EMC® AVAMAR® MICROSOFT SHAREPOINT CLIENT 5.0

> USER GUIDE P/N 300-008-825 REV A02

EMC Corporation Corporate Headquarters: Hopkinton, MA 01748-9103 1-508-435-1000 www.EMC.com

Copyright and Trademark Notices

This document contains information proprietary to EMC Corporation. Due to continuing product development, product specifications and capabilities are subject to change without notice. You may not disclose or use any proprietary information or reproduce or transmit any part of this document in any form or by any means, electronic or mechanical, for any purpose, without written permission from EMC Corporation.

EMC Corporation has made every effort to keep the information in this document current and accurate as of the date of publication or revision. However, EMC Corporation does not guarantee or imply that this document is error free or accurate with regard to any particular specification. In no event will EMC Corporation be liable for direct, indirect, incidental, or consequential damages resulting from any defect in the documentation, even if advised of the possibility of such damages. No EMC Corporation agent or employee is authorized to make any modification, extension, or addition to the above statements.

EMC Corporation may have patents, patent applications, trademarks, copyrights, or other intellectual property rights covering subject matter in this document. The furnishing of this document does not provide any license to these patents, trademarks, copyrights, or other intellectual property.

The Avamar Agent for Microsoft Windows incorporates Open Transaction Manager (OTM), a product of Columbia Data Products, Inc. (CDP). CDP assumes no liability for any claim that may arise regarding this incorporation. In addition, EMC Corporation disclaims all warranties, both express and implied, arising from the use of Open Transaction Manager. Copyright 1999-2002 Columbia Data Products, Inc. Altamonte Springs. All rights reserved.

Avamar is a registered trademark of EMC Corporation in the US and/or other countries.

All other product names and/or slogans mentioned herein may be trademarks or registered trademarks of their respective companies. All information presented here is subject to change and intended for general information.

Copyright 2002-2010 EMC Corporation. All rights reserved.

Printed in the USA.

TABLE OF CONTENTS

	3
Scope and Intended Audience	3
Product Information	3
Your Comments	4
	4
Notes, Tips, and Warnings	5
Introduction	6
Important Terms and Concepts.	7
System Requirements	g
Capabilities and Limitations	
Installing/Uninstalling Avamar SharePoint Client	11
Ouick Deference (Pood Man)	11
	11
Installing the Avamar Windows Client	
Windows Server 2008 and 2008 R2 with User Account Control	
Installing the Avamar SharePoint Client	
Post-Installation.	15
Uninstalling and Upgrading the Avamar SharePoint Client.	
Uninstalling and Upgrading the Avamar SharePoint Client.	
Uninstalling and Upgrading the Avamar SharePoint Client	
Uninstalling and Upgrading the Avamar SharePoint Client	
Uninstalling and Upgrading the Avamar SharePoint Client Using the Avamar SharePoint Client Overview On-Demand Backup Backing Up an Entire SharePoint Farm	
Uninstalling and Upgrading the Avamar SharePoint Client Using the Avamar SharePoint Client Overview On-Demand Backup Backing Up an Entire SharePoint Farm Recovery (Restore).	
Uninstalling and Upgrading the Avamar SharePoint Client.	
Uninstalling and Upgrading the Avamar SharePoint Client.	
Uninstalling and Upgrading the Avamar SharePoint Client.	
Uninstalling and Upgrading the Avamar SharePoint Client.	
Uninstalling and Upgrading the Avamar SharePoint Client.	
Uninstalling and Upgrading the Avamar SharePoint Client.	
Uninstalling and Upgrading the Avamar SharePoint Client.	
Uninstalling and Upgrading the Avamar SharePoint Client.	
Uninstalling and Upgrading the Avamar SharePoint Client.	15 16 16 17 17 17 22 26 26 26 27 28 29 34 35 35 36 38 40 40
Uninstalling and Upgrading the Avamar SharePoint Client.	

TABLE OF CONTENTS

Appendix A — Plug-in Options	
Important Terms and Concepts	
Microsoft Office SharePoint Server Plug-in Options	

FOREWORD

Scope and Intended Audience

Scope. This publication describes how to install, configure, administer, and use the Avamar SharePoint Client.

Intended Audience. The information in this publication is primarily intended for:

- System administrators who are responsible for installing software and maintaining servers and clients on a network
- Microsoft SharePoint administrators who are responsible for backing up and maintaining Microsoft SharePoint servers

Prerequisites. Persons using this publication should have current practical experience with the following:

- Operating system shell commands on the SharePoint platform (root permission required)
- The specific version of Microsoft SharePoint currently deployed at your site

Product Information

For current documentation, release notes, software updates, information about EMC products, licensing and service, go to the EMC Powerlink website at http://Powerlink.EMC.com.

Your Comments

Your suggestions will help us continue to improve the accuracy, organization and overall quality of our publications. You may email your comments to:

BSGDocumentation@emc.com

Please include the following information:

- Product name and version
- Document name, part number, and revision (for example, A01)
- Page numbers
- Other details that will help us address the documentation issue

Typeface Conventions

The following table provides examples of standard typeface styles used in this publication to convey various kinds of information.

EXAMPLE	DESCRIPTION
Click OK . or Select File > Close .	Bold text denotes actual buttons, commands, menus and options that initiate action. Sequential commands are separated by a greater- than (>) character. For example, the second example instructs you to select the Close command from the File menu.
Type: cd /tmp	Bold fixed-width text denotes shell commands that must be entered exactly as they appear.
logfile=FILE	All caps text often denotes a placeholder (token) for an actual value that must be supplied by the user. In this example, FILE would be an actual filename.
Installation Complete.	Regular (not bold) fixed-width text denotes command shell messages, code and file contents.

Notes, Tips, and Warnings

The following kinds of notes, tips, and warnings appear in this publication:

IMPORTANT: This is a warning. Warnings always contain information that if not heeded could result in unpredictable system behavior or loss of data.

TIP: This is a tip. Tips present optional information intended to improve your productivity or otherwise enhance your experience with the product. Tips never contain information that will cause a failure if ignored.

NOTE: This is a general note. Notes contain ancillary information intended to clarify a topic or procedure. Notes never contain information that will cause a failure if ignored.

INTRODUCTION

The Avamar SharePoint Client provides a complete backup and recovery solution for Microsoft Office SharePoint Server (MOSS) 2007 SP1.

If you need to recover the MOSS 2007 SP1 and its related components after an unexpected catastrophe, *Disaster Recovery* (page 35) includes preparation steps to fully recover the environment. To ensure that you have all the necessary information to perform a disaster recovery, review *Disaster Recovery* (page 35).

Important Terms and Concepts

The Avamar SharePoint Client automatically discovers the topology of a SharePoint farm. The entire farm or just selected components can then be backed up and restored.



Components include Web applications and back-end databases, as well as SharePoint-specific features like the Single Sign-On (SSO) database. SSO provides user authentication for site-based portal applications that require information from third-party applications and back-end systems.

The following terms describe SharePoint and its topology.

Microsoft SharePoint An enterprise information portal that can run intranet and internet sites. It allows people, teams, and experts to connect and collaborate. SharePoint has features and tools that cover the following areas:

- Collaboration
- Enterprise portal
- Enterprise search
- Enterprise content management
- Forms-driven business processes
- Business intelligence
- Management
- Platform capabilities

Microsoft Windows SharePoint Services 3.0 WSS 3.0 comprises the underlying services that provide people access to documents and information in a SharePoint environment. It is a Microsoft Windows Server technology that provides a storage and collaboration infrastructure and tools for building Webbased applications and services. Collaboration and information-sharing includes workflows, RSS feeds, blogs, wikis, and ASP-style Web parts. WSS 3.0 is included in Windows Servers 2003 and 2008.

Features include the following:

- Project collaboration
- Document workspace
- Meeting subsite
- Discussion boards

Microsoft Office SharePoint Server 2007 SP1 MOSS 2007 SP1 relies on WSS 3.0 technology to provide a consistent framework for lists and libraries, site administration, and site customization. It provides enhanced and additional features that are not available on a WSS site, including:

- Portals
- Business processes
- Business forms

MOSS 2007 SP1 is built on Windows Server 2003 SP1 technologies and services. Storage for all content, data, and configuration information is provided by Microsoft SQL Server. SQL Server 2005 is recommended, but SQL Server 2000 can be used.

SQL Server Databases The following table lists the back-end SQL Server databases:

DATABASE	FUNCTIONS
Configuration	Sites, databases, servers, and Web applications
Content	WSS site details, structure details, user content, files, and security information
Shared services provider	User profiles, audience data, business application data, Excel services functions, site usage data, InfoPath forms, and services session state information
Search	Search data, history log, search log, calculation tables for crawl statistics, links tables, and statistical tables
Custom	Third-party applications can store data in separate databases
Search indices	Search indexes stored on the file system

System Requirements

This topic lists the supported configurations, hardware, and additional requirements that must be satisfied to successfully install and deploy the Avamar SharePoint Client backup and recovery solution. The supported configurations installation package column also lists the correct Avamar SharePoint Client software installation package required for that specific version of operation system.

Supported Configurations

SHAREPOINT VERSION(S)	OS VERSION(S)	BITS	AVAMAR SHAREPOINT CLIENT SOFTWARE INSTALLATION PACKAGE
2007 SP1	Microsoft Windows 2003 or 2008 Server	32	AvamarMoss2007-windows- x86-VERSION.msi
2007 SP1	Microsoft Windows Server 2003 or 2008 Server	64	AvamarMoss2007-windows- x86_64-VERSION.msi
2007 SP2	Microsoft Windows Server 2008 or 2008 R2 Server	64	AvamarMoss2007-windows- x86_64-VERSION.msi

Hardware Requirements

REQUIREMENT	MINIMUM
RAM	2 GB
File Systems	NTFS IMPORTANT: FAT 16 and 32 systems must be converted to NTFS.
Hard Drive Space	Must have enough free space for the largest SharePoint farm component.
Network Interface	10BaseT minimum; 100BaseT or higher recommended, configured with latest drivers for the platform.

Capabilities and Limitations

This topic describes the backup and restore capabilities and limitations of the Avamar SharePoint Client based on the WSS 3.0 backup and restore object model.

Individual Websites. Backup or restore of an individual website, list, or list item is allowed only in the context of backing up or restoring the entire site collection to which it belongs.

Configuration and Content Databases. Backup or restore of the configuration database or the Central Administration content database of a SharePoint farm is allowed only when backing up or restoring the entire farm. A backup of these components provides a snapshot that can be useful for troubleshooting. For instance, they can be used with SQL Server tools to compare with the present state of the components.

Individual content databases outside of the Central Administration database can be backed up and restored without requiring a backup and restore of the entire farm. For example, content databases that are created when users create Web Applications in SharePoint.

Backup to Tape. The Avamar SharePoint Client does not support backup to tape.

IIS Metabase. An Internet Information Server (IIS) metabase cannot be backed up or restored.

Custom Application Exceptions. The following items cannot be backed up with the Avamar SharePoint Client, but the WSS development kit might provide a custom backup solution for this kind of content:

- Registry keys
- Files located on front-end servers

This content includes files located outside any content database, such as certain master pages, .ascx files, web.config files, and other configuration files. They can also be backed up with the Avamar Windows client.

MOSS Version Support. The Avamar SharePoint Client is not supported on MOSS 2007 without service pack 1 or later.

Full Backup Required After Upgrade From 4.1. If you upgrade from Avamar 4.1 to Avamar 5.0, you should perform a full backup. Avamar 5.0 cannot recover differential backups performed with the 4.1 client. You only can recover full backups performed with the 4.1 client.

Issues Following Upgrade to Windows SharePoint Services

3.0 SP2 When upgrading from Windows SharePoint Services 3.0 or Windows SharePoint Services 3.0 SP1 to Windows SharePoint Services 3.0 SP2 on a system already running Avamar SharePoint Client software, the SharePoint topology will not display correctly in Avamar Administrator. This can affect the ability to back up a SharePoint farm.

This issue is discussed in detail in Microsoft knowledgebase article 913384 (http://support.microsoft.com/kb/913384). This knowledgebase article provides detailed instructions to resolve these issues, which might include removing .NET frameworks later than 2.0 and applying the patch discussed in the article before reapplying updated framework software.

INSTALLING/UNINSTALLING AVAMAR SHAREPOINT CLIENT

This chapter describes how to install and configure Avamar SharePoint Client software on a supported SharePoint server in either standalone or high-availability configurations. The Avamar SharePoint Client must be installed on the server running Microsoft Office SharePoint Server (MOSS) 2007 SP1.

Quick Reference (Road Map)

The following quick reference ("road map") lists the installation tasks required to correctly install and configure the Avamar SharePoint Client in various environments.

Installation tasks

- Install and configure Microsoft SharePoint for *standalone server* or *distributed server farm* deployment, following the respective Microsoft guidelines for the selected deployment type.
- Installing the Avamar Windows Client (page 12)
- Installing the Avamar SharePoint Client (page 14)

Installing the Avamar Windows Client

IMPORTANT: You must install both the Avamar Windows Client and the Avamar SharePoint Client on the SharePoint server.

Windows Server 2008 and 2008 R2 with User Account Control

In Windows Server 2008, Microsoft added the User Account Control (UAC) feature. UAC is designed to provide additional operating system security by preventing software from being installed with administrator privileges, unless an administrator authorizes the elevated privileges.

If you start the Avamar Windows Client installer with normal account privileges on a computer with a default implementation of UAC, then the Avamar Windows Client software does not install correctly. Instead, run the installer with elevated administrative privileges. This workaround is included in the steps listed in the following procedure.

To install the Avamar Windows Client:

- 1. Log in to the client computer or workstation.
- 2. Point a Web browser at the Avamar server by typing the following URL:

HTTP://AVAMARSERVER

Where AVAMARSERVER is the actual Avamar system network hostname (as defined in DNS) or IP address.

You are automatically redirected to the Avamar secure Web server.

Depending on the browser security settings, a security alert dialog box might appear.

3. If a security alert dialog box appears, click **Yes** or **OK** to allow redirection to the Avamar secure Web server.

The Secure Log On page appears.

- 4. Scroll down until the **Downloads and Documents** hyperlink is visible.
- 5. Click Downloads and Documents.

The **Downloads and Documentation** page appears.

6. Click the correct operating system hyperlink for the client computer.

A folder listing appears in the browser.

7. Select the **AvamarClient-windows-x86-VERSION.msi** install package.

IMPORTANT: For computers with UAC, you must download the install package to a temporary directory. Do not open it in place. "*Windows Server 2008 and 2008 R2 with User Account Control" on page 12* provides more information.

8. Start the installer by using one of the following methods:

то	DO THIS
Install on a non-UAC computer and run the installation file in place	Open the file in place on the server.
Install on a non-UAC computer and download and run the installation file	Download the file to a temporary directory on your computer, and then open the file.
Install on a UAC computer	 In Windows, right-click the Command Prompt icon and select Run as administrator.
	 In the command prompt window, change the working directory to the location of the installation package.
	cd path-to-install-dir
	Where <i>path-to-install-dir</i> is the full path of the temporary directory that contains the installation package.
	3. On a single line, type the following command to launch the installer:
	msiexec /i AvamarClient-windows- x86_64-VERSION.msi
	Where <i>version</i> is the version number of the available install package.

The installation wizard appears.

9. Follow the instructions to proceed through the wizard.

10. Click Finish.

Installing the Avamar SharePoint Client

IMPORTANT: You must install both the Avamar Windows Client and the Avamar SharePoint Client on the SharePoint server.

1. Log in to the client computer or workstation.

NOTE: The Avamar SharePoint Client agent service and the MOSS administrator must be run with the same domain account.

- 2. Ensure that the Backup Agent login account is set to the SharePoint administrator account and is *not* set to the **Local System account**.
 - (a) Launch the Services application by selecting **Start > Programs > Administrative Tools > Services**.

The Services window appears.

(b) In the **Services** list, right-click the **Backup Agent** service and select **Properties**.

The Avamar Client Agent Properties dialog box appears.

- (c) Click the Log On tab.
- (d) If **This account** is set to the SharePoint administrator, then click **OK** and continue with step 3.
- (e) If the **Local System account** is selected, click **This account** and type the SharePoint administrator account and password in the text boxes.
- (f) Click OK.
- 3. Point a Web browser at the Avamar server by typing the following URL:

HTTP://AVAMARSERVER

Where AVAMARSERVER is the actual Avamar system network hostname (as defined in DNS) or IP address.

You will be automatically redirected to the Avamar secure Web server.

Depending on the browser security settings, a security alert dialog box might appear.

4. If a security alert dialog box appears, click **Yes** or **OK** to allow redirection to the Avamar secure Web server.

The **Secure Log On** page appears.

- 5. Scroll down until the **Downloads and Documents** hyperlink is visible.
- 6. Click Downloads and Documents.

The **Downloads and Documentation** page appears.

7. Click the install package where the filename is one of the following:

BITS	FILENAME
32-bit	AvamarMoss2007-windows-x86-VERSION.msi
64-bit	AvamarMoss2007-windows-x86_64-VERSION.msi

Where VERSION is the version number of the package.

Your browser might prompt you to either open the file "in-place" (on the server) or save it to your local computer. Either method will work. However, if you save the file to your local computer, you must open (double-click) that installation file to continue with this procedure.

8. Either open the installation file in place (on the server) or double-click the downloaded installation file.

The **InstallShield Wizard** appears.

- 9. Follow the instructions to proceed through the wizard.
- 10. Click **Finish**.

Post-Installation

Prepare the MOSS 2007 SP1 and its related components for disaster recovery. *Disaster Recovery* (page 35) provides more information.

Uninstalling and Upgrading the Avamar SharePoint Client

Unlike other platforms, you do not have to uninstall earlier versions of Avamar SharePoint Client software before you install a new version. You can run the install package of the newer Avamar SharePoint Client on the client host that already has the older version installed.

To uninstall the Avamar SharePoint Client, you can use Add/Remove Programs feature in the Windows Control Panel.

USING THE AVAMAR SHAREPOINT CLIENT

This chapter describes how to use the Avamar SharePoint Client to back up or recover (restore) an entire SharePoint server farm or specified components.

You should have current practical experience with the following:

- Operating system shell commands on the SharePoint server platform (root permission required)
- The specific version of SharePoint currently deployed at the site

The Microsoft SharePoint Server documentation provides additional information.

Overview

The Avamar SharePoint Client can back up and restore a whole SharePoint farm or any of its discovered components down to the Web application level. Some listed components cannot be selected for backup or restore but are automatically selected based on their dependency to other components that you select.

The content components in Windows SharePoint Services (WSS) 3.0 that can be backed up and restored include the following:

- Website collections
- Content databases
- Web applications
- Content publishing Web services
- Search Windows service (including databases and indexes)
- An entire SharePoint farm

If an enhanced functionality product such as Microsoft Office SharePoint Server (MOSS) 2007 SP1 has been installed in addition to WSS 3.0 and that product includes Shared Service Providers, those can also be backed up and restored.

On-Demand Backup

This topic describes how to perform an on-demand backup of an entire SharePoint farm or specific components.

Backup is a two-step process, first to a local (shared) hard drive and then to the Avamar server.

IMPORTANT: This approach requires enough local free space for the backup process to handle the size of the largest component of the Microsoft SharePoint farm.

IMPORTANT: Additional files and databases must be backed up to support a disaster recovery scenario. *Disaster Recovery* (page 35) provides additional information.

Backing Up an Entire SharePoint Farm

To back up an entire SharePoint farm:

- 1. Start Avamar Administrator.
- 2. Select **Navigation > Backup and Restore** or click the **Backup & Restore** launcher button.

The Backup and Restore window appears.



- 3. Click the Select for Backup tab.
- 4. In the Clients tree, select the SharePoint farm.

REMINDER: You cannot view clients outside the domain. To view all clients, you must be logged in to the root domain.



5. Select the Microsoft SharePoint plug-in.

TIP: Select **Actions > Preview List** to view a summary of all directories and files that you selected for an on-demand backup.

6. Select either a whole farm or specific components of a farm for backup.

When backing up a whole farm, all farm components and associated components are automatically selected and backed up in one session. When backing up specific components, those components are backed up in multiple sessions.

IMPORTANT: Be aware that some of the listed components are not available for selection, but are automatically selected based on their dependency on other components.



Select Actions > Backup Now or click the toolbar icon immediately to the left.

The On Demand Backup Options dialog box appears.

Plug	j-in		Target
dicrosoft Office SharePo	oint Server	MOSS	
Retention Policy Setting	8		
Retention period	60 days		
C End date	Mon 2009-03-09	~	
No end date			
nervition method Non	e 🔻		

- 8. Review the backup settings.
- 9. To change the backup retention setting, type or select the following:

FIELD/OPTION	DESCRIPTION
Retention period	To automatically delete this backup from the Avamar server after a specific number of days, weeks, months, or years, select this option and type the number of days, weeks, months, or years.
End date	To automatically delete this backup from the Avamar server on a specific calendar date, select this option and browse to that date on the calendar.

FIELD/OPTION	DESCRIPTION
No end date	To keep this backup for as long as this client remains active in the Avamar server, select this option.

- 10. Select the encryption method for client/server data transfer during this backup:
 - High Strongest available encryption setting for that specific client platform.

Medium Medium strength encryption.

None No encryption.

NOTE: The exact encryption technology and bit strength used for any given client/server connection depends on a number of factors, including the client platform and Avamar server version. The *Avamar Product Security Guide* provides additional information.

11. Click More Options.

12. On the Backup Command Line Options dialog box, specify a Temporary directory.

This temporary directory must be on a drive local to the SharePoint Server (Central Administrator/WebFront End) that the user is backing up from, and not the SQL Server being used as part of the SharePoint farm. Do this as follows:

- (a) In Windows Explorer, create the temporary directory.
- (b) Right-click the temporary directory and select Properties.

tmp Properties 🔋 🔀
General Sharing Security Web Sharing Customize
You can share this folder with other users on your network. To enable sharing for this folder, click Share this folder.
C Do not share this folder
Share this folder
Share name: tmp
Comment:
User limit: Maximum allowed
C Allow this number of users:
To set permissions for users who access this folder over the network, click Permissions.
To configure settings for offline access, click Caching
N <u>e</u> w Share
OK Cancel Apply

(c) On the Sharing tab, select Share this folder.

(d) Click Permissions.

ermissions for tmp	? 2
Share Permissions	
Group or user names:	
Everyone	
1	Add Dames
	Add Hemove
Permissions for Everyone	Allow Deny
Full Control	
Change	
Read	
]	

(e) On the Permissions dialog box, click Add.

Select Users, Computers, or Groups		? ×
Select this object type:		
Users, Groups, or Built-in security principals		Object Types
Erom this location:		
		Locations
Enter the object names to select (examples):		
1		Check Names
Advanced	OK	Cancel

- (f) Use the Select Users, Computers, or Groups dialog box to select the following user accounts:
 - SQL service
 - MOSS service
 - System
 - Network services
- (g) Click **OK**.
- (h) On the Permissions dialog box, set each of these user accounts for Read and Change permissions on the temporary directory share.
- (i) Remove the Everyone group.
- (j) Click **OK**.
- (k) Click **OK** again to close the Properties dialog box.

IMPORTANT: If the Backup Command Line Options dialog box **Remove tmp backup files** option remains selected (the default), backup disk space must be at least as large as the largest MOSS component selected for backup. If this option is cleared, backup disk space must be at least as large as the sum of all MOSS components selected for backup.

TIP: To include other plug-in options with this backup, select or clear the desired options and type values in the Backup Command Line Options dialog box, where applicable. *Appendix A* — *Plug-in Options* (page 42) provides a complete list of supported Avamar SharePoint Client options.

13. Click **OK**.

The Backup Command Line Options dialog box closes.

14. Click **OK**.

The On Demand Backup Options dialog box closes and the following status message appears:

Backup initiated.

15. Click **OK**.

Recovery (Restore)

Restore is a two-step process, first to a local (shared) hard drive and then to the destination target.

IMPORTANT: This approach requires enough local free space for the restore process to handle the size of the largest component of the Microsoft SharePoint farm.

Restore to a new location/configuration (for instance, a new SQL server) is not supported directly. You can restore data to a temporary location and from there, restore the data to a new location.

To recover (restore) an entire SharePoint farm or one or more components, perform the following:

- 1. Start Avamar Administrator.
- 2. Select **Navigation > Backup and Restore** or click the **Backup & Restore** launcher button.

The Backup and Restore window appears.

- 3. Click the Select for Restore tab.
- 4. In the Clients tree, select the SharePoint server.

REMINDER: You cannot view clients outside the domain. To view all clients, you must be logged in to the root domain.

5. Do one of the following:

IF	DO THIS
You want to locate backups stored on the server by calendar date.	Perform step 6, skip step 7, and then go directly to step 8.
You want to locate backups stored on the server by content (the specific directories and files contained within each backup).	Skip step 6 and go directly to step 7.

Selecting by Calendar Date

- 6. To locate backups stored on the server by calendar date:
 - (a) Click the By Date tab.

Clicking the By Date tab displays a browsable calendar for locating backups in the Avamar server.

Dates highlighted in yellow indicate that a backup was performed on that date.

Backu	ıp(s) fo	ir mon	th:			
◀ 2009 ► ◀ January					ary 🕨	
Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

SharePoint Server Preparation



Selecting a valid backup date on the calendar populates the backups list to the right of the calendar.

Selecting a backup populates the contents list below the Backup History pane.

🔕 dpn28.avamar.com Avamar Ad	lministral	tor – Ba	ickup	and Re	store	(/)			_ 🗆 ×
Actions Tools Navigation Hel	р								
									?
dpn28.avamar.com	Select fo By Date	r Backu By File p Histo	p Sele e/Folde irv	ect for R	estore				
E-1 clients	Back	up(s) fo	, or mon	nth:				Backups for January 8	
- 🛤 vm-winclus17.devavarr	₹ 20	09 🕨			•	Janua	ary 🕨	Number ∇ Name Time (PST) Plug-in Retention Size	
	Sun	Mon	Tue	Wed	Thu	Fri	Sat		
🕀 🏪 dpe63	28	29	30	31	1	2	3		
⊞	4	5	6	7	8	9 10	10		
	18	19	20	71	22	23	24		
	25	26	27	28	29	30	31		
	1	2	3	4	5	6	7		
	[No ba	ckup se	electeo	d				10	
		🚖 Er	npty			-	Belect	Name A Date Size Type User Group Permissions	
	<u> </u>					× :	Bch/Dis	p: Suspended/Running 🕕 Have Unacknowledged Events 🕢 Server: Full	Access

- (b) In the Backup History pane, browse to a valid backup date in the Calendar (highlighted in yellow).
- (c) Select a backup from the backups list directly to the right of the calendar.
- (d) Select one or more directories or files to restore.

Selecting by File/Folder

- 7. To locate backups stored on the server by content:
 - (a) Click the By File/Folder tab.

Clicking the By File/Folder tab displays a Backup History pane that can be used to retrieve all backups that contain a specified client file or folder.

By Date By File/Folder						
-Backup History						
Enter path to retrieve histo	ory for:	Backups				
		Number $ abla$	Name	Time	Plug-in	Retention
	Browse Retrieve					
Version History						
Version 🛆	Size					
No backup selected						
🗖 🔄 Empty	Select Nam	e∆ Date S	Size Type	User	Group	Permissions
J						

- (b) If you know the full path to the desired client file or folder, type that path in the Enter path to retrieve history for text box.
- (c) If you do not know the full path to the desired client file or folder, click **Browse** and locate the desired client file or folder.

(d) Click Retrieve.

The Version History table lists all versions and sizes for that file or folder that have been backed up for this client.

Selecting a row in the Version History table displays all backups for the selected client that contain the selected version of the file or directory.

(e) Select the backup from which to restore.

TIP: Select **Actions > Preview List** to view a summary of all directories and files that you selected for an on-demand restore.



8. Select **Actions > Restore Now** or click the toolbar icon immediately to the left.

The Restore Options dialog box appears.

🔕 Restore Options 🛛 🔀
Items Marked for Restore
Backup Plugin-Type: Microsoft Office SharePoint Server
Targets
CJ moss fami
Restore Destination Choices
Restore everything to its original location
C Restore everything to a different location
Browse for Client/Destination
Client:
/clients/vm-winclus29.devavamarclient.com
Absolute Destination:
Restore Plug-in Type Microsoft Office SharePoint Server
Encryption method None
More Options
OK Cancel Help

- 9. Review the restore settings.
- 10. To change the restore destination choices, type or select the following:

FIELD/OPTION	DESCRIPTION
Restore Everything to its original location	Restore Everything to its original location is the default destination—all files are restored to the original client in the original top-level (root) directory.
Restore Everything to a different location	Restore Everything to a different location allows you to specify another client or another directory on the same client.
Browse for Client/ Destination	Click Browse to locate a client or directory for the restore. You can also type this information directly in the Absolute Destination field.

FIELD/OPTION	DESCRIPTION
Restore Plug-in Type	Restore Plug-in Type specifies which client plug-in is used to perform this restore. The default choice is the same plug-in used to take the original backup.

- 11. Select the encryption method for client/server data transfer during this restore:
 - High Strongest available encryption setting for that specific client platform.
 - Medium Medium strength encryption.
 - None No encryption.

NOTE: The exact encryption technology and bit strength used for any given client/server connection depends on a number of factors, including the client platform and Avamar server version. The *Avamar Product Security Guide* provides additional information.

TIP: To include plug-in options with this restore, click **More Options**, and then select or clear the desired options and type values where applicable. *Appendix A* — *Plug-in Options* (page 42) provides a complete list of supported Avamar SharePoint Client options.

12. Click **OK**.

The Restore Options dialog box closes and the following status message appears: Restore initiated.

- 13. Click **OK**.
- 14. After restore is complete, restart Internet Information Server (IIS).

Scheduling MOSS Backups

To perform Microsoft Office SharePoint Server (MOSS) backups on a regular schedule:

- Create a new dataset expressly for SharePoint Server backups
- Create a new group expressly for SharePoint Server backups
- Add the SharePoint Server client to the new group
- Assign the new dataset to the new group
- Assign a schedule to the new group
- Assign a retention policy to the new group
- Enable scheduling for the new group

A thorough discussion of groups, group policy, datasets, schedules, and retention policies is beyond the scope of this publication. The *Avamar System Administration Guide* provides additional information.

Create a New Dataset for SharePoint Server Backups

REMINDER: You must be logged in to the root domain as an administrative user to perform this procedure.

IMPORTANT: If the SharePoint server is deployed as a cluster, you should add all nodes in the cluster to this dataset.

- 1. Start Avamar Administrator.
- 2. Select **Tools > Manage Datasets**.

The Manage All Datasets window appears.

🐼 Manage All Datasets		×
New Edit	Copy Delete	
dpn28.avamar.com	Name:	Sort by: Plug-in 💌
evaluation e	-Source Data	-Inclusions
	OK Cancel	Help

3. Click New.

The New Dataset dialog box appears.

Name:	Dataset	×
vanne.		
Source	Data Exclusions Inclusions Options	
O E	nter Explicitly	
	Select Plug-In Type:	
	🛍 AIX DB2	
	C Select Files and/or Folders:	
Θe	elect All Data for All Local Filesystems	
1		
AIL Ioc	l local AIX filesystems	1
AIX AI All loc hp Al	l local AIX filesystems al FreeBSD filesystems I local HP-UX filesystems	
AIX AI AII loo hp AI AI AI	I local AIX filesystems ial FreeBSD filesystems I local HP-UX filesystems I local Linux filesystems I local Macintosh filesystems	
AIX AI AII Ioo hp AI AI AI Max AI AII Ioo	I local ADX filesystems al FreeBSD filesystems I local LI-DLX filesystems I local Linux filesystems al Netware filesystems al Netware filesystems	-
AIX AI AII Ioo hp AI AI AI Max AI AII Ioo Sun AI	I local ADX filesystems al FreeBSD filesystems I local LI-LUX filesystems I local Linux filesystems I local Macintosh filesystems al Netware filesystems I local Solaris filesystems I local Windows filesystems	-
AIX AI AII Ioc hp AI AI Ioc Sun AI Sun AI	I local ADX filesystems al FreeBSD filesystems I local HP-UX filesystems I local Linux filesystems al Netware filesystems al Netware filesystems I local Solaris filesystems I local Windows filesystems	

4. Type a name for the new dataset.

IMPORTANT: Do not use any of the following characters in the dataset name: $\sim!@$, $(){}[]|, ;#/:*?<>'''$ &.

5. Click the Source Data tab.

The Source Data tab is where you define a list of source data plug-ins that contribute data to this dataset.

6. Type or select the following:

FIELD/OPTION	DESCRIPTION
Enter Explicitly	Select this option to define which plug-ins will be used by this particular source data entry.
	To add a plug-in type to this dataset, select it from the list.
Select Plug-in Type	This list is only available when Enter Explicitly is selected.
	Select a plug-in type from the list and click + to add it to the plug-in list.

FIELD/OPTION	DESCRIPTION
Select Files and/or Folders	This list is only available when Enter Explicitly is selected.
	If you want this plug-in to point to a specific client subdirectory (somewhere other than the root directory), click and browse to the directory before you click +.
	You can also type the full path to any client directory directly in the text box.
	IMPORTANT: Do not use any of the following characters in the entry: $\sim!@\$^{()}{}[] ,`;#V$:*?<>'"&.
Select All Data for All Local File Systems	Select this option to include all data on all client file systems. This adds all plug-in types to the source data list.

The remaining dialog box tabs are used to select optional parameters such as exclude and include list entries and optional plug-in options.

IMPORTANT: The Avamar SharePoint Client does not support include or exclude lists in datasets.

If you do not need to select these optional parameters in this dataset, skip step 7 and go directly to step 8.

7. Click the Options tab.

IMPORTANT: You must specify a Temporary directory and configure whether to **Remove tmp backup files**. The temp directory must be shared to the network and given share permissions for SQL Server to write to and read from. See steps 11 through 13 in *Backing Up an Entire SharePoint Farm* (page 17) for instructions on configuring these two options.

The Options tab is where you select various plug-in options.

Plug-in options can be selected two ways: by using the graphical controls or by typing option names and values as free text.

To include plug-in options with future backups, select or clear the desired options and type values where applicable.

IMPORTANT: When typing option names and values as free text, no error checking or validation is performed on these free-text entries and free text entries override settings made through the graphical controls.

Appendix A - Plug-in Options (page 42) provides a complete list of supported Avamar SharePoint Client options that can be executed by a dataset.

8. Click **OK**.

Setting Up Scheduled SharePoint Server Backups

REMINDER: You must be logged in to the root domain as an administrative user to perform this procedure.

- 1. Start Avamar Administrator.
- 2. Select **Navigation > Policy** or click the **Policy** launcher button.

The Policy window appears.

🐼 dpn28.avamar.com i	Avamar Adn	ninistrator	- Policy (/)							_ 🗆 ×
Actions Tools Navig	ation <u>H</u> elp									
	8	5								۲
Policy Management Group Summary Reports Client Summary Report										
Groups Clients										
U dpn28.avamar.com avamar clients	Show sub-dom groups	ain Seli	ect All	Clear All	Edit	C	opy	Delete	Back U	lp .
⊞ ∎ dev ⊞ ∎ dpe63	Group	Domain	Disabled	Dataset	Schedule	Retention	# of Clients	Skip Next	Run Once	Encryption
the second	Default G.,	1	Yes	/Default	/Default	/Default	28	No	No	None
0 2 🖌 🖻		×	Sch/Disp:	Guspended/	Running (!) Have Una	acknowledg	ed Events	Server:	Full Access





3. Select **Actions > New Group** or click the toolbar icon immediately to the left.

The New Group wizard appears.

Dischlad			
• Disableu			
Encryption method None	-		
Override Schedule			
C Skip Next Backup			
C Run Next Backup Once			
iomoin:			
omain.			

4. Type or select the following:

FIELD/OPTION		DESCRIPTION		
Name	Type a name for this new group. IMPORTANT: Do not use any of the following characters in the group name: ~!@\$^%(){}[] ,`;#\/ :*?<>'"&.			
Disabled	This option is selected by default. Clear this option if you want to immediately use this group to take regularly scheduled client backups.			
Encryption Method	This is the group encryption method that is used by members of this group for client/server network communications unless the method is overridden at client level. Choices are:			
	High	Strongest available encryption setting for that specific client platform.		
	Medium	Medium strength encryption.		
	None	No encryption.		
	NOTE: The strength u dependent platform a Product Se	ne exact encryption technology and bit used for any given client-server connection is t on a number of factors, including the client and Avamar server version. The Avamar ecurity Guide provides additional information.		

FIELD/OPTION	DESCRIPTION
Override Schedule	Select this option if you want to override the assigned schedule for this group.
	You also can skip the next scheduled backup entirely (Skip Next Backup) or perform the next scheduled backup one time only (Run Next Backup Once).
Domain	Location in the Avamar server where this group should reside.

The remaining wizard screens are used to select a dataset, schedule, and retention policy, as well as build a client list for this group.

You can click **Finish** at any time. Doing so will cause the new group to be created using system default settings and an empty client list. You can change those settings by editing the group properties.

5. Click Next.

New Group
Source Data Exclusions Inclusions Options
C Enter Explicitly
Select Plug-In Type:
₩ AIX DB2
c Select Files and/or Folders:
All local Linux filesystems Swn All local Solaris filesystems El All local Windows filesystems hp All local HP-UX filesystems Solaris Corale database
All local Macintosh filesystems
Back Next Finish Cancel Help

6. Select the dataset that you defined during *Create a New Dataset for SharePoint Server Backups* (page 26) from the Select an Existing Dataset list.

7. Click Next.

New Group	ذ
Select An Existing Schedule: Default Schedule	
Next Run Time: 2009-01-09 10:00 PM	
Repeat this schedule	
C Daily C Weekly C Monthly C On-Demand	
👿 Sunday 👿 Monday 👿 Tuesday 👿 Wednesday	
🗹 Thursday 🔽 Friday 🔽 Saturday	
	Select All Unselect All
Operating Hours	
Earliest start time: End no later than:	Backup window duration:
10:00 PM	a.u nours
Activation Constraints	
Delay until: 📃 Fri 2008-10-24 💌	🕫 No End Date
	C End after: Sat 2009-01-10
Back Next Finish	Cancel Help

8. Select a schedule from the Select an Existing Schedule list.

NOTE: Schedules are not modifiable from this screen. Detailed schedule properties are displayed so that you can review them prior to making a selection. The *Avamar System Administration Guide* provides additional information about editing schedule properties.

9. Click Next.

ct An Existing Retentio	on Policy: //Default Retention 💌	
Basic Retention Policy	y	
	60 days	
\mathbf{C} End date	Wed 2009-03-11	
C No end date		
☑ Override basic retei	ntion policy for scheduled backups Advanced	
🖉 Override basic reter	ntion policy for scheduled backups	

10. Select a retention policy from the Select an Existing Retention Policy list.

NOTE: You cannot edit retention policies from this screen. Detailed retention policy properties are displayed so that you can review them prior to making a selection. The *Avamar System Administration Guide* provides additional information about editing retention policy properties.

11. Click Next.

dpn 28. avamar.c	iom	Select All Clear All
dev	Client	Domain
	clinw2.avamar.com	/clients
- 📲 dpe86	cxclus13.devavamarclient.com	/clients
l∾⁼t yu	dev_netware_1.avamar.com	/clients
	devdb.devavamar.com	/clients
	devexch2003.dev2.com	/clients
	devexch2003b.devavamar.com	/clients
	dpe62.avamar.com	/clients
	dpe64.avamar.com	/clients
	naquada.corp.emc.com	/clients
	peridot	/clients
	peridot2	/clients
	plutonium.corp.emc.com	/clients
	scc-exch1516.devavamarclient.com	/clients
	usengkluegdd1c.corp.emc.com	/clients
	usenpaykosd1c.corp.emc.com	/clients
	vm-winclus17.devavamarclient.com	/clients
	vm-winclus29.devavamarclient.com	/clients
	celfiler1-dpe63	/dpe63
	celfiler2-dpe63	/dpe63
	fas250-dpe63	/dpe63
	qafas250-2-dpe63	/dpe63
	qafas250-dpe63	/dpe63
	celfiler1-dpe86	/dpe86
	celfiler2-dpe86	/dpe86

This screen is used to build a list of clients that will be members of this group. In this case, the group contains only one client—the SharePoint server.

- 12. Select the SharePoint server from the client list.
- 13. Click Finish.

The New Group wizard closes and the new group appears in the Policy window.

Enabling Scheduled SharePoint Server Backups

REMINDER: You must be logged in to the root domain as an administrative user in order to perform this procedure.

- 1. Start Avamar Administrator.
- 2. Select **Navigation > Policy** or click the **Policy** launcher button.

The Policy window appears.



- 3. Click the Policy Management tab.
- 4. Click the Groups tab.
- 5. Select the group that you created in the previous procedure (the group that now contains only the SharePoint server).
- 6. Select **Actions > Group > Disable Group**.

This clears the **Disable Group** option on the **Actions > Group** menu.

A confirmation message appears.

7. Click **Yes** to enable this group.



Disaster Recovery

In case a disaster occurs, the following information provides the means to perform a redirected restore and recover lost data.

Overview

The MOSS environment is composed of the following elements:

- Operating system (OS) binary files
- IIS configurations
- MOSS binary files
- MOSS configurations
- Customizations
- Content

A backup and recovery plan should address each of these elements in all systems that are part of the MOSS environment.

For additional information about backing up and restoring MOSS, refer to *Data protection and recovery for Microsoft Office SharePoint Server 2007 in small to medium-sized deployments*, which is available on the Microsoft website.

Binary Files

For both OS and MOSS binary files, the file system client may be used for backup and restore purposes. Having copies of the installation disks for OS, MOSS and software updates both onsite and offsite is mandatory.

Configurations

IIS configurations are set in the MOSS Central Administration Application or IIS Manager on each front-end Web server or system that runs SQL Server Reporting Services in the MOSS environment. IIS configurations are stored in the IIS metabase, located in %systemroot%\system32\inetsrv\MetaBack, and include the following:

- Application pool settings, including service accounts
- IIS compression settings
- Timeout settings
- Custom Internet Server API (ISAPI) filters
- Computer domain membership
- Internet Protocol security (IPsec) settings
- Network Load Balancing settings
- Host header entries
- Secure Sockets Layer (SSL) certificates
- Dedicated IP address settings

EMC recommends documenting all configurations for each front-end Web server in case a disaster occurs. Then it is possible to reconfigure this part of the environment exactly as it was before. The file system client or VSS plug-in might also be used for this purpose.

IIS also includes a script for backup/restore of the metabase. The backup can be run with the following command:

cscript.exe %systemroot%\system32\iisback.vbs /s servername /u accountname /p password /backup /b WeeklyBackup /v NEXT_VERSION /e backuppassword.

Configurations in MOSS are also set in the Central Administration application and stored in the configuration database. Although the configuration database and Central Administration can be backed up, they contain computer-specific information and can only be restored to an environment configured precisely the same, including all software updates, server names and numbers of servers.

Because it might not be possible to restore the configuration database, it is recommended that you document all settings in the Central Administration application. Also, you should consider a redundancy solution, such as clustering or mirroring of the computer running SQL Server with the configuration database.

Configuration settings in MOSS include the following:

Application pool settings

This includes service accounts (all accounts that Web applications run as, including the crawler account and search account).

- Database names and locations
- Web application names and database

Document the content database names associated with each Web application.

- Crawler impact rules
- Farm-level search settings
- External service connection settings
- Workflow management settings
- Activated features

You can easily document alternate access mapping (AAM) settings. You can export the AAM settings to a text file by first running the command

 ${\tt stsadm}$ -o enumalternatedomains, and then backing up the exported file with the file system client.

Customizations

Customizations of MOSS sites can include:

Master pages, page layouts and cascading stylesheets

These objects are stored in the content database for a Web application.

- Web parts, site or list definitions, custom columns, new content types, custom fields, custom actions, coded workflows, or workflow activities and conditions
- Third-party solutions

This includes associated binary files and registry keys, such as filters.

- Changes to standard XML files
- Custom site definitions (webtemp.xml)

The following are the most common location customizations stored on front-end Web servers:

Program Files\Common Files\Microsoft Shared\Web server extensions\12

This includes commonly updated files, custom assemblies, custom templates, and custom site definitions. This location is often called the 12 hive.

• Inetpub

This is the location of IIS virtual directories.

%systemroot%\assembly

This is the global assembly cache (GAC), a protected OS location that contains .NET Framework code assemblies that are installed to provide full system access.

The file system client can be used to backup and restore files in these locations.

Content

MOSS content is stored in SQL Server databases. The following are databases associated with a MOSS implementation:

- Configuration
- Content
- SSP
- Search

IMPORTANT: Configuration content can only be restored to precisely the same environment. The new setup must match the old setup: use the same OS, service packs, IP address, hostname, and domain, and install the same versions of SQL Server and SharePoint Sever as was used in the original environment.

Either the SharePoint or SQL plug-ins can be used to back up and restore all content and SSP databases. The search database is a special case in that you should only use the Avamar SharePoint Client to back it up. The Avamar SharePoint Client synchronizes the database backup with the search index file backup, and both can be restored together.

Optional SQL Server Database Backups With SQL plug-in

The SQL Server databases used by SharePoint can be backed up and recovered with the Avamar SQL Server Client. Backing up these SQL Server databases with the SQL Server client is not a replacement for a backup with the Avamar SharePoint Client. For restore of a SharePoint farm, you need the full backup provided by the SharePoint client.

If your company or database administrator already back up other SQL Server databases, you may want to include the SQL Server databases used by SharePoint in the regular SQL Server backup processes. When a SharePoint disaster recovery is performed through the SharePoint client, it is not necessary to perform a separate SQL Server recovery from a SQL Server client backup. The Microsoft white paper, *Data protection and recovery for Microsoft Office SharePoint Server 2007*, available on the Microsoft website, describes the benefits and disadvantages of using a separate SQL Server backup tool:

Benefits include:

- Existing SQL Server disaster recovery strategies can be reused.
- Full and differential backups can be configured with added verification.
- Provides a full-fidelity data backup.
- Can be faster than Office SharePoint Server backups.
- When recovering a database to restore specific content items, we recommend that you use a recovery farm.

Disadvantages include:

- Does not include front-end Web server custom solutions.
- Can back up the configuration database and Central Administration content database, but restoring is not supported.
- Does not back up Internet Information Services (IIS) settings set outside of Office SharePoint Server, including host headers, dedicated IP addresses, and Secure Sockets Layer (SSL) certificates.
- If using Search, you must re-crawl after restoring content because indexes are not backed up in SQL Server.
- Should not be used to back up the Search database, because it cannot be synchronized with the Search index.
- You must manually reattach your databases to the Web applications after a recovery.

Backup Procedure

- 1. Back up the entire farm by using the Avamar SharePoint Client.
- 2. Document alternate access mapping settings.
- 3. Document IIS settings.
- 4. Back up customizations by using the Avamar file system client.

Restore Procedure

- 1. Rebuild database servers.
 - (a) Install Microsoft Windows.
 - (b) Install Microsoft SQL Server.
 - (c) Install software updates (SP2 or later).
- 2. Rebuild application servers.
 - (a) Install Microsoft Windows.
 - (b) Install Microsoft .NET Framework 3.0.
 - (c) Install complete Microsoft Office SharePoint Server SP1 or later (Type: Complete).

- 3. Rebuild front-end Web servers.
 - (a) Install Microsoft Windows.
 - (b) Install IIS.
 - (c) Install ASP.NET.
 - (d) Install Microsoft .NET Framework 3.0.
 - (e) Install Microsoft Office SharePoint Server SP1 or later (Type: front-end Web).
- 4. Using the SharePoint Products & Technologies wizard on the application server, create a new farm server.
- 5. Start Search services.
- 6. Re-create all Web applications using the original port number for Central Admin Web Application.
- 7. Using the SharePoint Products & Technologies wizard on the front-end Web servers, connect to an existing server farm.
- 8. Install Avamar Windows Client.
- 9. Install the Avamar SharePoint Client.
- 10. Deactivate the clients installed in the previous steps.

Do this by clearing the **Activate it** checkbox on the **Client Properties** dialog box. The Avamar System Administration Guide provides details.

11. Invite the clients installed previously.

The Avamar System Administration Guide provides details.

12. Perform a redirected restore of the whole Microsoft Office SharePoint Server farm backup.

Use the **Restore to a different location** option in Avamar Administrator and use a destination value of a shared location on the MOSS host.

13. Perform a standard restore from the redirected restore location.

Provide the backup path of the folder where redirected restore was performed (for example, \\aiqmossvm8\bckMOD-1236666068244#1).

(a) From the full farm components, first restore all web applications to a new configuration.

For the URL and database names, retain the information provided. Keep all data as it is and provide only user credentials.

- (b) From the full farm components, restore search components to either a new configuration (alternate farm restore) or the original configuration (same farm restore).
- (c) From the full farm components, restore the shared services provider to a new configuration.

For the URL and database names, retain the information provided. Keep all data as it and provide only user credentials.

- 14. Set one or more front-end Web servers to serve queries.
- 15. Reconfigure IIS settings.
- 16. Reconfigure alternate access mappings (optional).

- 17. Start timer jobs.
- 18. On all front-end Web servers, redeploy solutions and reactivate features or restore the 12 hive by using the Avamar file system client (optional).

Restoring Deleted Web Applications and Search Database

In two specific circumstances, you must re-create the SharePoint component before restoring the lost data. The following procedures describe how to restore a Web application and search database if either was accidentally deleted.

Restoring a Deleted Web Application

There are several scenarios for restoring a deleted Web application, depending on how much data was lost and must be restored.

- Restore Web Application Data Only, When Web Application With Attributes Still Exists (page 40)
- *Restore Deleted Web Application When The IIS Website and Content Database Still Exist* (page 40)
- Restore Deleted Web Application When the IIS Website and Content Database Were Also Deleted (page 40)

Restore Web Application Data Only, When Web Application With Attributes Still Exists

This restore can be performed without stopping SharePoint or any services.

In Avamar Administrator, locate the deleted Web application, and then restore it.

Restore Deleted Web Application When The IIS Website and Content Database Still Exist

- 1. Open the SharePoint Central Administration page.
- 2. On the **Applications Management** tab, create a new Web application.

IMPORTANT: Data can only be restored to precisely the same environment, so ensure that all configuration parameters (attributes) match the original Web application environment.

3. In Avamar Administrator, restore the Web application.

Restore Deleted Web Application When the IIS Website and Content Database Were Also Deleted

If the IIS Website and Content Database were deleted in addition to the Web application, follow the steps in *Disaster Recovery* (page 35) to recover those components.

Restoring a Deleted Search Database

There are several scenarios for restoring a deleted Search Database, depending on how much data was lost and must be restored.

- Restore Search Database Only, When the Search Web Application Still Exists (page 41)
- Restore Deleted Search Web Application When the IIS Website and the Search Content Database Still Exist (page 41)
- Restore Deleted Search Web Application When the IIS Website and the Search Content Database Were Also Deleted (page 41)

Restore Search Database Only, When the Search Web Application Still Exists

This restore can be performed without stopping SharePoint or any services.

In Avamar Administrator, locate the deleted Search Web application, and then restore it.

Restore Deleted Search Web Application When the IIS Website and the Search Content Database Still Exist

- 1. Open the SharePoint Central Administration page.
- 2. On the Applications Management tab, create the Search Service in Manage Search Services.

IMPORTANT: Data can only be restored to precisely the same environment, so ensure that all configuration parameters match the original search database environment.

- 3. On the Operations tab, re-enable Search Services in Services on Server.
- 4. On the Applications Management tab, verify that the Office SharePoint Server Search service is running in Manage Search Services.
- 5. In Avamar Administrator, restore the search database.

Restore Deleted Search Web Application When the IIS Website and the Search Content Database Were Also Deleted

If the IIS Website and Content Database were deleted in addition to the Search Web application, follow the steps in *Disaster Recovery* (page 35) to recover those components.

APPENDIX A — PLUG-IN OPTIONS

Important Terms and Concepts

Plug-in options provide additional control of backups and restores. These options are context-sensitive to both the operation being performed and the specific plug-in selected for that operation.

These options can be specified during on-demand backup and restore operations, or persistently set within datasets for all future scheduled backups.

Backup or restore option dialog boxes automatically appear when initiating ondemand backups or restores, respectively.

When creating a new dataset, the new dataset wizard offers an opportunity to configure persistent backup plug-in option settings for that dataset.

To view or set plug-in options for an existing dataset:

- 1. Start Avamar Administrator.
- 2. Select Tools > Manage Datasets...

The Manage All Datasets window appears.

3. Select a dataset from the list and click Edit.

The Edit Dataset dialog box appears.

4. Click the **Options** tab.

Plug-in options can be set two ways:

- By using the graphical controls
- By typing option names and values as free text

Setting Plug-in Options by Using Graphical Controls. By clicking the Options tab and selecting a plug-in you can display all current options for that specific plug-in.

These settings are represented by graphical controls (for example, options, radio buttons, list boxes, and so forth).

The advantage to setting plug-in options by using graphical controls is that you cannot type an option name or value incorrectly. Only valid states are shown.

Setting **Show Advanced Options** expands this list even further by displaying options that are normally only of interest to persons debugging an Avamar system. These advanced options are shown in red.

Typing Option Names and Values as Free Text. You can also set plug-in options by typing option names and values as free text.

Clicking **More** expands the dialog box to include Enter Attribute and Attribute Value fields, which can be used to input plug-in options and values as free text.

However, it must be understood that no error checking or validation is performed on these free text entries and that free text entries override settings made by way of the graphical controls.

Microsoft Office SharePoint Server Plug-in Options

This topic lists and describes the plug-in options available for use with the Avamar Microsoft Office SharePoint Server plug-in.

Backup Options

FIELD/OPTION	DESCRIPTION
Temporary backup directory	Temporary backup directory
Backup Type	Sets backup level: either Full or Differential
Remove temporary backup files after backup completes	
Enable debugging messages	If selected, maximum information is written to log files. IMPORTANT: If selected, very large log files are created.

Restore Options

	FIELD/OPTION	DESCRIPTION
Username		Username with admin rights on farm.
Password		
Res	tore Type	Restore by overwriting existing data (Overwrite) or restore just the new data (New).
ADVANCED OPTIONS	Enable debugging messages	If selected, maximum information is written to log files. IMPORTANT: If selected, very large log files are created.