offline Backup

After viewing the Microsoft Exchange Server information store files, you can select the files you want to extract. When viewing and selecting files, keep in mind the following points:

- Windows NT Backup, Symantec Backup Exec, Symantec NetBackup, and IBM Tivoli Storage Manager can contain multiple backup sets for both disk and tape backups.
- CA ARCserve Backup and EMC NetWorker can contain only one backup set for disk, but multiple backup sets for tape.

To extract a full online (normal) backup

- On the **File Selection** page of the Single Mailbox Recovery ExtractWizard, select the .edb, .stm, and .log files, as well as .pat files, if they exist.

Example 1:

Extracting a **Full Online Disk Backup (Windows NT Backup).** A Windows NT Backup to disk can contain multiple backup sets and volumes. Each backup set lists the session day and time (for example, 8/29/2003 12:34 AM). Each volume lists the machine name and volume name (for example, EXCH\Second Storage Group).

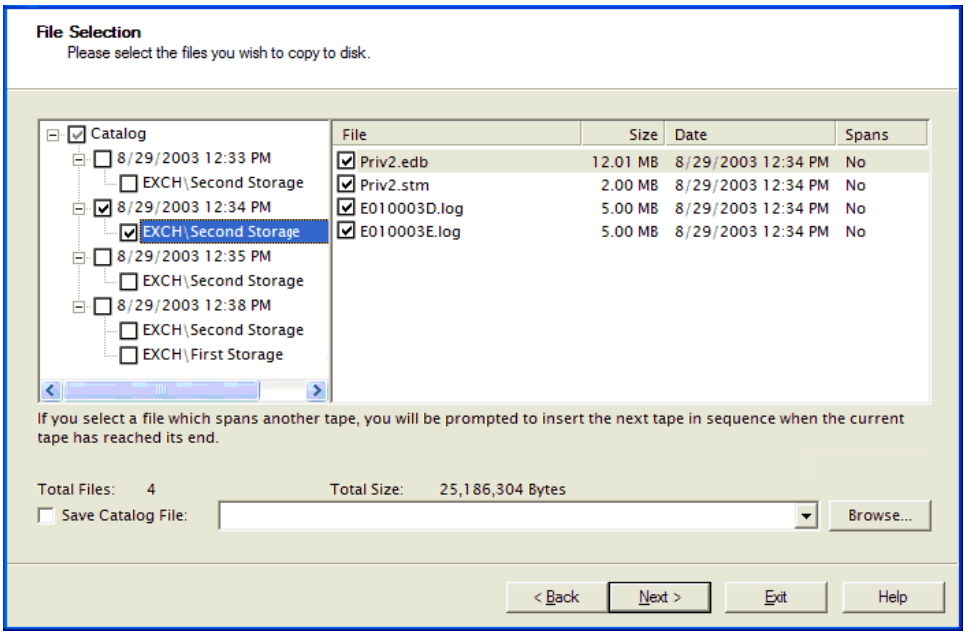

Figure 1-5: Extracting a full online disk backup (Windows NT Backup)

Example 2:

Extracting a **Full Online Tape Backup (EMC NetWorker).** An EMC NetWorker backup to tape can contain multiple backup sets and volumes. This example only displays one online backup set. The backup set lists the SSID (for example, 4247758661). The volume lists the machine name and volume name.

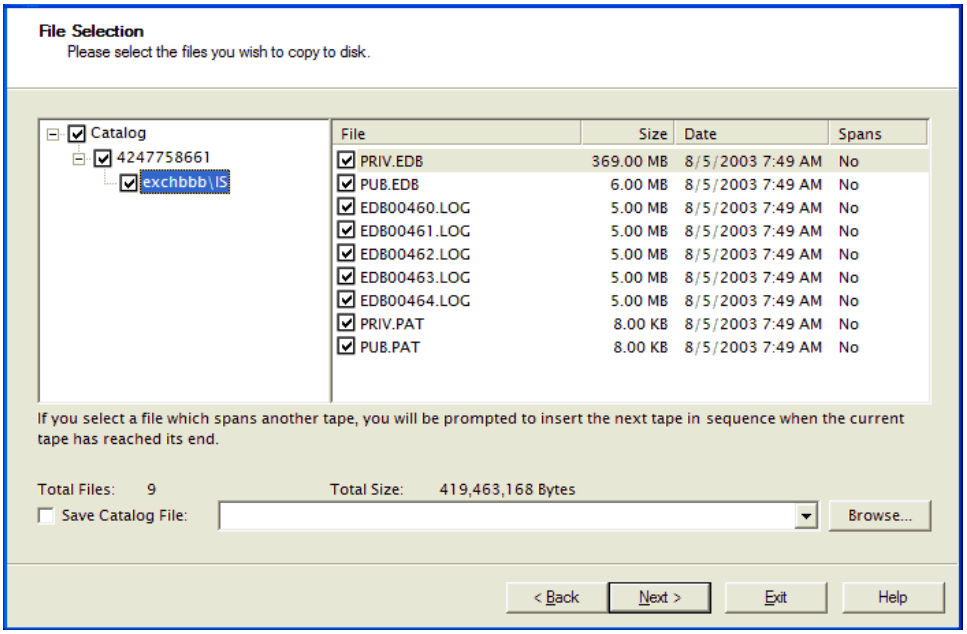

Figure 1-6: Extracting a full online tape backup (EMC NetWorker)

Example 3:

Extracting a **Full Online Disk Backup (CA ARCserve Backup).** A CA ARCserve backup to disk can contain only one backup set and volume. The backup set lists the session day and time (for example, 8/29/2003 10:32 AM). Each volume lists the machine name and volume name (for example, Exch\First Storage Group).

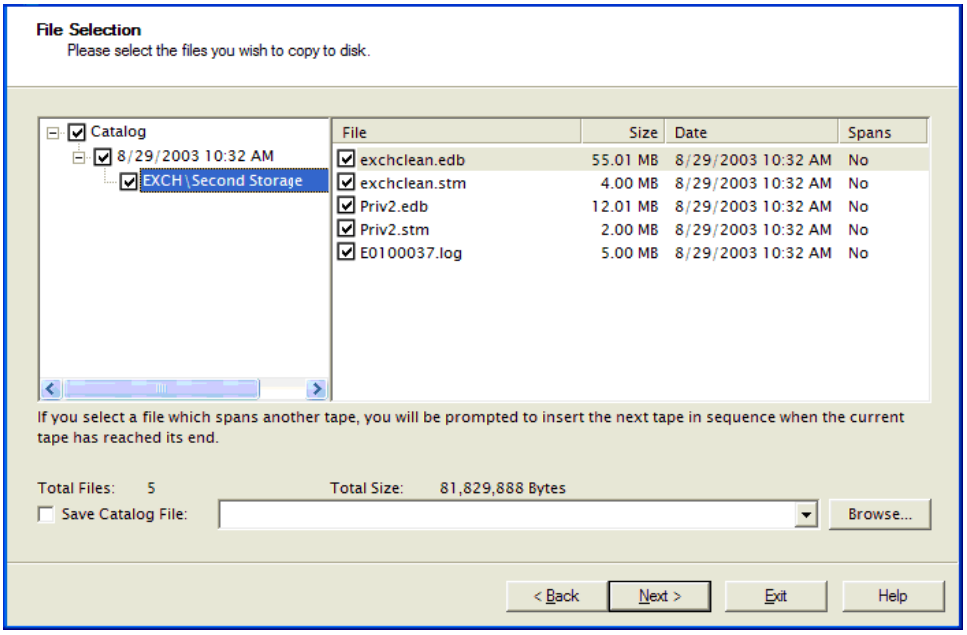

Figure 1-7: Extracting a full online disk backup (CA ARCserve Backup)

Example 4:

Extracting a **Full Online Tape Backup (NetBackup).** A Symantec NetBackup to tape can contain multiple backup sets and volumes. This example only displays one online backup set. Each backup set lists the session day and time (for example, 11/17/2005 3:42 PM). Each volume lists the machine name. Online backups also include the volume name (for example, pc\First Storage Group).

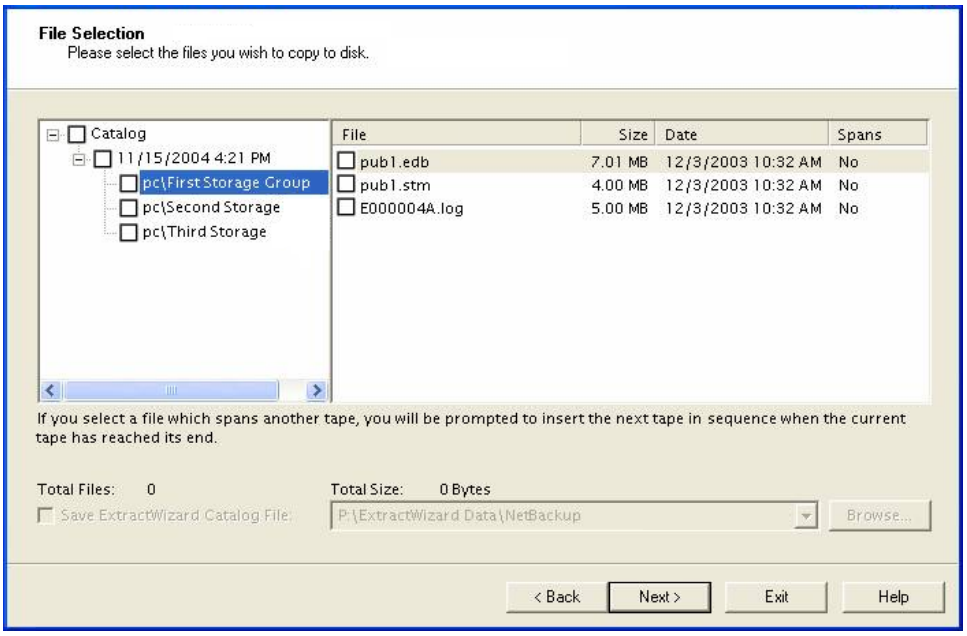

Figure 1-8: Extracting a full online tape backup (Symantec NetBackup)

To extract the last full online and every incremental backup

- On the **File Selection** page of the Single Mailbox Recovery ExtractWizard, select all of the files (for example, .edb, .log, .stm, .pat) from the last full online (normal) backup, plus the .log files from every incremental backup.

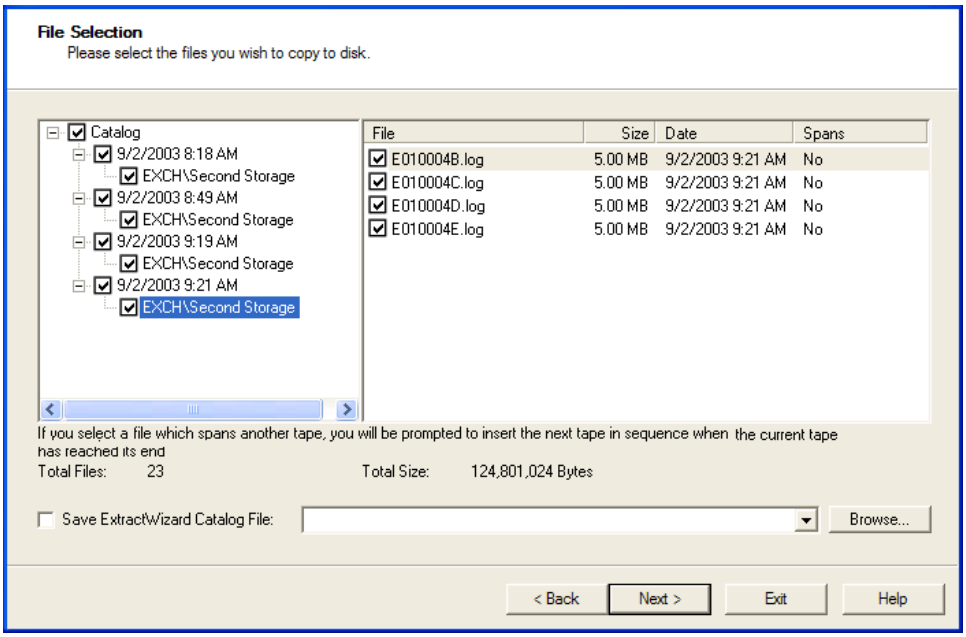

Figure 1-9: Extracting the full online plus every incremental backup to disk (Windows NT Backup)

To extract the last full online and last differential backup

- On the **File Selection** page of the Single Mailbox Recovery ExtractWizard, select all of the files (for example, .edb, .log, .stm, .pat) from the last full online (normal) backup, plus the .log files from the last differential backup.

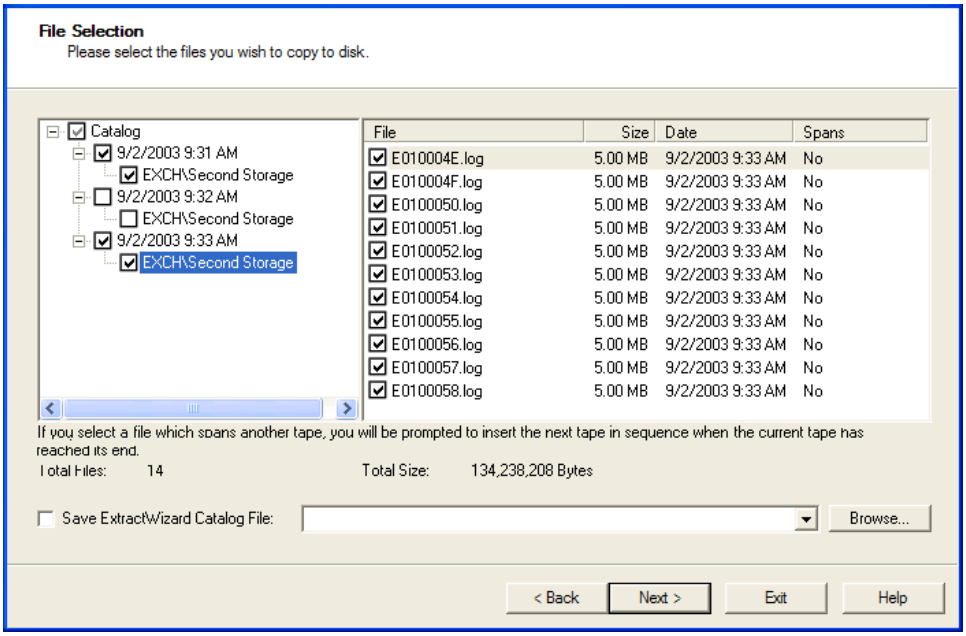

Figure 1-10: Extracting the last normal plus the last differential backup to disk (Windows NT Backup)

To extract an online copy backup (plus every incremental or last differential)

Use the same procedure for extracting a copy backup as you do for extracting a full online backup. A copy backup also works the same as a full online backup when extracting a copy backup plus every incremental or last differential backup.

Note: *The only difference between a full online backup and a copy backup is the following: For a full online backup, the .log files are truncated. For a copy backup, the .log files are not truncated.*

About Extracting a Full Offline Backup

The Single Mailbox Recovery ExtractWizard works the same for an offline backup as it does for an online backup. There are four differences between an offline backup and an online backup:

1. For an offline backup, you need to extract 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 ExtractWizard performs its own verification process and will include the .log, .pat, and .chk files to determine if it needs them to recover the data.
2. An offline backup can contain a .chk file.
3. The name of the volume for an offline backup displays the drive letter.
4. The volume for an offline backup extracts the full path for the Information Store files.

To extract a full offline backup

- On the **File Selection** page of the Single Mailbox Recovery ExtractWizard, select the .edb and .stm files. To ensure that all email data is recovered, you should also select .log files, as well as .pat and .chk files if they exist.

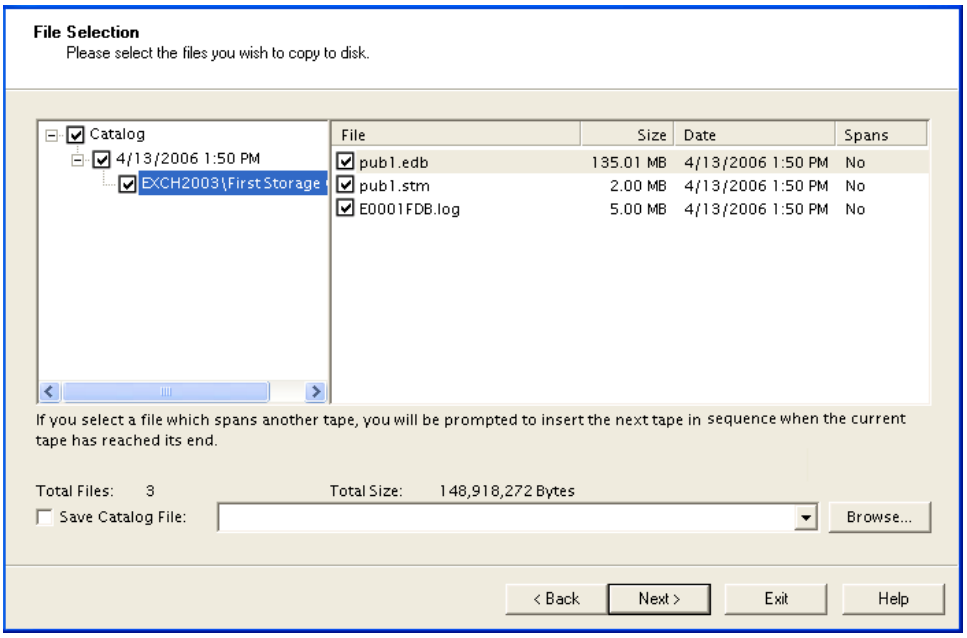

Figure 1-11: Extracting a full offline disk backup (Windows NT Backup)

About Extracting a Backup from Microsoft Exchange Server 5.5 vs. Microsoft Exchange Server 2000, 2003, 2007, and 2010

Extracting data from Exchange Server 5.5 works the same way as extracting data from Microsoft Exchange Server 2000, 2003, 2007, and 2010. However, when you are selecting files to extract on the **File Selection** page of the Single Mailbox Recovery ExtractWizard, you will notice two differences:

- Microsoft Exchange Server 5.5 contain .pat (patch) files in their information stores, whereas Microsoft Exchange Server 2000 SP2 and later do not contain .pat files in their information stores.

  In Microsoft Exchange Server 5.5, the .pat files are used to record information on page splits. In Microsoft Exchange Server 2000 SP2 and later, the functionality provided by .pat files is incorporated into Exchange log files.

- Microsoft Exchange Server 2000 and 2003 information stores contain .stm files in addition to the .edb files. Microsoft Exchange Server 5.5, 2007, and 2010 do not contain .stm files.

Using the "Show Duplicates" Option for CommVault Simpana

Single Mailbox Recovery ExtractWizard has a "Show Duplicates" check box for CommVault users. Duplicates can occur when CommVault Backup fails and restarts. You can select this check box, and if duplicates exist, they will appear on the right side of the Single Mailbox Recovery ExtractWizard window. If Single Mailbox Recovery ExtractWizard or Single Mailbox Recovery encounters a problem with a file, you can then attempt to extract its duplicate. This feature saves time by allowing you to extract only that file (i.e., its duplicate) which encountered the problem, instead of performing a full extraction of all of the files in the session.

To use the "Show Duplicates" Option for CommVault Simpana

1. Select the **Show Duplicates** check box. If duplicates exist, they will appear on the right side of the Single Mailbox Recovery ExtractWizard window.
2. Select the duplicate(s) of the file(s) that encountered problems in Single Mailbox Recovery ExtractWizard or Single Mailbox Recovery, and click **Next**.
3. Complete the remaining steps of the Single Mailbox Recovery ExtractWizard.

Step 3: Save a Catalog File

The catalog file saves all the information that Single Mailbox Recovery ExtractWizard needs to extract from a backup disk or tape. Saving a catalog file means that the next time you extract from that tape or backup disk, you can skip the catalog process.

To save a Catalog File

1. On the **File Selection** page of the Single Mailbox Recovery ExtractWizard, select the files you want to extract, and then select the **Save ExtractWizard Catalog File** check box.
2. Browse to the desired location, type a file name, and click **Save**. Note that the catalog file is not saved until you click **Next**.

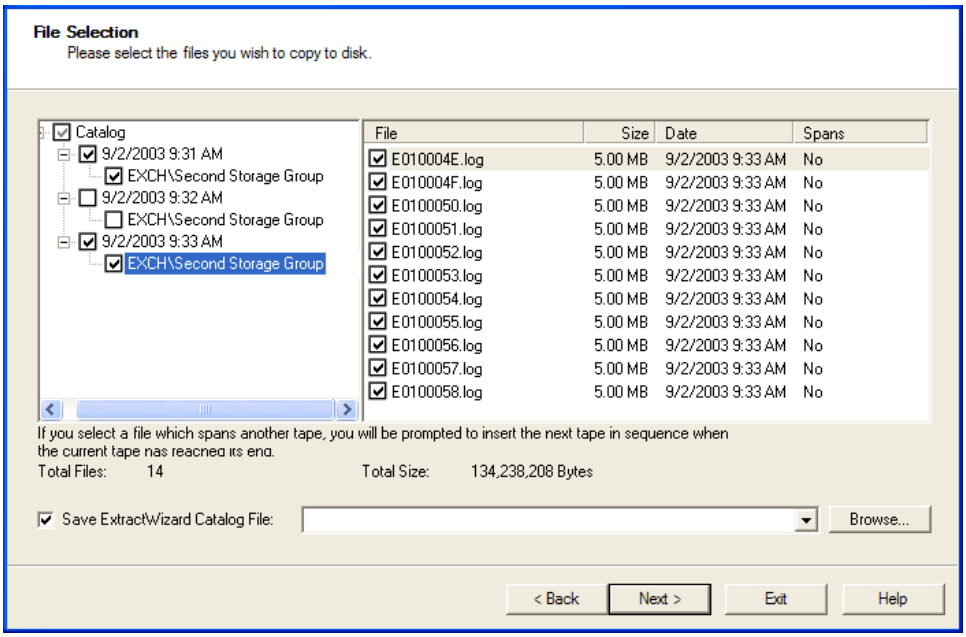

Figure 1-12: Saving a Catalog File

Step 4: Complete the File Selection

1. On the File Selection page of the Single Mailbox Recovery ExtractWizard, make sure you have selected the files that you want to extract, and saved the Single Mailbox Recovery ExtractWizard catalog file, if desired.
2. Click **Next** to proceed to the last page of the wizard.

Destination Folder

Use the Destination Folder page of the wizard to specify a location for the extracted data.

1. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, type the path where you want Single Mailbox Recovery ExtractWizard to extract the data, use the history drop-down list, or browse to the desired location and type the file name. (The Browse window lets you create a new folder on the Target volume, unless you are running Windows NT 4).
2. Click **Next**. The Single Mailbox Recovery ExtractWizard verifies that you have enough disk space as well as access rights to create files and directories.

Copy Progress

The Copy Progress page of the Single Mailbox Recovery ExtractWizard shows the progress of the Single Mailbox Recovery ExtractWizard extracting the data to the destination folder. This process may take some time.

The top bar indicates the progress for the file that is currently being extracted. The bottom bar indicates the progress for all of the files. For EMC NetWorker and Symantec NetBackup tapes, the top bar may switch back and forth between files if they are interleaved.

During file extraction, Single Mailbox Recovery ExtractWizard can be in one of four states: *initializing*, *reading* (processing one block at a time), *scanning* (seeking ahead multiple blocks), and *rewinding*.

Note: *You can click* ***Cancel*** *to stop the process. The file currently being extracted will be deleted, but you can access any files that have completed extraction.*

Completing the Wizard

The last page of the Single Mailbox Recovery ExtractWizard displays all of the files that were successfully extracted.

- If you are satisfied with the results, click **Finish**.

If you extracted multiple data sets, see **"Organizing the Extracted Files for Single Mailbox Recovery" on page 20**.

Organizing the Extracted Files for Single Mailbox Recovery

Before using the extracted files to restore Exchange mail items, you need to organize the extracted files for Single Mailbox Recovery if the backup was created using one of the following backup methods:

- Online incremental backup
- Online differential backup
- Offline backup

For detailed information, see "Organizing Files Extracted From Other Backup Applications" in the *NetApp® Single Mailbox Recovery 7.1.1 Administration Guide*.

Chapter 2: Using the Single Mailbox Recovery ExtractWizard Advanced Method

Overview

The Single Mailbox Recovery ExtractWizard Advanced Method uses your existing backup software to extract a Microsoft Exchange Server database from a backup server or tape library, across the network, to the computer running Single Mailbox Recovery ExtractWizard. The Advanced Method takes full advantage of your backup software's knowledge of individual set locations and robotic library support. This is the fastest method to extract a Microsoft Exchange Server Information Store from the most recent backups managed by your backup server.

Once configured for the Advanced Method, Single Mailbox Recovery ExtractWizard seamlessly integrates with your backup software and fully supports your existing catalogs, backups, and tape library. No other changes to your existing backup architecture or settings are required.

Two methods of operation

The Single Mailbox Recovery ExtractWizard Advanced Method offers you two choices:

- The API Method
- The Emulation Method

Note: *For information on using the Direct Method of extracting backed-up Microsoft Exchange Server data, see* ***"Using the Single Mailbox Recovery ExtractWizard Direct Method" on page 6***.

Advanced Method Requirements

The API and Emulation advanced methods share two main requirements:

- Only online Microsoft Exchange Server backups are supported. This includes full, copy, incremental, and differential backups.
- The backup client software must be installed on the computer running Single Mailbox Recovery ExtractWizard.

> ***Note:*** *The Emulation Method has additional requirements. For more information, see* ***"Requirements for Using the Emulation Method" on page 22***.

API Method

The API (Application Program Interface) method of extracting backed-up Microsoft Exchange Server data allows Single Mailbox Recovery ExtractWizard to communicate directly to the backup software server through methods provided by the client side .dll files. Single Mailbox Recovery ExtractWizard queries the backup server for online Microsoft Exchange Server backups using the backup software's API. You then select which backups you want extracted and Single Mailbox Recovery ExtractWizard will extract the databases to the desired location on disk.

Using the API Method

The API method is used for these types of backup software:

- IBM Tivoli Storage Manager - see **"Using the API Method for IBM Tivoli Storage Manager" on page 24**.
- EMC NetWorker - see **"Using the API Method for EMC NetWorker" on page 31**.

Emulation Method

With the Emulation method, Single Mailbox Recovery ExtractWizard appears as a Microsoft Exchange Server to the backup software. You run the backup software and extract the Microsoft Exchange Server data to the computer running Single Mailbox Recovery ExtractWizard.

The Emulation method of extracting backed-up Microsoft Exchange Server data allows you to run your backup software and restore to the computer running Single Mailbox Recovery ExtractWizard, which acts as the alternate Microsoft Exchange Server. Single Mailbox Recovery ExtractWizard responds to the backup software by using the same interfaces that Microsoft Exchange Server uses.

Requirements for Using the Emulation Method

The Emulation Method has the following requirements:

- Only online Microsoft Exchange Server backups are supported. This includes full, copy, incremental, and differential backups.
- The backup client software must be installed on the computer running Single Mailbox Recovery ExtractWizard.
- Single Mailbox Recovery ExtractWizard cannot be run on a Microsoft Exchange Server.
- Backup restore .dll files must be in the system path on the computer running Single Mailbox Recovery ExtractWizard. For Microsoft Exchange Server 2000, 2003, 2007, and 2010, esebcli2.dll is required as well as a registry key pointing to it. For Microsoft Exchange Server 5.5, edbbcli.dll is required. For more information, see the instructions for each type of backup software discussed in this section.

- You must have the rights to create and start services on the computer running Single Mailbox Recovery ExtractWizard.
- Additional prerequisites may apply for each of the backup software. For more information, see the instructions for the particular backup software discussed in this section.

Two Basic Steps for Using the Emulation Method

1. Start Single Mailbox Recovery ExtractWizard on the computer where the Microsoft Exchange Server Information Store files will be restored. This is the Restore Target Computer. Then configure it for Emulation method.
2. Start your Backup Restore Software on the computer you normally run it on (this may be on the same computer running Single Mailbox Recovery ExtractWizard). Then perform a redirected online restore to an alternate Microsoft Exchange Server. The computer running Single Mailbox Recovery ExtractWizard acts as the alternate Microsoft Exchange Server.

   Note: *For Symantec NetBackup, you must run your backup restore software on the computer running Single Mailbox Recovery ExtractWizard.*

Using the Emulation Method

The Exchange Emulation method is used for these types of backup software:

- Windows NT Backup - see **"Using the Emulation Method with Windows NT Backup" on page 37**.
- HP Data Protector - see **"Using the Emulation Method with HP Data Protector" on page 48**.
- Symantec Backup Exec - see **"Using the Emulation Method with Symantec Backup Exec" on page 60**.
- Symantec NetBackup - see **"Using the Emulation Method with Symantec NetBackup" on page 88**.
- CA ARCserve Backup - see **"Using the Emulation Method with CA ARCserve Backup" on page 128**.
- EMC NetWorker - see **"Using the Emulation Method with EMC NetWorker" on page 144**.
- CommVault Simpana and Galaxy Backup & Recovery - see **"Using the Emulation Method with CommVault Simpana and Galaxy Backup & Recovery" on page 164**.
- UltraBac - see **"Using the Emulation Method with UltraBac" on page 181**.

Chapter 3: Using the API Method for IBM Tivoli Storage Manager

Overview

This chapter explains how to use the API Method for IBM Tivoli Storage Manager.

Note: *Tivoli VSS restores require Single Mailbox Recovery ExtractWizard running on Windows Vista or later.*

1. Install the IBM Tivoli client software on the computer that will run Single Mailbox Recovery ExtractWizard.

   Note: *If installing on a 64-bit machine, perform a custom installation and select the Client API (32-bit) Runtime Files for installation.*

   Note: *If installing Tivoli 6.3 or later on a 64-bit machine, you need to manually download and install the Microsoft Visual C++ 2010 Redistributable Package (x86) (http://www.microsoft.com/download/en/details.aspx?id=5555).*

   Note: *If you want to extract VSS backups, follow the steps in* ***"Configuring the Tivoli Client to Extract VSS Backups" on page 27***.

2. Start Single Mailbox Recovery ExtractWizard. (Click **Start**, and then point to **Programs**. Point to NetApp, then Single Mailbox Recovery and select Single Mailbox Recovery ExtractWizard. The first page describes the wizard.)
3. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under **License File Name**, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Enabling the Licensed Agents" in the Release Notes file.
4. Click **Next**.
5. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select the **Advanced Method** option.

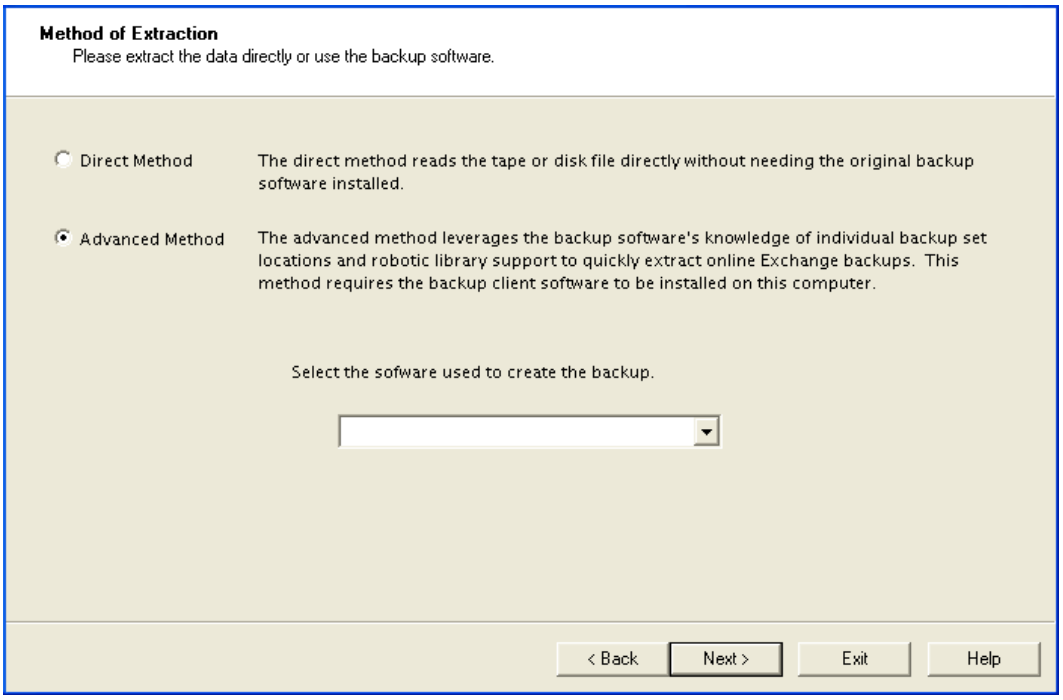

Figure 3-1: Method of Extraction Page for Advanced Method

6. Select **IBM Tivoli Storage Manager** from the drop-down list.
7. Click **Next**. The **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard lets you specify the backup server and client computer names.

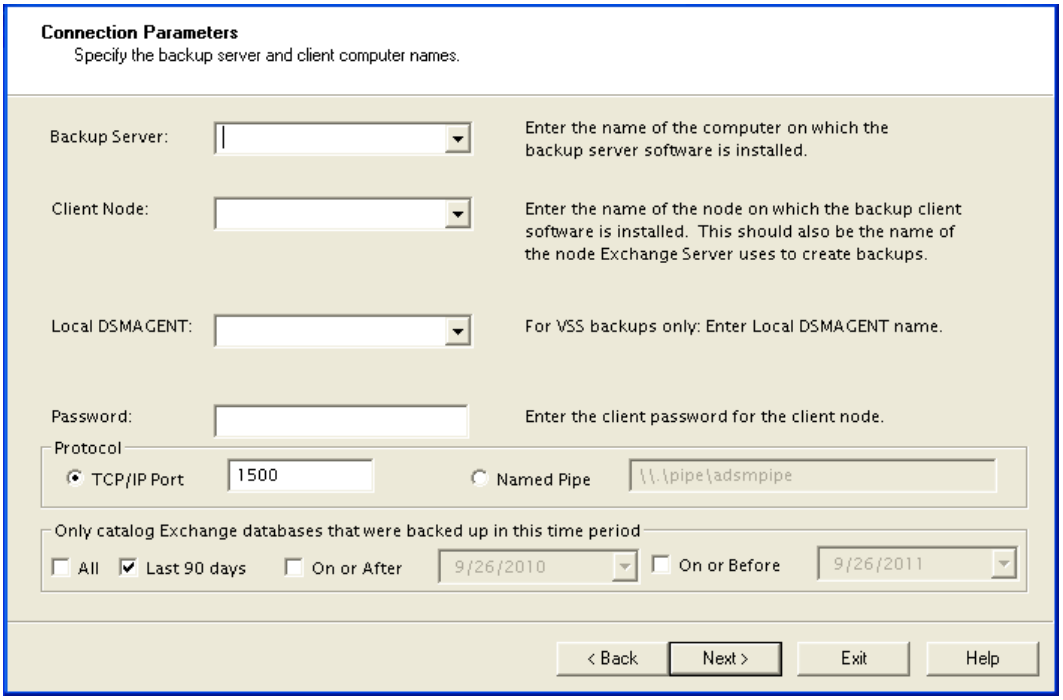

Figure 3-2: Connection Parameters Page for IBM Tivoli Storage Manager

8. Specify the connection parameters:

- For **Backup Server**, enter the name of the computer on which the backup server software is installed.
- For **Client Node**, enter the IBM Tivoli client node that backed up the Microsoft Exchange Server Information Store.
- For **Local DSMAGENT**, if you want to catalog and extract VSS backups, enter the local DSMAGENT name on the computer running Single Mailbox Recovery ExtractWizard (not the DSMAGENT on the Microsoft Exchange Server used to create the backup). If left empty, VSS backups are not cataloged.
- For **Password**, enter the client password.
- For **Protocol**, select one of the following options:
  - **TCP/IP Port:** Refer to your IBM Tivoli Storage Manager user guide or help for instructions.
  - **Named Pipe:** Refer to your IBM Tivoli Storage Manager user guide or help for instructions.
- For **Only catalog Exchange databases that were backed up in this time period**, select the desired time period.

Note: *The **Catalog Progress** page of the Single Mailbox Recovery ExtractWizard shows the catalog progress. The Single Mailbox Recovery ExtractWizard queries the Tivoli backup server database for Information Store backups.*

9. Do one of the following:
   - Click **Cancel** if you want to stop the catalog process. If you click **Cancel**, the Single Mailbox Recovery ExtractWizard catalog will display all files that it found to that point.
   - When the catalog is completed, click **Next** to proceed to the next page of the Single Mailbox Recovery ExtractWizard.

   The **File Selection** page of the Single Mailbox Recovery ExtractWizard lets you select both the private and public Exchange Information Store files that you want to extract from a Microsoft Exchange Server backup.

   In the following example, IBM Tivoli Storage Manager contains multiple backup sets and volumes. Each backup set lists the session day and time (for example, Feb 08 14:01:29 2005). Each volume lists the computer name and volume name. The objects belonging to the volume appear on the right side of the window. One object contains the log files, and the other object contains the .edb and .stm files.

   Note: *An asterisk (*) next to a backup indicates that it is an incremental or differential backup.*

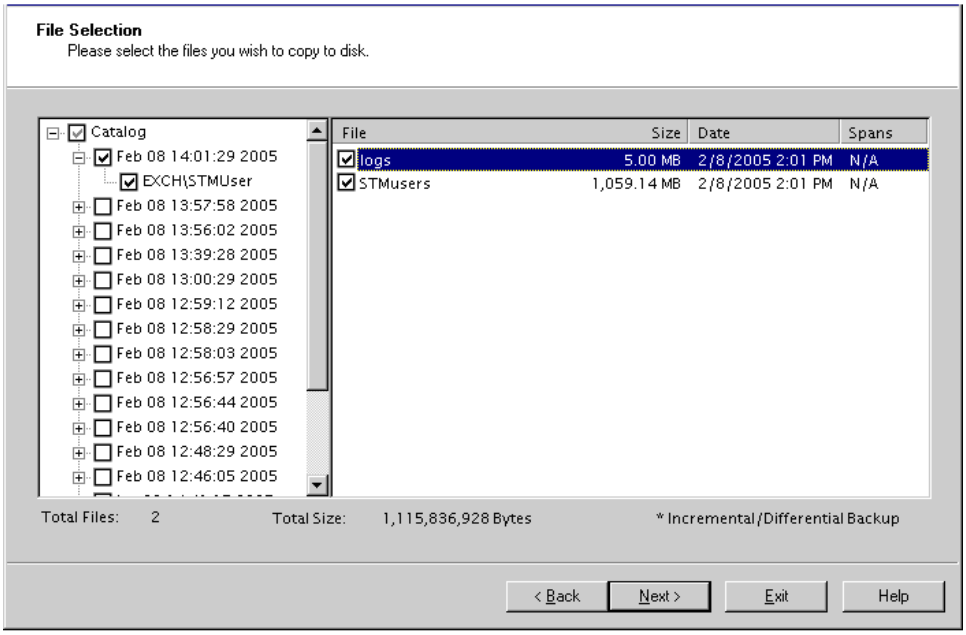

Figure 3-3: Extracting a full online disk backup (IBM Tivoli Storage Manager)

10. On the left side of the window, click the plus sign (+) next to a backup set to view its volumes.
11. Select a volume (select its name, not its check box) to display the Microsoft Exchange Server Information Store objects on the right side of the window.
12. Select the check boxes next to the objects containing the .log, .edb, and .stm files, as well as .pat files, if they exist.
13. Click **Next**. The **Destination Folder** page of the Single Mailbox Recovery ExtractWizard lets you select a folder for the extracted files.
14. Under **Destination Folder**, specify a location for the extracted files.
15. (Optional) Click **Cancel** only if you want to stop the process. The file currently being extracted will be deleted, but you can access any files that have completed extraction. The last page of the Single Mailbox Recovery ExtractWizard displays all of the files that were successfully extracted.
16. If you extracted multiple data sets, see **"Organizing the Extracted Files for Single Mailbox Recovery" on page 20**.

Configuring the Tivoli Client to Extract VSS Backups

In order to restore VSS backups with Tivoli 6.3 client and later with Single Mailbox Recovery ExtractWizard, you need to configure the computer to work with Tivoli and Single Mailbox Recovery ExtractWizard.

OVERVIEW:

In this setup, you will do the following:

Chapter 3: Using the API Method for IBM Tivoli Storage Manager

1. Set up a Tivoli node for Single Mailbox Recovery ExtractWizard.
2. Install the Tivoli Base Client.
3. Create the TSM Web Client.

REQUIREMENTS:

- A computer running Single Mailbox Recovery ExtractWizard:
  - Computer must be Windows Vista or later.
  - 32-bit and 64-bit systems are supported.
- Tivoli Base Client 5.4 or later installation media.

To configure the Tivoli client to extract VSS backups using the Single Mailbox Recovery ExtractWizard Advanced Method:

1. On the Tivoli Server or from an administrative command line:
   a. Register the node for Single Mailbox Recovery ExtractWizard to use.

      Important: *This should be different than the Microsoft Exchange Server node.*

      - Register node NODENAME PASSWORD

   b. Grant the Single Mailbox Recovery ExtractWizard node proxy access to the Microsoft Exchange VSS backups.
      - Grant proxy target=EXCHANGEVSSNODE agent=NODENAME
      - EXCHANGEVSSNODE is the node TDPExchange uses to make backups
      - NODENAME is the node name for the Single Mailbox Recovery ExtractWizard client machine
2. On the computer running Single Mailbox Recovery ExtractWizard:
   a. Install the Tivoli Base Client. (Do not install the Tivoli Exchange Client.)
      - If installing on a 64-bit machine, perform a custom installation and select the Client API (32-bit) Runtime Files for installation.
      - If installing Tivoli 6.3 or later on a 64-bit machine, you need to manually download and install the Microsoft Visual C++ 2010 Redistributable Package (x86) (http://www.microsoft.com/download/en/details.aspx?id=5555).

   b. Configure the dsm.opt file for the Backup Client.
      - Enter your Tivoli server name and the node name you created in step 1 with one of the following methods:
        - Use the wizard that runs when you first start the Backup Client.
        - Edit the dsm.opt file in the **C:\Program Files\Tivoli\TSM\baclient** folder with the following lines:

```
NODENAME [Tivoli Client Nodename]
TCPSERVERADDRESS [Tivoli Servername]
EXCLUDE.BACKUP "*:\microsoft uam volume\...\*"
EXCLUDE.BACKUP "*:\microsoft uam volume\...\*.*"
```

```
EXCLUDE.BACKUP "*:\...\EA DATA. SF"
EXCLUDE.BACKUP "*:\IBMBIO.COM"
EXCLUDE.BACKUP "*:\IBMDOS.COM"
EXCLUDE.BACKUP "*:\IO.SYS"
EXCLUDE.BACKUP "*:\...\system32\config\...\*"
EXCLUDE.BACKUP "*:\...\system32\Perflib*.dat"
EXCLUDE.BACKUP "*:\...\system32\dhcp\...\*"
INCLUDE.BACKUP "*:\...\system32\dhcp\backup\...\*"
EXCLUDE.BACKUP "*:\...\system32\dns\...\*"
INCLUDE.BACKUP "*:\...\system32\dns\backup\...\*"
EXCLUDE.ARCHIVE "*:\microsoft uam volume\...\*"
EXCLUDE.ARCHIVE "*:\microsoft uam volume\...\*.*"
EXCLUDE.ARCHIVE "*:\...\EA DATA. SF"
EXCLUDE.ARCHIVE "*:\IBMBIO.COM"
EXCLUDE.ARCHIVE "*:\IBMDOS.COM"
EXCLUDE.ARCHIVE "*:\IO.SYS"
EXCLUDE.ARCHIVE "*:\...\system32\config\...\*"
EXCLUDE.ARCHIVE "*:\...\system32\Perflib*.dat"
EXCLUDE.ARCHIVE "*:\...\system32\dhcp\...\*"
INCLUDE.ARCHIVE "*:\...\system32\dhcp\backup\...\*"
EXCLUDE.ARCHIVE "*:\...\system32\dns\...\*"
INCLUDE.ARCHIVE "*:\...\system32\dns\backup\...\*"
EXCLUDE.DIR "*:\System Volume Information"
EXCLUDE.DIR "*:\...\Temporary Internet Files"
EXCLUDE.DIR "*:\Recycled"
EXCLUDE.DIR "*:\Recycler"
EXCLUDE.DIR "*:\$Recycle.Bin"
```

c. Configure the web client for Tivoli.

1. Start the Tivoli Backup-Archive GUI.
2. On the **Utilities** menu, select **Setup Wizard**.
3. On the TSM Client Configuration Wizard, select **Help me configure the TSM Web Client** and click **Next**.
4. On the first page read the description of the web client and click **Next**.
5. Select **Install a new web client agent** and click **Next**.

   Note: *This should be your only option.*

6. For the TSM acceptor name, use the default and click **Next**.

   Note: *This value is not used by Single Mailbox Recovery ExtractWizard, so any entry is acceptable.*

7. For the Option File Name and Location, pick the dsm.opt file you configured for the main Backup-Archive GUI and click **Next**.

Note: *This value is not used by Single Mailbox Recovery ExtractWizard, so any entry is acceptable.*

8. On the Web Client Options page, select any port number that is open, such as the default value 1581 and click **Next**.
9. On the TSM Authentication page, enter the NODENAME and PASSWORD you created in step 1.

   Important: *This is the DSMAGENT name for Single Mailbox Recovery ExtractWizard.*

10. Ensure the Contact the TSM Server to validate password check box is selected and click **Next**.
11. On the Service Login Options page, select the options for your system and click **Next**.

    Important: *The service must be running when Single Mailbox Recovery ExtractWizard is going to be used.*

12. On the Select the names of the Web services page, use the default entry TSM Remote Client Agent.

    Note: *This value is not used by Single Mailbox Recovery ExtractWizard, so any entry is acceptable.*

13. On the Web Client Parameters page, use the default entry **No** and click **Next**.
14. On the Start Option page, select **Yes** to automatically start the service after the wizard completes.

    Note: *If No is selected you must manually start the service.*

15. On the Confirm and Apply your configuration page, click **Apply**.
16. Click **Finish** to exit the wizard.

The client is now configured to extract VSS backups using the Single Mailbox Recovery ExtractWizard Advanced Method.

Chapter 4: Using the API Method for EMC NetWorker

Overview

This chapter explains how to use the API Method for EMC NetWorker.

Note: *Before you use the API Method for EMC NetWorker, you must do the following:*

- Make sure your login has EMC NetWorker administrative rights to get correct sizes for Microsoft Exchange Server files. (The user's administrative rights are accessed from the Setup tab on the NetWorker Management Console.) If you do not have these rights, you can still run Single Mailbox Recovery ExtractWizard, but you will not be provided accurate extraction progress.

Using EMC NetWorker 7.3 and older

Make sure your current login has remote access to the client to which you are restoring.

To gain remote access

1. Run NetWorker Administrator.
2. Select **Manage Clients**.
3. Right-click the Microsoft Exchange Server client you want to restore the database from and click **Edit**.
4. Under the **Remote** tab, enter your full user name in the **Remote Access** box. Example: postmaster@www.netapp.com

Using EMC NetWorker 7.4 or 7.5

Make sure your current login has remote access to the client to which you are restoring.

To gain remote access

1. Run NetWorker Administrator.
2. Select **Manage Clients**.
3. Right-click the Microsoft Exchange Server client you want to restore the database from and click **Edit**.
4. In the client **Properties**, click the **Globals (1 of 2)** tab. Add the machine name that will run Single Mailbox Recovery ExtractWizard in the **Aliases** field for the client.

Using EMC NetWorker 7.6

Make sure your current login has remote access to the client to which you are restoring.

Chapter 4: Using the API Method for EMC NetWorker

Note: *You can only use either the API method (NetWorker Module for Exchange Server - NME) or the Emulation Method (NetWorker Module for Microsoft Applications - NMM). However, NME and NMM cannot be installed on the same machine.*

Note: *The computer running Single Mailbox Recovery ExtractWizard is the "Extractor" machine.*

To gain remote access

1. Run NetWorker Administrator.
2. Select the **Configuration** tab.
3. In the left pane, click **Clients**.
4. In the Clients pane, right-click the EMC NetWorker client that backed up the Exchange Information Store and select **Properties**.
5. In the Properties dialog box, select the **Globals (1 of 2)** tab.
6. In the **Aliases** box, enter the name of the Extractor machine *both with and without the domain name* (example: computername.domain.com and computername).
7. Click **Ok**.
8. In the left pane, select **User Group**.
9. In the User Group pane, right-click **Users** and select **Properties**.
10. In the Properties dialog box, select the **General** tab.
11. In the **Privileges** list, ensure the following entries are selected:
    - Operate NetWorker
    - Monitor NetWorker
    - Operate Devices
    - Recover Local Data
    - Backup Local Data.

    Note: *If you want to extract data as a client that is not aliased, select* ***Remote Access All Clients****.*

12. Click **Ok**.
13. Reboot the server or stop and start all EMC and NetWorker services by doing the following:

    Important: *Before restarting all the EMC and NetWorker services, ensure that there are no active NetWorker backup or restore operations running on this system.*

    a. Click the **Start** menu, then select **Run** to open the Run dialog box.
    b. In the **Open** box, type **services.msc** and press Enter to open the Services Management console.
    c. Select the **NetWorker Remote Exec Service**. *If the service is already running*, click **Restart the service**. *If the service is not running*, click **Start the service**.
    d. After starting or restarting **NetWorker Remote Exec Service**, verify that **Started** appears in its Status column.
    e. Now start the **NetWorker Backup and Recover Server** service and verify that **Started** appears in its Status column.
    f. Finally, start the **EMC GST Service** and verify that **Started** appears in its Status column.

Note: *You can also start and stop all EMC and NetWorker services from the command line on the Network Server, as shown in the following example (quotation marks in highlighted commands are required).*

```
C:\Documents and Settings\Administrator>net stop "NetWorker Remote Exec Service"

The following services are dependent on the NetWorker Remote Exec Service service.

Stopping the NetWorker Remote Exec Service service will also stop these services.


   NetWorker Backup and Recover Server

   EMC GST Service

Do you want to continue this operation? (Y/N) [N]: y

.................

The NetWorker Backup and Recover Server service was stopped successfully.

....

The EMC GST Service service was stopped successfully.

.

The NetWorker Remote Exec Service service was stopped successfully.

C:\Documents and Settings\Administrator>net start "NetWorker Remote Exec Service"

The NetWorker Remote Exec Service service is starting..

The NetWorker Remote Exec Service service was started successfully.

C:\Documents and Settings\Administrator>net start "NetWorker Backup and Recover Server"

The NetWorker Backup and Recover Server service is starting..........

The NetWorker Backup and Recover Server service was started successfully.

C:\Documents and Settings\Administrator>net start "EMC GST Service"

The EMC GST Service service is starting.

The EMC GST Service service was started successfully.

C:\Documents and Settings\Administrator>
```

Figure 4-1: Example of starting and stopping all EMC and NetWorker services from the command line.

To use the API Method for EMC NetWorker

1. Install the EMC NetWorker client software on the computer that will run Single Mailbox Recovery ExtractWizard.
2. Start Single Mailbox Recovery ExtractWizard. (Click **Start**, and then point to **Programs**. Point to Single Mailbox Recovery and select Single Mailbox Recovery ExtractWizard.)
3. On the first page of the Single Mailbox Recovery ExtractWizard, click **Next**.

   Note: *If you have not already done so, click **About** and **License Info** to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

4. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
5. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

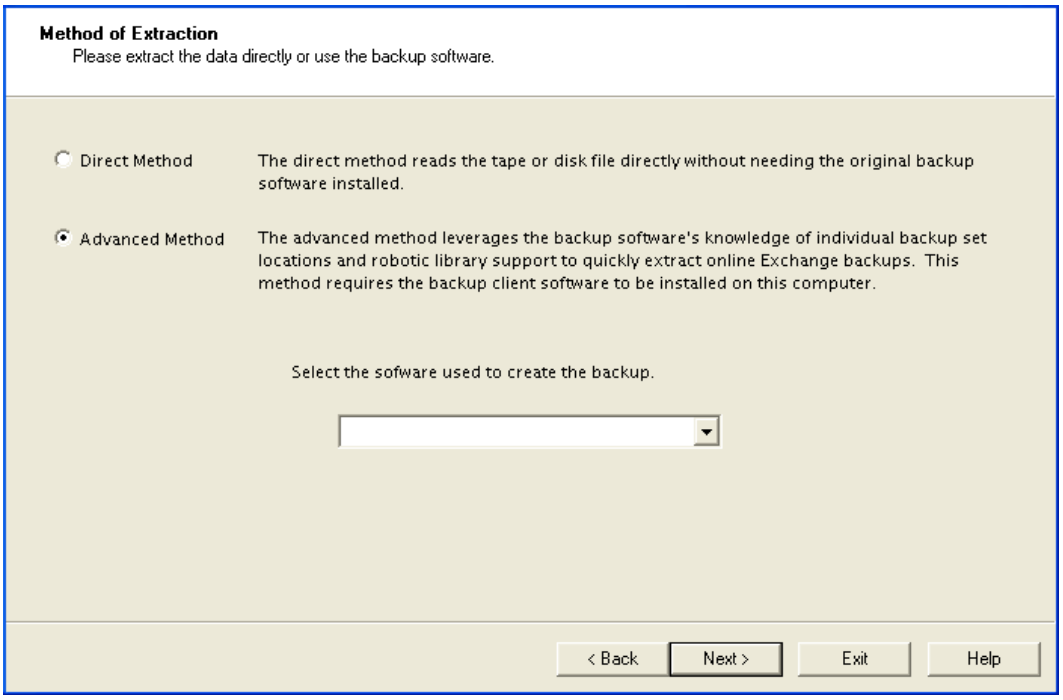

Figure 4-2: Method of Extraction Page for Advanced Method

6. Select **EMC NetWorker NME** from the drop-down list and click **Next**.
7. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, specify the connection parameters:
   - For **Backup Server**, enter the name of the computer on which the backup server software is installed.
   - For **Client**, enter the EMC NetWorker client that backed up the Exchange Information Store.
   - For **Only catalog Exchange databases that were backed up in this time period**, select the desired time period.

   Note: *The **Catalog Progress** page of the Single Mailbox Recovery ExtractWizard shows the catalog progress. The Single Mailbox Recovery ExtractWizard queries the EMC NetWorker backup server database for Information Store backups.*

8. Do one of the following:
   - Click **Cancel** if you want to stop the catalog process. If you click **Cancel**, the Single Mailbox Recovery ExtractWizard catalog will display all files that it found to that point.

- When the catalog is completed, click **Next** to proceed to the next page of the Single Mailbox Recovery ExtractWizard.

  Note: *On the **File Selection** page of the Single Mailbox Recovery ExtractWizard you can select from both the private and public Exchange Information Store files that you want to extract from a Microsoft Exchange Server backup.*

- EMC NetWorker contains multiple backup sets and volumes. Each backup set lists the session date and time (for example, 9/3/2014 11:52:28 AM). Each volume lists the computer name and volume name.

  Note: *An asterisk (*) next to a backup indicates that it is an incremental or differential backup.*

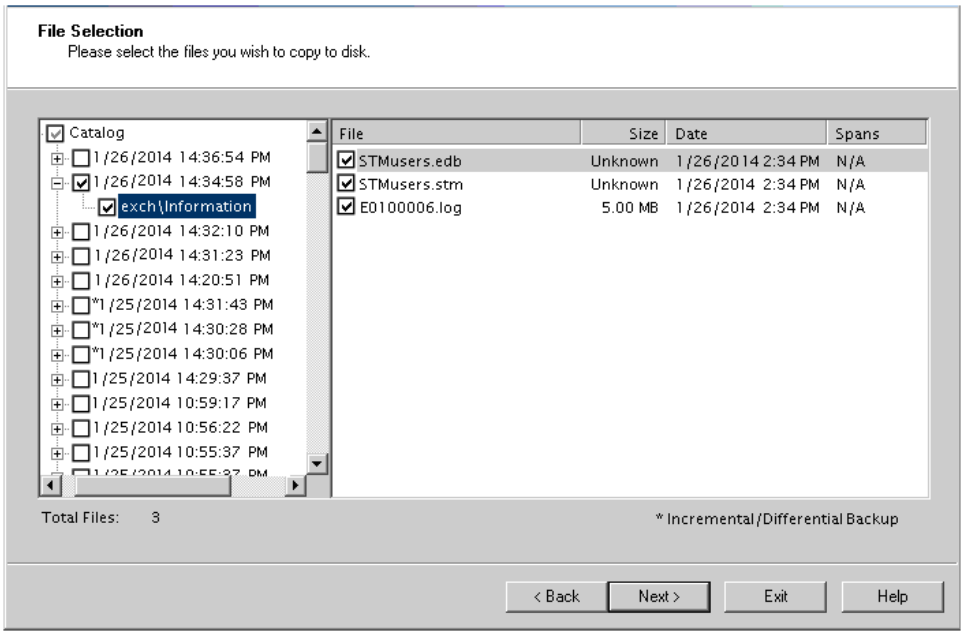

Figure 4-3: Extracting a full online disk backup (EMC NetWorker)

9. In the left pane, click the plus sign (+) next to a backup set to view its volumes.
10. Select a volume (select its name, not its check box) to view the Exchange Information Store objects in the right pane.
11. Select the check boxes next to the .log, .edb, and .stm files, as well as .pat files, if they exist, and then click **Next**.
12. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, use the **Destination Folder** box to specify a location for the extracted files.
13. Click **Next**. The Single Mailbox Recovery ExtractWizard verifies that you have enough disk space as well as access rights to create files and directories, and then begins to extract the Exchange Information Store files you have selected.

    The **Copy Progress** page of the Single Mailbox Recovery ExtractWizard shows the progress of the Single Mailbox Recovery ExtractWizard extracting the Exchange Information Store data to the destination folder. This process may take some time.

*Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

14. (Optional) Click **Cancel** only if you want to stop the process. The file currently being extracted will be deleted, but you can access any files that have completed extraction. The last page of the Single Mailbox Recovery ExtractWizard displays all of the files that were successfully extracted.
15. If you are satisfied with the results, click **Finish**.

If you extracted multiple data sets, see **"Organizing the Extracted Files for Single Mailbox Recovery" on page 20**. Before using the extracted files to restore Exchange mail items, you need to organize the extracted files for Single Mailbox Recovery if the backup was created using one of the following backup methods:

- Online incremental backup
- Online differential backup
- Offline backup

Chapter 5: Using the Emulation Method with Windows NT Backup

Overview

This chapter explains how to emulate various releases of Microsoft Exchange Server while using Windows NT Backup as your backup client.

In order to run Windows® NT Backup on the computer running Exchange Emulation, NT Backup must be set up to do online Microsoft Exchange Server backups. If it is not, follow the instructions in this Microsoft Knowledge Base article:

- XADM: How to Use NT Backup from a Non-Exchange 2000 Computer
  http://support.microsoft.com/?kbid=275876

For information on related topics, refer to these Microsoft Knowledge Base articles:

- XADM: Troubleshooting a Remote Online Backup of Exchange 2000
  http://support.microsoft.com/?kbid=275676
- XADM: Files Needed to Perform Exchange NT Backup on Workstation
  http://support.microsoft.com/?kbid=181445

Windows NT Backup with Microsoft Exchange Server 2000, 2003, or 2007 on Windows 2000 or Windows Server 2003

Use the following steps to emulate Microsoft Exchange Server 2000, 2003, or 2007 on Windows 2000 or Windows Server 2003 with Windows NT Backup:

1. On the computer that will run Single Mailbox Recovery ExtractWizard, do the following:
   - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.
2. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is known as the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****"; otherwise, continue to Step 3.*

3. (Optional) To change the location of the license file, click **About** and then **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single

Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.

4. Click **Next**.
5. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

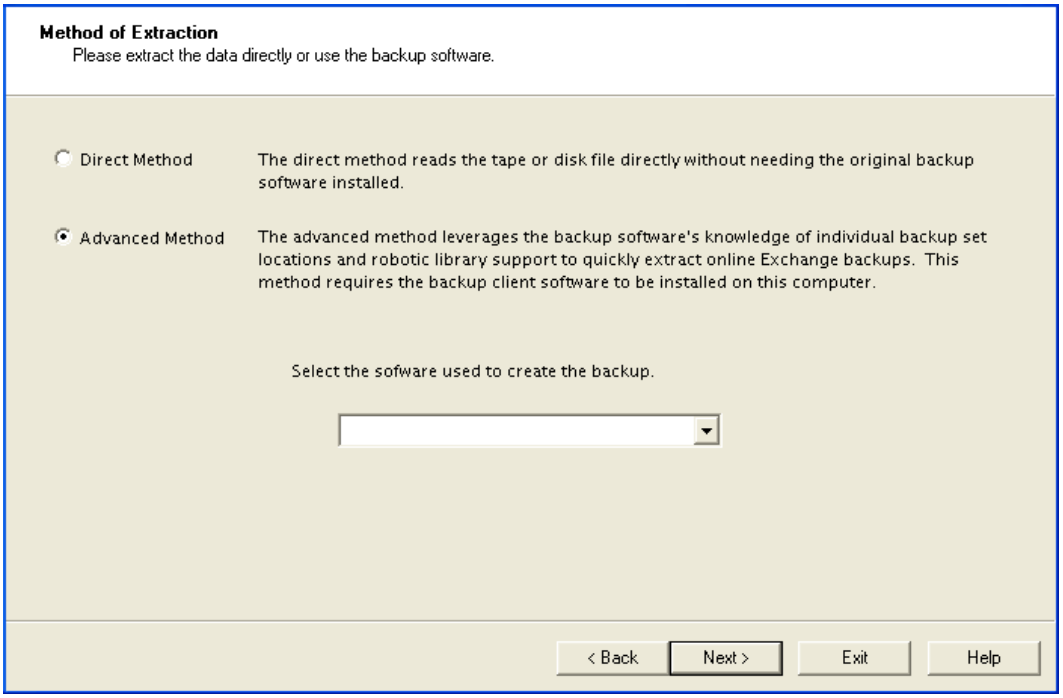

Figure 5-1: Method of Extraction Page for Advanced Method

6. Select **NT Backup** from the drop-down list and click **Next**.
7. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 2000, 2003, or 2007** option.

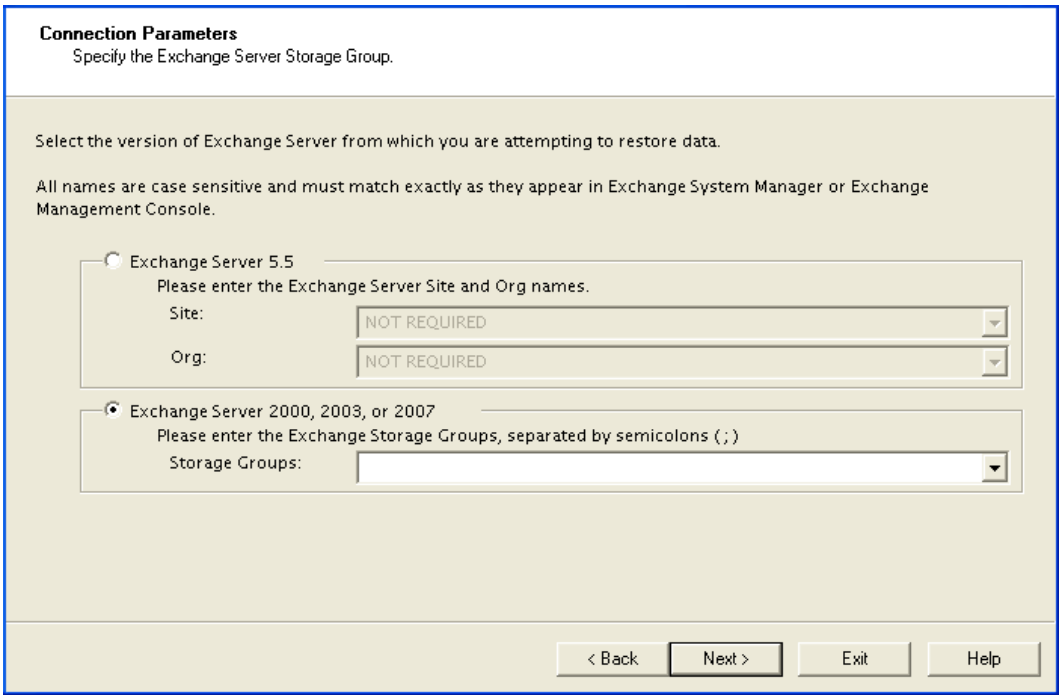

Figure 5-2: Selecting Connection Parameters for Microsoft Exchange Server 2000, 2003, or 2007

8. In the **Storage Groups** box, enter the name of the storage group you will be extracting. The storage group name is case sensitive and must match exactly the name that appears in the Exchange System Manager. You can enter multiple storage groups, separated by semicolons (;).
9. Click **Next**.
10. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
11. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to start NT Backup.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

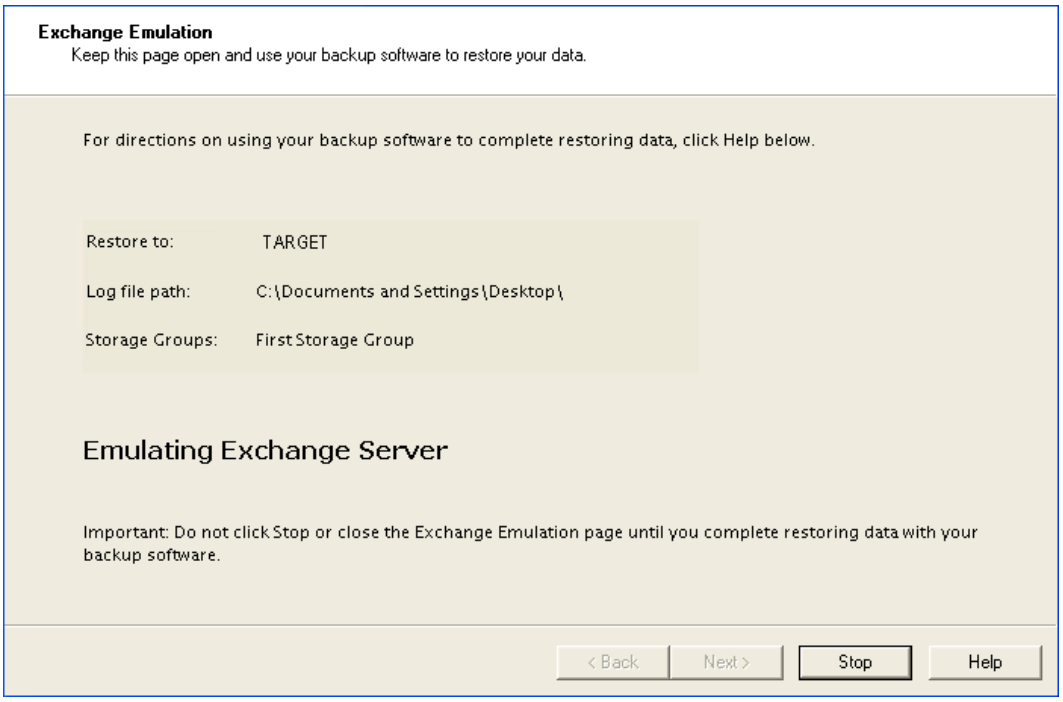

Figure 5-3: Exchange Emulation Page

Tip: *You can copy the "Restore to" and "Log file path" information on this page and paste it into NT Backup when prompted later in this section.*

12. Start NT Backup (Backup Utility in Windows 2003) on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard.
13. Do one of the following:
    - If NT Backup is on a different computer than Single Mailbox Recovery ExtractWizard, do the following:
        a. In NT Backup, click the **Backup** tab.
        b. On the **Tools** menu, click **Remote Store**.
        c. In the **Remote Store** window, enter the name of the Restore Target Computer (the computer running Single Mailbox Recovery ExtractWizard). The name must be in all capital letters. Verify that you are using the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard. Click **OK**.
        d. If you receive an error stating that the Microsoft Exchange Server does not appear in the left pane in the **Backup** tab, this means that NT Backup is not able to verify the Single Mailbox Recovery ExtractWizard emulation. Therefore, you must follow the steps outlined in this article from the Microsoft Knowledge Base: "XADM: Troubleshooting a Remote Online Backup of Exchange 2000": http://support.microsoft.com/?kbid=275676
        e. When NT Backup is completed verifying the computer, the Restore Target computer appears under the **Microsoft Exchange Server** node.

- If NT Backup is on the same computer as Single Mailbox Recovery ExtractWizard, proceed to the next step.

14. In NT Backup, click the **Restore** tab (the **Restore and Manage Media** tab in Windows 2003).
15. Select your Exchange backup from the list of media.
16. Click **Start Restore**. The **Restoring Database Store** window appears.
17. In the **Restore To** box, enter the name of the Restore Target Computer (i.e., the computer running Single Mailbox Recovery ExtractWizard). The name must be in all capital letters. Verify that you are using the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
18. In the **Temporary location for log and patch files** box, enter the log file path. Verify that you are using the "Log file path" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
19. Do not select either of the check boxes at the bottom of the **Restoring Database Restore** window.
20. Click **OK**. NT Backup will start to restore Microsoft Exchange Server files to the Single Mailbox Recovery ExtractWizard. The **Restore Progress** window appears.
21. When NT Backup is completed, click **Close** and close NT Backup.
22. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Windows NT Backup with Microsoft Exchange Server 5.5 on Windows 2000 or Windows Server 2003

Use the following steps to emulate Microsoft Exchange Server 5.5 on Windows 2000 or Windows Server 2003 with Windows NT Backup:

1. On the computer that will run Single Mailbox Recovery ExtractWizard, make sure edbbcli.dll is in the system path. The easiest way to ensure this is to copy edbbcli.dll to windows\system32. The edbbcli.dll file can be found on the Microsoft Exchange Server in the Microsoft Exchange Server\bin directory.
2. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****"; otherwise, continue to Step 3.*

3. (Optional) To change the location of the license file, click **About** and then **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
4. Click **Next**.

5. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

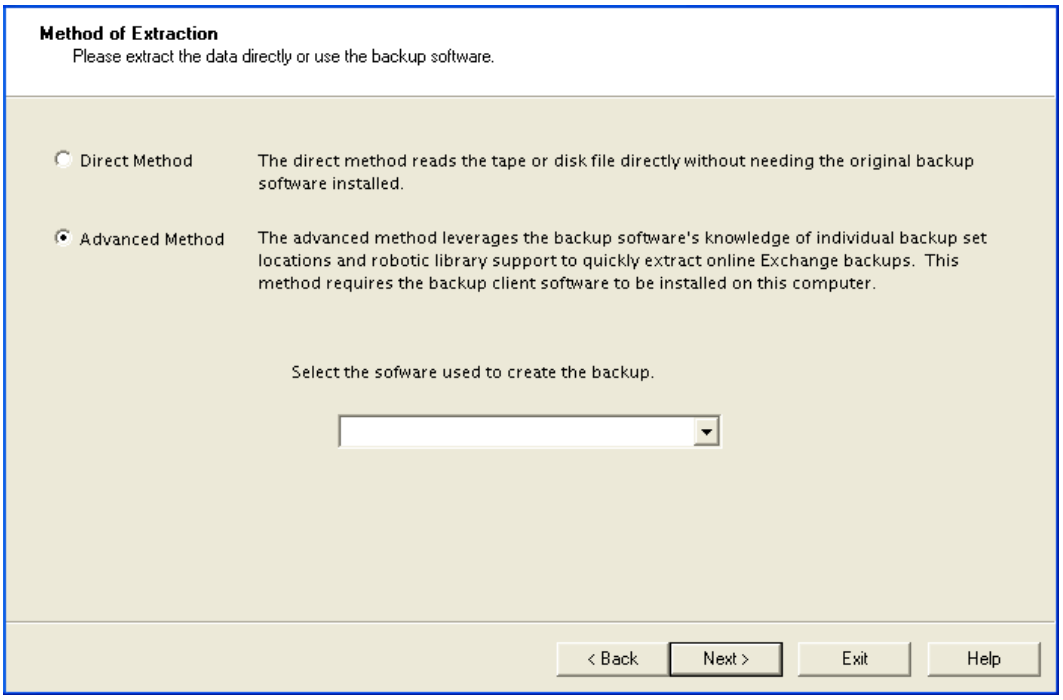

Figure 5-4: Method of Extraction Page for Advanced Method

6. Select **NT Backup** from the drop-down list and click **Next**.
7. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 5.5** option and click **Next**.

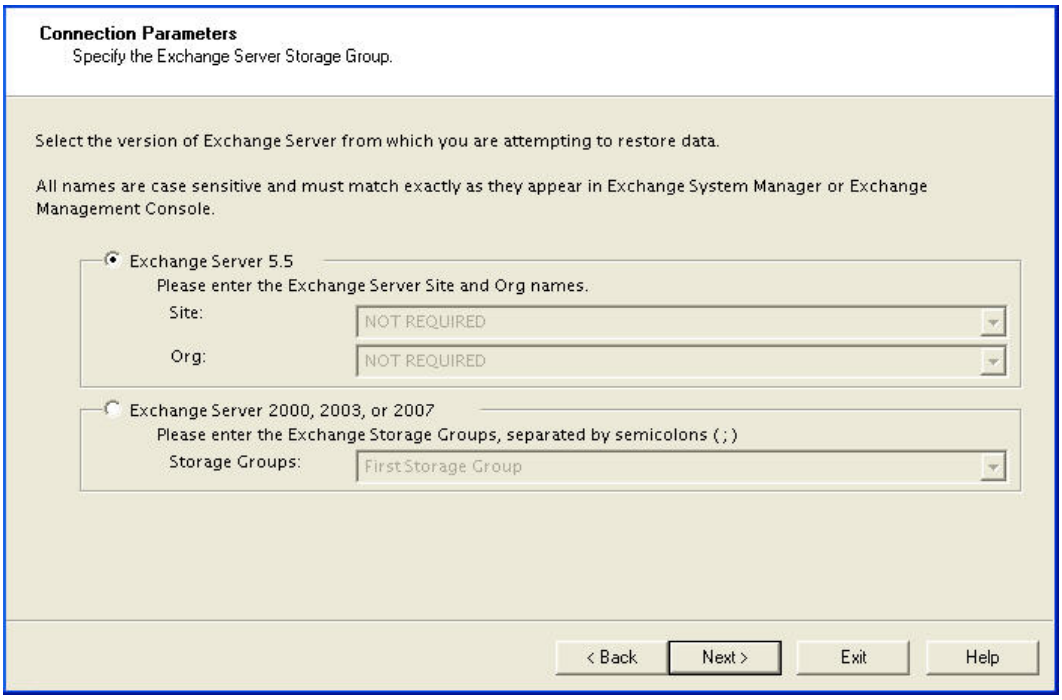

Figure 5-5: Selecting Connection Parameters for Microsoft Exchange Server 5.5

8. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive and of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
9. Click **Next**.

   When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to start NT Backup.

   Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

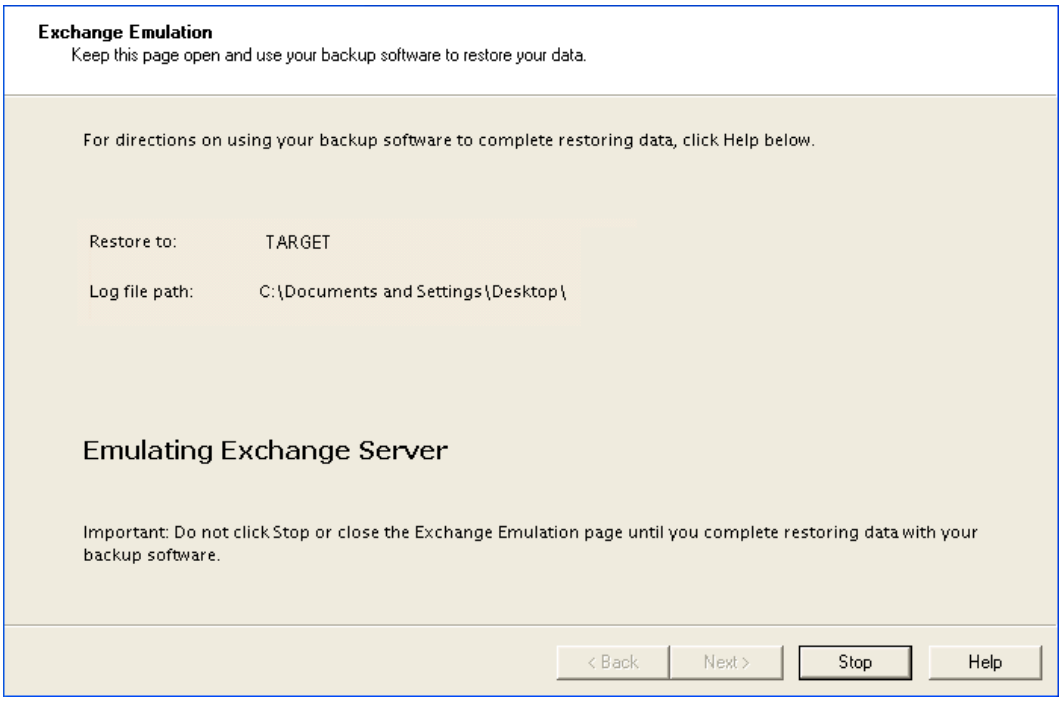

Figure 5-6: Exchange Emulation Page

Tip: *You can copy the "Restore to" information on this page and paste it into NT Backup when prompted later in this section.*

10. Start NT Backup (Backup Utility in Windows 2003) on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard.
11. In NT Backup, click the **Restore** tab (the **Restore and Manage Media** tab in Windows 2003).
12. Select your Exchange backup from the list of media. NT Backup allows you to restore only one Exchange Information Store at a time.

    Note: *You cannot restore the Directory.*

13. Click **Start Restore**. The **Restoring Microsoft Exchange** window appears.
14. Select the **Erase all existing data** check box.
15. In the **Restore To** box, enter the name of the Restore Target Computer (the computer running Single Mailbox Recovery ExtractWizard). The name must be in all capital letters. Verify that you are using the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
16. Click **OK**. NT Backup will start to restore Microsoft Exchange Server files to the Single Mailbox Recovery ExtractWizard.
17. When NT Backup is completed, click **Close** and close NT Backup.
18. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Windows NT Backup with Microsoft Exchange Server 5.5 on Windows NT 4

Use the following steps to emulate Microsoft Exchange Server Exchange Server 5.5 on Windows NT 4 with Windows NT Backup:

1. On the computer that will run Single Mailbox Recovery ExtractWizard, make sure edbbcli.dll is in the system path. The easiest way to ensure this is to copy edbbcli.dll to windows\system32. The edbbcli.dll file can be found on the Microsoft Exchange Server in the Microsoft Exchange Server\bin directory.
2. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****"; otherwise, continue to Step 3.*

3. (Optional) To change the location of the license file, click About and then License Info. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
4. Click **Next**.
5. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

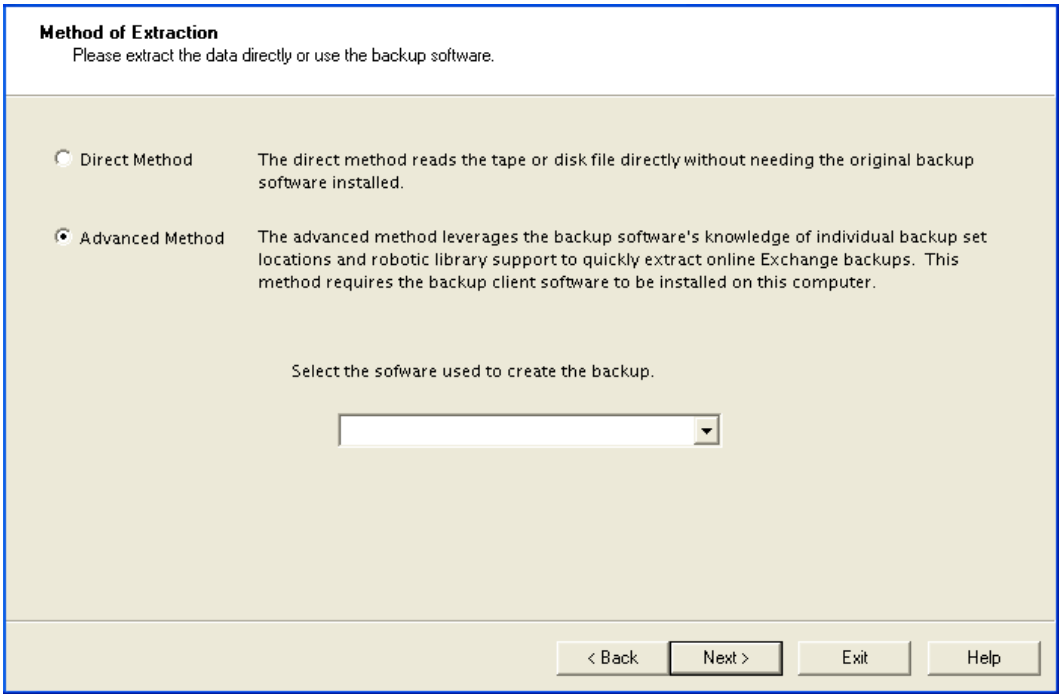

Figure 5-7: Method of Extraction Page for Advanced Method

6. Select **NT Backup** from the drop-down list and click **Next**.

7. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 5.5** option and click **Next**.

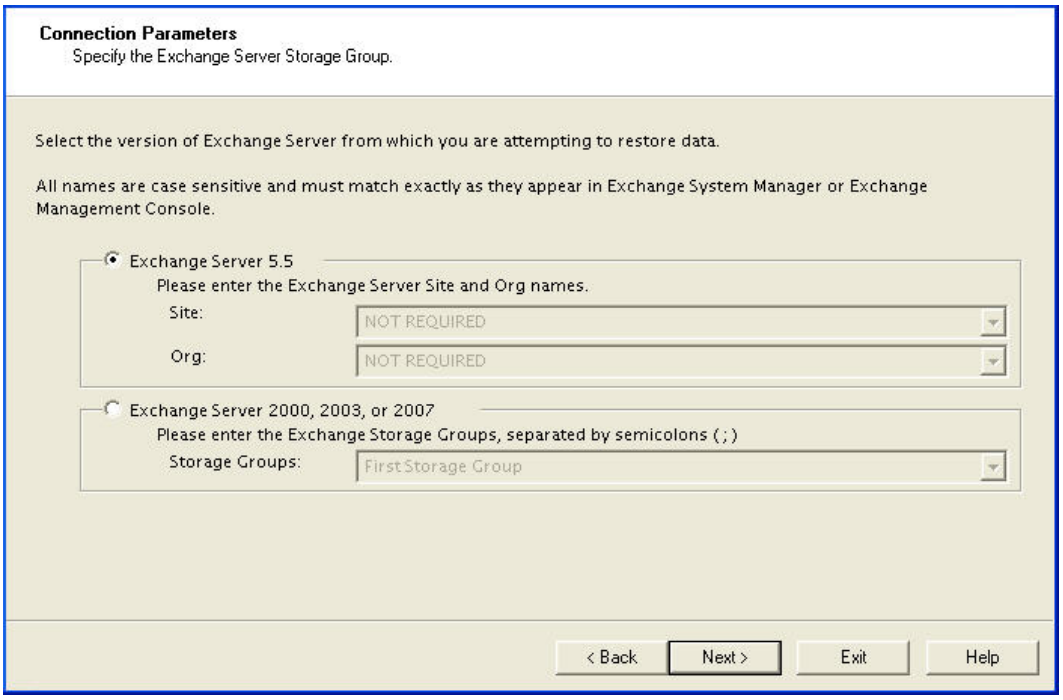

Figure 5-8: Selecting Exchange Server 5.5 Connection Parameters

8. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive and of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
9. Click **Next**.

   When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to start NT Backup.

   Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

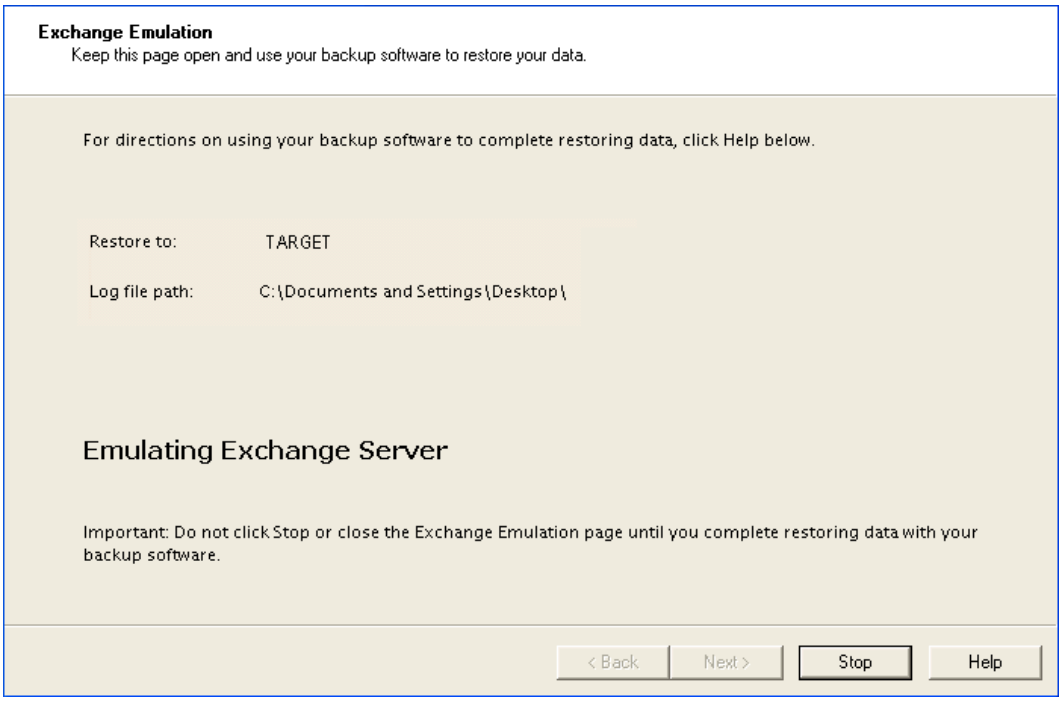

Figure 5-9: Exchange Emulation Page

Tip: *You can copy the "Restore to" information on this page and paste it into NT Backup when prompted later in this section.*

10. Start Windows NT Backup on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard.
11. In the **Tapes** window, select the Microsoft Exchange Server backup you want to restore. NT Backup allows you to restore only one Exchange Information Store at a time.

    Note: *You cannot restore the Directory.*

12. Click **Restore**. The **Restoring Microsoft Exchange** window appears.
13. In the **Destination Server** box, enter the name of the Restore Target Computer (that is, the computer running Single Mailbox Recovery ExtractWizard). The name must be in all capital letters. Verify that you are using the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
14. Select the **Erase all existing data** check box.
15. Click **OK**. NT Backup will start to restore Microsoft Exchange Server files to the Single Mailbox Recovery ExtractWizard.
16. When NT Backup is completed, click **Close** and close NT Backup.
17. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Chapter 6: Using the Emulation Method with HP Data Protector

Overview

This chapter explains how to emulate various releases of Microsoft Exchange Server while using HP Data Protector (also known as HP OpenView Storage Data Protector and HP Storage Data Protector) as your backup client.

HP Data Protector with Microsoft Exchange Server 2010

Note: *HP Data Protector 6.20 running on Windows Server™ 2008 x64 or 2008 R2 is supported for the Advanced Method for Microsoft Exchange Server 2010.*

Use the following steps to emulate Microsoft Exchange Server 2010 with HP Data Protector 6.20:

1. ***If you do not have an isolated domain configured for Microsoft Exchange Server 2010***, do the following (if you do, continue to step 2):
   a. Set up an isolated domain controller. The new domain should be in a separate Active Directory forest.
   b. Prepare Active Directory for Microsoft Exchange Server using the Microsoft Exchange Server 2010 installation CD and typing the following in the command window:

      ```
      setup /PrepareAD /OrganizationName: "organizationname"
      ```

   Note: *For more information, see Step 3 at http://technet.microsoft.com/en-us/library/bb125224.aspx.*

2. Run **setup.exe** to install Management tools from the Microsoft Exchange Server 2010 Setup wizard.
   a. Select **Automatically install Windows Server roles and features required for Exchange Server**.
   b. At the end of the installation, clear **Finalize this installation using the Exchange Management Console**, then click **Finish** and **Close**.

   Note: *For more information, see http://technet.microsoft.com/en-us/library/bb125224.aspx.*

3. Install HP client software on the computer that will run Single Mailbox Recovery ExtractWizard. When choosing components for this client, make sure to include either the **MS Exchange 2010 Server** or **MS Exchange 2010 Server Integration** component.
4. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is known as the Restore Target Computer.
5. Click **Next**.

6. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

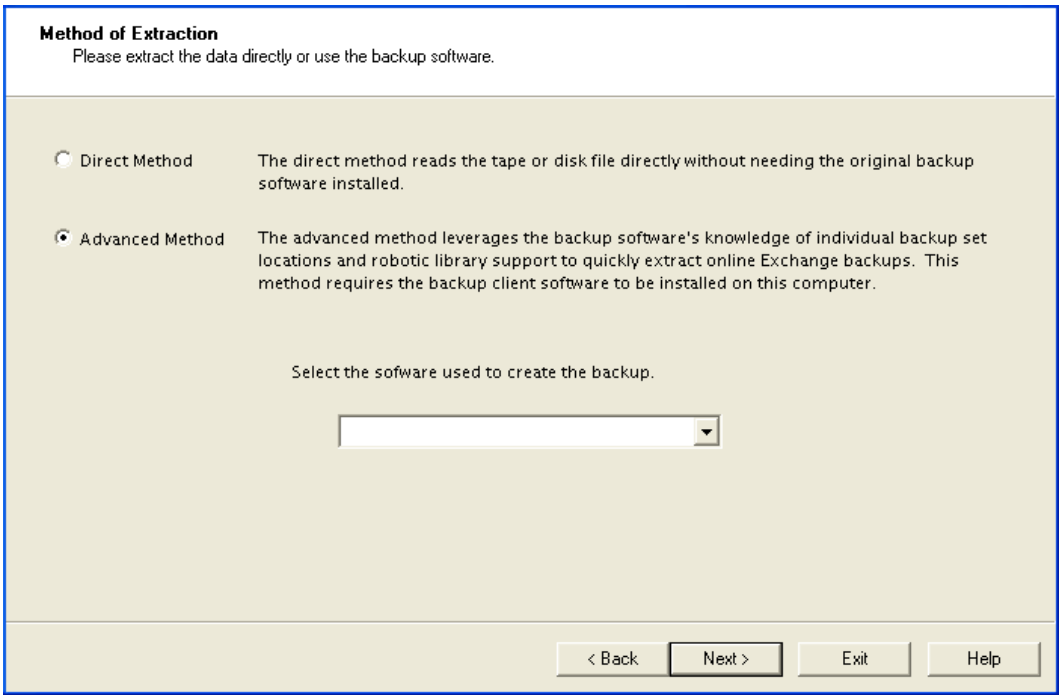

Figure 6-1: Method of Extraction Page for Advanced Method

7. Select **HP Data Protector** from the drop-down list and click **Next**.
8. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select **Exchange Server 2010** from the drop-down list.

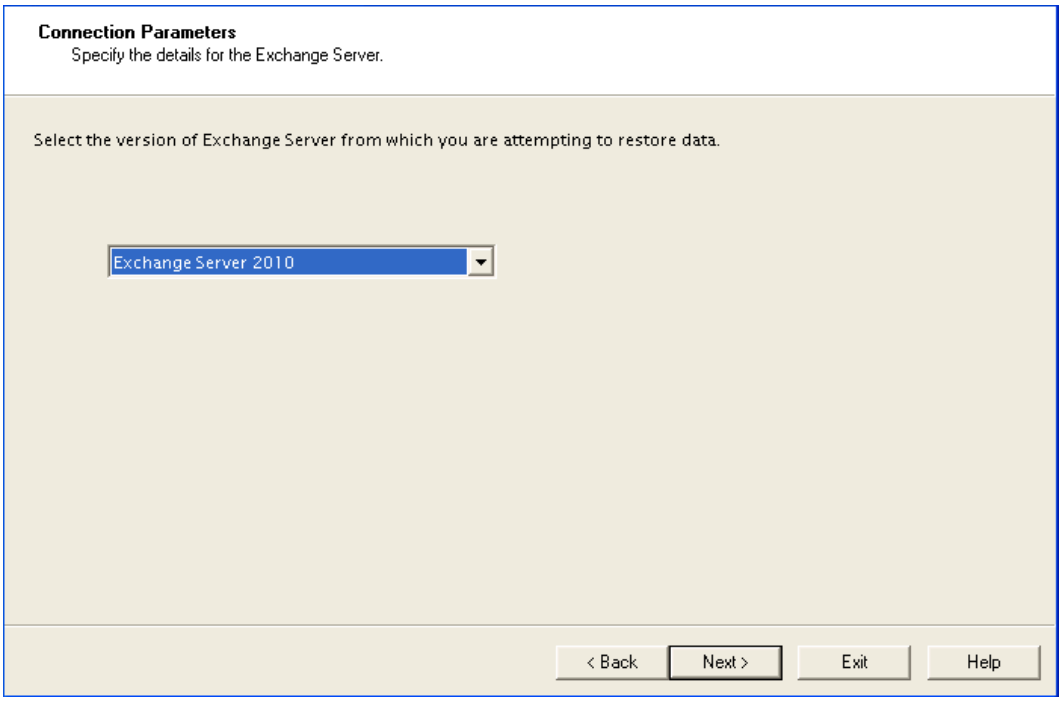

Figure 6-2: Selecting Exchange Server 2010 Connection Parameters

9. Click **Next**.

   When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

   Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

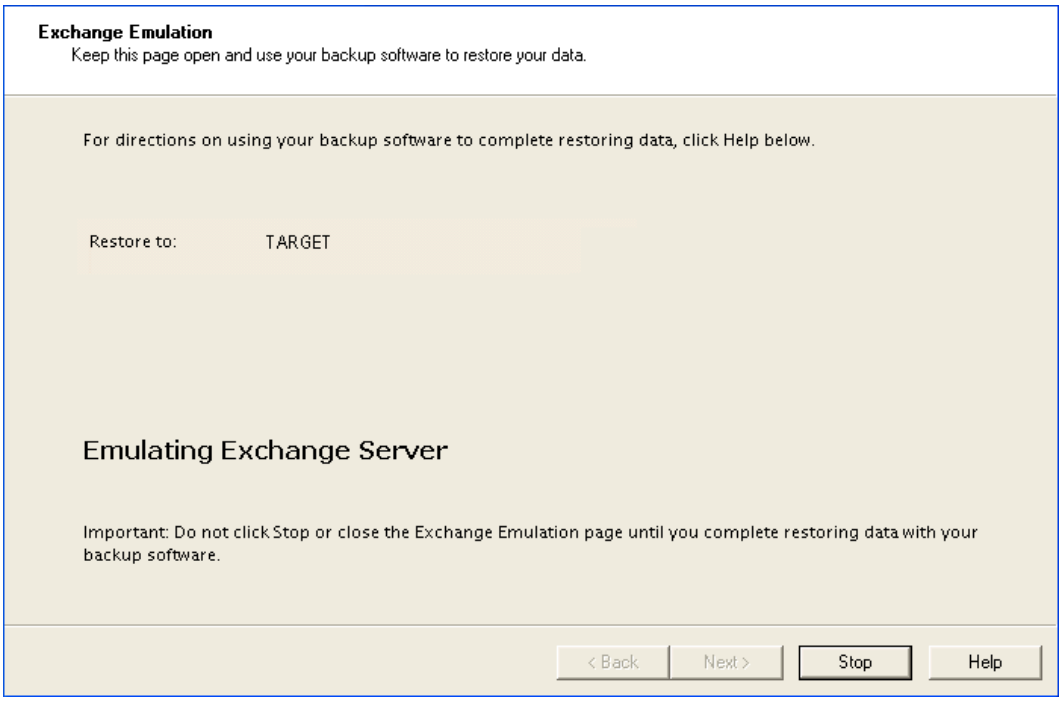

Figure 6-3: Exchange Emulation Page

Tip: *You can refer to the "Restore to" information on this page when verifying it in HP Data Protector later in this section.*

10. Start HP Data Protector Manager on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard.
11. Select **Restore** from the drop-down list at the top left of the window.
12. In the left pane, expand **MS Exchange 2010 Server** and select the appropriate Microsoft Exchange Server.
13. In the right pane, click the **Source** tab and then select the Microsoft Exchange Server backup you want to restore.
14. On the **Properties for (the selected server)...** dialog box, do the following:
    a. For **Restore method**, select **Restore files to a temporary location**.
    b. For **Backup version**, select the backup version you want to restore.
    c. For **Target client**, enter the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
    d. In the **Restore into location** field, enter the path where the files will be restored on the computer running Single Mailbox Recovery ExtractWizard.
    e. If selecting multiple databases to restore, it is recommended that you use a unique path in the Restore into location field for each database. This will ensure the log files from different databases are not combined into the same folder.
    f. Leave the **Perform database recovery** and **Restore database files only** check boxes cleared.
    g. Click **OK**.

15. On the HP Data Protector Manager, in the right pane, click the **Options** tab and change the **Startup client** to the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
16. Click the **Devices** tab, and verify your devices are properly configured.
17. Click the **Media** tab, and verify the required media is available.
18. Click **Restore**.
19. In the **Start Restore Session** dialog box, do one of the following:
    - *If you want to set additional session options*, click **Next** to specify options on **Report level** and **Network load**, and then click **Finish**.
    - *If you do not want to set additional session options*, click **Finish**.
20. When HP Data Protector completes the restore session, close the program.
21. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

HP Data Protector with Microsoft Exchange Server 2000, 2003, or 2007

Note: *HP Data Protector 6.20 running on Windows Server 2008 x64 or 2008 R2 is supported for the Advanced Method for Microsoft Exchange Server 2007.*

Use the following steps to emulate Microsoft Exchange Server 2000, 2003, or 2007 with HP Data Protector (also known as HP Storage Data Protector and HP OpenView Storage Data Protector):

1. Install HP client software on the computer that will run Single Mailbox Recovery ExtractWizard. When choosing components for this client, do one of the following:
   - *If restoring non-VSS backups*, make sure to include the **MS Exchange Server Integration** component.
   - *If restoring VSS backups (Microsoft Exchange Server 2003 and 2007)*, make sure to include the **MS Volume Shadow Copy Integration** component.
2. *If restoring VSS backups (Microsoft Exchange Server 2003 and 2007)*, proceed to step 12.
3. On the computer that will run Single Mailbox Recovery ExtractWizard, do the following:
   - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.
4. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is known as the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7***

5. Click **Next**.
6. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

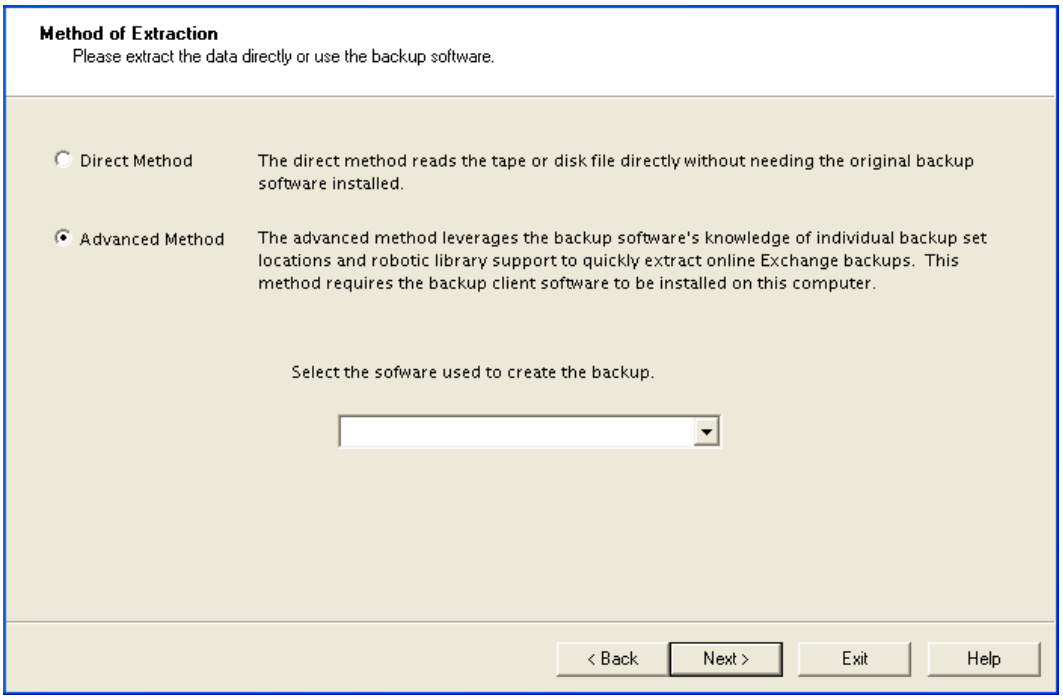

Figure 6-4: Method of Extraction Page for Advanced Method

7. Select **HP Data Protector** from the drop-down list and click **Next**.
8. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select **Exchange Server 2000, 2003, or 2007** from the drop-down list.

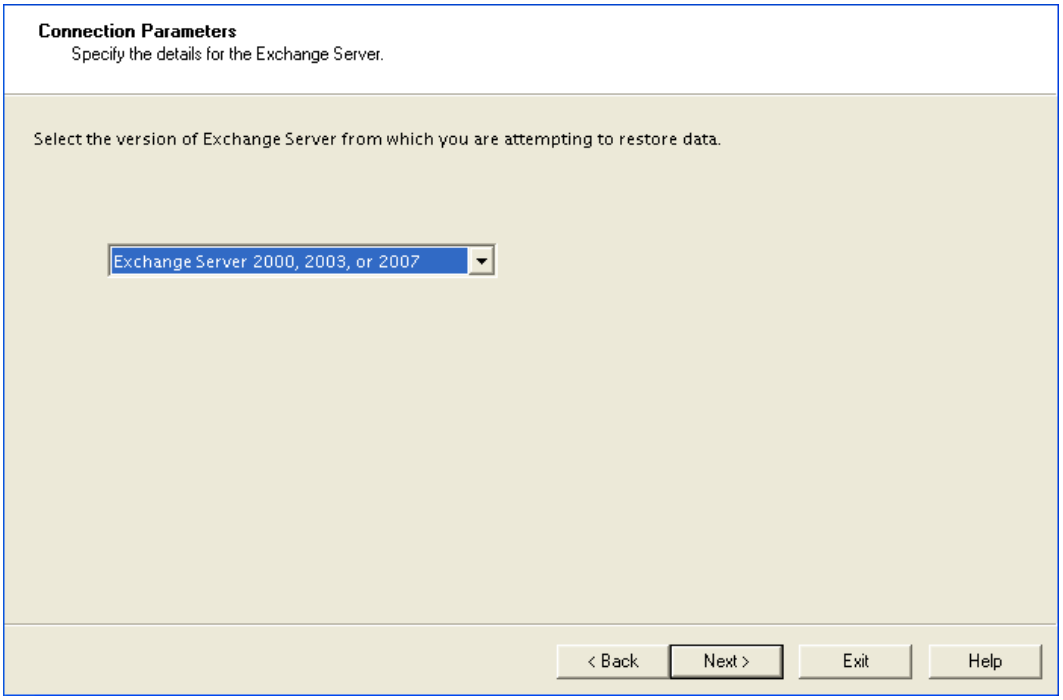

Figure 6-5: Selecting Exchange Server 2000, 2003, or 2007 Connection Parameters

9. Click **Next**.

10. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
11. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

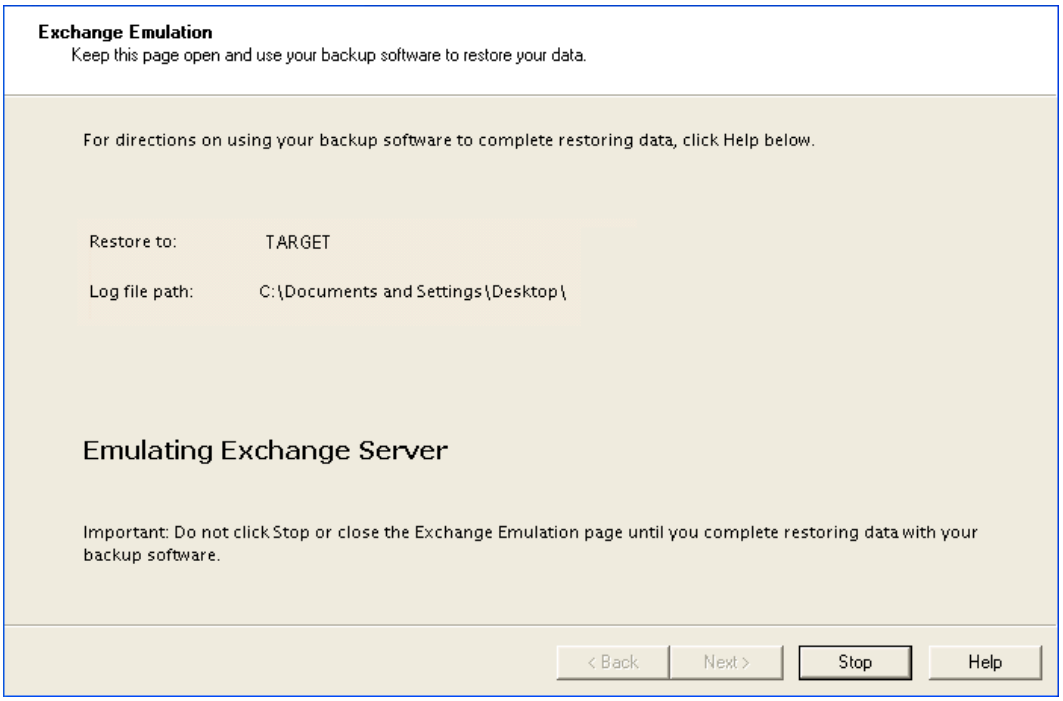

Figure 6-6: Exchange Emulation Page

Tip: *You can refer to the "Restore to" and "Log file path" information on this page when verifying it in HP Storage Data Protector later in this section.*

12. Start HP Data Protector on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard.
13. Select **Restore** from the drop-down list at the top left of the window.
14. In the left pane, do one of the following:
    - *If restoring non-VSS backups*, expand **MS Exchange Server** and select the appropriate Microsoft Exchange Server.
    - *If restoring VSS backups (Microsoft Exchange Server 2003 and 2007)*, expand **MS Volume Shadow Copy Writers** and select the appropriate Microsoft Exchange Server.

15. In the right pane, click the **Source** tab and then select the Microsoft Exchange Server backup you want to restore.
16. In the right pane, click the **Options** tab.
17. Select the **Restore to another client** check box, then select the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
18. Do one of the following:
    - *If restoring non-VSS backups*, in the **Directory for temporary log files** box, enter the "Log file path" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.

      Note: *Do not include a trailing backslash ("\") when specifying the log file path in the* ***Directory for temporary log files*** *box. Doing so may cause the restore to fail.*

    - *If restoring VSS backups (Microsoft Exchange Server 2003 and 2007)*, select **Restore into the following directory** and enter the path where the files will be restored.
19. *If restoring non-VSS backups*, do not select the **Last restore set (start recovery)** check box.

    Note: *If this check box is selected, HP Data Protector will display a message stating the restore failed. Click OK. The files will still be extracted and usable.*

20. Click the **Devices** tab, and verify your devices are properly configured.
21. Click the **Media** tab, and verify the required media is available.
22. Click **Restore**. The **Start Restore Session** window appears.
23. In the **Start Restore Session** dialog box, do one of the following:
    - *If you want to set additional session options*, click **Next** to specify options on **Report level** and **Network load**, and then click **Finish**.
    - *If you do not want to set additional session options*, click **Finish**.
24. When HP Data Protector completes the restore session, close the program.
25. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

HP Storage Data Protector with Microsoft Exchange Server 5.5

Use the following steps to emulate Microsoft Exchange Server 5.5 using HP Storage Data Protector (also known as HP OpenView Storage Data Protector):

1. Install HP client software on the computer that will run Single Mailbox Recovery ExtractWizard. When choosing components for this client, make sure to include the Microsoft Exchange Server 5.x Integration component.
2. On the computer running Single Mailbox Recovery ExtractWizard, make sure edbbcli.dll is in the system path. The easiest way to ensure this is to copy edbbcli.dll to windows\system32. The edbbcli.dll file can be found on the Microsoft Exchange Server in the Microsoft Exchange Server\bin directory.

3. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is known as the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

4. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
5. Click **Next**.
6. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

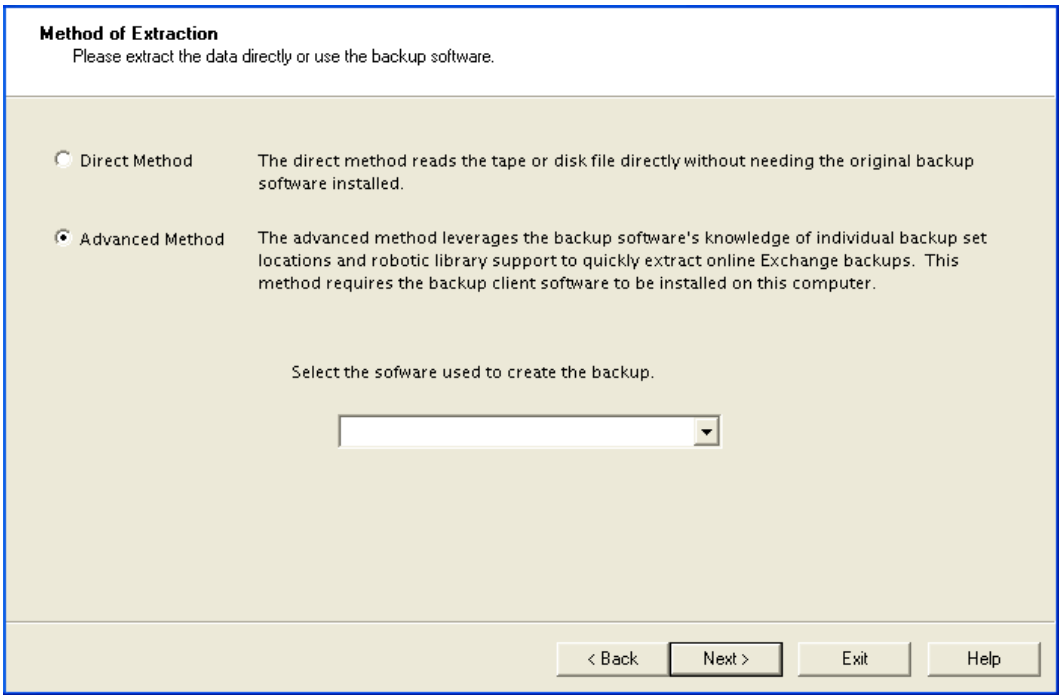

Figure 6-7: Method of Extraction Page for Advanced Method

7. Select **HP Data Protector** from the drop-down list and click **Next**.
8. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select **Exchange Server 5.5** from the drop-down list.

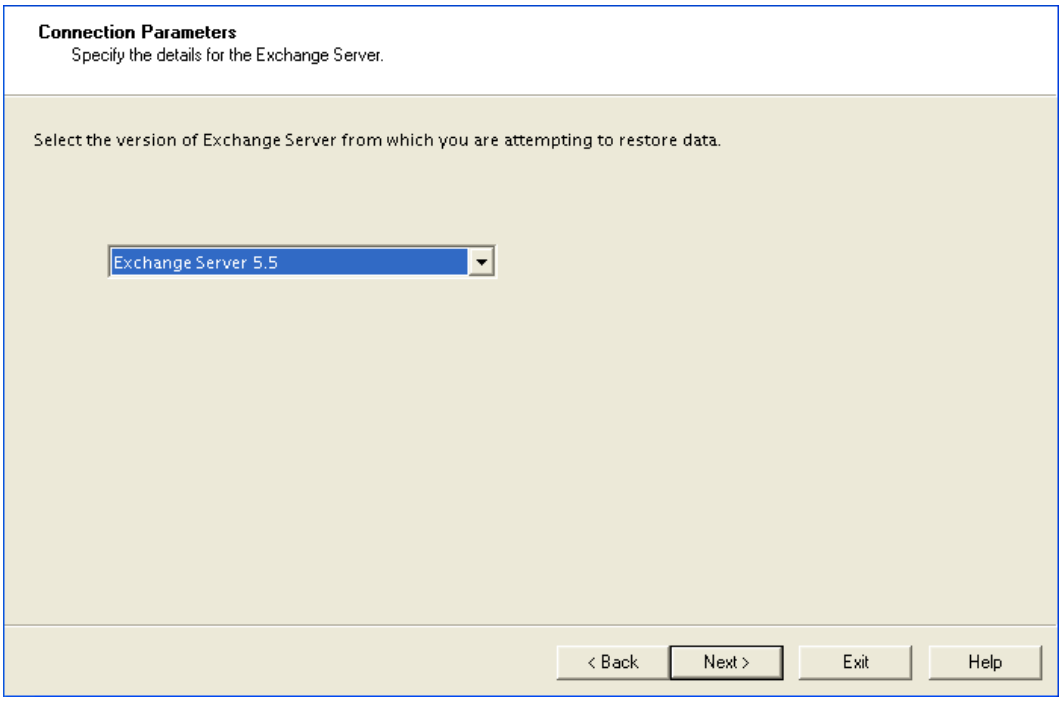

Figure 6-8: Selecting Exchange Server 5.5 Connection Parameters

9. Click **Next**.
10. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive and of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
11. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

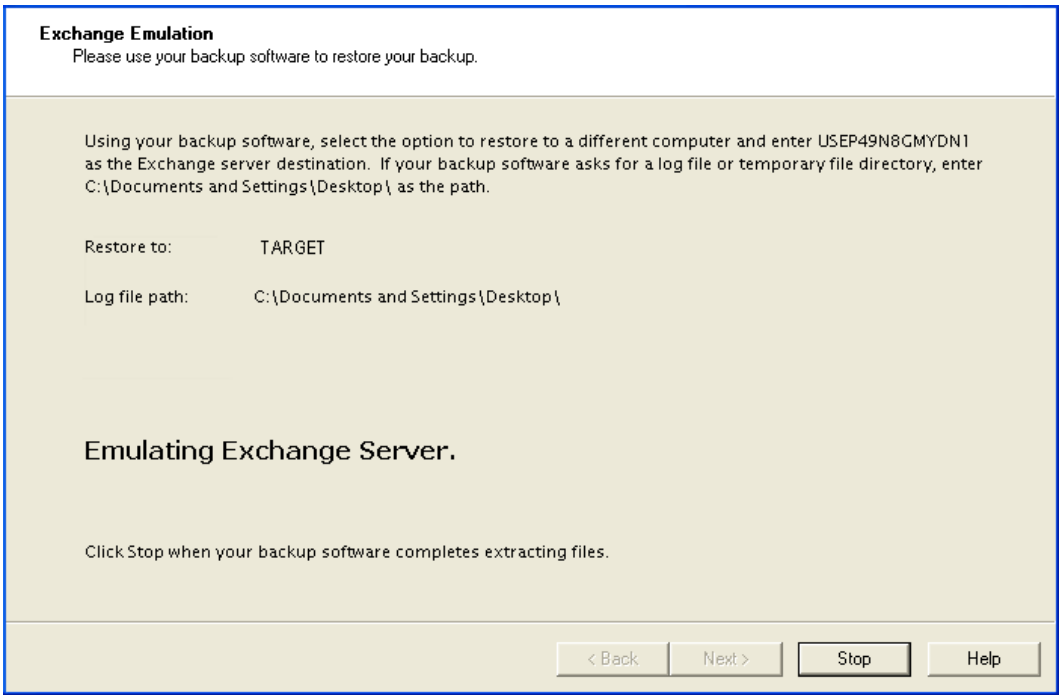

Figure 6-9: Exchange Emulation Page

Tip: *You can refer to the "Restore to" information on this page when verifying it in HP Storage Data Protector later in this section.*

12. Start HP Storage Data Protector on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard.
13. Select **Restore** from the drop-down list at the top left of the window.
14. In the left pane, expand the **MS Exchange 5.x Server** folder and select the appropriate Microsoft Exchange Server.
15. In the right pane, select the Microsoft Exchange Server backup you would like to restore.

    Note: *You cannot restore the DS object.*

16. In the right pane, click the **Options** tab.
17. Select the **Restore to another client** check box, select the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
18. Do not select either the **Stop services before restore** check box or the **Start services after restore** check box.

    Note: *If these check boxes are selected, HP Storage Data Protector will display a message stating the restore failed. Click OK. The files will still be extracted and usable.*

19. Under **Restore actions**, select the action you want to perform:
    - **Restore both databases**
    - **Restore private database only**
    - **Restore public database only**
20. Click the **Devices** tab, and verify your devices are properly configured.

21. Click the **Media** tab, and verify the required media is available.
22. Click **Restore**.
23. In the **Start Restore Session** dialog box, do one of the following:
    - *If you want to set additional session options*, click **Next** to specify options on **Report level** and **Network load**, and then click **Finish**.
    - *If you do not want to set additional session options*, click **Finish**.
24. When HP Storage Data Protector completes the restore session, close the program.
25. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Chapter 7: Using the Emulation Method with Symantec Backup Exec

Overview

This chapter explains how to emulate various releases of Microsoft Exchange Server while using Symantec Backup Exec as your backup client.

Symantec Backup Exec 2010 through 2010 R3 with Microsoft Exchange Server 2003, 2007, or 2010

Note: *It is recommended that Single Mailbox Recovery ExtractWizard be run on the 32-bit (x86) edition of Windows when restoring Backup Exec 2010 data using the Advanced Method. Single Mailbox Recovery ExtractWizard running on a 64-bit (x64) operating system is only supported if restoring a Snapshot copy (VSS) backup.*

Use the following steps to emulate Microsoft Exchange Server 2003, 2007, or 2010 with Symantec Backup Exec 2010 through 2010 R3:

1. Install "Backup Exec Remote Agent for Windows Servers" client software on the computer that will run Single Mailbox Recovery ExtractWizard.
2. On the computer that will run Single Mailbox Recovery ExtractWizard, do the following:
   - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.

   Note: *It is recommended that the version of Exchange Management Tools (or esebcli2.dll) used should match the version of the Microsoft Exchange Server for the data being restored; for example, if restoring data from the Microsoft Exchange Server 2007, use the Exchange System Management Tools for Microsoft Exchange Server 2007 (or esebcli2.dll).*

   Note: *If restoring non-Snapshot copy backups, 32-bit Windows and Management tools must be used.*

   Note: *For 64-bit operating systems restoring a Snapshot copy (VSS) backup, the esebcli2.dll must also be copied into the SysWoW64 folder.*

3. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is known as the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

4. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
5. On the first page of the Single Mailbox Recovery ExtractWizard, click **Next**.
6. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

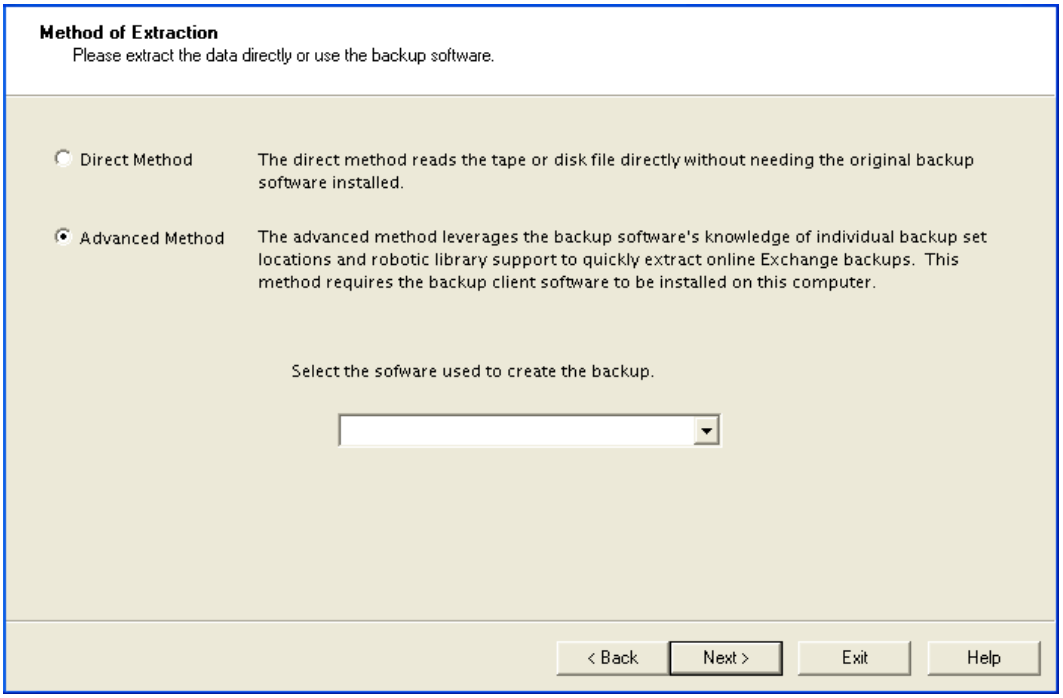

Figure 7-1: Method of Extraction Page for Advanced Method

7. Select **Symantec Backup Exec** from the drop-down list and click **Next**.
8. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, do one of the following:
   - ***For restores of Microsoft Exchange Server 2003 or 2007***: Select the **Exchange Server 2000, 2003, or 2007** option and in the **Storage Groups** box, enter the name of the storage group you will be extracting. The storage group name is case sensitive and must match exactly the name that appears in the management console for Exchange Server. You can enter multiple storage groups, separated by semicolons (;).

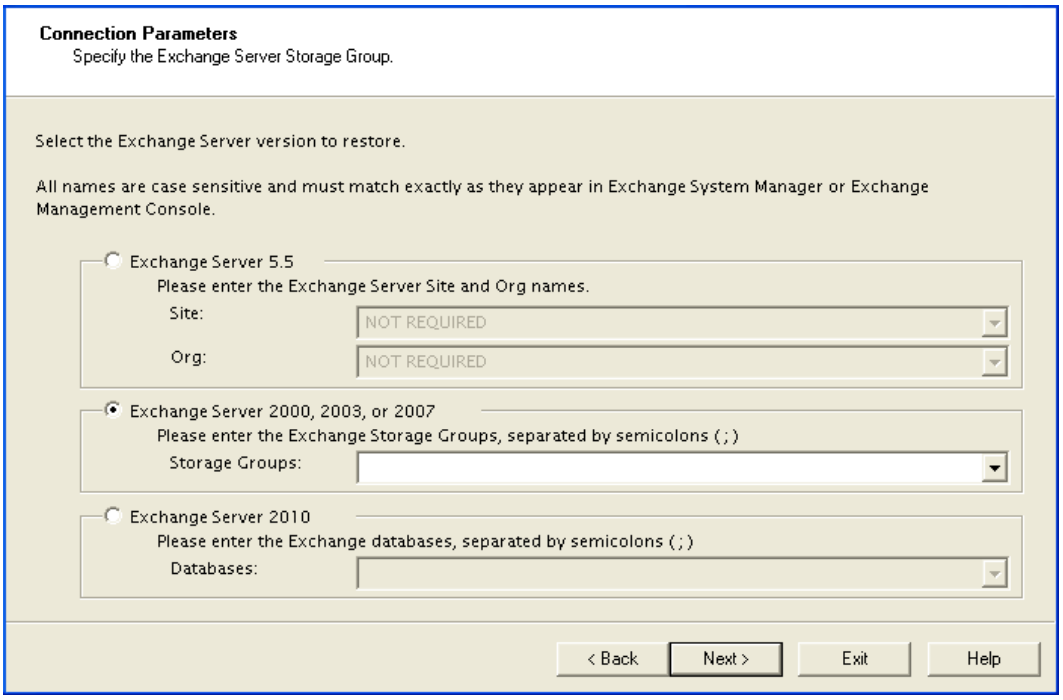

Figure 7-2: Selecting Exchange Server 2000, 2003, or 2007 Connection Parameters

- ***For restores of Microsoft Exchange Server 2010***: Select the **Exchange Server 2010** option and in the **Databases** box, enter the name of the database you will be extracting. The database name is case sensitive and must match exactly the name that appears in the management console for Exchange Server. You can enter multiple databases, separated by semicolons (;).

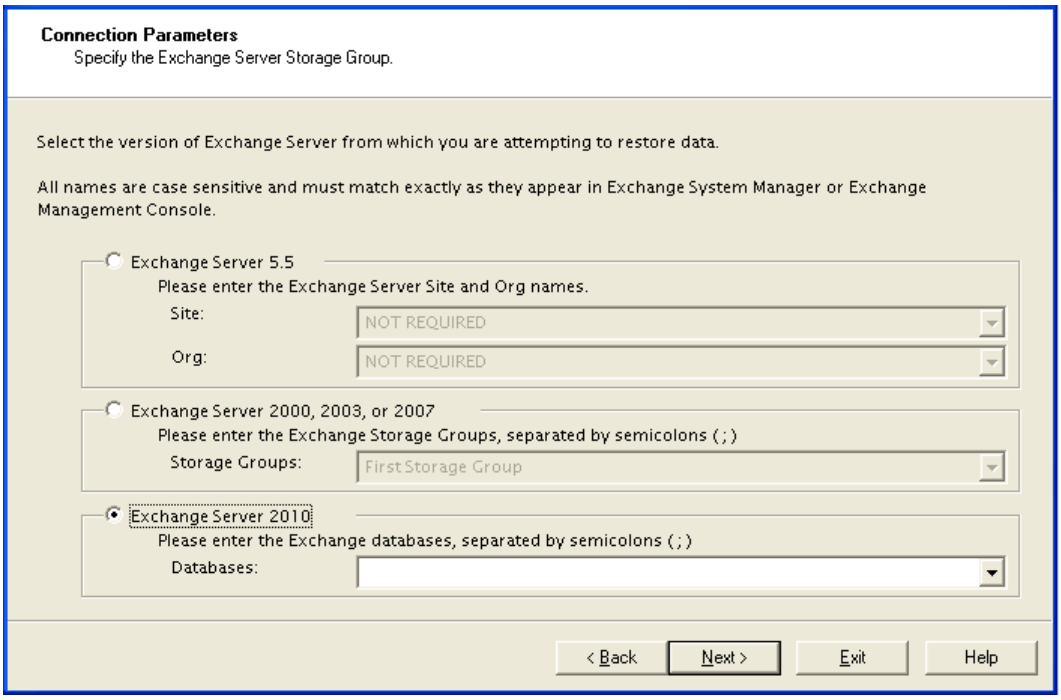

Figure 7-3: Selecting Exchange Server 2010 Connection Parameters

9. Click **Next**.
10. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, use the **Destination Folder** box to specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder. (If a folder does not exist, Single Mailbox Recovery ExtractWizard creates it.)
11. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

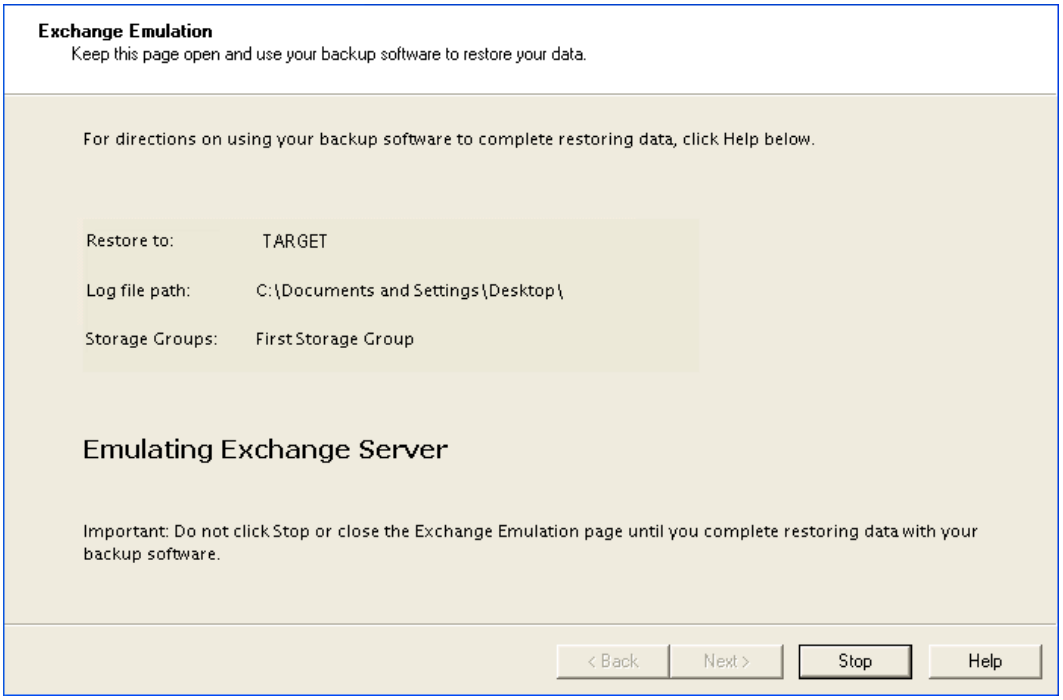

Figure 7-4: Exchange Emulation Page

> **Tip:** *You can refer to the "Restore to" information on this page when verifying it in Symantec Backup Exec later in this section.*

12. Restart the Backup Exec Remote Agent for Windows Systems service by doing the following:

    Important: Before restarting the Backup Exec Remote Agent for Windows Systems service, ensure that there are no active Backup Exec backup or restore operations running on the system.

    Note: ***For Windows Vista and later versions**: Run the Services Management console as Administrator.*

a. From the **Start** menu, select **Run**.
b. In the **Open** box, type **services.msc** and press Enter to open the Services management console.
c. Click the **Backup Exec Remote Agent for Windows Systems** service.
   - *If the service is already running*, click **Restart the service**.
   - *If the service is not running*, click **Start the service**.
d. After starting or restarting Backup Exec Remote Agent for Windows Systems, verify that **Started** appears in its Status column.

13. Start Symantec Backup Exec 2010 on the computer where restores are normally run. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard.
14. Click the drop-down arrow next to the **Restore** button and select **New Restore Job**. The **Restore Job Properties** window appears.
15. In the **Properties** pane, select **Selections** under the **Source** heading.
16. In the **All Resources** tree, select the Microsoft Exchange Server backup you want to restore.
17. In the **Properties** pane, select **Microsoft Exchange Redirection** under the **Destination** heading.
18. Select the **Redirect Exchange sets** check box.
19. In **Restore to server**, enter the name of the Restore Target Computer (the computer running Single Mailbox Recovery ExtractWizard). Verify that you are using the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
20. In **Server logon account**, change the logon account if necessary. The account you select must have backup operator rights to the Restore Target Computer.
21. If restoring a Snapshot copy backup made through the Volume Shadow Copy Services (VSS), perform these additional steps:
    a. Select the **Redirect using Volume Shadow Copy Service (VSS) snapshot provider** check box.
    b. Select the **Redirect to drive and path (Exchange 2003 and 2007)** option.
    c. In **Restore to drive**, select name of the computer name running Single Mailbox Recovery ExtractWizard.
    d. In **Restore to path**, enter the path to that same computer. This should match the Single Mailbox Recovery ExtractWizard destination path.

       Note: *It is recommended that you use the browse button (...) to select the* ***Restore to drive*** *and* ***Restore to path*** *fields. This ensures these fields are populated correctly.*

    e. In the **Properties** pane, select **File Redirection** under the **Destination** heading and select the **Redirect file sets** check box.
    f. In the **Restore to drive**, select name of the computer name running Single Mailbox Recovery ExtractWizard.
    g. In the **Server logon account**, change the logon account if necessary.

h. In **Restore to path**, enter the path to that same computer. This should match the Single Mailbox Recovery ExtractWizard destination path.

*Note: It is recommended that you use the browse button (...) to select the **Restore to drive** and **Restore to path** fields. This will ensure these fields are populated correctly.*

22. In the **Properties** pane, select **Microsoft Exchange** under the **Settings** heading.
23. In the **Exchange 2000 and later** area, select the **Purge existing data and restore only the databases and transaction logs from the backup sets** option.
24. In the **Exchange Server for temporary storage of log and patch files** box, enter the log file path.
25. Clear the **Commit after restore completes** and **Mount database after restore** check boxes.

    Important: *Make sure **Commit after restore completes** is not selected. If this check box remains selected, Backup Exec will automatically delete the restored files after completing the restore.*

26. Click **Run Now**. Symantec Backup Exec displays a warning about restoring a server with different Site and Organization names. You can safely click **Yes**. Single Mailbox Recovery ExtractWizard and Single Mailbox Recovery do not depend on the Site and Organization names. Symantec Backup Exec will start to restore Microsoft Exchange Server files to the Single Mailbox Recovery ExtractWizard.
27. When Symantec Backup Exec is completed, click **OK** and close Symantec Backup Exec.
28. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Symantec Backup Exec 12.0 or 12.5 with Microsoft Exchange Server 2000, 2003, or 2007

Use the following steps to emulate Microsoft Exchange Server 2000, 2003, or 2007 with Symantec Backup Exec 12.0 or 12.5:

1. Install "Backup Exec Remote Agent for Windows Servers" client software on the computer that will run Single Mailbox Recovery ExtractWizard.
2. On the computer that will run Single Mailbox Recovery ExtractWizard, do the following:
   - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.
3. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is known as the Restore Target Computer.

   *Note: If you have not already done so, click **About** and **License Info** to specify the name or address of the NetApp storage appliance as described in **"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7**; otherwise, continue to Step 4.*

4. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which

Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.

5. Click **Next**.
6. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

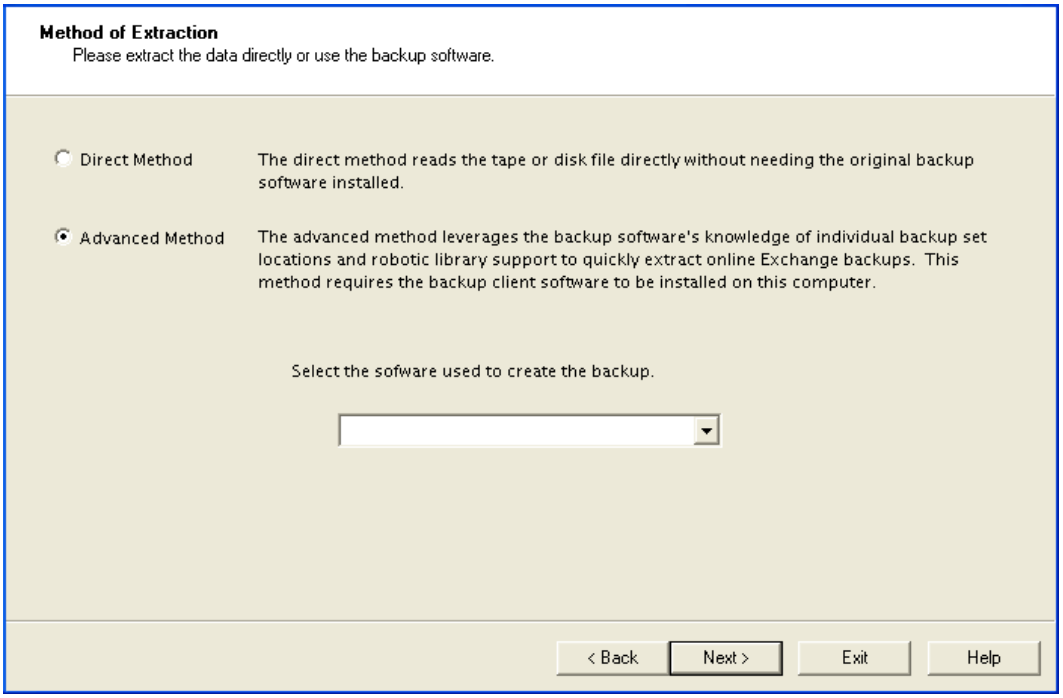

Figure 7-5: Method of Extraction Page for Advanced Method

7. Select **Symantec Backup Exec** from the drop-down list and click **Next**.
8. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 2000, 2003, or 2007** option.

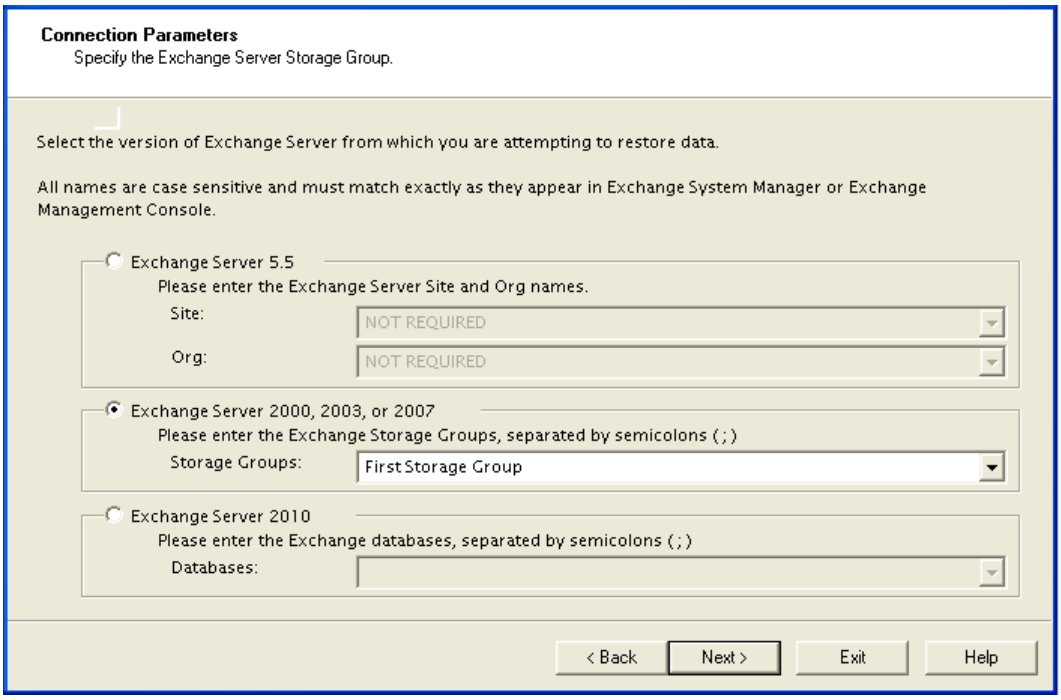

Figure 7-6: Selecting Exchange Server 2000, 2003, or 2007 Connection Parameters

9. In the **Storage Groups** box, enter the name of the storage group you will be extracting. The storage group name is case sensitive and must match exactly the name that appears in the Exchange System Manager. You can enter multiple storage groups, separated by semicolons (;).
10. Click **Next**.
11. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
12. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

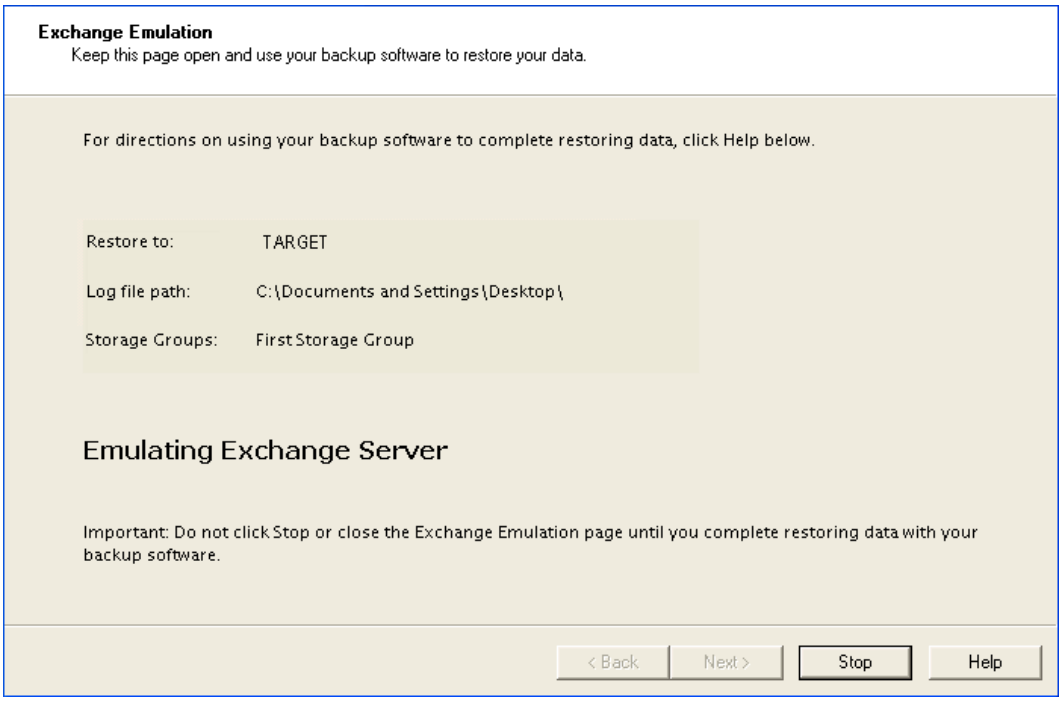

Figure 7-7: Exchange Emulation Page

Tip: *You can refer to the "Restore to" information on this page when verifying it in Symantec Backup Exec later in this section.*

13. Start Symantec Backup Exec 12.0 or 12.5 on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard.
14. Click the drop-down arrow next to the **Restore** button and select **New Restore Job**. The **Restore Job Properties** window appears.
15. In the **Properties** pane, select **Selections** under the **Source** heading.
16. In the **All Resources** tree, select the Microsoft Exchange Server backup you want to restore.
17. In the **Properties** pane, select **Microsoft Exchange Redirection** under the **Destination** heading.
18. Select the **Redirect Exchange sets** check box.
19. In the **Restore to server** box, enter the name of the Restore Target Computer (the computer running Single Mailbox Recovery ExtractWizard). Verify that you are using the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
20. In the **Server logon account**, change the logon account if necessary. The account you select must have backup operator rights to the Restore Target Computer.
21. If using Volume Shadow Copy Services (VSS), select the **Redirect using Volume Shadow Copy Service (VSS) snapshot provider** check box.

a. Select the **Redirect to drive and path (Exchange 2003 and 2007)** option.
b. In the **Restore to drive**, select the computer name of the one running Single Mailbox Recovery ExtractWizard.
c. In **Restore to path**, enter the path to that same computer. This should match the Single Mailbox Recovery ExtractWizard destination path.

Note: *It is recommended that you use the browse button (...) to select the* ***Restore to drive*** *and* ***Restore to path*** *fields. This will ensure these fields are populated correctly.*

Note: *For Microsoft Exchange Server 2000 restores, do not select the* ***Redirect using Volume Shadow Copy Service (VSS) snapshot provider*** *check box as Microsoft Exchange Server 2000 does not use VSS.*

22. In the **Properties** pane, select **Microsoft Exchange** under the **Settings** heading.
23. In the **Exchange 2000 and later** area, select the **Purge existing data and restore only the databases and transaction logs from the backup sets** option.
24. In the **Exchange Server for temporary storage of log and patch files** box, enter the log file path.
25. Clear the **Commit after restore completes** and **Mount database after restore** check boxes.

    Important: *Make sure to deselect the* ***Commit after restore completes*** *check box. If this check box remains selected, Backup Exec will automatically delete the restored files after completing the restore.*

26. Click **Run Now**. Symantec Backup Exec displays a warning about restoring a server with different Site and Organization names. You can safely click **Yes**. Single Mailbox Recovery ExtractWizard and Single Mailbox Recovery do not depend on the Site and Organization names. Symantec Backup Exec will start to restore Microsoft Exchange Server files to the Single Mailbox Recovery ExtractWizard.
27. When Symantec Backup Exec is completed, click **OK** and close Symantec Backup Exec.
28. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Symantec Backup Exec 11d with Microsoft Exchange Server 2000, 2003, or 2007

Use the following steps to emulate Microsoft Exchange Server 2000, 2003, or 2007 with Symantec Backup Exec 11d:

1. Install "Backup Exec Remote Agent for Windows Servers" client software on the computer that will run Single Mailbox Recovery ExtractWizard.
2. On the computer that will run Single Mailbox Recovery ExtractWizard, do the following:
   - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.
3. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is known as the Restore Target Computer.

*Note: If you have not already done so, click **About** and **License Info** to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

4. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
5. Click **Next**.
6. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

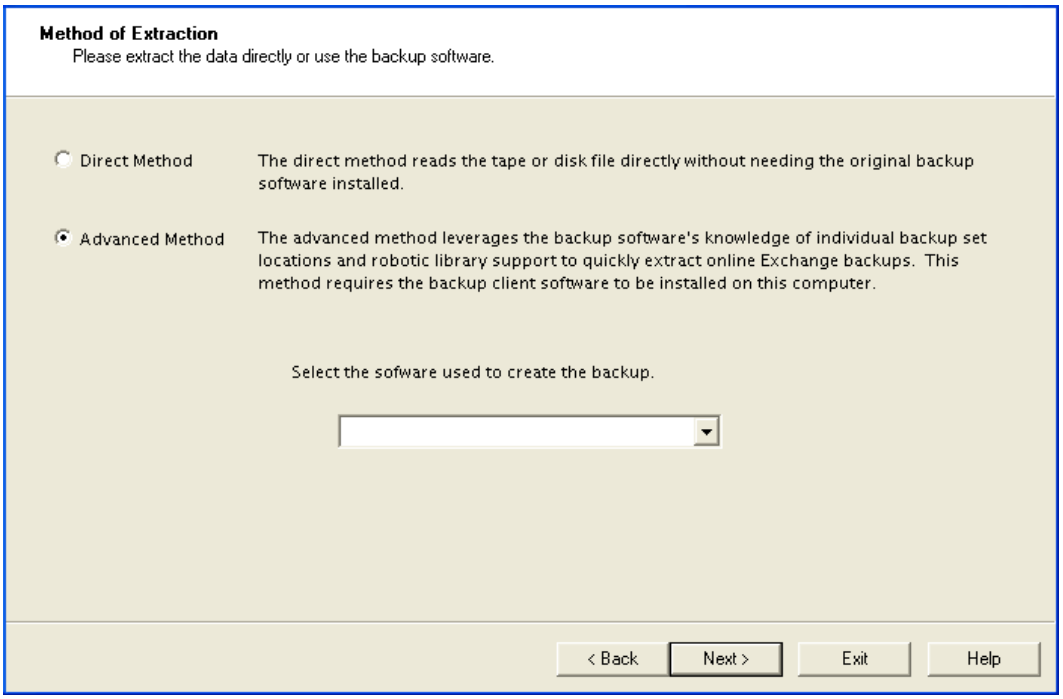

Figure 7-8: Method of Extraction Page for Advanced Method

7. Select **Symantec Backup Exec** from the drop-down list and click **Next**.
8. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 2000, 2003, or 2007** option.

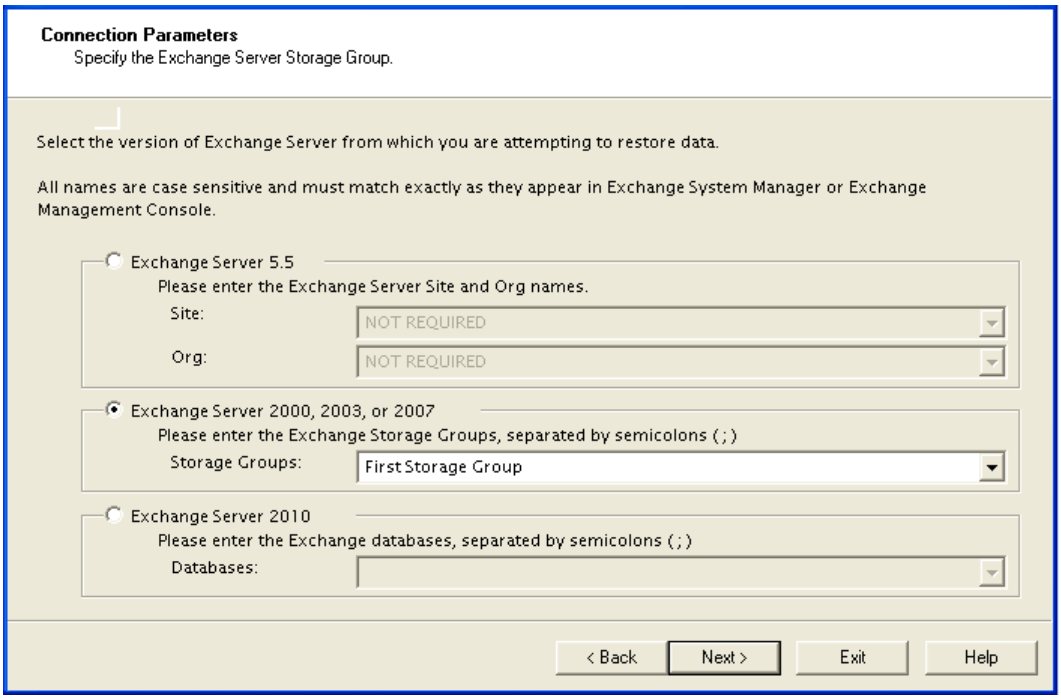

Figure 7-9: Selecting Exchange Server 2000, 2003, or 2007 Connection Parameters

9. In the **Storage Groups** box, enter the name of the storage group you will be extracting. The storage group name is case sensitive and must match exactly the name that appears in the Exchange System Manager. You can enter multiple storage groups, separated by semicolons (;).
10. Click **Next**.
11. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
12. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

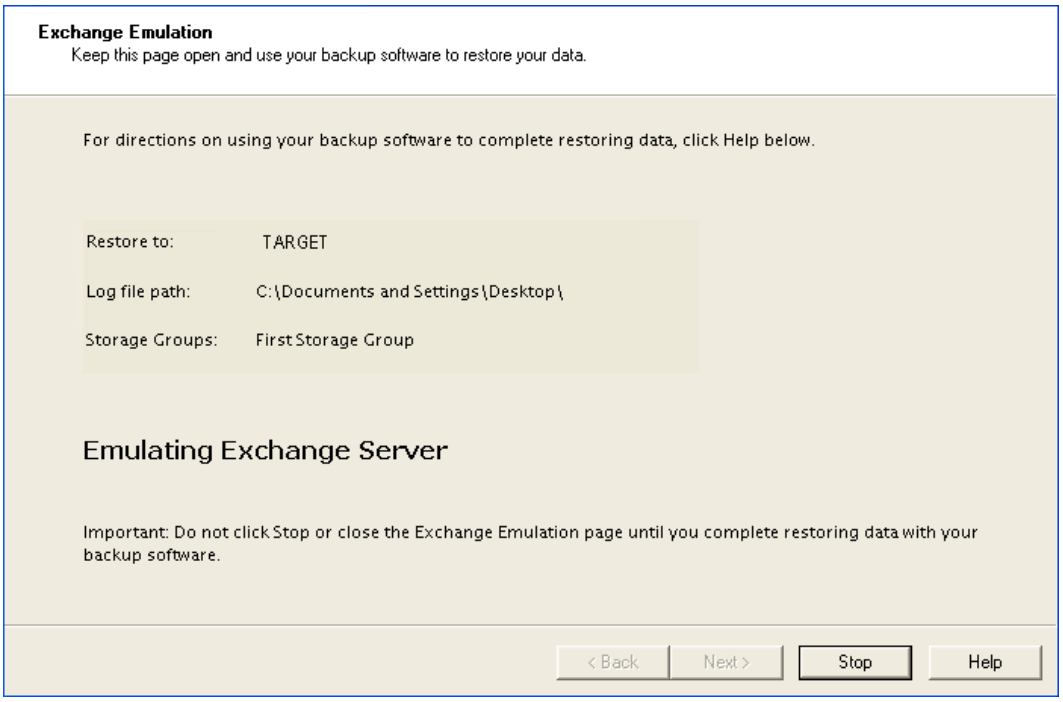

Figure 7-10: Exchange Emulation Page

Tip: *You can refer to the "Restore to" information on this page when verifying it in Symantec Backup Exec later in this section.*

13. Start Symantec Backup Exec 11d on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard.
14. Click **Restore**. The **Restore Job Properties** window appears.
15. In the **Properties** pane, select **Selections** under the **Source** heading.
16. In the **All Resources** tree, select the Microsoft Exchange Server backup you want to restore.
17. In the **Properties** pane, select **Microsoft Exchange Redirection** under the **Destination** heading.
18. Select the **Redirect Exchange sets** check box.
19. In the **Restore to server** box, enter the name of the Restore Target Computer (the computer running Single Mailbox Recovery ExtractWizard). Verify that you are using the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
20. In the **Server logon account**, change the logon account if necessary. The account you select must have backup operator rights to the Restore Target Computer.
21. If using Volume Shadow Copy Services (VSS), select the **Redirect using Volume Shadow Copy Service (VSS) snapshot provider** check box.

> **Tip:** *For Microsoft Exchange Server 2000 restores, do not select the* ***Redirect using Volume Shadow Copy Service (VSS) snapshot provider*** *check box as Microsoft Exchange Server 2000 does not use VSS.*

22. Select the **Redirect to drive and path (Exchange 2003 and 2007)** option.
23. In the **Restore to drive**, select the computer name of the one running Single Mailbox Recovery ExtractWizard.
24. In **Restore to path**, enter the path to that same computer. This should match the Single Mailbox Recovery ExtractWizard destination path.
25. In the **Properties** pane, select **Microsoft Exchange** under the **Settings** heading.
26. In the **Exchange 2000 and later** area, select the **Purge existing data and restore only the databases and transaction logs from the backup sets** option.
27. In the **Exchange Server for temporary storage of log and patch files** box, enter the log file path.
28. Clear the **Commit after restore completes** and **Mount database after restore** check boxes.

    Important: *Make sure to deselect the* ***Commit after restore completes*** *check box. If this check box remains selected, Backup Exec will automatically delete the restored files after completing the restore.*

29. Click **Run Now**. Symantec Backup Exec displays a warning about restoring a server with different Site and Organization names. You can safely click **Yes**. Single Mailbox Recovery ExtractWizard and Single Mailbox Recovery do not depend on the Site and Organization names. Symantec Backup Exec will start to restore Microsoft Exchange Server files to the Single Mailbox Recovery ExtractWizard.
30. When Symantec Backup Exec is completed, click **OK** and close Symantec Backup Exec.
31. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Symantec Backup Exec 9.1 or 10.1 with Microsoft Exchange Server 2000 or 2003

Use the following steps to emulate Microsoft Exchange Server 2000 or 2003 with Symantec Backup Exec 9.1 or 10.1:

1. Install "Backup Exec Remote Agent for Windows Servers" client software on the computer that will run Single Mailbox Recovery ExtractWizard.
2. On the computer that will run Single Mailbox Recovery ExtractWizard, do the following:
   - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.
3. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is known as the Restore Target Computer.

*Note: If you have not already done so, click **About** and **License Info** to specify the name or address of the NetApp storage appliance as described in **"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7**; otherwise, continue to Step 4.*

4. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
5. Click **Next**.
6. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

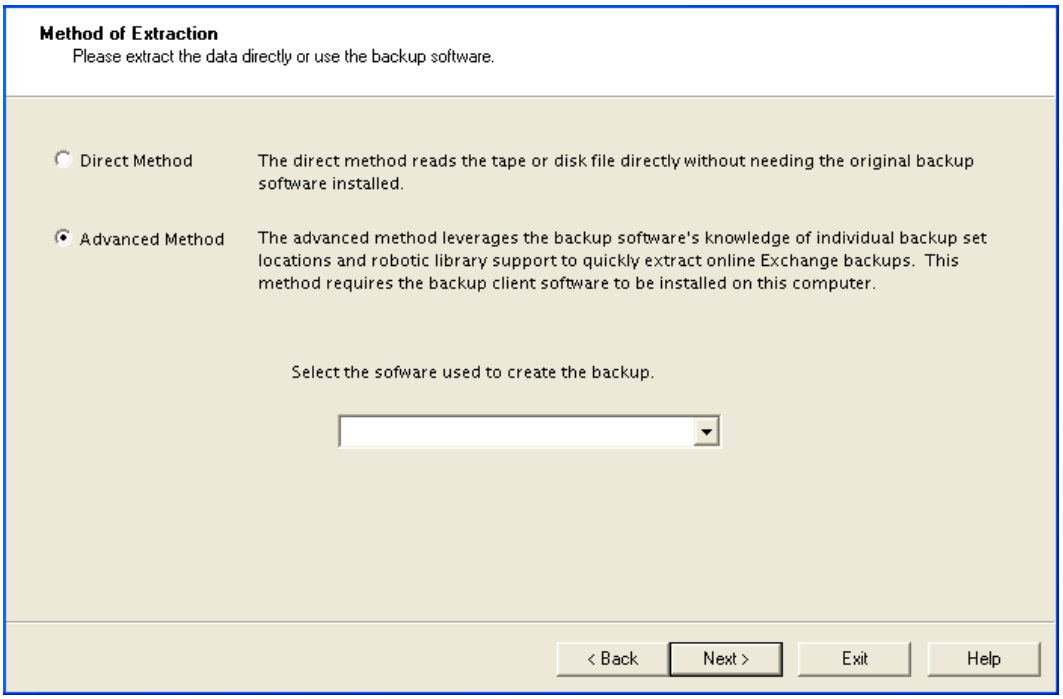

Figure 7-11: Method of Extraction Page for Advanced Method

7. Select **Symantec Backup Exec** from the drop-down list and click **Next**.
8. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 2000, or 2003, or 2007** option.

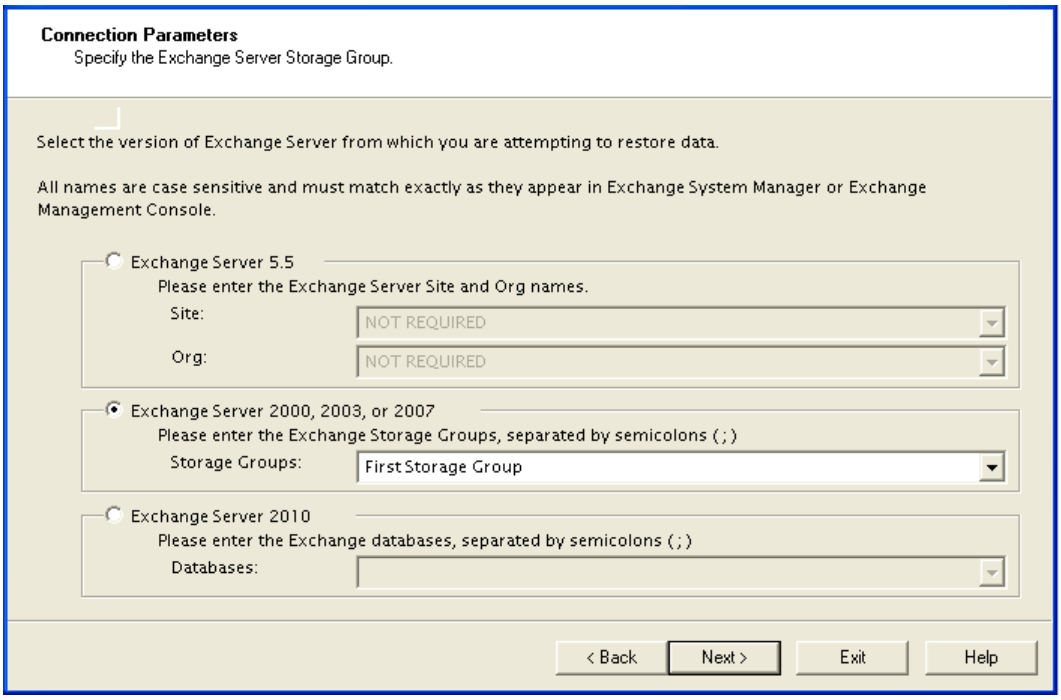

Figure 7-12: Selecting Exchange Server 2000, 2003 or 2007 Connection Parameters

9. In the **Storage Groups** box, enter the name of the storage group you will be extracting. The storage group name is case sensitive and must match exactly the name that appears in the Exchange System Manager. You can enter multiple storage groups, separated by semicolons (;).
10. Click **Next**.
11. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
12. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to start Symantec Backup Exec.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

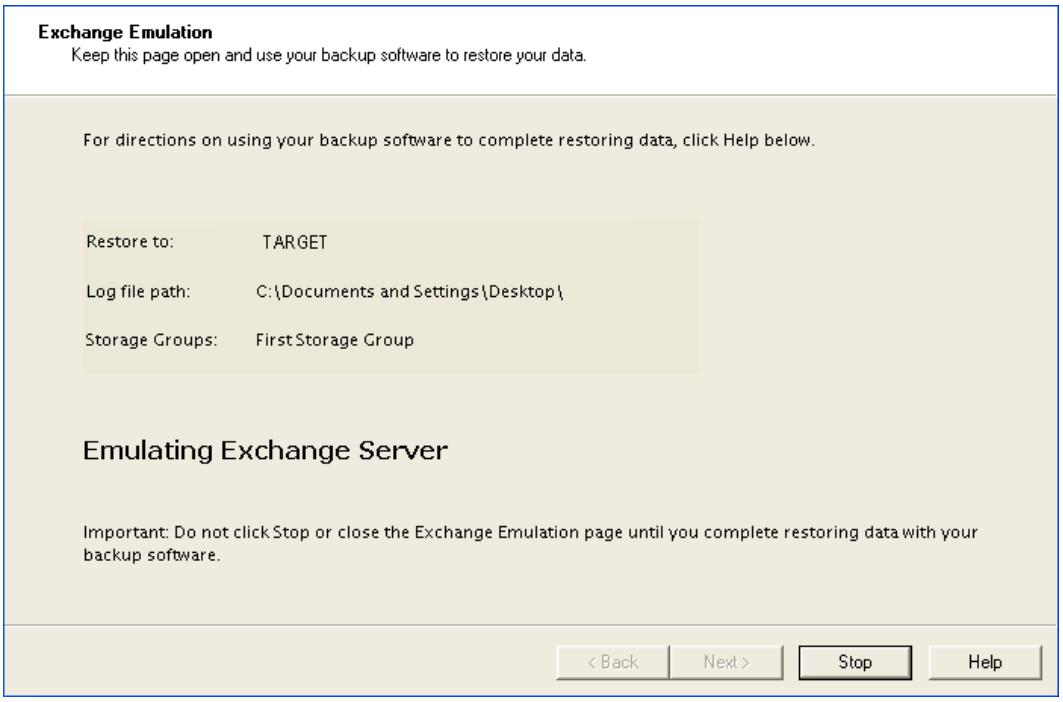

Figure 7-13: Exchange Emulation Page

Tip: *You can refer to the "Restore to" information on this page when verifying it in Symantec Backup Exec later in this section.*

13. Start Symantec Backup Exec 9.1/10.1 on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard.
14. Click **Restore**. The **Restore Job Properties** window appears.
15. In the **Properties** pane, select **Selections** under the **Source** heading.
16. In the **All Resources** tree, select the Microsoft Exchange Server backup you want to restore.
17. In the **Properties** pane, select **Exchange Redirection** under the **Destination** heading.
18. Select the **Redirect Exchange** sets check box.
19. In the **Restore to server** box, enter the name of the Restore Target Computer (the computer running Single Mailbox Recovery ExtractWizard). Verify that you are using the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
20. In the **Server logon account**, change the logon account if necessary. The account you select must have backup operator rights to the Restore Target Computer.
21. In the **Properties** pane, select **Exchange** under the **Settings** heading.
22. In the **Exchange 2000 and Exchange 2003** area, clear the **No Loss Restore** check box.

    Important: *If the **No Loss Restore** check box is selected, the restore will fail.*

23. In the **Temporary location for log and path files** box, enter the log file path. Verify that you are using the "Log file path" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
24. Clear the **Commit after restore completes** check box.

    Important: *Make sure to deselect the* ***Commit after restore completes*** *check box. If this check box remains selected, Backup Exec will automatically delete the restored files after completing the restore.*

25. Click **Run Now**. Symantec Backup Exec displays a warning about restoring a server with different Site and Organization names. You can safely click **Yes**. Single Mailbox Recovery ExtractWizard and Single Mailbox Recovery do not depend on the Site and Organization names. Symantec Backup Exec will start to restore Microsoft Exchange Server files to the Single Mailbox Recovery ExtractWizard.
26. When Symantec Backup Exec is completed, click **OK** and close Symantec Backup Exec.
27. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Symantec Backup Exec 9.1 or 10.1 with Microsoft Exchange Server 5.5

Use the following steps to emulate Microsoft Exchange Server 5.5 with Symantec Backup Exec 9.1 or 10.1:

1. Install "Backup Exec Remote Agent for Windows Servers" client software on the computer that will run Single Mailbox Recovery ExtractWizard.
2. On the computer running Single Mailbox Recovery ExtractWizard, make sure edbbcli.dll is in the system path. The easiest way to ensure this is to copy edbbcli.dll to windows\system32. The edbbcli.dll file can be found on the Microsoft Exchange Server in the Microsoft Exchange Server\bin directory.
3. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is known as the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

4. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
5. Click **Next**.
6. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

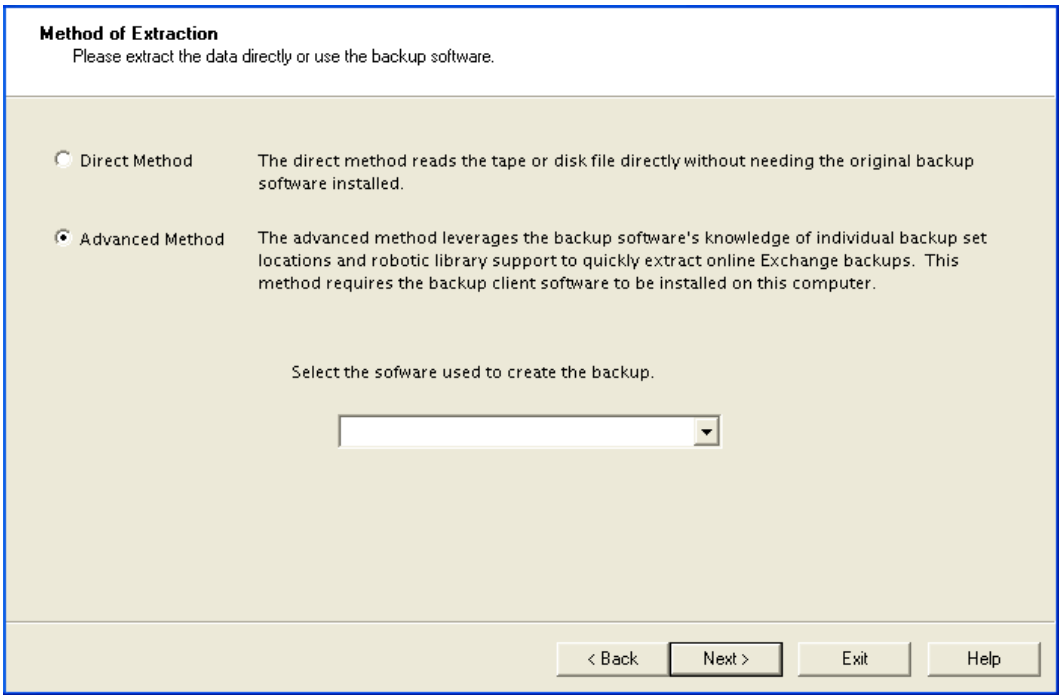

Figure 7-14: Method of Extraction Page for Advanced Method

7. Select **Symantec Backup Exec** from the drop-down list and click **Next**.
8. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 5.5** option.

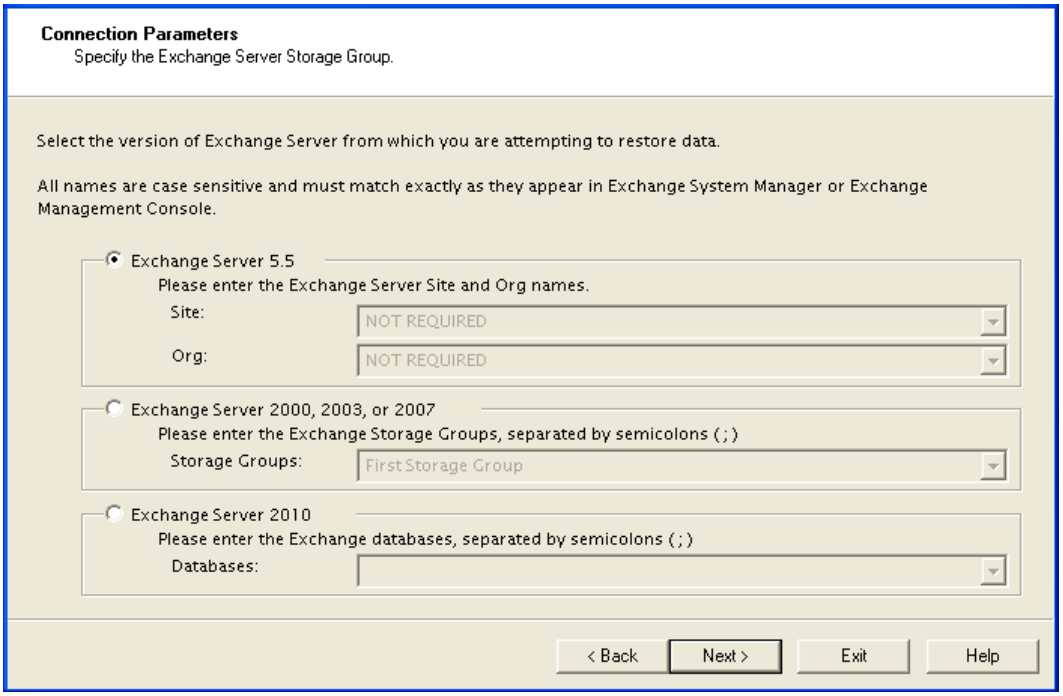

Figure 7-15: Selecting Exchange Server 5.5 Connection Parameters

9. Click **Next**.

10. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
11. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

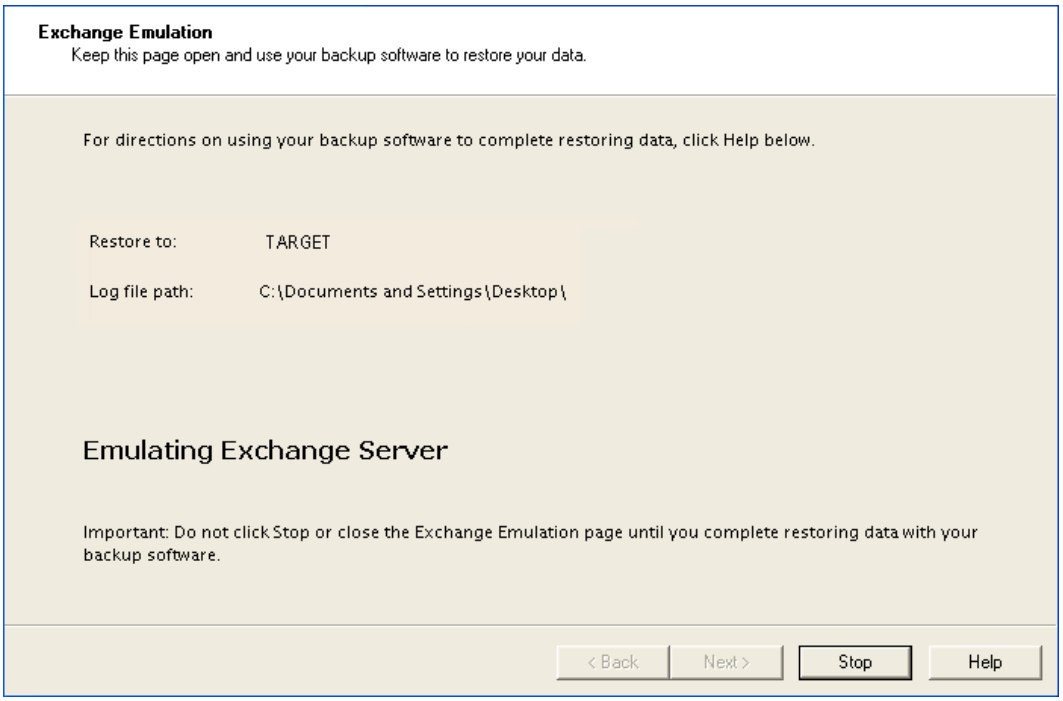

Figure 7-16: Exchange Emulation Page

Tip: *You can copy the "Restore to" information on this page and paste it into Backup Exec when prompted later in this section.*

12. Start Symantec Backup Exec on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard.
13. Click **Restore** at the top left of the Backup Exec window. The **Restore Job Properties** window appears.
14. In the **Properties** pane, select **Selections** under the **Source** heading.
15. In the **All Resources** tree, select the Microsoft Exchange Server backup you want to restore.

    Note: *You cannot restore the Microsoft Exchange Directory.*

16. In the **Properties** pane, select **Exchange Redirection** under the **Destination** heading.

17. Select the **Redirect Exchange** sets check box.
18. In the **Restore to server** box, enter the name of the Restore Target Computer (the computer running Single Mailbox Recovery ExtractWizard). Verify that you are using the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
19. In the **Server logon account**, change the logon account if necessary. The account you select must have backup operator rights to the Restore Target Computer.
20. In the **Properties** pane, select **Exchange** under the **Settings** heading.
21. In the **Exchange v5.5** area, clear the **No Loss Restore** check box.

    Important: *If the **No Loss Restore** check box is selected, the restore will fail.*

22. Select one or both of the following check boxes: Select the **Restore public folder** if you would like to restore the pub.edb. Select the **Restore private mailboxes** if you would like to restore the priv.edb.
23. Click **Run Now**. Symantec Backup Exec will display a warning about restoring a server with different Site and Organization names. You can safely click **Yes**. Single Mailbox Recovery ExtractWizard and Single Mailbox Recovery do not depend on the Site and Organization names. Symantec Backup Exec will start to restore Microsoft Exchange Server files to the Single Mailbox Recovery ExtractWizard.
24. When Symantec Backup Exec is completed, click **OK** and close Symantec Backup Exec.
25. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Symantec Backup Exec 8.6 with Microsoft Exchange Server 2000 or 2003

Use the following steps to emulate Microsoft Exchange Server 2000 or 2003 with Symantec Backup Exec 8.6:

1. Install "Backup Exec Remote Agent for Windows Servers" client software on the computer that will run Single Mailbox Recovery ExtractWizard.
2. On the computer that will run Single Mailbox Recovery ExtractWizard, do the following:
   - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.
3. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is known as the Restore Target Computer.

   Note: *If you have not already done so, click **About** and **License Info** to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

4. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see

"Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.

5. Click **Next**.
6. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

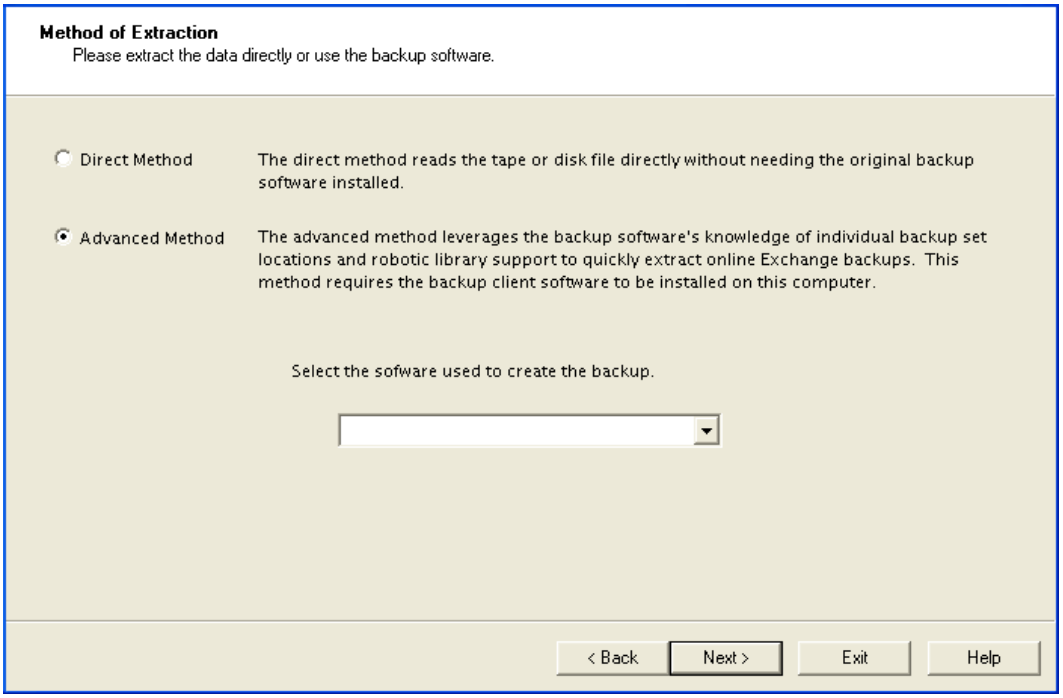

Figure 7-17: Method of Extraction Page for Advanced Method

7. Select **Symantec Backup Exec** from the drop-down list and click **Next**.
8. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 2000, 2003, or 2007** option.

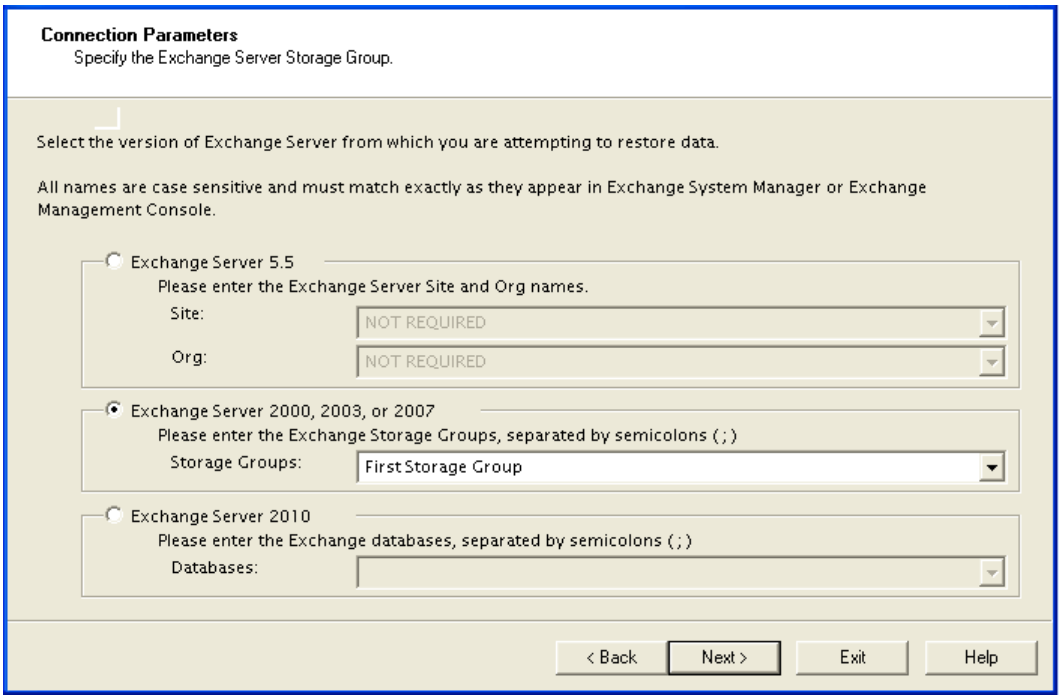

Figure 7-18: Selecting Exchange Server 2000, 2003, or 2007 Connection Parameters

9. In the **Storage Groups** box, enter the name of the storage group you will be extracting, exactly as it appears in the Exchange System Manager. Symantec Backup Exec will check this name, which is case sensitive, and it must match exactly. You can enter multiple storage groups, separated by semicolons (;).
10. Click **Next**.
11. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
12. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

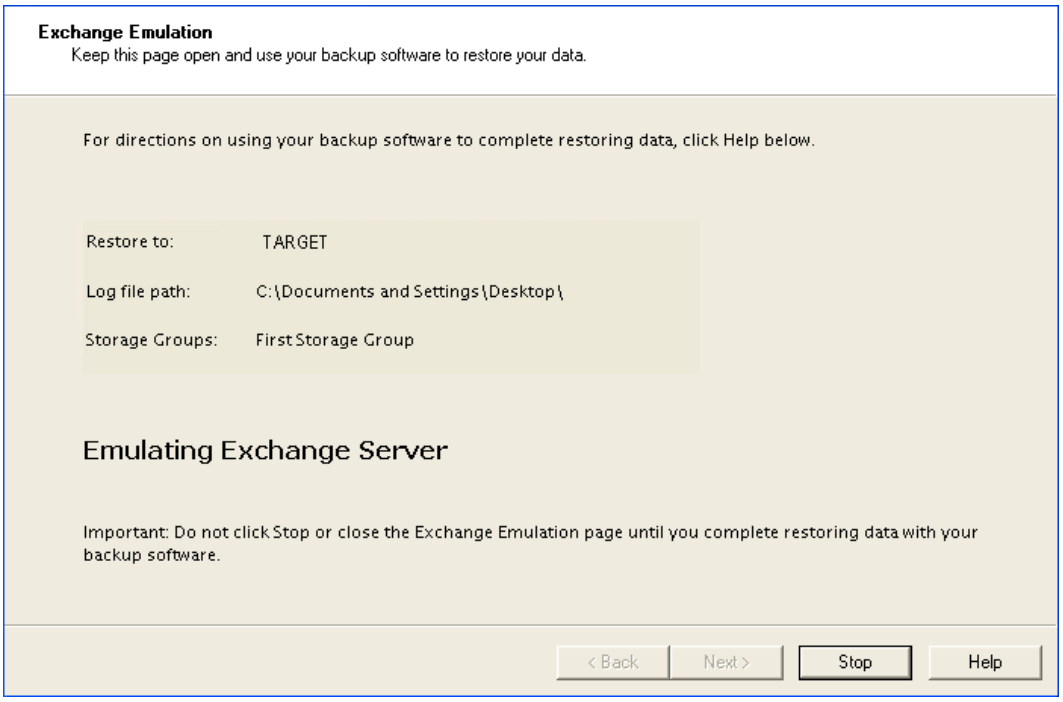

Figure 7-19: Exchange Emulation Page

Tip: *You can copy the "Restore to" and "Log file path" information on this page and paste it into Backup Exec when prompted later in this section.*

13. Start Symantec Backup Exec on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard.
14. On the toolbar at the top of the Backup Exec window, click **Restore**. The **Restore Job Properties** window appears.
15. In the **Restore Job Properties** window, click the **Selections** tab.
16. In the **All Volumes** tree, select the Microsoft Exchange Server backup you want to restore.
17. Click the **Redirection** tab.
18. Select the **Redirect Exchange sets** check box.
19. In the **Restore to server** box, enter the name of the Restore Target Computer. Verify that you are using the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
20. Select the **Exchange** tab.
21. In the **Exchange 2000** area, clear the **No Loss Restore** check box.

    Important: *If the **No Loss Restore** check box is selected, the restore will fail.*

22. In the **Temporary location for log and path files** box, enter the log file path. Verify that you are using the "Log file path" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
23. Clear the **Commit after restore completes** check box.

Important: *Make sure to deselect the* ***Commit after restore completes*** *check box. If this check box remains selected, Backup Exec will automatically delete the restored files after completing the restore.*

24. Click **Run Now**. Symantec Backup Exec will display a warning about restoring a server with different Site and Organization names. You can safely click **Yes**. Single Mailbox Recovery ExtractWizard and Single Mailbox Recovery do not depend on the Site and Organization names. Symantec Backup Exec will start to restore Microsoft Exchange Server files to the Single Mailbox Recovery ExtractWizard.
25. When Symantec Backup Exec is completed, click **OK** and close Symantec Backup Exec.
26. In the Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Symantec Backup Exec 8.6 with Microsoft Exchange Server 5.5

Use the following steps to emulate Microsoft Exchange Server 5.5 with Symantec Backup Exec 8.6:

1. Install "Backup Exec Remote Agent for Windows Servers" client software on the computer that will run Single Mailbox Recovery ExtractWizard.
2. On the computer running Single Mailbox Recovery ExtractWizard, make sure edbbcli.dll is in the system path. The easiest way to ensure this is to copy to windows\system32. The edbbcli.dll file can be found on the Microsoft Exchange Server in the Microsoft Exchange Server\bin directory.
3. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is known as the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

4. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
5. Click **Next**.
6. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method** and **Symantec Backup Exec**.

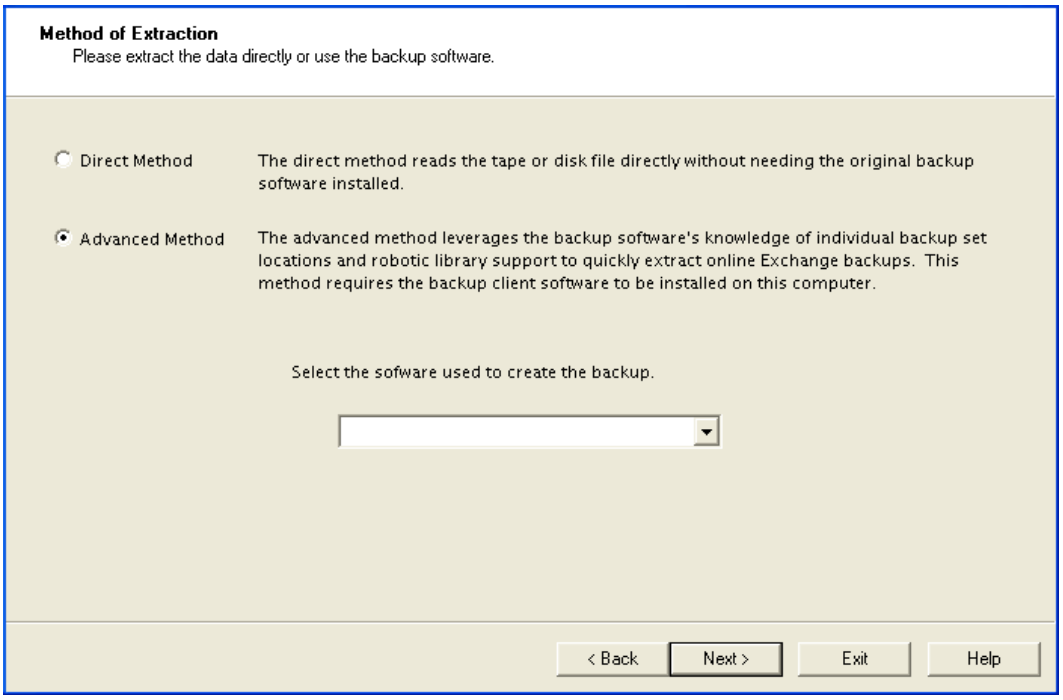

Figure 7-20: Method of Extraction Page for Advanced Method

7. Select **Symantec Backup Exec** from the drop-down list and click **Next**.
8. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 5.5** option.

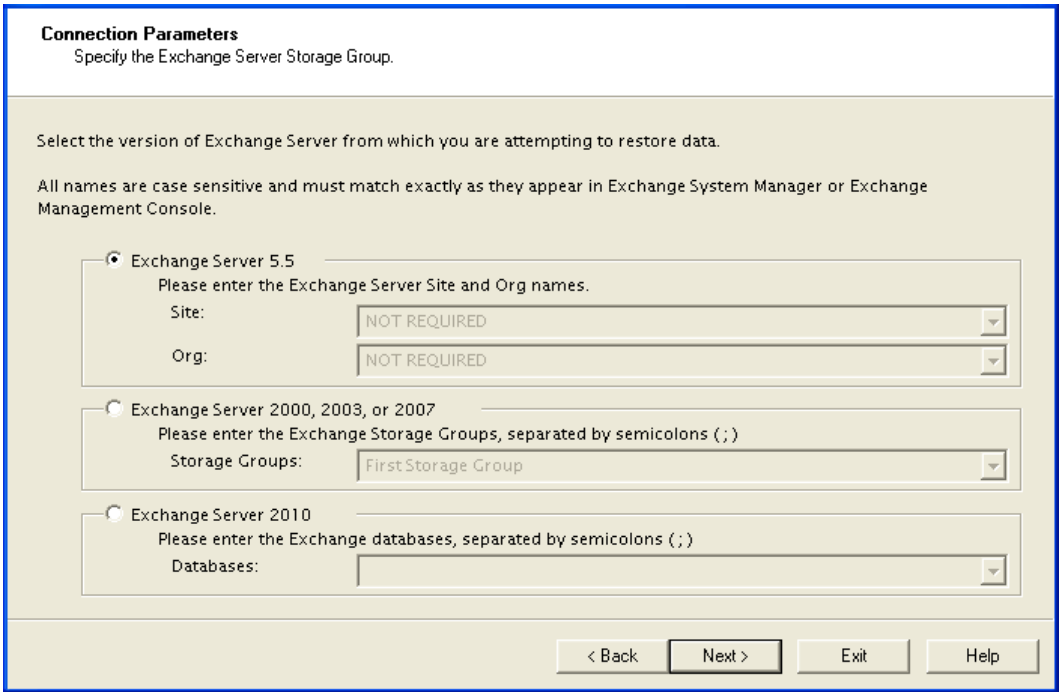

Figure 7-21: Selecting Exchange Server 5.5 Connection Parameters

9. Click **Next**.

10. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
11. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

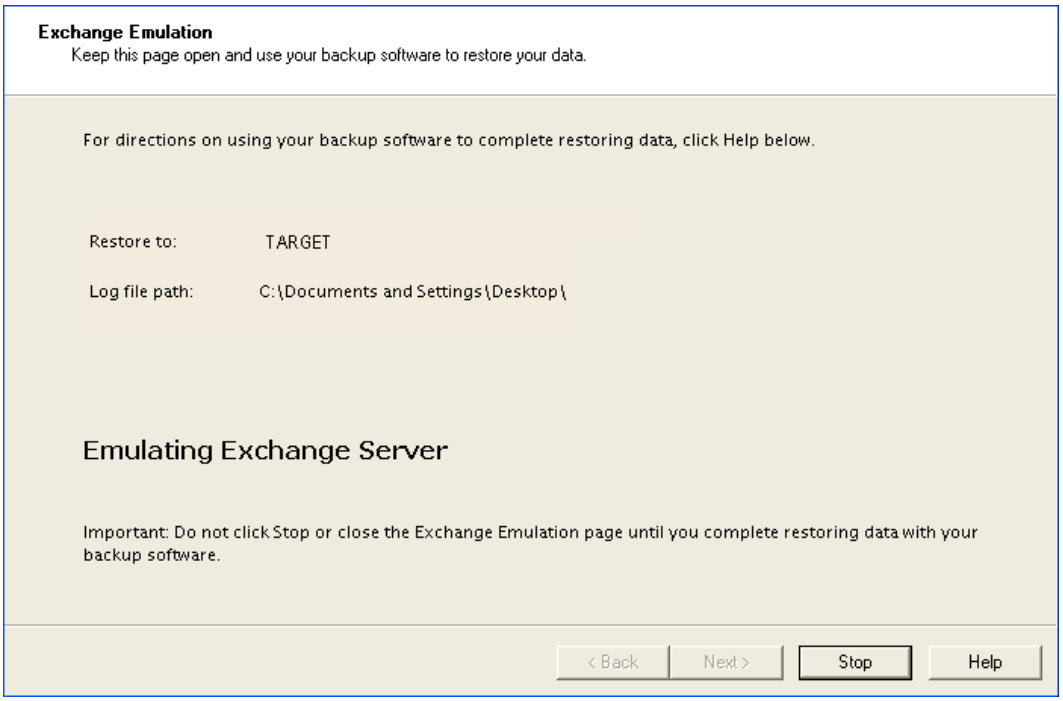

Figure 7-22: Exchange Emulation Page

Tip: *You can copy the "Restore to" information on this page and paste it into Backup Exec when prompted later in this section.*

12. Start Symantec Backup Exec on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard.
13. Click **Restore** at the top left of the Backup Exec window. The **Restore Job Properties** window appears.
14. In the **Restore Job Properties** window, click the **Selections** tab.
15. In the **All Volumes** tree, select the Microsoft Exchange Server backup you want to restore.

    Note: *You cannot restore the Microsoft Exchange Directory.*

16. Click the **Redirection** tab.
17. Select the **Redirect Exchange sets** check box.

18. In the **Restore to server** box, enter the name of the Restore Target Computer. Verify that you are using the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
19. Select the **Exchange** tab.
20. In the Exchange v5.5 area, clear the **No Loss Restore** check box.

    Important: *If the **No Loss Restore** check box is selected, the restore will fail.*

21. Select one or both of the following check boxes: Select the **Restore public folder** if you would like to restore the pub.edb. Select the **Restore private mailboxes** if you would like to restore the priv.edb.
22. Click **Run Now**. Symantec Backup Exec displays a warning about restoring a server with different Site and Organization names. You can safely click **Yes**. Single Mailbox Recovery ExtractWizard and Single Mailbox Recovery do not depend on the Site and Organization names. Symantec Backup Exec starts to restore Microsoft Exchange Server files to the Single Mailbox Recovery ExtractWizard.
23. When Symantec Backup Exec is completed, click **OK** and close Symantec Backup Exec.
24. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Chapter 8: Using the Emulation Method with Symantec NetBackup

Overview

This chapter explains how to emulate various releases of Microsoft Exchange Server while using Symantec NetBackup as your backup client.

Symantec NetBackup 7.6 with Microsoft Exchange Server 2013

Note: *Symantec NetBackup 7.6 running on Microsoft Windows Server 2012 or later is supported for Advanced Method for Microsoft Exchange Server 2013.*

Note: *For Symantec NetBackup 7.6 Advanced Method restores of VSS backups, restoring a single database at a time is recommended.*

Note: *With Symantec NetBackup 7.6.0.2 and later, all original volumes/drive letters for the backup data must be present and writable when performing a restore, even if an alternate destination is used. The original volumes/drive letters will not be modified during the restore.*

Use the following steps to emulate Microsoft Exchange Server 2013 with Symantec NetBackup 7.6:

1. Install Symantec NetBackup client software for Windows on the computer that will run Single Mailbox Recovery ExtractWizard.
2. Follow the instructions for allowing redirected restores in the Symantec NetBackup Administrators Guide. (This allows the computer running Single Mailbox Recovery ExtractWizard to restore backups created by the Microsoft Exchange Server.)
3. On the computer that will run Single Mailbox Recovery ExtractWizard, do the following:
   - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.
     - **For Microsoft Exchange Server 2013**: follow the steps in **"Configuring Symantec NetBackup 7.6 for Microsoft Exchange Server 2013" on page 92**.
4. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

5. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
6. On the first page of the Single Mailbox Recovery ExtractWizard, click **Next**.
7. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

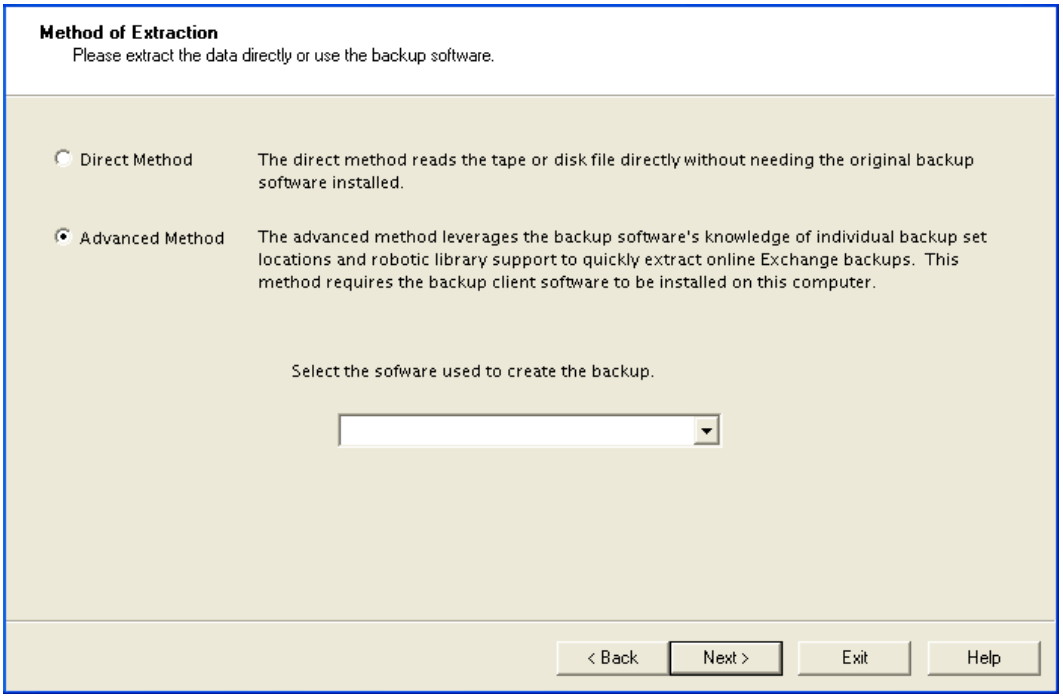

Figure 8-1: Method of Extraction Page for Advanced Method

8. Select **Symantec NetBackup 7.1 and Later** from the drop-down list and then click **Next**.
9. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, do the following:
   - ***For restores of Microsoft Exchange Server 2013***: Select the **Exchange Server 2013** option and in the **Databases** box, enter the name of the database you will be extracting. The database name is case sensitive and must match exactly the name that appears in the management console for Exchange Server. You can enter multiple databases, separated by semicolons (;).

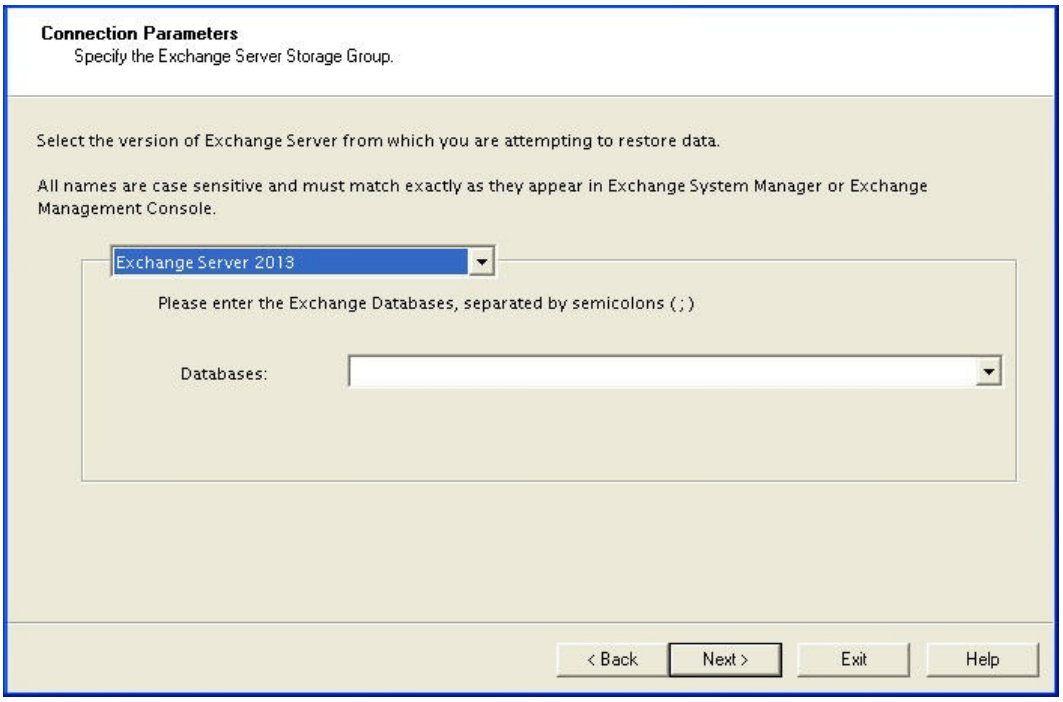

Figure 8-2: Selecting Exchange Server 2013 Connection Parameters

10. Click **Next**.
11. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, use the **Destination Folder** box to specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it, such as x$, and Path is the complete path to a folder. (If a folder does not exist, Single Mailbox Recovery ExtractWizard creates it.)
12. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

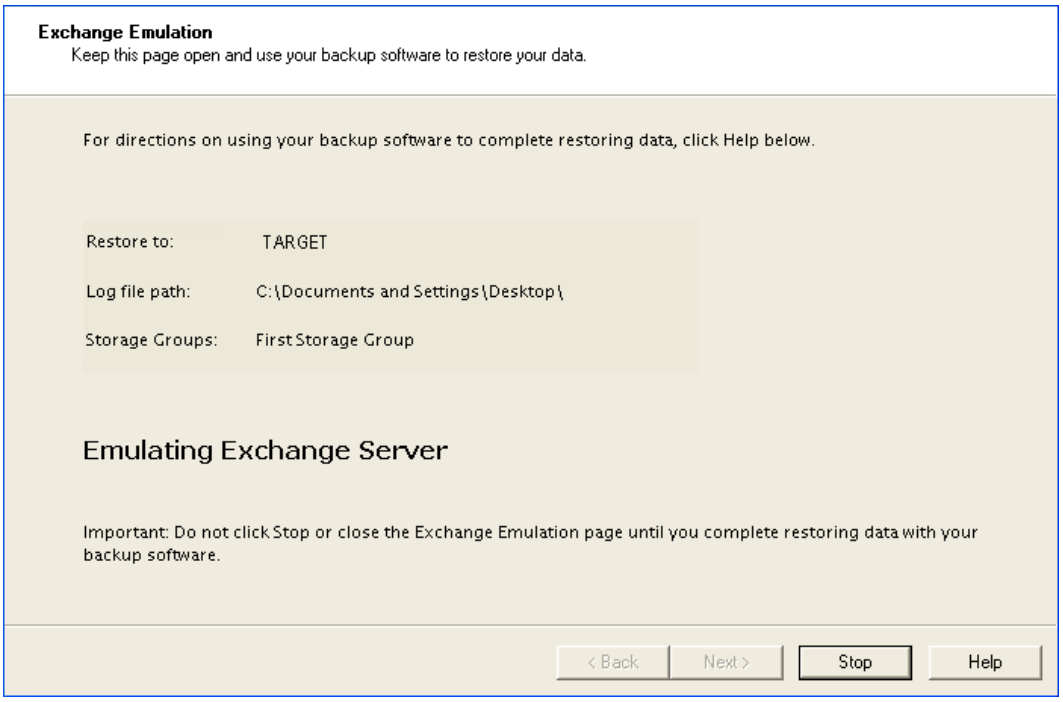

Figure 8-3: Exchange Emulation Page

Tip: *Copy the "Log file path" information on this page and paste it when prompted later in this section.*

13. Start the Symantec NetBackup client software on the computer running Single Mailbox Recovery ExtractWizard.
14. On the **File** menu, click **Specify NetBackup Machines and Policy Type**.

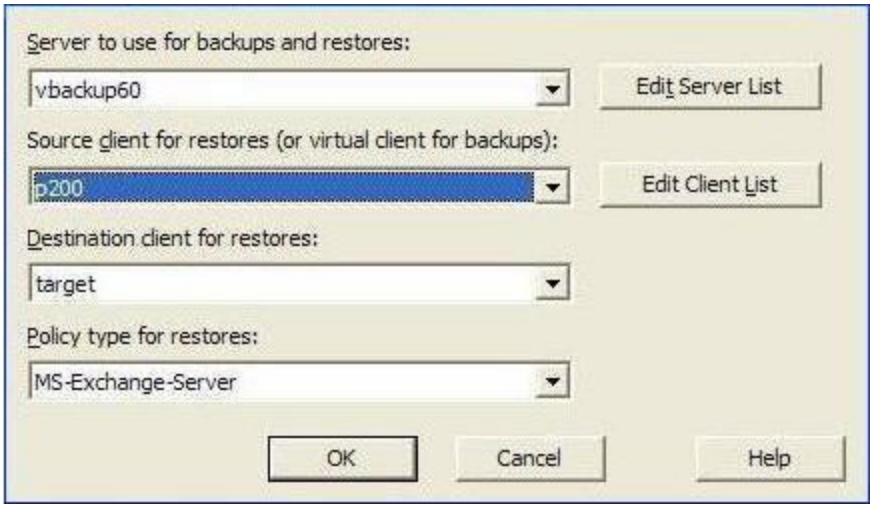

Figure 8-4: Specify Client and Policy Type

15. In the **Specify NetBackup Machines and Policy Type** window, use the **Source client for restores (or virtual client for backups)** list to select the client for the Microsoft Exchange Server you want to restore from and make it the current client.

16. In the **Policy type for restores** list, select **MS-Exchange-Server** and then click **OK**.
17. On the toolbar, click **Select for Restore**, and then select the backup set for the Microsoft Exchange Server you want to restore.
18. From the **Actions** menu, select **Start Restore of Marked Files**.
19. Under the **General** tab of **Restore Marked Files**, make sure the default of **Restore everything to its original location** is selected.
20. Under the **Microsoft Exchange** tab of **Restore Marked Files**, do the following:
    a. Select the **Roll-Forward Recovery (Replay all log files)** option.
    - You do not need to enter a temporary location for log files (the text box is disabled).

      Important: *When restoring a VSS backup, Symantec NetBackup 7.6 will restore and overwrite the edb and log files in the destination folder without any prompting. If the original folder path is not present, it will try to create it.*

    b. Make sure **Commit after last backup set is restored** is not selected.

    Important: *Clear this box or NetBackup will restore the files and then delete them.*
21. Click **Start Restore**.
22. When Symantec NetBackup is completed, click **OK** and close Symantec NetBackup.
23. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Trouble shooting tips

- If an Error (5) appears when restoring data, do one of the following:
  - Try restarting the ExtractWizardReplication service.
  - Check if the file `C:\Program Files\Veritas\NetBackup\Bin\Monad.exe.config.rename` exists. If this file exists, rename to `Monad.exe.config`
- Check that NetBackup server and the computer running Single Mailbox Recovery ExtractWizard are able to resolve DNS hostname both directions correctly.
- Check that the computer running Single Mailbox Recovery ExtractWizardcomputer firewall is configured to allow the NetBackup Server to communicate. If the restore fails with an Error (5), try restarting the ExtractWizardReplication service.
- If restoring data fails, try stopping the World Wide Web Publishing Service.

Configuring Symantec NetBackup 7.6 for Microsoft Exchange Server 2013

In order to restore with Symantec NetBackup 7.6 to a computer without Exchange Server installed, you need to configure the computer to work with Symantec NetBackup and Single Mailbox Recovery ExtractWizard. This setup requires a separate Active Directory domain, the operating system installation media, and the Microsoft Exchange Server installation media.

Chapter 8: Using the Emulation Method with Symantec NetBackup

Note: *The user performing these steps and running Single Mailbox Recovery ExtractWizard needs to have sufficient Active Directory permissions. For more information, see* ***"Single Mailbox Recovery ExtractWizard Emulation and Active Directory Objects" on page 188***.

OVERVIEW:

In this setup, you will do the following:

1. Create an isolated domain configured with the Microsoft Exchange Server 2013 Active Directory schema.
2. Install the Microsoft Exchange Server Management Tools.
3. Create a new Single Mailbox Recovery ExtractWizard Topology Service.
4. Create a new Single Mailbox Recovery ExtractWizard Replication Service.

REQUIREMENTS:

- If creating an isolated domain controller:
  - A computer capable of running Microsoft Windows Server 2012.
  - Microsoft Windows Server 2012 Installation media.

  Note: *This machine* ***can*** *be used to run Single Mailbox Recovery ExtractWizard.*
- A computer to run Single Mailbox Recovery ExtractWizard (not needed if running Single Mailbox Recovery ExtractWizard on the isolated domain controller):
  - Computer must be running Microsoft Windows Server 2012.
  - Computer must be joined to the isolated domain.
- Microsoft Exchange Server 2013 installation media.

To configure Symantec NetBackup 7.6 for Microsoft Exchange Server 2013 using the Single Mailbox Recovery ExtractWizard Advanced Method

1. ***If you do not have an isolated domain configured for Microsoft Exchange Server 2013***, do the following (if you do, continue to step 2):
   a. Set up an isolated domain controller. The new domain should be in a separate Active Directory forest.
   b. Prepare Active Directory for Microsoft Exchange Server using the Microsoft Exchange Server 2013 installation CD and typing the following in the command window:

   ```
   setup /PrepareAD /OrganizationName: "organizationname"
   /IAcceptExchangeServerLicenseTerms
   ```

   Note: *For more information, see Step 3 at http://technet.microsoft.com/en-us/library/bb125224.aspx.*

2. Run **setup.exe** to install Management tools from the Microsoft Exchange Server 2013 Setup wizard.
   a. Select **Automatically install Windows Server roles and features required for Exchange Server**.

b. At the end of the installation, clear **Finalize this installation using the Exchange Management Console**, then click **Finish** and **Close**.

3. Open the **Active Directory Users and Computers** management console in Administrative Tools and add the computer running Single Mailbox Recovery ExtractWizard to the **Exchange Servers** group by doing the following:
   a. Select the **Microsoft Exchange Security Groups** item and double-click **Exchange Servers**.
   b. In the **Exchange Servers Properties** dialog box, click the **Members** tab, and then click **Add**.
   c. In the **Select Users, Contacts, Computers, or Groups** dialog box, click **Object Types**.
   d. In the **Object Types** dialog box, select **Computers** and click **OK**.
   e. On the **Select Users, Contacts, Computers, or Groups** dialog box, enter the name of the computer and click **OK**. The computer running Single Mailbox Recovery ExtractWizard now appears in the Members tab of the Exchange Servers Properties dialog box.
   f. Click **OK**.

   Note: *You may need to reboot after this step to continue.*

4. Set up and start the topology service by doing the following:
   a. Create the topology service by running the following from a non-PowerShell command prompt:

      Note: *Include spaces after* `start=`, `binPath=`, *and* `displayName=`

      ```
      sc create ExtractWizardADTopology start= auto binPath= "C:\Program
      Files\Microsoft\Exchange
      Server\V15\Bin\Microsoft.Exchange.Directory.TopologyService.exe"
      DisplayName= "ExtractWizard Active Directory Topology"
      ```

   b. Manually start the topology service by doing one of the following:
      - Enter **net start ExtractWizardADTopology**.
      - Click **Administrative Tools**, then click **Services**, and then start the topology service.

        Note: *If the topology service takes a long time to start, there may either be an issue with your AD Server Object or you haven't added the computer to the Exchange Group from step 3 above.*

5. Set up and start the replication service by doing the following:
   a. From Microsoft Exchange Server 2013, copy the following files at **C:\Program Files\Microsoft\Exchange Server\V15\Bin** to the Single Mailbox Recovery ExtractWizard computer location **C:\Program Files\Microsoft\Exchange Server\V15\Bin**:
      - MSExchangeRepl.exe
      - MSExchangeRepl.exe.config
      - Microsoft.Exchange.Cluster.ReplicaVssWriter.dll
      - ManagedAvailabilityCrimsonEvents.man

- ReplayCrimsonEvents.man

b. Install the replication service event manifest files by running the following commands from a non-PowerShell command prompt.

Note: *Ignore any warnings.*

```
cd c:\windows\system32
wevtutil.exe im "C:\Program Files\Microsoft\Exchange
Server\V15\Bin\ActiveMonitoringEvents.man"
wevtutil.exe im "C:\Program Files\Microsoft\Exchange
Server\V15\Bin\ComplianceEvents.man"
wevtutil.exe im "C:\Program Files\Microsoft\Exchange
Server\V15\Bin\ExDbFailureEvents.man"
wevtutil.exe im "C:\Program Files\Microsoft\Exchange
Server\V15\Bin\ManagedAvailabilityCrimsonEvents.man"
wevtutil.exe im "C:\Program Files\Microsoft\Exchange
Server\V15\Bin\Microsoft-ETW-ESE.man"
wevtutil.exe im "C:\Program Files\Microsoft\Exchange
Server\V15\Bin\PushNotificationEvents.man"
wevtutil.exe im "C:\Program Files\Microsoft\Exchange
Server\V15\Bin\ReplayCrimsonEvents.man"
```

c. Create the service by running the following from a non-PowerShell command prompt:

Note: *Include spaces after* `start=`, `depend=`, `binPath=` *and* `displayName=`

```
sc create ExtractWizardReplication start= auto depend=
ExtractWizardADTopology binPath= "C:\Program Files\Microsoft\Exchange
Server\V15\Bin\MSExchangeRepl.exe" displayname= "ExtractWizard
Replication"
```

6. Manually start the replication service by doing one of the following:
   - Enter **net start ExtractWizardReplication**.
   - Click **Administrative Tools**, then click **Services** and then start ExtractWizard Replication.
7. Run Single Mailbox Recovery ExtractWizard with the Emulation method for Symantec NetBackup 7.6 and do the following:
   a. On the Methods of Extraction page, select **Advanced Method**, select **NetBackup 7.1 or Later** in the drop-down list, and then click **Next**.
   b. On the Connection Parameters page, select **Exchange Server 2013**, specify database name(s), and then click **Next**.
   c. On the Destination Folder page, specify a location for the extracted files and click **Next**.

You have completed the required configuration. For more information, see **"Symantec NetBackup 7.6 with Microsoft Exchange Server 2013" on page 88**.

Symantec NetBackup 7.1 and 7.5 with Microsoft Exchange Server 2000, 2003, 2007, or 2010

Note: *Symantec NetBackup 7.1 and 7.5 running on Microsoft Windows Vista x64 or later is supported for Advanced Method for Microsoft Exchange Server 2007. Microsoft Windows Server 2008 x64 or 2008 R2 is required for Advanced Method for Microsoft Exchange Server 2010. For Microsoft Exchange Server 2000 and 2003, a 32-bit (x86) operating system must be used.*

Note: *For Symantec NetBackup 7.1 and 7.5 Advanced Method restores of VSS backups, restoring a single database at a time is recommended.*

Note: *With Symantec NetBackup 7.1.0.2 and later, all original volumes/drive letters for the backup data must be present and writable when performing a restore, even if an alternate destination is used. The original volumes/drive letters will not be modified during the restore.*

Use the following steps to emulate Microsoft Exchange Server 2000, 2003, 2007, or 2010 with Symantec NetBackup 7.1 and 7.5:

1. Install Symantec NetBackup client software for Windows on the computer that will run Single Mailbox Recovery ExtractWizard.
2. Follow the instructions for allowing redirected restores in the Symantec NetBackup Administrators Guide. (This allows the computer running Single Mailbox Recovery ExtractWizard to restore backups created by the Microsoft Exchange Server.)
3. On the computer that will run Single Mailbox Recovery ExtractWizard, do the following:
   - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.
     - **For Microsoft Exchange Server 2003**: Install the Microsoft Exchange System Management Tools for Microsoft Exchange Server 2003 and update the system path to include the Exchsrvr\bin\ directory.
     - **For Microsoft Exchange Server 2007**, follow the steps in **"Configuring Symantec NetBackup 7.1 and 7.5 for Microsoft Exchange Server 2007" on page 106**.
     - **For Microsoft Exchange Server 2010**, follow the steps in **"Configuring Symantec NetBackup 7.1 and 7.5 for Microsoft Exchange Server 2010" on page 102**.
4. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

5. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see

"Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.

6. On the first page of the Single Mailbox Recovery ExtractWizard, click **Next**.
7. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

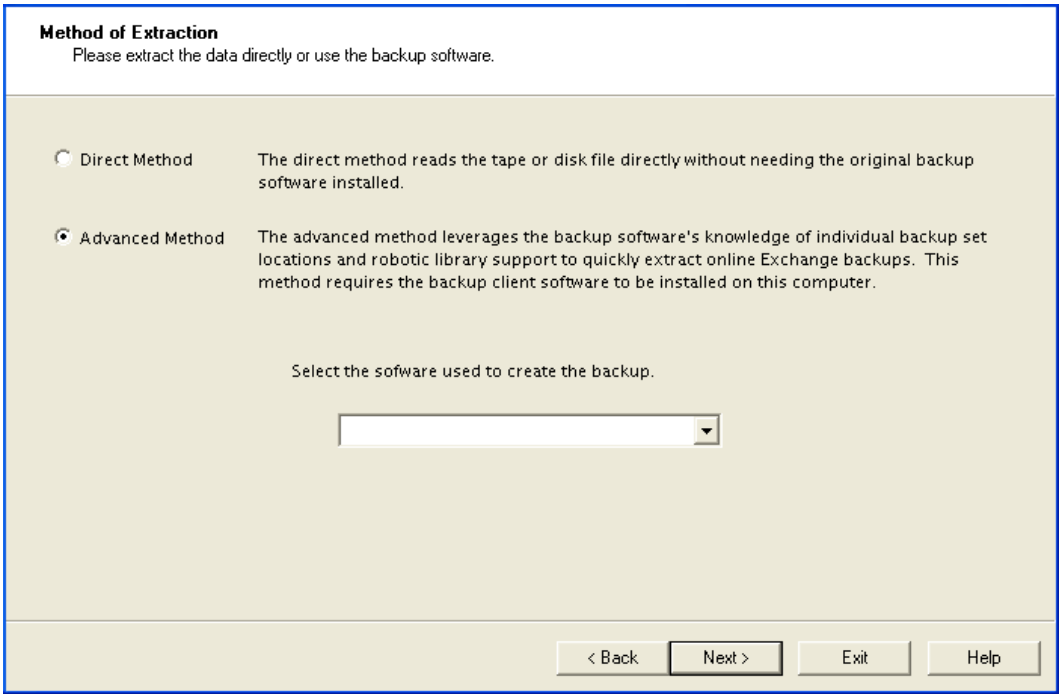

Figure 8-5: Method of Extraction Page for Advanced Method

8. Select **Symantec NetBackup 7.1 and Later** from the drop-down list and then click **Next**.
9. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, do one of the following:
   - ***For restores of Microsoft Exchange Server 2000 or 2003***: Select the **Exchange Server 2000 or 2003** option and in the **Storage Groups** box, enter the name of the storage group you will be extracting. The storage group name is case sensitive and must match exactly the name that appears in the management console for Exchange Server. You can enter multiple storage groups, separated by semicolons (;).

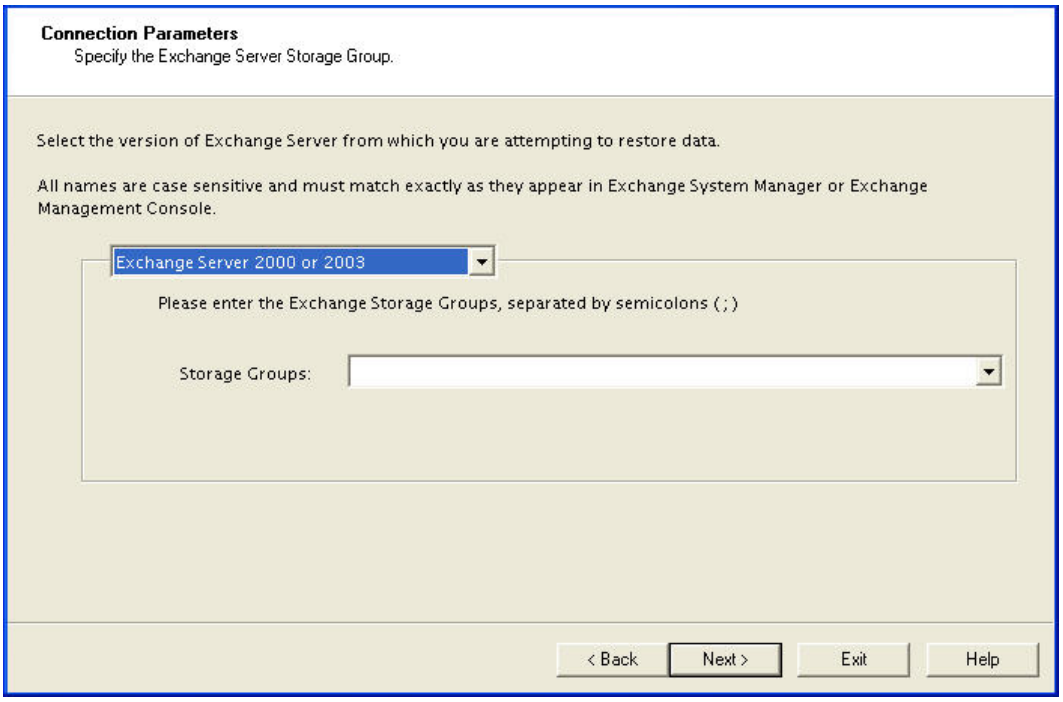

Figure 8-6: Selecting Exchange Server 2000 or 2003 Connection Parameters

- ***For restores of Microsoft Exchange Server 2007***: Select the **Exchange Server 2007** option and do the following:
    a. In the **Storage Groups** box, enter the name of the storage group you will be extracting. The storage group name is case sensitive and must match exactly the name that appears in the management console for Exchange Server. You can enter multiple storage groups, separated by semicolons (;).
    b. In the **Databases** box, enter the name of the database you will be extracting. The database name is case sensitive and must match exactly the name that appears in the management console for Exchange Server. You can enter multiple databases, separated by semicolons (;).

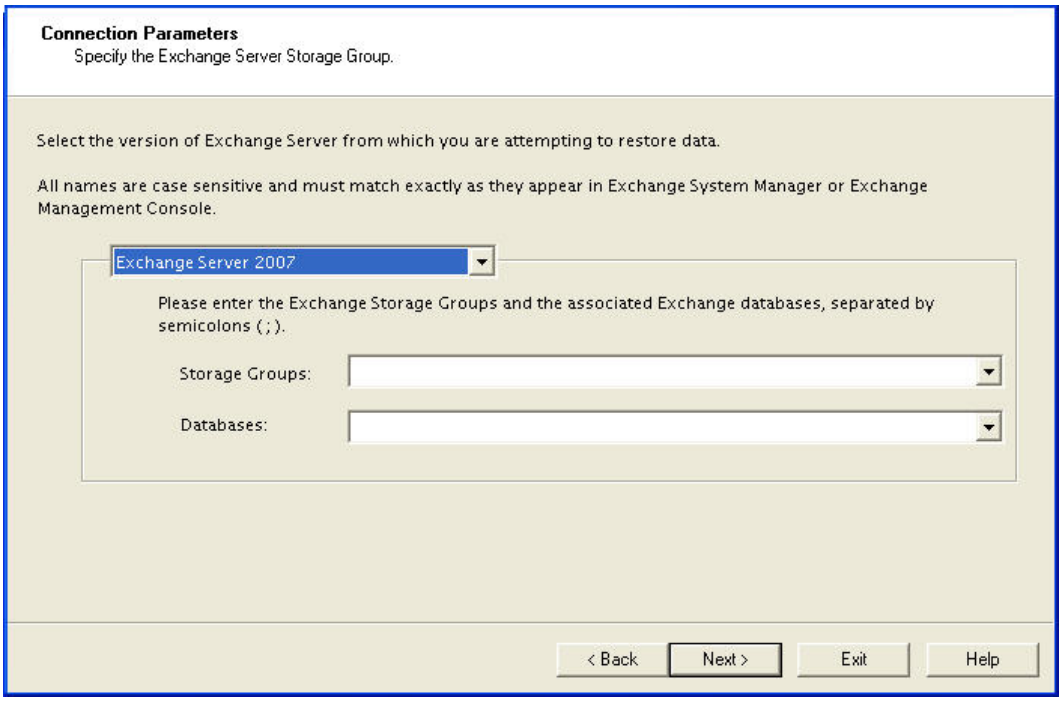

Figure 8-7: Selecting Exchange Server 2007 Connection Parameters

- ***For restores of Microsoft Exchange Server 2010***: Select the **Exchange Server 2010** option and in the **Databases** box, enter the name of the database you will be extracting. The database name is case sensitive and must match exactly the name that appears in the management console for Exchange Server. You can enter multiple databases, separated by semicolons (;).

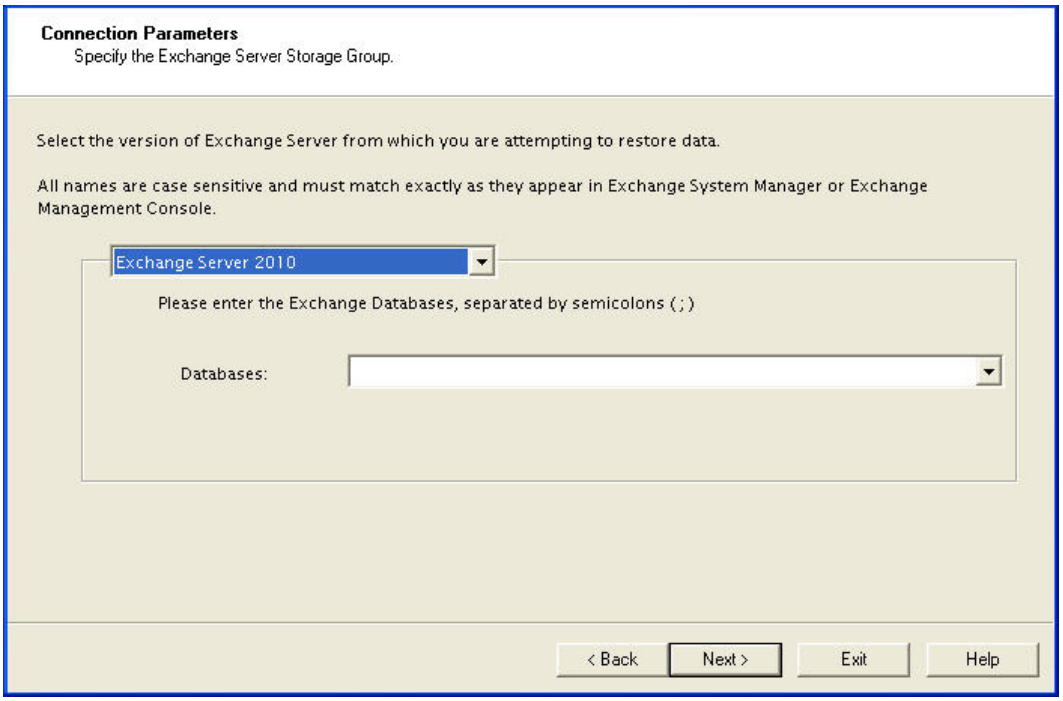

Figure 8-8: Selecting Exchange Server 2010 Connection Parameters

10. Click **Next**.
11. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, use the **Destination Folder** box to specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it, such as x$, and Path is the complete path to a folder. (If a folder does not exist, Single Mailbox Recovery ExtractWizard creates it.)
12. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

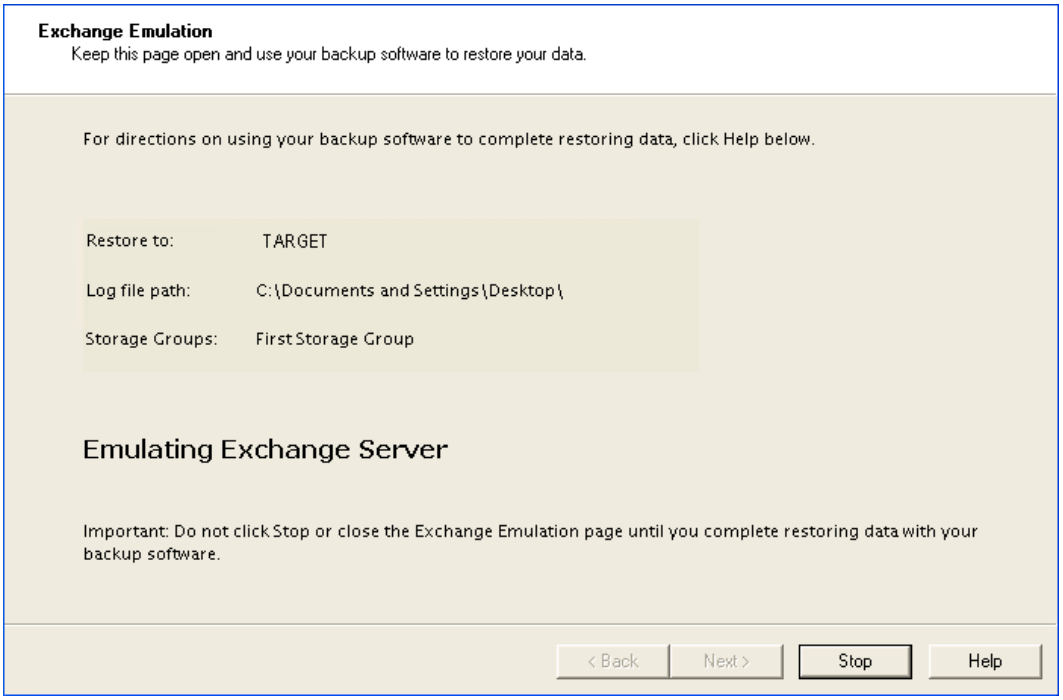

Figure 8-9: Exchange Emulation Page

Tip: *Copy the "Log file path" information on this page and paste it when prompted later in this section.*

13. Start the Symantec NetBackup client software on the computer running Single Mailbox Recovery ExtractWizard.
14. On the **File** menu, click **Specify NetBackup Machines and Policy Type**.

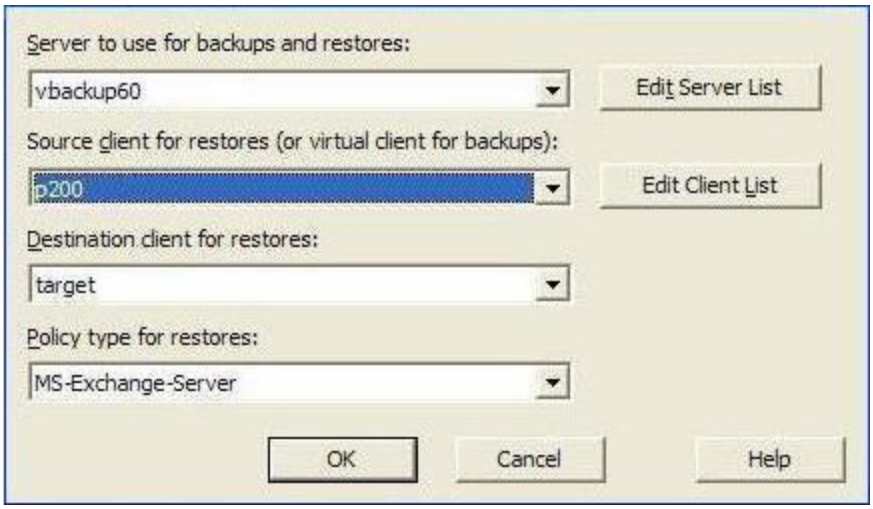

Figure 8-10: Specify Client and Policy Type

15. In the **Specify NetBackup Machines and Policy Type** window, use the **Source client for restores (or virtual client for backups)** list to select the client for the Microsoft Exchange Server you want to restore from and make it the current client.
16. In the **Policy type for restores** list, select **MS-Exchange-Server** and then click **OK**.
17. On the toolbar, click **Select for Restore**, and then select the backup set for the Microsoft Exchange Server you want to restore.
18. From the **Actions** menu, select **Start Restore of Marked Files**.
19. Under the **General** tab of **Restore Marked Files**, make sure the default of **Restore everything to its original location** is selected.
20. Under the **Microsoft Exchange** tab of **Restore Marked Files**, do the following:
    a. Select the **Roll-Forward Recovery (Replay all log files)** option.
    - *If restoring non-VSS backup*, use the **Temporary location for log files/and patch files** box to enter the same information you entered in the Single Mailbox Recovery ExtractWizard Destination Folder box.
    - *If restoring VSS backup* (Exchange Server 2007 or Exchange Server 2010), you do not need to enter a temporary location for log files (the text box is disabled).

      Important: *When restoring a VSS backup, Symantec NetBackup 7.1 and 7.5 will restore and overwrite the edb and log files in the destination folder without any prompting. If the original folder path is not present, it will try to create it.*

    b. Make sure **Commit after last backup set is restored** is not selected.

    Important: *Clear this box or NetBackup will restore the files and then delete them.*
21. Click **Start Restore**.
22. When Symantec NetBackup is completed, click **OK** and close Symantec NetBackup.
23. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Configuring Symantec NetBackup 7.1 and 7.5 for Microsoft Exchange Server 2010

In order to restore with Symantec NetBackup 7.1 and 7.5 to a computer without Exchange Server installed, you need to configure the computer to work with Symantec NetBackup and Single Mailbox Recovery ExtractWizard. This setup requires a separate Active Directory domain, the operating system installation media, and the Microsoft Exchange Server installation media.

Note: *The user performing these steps and running Single Mailbox Recovery ExtractWizard needs to have sufficient Active Directory permissions. For more information, see* ***"Single Mailbox Recovery ExtractWizard Emulation and Active Directory Objects" on page 188***.

OVERVIEW:

In this setup, you will do the following:

1. Create an isolated domain configured with the Microsoft Exchange Server 2010 Active Directory schema.
2. Install Windows Server Roles and Features.
3. Install the Microsoft Exchange Server Management Tools.
4. Create a new Single Mailbox Recovery ExtractWizard Topology Service.
5. Configure IIS for Exchange PowerShell remote access.
6. Create a new Single Mailbox Recovery ExtractWizard Replication Service.

REQUIREMENTS:

- If creating an isolated domain controller:
  - A computer capable of running Microsoft Windows Server 2008 x64 or 2008 R2.
  - Microsoft Windows Server 2008 x64 or 2008 R2 Installation media.

  Note: *This machine* ***can*** *be used to run Single Mailbox Recovery ExtractWizard.*
- A computer to run Single Mailbox Recovery ExtractWizard (not needed if running Single Mailbox Recovery ExtractWizard on the isolated domain controller):
  - Computer must be running Microsoft Windows Server 2008 x64 or 2008 R2.
  - Computer must be joined to the isolated domain.
- Microsoft Exchange Server 2010 installation media.

To configure Symantec NetBackup 7.1 and 7.5 for Microsoft Exchange Server 2010 using the Single Mailbox Recovery ExtractWizard Advanced Method

1. ***If you do not have an isolated domain configured for Microsoft Exchange Server 2010***, do the following (if you do, continue to step 2):
   a. Set up an isolated domain controller. The new domain should be in a separate Active Directory forest.
   b. Prepare Active Directory for Microsoft Exchange Server using the Microsoft Exchange Server 2010 installation CD and typing the following in the command window:

```
setup /PrepareAD /OrganizationName: "organizationname"
```

Note: *For more information, see Step 3 at http://technet.microsoft.com/en-us/library/bb125224.aspx.*

2. On the computer running Single Mailbox Recovery ExtractWizard, open the Microsoft Windows PowerShell Modules window and install additional features and roles by running the following:
   - **For Windows Server 2008:**
     `ServerManagerCmd -i Web-Server Web-Basic-Auth Web-Windows-Auth Web-Metabase Web-Net-Ext Web-Lgcy-Mgmt-Console WAS-Process-Model RSAT-Web-Server Web-ISAPI-Ext Web-Digest-Auth Web-Dyn-Compression Net-HTTP-Activation RPC-Over-HTTP-Proxy`
   - **For Windows Server 2008 R2:**
     In PowerShell, enter the command `ImportSystemModules`, followed by:
     `Add-WindowsFeature RSAT-ADDS,Web-Server,Web-Basic-Auth,Web-Windows-Auth,Web-Metabase,Web-Net-Ext,Web-Lgcy-Mgmt-Console,WAS-Process-Model,RSAT-Web-Server,Web-ISAPI-Ext,Web-Digest-Auth,Web-Dyn-Compression,NET-HTTP-Activation,RPC-Over-HTTP-Proxy`
3. Run **setup.exe** to install Management tools from the Microsoft Exchange Server 2010 Setup wizard.
   a. Select **Automatically install Windows Server roles and features required for Exchange Server**.
   b. At the end of the installation, clear **Finalize this installation using the Exchange Management Console**, then click **Finish** and **Close**.
4. Open the **Active Directory Users and Computers** management console in Administrative Tools and add the computer running Single Mailbox Recovery ExtractWizard to the **Exchange Servers** group by doing the following:
   a. Select the **Microsoft Exchange Security Groups** item and double-click **Exchange Servers**.
   b. In the **Exchange Servers Properties** dialog box, click the **Members** tab, and then click **Add**.
   c. In the **Select Users, Contacts, Computers, or Groups** dialog box, click **Object Types**.
   d. In the **Object Types** dialog box, select **Computers** and click **OK**.
   e. On the **Select Users, Contacts, Computers, or Groups** dialog box, enter the name of the computer and click **OK**. The computer running Single Mailbox Recovery ExtractWizard now appears in the Members tab of the Exchange Servers Properties dialog box.
   f. Click **OK**.

   Note: *You may need to reboot after this step to continue.*
5. Merge over InetSrv changes by doing the following:
   a. Copy **wsmanconfig_schema.xml** from **C:\Windows\System32** to **C:\Windows\System32\inetsrv\config\schema**.

b. Using Notepad, manually add the following to the **C:\Windows\System32\inetsrv\config\applicationHost.config** file in the **"<sectionGroup name ="system.webServer">" section group**:
```
<section name="system.management.wsmanagement.config"
overrideModeDefault="Allow" />
```
c. Save the changes.

Note: *For more information, see http://blogs.msdn.com/b/powershell/archive/2009/04/10/configuring-powershell-for-remoting-part-2-fan-in.aspx*

d. In PowerShell, enter the following commands:
   - `ImportSystemModules`
   - `C:\Windows\system32\inetsrv\appcmd.exe unlock config -section:system.webServer/modules`
   - `C:\Windows\system32\inetsrv\appcmd.exe install module /name:kerbauth /image:"C:\Program Files\Microsoft\Exchange Server\V14\Bin\kerbauth.dll" /add:false`
   - `C:\Windows\system32\inetsrv\appcmd.exe install module /name:WSMan /image:C:\Windows\system32\wsmsvc.dll /add:false`

6. Set up and start the topology service by doing the following:
   a. From Microsoft Exchange Server 2010, copy the following from **C:\Program Files\Microsoft\Exchange Server\V14\bin** to the Single Mailbox Recovery ExtractWizard computer location **C:\Program Files\Microsoft\Exchange Server\V14\Bin**:
      - DSACCESS.dll
      - MSExchangeADTopologyService.exe

   b. Create the topology service by running the following from a non-PowerShell command prompt:

      Note: *Include spaces after* `start=`, `binPath=`, *and* `displayName=`

      ```
      sc create ExtractWizardADTopology start= auto binPath= "C:\Program Files\Microsoft\Exchange Server\V14\Bin\MSExchangeADTopologyService.exe" DisplayName= "ExtractWizard Active Directory Topology"
      ```

   c. Manually start the topology service by doing one of the following:
      - Enter **net start ExtractWizardADTopology**.
      - Click **Administrative Tools**, then click **Services**, and then start the topology service.

        Note: *If the topology service takes a long time to start, there may either be an issue with your AD Server Object or you haven't added the computer to the Exchange Group from step 3 above.*

7. Run Single Mailbox Recovery ExtractWizard with the Emulation method for Symantec NetBackup 7.1 and 7.5 and do the following:

a. On the Methods of Extraction page, select **Advanced Method**, select **NetBackup 7.1 or Later** in the drop-down list, and then click **Next**.
b. On the Connection Parameters page, select **Exchange Server 2010**, specify database name(s), and then click **Next**.
c. On the Destination Folder page, specify a location for the extracted files and click **Next**.

8. Set up PowerShell virtual directory by doing the following:
   a. From Microsoft Exchange Server 2010, copy the **powershell** folder at **C:\Program Files\Microsoft\Exchange Server\V14\ClientAccess** to the Single Mailbox Recovery ExtractWizard computer location **C:\Program Files\Microsoft\Exchange Server\V14\ClientAccess**.
   b. In the ClientAccess folder, open **powershell\WEB.CONFIG**.
      - Search and Replace any %ExchangeInstallPath% with your Exchange Server install path (**C:\Program Files\Microsoft\Exchange Server\V14**).
   c. Run the new-PowerShellVirtualDirectory cmdlet by entering the following commands in PowerShell:
      - `ImportSystemModules`
      - `new-PowerShellVirtualDirectory –name PowerShell -BasicAuthentication:$false -WindowsAuthentication:$false -RequireSSL:$false;`
   d. In either in command window or PowerShell window, enter `iisreset`.
   e. Test PowerShell IIS setup by starting the Exchange Management Shell and ensure that it can connect to the local server.
9. Set up and start the replication service by doing the following:
   a. From Microsoft Exchange Server 2010, copy the following files at **C:\Program Files\Microsoft\Exchange Server\V14\Bin** to the Single Mailbox Recovery ExtractWizard computer location **C:\Program Files\Microsoft\Exchange Server\V14\Bin**:
      - Microsoft.Exchange.Cluster.ReplicaVssWriter.dll
      - ReplayCrimsonMsg.dll
      - MSExchangeRepl.exe
      - MSExchangeRepl.exe.config
   b. Create the service by running the following from a non-PowerShell command prompt:

   Note: *Include spaces after* `start=`, `depend=`, `binPath=` *and* `displayName=`

   ```
   sc create ExtractWizardReplication start= auto depend= ExtractWizardADTopology binPath= "C:\Program Files\Microsoft\Exchange Server\V14\Bin\MSExchangeRepl.exe" displayname= "ExtractWizard Replication"
   ```

10. Manually start the replication service by doing one of the following:
    - Enter **net start ExtractWizardReplication**.

- Click **Administrative Tools**, then click **Services** and then start ExtractWizard Replication.

You have completed the required configuration. For more information, see **"Symantec NetBackup 7.1 and 7.5 with Microsoft Exchange Server 2000, 2003, 2007, or 2010" on page 96**.

Configuring Symantec NetBackup 7.1 and 7.5 for Microsoft Exchange Server 2007

In order to restore with Symantec NetBackup 7.1 and 7.5 to a computer without Microsoft Exchange Server installed, you need to configure the computer to work with Symantec NetBackup and Single Mailbox Recovery ExtractWizard. This setup requires a separate Active Directory domain, the operating system installation media, and the Microsoft Exchange Server installation media.

Note: *The user performing these steps and running Single Mailbox Recovery ExtractWizard needs to have sufficient Active Directory permissions. For more information, see* ***"Single Mailbox Recovery ExtractWizard Emulation and Active Directory Objects" on page 188***.

OVERVIEW:

In this setup, you will do the following:

1. Create an isolated domain configured with the Microsoft Exchange Server 2007 Active Directory schema.
2. Install the Microsoft Exchange Server Management Tools.
3. Create a new Single Mailbox Recovery ExtractWizard Topology Service.

REQUIREMENTS:

- If creating an isolated domain controller:
  - A computer capable of running Microsoft Windows Server 2008 x64 or 2008 R2.
  - Microsoft Windows Server 2008 x64 or 2008 R2 Installation media.

  Note: *This machine* ***can*** *be used to run Single Mailbox Recovery ExtractWizard.*
- A computer running Single Mailbox Recovery ExtractWizard (not needed if running Single Mailbox Recovery ExtractWizard on the isolated domain controller):
  - Computer must be x64 Windows Vista or later.
  - Computer must be joined to the isolated domain.
- Microsoft Exchange Server 2007 installation media.

To configure Symantec NetBackup 7.1 and 7.5 for Microsoft Exchange Server 2007 using the Single Mailbox Recovery ExtractWizard Advanced Method:

1. ***If you do not have an isolated domain configured for Microsoft Exchange Server 2007***, do the following (if you do, continue to step 2):

a. Set up an isolated domain controller. The new domain should be in a separate Active Directory forest.

b. Prepare Active Directory for Microsoft Exchange Server using the Microsoft Exchange Server 2007 installation CD and typing the following in the command window:

```
setup /PrepareAD /OrganizationName: "organizationname"
```

Note: *For more information, see Step 3 at http://technet.microsoft.com/en-us/library/bb125224(EXCHG.80).aspx.*

2. On the computer running Single Mailbox Recovery ExtractWizard, run **setup.exe** to install Management tools from the Microsoft Exchange Server 2007 Setup wizard.

   a. Select **Custom Exchange Server Installation**, then select the **Management Tools** check box.

   b. At the end of the installation, clear **Finalize this installation using the Exchange Management Console**, then click **Finish** and **Close**.

3. Open the **Active Directory Users and Computers** management console in Administrative Tools and add the computer running Single Mailbox Recovery ExtractWizard to the **Exchange Servers** group by doing the following:

   a. Select the **Microsoft Exchange Security Groups** item and double-click **Exchange Servers**.

   b. In the **Exchange Servers Properties** dialog box, click the **Members** tab, and then click **Add**.

   c. In the **Select Users, Contacts, Computers, or Groups** dialog box, click **Object Types**.

   d. In the **Object Types** dialog box, select **Computers** and click **OK**.

   e. On the **Select Users, Contacts, Computers, or Groups** dialog box, enter the name of the computer and click **OK**. The computer running Single Mailbox Recovery ExtractWizard now appears in the Members tab of the Exchange Servers Properties dialog box.

   f. Click **OK**.

   Note: *You may need to reboot after this step to continue.*

4. Set up and start the topology service by doing the following:

   a. From a Microsoft Exchange Server 2007, copy the following from **C:\Program Files\Microsoft\Exchange Server\bin** to the Single Mailbox Recovery ExtractWizard computer location **C:\Program Files\Microsoft\Exchange Server\Bin**:

      - DSACCESS.dll
      - MSExchangeADTopologyService.exe

   b. Create the topology service by running the following from a non-PowerShell command prompt:

      Note: *Include spaces after* `start=`, `binPath=` *and* `displayName=`.

```
sc create ExtractWizardADTopology start= auto binPath= "C:\Program
Files\Microsoft\Exchange
Server\Bin\MSExchangeADTopologyService.exe" DisplayName=
"ExtractWizard Active Directory Topology"
```

c. Manually start the topology service by doing one of the following:
   - Enter **net start ExtractWizardADTopology**
   - Click **Administrative Tools**, then click **Services**, and then start the topology service.

     Note: *If the topology service takes a long time to start, there may either be an issue with your AD Server Object or you haven't added the computer to the Exchange Group from step 3 above.*

5. Run Single Mailbox Recovery ExtractWizard with the Emulation method for Symantec NetBackup 7.1 and 7.5 and do the following:
   a. On the Methods of Extraction page, select **Advanced Method**, select **Symantec NetBackup 7.1 and Later** in the drop-down list, and then click **Next**.
   b. On the Connection Parameters page, select **Exchange Server 2007**, specify the storage group name(s) and database name(s), and then click **Next**.
   c. On the Destination Folder page, specify a location for the extracted files and click **Next**.

You have completed the required configuration. For more information, see **"Symantec NetBackup 7.1 and 7.5 with Microsoft Exchange Server 2000, 2003, 2007, or 2010" on page 96** .

Symantec NetBackup 6.5.4-7.0 with Microsoft Exchange Server 2000, 2003, or 2007

Note: *Symantec NetBackup 6.5.4 to 7.0 must be run on a 32-bit (x86) edition of Windows. Symantec NetBackup 6.5.4 to 7.0 running on a 64-bit (x64) operating system are not supported for Advanced Method.*

Use the following steps to emulate Microsoft Exchange Server 2000, 2003, or 2007 with Symantec NetBackup 6.5.4 to 7.0:

1. Install Symantec NetBackup client software on the computer that will run Single Mailbox Recovery ExtractWizard.
2. Follow the instructions for allowing redirected restores in the Symantec NetBackup Administrators Guide. (This allows the computer running Single Mailbox Recovery ExtractWizard to restore backups created by the Microsoft Exchange Server.)
3. On the computer that will run Single Mailbox Recovery ExtractWizard, do the following:
   - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.

4. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

5. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
6. On the first page of the Single Mailbox Recovery ExtractWizard, click **Next**.
7. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

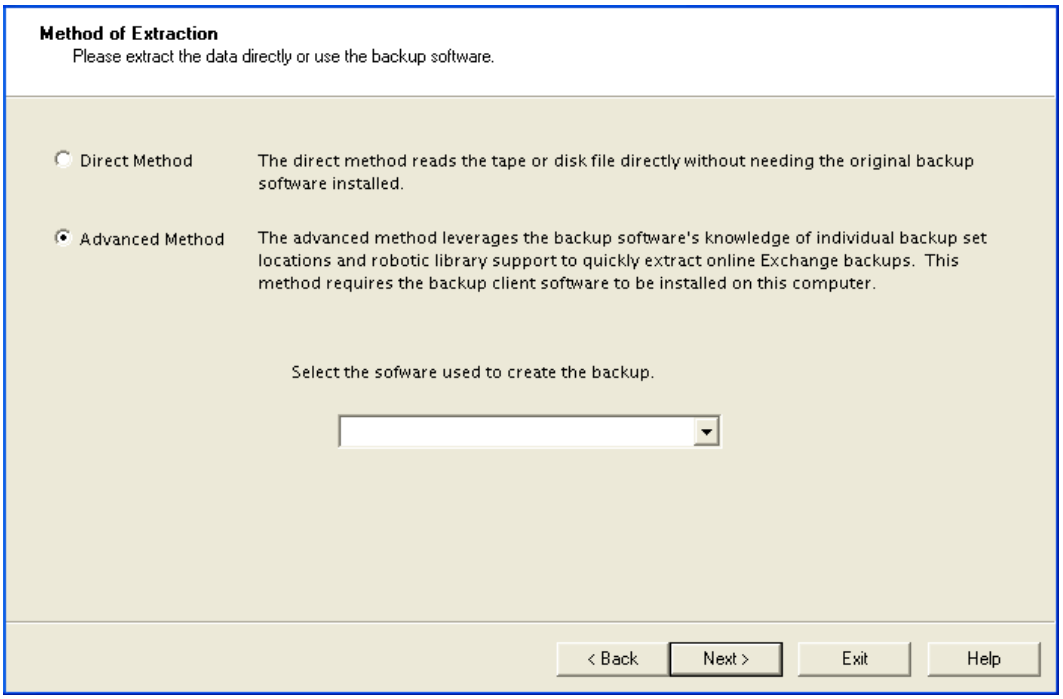

Figure 8-11: Method of Extraction Page for Advanced Method

8. Select **Symantec NetBackup 7.0 and Earlier** from the drop-down list and then click **Next**.
9. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 2000, 2003, or 2007** option.

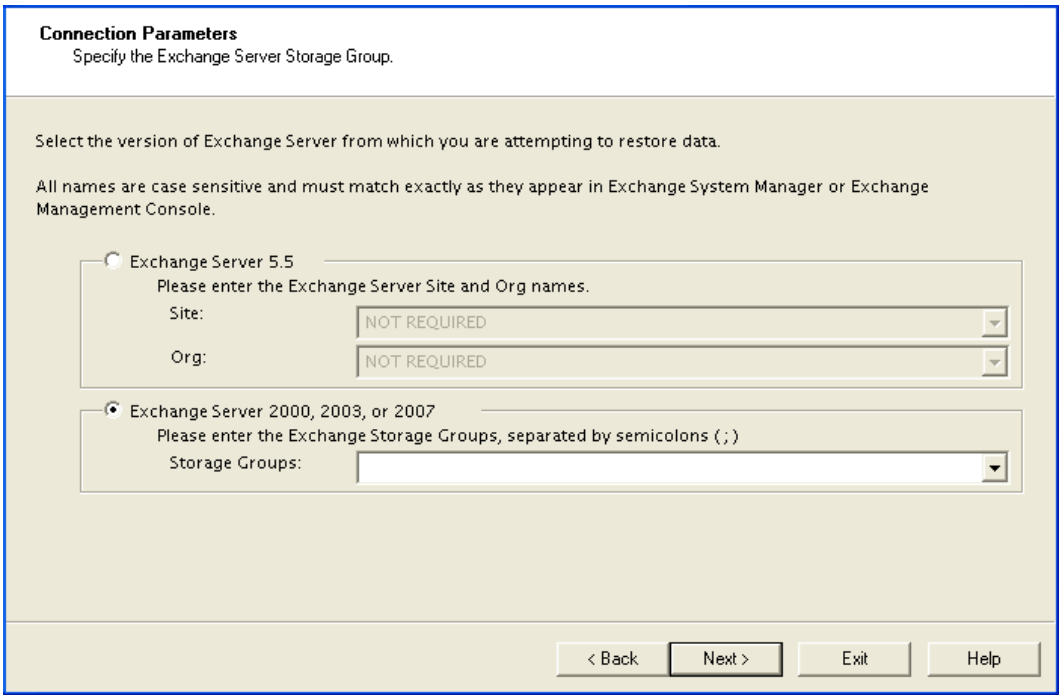

Figure 8-12: Selecting Exchange Server 2000, 2003, or 2007 Connection Parameters

10. In the **Storage Groups** box, enter the name of the storage group you want to extract. The storage group name is case sensitive and must match exactly the name that appears in the management console for Exchange Server. You can enter multiple storage groups, separated by semicolons (;).
11. Click **Next**.
12. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, use the **Destination Folder** box to specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it, such as x$, and Path is the complete path to a folder. (If a folder does not exist, Single Mailbox Recovery ExtractWizard creates it.)
13. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

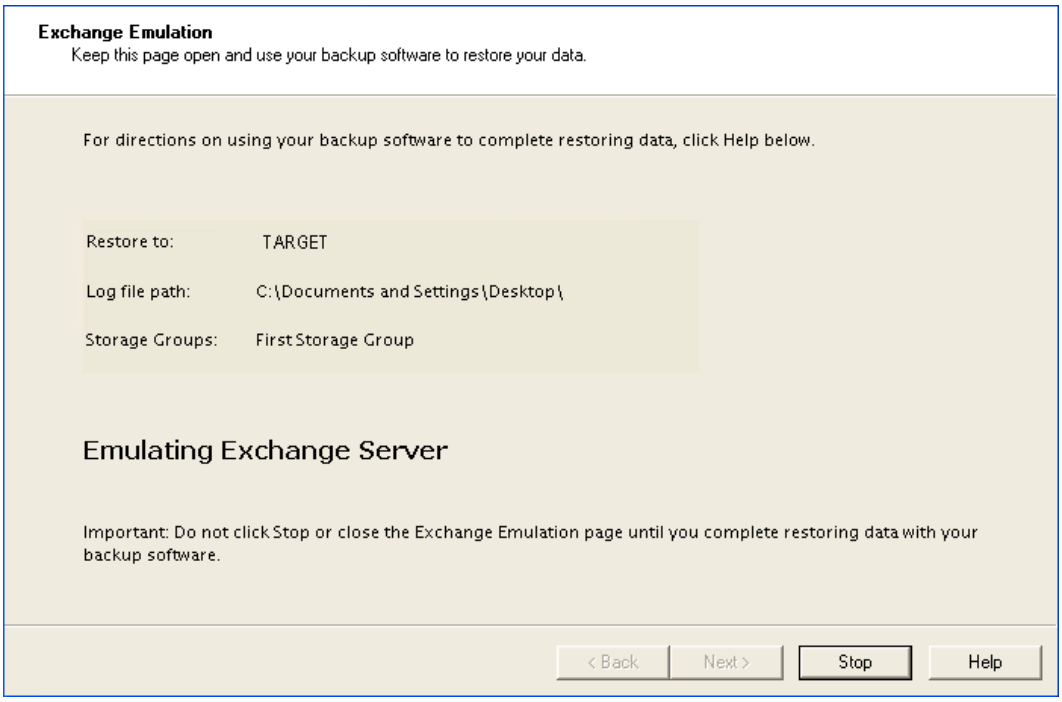

Figure 8-13: Exchange Emulation Page

Tip: *Copy the "Log file path" information on this page and paste it when prompted later in this section.*

14. Start the Symantec NetBackup client software on the computer running Single Mailbox Recovery ExtractWizard.
15. On the **File** menu, click **Specify NetBackup Machines and Policy Type**.

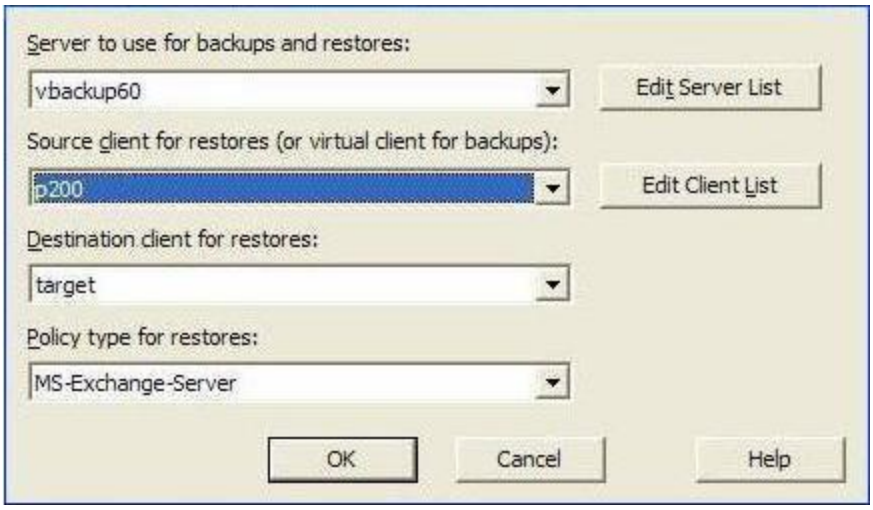

Figure 8-14: Specify Client and Policy Type

16. In the **Specify NetBackup Machines and Policy Type** window, use the **Source client for restores (or virtual client for backups)** list to select the client for the Microsoft Exchange Server you want to restore from and make it the current client.

17. In the **Policy type for restores** list, select **MS-Exchange-Server** and then click **OK**.
18. On the toolbar, click **Select for Restore**, and then select the backup set for the Microsoft Exchange Server you want to restore.
19. From the **Actions** menu, select **Start Restore of Marked Files**.
20. Under the **General** tab of **Restore Marked Files**, make sure the default of **Restore everything to its original location** selected.
21. Under the **Microsoft Exchange** tab of **Restore Marked Files**, do the following:
    - Select the **Roll-Forward Recovery (Replay all log files)** option.
    - *For Symantec NetBackup 6.5.x*, use the **Temporary location for log and patch files** box to enter the same information you entered in the Single Mailbox Recovery ExtractWizard **Destination Folder** box.
    - *For Symantec Net Backup 7.0*, use the **Temporary location for log files** box to enter the same information you entered in the Single Mailbox Recovery ExtractWizard **Destination Folder** box.
    - Make sure **Commit after last backup set is restored** is not selected.

    Important: Clear this box or Symantec NetBackup will restore the files and then delete them.
22. Click **Start Restore**.
23. When Symantec NetBackup is completed, click **OK** and close Symantec NetBackup.
24. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Symantec NetBackup 6.0 with Microsoft Exchange Server 2000 or 2003

Use the following steps to emulate Microsoft Exchange Server 2000 or 2003 with Symantec NetBackup 6.0:

1. Install Symantec NetBackup client software for Windows on the computer that will run Single Mailbox Recovery ExtractWizard.
2. Allow the computer running Single Mailbox Recovery ExtractWizard to restore backups created by the Microsoft Exchange Server client. Follow the instructions for allowing redirected restores in the Symantec NetBackup Administrators Guide.
3. On the computer that will run Single Mailbox Recovery ExtractWizard, do the following:
    - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.
4. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

    Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

5. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
6. On the first page of the Single Mailbox Recovery ExtractWizard, click **Next**.
7. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

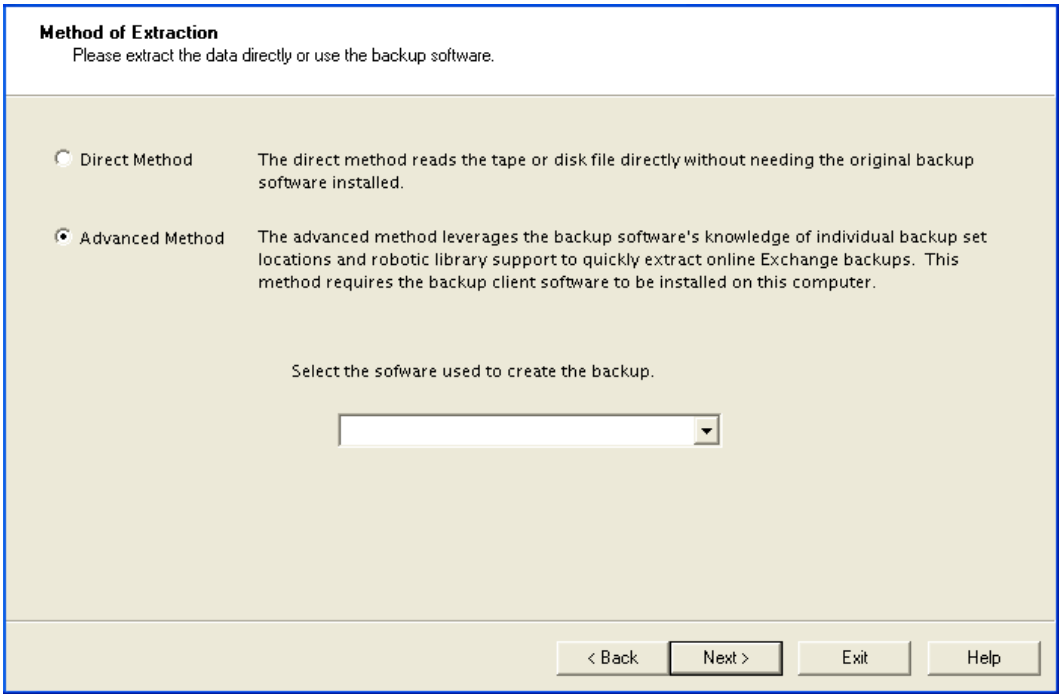

Figure 8-15: Method of Extraction Page for Advanced Method

8. Select **Symantec NetBackup 7.0 and Earlier** from the drop-down list and click **Next**.
9. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 2000, 2003, or 2007** option.

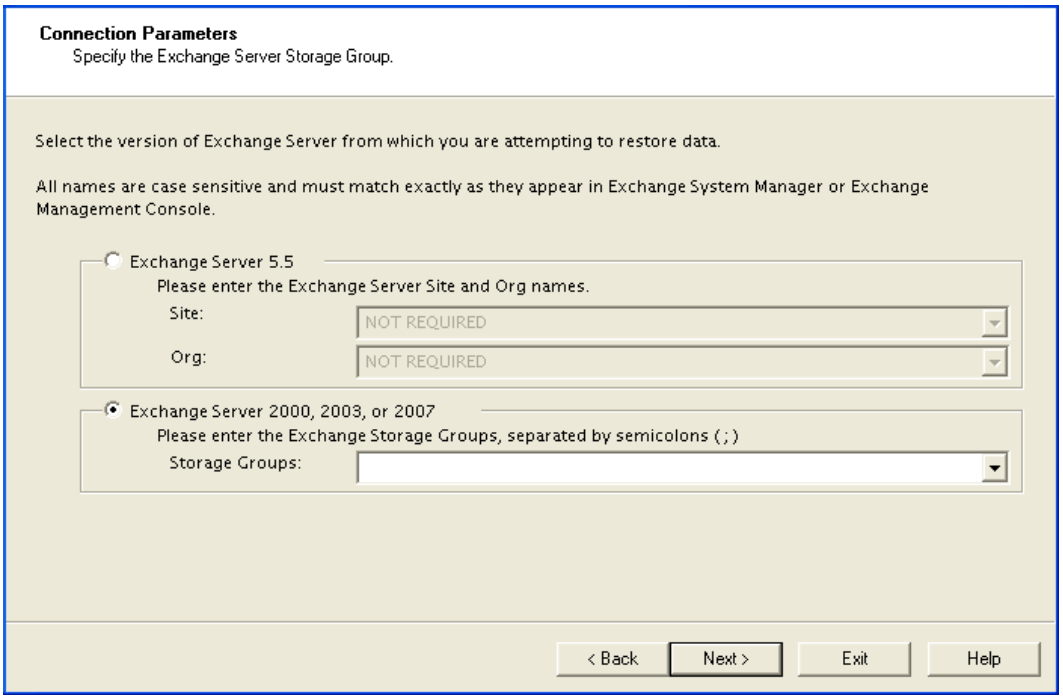

Figure 8-16: Selecting Exchange Server 2000, 2003, or 2007 Connection Parameters

10. In the **Storage Groups** box, enter the name of the storage group you will be extracting. The storage group name is case sensitive and must match exactly the name that appears in the Exchange System Manager. You can enter multiple storage groups, separated by semicolons (;).
11. Click **Next**.
12. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
13. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

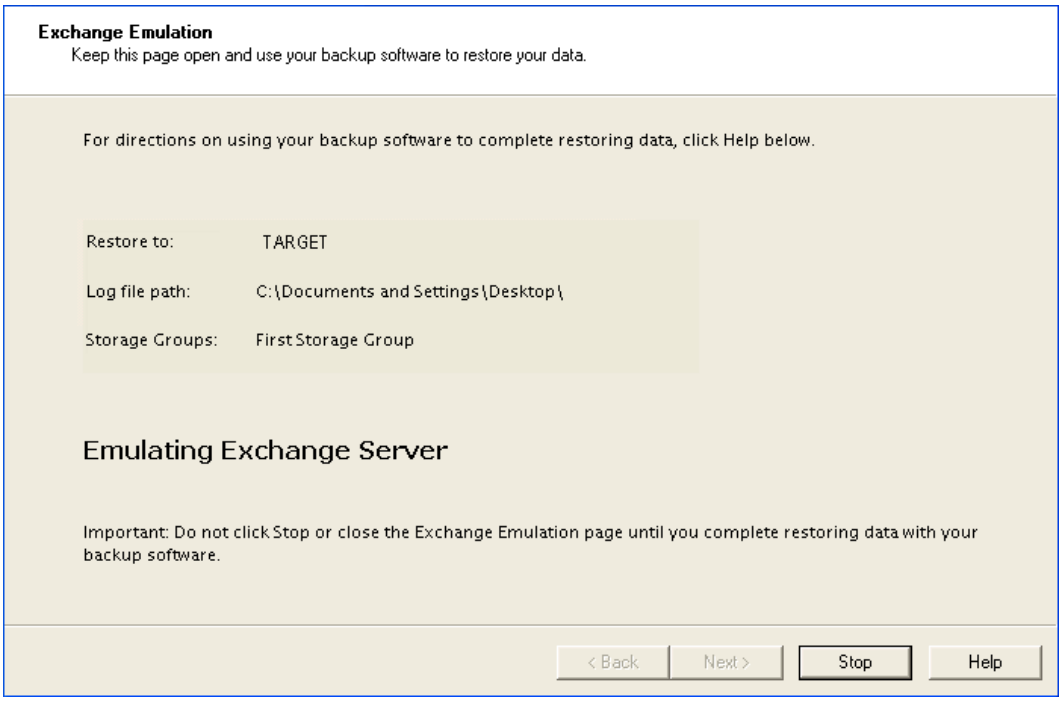

Figure 8-17: Exchange Emulation Page

Tip: *You can copy the "Log file path" information on this page and paste it into Symantec NetBackup when prompted later in this section.*

14. Start the Symantec NetBackup client on the computer running Single Mailbox Recovery ExtractWizard.
15. On the **File** menu, select **Specify NetBackup Machines and Policy Type**.

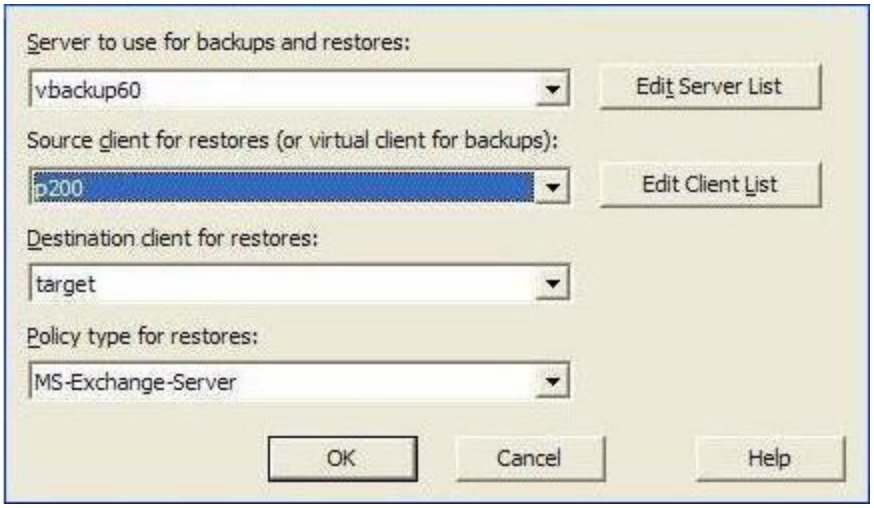

Figure 8-18: Specify client and policy type

16. In the **Specify NetBackup Machines and Policy Type** window, locate the **Source client for restores (or virtual client for backups)** drop-down and select the Microsoft Exchange Server client you want to restore from and make it the current client.

17. In the **Policy type for restores** drop-down, change the default to **MS-Exchange-Server.** Click **OK**.
18. On the toolbar, click **Select for Restore**, and then select the Microsoft Exchange Server backup you want to restore.
19. On the **Actions** menu, click **Start Restore of Marked Files**.
20. In the **Restore Marked Files** window, clear the **Commit after restore completes** check box.

    Caution: *If the **Commit after restore completes** check box is selected, Symantec NetBackup will automatically delete the restored files after completing the restore.*

21. In the **Temporary location for log and patch files** box, enter the log file path. Verify that you are using the "Log file path" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
22. Click **Start Restore**.
23. When Symantec NetBackup is completed, click **OK** and close Symantec NetBackup.
24. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Symantec NetBackup 6.0 with Microsoft Exchange Server 5.5

Use the following steps to emulate Microsoft Exchange Server 5.5 with Symantec NetBackup 6.0:

1. Install Symantec NetBackup client software for Windows on the computer that will run Single Mailbox Recovery ExtractWizard.
2. Allow the computer running Single Mailbox Recovery ExtractWizard to restore backups created by the Microsoft Exchange Server client. Follow the instructions for allowing redirected restores in the Symantec NetBackup Administrators Guide.
3. On the computer running Single Mailbox Recovery ExtractWizard, make sure edbbcli.dll is in the system path. The easiest way is to copy edbbcli.dll to windows\system32. The edbbcli.dll file can be found on the Microsoft Exchange Server in the Microsoft Exchange Server\bin directory.
4. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   Note: *If you have not already done so, click **About** and **License Info** to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

5. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
6. On the first page of the Single Mailbox Recovery ExtractWizard, click **Next**.
7. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

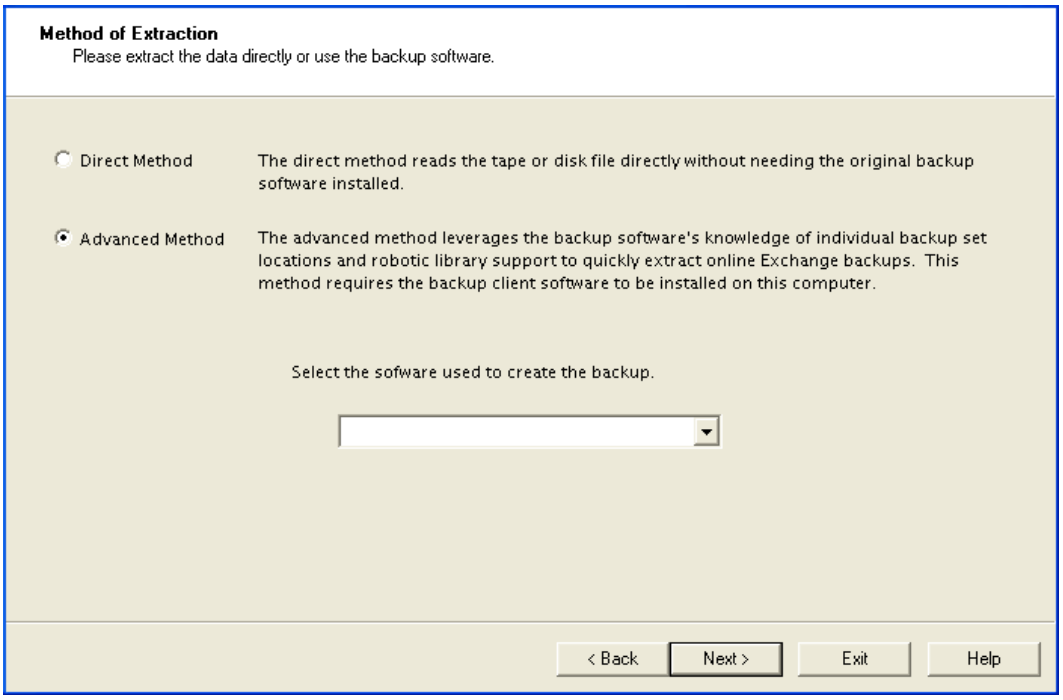

Figure 8-19: Method of Extraction Page for Advanced Method

8. Select **Symantec NetBackup 7.0 and Earlier** from the drop-down list and click **Next**.
9. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 5.5** option and click **Next**.

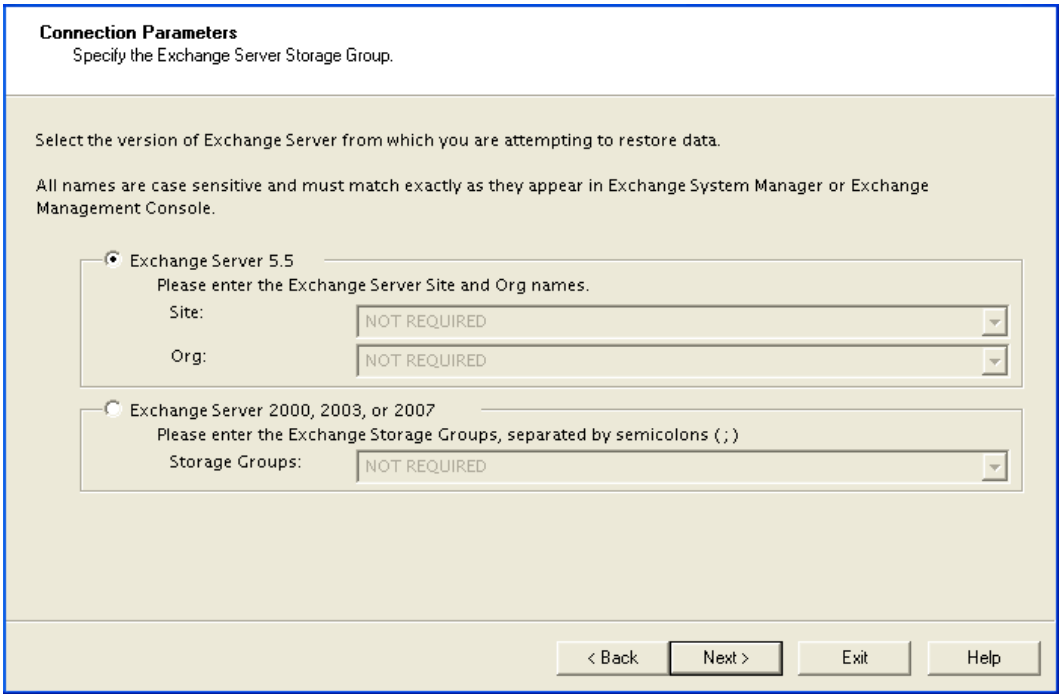

Figure 8-20: Selecting Exchange Server 5.5 Connection Parameters

10. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it). Click **Next**.
11. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

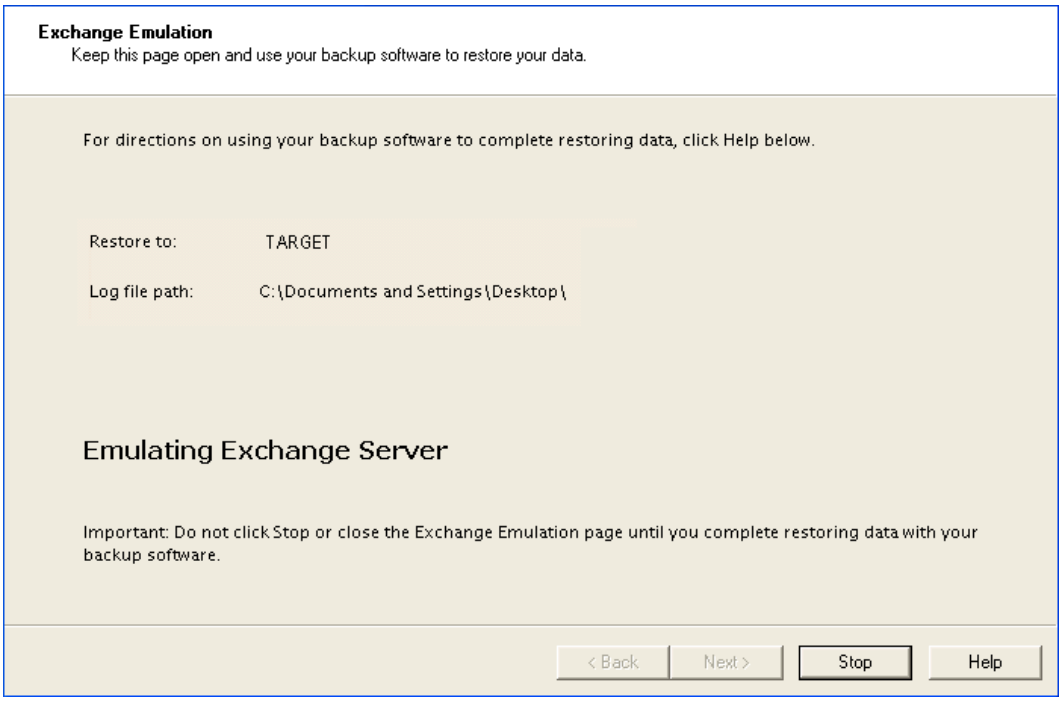

Figure 8-21: Exchange Emulation Page

Tip: *You can copy the "Log file path" information on this page and paste it into Symantec NetBackup when prompted later in this section.*

12. Start the Symantec NetBackup client on the computer running Single Mailbox Recovery ExtractWizard.
13. On the **File** menu, click **Specify NetBackup Machines and Policy Type**.

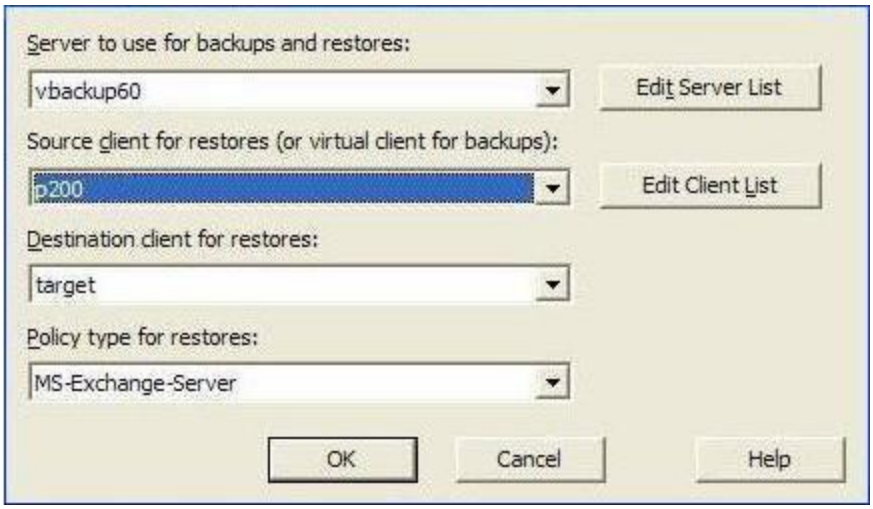

Figure 8-22: Specify client and policy type

14. In the **Specify NetBackup Machines and Policy Type** window, locate the **Source client for restores (or virtual client for backups)** drop-down and select the Microsoft Exchange Server client you want to restore from and make it the current client.
15. In the **Policy type for restores** drop-down, change the default to **MS-Exchange-Server**. Click **OK**.
16. On the toolbar, click **Select for Restore**, and then select the Microsoft Exchange Server backup you want to restore.
17. On the **Actions** menu, click **Start Restore of Marked Files**.
18. In the **Restore Marked Files** window, click **Start Restore**.
19. When Symantec NetBackup is completed, click **OK** and close Symantec NetBackup.
20. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Symantec NetBackup 4.5-5.1 with Microsoft Exchange Server 2000 or 2003

Note: *For Symantec NetBackup 4.5, you must install the Symantec NetBackup client and the Microsoft Exchange Server agent on the computer running Single Mailbox Recovery ExtractWizard.*

Use the following steps to emulate Microsoft Exchange Server 2000 or 2003 with Symantec NetBackup 4.5 to 5.1:

1. Install Symantec NetBackup client software for Windows on the computer that will run Single Mailbox Recovery ExtractWizard.
2. Allow the computer running Single Mailbox Recovery ExtractWizard to restore backups created by the Microsoft Exchange Server client. Follow the instructions for allowing redirected restores in the Symantec NetBackup Administrators Guide.
3. On the computer that will run Single Mailbox Recovery ExtractWizard, do the following:

- Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.

4. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

5. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
6. Click **Next**.
7. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

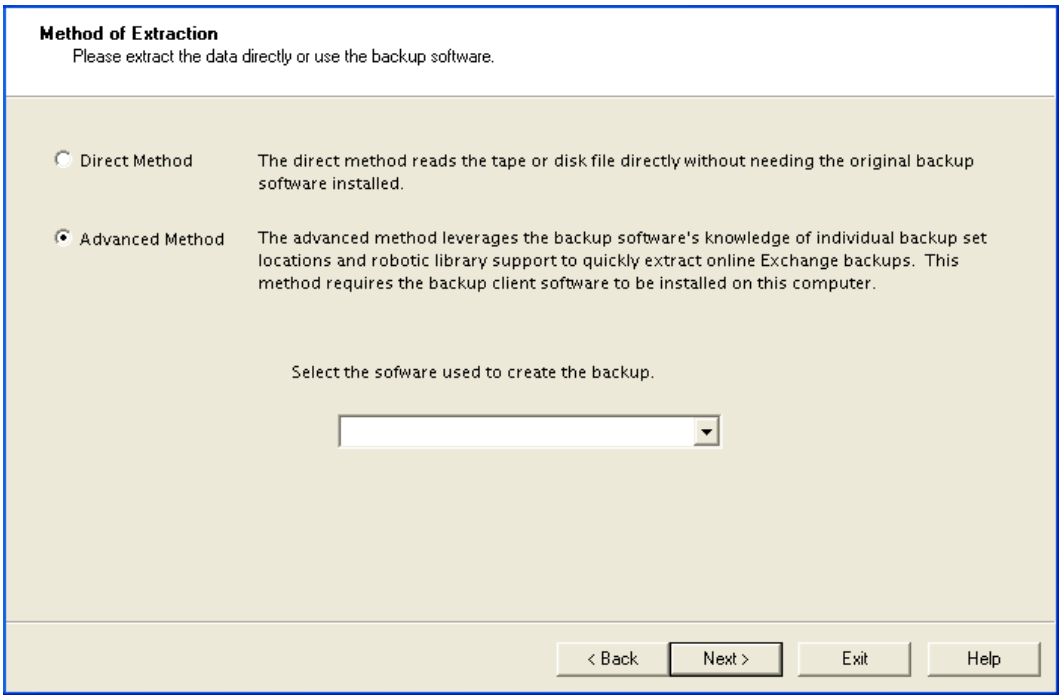

Figure 8-23: Method of Extraction Page for Advanced Method

8. Select **Symantec NetBackup 7.0 and Earlier** from the drop-down list and click **Next**.
9. In the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 2000, 2003, or 2007** option.

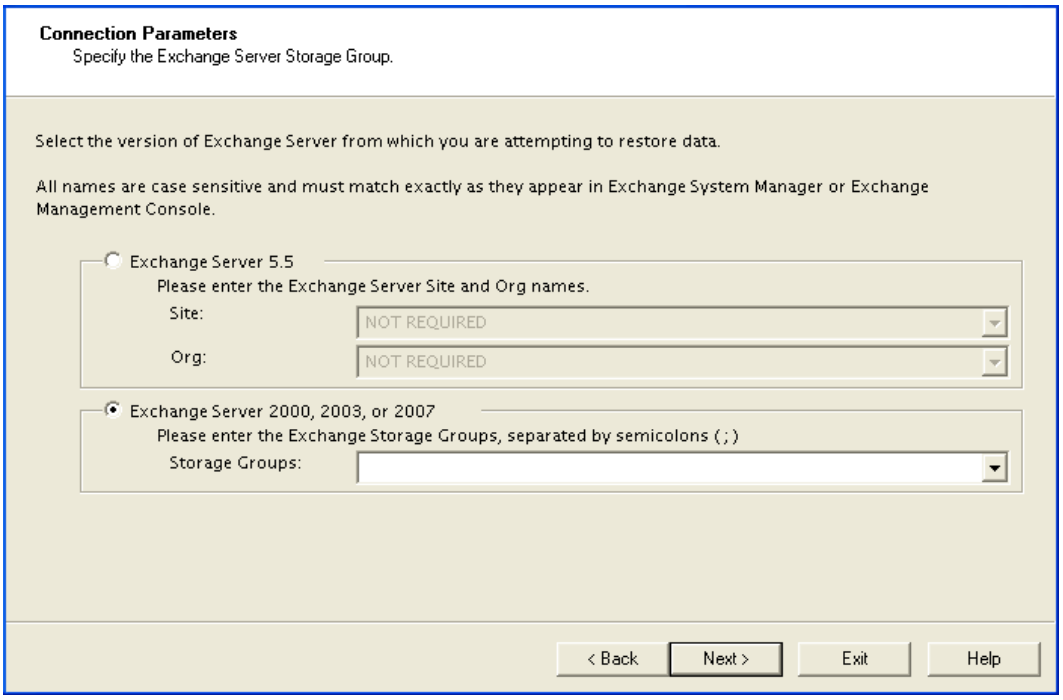

Figure 8-24: Selecting Exchange Server 2000, 2003, 2007 Connection Parameters

10. In the **Storage Groups** box, enter the name of the storage group you will be extracting. The storage group name is case sensitive and must match exactly the name that appears in the Exchange System Manager. You can enter multiple storage groups, separated by semicolons (;).
11. Click **Next**.
12. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
13. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click **Stop** or close the Exchange Emulation page until you reach the end of these instructions.*

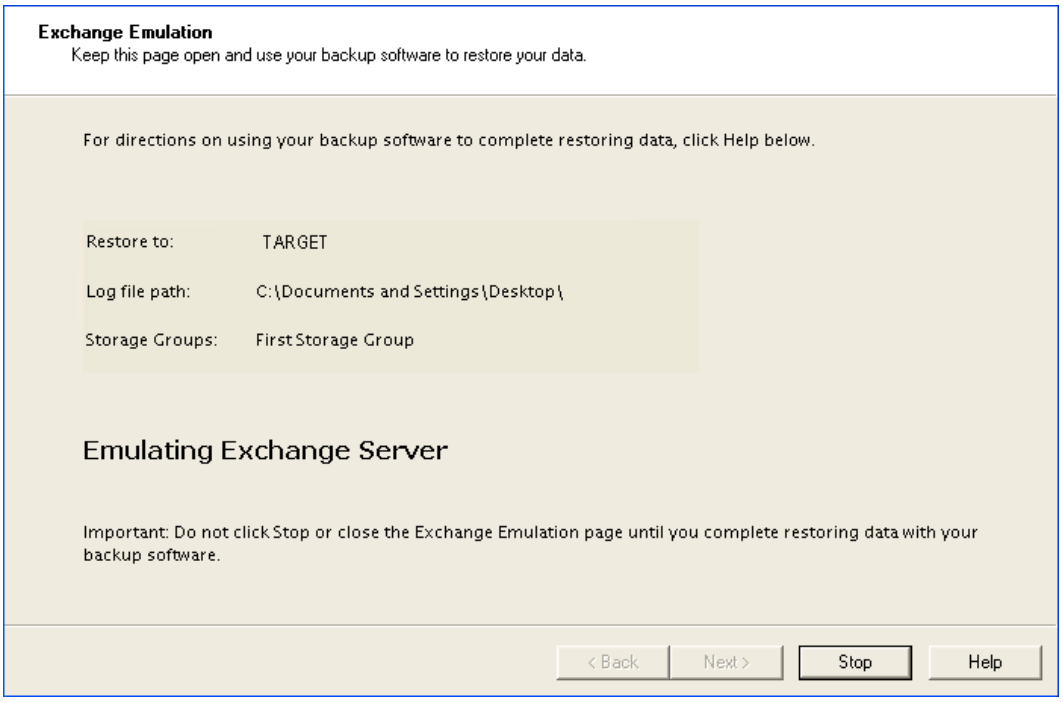

Figure 8-25: Exchange Emulation Page

Tip: *You can copy the "Log file path" information on this page and paste it into Symantec NetBackup when prompted later in this section.*

14. Start the Symantec NetBackup client on the computer running Single Mailbox Recovery ExtractWizard.
15. On the **File** menu, click **Specify NetBackup Machines and Policy Type**. (For NetBackup 4.5, click **Specify NetBackup Machines**.)

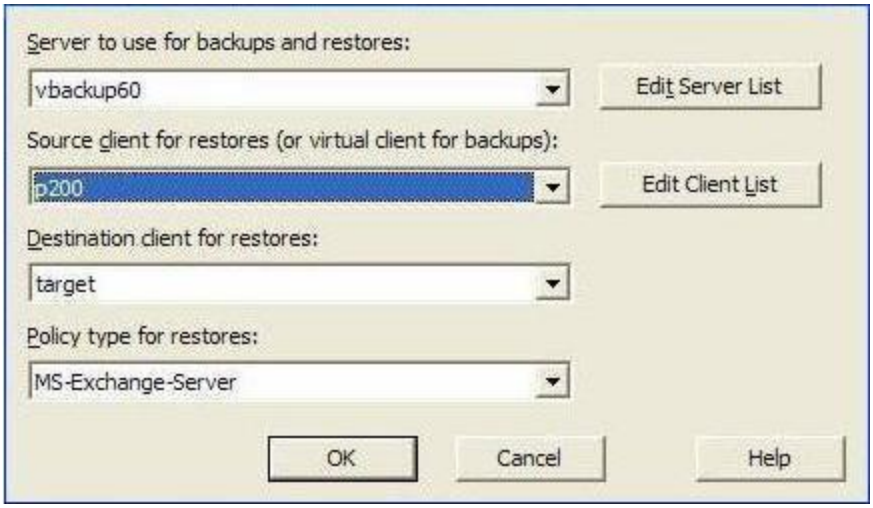

Figure 8-26: Specify the client and policy type

16. In the **Specify NetBackup Machines and Policy Type** window, click the **Client/Policy Type** tab.

17. Under **Client List**, select the Microsoft Exchange Server client you want to restore from and make it the current client. Click **OK**.
18. On the toolbar, click **Select for Restore**, and then select the Microsoft Exchange Server backup you want to restore.
19. On the **Actions** menu, click **Start Restore of Marked Files**.
20. In the **Restore Marked Files** window, clear the **Commit after restore completes** check box.

    Caution: *If the **Commit after restore completes** check box is selected, Symantec NetBackup will automatically delete the restored files after completing the restore.*

21. In the **Temporary location for log and patch files** box, enter the log file path. Verify that you are using the "Log file path" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
22. Click **Start Restore**.
23. When Symantec NetBackup is completed, click **OK** and close Symantec NetBackup.
24. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Symantec NetBackup 4.5-5.1 with Microsoft Exchange Server 5.5

Note: *For Symantec NetBackup 4.5, you must install the Symantec NetBackup client and the Microsoft Exchange Server agent on the computer running Single Mailbox Recovery ExtractWizard.*

Use the following steps to emulate Microsoft Exchange Server 5.5 with Symantec NetBackup 4.5 to 5.1:

1. Install Symantec NetBackup client software for Windows on the computer that will run Single Mailbox Recovery ExtractWizard.
2. Allow the computer running Single Mailbox Recovery ExtractWizard to restore backups created by the Microsoft Exchange Server client. Follow the instructions for allowing redirected restores in the Symantec NetBackup Administrators Guide.
3. On the computer running Single Mailbox Recovery ExtractWizard, make sure edbbcli.dll is in the system path. The easiest way is to copy edbbcli.dll to windows\system32. The edbbcli.dll file can be found on the Microsoft Exchange Server in the Microsoft Exchange Server\bin directory.
4. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   Note: *If you have not already done so, click **About** and **License Info** to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

5. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see

"Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.

6. Click **Next**.
7. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

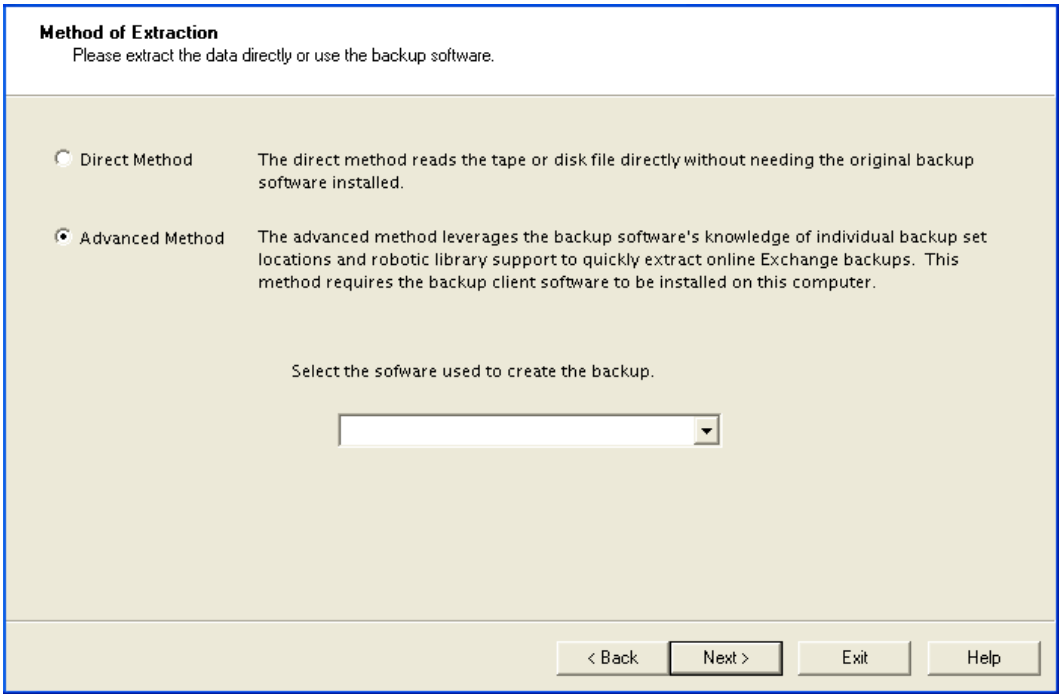

Figure 8-27: Method of Extraction Page for Advanced Method

8. Select **Symantec NetBackup 7.0 and Earlier** from the drop-down list and click **Next**.
9. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 5.5** option and click **Next**.

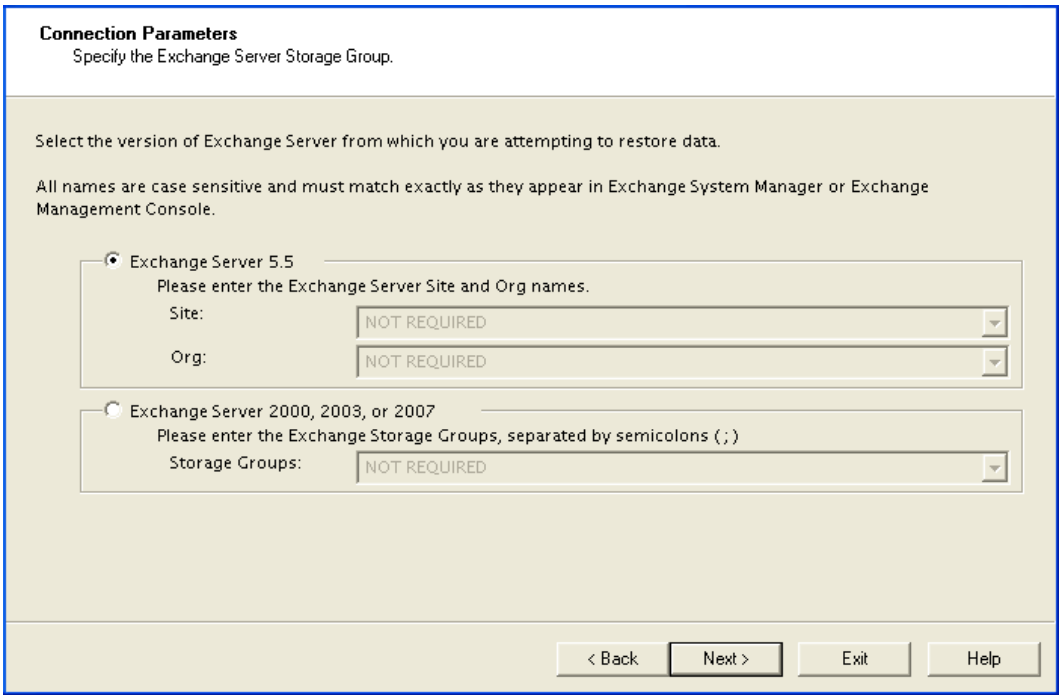

Figure 8-28: Selecting Exchange Server 5.5 Connection Parameters

10. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
11. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

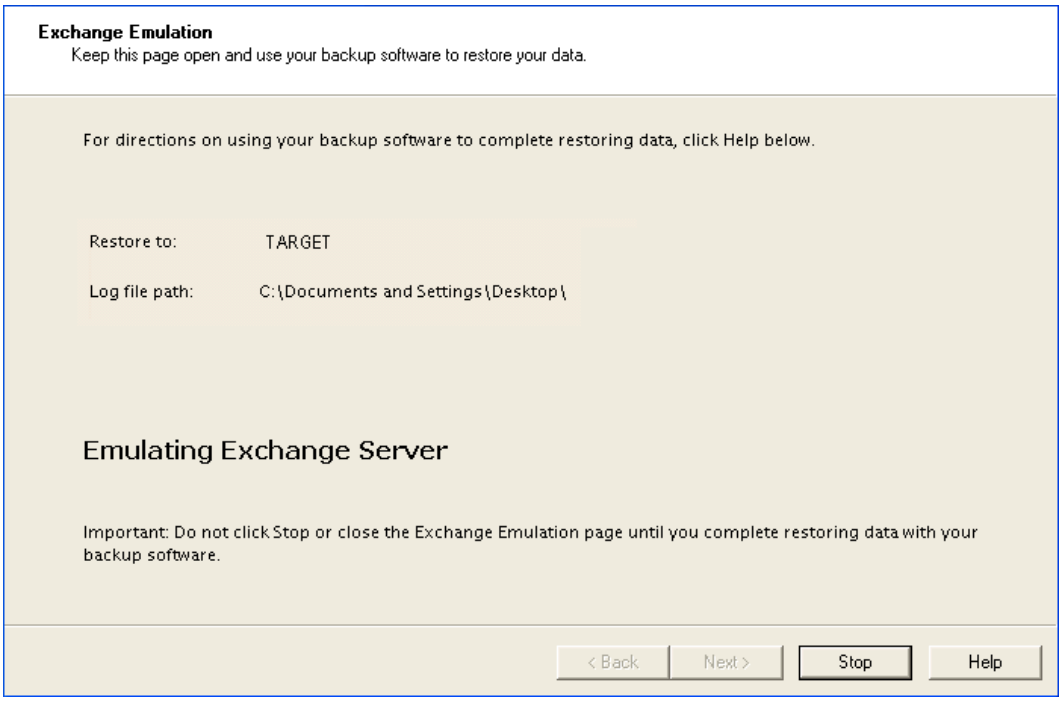

Figure 8-29: Exchange Emulation Page

Tip: *You can copy the "Log file path" information on this page and paste it into Symantec NetBackup when prompted later in this section.*

12. Start the Symantec NetBackup client on the computer running Single Mailbox Recovery ExtractWizard.
13. On the **File** menu, click **Specify NetBackup Machines and Policy Type**. (For Symantec NetBackup 4.5, click **Specify NetBackup Machines**.)

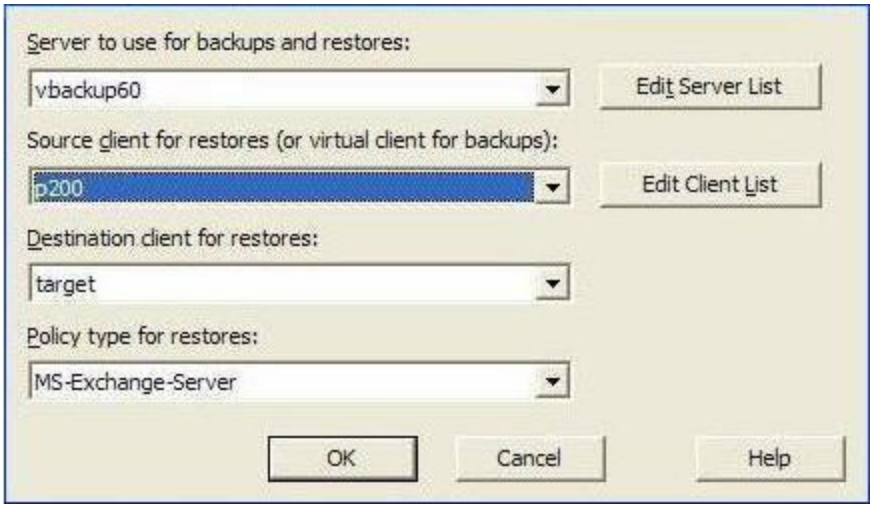

Figure 8-30: Specify client and policy type

14. In the **Specify NetBackup Machines and Policy Type** window, click the **Client/Policy Type** tab.

15. Under **Client List**, select the Microsoft Exchange Server client you want to restore from and make it the current client. Click **OK**.
16. On the toolbar, click **Select for Restore**, and then select the Microsoft Exchange Server backup you want to restore.
17. On the **Actions** menu, click **Start Restore of Marked Files**.
18. In the **Restore Marked Files** window, click **Start Restore**.
19. When Symantec NetBackup is completed, click **OK** and close Symantec NetBackup.
20. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Chapter 9: Using the Emulation Method with CA ARCserve Backup

Overview

This chapter explains how to emulate various releases of Microsoft Exchange Server while using CA ARCserve Backup as your backup client.

CA ARCserve Backup R15 and R16 with Microsoft Exchange Server 2000, 2003, 2007, or 2010

Use the following steps to emulate Microsoft Exchange Server 2000, 2003, 2007, or 2010 with CA ARCserve Backup R15 or R16:

Note: *CA ARCserve Backup R15 and R16 running on Microsoft Windows Server 2008 x64 or 2008 R2 is supported for Advanced Method for Microsoft Exchange Server 2007. Microsoft Windows Server 2008 x64 or 2008 R2 is required for Advanced Method for Microsoft Exchange Server 2010.*

Note: *The user performing these steps and running Single Mailbox Recovery ExtractWizard needs to have sufficient Active Directory permissions. For more information, see* ***"Single Mailbox Recovery ExtractWizard Emulation and Active Directory Objects" on page 188****.*

Note: *Make sure the versions of VSSAPI.dll and VOLSNAP.sys match from the source Exchange machine to the target Single Mailbox Recovery ExtractWizard machine.*

1. Do one of the following depending on the version of the data being restored:
   - ***If you do not have an isolated domain configured for Microsoft Exchange Server 2000 or 2003***, do the following (if you do, continue to step 2):
     a. Set up an isolated domain controller. The new domain should be in a separate Active Directory forest.
     b. Prepare Active Directory for Microsoft Exchange Server using the Microsoft Exchange Server 2003 installation CD and typing the following in the command window:

```
setup /ForestPrep
setup /DomainPrep
```

Note: *For more information about the 2003 ForestPrep option, see http://technet.microsoft.com/en-us/library/bb124110(EXCHG.65).aspx.*

Note: *For more information about the 2003 DomainPrep option, see http://technet.microsoft.com/en-us/library/aa997526(EXCHG.65).aspx.*

- ***If you do not have an isolated domain configured for Microsoft Exchange Server 2007***, do the following (if you do, continue to step 2):
  a. Set up an isolated domain controller. The new domain should be in a separate Active Directory forest.
  b. Prepare Active Directory for Microsoft Exchange Server using the Microsoft Exchange Server 2007 installation CD and typing the following in the command window:

     ```
     setup /PrepareAD /OrganizationName: "organizationname"
     ```

Note: *For more information, see Step 3 at http://technet.microsoft.com/en-us/library/bb125224(EXCHG.80).aspx.*

- ***If you do not have an isolated domain configured for Microsoft Exchange Server 2010***, do the following (if you do, continue to step 3):
  a. Set up an isolated domain controller. The new domain should be in a separate Active Directory forest.
  b. Prepare Active Directory for Microsoft Exchange Server using the Microsoft Exchange Server 2010 installation CD and typing the following in the command window:

     ```
     setup /PrepareAD /OrganizationName: "organizationname"
     ```

Note: *For more information, see Step 3 at http://technet.microsoft.com/en-us/library/bb125224.aspx.*

2. ***For emulations of Microsoft Exchange Server 2000, 2003, and 2007***, on the computer that will run Single Mailbox Recovery ExtractWizard, do the following:
   - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.
3. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

4. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
5. Click **Next**.
6. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

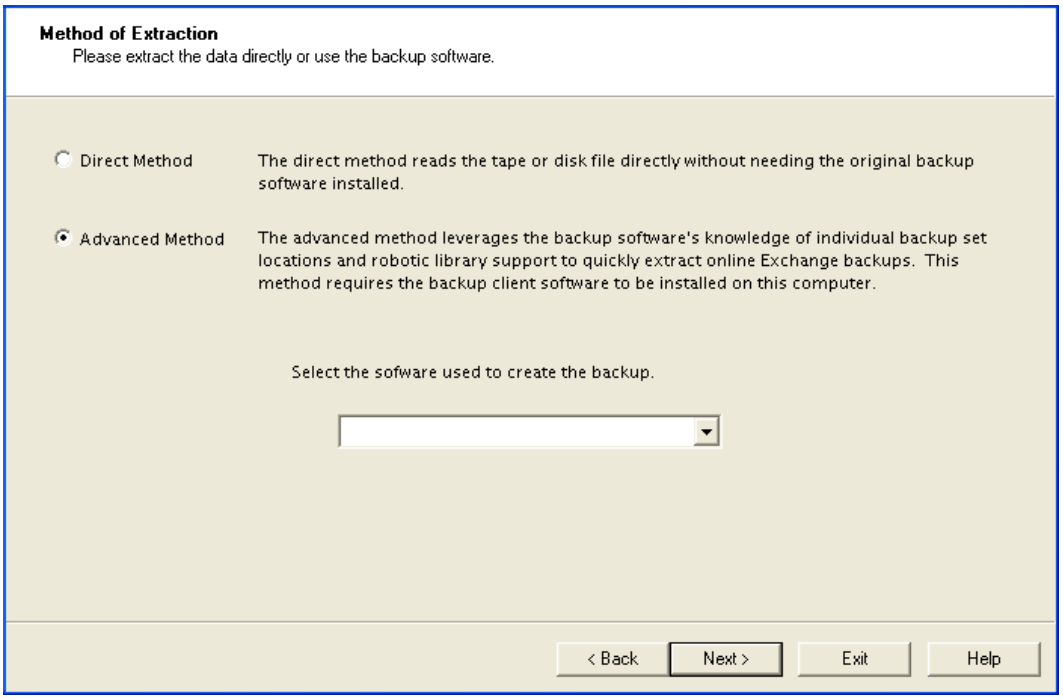

Figure 9-1: Method of Extraction Page for Advanced Method

7. Select **CA ARCserve r15 and Later** from the drop-down list and then click **Next**.
8. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, do one of the following:
   - ***For restores of Microsoft Exchange Server 2000 or 2003***: Select the **Exchange Server 2000 or 2003** option and do the following:
     a. In the **Storage Groups** box, enter the name of the storage group you will be extracting. The storage group name is case sensitive and must match exactly the name that appears in the management console for Exchange Server. You can enter multiple storage groups, separated by semicolons (;).
     b. In the **Databases** box, enter the name of the database you will be extracting. The database name is case sensitive and must match exactly the name that appears in the management console for Exchange Server. You can enter multiple databases, separated by semicolons (;).

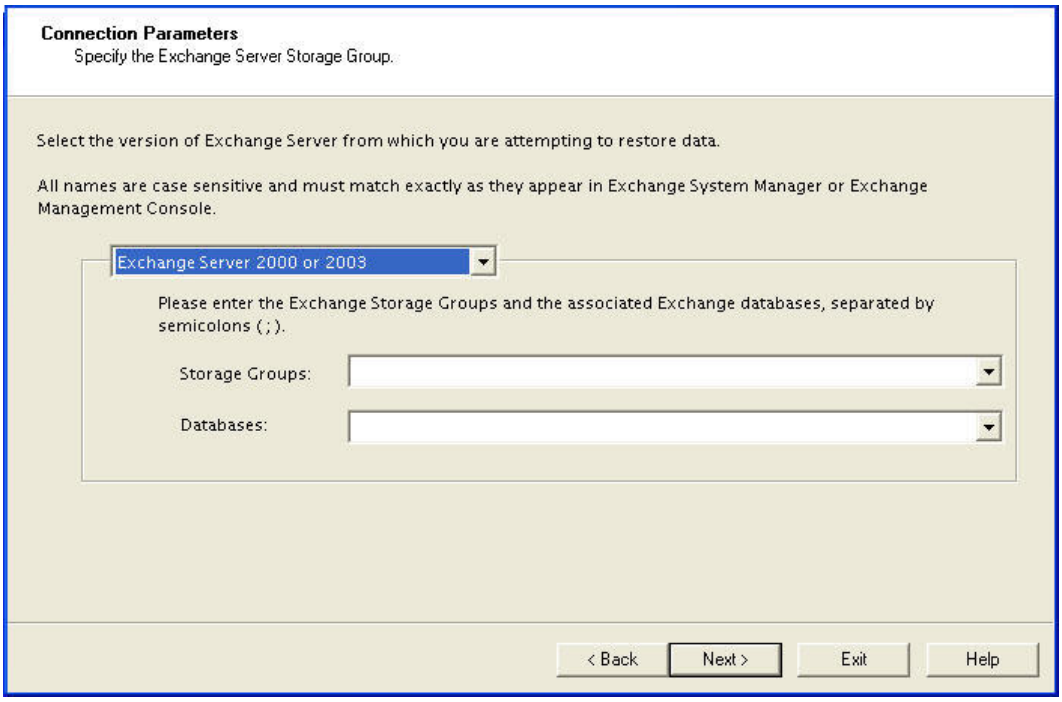

Figure 9-2: Selecting Exchange Server 2000 or 2003 Connection Parameters

- ***For restores of Microsoft Exchange Server 2007***: Select the **Exchange Server 2007** option.

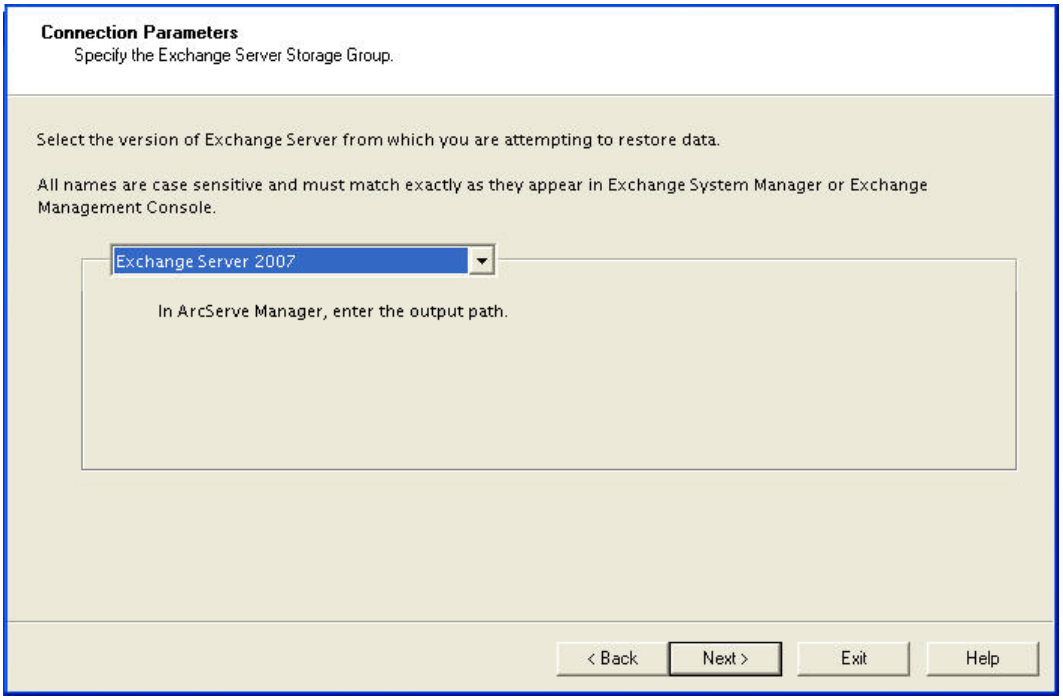

Figure 9-3: Selecting Exchange Server 2007 Connection Parameters

- ***For restores of Microsoft Exchange Server 2010***: Select the **Exchange Server 2010** option.

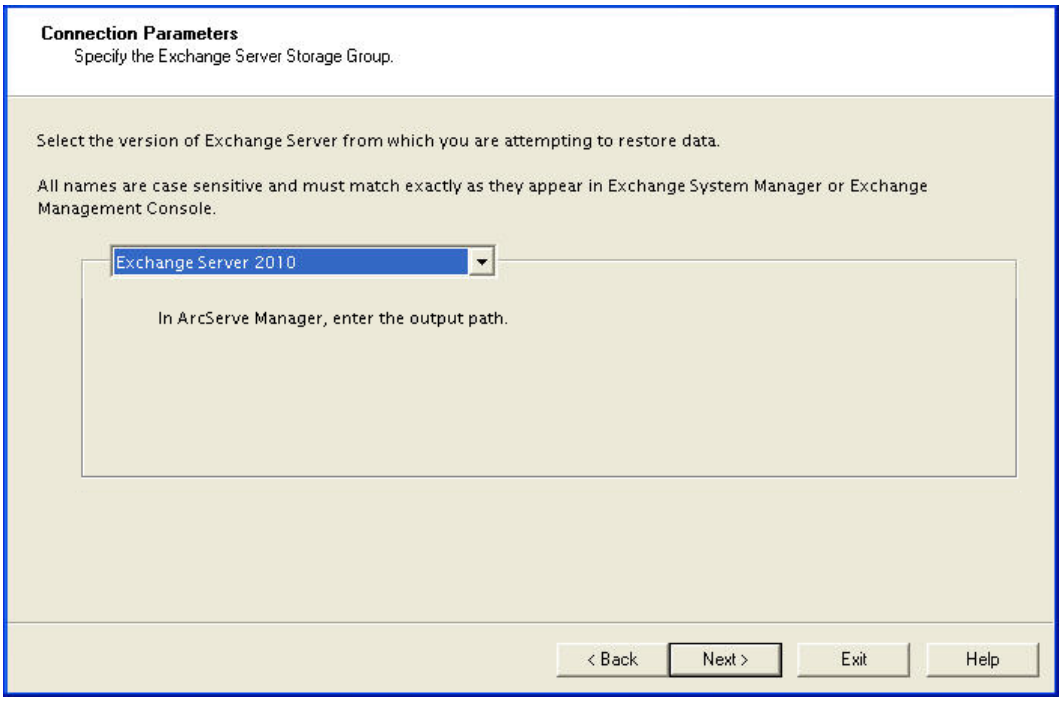

Figure 9-4: Selecting Exchange Server 2010 Connection Parameters

9. Click **Next**.
10. ***For restores of Microsoft Exchange Server 2000 or 2003***: On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

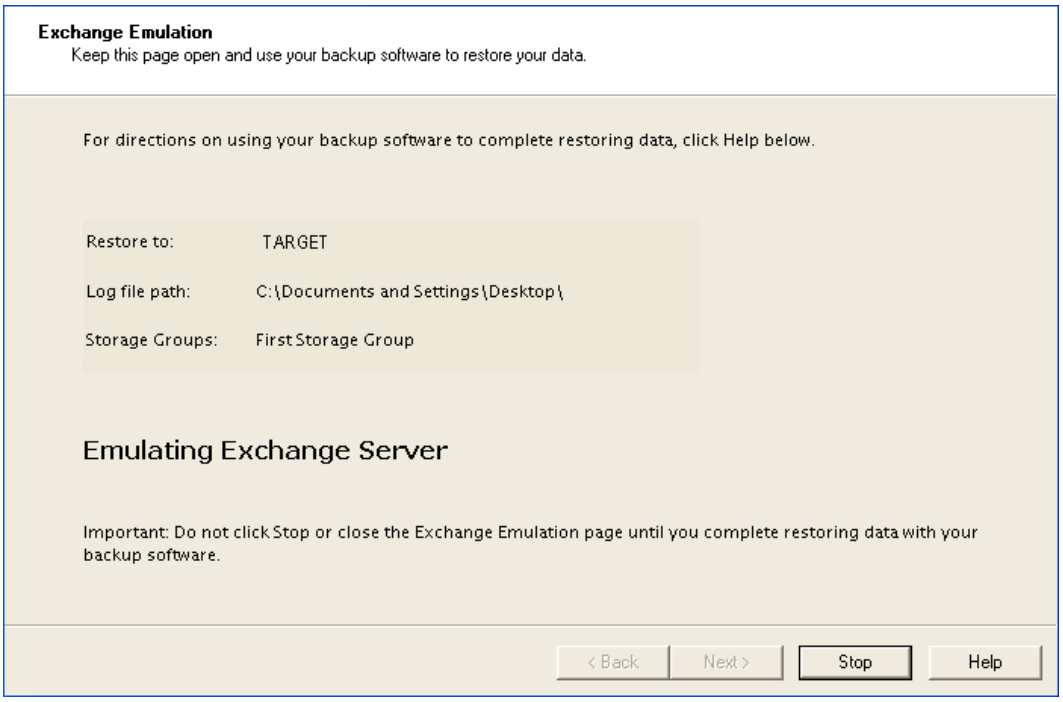

Figure 9-5: Exchange Emulation Page

Tip: *You can copy the "Restore to" and "Log file path" information on this page and paste it into CA ARCserve Backup when prompted later in this section.*

11. Once emulating, install the CA ARCserve Backup Agent for Exchange software on the computer emulating Single Mailbox Recovery ExtractWizard.
12. Log onto to your CA ARCserve Backup server and run the Manager program.
13. On the **CA ARCserve Backup** window **Quick Start** menu, click **Restore**. A list of servers appears in the **Source** tab.
14. In the **Source** tab Server tree, select the Microsoft Exchange Server backup you want to restore.
15. Right-click the storage group you want to restore and click **Agent Option**.
16. Do one of the following depending on the version of the data being restored:
    - ***For restores of Microsoft Exchange Server 2000 or 2003***:
        a. On the **Backup Agent Restore Options** dialog box, in the **Temporary location for log and patch files** box, enter the log file path.
        b. Verify that you are using the "Log file path" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
        c. Ensure that only the first two options are selected: **Automatically dismount database before restore** and **Allow database to be overwritten by restore**.
        d. Clear all other options.
        e. Click **OK** to close the **Backup Agent Restore Options** dialog box.
    - ***For restores of Microsoft Exchange Server 2007***:

a. On the **Agent Options** dialog box, ensure that only the first two options are selected: **Automatically dismount databases of destination Storage Group before restore** and **Allow databases of destination Storage Group to be overwritten**.

b. Clear all other options.

c. Click **OK** to close the **Agent Options** dialog box.

- ***For restores of Microsoft Exchange Server 2010***:

a. On the **Agent Options** dialog box, ensure that only the first two options are selected: **Automatically dismount destination databases** and **Allow destination databases to be overwritten**.

b. Clear all other options.

c. Click **OK** to close the **Agent Options** dialog box.

17. Click the **Destination** tab.
18. Clear the **Restore files to their original location** check box.
19. In the **Destination** tree, right-click the **Exchange Organization** node and select **Active Directory Servers**.
20. In the **Browsing Exchange Organization** dialog box, click **Add**.
21. In the **Add AD Server** dialog box, add the server name and user account information of the isolated domain created in step 1 and click **Ok**.

    Note: ***For restores of Microsoft Exchange Server 2010****, use the* ***Add AD Server*** *dialog box to also add the server name and user account information of the selected source(s) domain controller and click* ***Ok***.

22. Click **Ok** to close the **Browsing Exchange Organization** dialog box.
23. Do one of the following depending on the version of data being restored:
    - ***For restores of Microsoft Exchange Server and 2000 and 2003***, do the following:
      - In the **Destination** tree, expand the newly added server and select the **Microsoft Exchange Server - Database Level (Is)** node.
    - ***For restores of Microsoft Exchange Server and 2007 and 2010***, do the following:

      a. In the **Destination** tree, expand the newly added server and select the **Microsoft Exchange Server - Database Level** node.

      b. In the **Destination** field above the **Destination** tree, append the default value with the output path of the restored data location on the machine running Single Mailbox Recovery ExtractWizard

      Examples:
      For 2007: `\\servername\dbaexdbvss\<output path>`
      For 2010: `\\servername\dbaedbvss\<output path>`

24. On the toolbar, click **Submit**.
25. When notified that you are not restoring to a Recovery Storage Group or Recovery Database, click **Ok**.
26. On the **Restore Media** dialog box, verify the session information is correct and click **OK**.

27. In **Submit Job** dialog box, view the default value in the **Job Name** box, change if desired, and click **OK**.
28. CA ARCserve Backup will start to restore Microsoft Exchange Server files to the computer running Single Mailbox Recovery ExtractWizard. When CA ARCserve Backup is completed, click **OK** and close CA ARCserve Backup.
29. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

For restores of Microsoft Exchange Server 2007 and 2010, the restored log files are located in the **restoredlogs** folder in the output path.

For restores of Microsoft Exchange Server 2003, the restored log files are located in the **<servername><storagegroup>** folder inside the destination folder entered in step 9.

CA ARCserve Backup 9.x-11.5 with Microsoft Exchange Server 2000 or 2003

Use the following steps to emulate Microsoft Exchange Server 2000 or 2003 with CA ARCserve Backup 9.x to 11.5:

1. On the computer that will run Single Mailbox Recovery ExtractWizard, do the following:
   - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.
2. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

3. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
4. Click **Next**.
5. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

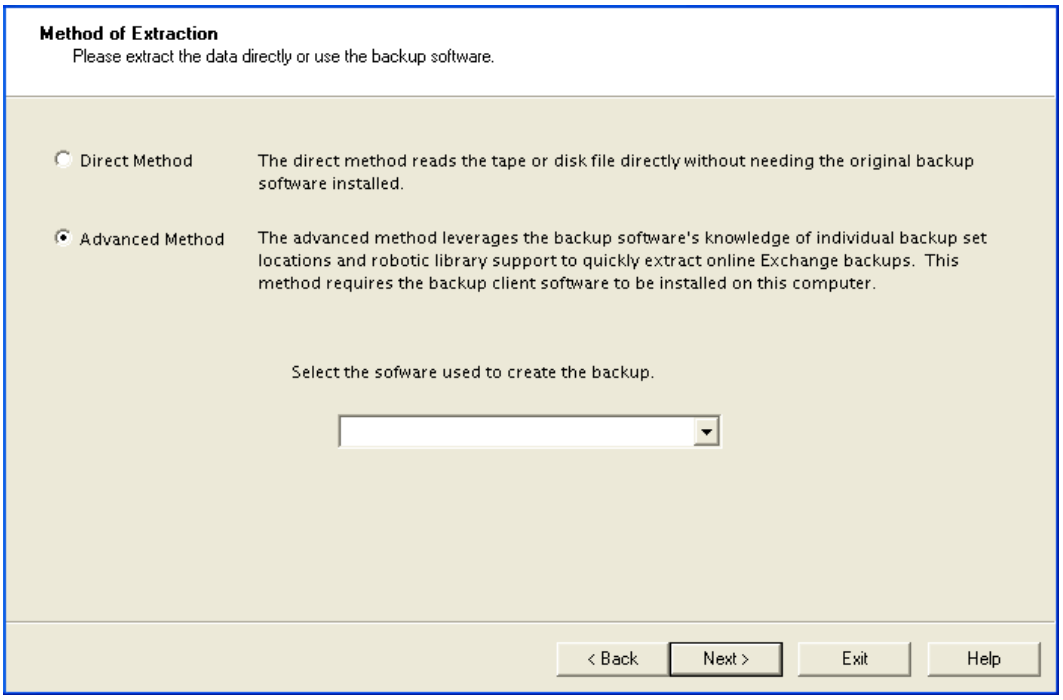

Figure 9-6: Method of Extraction Page for Advanced Method

6. Select **CA BrightStor ARCserve 11.5 and Earlier** from the drop-down list and click **Next**.
7. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 2000 or 2003** option.

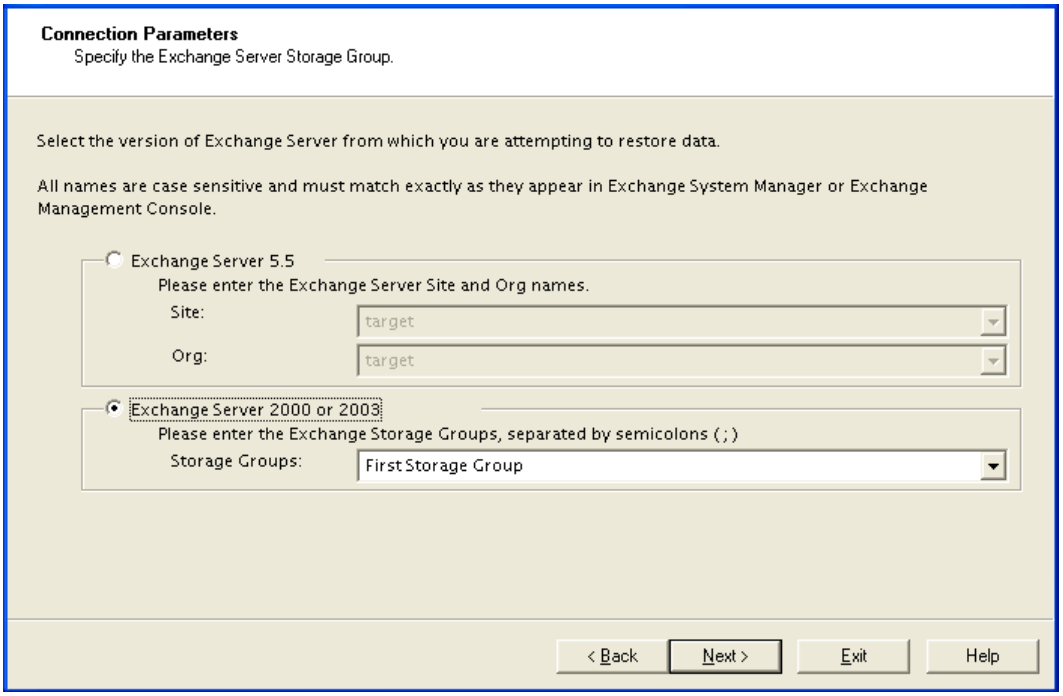

Figure 9-7: Selecting Exchange Server 2000 or 2003 Connection Parameters

8. In the **Storage Groups** box, enter the name of the storage group you will be extracting. The storage group name is case sensitive and must match exactly as it appears in the Exchange System Manager. You can enter multiple storage groups, separated by semicolons (;).
9. Click **Next**.
10. If Single Mailbox Recovery ExtractWizard displays a warning about the CA ARCserve Exchange client not being properly configured to emulate Microsoft Exchange Server 2000 and 2003, click **OK** to continue. You can configure the CA ARCserve Exchange client when you get to step 12 later in this section.
11. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

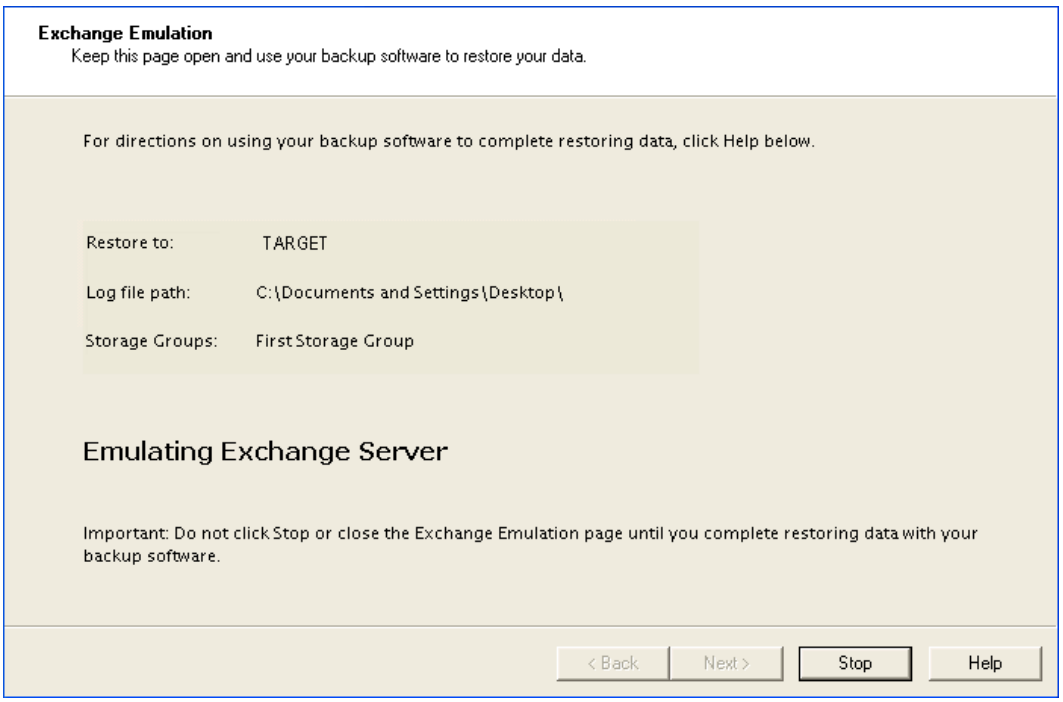

Figure 9-8: Exchange Emulation Page

Tip: *You can copy the "Restore to" and "Log file path" information on this page and paste it into CA ARCserve Backup when prompted later in this section.*

12. Make sure "CA ARCserve Backup Client Agent for Windows" software and "Backup Agent for Microsoft Exchange" software are installed on the computer running Single Mailbox Recovery ExtractWizard.
13. Log onto to your CA ARCserve Backup server and run the Manager program.

14. On the **Quick Start** menu, click **Restore**. A list of servers appears in the **Source** tab.
15. In the **Source** tab Server tree, select the Microsoft Exchange Server backup you want to restore.
16. Right-click the storage group you want to restore and click **Backup Agent Option**. The **Backup Agent Restore Options** dialog box appears.
17. In the **Temporary location for log and path files** box, enter the log file path. Verify that you are using the "Log file path" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
18. Click **OK** to close the **Backup Agent Restore Options** dialog box.
19. Click the **Destination** tab.
20. Clear the **Restore files to their original location** check box.

    Important: *For the following two steps, use the Network tree.*

21. In the **Network** tree, expand the **Microsoft Windows Network** node, and locate the Restore Target Computer. If the Restore Target Computer does not appear, do one or both of the following:
    - If the domain or workgroup that the Restore Target Computer belongs to does not appear in the Microsoft Windows Network node, right-click the Microsoft Windows Network node and click **Add Machine/Object**. In the **Add Object** dialog box, enter the domain or workgroup and click **Add**.
    - If the Restore Target Computer does not appear in the domain or workgroup it belongs to, right-click the domain or workgroup node, and click **Add Machine/Object**. In the **Add Object** dialog box, enter the name of the Restore Target Computer and click Add. Verify that you are using the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
22. Expand the Restore Target Computer node and select the **Microsoft Information Store** node.

    Note: *If the **Microsoft Information Store** node does not appear under the Restore Target Computer, select the Restore Target Computer node so that its name appears in the Address box above the Destination tree. Then append \dbaexchis to the Restore Target Computer name. This signals CA ARCserve Backup you are restoring an Information Store.*

23. On the toolbar, click **Start**.
24. If the Remote Agent Security is *not* properly configured, the **Security** dialog box appears. Make sure your Server logon account (User Name and Password) is correct and click OK.

    Note: *The account you use must have backup operator rights to the Restore Target Computer.*

25. In the **Session User Name and Password** dialog box appears, verify the session information is correct and click **OK**.
26. In the **Submit Job** dialog box, in the **Description** box, enter a description (if desired) and click **OK**. CA ARCserve Backup will start to restore Microsoft Exchange Server files to the Single Mailbox Recovery ExtractWizard.
27. When CA ARCserve Backup is completed, click **OK** and close CA ARCserve Backup.

28. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

CA ARCserve Backup 9.x-11.5 with Microsoft Exchange Server 5.5

Use the following steps to emulate Microsoft Exchange Server 5.5 with CA ARCserve Backup 9.x to 11.5:

1. On the computer that will run Single Mailbox Recovery ExtractWizard, make sure edbbcli.dll is in the system path. The easiest way to ensure this is to copy edbbcli.dll to windows\system32. The edbbcli.dll file can be found on the Microsoft Exchange Server in the Microsoft Exchange Server\bin directory.
2. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

3. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
4. Click **Next**.
5. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

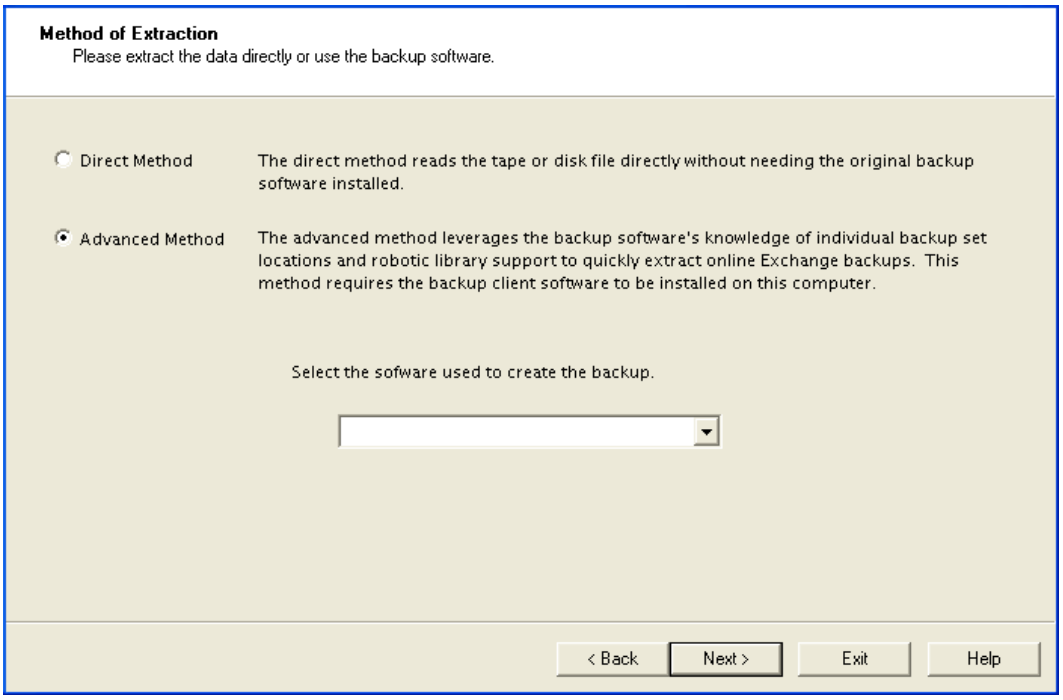

Figure 9-9: Method of Extraction Page for Advanced Method

6. Select **CA BrightStor ARCserve 11.5 and Earlier** from the drop-down list and click **Next**.
7. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 5.5** option.

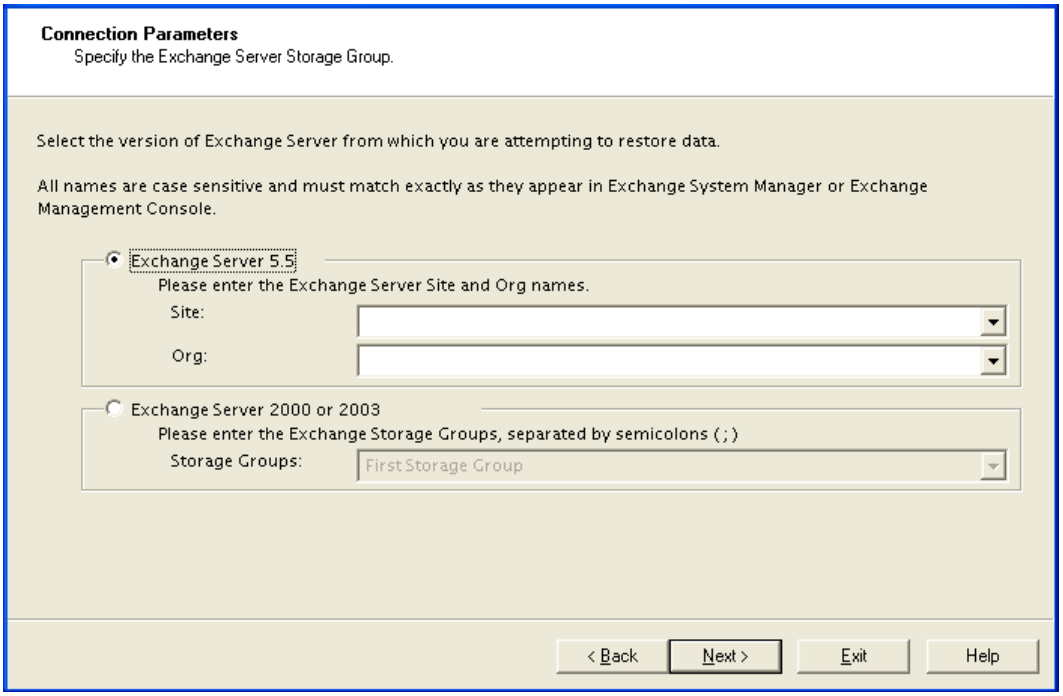

Figure 9-10: Selecting Exchange Server 5.5 Connection Parameters

8. In the **Site** and **Org** boxes, enter the Site and Org for the Exchange Information Store files you are preparing to restore. The Site and Org names are case sensitive and must match exactly as they appear in the Exchange System Manager.
9. Click **Next**.
10. If Single Mailbox Recovery ExtractWizard displays a warning about the CA ARCserve Backup Exchange client not being properly configured to emulate Microsoft Exchange Server 5.5, click **OK** to continue. You can configure the CA ARCserve Backup Exchange client when you get to step 12 later in this section.
11. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
12. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

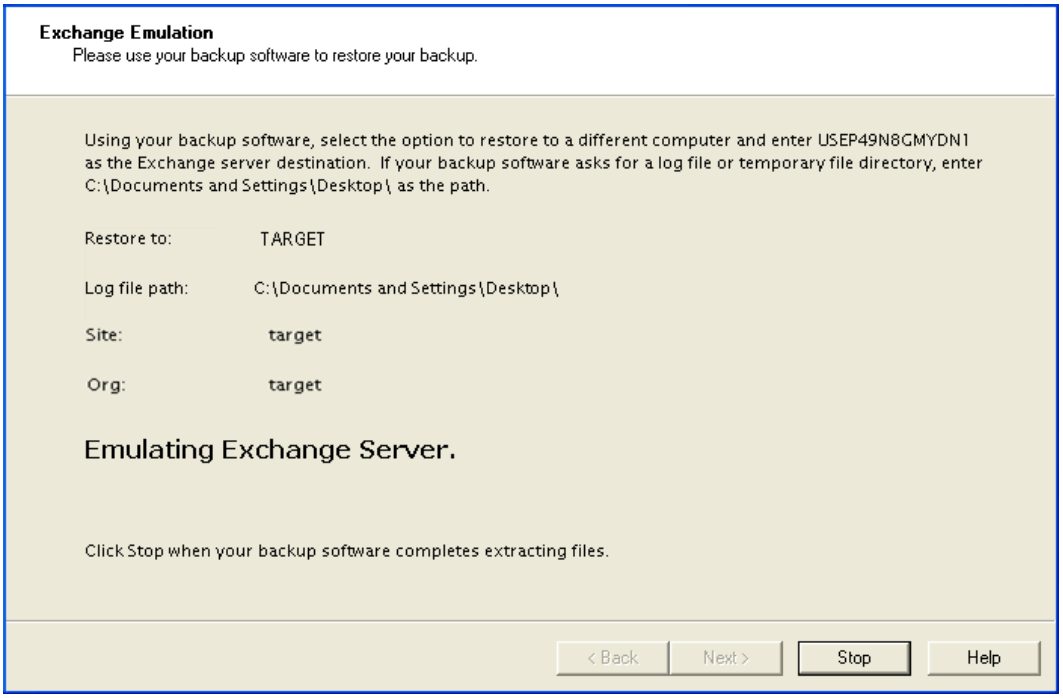

Figure 9-11: Exchange Emulation Page

Tip: *You can copy the "Restore to" and "Log file path" information on this page and paste it into CA ARCserve Backup when prompted later in this section.*

13. Make sure "CA ARCserve Backup Client Agent for Windows" software and "Backup Agent for Microsoft Exchange" software are installed on the computer running Single Mailbox Recovery ExtractWizard.
14. If you have already installed the Backup Agent for Microsoft Exchange Server 2000 or 2003 and you want to emulate Microsoft Exchange Server 5.5, you must do one of the following:
    - **Option 1:** Reinstall the Backup Agent for Microsoft Exchange with Single Mailbox Recovery ExtractWizard, running the correct emulation type.
    - **Option 2:** Manually edit the registry setting for the CA ARCserve Backup Exchange client. Make sure the following key exists:
      HKEY_LOCAL_MACHINE\SOFTWARE\ComputerAssociates\BrightStor ARCserve Backup\DSAgent\CurrentVersion\agent\dbaexch.

      In these keys, make sure the **REG_DWORD** value **"isExch2000"** does not exist.

    Important: *If **REG_DWORD** value **"isExch2000"** exists, delete it.*
15. Log onto to your CA ARCserve Backup server and run the Manager program.
16. On the **Quick Start** menu, click **Restore**. A list of servers appears in the **Source** tab.
17. Select the Microsoft Exchange Server backup you want to restore.

    Note: *You cannot restore the Directory.*
18. Click the **Destination** tab.
19. Clear the **Restore files to their original location** check box.

    Important: *For the following two steps, use the **Network** tree.*
20. In the **Network** tree, expand the **Microsoft Windows Network** node, and locate the Restore Target Computer. If the Restore Target Computer does not appear, do one or both of the following:
    - If the domain or workgroup that the Restore Target Computer belongs to does not appear in the Microsoft Windows Network node, right-click the Microsoft Windows Network node and click **Add Machine/Object**. In the **Add Object** dialog box, enter the domain or workgroup and click **Add**.
    - If the Restore Target Computer does not appear in the domain or workgroup it belongs to, right-click the domain or workgroup node, and click **Add Machine/Object**. In the **Add Object** dialog box, enter the name of the Restore Target Computer and click Add. Verify that you are using the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
21. Expand the Restore Target Computer node and select the **Microsoft Exchange Server** node.

    Note: *If the **Microsoft Exchange Server** node does not appear under the Restore Target Computer, select the Restore Target Computer node so that its name appears in the Address box above the Destination tree. Then append \dbaexch to the Restore Target Computer name. This signals CA ARCserve Backup you are restoring an Information Store.*
22. On the toolbar, click **Start**.

23. If the Remote Agent Security is *not* properly configured, the Security dialog box appears. Make sure your Server logon account (User Name and Password) is correct and lick **OK**.

    Note: *The account you use must have backup operator rights to the Restore Target Computer.*

24. In the **Session User Name and Password** dialog box appears, verify the session information is correct and click **OK**.
25. The **Submit Job** dialog box, in the **Description** box, enter a description (if desired), and click **OK**. CA ARCserve Backup starts to restore Microsoft Exchange Server files to the Single Mailbox Recovery ExtractWizard.
26. When CA ARCserve Backup is completed, click **OK** and close CA ARCserve Backup.
27. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Chapter 10: Using the Emulation Method with EMC NetWorker

Overview

This chapter explains how to emulate various releases of Microsoft Exchange Server while using EMC NetWorker as your backup client.

Note: *If you are using EMC NetWorker Server 8.0 or higher and NMM v3.0 or higher, the NetWorker flat file recovery method is recommended. For more information about flat file recovery, please refer to NetWorker documentation.*

EMC NetWorker Server 8.0 with NMM v2.4 with Microsoft Exchange Server 2007

Use the following steps to emulate Microsoft Exchange Server 2007 with EMC NetWorker 8.0 Server with NMM v2.4:

Note: *EMC NMM v2.4 running on Microsoft Exchange Server 2008 x64 or 2008 R2 is required for Advanced Method for Microsoft Exchange Server 2007.*

1. On the computer that will run Single Mailbox Recovery ExtractWizard, ensure the appropriate configuration has been performed for the version of Microsoft Exchange Server data being restored.
   - **For Microsoft Exchange Server 2007**, follow the steps in **"Configuring EMC NetWorker Server 8.0 with NMM for Microsoft Exchange Server 2007" on page 149**.
2. Configure the NetWorker Server by doing the following:
   a. On your NetWorker Server system, open the NetWorker Management Console (NMC).
   b. Launch the Networker Administration application.
   c. In the NetWorker Administration window, click the **Configuration** icon.
   d. In the tree view of the left pane, click **Clients**.
   e. In the Clients pane, right-click the EMC NetWorker client that backed up the Microsoft Exchange Server Information Store and click **Properties**.
   f. In the **Client Properties** dialog box, click the **Globals (1 of 2)** tab.
   g. In the **Aliases** box, enter the name of the Extractor machine both with and without the domain name (example: computername.domain.com and computername).
   h. Click **Ok**.
   i. In the tree view of the left pane, click **User Groups**.

j. In the User groups pane, right-click **Application Administrators** and click **Properties**.

k. In the **User Group Properties** dialog box, in the **Users** text area add:

- *@extractor_machine_name_with_domain_name (for example *@machine.domain.com).

k. Click **Ok**.

l. In the User groups pane, right-click **Users** and click **Properties**.

m. In the **User Group Properties** dialog box, in the **Users** text area add:

- user=administrator,host=extractor_machine_name_with_domain_name (for example user=administrator,host=machine.domain.com).
- user=system,host=extractor_machine_name_with_domain_name (for example user=system,host=machine.domain.com).

n. Click **Ok**.

3. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

4. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.

5. On the first page of the Single Mailbox Recovery ExtractWizard, click **Next**.

6. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

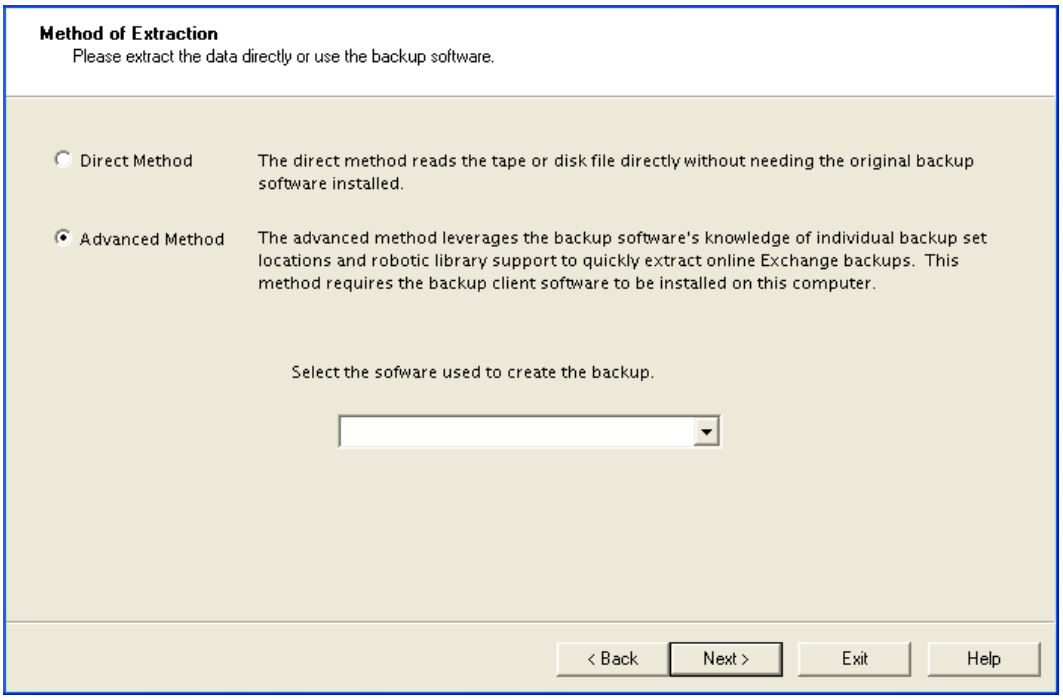

Figure 10-1: Method of Extraction Page for Advanced Method

7. Select **EMC NetWorker NMM** from the drop-down list and then click **Next**.
8. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, do the following:
   - ***For restores of Microsoft Exchange Server 2007***: Select the **Exchange Server 2007** option and do the following:
     a. In the **Storage Groups** box, enter the name of the storage group you will be extracting. The storage group name is case sensitive and must match exactly the name that appears in the management console for Microsoft Exchange Server. You can enter multiple storage groups, separated by semicolons (;). Add to the storage groups name list the name of the storage group to be used for the restore. This MUST be different from the original storage group being extracted and should be added to the name or names of storage groups already entered by entering a semicolon and the name.
     Example
     `;Restored Storage Group`
     b. In the **Databases** box, enter the name of the database you will be extracting. The database name is case sensitive and must match exactly the name that appears in the management console for Microsoft Exchange Server. You can enter multiple databases, separated by semicolons (;).

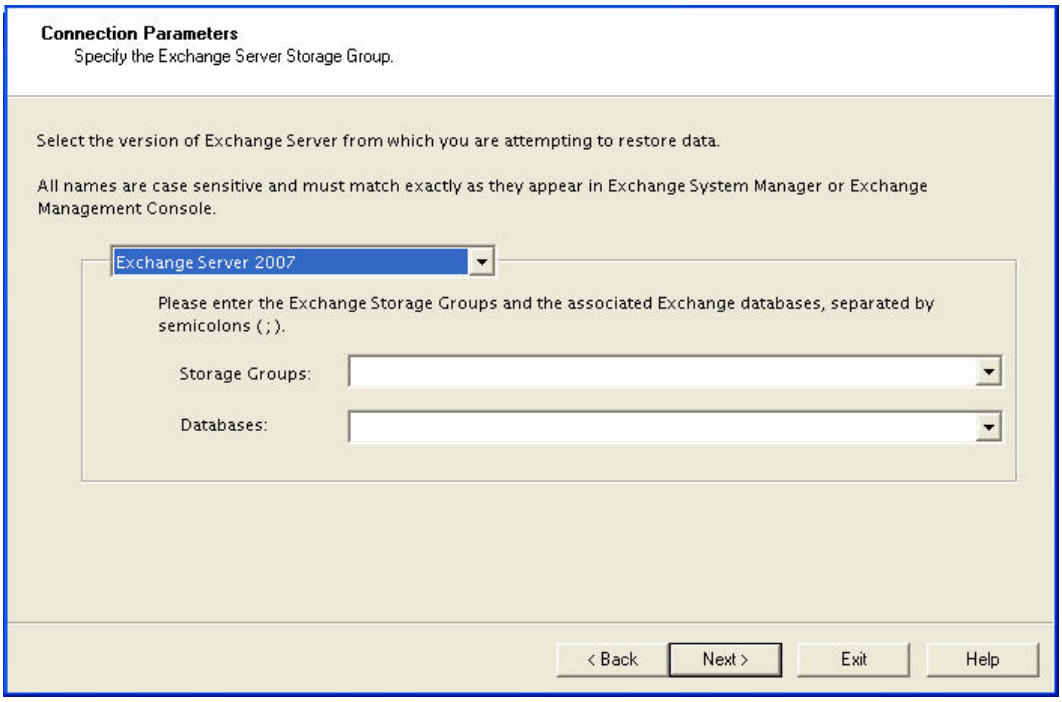

Figure 10-2: Selecting Exchange Server 2007 Connection Parameters

9. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, use the **Destination Folder** box to specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it, such as x$, and Path is the complete path to a folder. (If a folder does not exist, Single Mailbox Recovery ExtractWizard creates it.)
10. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

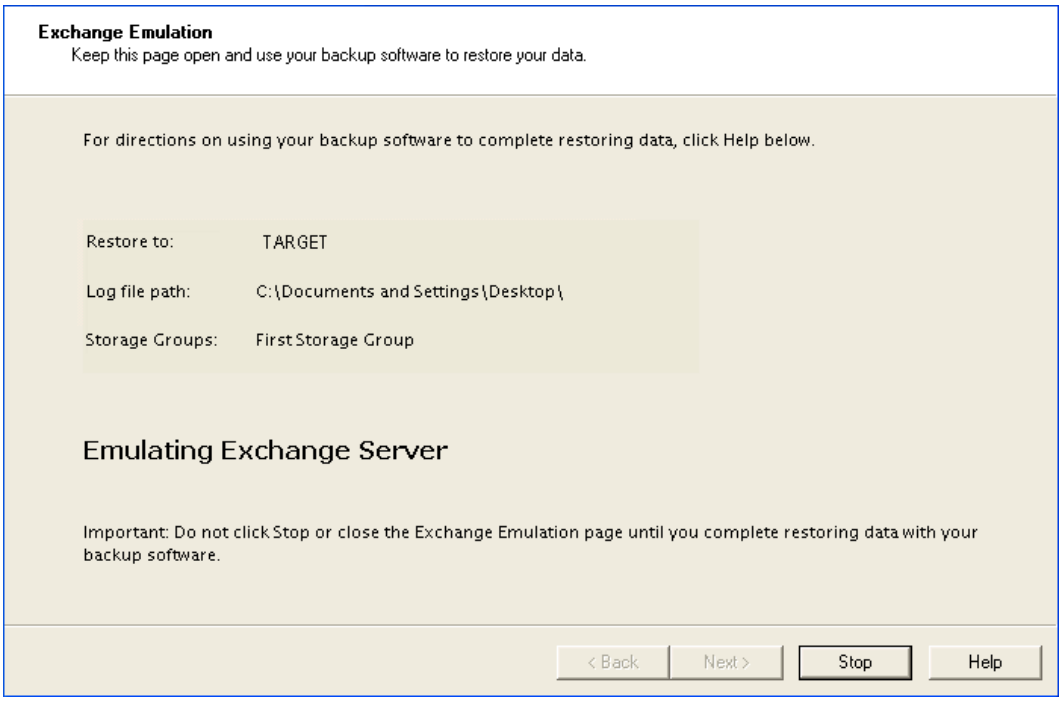

Figure 10-3: Exchange Emulation Page

11. ***If not already installed,*** install EMC NetWorker 8.0 client software, then install NetWorker Module for Microsoft Applications on the computer that that will run Single Mailbox Recovery ExtractWizard.
12. Start NetWorker Module for Microsoft Applications on the computer running Single Mailbox Recovery ExtractWizard.
13. On the NetWorker Module for Microsoft Applications window, select **Recover**, then do one of the following:
    - ***For restores of Microsoft Exchange Server 2007***: select **Exchange Recover Session**, then select **Database Recover**.
14. In the **Exchange Recover Session** group, click **Recover Options**.
15. On the **Exchange Recover Options** dialog box, click the **Exchange** tab.
16. In the **Transactions Log File Replay** group, click **Include only logs from this restore**.
17. Clear **Put databases online after restore**.
18. Click the **NetWorker** tab.
19. In the **Restore Type** group, use the default **Conventional Restore (fallback to Snapshot Restore)**.
20. Clear **Terminate recover of item if errors are encountered**.
21. Click **OK**.
22. In the **Browse** pane, do the following:
    - ***For restores of Microsoft Exchange Server 2007***:
        - Select the storage group you want to recover.
        - In the **Exchange Recover Session** group, click **Advanced Recover**.

- On the **Select Storage Group Restore Destination** dialog box, in the **Restore to (Destination)** group, select the **Alternate Storage Group** option.
- In the **Select Alternate Storage Group** drop-down list, ensure the name of the storage group to be used for the restore is the one entered in Step 8 and click **OK**.
- On the **Exchange Recover Summary** dialog box, click **Start Recover**.

Configuring EMC NetWorker Server 8.0 with NMM for Microsoft Exchange Server 2007

In order to restore NMM backups with EMC NetWorker Server 8.0 to a computer without Microsoft Exchange Server installed, you need to configure the computer to work with EMC NetWorker Server 8.0, NMM, and Single Mailbox Recovery ExtractWizard. This setup requires a separate Active Directory domain, the operating system installation media, and the Microsoft Exchange Server installation media.

Note: *The user performing these steps and running Single Mailbox Recovery ExtractWizard needs to have sufficient Active Directory permissions. For more information, see* ***"Single Mailbox Recovery ExtractWizard Emulation and Active Directory Objects" on page 188***.

OVERVIEW:

In this setup, you will do the following:

1. Create an isolated domain configured with the Microsoft Exchange Server 2007 Active Directory schema.
2. Install the Microsoft Exchange Server Management Tools.
3. Create a new Single Mailbox Recovery ExtractWizard Topology Service.

REQUIREMENTS:

- If creating an isolated domain controller:
  - A computer capable of running Windows Server 2008 x64 or Windows Server 2008 R2.
  - Windows Server 2008 x64 or Windows Server 2008 R2 Installation media.

  Note: *This machine* ***can*** *be used to run Single Mailbox Recovery ExtractWizard.*
- A computer running Single Mailbox Recovery ExtractWizard (not needed if running Single Mailbox Recovery ExtractWizard on the isolated domain controller):
  - Computer must be running Microsoft Windows Server 2008 x64 or 2008 R2.
  - Computer must be joined to the isolated domain.
- Microsoft Exchange Server 2007 installation media.

Chapter 10: Using the Emulation Method with EMC NetWorker

To configure EMC NetWorker Server 8.0 with NMM for Microsoft Exchange Server 2007 using the Single Mailbox Recovery ExtractWizard Advanced Method:

1. ***If you do not have an isolated domain configured for Microsoft Exchange Server 2007***, do the following (if you do, continue to step 2):
   a. Set up an isolated domain controller. The new domain should be in a separate Active Directory forest.
   b. Prepare Active Directory for Microsoft Exchange Server using the Microsoft Exchange Server 2007 installation CD and typing the following in the command window:

      ```
      setup /PrepareAD /OrganizationName: "organizationname"
      ```

   Note: *For more information, see Step 3 at http://technet.microsoft.com/en-us/library/bb125224(EXCHG.80).aspx.*

2. On the computer running Single Mailbox Recovery ExtractWizard, run **setup.exe** to install Management tools from the Microsoft Exchange Server 2007 Setup wizard.
   a. Select **Custom Exchange Server Installation**, then select the **Management Tools** check box.
   b. At the end of the installation, clear **Finalize this installation using the Exchange Management Console**, then click **Finish** and **Close**.
3. Open the **Active Directory Users and Computers** management console in Administrative Tools and add the computer running Single Mailbox Recovery ExtractWizard to the **Exchange Servers** group by doing the following:
   a. Select the **Microsoft Exchange Security Groups** item and double-click **Exchange Servers**.
   b. In the **Exchange Servers Properties** dialog box, click the **Members** tab, and then click **Add**.
   c. In the **Select Users, Contacts, Computers, or Groups** dialog box, click **Object Types**.
   d. In the **Object Types** dialog box, select **Computers** and click **OK**.
   e. On the **Select Users, Contacts, Computers, or Groups** dialog box, enter the name of the computer and click **OK**. The computer running Single Mailbox Recovery ExtractWizard now appears in the Members tab of the Exchange Servers Properties dialog box.
   f. Click **OK**.

   Note: *You may need to reboot after this step to continue.*

4. Set up and start the topology service by doing the following:
   a. From Microsoft Exchange Server 2007, copy the following from **C:\Program Files\Microsoft\Exchange Server\bin** to the Single Mailbox Recovery ExtractWizard computer location **C:\Program Files\Microsoft\Exchange Server\Bin**:
      - DSACCESS.dll
      - MSExchangeADTopologyService.exe
   b. Create the topology service by running the following from a non-PowerShell command prompt:

      Note: *Include spaces after* `start=`, `binPath=` *and* `displayName=`.

```
sc create ExtractWizardADTopology start= auto binPath= "C:\Program
Files\Microsoft\Exchange
Server\Bin\MSExchangeADTopologyService.exe" DisplayName=
"ExtractWizard Active Directory Topology"
```

c. Manually start the topology service by doing one of the following:
   - Enter **net start ExtractWizardADTopology**
   - Click **Administrative Tools**, then click **Services**, and then start the topology service.

     Note: *If the topology service takes a long time to start, there may either be an issue with your AD Server Object or you haven't added the computer to the Exchange Group from step 3 above.*

5. Run Single Mailbox Recovery ExtractWizard with Emulation method for EMC NetWorker NMM and do the following:
   a. On the Methods of Extraction page, select **Advanced Method**, select **EMC NetWorker NMM** in the drop-down list, and then click **Next**.
   b. On the Connection Parameters page, select **Exchange Server 2007**, specify the storage group name(s) and database name(s), and then click **Next**.
   c. On the Destination Folder page, specify a location for the extracted files and click **Next**.

You can now install the EMC NetWorker Client and NMM and then select the data you want to restore. For more information, see **"EMC NetWorker Server 8.0 with NMM v2.4 with Microsoft Exchange Server 2007" on page 144**.

EMC NetWorker Server 7.6 with NMM v2.3 with Microsoft Exchange Server 2007 or 2010

Use the following steps to emulate Microsoft Exchange Server 2007 or 2010 with EMC NetWorker 7.6 Server with NMM v2.3:

Note: *EMC NMM v2.3 running on Microsoft Exchange Server 2008 x64 or 2008 R2 is required for Advanced Method for both Microsoft Exchange Server 2007 and 2010.*

Note: *For EMC NetWorker Server 7.6 with NMM Advanced Method restores of VSS backups, restoring a single database at a time is recommended.*

1. On the computer that will run Single Mailbox Recovery ExtractWizard, ensure the appropriate configuration has been performed for the version of Microsoft Exchange Server data being restored.
   - **For Microsoft Exchange Server 2007**, follow the steps in **"Configuring EMC NetWorker Server 7.6 with NMM for Microsoft Exchange Server 2007" on page 161**.
   - **For Microsoft Exchange Server 2010**, follow the steps in **"Configuring EMC NetWorker Server 7.6 with NMM for Microsoft Exchange Server 2010" on page 157**.

2. Configure the NetWorker Server by doing the following:
    a. On your NetWorker Server system, open the NetWorker Management Console (NMC).
    b. In the NetWorker Administration window, click the **Configuration** icon.
    c. In the tree view of the left pane, click **Clients**.
    d. In the Clients pane, right-click the EMC NetWorker client that backed up the Microsoft Exchange Server Information Store and click **Properties**.
    e. In the **Properties** dialog box, click the **Globals (1 of 2)** tab.
    f. In the **Aliases** box, enter the name of the Extractor machine both with and without the domain name (example: computername.domain.com and computername).
    g. Click **Ok**.
    h. In the tree view of the left pane, click **User Groups**.
    i. In the User groups pane, right-click **Administrators** and click **Properties**.
    j. In the **Properties** dialog box, in the **Users** text area add:
        - *@extractor_machine_name_with_domain_name (for example *@machine.domain.com).
    k. Click **Ok**.
    l. In the User groups pane, right-click **Users** and click **Properties**.
    m. In the **Properties** dialog box, in the **Users** text area add:
        - user=administrator,host=extractor_machine_name_with_domain_name (for example user=administrator,host=machine.domain.com).
        - user=system,host=extractor_machine_name_with_domain_name (for example user=system,host=machine.domain.com).
    n. Click **Ok**.
3. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

    Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

4. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
5. On the first page of the Single Mailbox Recovery ExtractWizard, click **Next**.
6. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

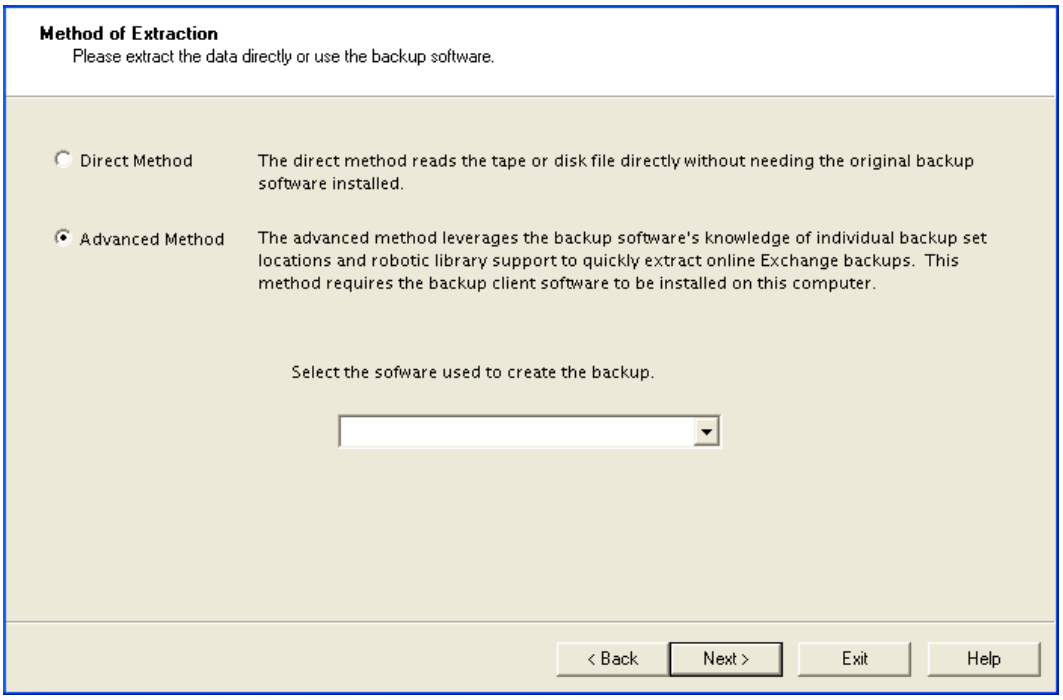

Figure 10-4: Method of Extraction Page for Advanced Method

7. Select **EMC NetWorker NMM** from the drop-down list and then click **Next**.
8. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, do one of the following:
   - ***For restores of Microsoft Exchange Server 2007***: Select the **Exchange Server 2007** option and do the following:
     a. In the **Storage Groups** box, enter the name of the storage group you will be extracting. The storage group name is case sensitive and must match exactly the name that appears in the management console for Microsoft Exchange Server. You can enter multiple storage groups, separated by semicolons (;). Add to the storage groups name list the name of the storage group to be used for the restore. This MUST be different from the original storage group being extracted and should be added to the name or names of storage groups already entered by entering a semicolon and the name.
     Example
     `;Restored Storage Group`
     b. In the **Databases** box, enter the name of the database you will be extracting. The database name is case sensitive and must match exactly the name that appears in the management console for Microsoft Exchange Server. You can enter multiple databases, separated by semicolons (;).

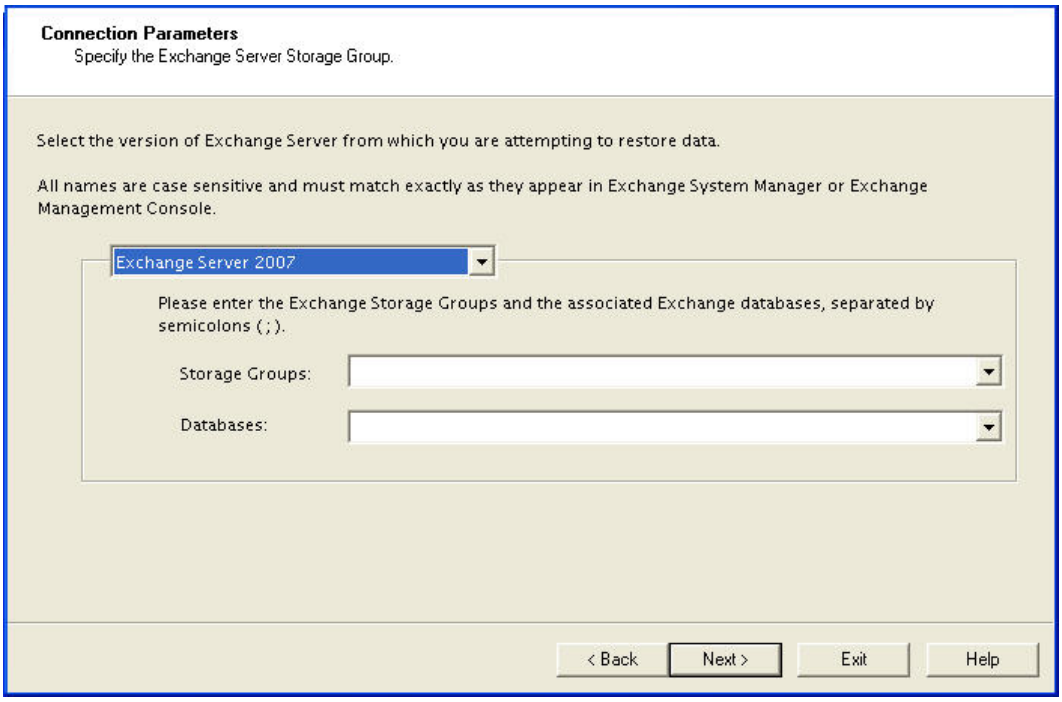

Figure 10-5: Selecting Exchange Server 2007 Connection Parameters

- ***For restores of Microsoft Exchange Server 2010***: Select the **Exchange Server 2010** option and in the **Databases** box, enter the name of the database you will be extracting. The database name is case sensitive and must match exactly the name that appears in the management console for Microsoft Exchange Server. You can enter multiple databases, separated by semicolons (;). Add to the database name list the name of the database to be used for the restore. This MUST be different from the original database being extracted and should be added to the name or names of databases already entered by entering a semicolon and the name.

  Example

  ```
  ;Restored Database
  ```

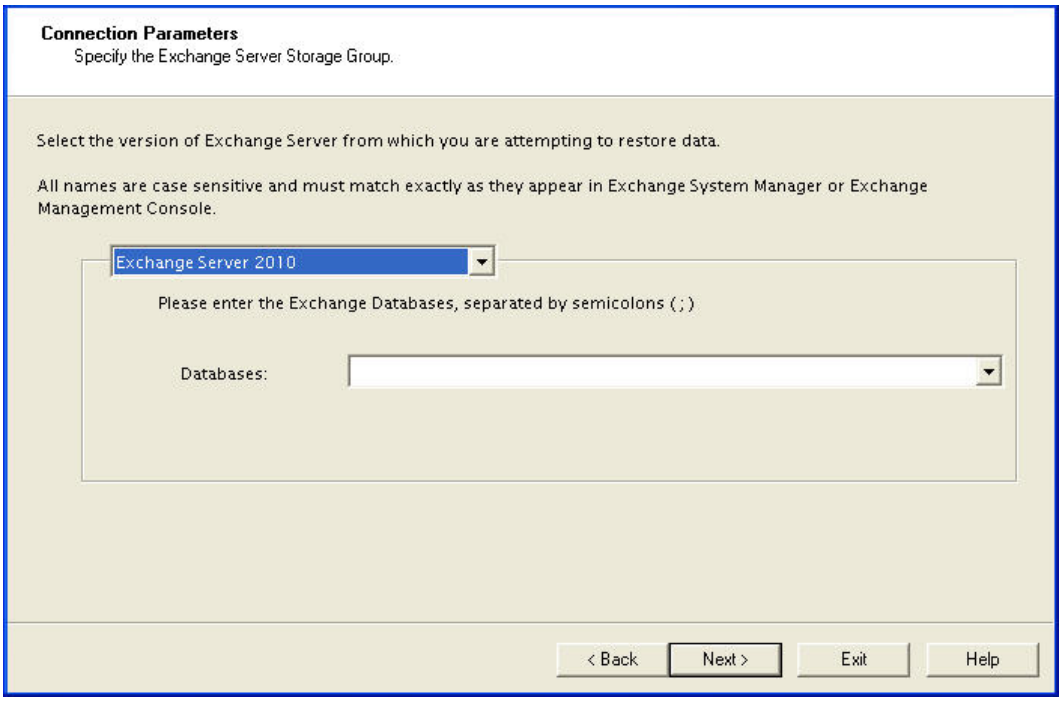

Figure 10-6: Selecting Exchange Server 2010 Connection Parameters

9. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, use the **Destination Folder** box to specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it, such as x$, and Path is the complete path to a folder. (If a folder does not exist, Single Mailbox Recovery ExtractWizard creates it.)
10. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

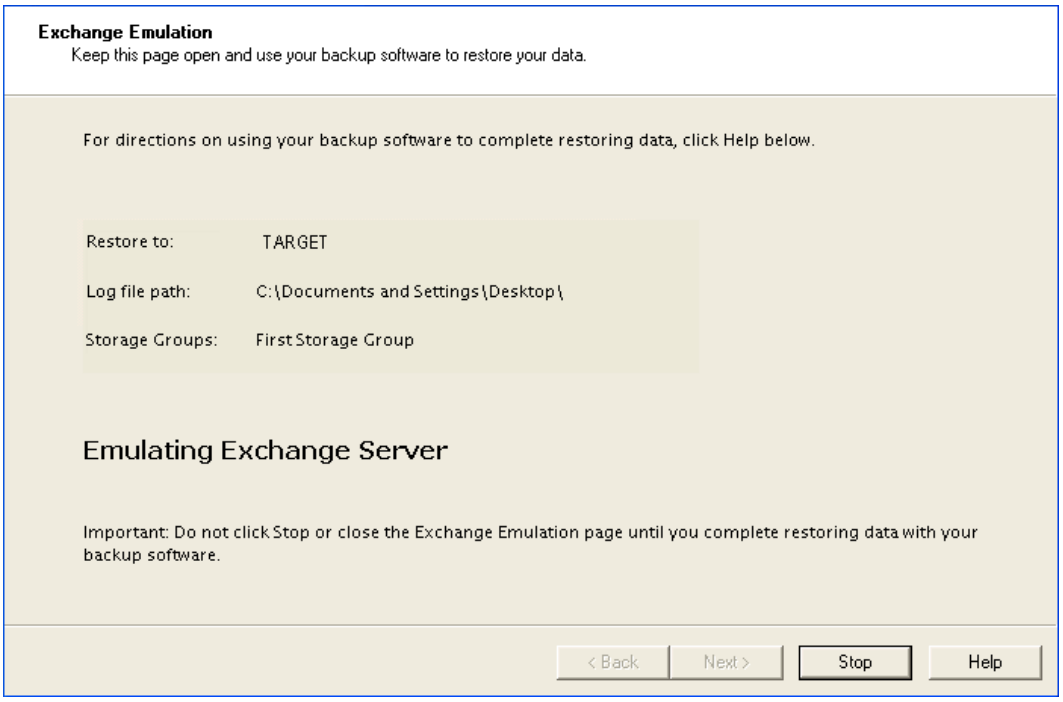

Figure 10-7: Exchange Emulation Page

11. ***If not already installed,*** install EMC NetWorker 7.6 client software, then install NetWorker Module for Microsoft Applications on the computer that that will run Single Mailbox Recovery ExtractWizard.
12. Start NetWorker Module for Microsoft Applications on the computer running Single Mailbox Recovery ExtractWizard.
13. On the NetWorker User for Microsoft Applications window, select **Recover**, then do one of the following:
    - ***For restores of Microsoft Exchange Server 2007***: select **Exchange Recover Session**, then select **Database Recover**.
    - ***For restores of Microsoft Exchange Server 2010***: select **Exchange 2010 Recover Session**, then select **Database Recover**.
14. In the **Exchange Recover Session** or **Exchange 2010 Recover Session** group, click **Recover Options**.
15. On the **Exchange Recover Options** dialog box, click the **Exchange** tab.
16. In the **Transactions Log File Replay** group, click **Include only logs from this restore**.
17. Clear **Put databases online after restore**.
18. Click the **NetWorker** tab.
19. In the **Restore Type** group, use the default **Conventional Restore (fallback to Snapshot Restore)**.
20. Clear **Terminate recover of item if errors are encountered**.
21. Click **OK**.
22. In the **Browse** pane, do one of the following:

- ***For restores of Microsoft Exchange Server 2007***:
  - Select the storage group you want to recover.
  - In the **Exchange Recover Session** group, click **Advanced Recover**.
  - On the **Select Storage Group Restore Destination** dialog box, in the **Restore to (Destination)** group, select the **Alternate Storage Group** option.
  - In the **Select Alternate Storage Group** drop-down list, ensure the name of the storage group to be used for the restore is the one entered in Step 7 and click **OK**.
  - On the **Exchange Recover Summary** dialog box, click **Start Recover**.
- ***For restores of Microsoft Exchange Server 2010***:
  - Select the database you want to recover.
  - In the **Exchange 2010 Recover Session** group, click **Advanced Recover**.
  - On the **Advanced Recovery** dialog box, in the **Recovery Type** group, select **Alternate Database Recovery** and click **Next**.
  - On the **Select Database** dialog box, in the **Select Database** box, ensure the selected name of the database to be used for the restore is the one entered in Step 7 and click **Next**.
  - On the **Exchange Recover Summary** dialog box, click **Start Recover**.

Configuring EMC NetWorker Server 7.6 with NMM for Microsoft Exchange Server 2010

In order to restore NMM backups with EMC NetWorker Server 7.6 to a computer without Microsoft Exchange Server installed, you need to configure the computer to work with EMC NetWorker Server, NMM, and Single Mailbox Recovery ExtractWizard. This setup requires a separate Active Directory domain, the operating system installation media, and the Microsoft Exchange Server installation media.

Note: *The user performing these steps and running Single Mailbox Recovery ExtractWizard needs to have sufficient Active Directory permissions. For more information, see* ***"Single Mailbox Recovery ExtractWizard Emulation and Active Directory Objects" on page 188***.

OVERVIEW:

In this setup, you will do the following:

1. Create an isolated domain configured with the Microsoft Exchange Server 2010 Active Directory schema.
2. Install Windows Server Roles and Features.
3. Install the Microsoft Exchange Management Tools.
4. Create a new Single Mailbox Recovery ExtractWizard Topology Service.
5. Configure IIS for Exchange PowerShell remote access.
6. Create a new Single Mailbox Recovery ExtractWizard Replication Service.

Chapter 10: Using the Emulation Method with EMC NetWorker

REQUIREMENTS:

- If creating an isolated domain controller:
  - A computer capable of running Windows Server 2008 x64 or Windows Server 2008 R2.
  - Windows Server 2008 x64 or Windows Server 2008 R2 Installation media.

  Note: *This machine* ***can*** *be used to run Single Mailbox Recovery ExtractWizard.*
- A computer to run Single Mailbox Recovery ExtractWizard (not needed if running Single Mailbox Recovery ExtractWizard on the isolated domain controller):
  - Computer must be running Microsoft Windows Server 2008 x64 or 2008 R2.
  - Computer must be joined to the isolated domain.
- Microsoft Exchange Server 2010 installation media.

To configure EMC NetWorker Server 7.6 with NMM for Microsoft Exchange Server 2010 using the Single Mailbox Recovery ExtractWizard Advanced Method

1. ***If you do not have an isolated domain configured for Microsoft Exchange Server 2010***, do the following (if you do, continue to step 2):
   a. Set up an isolated domain controller. The new domain should be in a separate Active Directory forest.
   b. Prepare Active Directory for Microsoft Exchange Server using the Microsoft Exchange Server 2010 installation CD and typing the following in the command window:

   ```
   setup /PrepareAD /OrganizationName: "organizationname"
   ```

   Note: *For more information, see Step 3 at http://technet.microsoft.com/en-us/library/bb125224.aspx.*

2. On the computer running Single Mailbox Recovery ExtractWizard, open the Microsoft Windows PowerShell Modules window and install additional features and roles by running the following:
   - **For Windows Server 2008:**
     `ServerManagerCmd -i Web-Server Web-Basic-Auth Web-Windows-Auth Web-Metabase Web-Net-Ext Web-Lgcy-Mgmt-Console WAS-Process-Model RSAT-Web-Server Web-ISAPI-Ext Web-Digest-Auth Web-Dyn-Compression Net-HTTP-Activation RPC-Over-HTTP-Proxy`
   - **For Windows Server 2008 R2:**
     In PowerShell, enter the command `ImportSystemModules`, followed by:
     `Add-WindowsFeature RSAT-ADDS,Web-Server,Web-Basic-Auth,Web-Windows-Auth,Web-Metabase,Web-Net-Ext,Web-Lgcy-Mgmt-Console,WAS-Process-Model,RSAT-Web-Server,Web-ISAPI-Ext,Web-Digest-Auth,Web-Dyn-Compression,NET-HTTP-Activation,RPC-Over-HTTP-Proxy`
3. Run **setup.exe** to install Management tools from the Microsoft Exchange Server 2010 Setup wizard.
   a. Select **Automatically install Windows Server roles and features required for Exchange Server**.

b. At the end of the installation, clear **Finalize this installation using the Exchange Management Console**, then click **Finish** and **Close**.

4. Open the **Active Directory Users and Computers** management console in Administrative Tools and add the computer running Single Mailbox Recovery ExtractWizard to the **Exchange Servers** group by doing the following:
   a. Select the **Microsoft Exchange Security Groups** item and double-click **Exchange Servers**.
   b. In the **Exchange Servers Properties** dialog box, click the **Members** tab, and then click **Add**.
   c. In the **Select Users, Contacts, Computers, or Groups** dialog box, click **Object Types**.
   d. In the **Object Types** dialog box, select **Computers** and click **OK**.
   e. On the **Select Users, Contacts, Computers, or Groups** dialog box, enter the name of the computer and click **OK**. The computer running Single Mailbox Recovery ExtractWizard now appears in the Members tab of the Exchange Servers Properties dialog box.
   f. Click **OK**.

   Note: *You may need to reboot after this step to continue.*

5. Merge over InetSrv changes by doing the following:
   a. Copy **wsmanconfig_schema.xml** from **C:\Windows\System32** to **C:\Windows\System32\inetsrv\config\schema**.
   b. Using Notepad, manually add the following to the **C:\Windows\System32\inetsrv\config\applicationHost.config** file in the **"<sectionGroup name ="system.webServer">" section group**:
   ```
   <section name="system.management.wsmanagement.config"
   overrideModeDefault="Allow" />
   ```
   c. Save the changes.

   Note: *For more information, see http://blogs.msdn.com/b/powershell/archive/2009/04/10/configuring-powershell-for-remoting-part-2-fan-in.aspx*

   d. In PowerShell, enter the following commands:
      - `ImportSystemModules`
      - `C:\Windows\system32\inetsrv\appcmd.exe unlock config -section:system.webServer/modules`
      - `C:\Windows\system32\inetsrv\appcmd.exe install module /name:kerbauth /image:"C:\Program Files\Microsoft\Exchange Server\V14\Bin\kerbauth.dll" /add:false`
      - `C:\Windows\system32\inetsrv\appcmd.exe install module /name:WSMan /image:C:\Windows\system32\wsmsvc.dll /add:false`

6. Set up and start the topology service by doing the following:
   a. From Microsoft Exchange Server 2010, copy the following from **C:\Program Files\Microsoft\Exchange Server\V14\bin** to the Single Mailbox Recovery

ExtractWizard computer location **C:\Program Files\Microsoft\Exchange Server\V14\Bin**:

- DSACCESS.dll
- MSExchangeADTopologyService.exe

b. Create the topology service by running the following from a non-PowerShell command prompt:

Note: Include spaces after `start=`, `binPath=`, and `displayName=`

```
sc create ExtractWizardADTopology start= auto binPath= "C:\Program
Files\Microsoft\Exchange
Server\V14\Bin\MSExchangeADTopologyService.exe" DisplayName=
"ExtractWizard Active Directory Topology"
```

c. Manually start the topology service by doing one of the following:

- Enter **net start ExtractWizardADTopology**.
- Click **Administrative Tools**, then click **Services**, and then start the topology service.

Note: If the topology service takes a long time to start, there may either be an issue with your AD Server Object or you haven't added the computer to the Exchange Group from step 3 above.

7. Run Single Mailbox Recovery ExtractWizard with Emulation method for EMC NetWorker NMM and do the following:

a. On the Methods of Extraction page, select **Advanced Method**, select **EMC NetWorker NMM** in the drop-down list, and then click **Next**.

b. On the Connection Parameters page, select **Exchange Server 2010**, specify database name(s), and then click **Next**.

c. On the Destination Folder page, specify a location for the extracted files and click **Next**.

8. Set up PowerShell virtual directory by doing the following:

a. From Microsoft Exchange Server 2010, copy the **powershell** folder at **C:\Program Files\Microsoft\Exchange Server\V14\ClientAccess** to the Single Mailbox Recovery ExtractWizard computer location **C:\Program Files\Microsoft\Exchange Server\V14\ClientAccess**.

b. In the ClientAccess folder, open **powershell\WEB.CONFIG**.

- Search and Replace any %ExchangeInstallPath% with your Exchange Server install path (**C:\Program Files\Microsoft\Exchange Server\V14**).

c. Run the new-PowerShellVirtualDirectory cmdlet by entering the following commands in PowerShell:

- `ImportSystemModules`
- `new-PowerShellVirtualDirectory -name PowerShell -BasicAuthentication:$false -WindowsAuthentication:$false -RequireSSL:$false;`

d. In either in command window or PowerShell window, enter `iisreset`.

e. Test PowerShell IIS setup by starting the Exchange Management Shell and ensure that it can connect to the local server.

9. Set up and start the replication service by doing the following:
   a. From Microsoft Exchange Server 2010, copy the following files at **C:\Program Files\Microsoft\Exchange Server\V14\Bin** to the Single Mailbox Recovery ExtractWizard computer location **C:\Program Files\Microsoft\Exchange Server\V14\Bin**:
      - Microsoft.Exchange.Cluster.ReplicaVssWriter.dll
      - ReplayCrimsonMsg.dll
      - MSExchangeRepl.exe
      - MSExchangeRepl.exe.config
   b. Create the service by running the following from a non-PowerShell command prompt:

   Note: *Include spaces after* `start=`, `depend=`, `binPath=` *and* `displayName=`

   ```
   sc create ExtractWizardReplication start= auto depend=
   ExtractWizardADTopology binPath= "C:\Program Files\Microsoft\Exchange
   Server\V14\Bin\MSExchangeRepl.exe" displayname= "ExtractWizard
   Replication"
   ```

10. Manually start the replication service by doing one of the following:
    - Enter **net start ExtractWizardReplication**.
    - Click **Administrative Tools**, then click **Services** and then start ExtractWizard Replication.

You can now install the EMC NetWorker Client and NMM and then select the data you want to restore. For more information, see **"EMC NetWorker Server 7.6 with NMM v2.3 with Microsoft Exchange Server 2007 or 2010" on page 151**.

Configuring EMC NetWorker Server 7.6 with NMM for Microsoft Exchange Server 2007

In order to restore NMM backups with EMC NetWorker Server 7.6 to a computer without Microsoft Exchange Server installed, you need to configure the computer to work with EMC NetWorker Server 7.6, NMM, and Single Mailbox Recovery ExtractWizard. This setup requires a separate Active Directory domain, the operating system installation media, and the Microsoft Exchange Server installation media.

Note: *The user performing these steps and running Single Mailbox Recovery ExtractWizard needs to have sufficient Active Directory permissions. For more information, see* ***"Single Mailbox Recovery ExtractWizard Emulation and Active Directory Objects" on page 188***.

OVERVIEW:

In this setup, you will do the following:

1. Create an isolated domain configured with the Microsoft Exchange Server 2007 Active Directory schema.

2. Install the Microsoft Exchange Server Management Tools.
3. Create a new Single Mailbox Recovery ExtractWizard Topology Service.

REQUIREMENTS:

- If creating an isolated domain controller:
  - A computer capable of running Windows Server 2008 x64 or Windows Server 2008 R2.
  - Windows Server 2008 x64 or Windows Server 2008 R2 Installation media.

  Note: *This machine **can** be used to run Single Mailbox Recovery ExtractWizard.*

- A computer running Single Mailbox Recovery ExtractWizard (not needed if running Single Mailbox Recovery ExtractWizard on the isolated domain controller):
  - Computer must be running Microsoft Windows Server 2008 x64 or 2008 R2.
  - Computer must be joined to the isolated domain.
- Microsoft Exchange Server 2007 installation media.

To configure EMC NetWorker Server 7.6 with NMM for Microsoft Exchange Server 2007 using the Single Mailbox Recovery ExtractWizard Advanced Method:

1. ***If you do not have an isolated domain configured for Microsoft Exchange Server 2007***, do the following (if you do, continue to step 2):
   a. Set up an isolated domain controller. The new domain should be in a separate Active Directory forest.
   b. Prepare Active Directory for Microsoft Exchange Server using the Microsoft Exchange Server 2007 installation CD and typing the following in the command window:

   ```
   setup /PrepareAD /OrganizationName: "organizationname"
   ```

   Note: *For more information, see Step 3 at http://technet.microsoft.com/en-us/library/bb125224(EXCHG.80).aspx.*

2. On the computer running Single Mailbox Recovery ExtractWizard, run **setup.exe** to install Management tools from the Microsoft Exchange Server 2007 Setup wizard.
   a. Select **Custom Exchange Server Installation**, then select the **Management Tools** check box.
   b. At the end of the installation, clear **Finalize this installation using the Exchange Management Console**, then click **Finish** and **Close**.
3. Open the **Active Directory Users and Computers** management console in Administrative Tools and add the computer running Single Mailbox Recovery ExtractWizard to the **Exchange Servers** group by doing the following:
   a. Select the **Microsoft Exchange Security Groups** item and double-click **Exchange Servers**.
   b. In the **Exchange Servers Properties** dialog box, click the **Members** tab, and then click **Add**.
   c. In the **Select Users, Contacts, Computers, or Groups** dialog box, click **Object Types**.

d. In the **Object Types** dialog box, select **Computers** and click **OK**.

e. On the **Select Users, Contacts, Computers, or Groups** dialog box, enter the name of the computer and click **OK**. The computer running Single Mailbox Recovery ExtractWizard now appears in the Members tab of the Exchange Servers Properties dialog box.

f. Click **OK**.

Note: *You may need to reboot after this step to continue.*

4. Set up and start the topology service by doing the following:

   a. From Microsoft Exchange Server 2007, copy the following from **C:\Program Files\Microsoft\Exchange Server\bin** to the Single Mailbox Recovery ExtractWizard computer location **C:\Program Files\Microsoft\Exchange Server\Bin**:

      - DSACCESS.dll
      - MSExchangeADTopologyService.exe

   b. Create the topology service by running the following from a non-PowerShell command prompt:

      Note: *Include spaces after* `start=`, `binPath=` *and* `displayName=`.

      ```
      sc create ExtractWizardADTopology start= auto binPath= "C:\Program
      Files\Microsoft\Exchange
      Server\Bin\MSExchangeADTopologyService.exe" DisplayName=
      "ExtractWizard Active Directory Topology"
      ```

   c. Manually start the topology service by doing one of the following:

      - Enter **net start ExtractWizardADTopology**
      - Click **Administrative Tools**, then click **Services**, and then start the topology service.

        Note: *If the topology service takes a long time to start, there may either be an issue with your AD Server Object or you haven't added the computer to the Exchange Group from step 3 above.*

5. Run Single Mailbox Recovery ExtractWizard with Emulation method for EMC NetWorker NMM and do the following:

   a. On the Methods of Extraction page, select **Advanced Method**, select **EMC NetWorker NMM** in the drop-down list, and then click **Next**.

   b. On the Connection Parameters page, select **Exchange Server 2007**, specify the storage group name(s) and database name(s), and then click **Next**.

   c. On the Destination Folder page, specify a location for the extracted files and click **Next**.

You can now install the EMC NetWorker Client and NMM and then select the data you want to restore. For more information, see **"EMC NetWorker Server 7.6 with NMM v2.3 with Microsoft Exchange Server 2007 or 2010" on page 151**.

Chapter 11: Using the Emulation Method with CommVault Simpana and Galaxy Backup & Recovery

Overview

This chapter explains how to emulate various releases of Microsoft Exchange Server while using CommVault Simpana and Galaxy Backup & Recovery as your backup client.

CommVault Simpana 9.0 and Microsoft Exchange Server 2010

Important: *CommVault Simpana will not install the Microsoft Exchange Server agent onto a non-server OS. The Exchange agent is required for Single Mailbox Recovery ExtractWizard.*

Note: *CommVault Simpana 9.0 running on Microsoft Windows Server 2008 x64 and Windows Server 2008 R2 is supported for Advanced Method for Microsoft Exchange Server 2010.*

Use the following steps to emulate Microsoft Exchange Server 2010 with CommVault Simpana 9.0:

1. On the computer that will run Single Mailbox Recovery ExtractWizard, do the following
   - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.
2. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to the next step.*
3. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
4. Click **Next**.
5. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

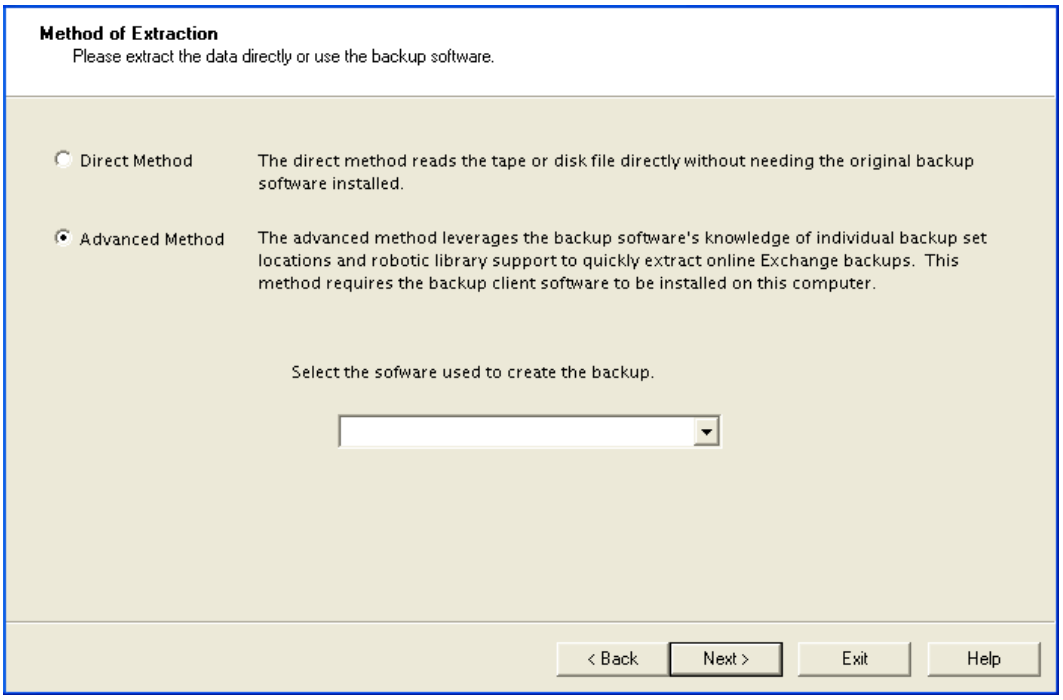

Figure 11-1: Method of Extraction Page for Advanced Method

6. Select **CommVault Simpana** from the drop-down list and click **Next**.
7. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select **Exchange Server 2010** from the drop-down list.

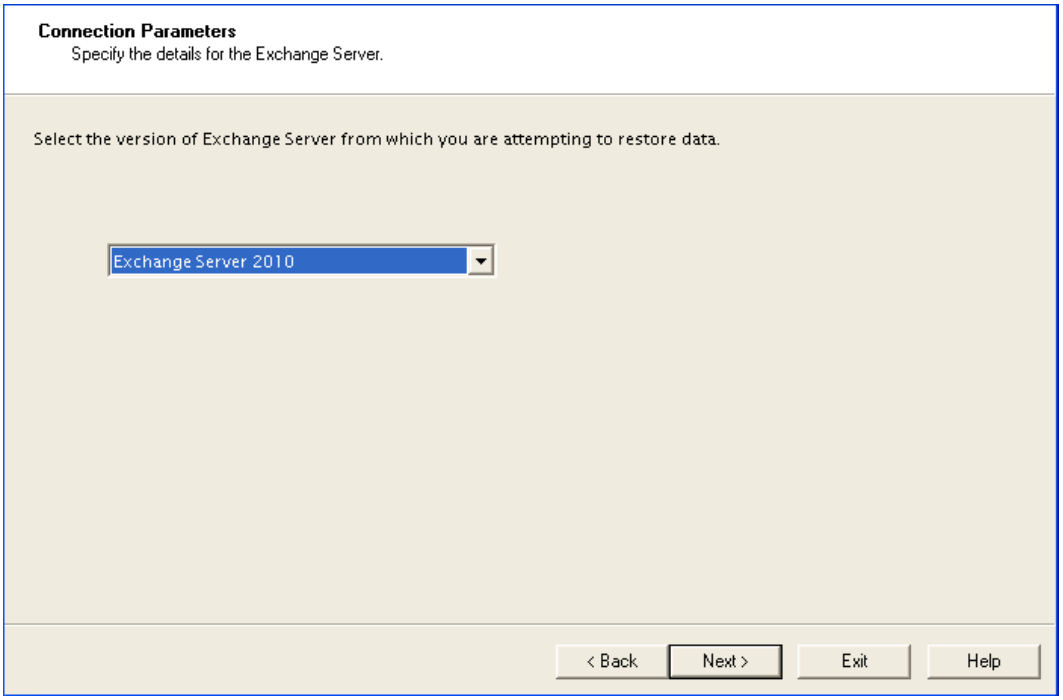

Figure 11-2: Selecting Exchange Server 2010 Connection Parameters

8. Click **Next**.

9. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
10. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to start CommVault Simpana.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

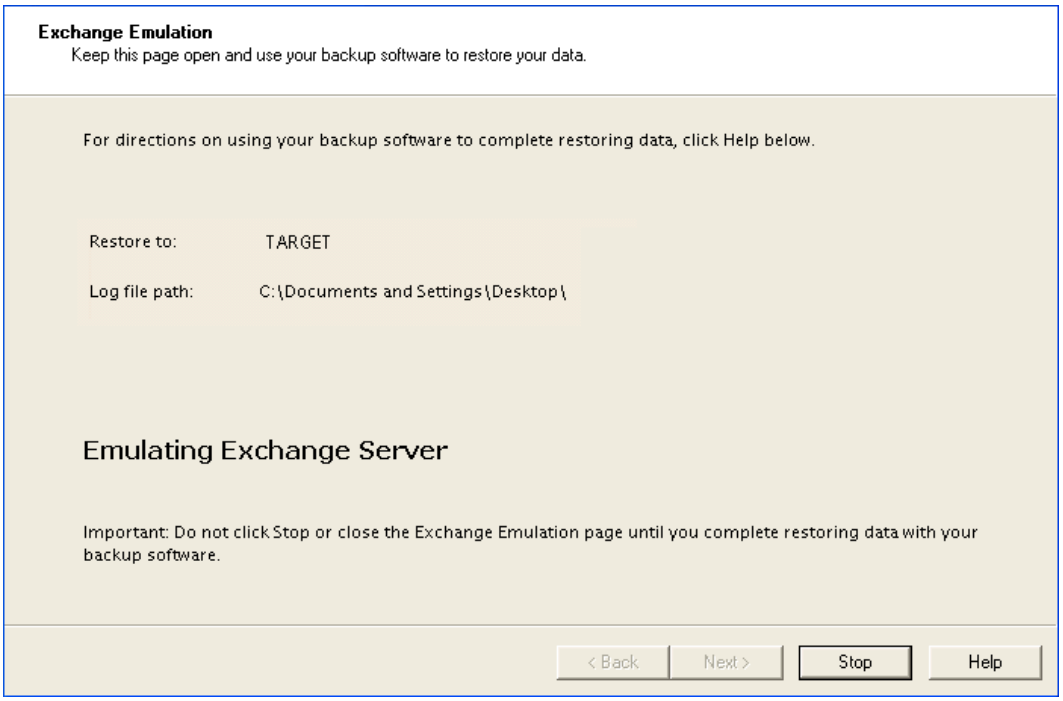

Figure 11-3: Exchange Emulation Page

11. Make sure "Windows File System iDataAgent" and "Exchange Database iDataAgent" are installed and match the Windows Server version you are running. You can select to "Install Agents for Restore Only" for operation with Single Mailbox Recovery ExtractWizard.

    Note:

    - *You must run Single Mailbox Recovery ExtractWizard in Advanced Method while running the CommVault installer.*
    - *CommVault Simpana will not install the Exchange agent onto a non-server OS. The Exchange agent is required for Single Mailbox Recovery ExtractWizard to work.*
12. If you have already installed the Exchange Database iDataAgent for Exchange Server for a previous version of Microsoft Exchange Server and you want to emulate Microsoft Exchange Server 2010, you must reinstall the Exchange Database iDataAgent with Single

Mailbox Recovery ExtractWizard running the correct emulation type. That is, the **Exchange Server 2010**option must be selected on the **Connection Parameters** page).

13. Start CommCell Console on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard.
14. **For CommVault Simpana 9.0** *where the restore target computer is in a different domain than the server being restored,* do the following:
    a. On the **CommCell Console** window, in the **CommCell Browser**, right-click the Microsoft Exchange Server you want to restore, click **All Tasks**, and then click **Properties**.
    b. On the **Client Computer Properties** dialog box, select the **Job Configuration** tab, and then click the **User Name/Password**.
    c. In the **Change User Account** dialog box, enter in the login credentials for the restore target computer.
15. On the **CommCell Console** window, in the **CommCell Browser**, right-click the Microsoft Exchange Server you want to restore, click **All Tasks**, and then click **Browse & Recover**.
16. On the **Browse Options** dialog box, choose one of the following to specify the appropriate browse time for your recovery:
    - Browse the Latest Data
    - Specify Browse Time
17. On the **Browse Options** dialog box, select your Microsoft Exchange Server from the **Client Computer** drop-down list.
18. Click **OK**. A tab appears listing the Microsoft Exchange Server with the data available to restore.
19. In the **Current Selected** pane, select the Microsoft Exchange Server databases to restore.

    Note: *You can only restore data from under the Exchange Database level.*

20. Click **Recover All Selected**.
21. On the **Restore Options for All Selected Items** dialog box, on the **Destination client** drop-down list, select the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
22. For each source database do the following:
    a. Double-click the **Destination DB** cell, and then click the **...** button for each source database.
    b. On the **Choose Storage Group** dialog box, select **Restore to Non-Exchange Location <Out of Place, No Recover>** and click **OK**.
    c. Double-click the **Out of Place Location** cell, and then click the **...** button for each database.
    d. On the **Client Browse** dialog box, select the folder where the Microsoft Exchange Server database files will be restored and click **OK**.
    e. Click **OK** to close the **Restore Options for All Selected Items** dialog box.
23. When CommVault completes restoring data, you can close the CommCell Console.
24. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

CommVault Simpana 9.0 and Galaxy Backup & Recovery 6.1, 7.0, or 8.0 with Microsoft Exchange Server 2007

Important: *CommVault Simpana and Galaxy & Recovery will not install the Microsoft Exchange Server agent onto a non-server OS. The Exchange agent is required for Single Mailbox Recovery ExtractWizard.*

Note: *CommVault Simpana 9.0 running on Microsoft Windows Server Windows Server 2008 x64 and Windows Server 2008 R2 is supported for Advanced Method for Microsoft Exchange Server 2007.*

Use the following steps to emulate Microsoft Exchange Server 2007 with CommVault and Simpana 9.0 and Galaxy Backup & Recovery 6.1, 7.0 or 8.0:

1. On the computer that that will run Single Mailbox Recovery ExtractWizard, do the following
   - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.
2. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to the next step.*

3. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
4. Click **Next**.
5. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

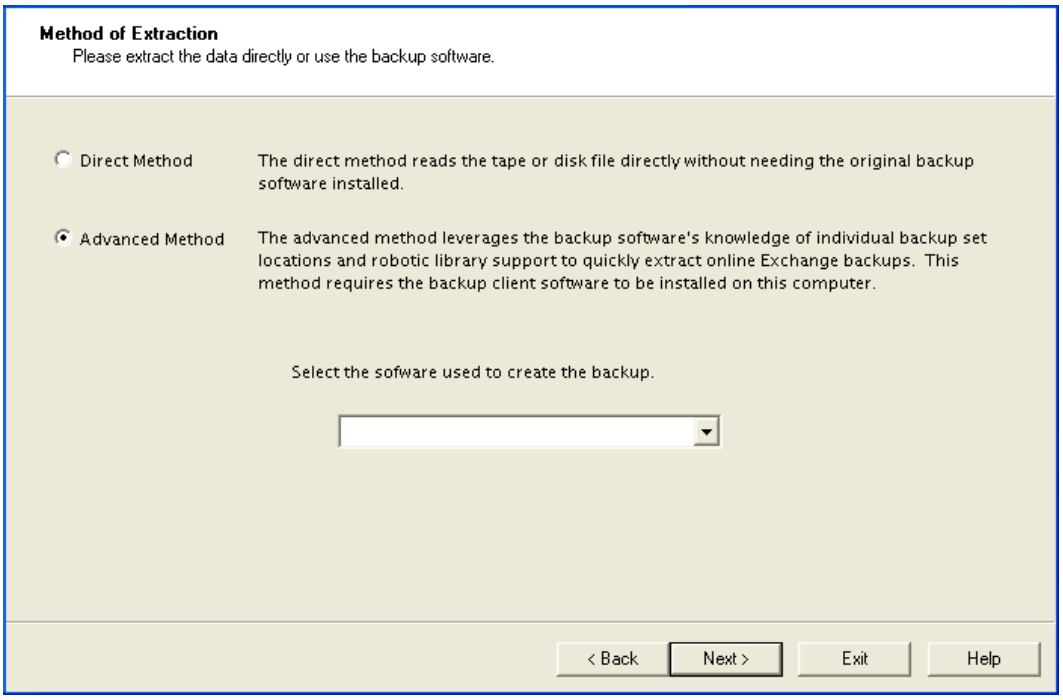

Figure 11-4: Method of Extraction Page for Advanced Method

6. Select **CommVault Simpana** from the drop-down list and click **Next**.
7. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select **Exchange Server 2007** from the drop-down list.

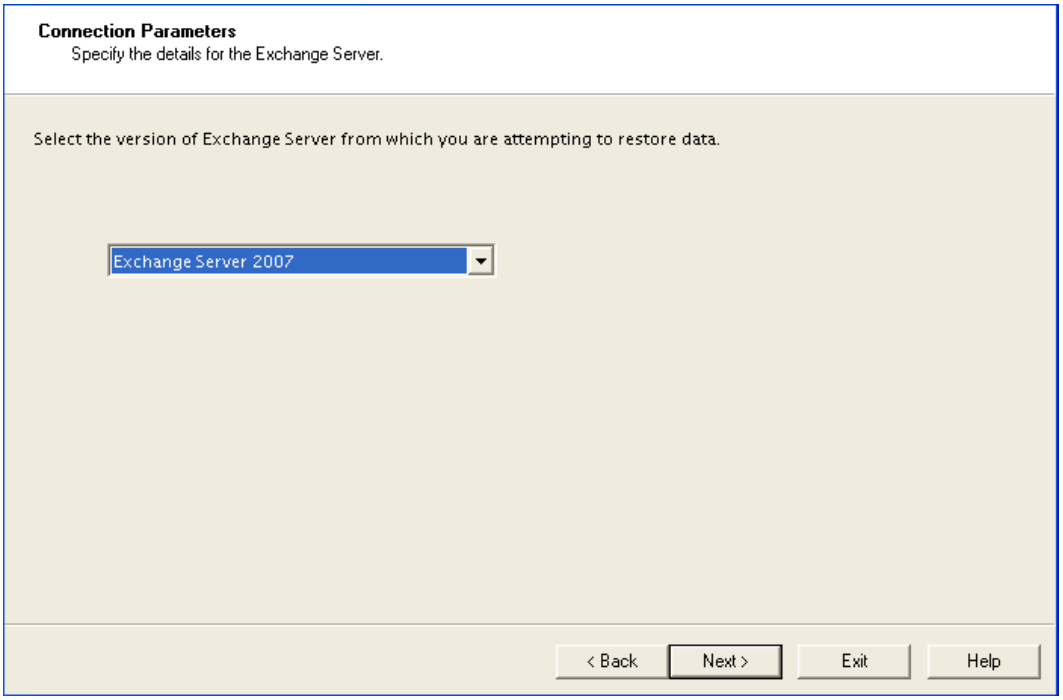

Figure 11-5: Selecting Exchange Server 2007 Connection Parameters

8. Click **Next**.

9. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
10. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to start CommVault Simpana.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

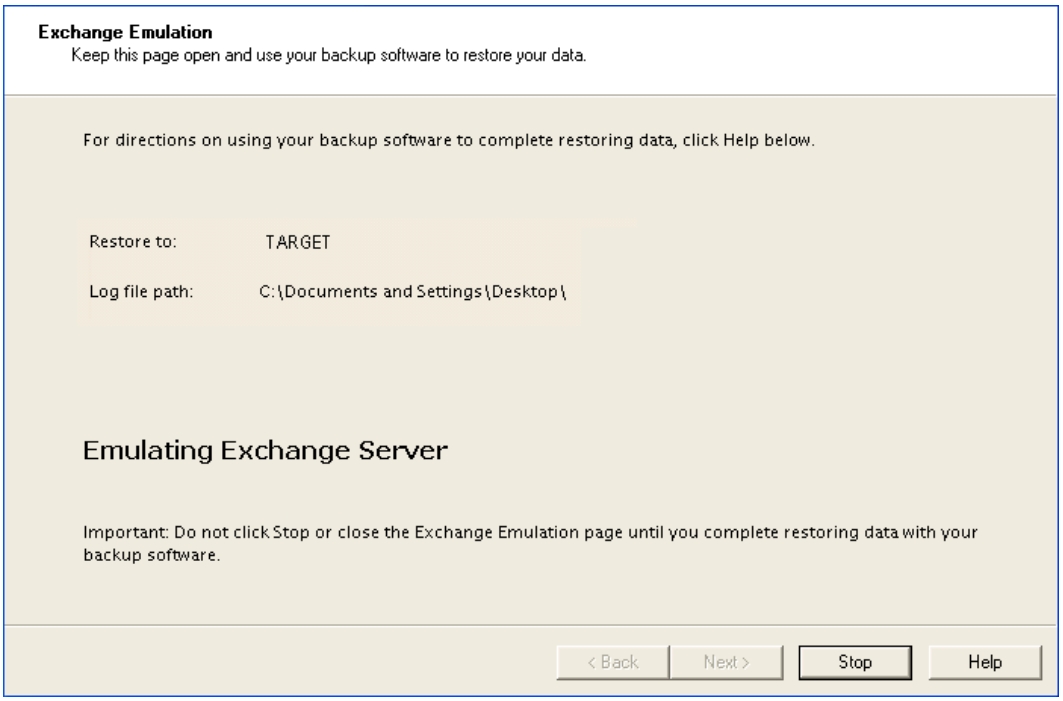

Figure 11-6: Exchange Emulation Page

Tip: *You can copy the "Log file path" information on this page and paste it into CommVault when prompted later in this section.*

11. Do one of the following:
    - **For CommVault Simpana 9.0:** Make sure "Windows File System iDataAgent" and "Exchange Database iDataAgent" are installed and match the Windows Server version you are running. You can select to "Install Agents for Restore Only" for operation with Single Mailbox Recovery ExtractWizard.
    - **For CommVault Galaxy Backup & Recovery 8.0:** Make sure "iDA for Windows Server (year)" and "iDA for Exchange Databases" are installed and match the Windows Server version you are running.

- **For CommVault Galaxy Backup & Recovery 7.0:** Make sure "iDA for Windows Server (year)" and "iDA for Exchange Server (year)" match the Windows Server and Exchange Server versions you are running.
- **For CommVault Galaxy Backup & Recovery 6.1:** Make sure "iDA for Windows Server (year)" and "iDA for Exchange Server (year)" match the Windows Server and Exchange Server versions you are running.

  Note: *For Microsoft Exchange Server 2007, CommVault uses "iDA for Exchange Server 2007 Database."*

Note:

- *You must run Single Mailbox Recovery ExtractWizard in Advanced Method while running the CommVault installer.*
- *CommVault Simpana will not install the Exchange agent onto a non-server OS. The Exchange agent is required for Single Mailbox Recovery ExtractWizard to work.*

12. If you have already installed the Exchange Database iDataAgent for Microsoft Exchange Server 5.5 and you want to emulate Exchange Server 2007, you must reinstall the Exchange Database iDataAgent with Single Mailbox Recovery ExtractWizard running the correct emulation type. That is, the **Exchange Server 2007** option must be selected on the **Connection Parameters** page).
13. Start CommCell Console on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard. The **CommCell Console** window appears.
14. In the **CommCell Browser**, right-click the Microsoft Exchange Server you want to restore, and do one of the following:
    - **For CommVault Simpana**: click **All Tasks** and click **Browse & Recover**.
    - **For CommVault Galaxy Backup & Recovery**: click **Browse & Recover**.
15. On the **Browse Options** dialog box, choose one of the following to specify the appropriate browse time for your recovery:
    - Browse the Latest Data
    - Specify Browse Time
16. In the **Browse Options** dialog box, select your Microsoft Exchange Server from the **Client Computer** drop-down list.
17. Click **OK**. A tab appears listing the Microsoft Exchange Server with the data available to restore.
18. In the **Current Selected** pane, select the storage groups to restore.

    Note: *You can only restore data from under the Exchange Database level.*
19. Click **Recover All Selected**.
20. On the **Restore Options for All Selected Items** dialog box, do one of the following:
    - **For CommVault Simpana 9.0**: On the **Destination client** drop-down list, select the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.

- **For CommVault 8.0**: On the **Destination Computer** drop-down list, select the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
- **For CommVault 6.1 and 7.0**: Select the **Restore to a Different Client** option, then on the **Select a Client** drop-down list, select the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
- **For restoring VSS backups**: For each source database do the following:
    a. Double-click the **Destination DB** cell, and then click the **...** button for each source database.
    b. On the Choose Storage Group dialog box, select **Restore to Non-Exchange Location <Out of Place, No Recover>** and click **OK**.
    c. Double-click the **Out of Place Location** cell, and then click the ... button for each database.
    d. On the Client Browse dialog box, select the folder where the Microsoft Exchange Server database files will be restored and click **OK**.
    e. Click **OK** to close the **Restore Options for All Selected Items** dialog box.

21. When CommVault completes restoring data, you can close the CommCell Console.
22. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

CommVault Simpana 9.0 and Galaxy Backup & Recovery 5.0, 5.9, 6.1, 7.0, or 8.0 with Microsoft Exchange Server 2000 or 2003

Important: *CommVault Simpana and Galaxy Backup & Recovery will not install the Microsoft Exchange Server agent onto a non-server OS. The Exchange agent is required for Single Mailbox Recovery ExtractWizard.*

Note: *CommVault Simpana 9.0 running on Microsoft Windows Server 2008 x86 is supported for Advanced Method for Microsoft Exchange Server 2000 and 2003.*

Use the following steps to emulate Microsoft Exchange Server 2000 or 2003 with CommVault and Simpana 9.0 and Galaxy Backup & Recovery 5.0, 5.9, 6.1, 7.0 or 8.0:

1. On the computer that that will run Single Mailbox Recovery ExtractWizard, do the following
    - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.
2. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to the next step.*

3. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
4. Click **Next**.
5. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

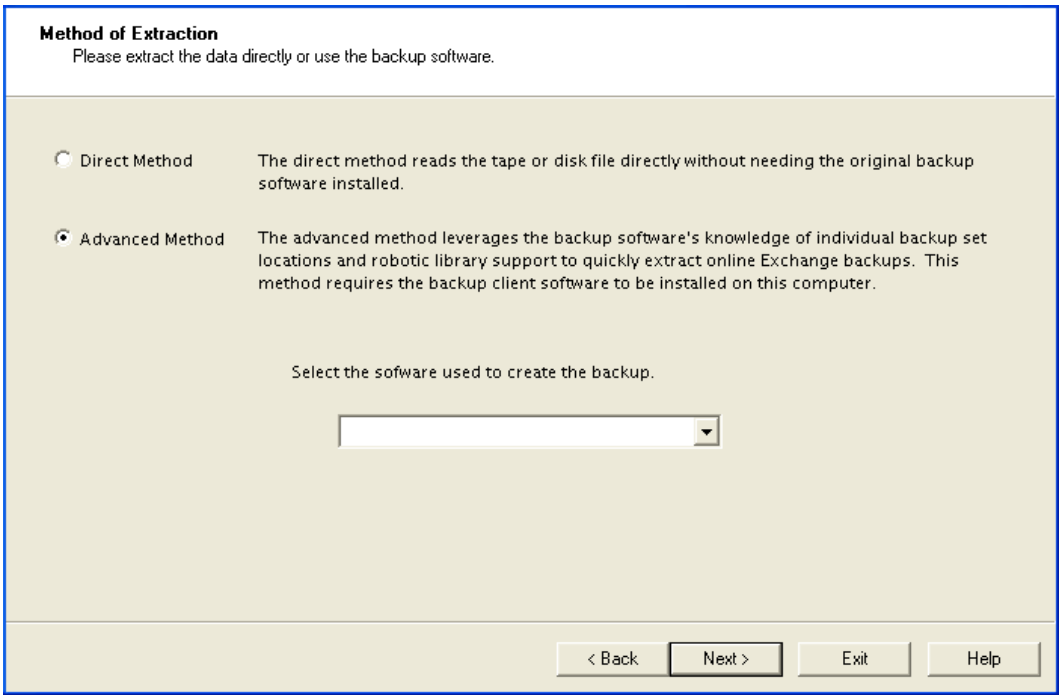

Figure 11-7: Method of Extraction Page for Advanced Method

6. Select **CommVault Simpana** from the drop-down list and click **Next**.
7. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select **Exchange Server 2000 or 2003** from the drop-down list.

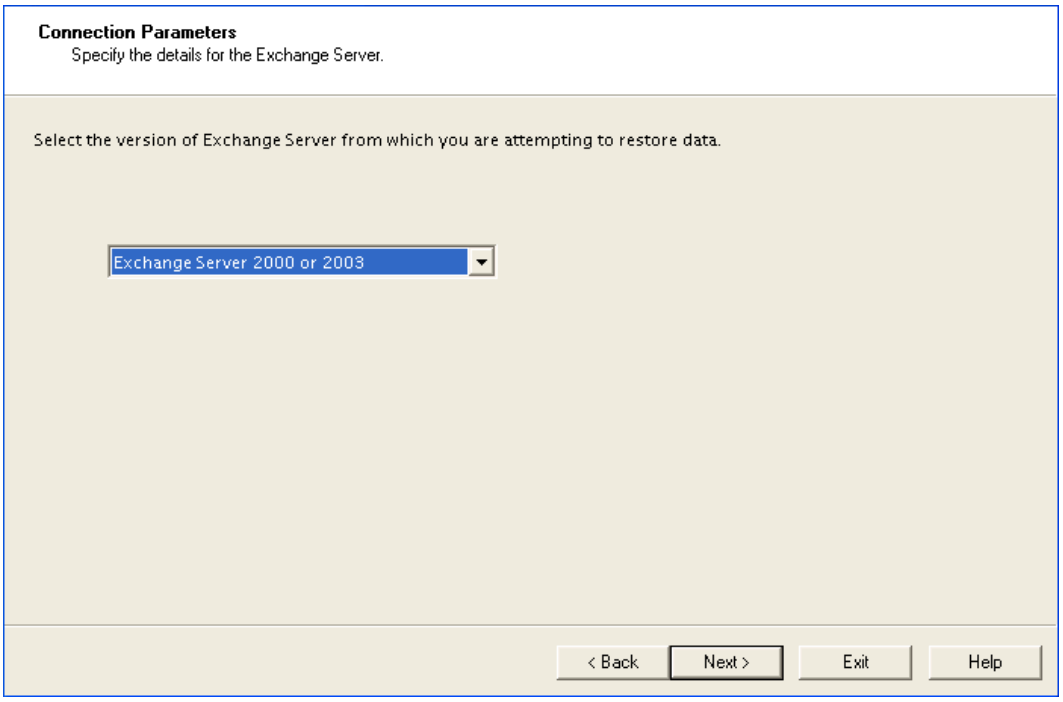

Figure 11-8: Selecting Exchange Server 2000 or 2003 Connection Parameters

8. Click **Next**.
9. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
10. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to start CommVault Simpana.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

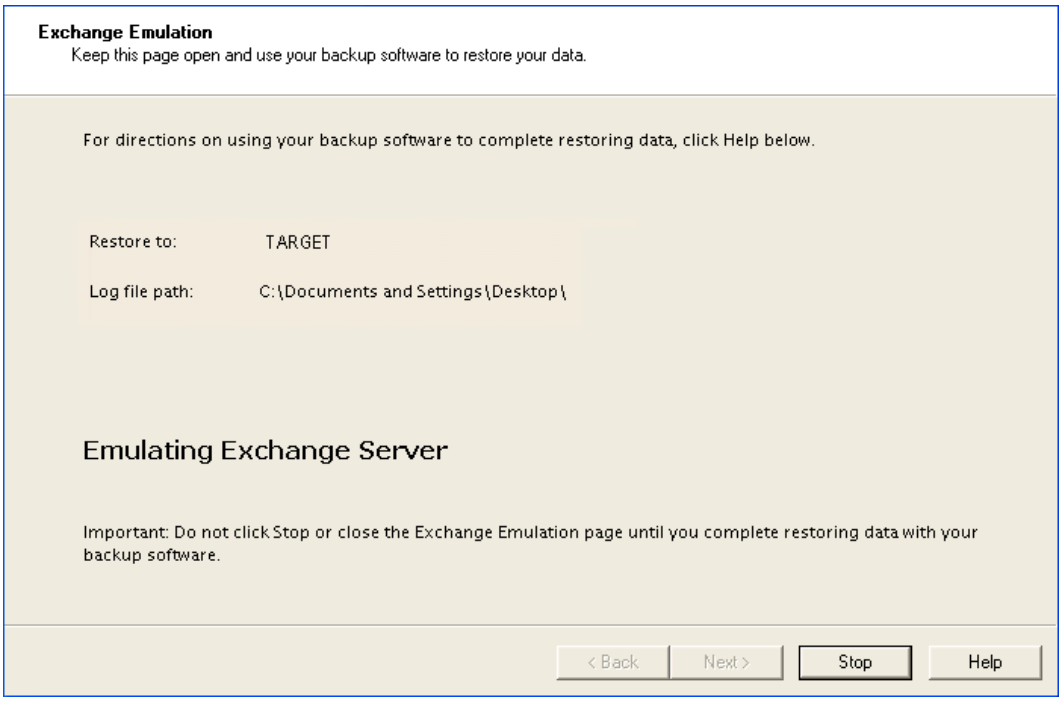

Figure 11-9: Exchange Emulation Page

11. Do one of the following:
    - **For CommVault Simpana 9.0:** Make sure "Windows File System iDataAgent" and "Exchange Database iDataAgent" are installed and match the Windows Server version you are running. You can select "Install Agents for Restore Only" for operation with Single Mailbox Recovery ExtractWizard.
    - **For CommVault Galaxy & Recovery 8.0:** Make sure "iDA for Windows Server (year)" and "iDA for Exchange Server" are installed and match the Windows Server version you are running.
    - **For CommVault Galaxy & Recovery 7.0:** Make sure "iDA for Windows Server (year)" and "iDA for Exchange Server (year)" are installed and match the Windows Server and Exchange Server versions you are running.
    - **For CommVault Galaxy & Recovery 6.1:** Make sure "iDA for Windows Server (year)" and "iDA for Exchange Server (year)" are installed and match the Windows Server and Exchange Server versions you are running.
    - **For CommVault Galaxy & Recovery 5.9:** Make sure "iDA for Windows File Systems" software and "iDA for Exchange Database" software are installed on the computer running Single Mailbox Recovery ExtractWizard.
    - **For CommVault Galaxy & Recovery 5.0:** Make sure "CommVault Systems File System iDataAgent" software and "CommVault Systems Exchange Database iDataAgent" software are installed on the computer running Single Mailbox Recovery ExtractWizard.

Note:

- *You must run Single Mailbox Recovery ExtractWizard in Advanced Method while running the CommVault installer.*
- *CommVault Simpana will not install the Exchange agent onto a non-server OS. The Exchange agent is required for Single Mailbox Recovery ExtractWizard to work.*

12. If you have already installed the Exchange Database iDataAgent for Microsoft Exchange Server 5.5 and you want to emulate Microsoft Exchange Server 2000 or 2003, you must reinstall the Exchange Database iDataAgent with Single Mailbox Recovery ExtractWizard running the correct emulation type. That is, the **Exchange Server 2000 or 2003** option must be selected on the **Connection Parameters** page).
13. Start CommCell Console on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard.
14. On the **CommCell Console** window, in the **CommCell Browser**, right-click the Microsoft Exchange Server you want to restore and click **Browse & Recover**.
15. On the **Browse Options** dialog box, choose one of the following to specify the appropriate browse time for your recovery:
    - Browse the Latest Data
    - Specify Browse Time
16. In the **Browse Options** dialog box, select your Exchange Server from the **Client Computer** drop-down list.
17. Click **OK** to view the browse data for your Exchange Server.
18. Select the storage groups to restore.

    Note: *You can only restore data from under the Exchange Database level.*

19. Click **Recover All Selected**.
20. On the **Restore Options for All Selected Items** dialog box, do one of the following:
    - **For CommVault Simpana 9.0:** In the **Destination client** drop-down list, select the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard, select the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
    - **For CommVault Galaxy Backup & Recovery 8.0:** In the **Destination Computer** drop-down list, select the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
    - **For CommVault Galaxy Backup & Recovery 6.1 and 7.0:** Select the **Restore to a Different Client** option, and then in the **Select a Client** drop-down list, select the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
21. Click **OK** to close the **Restore Options for All Selected Items** dialog box.
22. When CommVault completes the restore, you can close the CommCell Console.
23. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

CommVault Galaxy Backup & Recovery 5.0 or 5.9 with Microsoft Exchange Server 5.5

Important: *CommVault Galaxy & Recovery will not install the Microsoft Exchange Server agent onto a non-server OS. The Exchange agent is required for Single Mailbox Recovery ExtractWizard to work.*

Use the following steps to emulate Microsoft Exchange Server 5.5 with CommVault Galaxy Backup & Recovery 5.0 or 5.9:

1. On the computer that will run Single Mailbox Recovery ExtractWizard, make sure edbbcli.dll is in the system path. The easiest way to make sure this is to copy edbbcli.dll to windows\system32. The edbbcli.dll file can be found on the Microsoft Exchange Server in the Microsoft Exchange Server\bin directory.
2. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 3.*

3. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
4. Click **Next**.
5. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

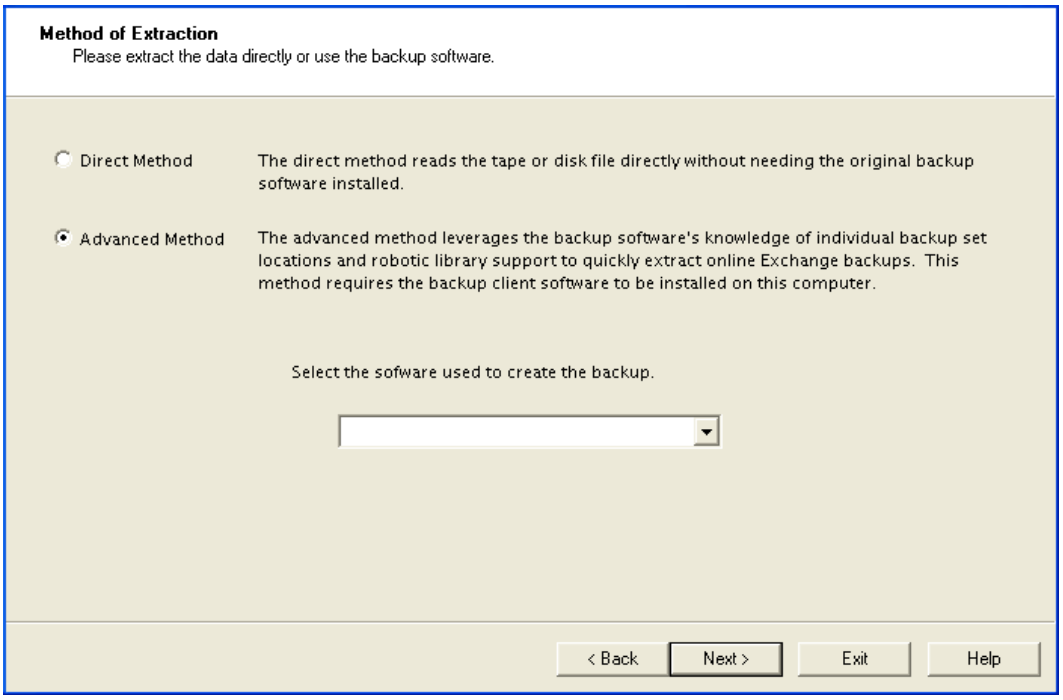

Figure 11-10: Method of Extraction Page for Advanced Method

6. Select **CommVault Simpana** from the drop-down list and click **Next**.
7. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select **Exchange Server 5.5** from the drop-down list.

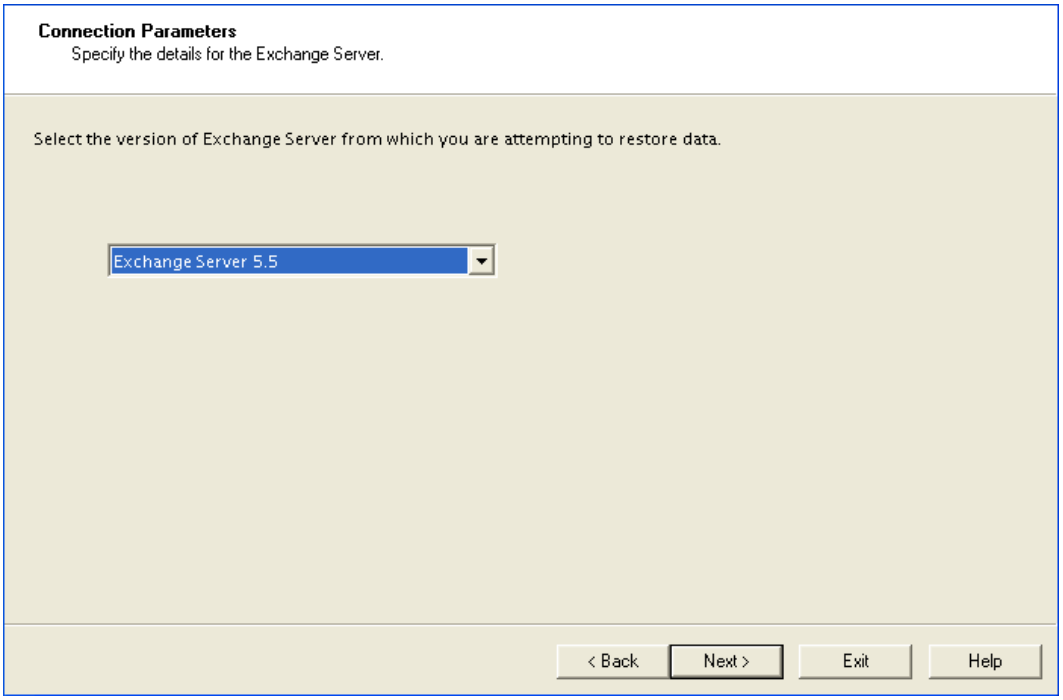

Figure 11-11: Selecting Exchange Server 5.5 Connection Parameters

8. Click **Next**.

9. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
10. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to start CommVault Simpana.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

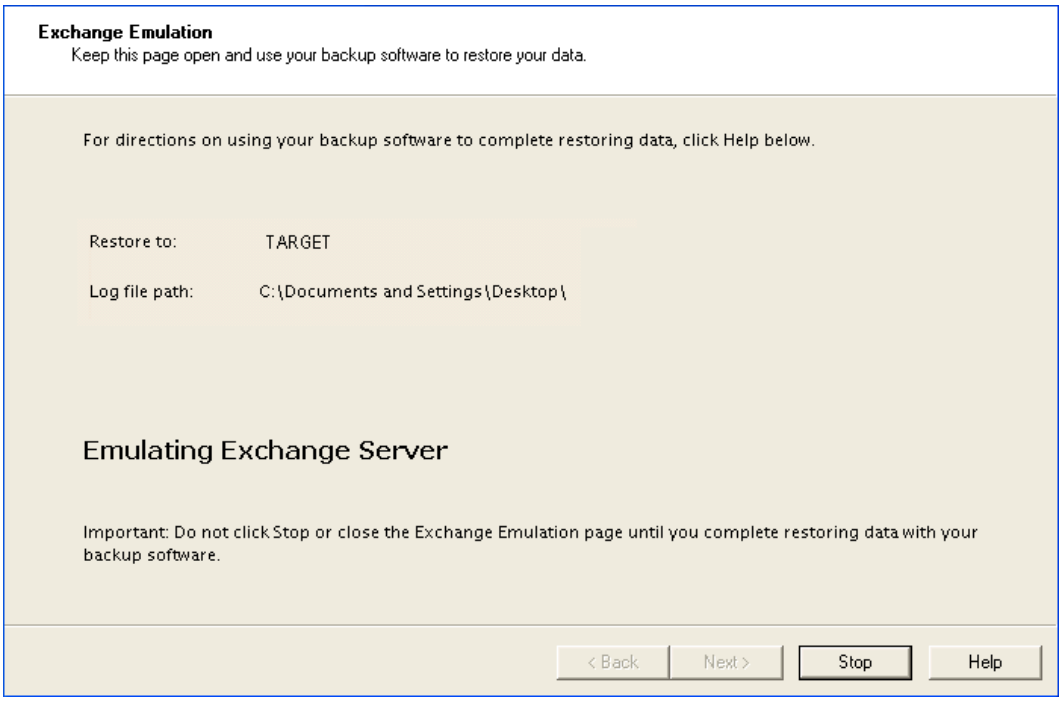

Figure 11-12: Exchange Emulation Page

Tip: *You can refer to the "Restore to" information on this page when verifying it in CommVault Galaxy Backup & Restore later in this section.*

11. Do one of the following:
    - **For CommVault Galaxy & Recovery 5.9:** Make sure "iDA for Windows File Systems" software and "iDA for Exchange Database" software are installed on the computer running Single Mailbox Recovery ExtractWizard.
    - **For CommVault Galaxy & Recovery 5.0:** Make sure "CommVault Systems File System iDataAgent" software and "CommVault Systems Exchange Database iDataAgent" software are installed on the computer running Single Mailbox Recovery ExtractWizard.

    Note:

- *You must run Single Mailbox Recovery ExtractWizard in Advanced Method while running the CommVault installer.*
- *CommVault Galaxy Backup & Recovery will not install the Exchange agent onto a non-server OS. The Exchange agent is required for Single Mailbox Recovery ExtractWizard to work.*

12. If you have already installed the Exchange Database iDataAgent for Microsoft Exchange Server 2000, 2003, and 2007 and you want to emulate Microsoft Exchange Server 5.5, you must reinstall the Exchange Database iDataAgent with Single Mailbox Recovery ExtractWizard running the correct emulation type. That is, the **Exchange Server 5.5** option must be selected on the **Connection Parameters** page.
13. Start CommCell Console on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard.
14. On the **CommCell Console** window, in the **CommCell Browser**, right-click the Microsoft Exchange Server you want to restore and click **Browse & Recover**.
15. On the **Browse Options** dialog box, choose one of the following to specify the appropriate browse time for your recovery:
    - Browse the Latest Data
    - Specify Browse Time
16. In the **Browse Options** dialog box, select your Exchange Server from the **Client Computer** drop-down list.
17. Click **OK** to view the browse data for your Exchange Server.
18. Select the Microsoft Exchange Server backup you want to restore.

    Note: *You can only restore data from under the Exchange Database level. You cannot restore the Directory (DSA item).*

19. Click **Recover All Selected**. The **Restore Options for All Selected Items** window appears.
20. Select the **Restore to a Different Client** option, and then in the **Select a Client** drop-down list, select the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
21. Click **OK**.
22. When CommVault completes the restore, you can close the CommCell Console.
23. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Chapter 12: Using the Emulation Method with UltraBac

Overview

This chapter explains how to emulate various releases of Microsoft Exchange Server while using UltraBac as your backup client.

UltraBac and Microsoft Exchange Server 2000 or 2003

Use the following steps to emulate Microsoft Exchange Server 2000 or 2003 with UltraBac:

1. On the computer that will run Single Mailbox Recovery ExtractWizard, do the following
   - Install the Microsoft Exchange Server System Management Tools for the appropriate version of Microsoft Exchange Server. Make sure the system path includes the bin folder in the Microsoft Exchange Server installation folder.

2. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   Note: *If you have not already done so, click* ***About*** *and* ***License Info*** *to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to Step 4.*

3. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
4. Click **Next**.
5. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

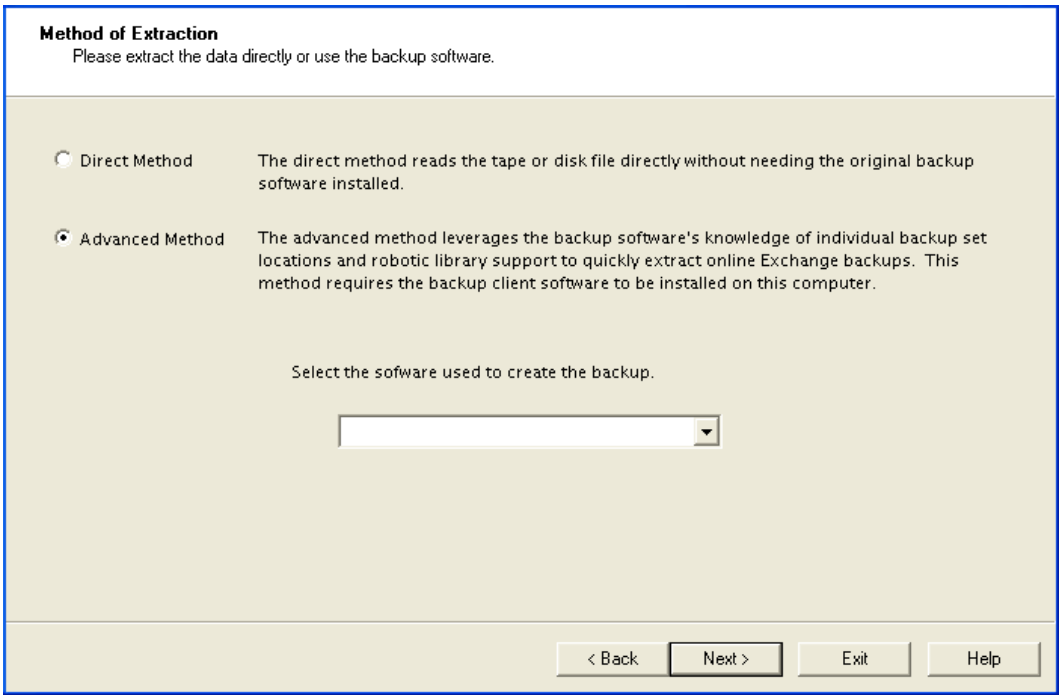

Figure 12-1: Method of Extraction Page for Advanced Method

6. Select **UltraBac** from the drop-down list and click **Next**.
7. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select the **Exchange Server 2000 or 2003** option.

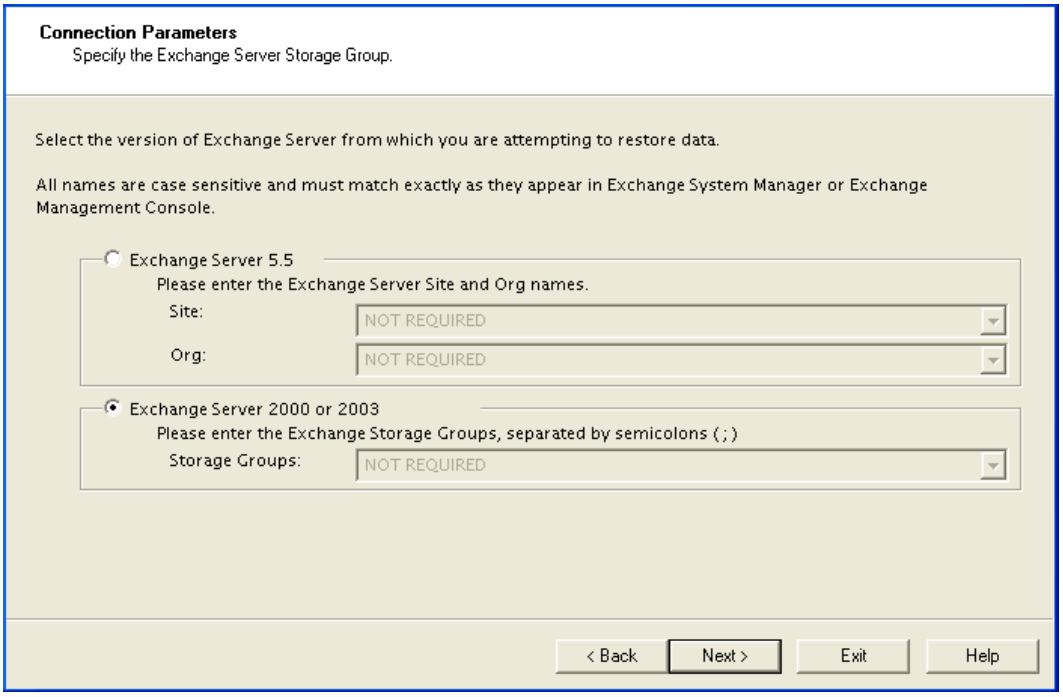

Figure 12-2: Selecting Exchange Server 2000 or 2003 Connection Parameters

8. Click **Next**.

9. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be a local drive of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
10. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

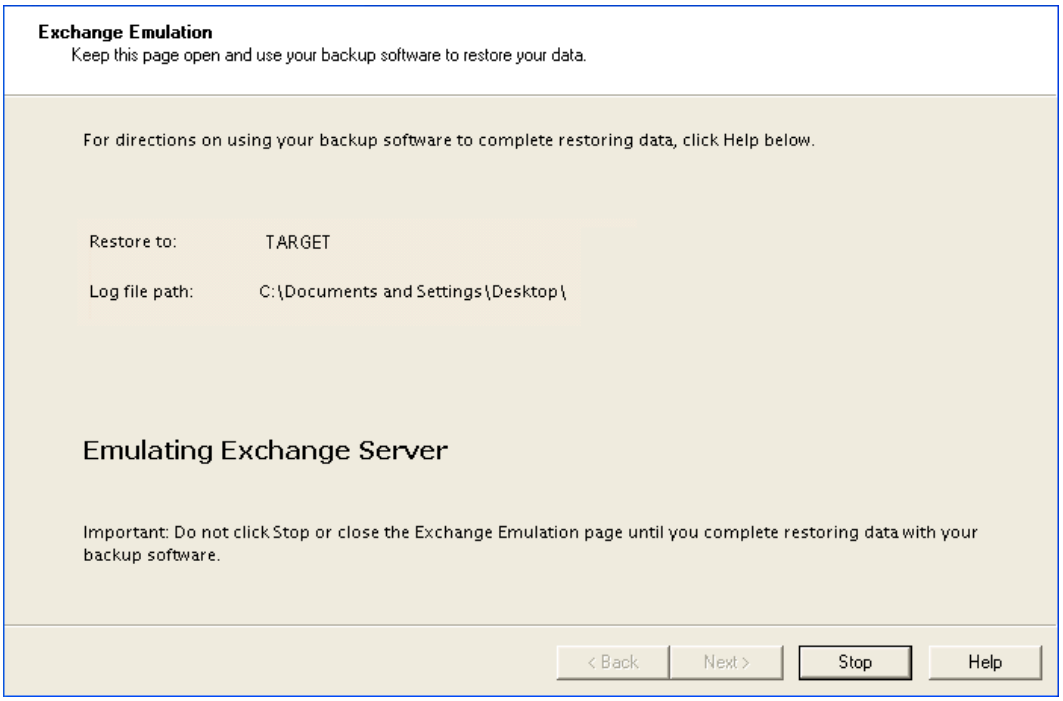

Figure 12-3: Exchange Emulation Page

Tip: *You can copy the "Restore to" and "Log file path" information on this page and paste it into UltraBac when prompted later in this section.*

11. Start **UltraBac Management Console** on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard. The **UltraBac** window appears.
12. In UltraBac, click **Restore Wizard** on the toolbar. The **Select Index Source** window appears.
13. Select the appropriate source for your backup index, and click **Next**. The **Select Online Index** window appears.
14. Select the correct online index to load for your backup. Click **Next** to return to the UltraBac window.
15. In UltraBac, select the appropriate backup item to restore from the tree and list views. You can only restore one storage group at a time.

Note: You can only restore data from under the Exchange Agent level.

16. Click **Restore**. The **General Restore Options** window appears.
17. Click **Exchange 2000, 2003 Options**. The **Exchange 2000, 2003-Specific Options** window appears.
18. Select the **Restore to Alternate Server** option. In its **Restore to** box, enter the name of the **Restore Target Computer** (the computer running Single Mailbox Recovery ExtractWizard). Verify you are using the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
19. Select the **Alternate Temporary Log File Directory** option. In its **Restore to** box, enter the log file path. Verify you are using the "Log file path" value from the Exchange Server Emulation page of the Single Mailbox Recovery ExtractWizard.
20. Click **OK**.
21. In the **General Restore Options** window, click **Next**. The **Restore Options** window appears.
22. Click **Restore**.
23. When UltraBac completes the restore, click **Exit** to close UltraBac.
24. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

UltraBac and Microsoft Exchange Server 5.5

Use the following steps to emulate Microsoft Exchange Server 5.5 with UltraBac:

1. On the computer that will run Single Mailbox Recovery ExtractWizard, make sure edbbcli.dll is in the system path. The easiest way to ensure this is to copy edbbcli.dll to windows\system32. The edbbcli.dll file can be found on the Microsoft Exchange Server in the Microsoft Exchange Server\bin directory.
2. Start Single Mailbox Recovery ExtractWizard. The computer running Single Mailbox Recovery ExtractWizard is the Restore Target Computer.

   *Note: If you have not already done so, click **About** and **License Info** to specify the name or address of the NetApp storage appliance as described in* ***"Single Mailbox Recovery ExtractWizard: Pointing to a NetApp Device" on page 7****; otherwise, continue to the next step.*

3. (Optional) To change the location of the license file, click **About** and then click **License Info**. Under License File Name, specify a new location. The license file controls which Single Mailbox Recovery ExtractWizard agents are active. For more information, see "Single Mailbox Recovery Agents" in the *NetApp® Single Mailbox Recovery 7.1.1 ExtractWizard Release Notes*.
4. Click **Next**.
5. On the **Method of Extraction** page of the Single Mailbox Recovery ExtractWizard, select **Advanced Method**.

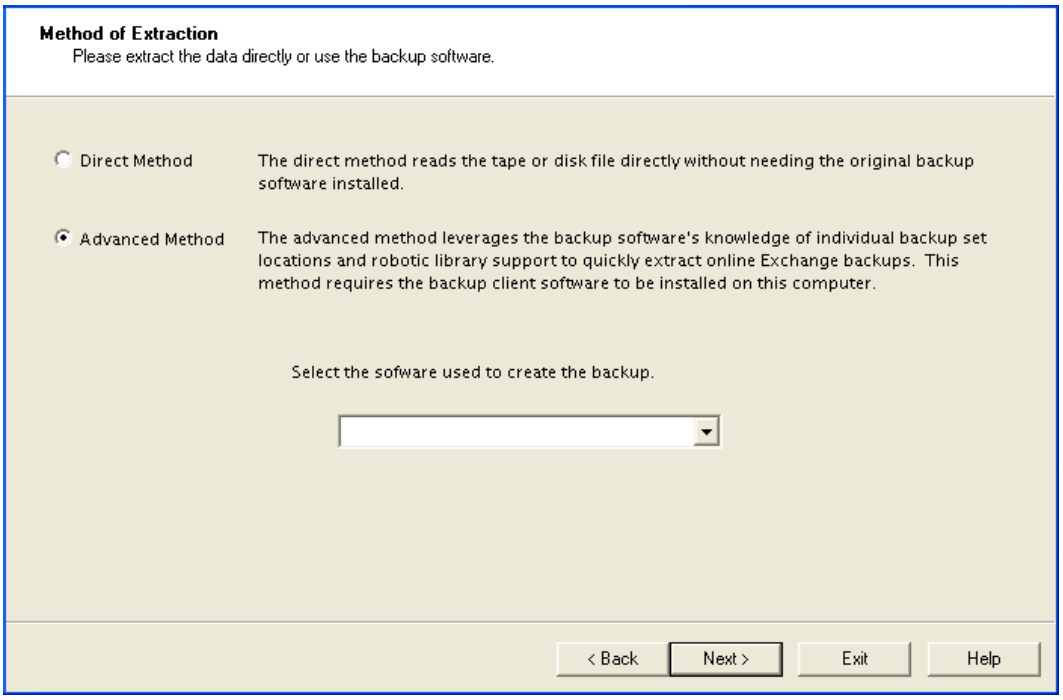

Figure 12-4: Method of Extraction Page for Advanced Method

6. Select **UltraBac** from the drop-down list and click **Next**.
7. On the **Connection Parameters** page of the Single Mailbox Recovery ExtractWizard, select **Exchange Server 5.5**.

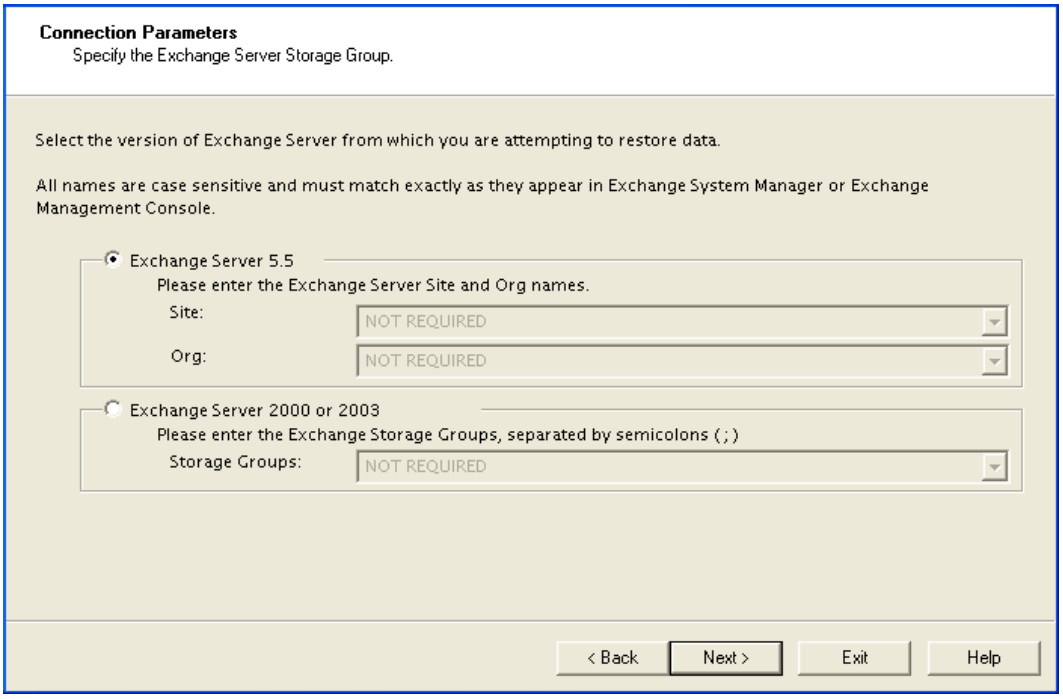

Figure 12-5: Selecting Exchange Server 5.5 Connection Parameters

8. Click **Next**.

9. On the **Destination Folder** page of the Single Mailbox Recovery ExtractWizard, specify a location for the extracted files. This location must be of the form x:\Path where x is a valid drive letter that has an administrative share associated with it such as x$, and Path is the complete path to a folder (if a folder does not exist, Single Mailbox Recovery ExtractWizard creates it).
10. Click **Next**.

    When the **Exchange Emulation** page changes from "Initializing" to "Emulating Exchange Server," you are ready to continue to the next step.

    Important: *Do not click the **Stop** button or close the Exchange Emulation page until you reach the end of these instructions.*

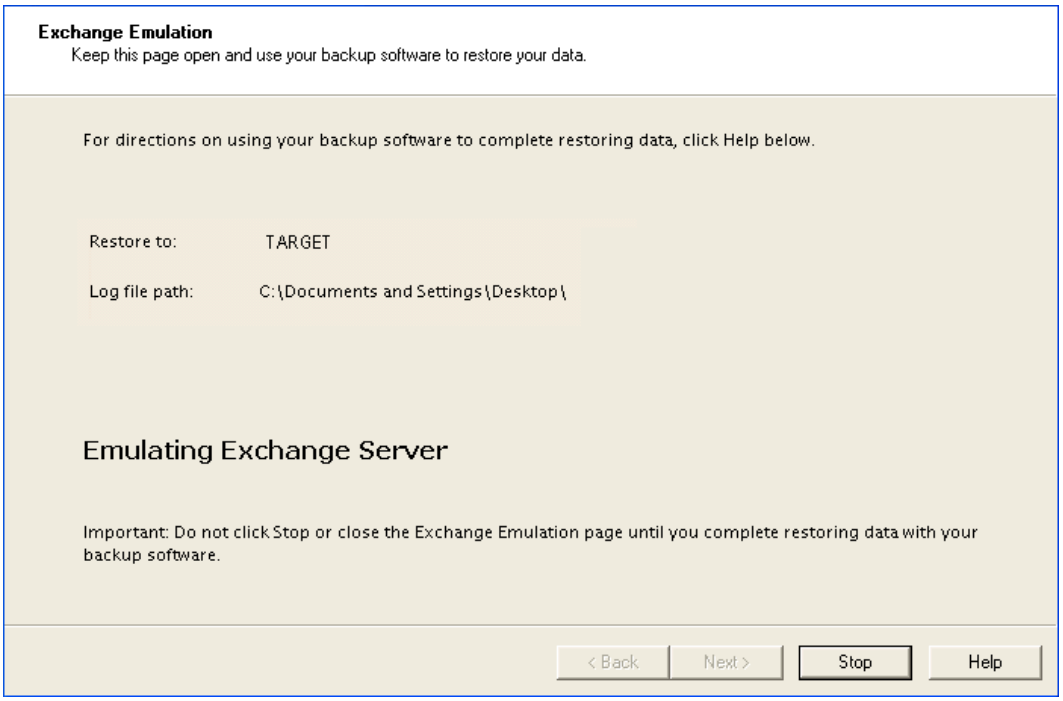

Figure 12-6: Exchange Emulation Page

Tip: *You can copy the "Restore to" information on this page and paste it into UltraBac when prompted later in this section.*

11. Start **UltraBac Management Console** on the computer you normally run your restores on. This can be the same computer as the one running Single Mailbox Recovery ExtractWizard. The **UltraBac** window appears.
12. In UltraBac, click **Restore Wizard** on the toolbar. The **Select Index Source** window appears.
13. Select the appropriate source for your backup index. Click **Next**. The **Select Online Index** window appears.
14. Select the correct online index to load for your backup. Click **Next** to return to the UltraBac window.
15. Select the appropriate backup item to restore from the tree and list views.

    Note:

- *You can only restore data from under the Exchange Agent level.*
- *You cannot restore the Directory Store.*

16. Click **Restore**. The **General Restore Options** window appears.
17. Click **Exchange 5.5 Options**. The **Exchange 5.5-Specific Options** window appears.
18. Select the **Restore to Alternate Server** option. In its **Restore to** box, enter the name of the **Restore Target Computer** (the computer running Single Mailbox Recovery ExtractWizard). Verify you are using the "Restore to" value from the Exchange Emulation page of the Single Mailbox Recovery ExtractWizard.
19. Under **Databases to Restore**, select the appropriate option: Public Store, Private Store, or Both.
20. Click **OK**.
21. In the **General Restore Options** window, click **Next**.
22. In the **Restore Options** window, click **Restore**.
23. When UltraBac completes the restore, click **Exit** to close UltraBac.
24. In Single Mailbox Recovery ExtractWizard, click **Stop** and then click **Finish**.

Appendix A: Single Mailbox Recovery ExtractWizard Emulation and Active Directory Objects

The following backup software emulations require Single Mailbox Recovery ExtractWizard to add Active Directory objects to a user's domain:

- CA ARCserve Backup R15 and R16 with Microsoft Exchange Server 2003, 2007, and 2010
- Symantec NetBackup 7.1 and 7.5 with Microsoft Exchange Server 2007 and 2010
- EMC NetWorker Server 7.6 with NMM v2.3 and Microsoft Exchange Server 2007 or 2010
- HP Data Protector 6.20 and later with Microsoft Exchange Server 2010

The objects are added to the Exchange Organization object within the Active Directory.

For the objects to be added and removed, the user running Single Mailbox Recovery ExtractWizard need to have sufficient Active Directory permissions to the Exchange Organization object and its child objects. To grant a user sufficient permissions, you need to be a member of either the Enterprise Admins group or a custom group that has the following minimum special permissions:

- List contents
- Read all properties
- Write all properties
- Read permissions
- Delete subtree
- Create all child objects

Using Single Mailbox Recovery ExtractWizard to Remove Active Directory Objects

Once emulation has completed, Single Mailbox Recovery ExtractWizard attempts to remove any objects it created. An error appears if the user cannot remove these objects. The Active Directory objects will remain and could leave a user's domain in an unstable state.

To fully remove the Active Directory objects

1. Log into the computer running Single Mailbox Recovery ExtractWizard with a user that has Full Control Active Directory rights.
2. Complete the Single Mailbox Recovery ExtractWizard using the same connection parameters as the initial emulation.
3. Once "Emulating Exchange Server" appears on the Emulation page, click **Stop**.

Glossary

Term	Description
BKF	An .MTF format backup-to-disk file, which is similar to other archive formats such as ZIP or ARJ. Backup software applications that output this file format are NT Backup (the version that shipped with Windows® 2000), Windows® Backup 2003, and Symantec Backup Exec.
CHK	Checkpoint files (.chk files) are used for recovering (playing) data from transaction logs into EDB files. The checkpoint is the place marker in the EDB.CHK file that indicates which transactions have been committed. Whenever data is written to an EDB file from the transaction log, the EDB.CHK file is updated with information specifying that the transaction was successfully committed to the respective EDB file. Separate Exx.chk files are maintained for each storage group using ESE (Extensible Store Engine).
Data Store	A unified collection of folders and messages contained in a single storage medium. A PST file is a data store. A Microsoft Exchange Server Information Store is also a data store. In a basic case, Exchange has two live data stores, one for the private mailboxes and one for the public folders.
EIS	See Microsoft Exchange Server Information Store.
Log Files	Transaction log files (.log files) are history files recording server activity. These files are useful in restoring and backing up Microsoft Exchange Server data. Transaction logs for Microsoft Exchange Server 5.5, 2000, and 2003 are 5 MB in size. Transaction logs for Microsoft Exchange Server 2007 and Exchange Server 2010 are 1 MB in size.
Microsoft Exchange Server Database	This file, which usually has an EDB extension, contains the mailbox, folders, and messages you see when connecting to a Microsoft Exchange Server. The Microsoft Exchange Server reads and writes to this file in response to incoming email and events from the clients. On Microsoft Exchange Server 2000, this is one of the two files that make up the Microsoft Exchange Information Store, the other being the STM file.

Term	Description
Microsoft Exchange Server Information Store	This is the set of files that compose the data store for private mailboxes and public folders on a Microsoft Exchange Server. On Microsoft Exchange Server 5.5, this is the single Microsoft Exchange Server Database file usually named priv1.edb and pub1.edb. On Microsoft Exchange Server 2000 and 2003, the private mailbox data store consists of the files priv1.edb and priv1.stm and the public folder data store consists of pub1.edb and pub1.stm. On Microsoft Exchange Server 2007 and 2010, a private mailbox data and public folder store consist of the EDB file without a STM file. On Microsoft Exchange Server 2013, a mailbox data store consists of the EDB file without a STM file.
MTF	Microsoft® Tape Format is the format defined by Microsoft used to record files in a backup using Windows NT Backup (Backup for NT4, 2000) or Symantec Backup Exec.
PAT	Patch files (.pat files) are used to record information on page splits in Microsoft Exchange Server 5.5 through Microsoft Exchange Server 2000 (SP1). In Microsoft Exchange Server 2000 (SP2) and later, the functionality provided by .pat files is incorporated into Microsoft Exchange Server log files.
PST	Personal Storage file. This file, used by Microsoft® Outlook, contains folders and messages that have been retrieved from a user's Microsoft Exchange Server mailbox and copied locally.
Shortcut Menu	This menu is accessed by right-clicking on an item.
STM	For Microsoft Exchange Server 2000 and 2003, this is one of the two files that make up the Microsoft Exchange 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.

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Index

A

administrative rights to the NetWorker server 31
Advanced Method 21
  API Method for EMC NetWorker 31
  API Method for IBM Tivoli Storage Manager 24
  CA ARCserve Backup 9.x-11.5 with Microsoft Exchange Server 2000 or 2003 135
  CA ARCserve Backup 9.x-11.5 with Microsoft Exchange Server 5.5 139
  CA ARCserve Backup R15 or R16 with Microsoft Exchange Server 2000, 2003, 2007, or 2010 128
  CommVault Galaxy Backup & Recovery 5.0 and 5.9 with Microsoft Exchange Server 5.5 177
  CommVault Simpana 9.0 and Microsoft Exchange Server 2010 164
  CommVault Simpana 9.0 and Galaxy Backup & Recovery 5.0, 5.9, 6.1, 7.0, or 8.0 with Microsoft Exchange Server 2000 or 2003 172
  CommVault Simpana 9.0 and Galaxy Backup & Recovery 6.1, 7.0, or 8.0 with Microsoft Exchange Server 2007 168
  EMC NetWorker Server 7.6 with NMM v2.3 with Microsoft Exchange Server 2007 or 2010 151
  EMC NetWorker Server 8.0 with NMM v2.4 with Microsoft Exchange Server 2007 or 2010 144
  HP Data Protector with Microsoft Exchange Server 2010 48
  HP Data Protector with Microsoft Exchange Server 2000, 2003, or 2007 52
  HP Storage Data Protector with Microsoft Exchange Server 5.5 55
  Symantec Backup Exec 11d with Microsoft Exchange Server 2000, 2003, or 2007 69
  Symantec Backup Exec 12.0 or 12.5 with Microsoft Exchange Server 2000, 2003, or 2007 65
  Symantec Backup Exec 2010 through 2010 R3 with Microsoft Exchange Server 2003, 2007, or 2010 60
  Symantec Backup Exec 8.6 with Microsoft Exchange Server 2000 or 2003 80
  Symantec Backup Exec 8.6 with Microsoft Exchange Server 5.5 84
  Symantec Backup Exec 9.1 and 10.1 with Microsoft Exchange Server 5.5 77
  Symantec Backup Exec 9.1 or 10.1 with Microsoft Exchange Server 2000 or 2003 73
  Symantec NetBackup 4.5-5.1 with Microsoft Exchange Server 2000 or 2003 119
  Symantec NetBackup 4.5-5.1 with Microsoft Exchange Server 5.5 123
  Symantec NetBackup 6.0 with Microsoft Exchange Server 2000 or 2003 112
  Symantec NetBackup 6.0 with Microsoft Exchange Server 5.5 116
  Symantec NetBackup 6.5.4-7.0 with Microsoft Exchange Server 2000, 2003, or 2007 108
  Symantec NetBackup 7.1 and 7.5 with Microsoft Exchange Server 2000, 2003, 2007, or 2010 96
  Symantec NetBackup 7.6 with Microsoft Exchange Server 2013 88
  UltraBac and Microsoft Exchange Server 2000 or 2003 181
  UltraBac and Microsoft Exchange Server 5.5 184
  Windows NT Backup with Microsoft Exchange Server 2000, 2003, or 2007 on Windows 2000, or Windows Server 2003 37
  Windows NT Backup with Microsoft Exchange Server 5.5 on Windows 2000, or Windows Server 2003 41
  Windows NT Backup with Microsoft Exchange Server 5.5 on Windows NT 4 45
API Method 22

API Method. See also Advanced Method 22
  using 22

B
BKF 189

C
CHK 189
credentials 5

D
Direct Method 6
  Requirements 6
  Using the 7

E
EIS 189
Emulation Method 22
Emulation Method. See also Advanced Method
  requirements for using 22

L
log files 189

M
Microsoft Exchange Server database 189
Microsoft Exchange Server information store 190
MTF 190

O
online Help 4

P
PAT 190
permissions 5
PST 190

R
Readme File 3
rights
  administrative rights to the NetWorker server 31
rights for using the Emulation Method 23

S
STM 190