



EMC® NetWorker®
Module for Microsoft Applications
Release 2.1

Installation Guide
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REV A01

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

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Preface

Chapter 1 Introduction

- Supported configurations..... 10
 - Simple LAN-based configuration 10
 - LAN-based configuration with a proxy client 11
 - LAN-free configuration 12
- Installation roadmap 14
- Installation checklist..... 15
 - Installation media 15
 - Pathname 15
 - License information..... 15
- Installation requirements..... 16
 - Privileged user level access 16
 - Exchange Server 2007 credentials 16
 - Hardware requirements 16
 - Software requirements..... 16
- Installation directories..... 19

Chapter 2 Installing NetWorker Module for Microsoft Applications

- Installing the software..... 22
 - Task 1: Access the installation files 22
 - Task 2: Install the software..... 23
- Installing NMM in a MSCS environment..... 25
 - Verifying the installation..... 25
- Maintaining NetWorker Module for Microsoft Applications 26
- Removing NMM 28
 - Removing NMM by running the Setup program in maintenance mode. 28
- Removing previous installation of Solutions Enabler 29
- Upgrading to NetWorker Module for Microsoft Applications storage node 30
- Setting up a proxy server for rapid backups of VSS snapshots 31

Chapter 3 Licensing and Enabling the Software

- NMM client software licensing..... 34
 - Add-on enabler names..... 34
- The evaluation process..... 35
 - Evaluating a new installation 35

	Evaluating features on an existing installation.....	35
	The licensing process	37
	Task 1: Type the license enabler code	37
	Task 2: Obtain an authorization code	38
	Task 3: Type the authorization code	38
	Update enablers.....	40
	Additional licenses.....	40
	Managing EMC licenses.....	41
Chapter 4	Configuring the Software	
	Configuring Windows firewall settings.....	44
	Windows Firewall exception error for irccd.exe	44
	Using NMM with a VSS Hardware Provider.....	45
	Hardware array installation and configuration	45
	NMM installation and configuration for hardware provider support	46
	Configurations specific to PowerSnap	47
	Configurations specific to CLARiiON	48
	System rollback may fail with CLARiiON if the configuration information is not current.....	48
	Task 1: Update the CLARiiON configuration file	48
	Task 2: Update the SYMCFG authorization list	49
	Task 3: Update the Navisphere Privileged Users list	49
	Configurations specific to Symmetrix.....	50
	Updating NMM settings with Exchange username, password, or domain ...	52
	Changing Replication Manager port settings	53
Index		

As part of its effort to continuously improve and enhance the performance and capabilities of its product lines, EMC periodically releases revisions of its hardware and software. Therefore, some functions may not be supported by all revisions of the software or hardware currently in use. For the most up-to-date information on product features, refer to the product release notes.

If a product does not function properly or does not function as described in this document, please contact your EMC representative.

Audience

This guide is part of the EMC NetWorker Module for Microsoft Applications documentation set. It is intended for use by system administrators, during installation and setup of the product.

Readers should be familiar with the following technologies used in backup and recovery:

- ◆ Microsoft Volume Shadow Copy Service (VSS) technology
- ◆ Storage subsystems, such as EMC CLARiiON or Symmetrix, if used

Related documentation

Related documents include:

- ◆ *EMC NetWorker Module for Microsoft Applications Release 2.1 Administration Guide*
- ◆ *EMC NetWorker Module for Microsoft Applications Release 2.1 Release Notes*
- ◆ *EMC NetWorker Release 7.4 Service Pack 2 Multiplatform Version Administration Guide*
- ◆ *EMC NetWorker Release 7.4 Service Pack 2 Multiplatform Version Installation Guide*
- ◆ *EMC NetWorker Release 7.4 Service Pack 2 Multiplatform Version Release Notes*
- ◆ *EMC Information Protection Software Compatibility Guide*
- ◆ *EMC NetWorker License Manager Seventh Edition Installation and Administration Guide*
- ◆ *EMC Solutions Enabler Symmetrix CLI Version 6.3 Quick Reference*

Conventions used in this document

EMC uses the following conventions for special notices.

Note: A note presents information that is important, but not hazard-related.



CAUTION

A caution contains information essential to avoid data loss or damage to the system or equipment.

Typographical conventions

EMC uses the following type style conventions in this document:

Normal	Used in running (nonprocedural) text for: <ul style="list-style-type: none"> Names of interface elements (such as names of windows, dialog boxes, buttons, fields, and menus) Names of resources, attributes, pools, Boolean expressions, buttons, DQL statements, keywords, clauses, environment variables, filenames, functions, utilities URLs, pathnames, filenames, directory names, computer names, links, groups, service keys, file systems, notifications
Bold:	Used in running (nonprocedural) text for: <ul style="list-style-type: none"> Names of commands, daemons, options, programs, processes, services, applications, utilities, kernels, notifications, system call, man pages Used in procedures for: <ul style="list-style-type: none"> Names of interface elements (such as names of windows, dialog boxes, buttons, fields, and menus) What user specifically selects, clicks, presses, or types
<i>Italic:</i>	Used in all text (including procedures) for: <ul style="list-style-type: none"> Full titles of publications referenced in text Emphasis (for example a new term) Variables
Courier:	Used for: <ul style="list-style-type: none"> System output, such as an error message or script URLs, complete paths, filenames, prompts, and syntax when shown outside of running text
Courier bold:	Used for: <ul style="list-style-type: none"> Specific user input (such as commands)
<i>Courier italic:</i>	Used in procedures for: <ul style="list-style-type: none"> Variables on command line User input variables
< >	Angle brackets enclose parameter or variable values supplied by the user
[]	Square brackets enclose optional values
	Vertical bar indicates alternate selections - the bar means "or"
{ }	Braces indicate content that you must specify (that is, x or y or z)
...	Ellipses indicate nonessential information omitted from the example

- Where to get help** EMC support, product, and licensing information can be obtained as follows.
- Product information** — For documentation, release notes, software updates, or for information about EMC products, licensing, and service, go to the EMC Powerlink website (registration required) at:
<http://Powerlink.EMC.com>
- Technical support** — For technical support, go to EMC Customer Service on Powerlink. To open a service request through Powerlink, you must have a valid support agreement. Please contact your EMC sales representative for details about obtaining a valid support agreement or to answer any questions about your account.
- Your comments** Your suggestions will help us continue to improve the accuracy, organization, and overall quality of the user publications. Please send your opinion of this document to:
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This chapter includes the following sections:

◆ Supported configurations	10
◆ Installation roadmap.....	14
◆ Installation checklist	15
◆ Installation requirements	16
◆ Installation directories.....	19

Supported configurations

EMC® NetWorker® Module for Microsoft Applications (NMM) can be set up in a LAN-based or LAN-free environment. These example supported configurations provide general software and hardware release information. [Table 1 on page 17](#) lists the software and release number requirements for installation.

Simple LAN-based configuration

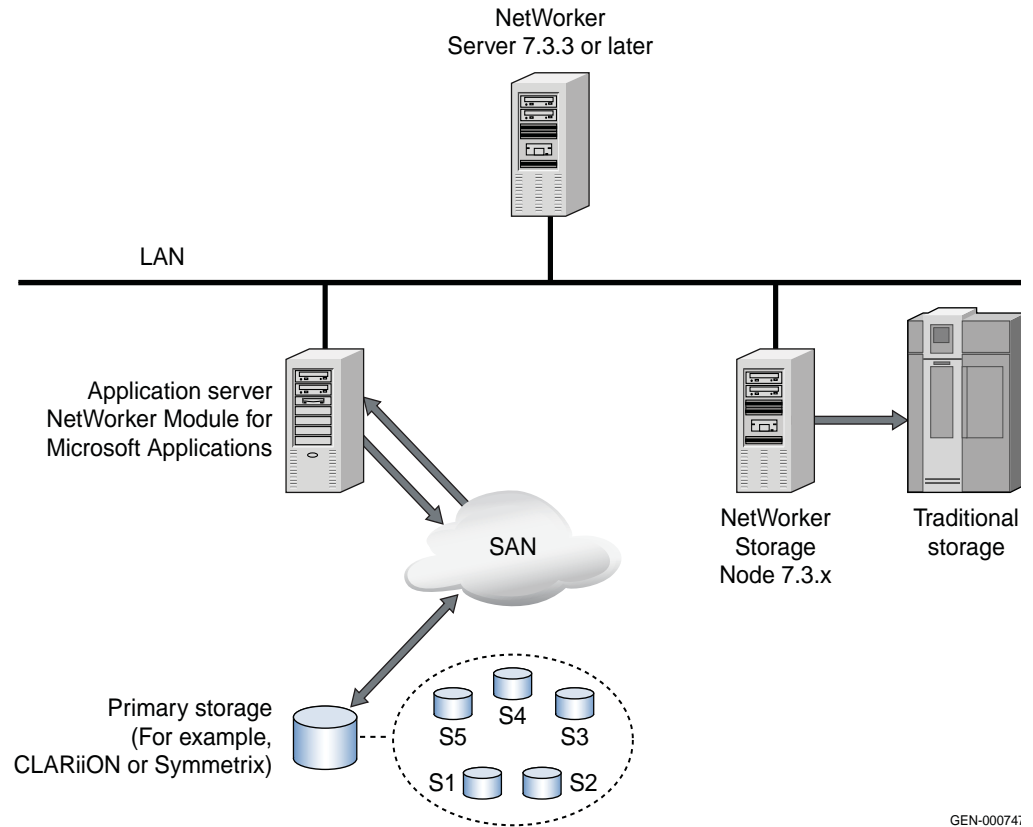
[Figure 1 on page 11](#) shows a simple LAN-based configuration with a storage area network. The application server that is being protected has NMM installed.

The data moves as follows:

1. The NetWorker server, which must be release 7.3.3 or later, initiates the process by contacting the application server where the NetWorker Module for Microsoft Applications software is installed.
2. The application server with the NMM software creates a snapshot of the data on the storage volume.

Note: In [Figure 1 on page 11](#), snapshots are represented by S1 through S5.

The application server with the NMM software uses a snapshot in primary storage to transfer the data over the LAN and into traditional storage such as a file type disk, advanced file type disk, or tape.



GEN-00074;

Figure 1 Simple LAN-based configuration

LAN-based configuration with a proxy client

Figure 2 on page 12 shows a LAN-based configuration with a storage area network and a proxy client. Both the application server and the proxy client have NMM installed.

A proxy client is a host that acts as a remote data mover when snapshots are rolled over to traditional storage such as a file type disk, advanced file type disk, or tape. A proxy client frees resources on the application server by offloading the work of processing and backing up snapshots from the application server. When a backup operation uses a proxy client, it is known as a serverless backup.

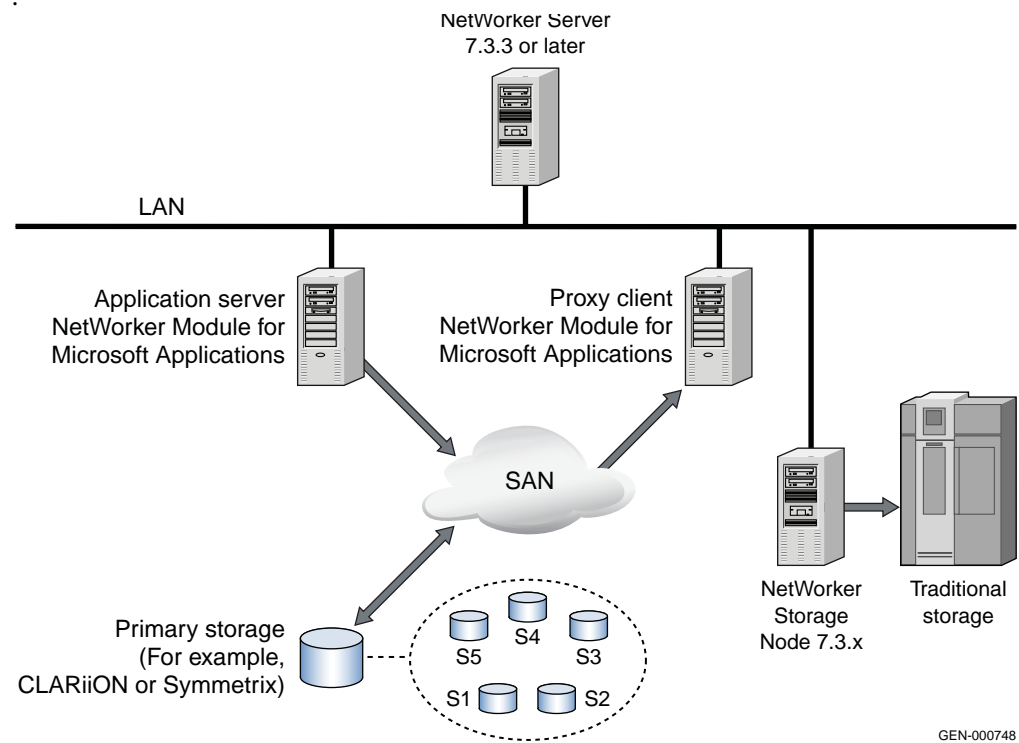
The data moves as follows:

1. The NetWorker server initiates the process by contacting the application server where the NMM software is installed.
2. The application server with the NMM software creates a snapshot of the data on the storage volume.

Note: In Figure 2 on page 12, snapshots are represented by S1 through S5.

3. The snapshot is made visible to the proxy client.

- The proxy client uses a snapshot in primary storage to transfer the data over the LAN and into traditional storage such as a file type disk, advanced file type disk, or tape



GEN-000748

Figure 2 LAN-based configuration with a proxy client

LAN-free configuration

[Figure 3 on page 13](#) shows a LAN-free configuration with a storage area network. The NMM client is installed on the application server. The proxy client is installed on the NetWorker storage node.

You can set up a NetWorker storage node version 7.3.3 or later as a proxy client to avoid the network traffic that is generated when a snapshot is rolled over to a conventional backup medium. Network traffic is avoided because both the conventional backup device and the snapshot are directly attached to the storage node.

Note: [“Setting up a proxy server for rapid backups of VSS snapshots” on page 31](#) provides information about setting up the NetWorker storage node as the proxy client.

The data moves as follows:

- The NetWorker server initiates the process by contacting the application server where the NMM software is installed.
- The application server with the NMM software creates a snapshot of the data on the storage volume.

Note: In [Figure 3 on page 13](#), snapshots are represented by S1 through S5.

3. The snapshot is made visible to the proxy client.
4. The proxy client, in this case the storage node, uses a copy in primary storage to transfer the data into traditional storage such as a file type disk, advanced file type disk, or tape.

The NetWorker server and the application server communicate through the LAN. However, the data itself is not transferred across the LAN because the traditional storage is attached directly to the NetWorker storage node.

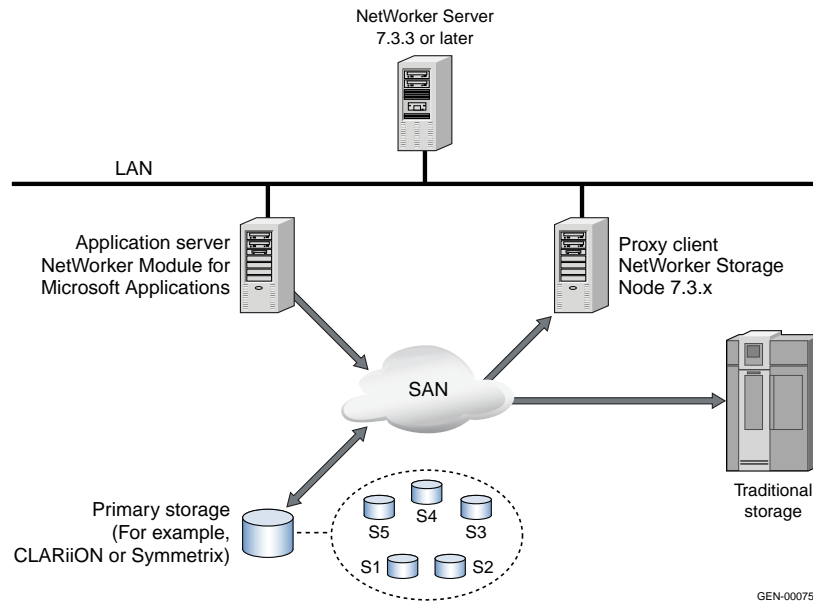


Figure 3 LAN-free configuration

Installation roadmap

Use the following roadmap when installing the software on Microsoft Windows 2003:

- ◆ Review [“Installation checklist” on page 15](#) and ensure that you have all the required installation media, pathnames, and license information.
- ◆ Review [“Installation requirements” on page 16](#) and ensure that you have the required software before installing NMM.
- ◆ Review [“Installation directories” on page 19](#) and ensure that you have the required directories before installing NMM.
- ◆ Install the client according to the instructions given in [Chapter 2, “Installing NetWorker Module for Microsoft Applications.”](#)
- ◆ After the installation is complete, configure the software components according to the instructions in [Chapter 3, “Licensing and Enabling the Software.”](#)

Installation checklist

Review the following checklist to ensure that you have the required media and information for the installation.

Installation media

The NetWorker Module for Microsoft Applications software is distributed in the following formats:

- ◆ On a DVD included in the EMC media kit. The media kit contains software and online documentation for NMM and related NetWorker products.
- ◆ In the downloadable file of the evaluation software, available from the EMC website at <http://Powerlink.EMC.com>

Pathname

The path of the NMM binaries is required for the installation.

License information

The following license information is required after the installation:

- ◆ NMM temporary evaluation enabler
- ◆ NetWorker base enabler
- ◆ NMM license add-on enabler — The NMM software requires a specific license: *NetWorker Module for Microsoft Applications*. This license must be installed on the NetWorker server.

[Chapter 3, "Licensing and Enabling the Software,"](#) provides more information on enablers and licensing.

Installation requirements

This section provides the installation requirements that must be met before installing the NMM software.

Privileged user level access

Because NMM requires access to protected server data and system files, NMM users must have administrator-level access privileges at all levels of operation:

- ◆ To install, configure, or repair NetWorker and NMM
- ◆ To run backup or recovery
- ◆ To configure or administer Windows Server, Microsoft applications servers such as Microsoft Exchange Server, SQL Server, DPM Server, or Office SharePoint Server
- ◆ To access other servers such as storage servers

Exchange Server 2007 credentials

If Exchange Server 2007 is installed after NMM is installed, then NMM must be reinstalled after Exchange is installed. During NMM installation, add Exchange credentials. “[Task 2: Install the software](#)” on page 23 provides more information about initial setup of Exchange credentials during NMM installation.

Hardware requirements

The following hardware requirements must be met before the installation:

- ◆ CPU: 2.0 GHz
- ◆ Physical memory: 1 GB
- ◆ Host architecture: x86 and x64 systems only

Note: The current *EMC Information Protection Software Compatibility Guide* provides more information on the supported hardware, software, and operating systems for the NetWorker Module for Microsoft Applications software.

Software requirements

[Table 1 on page 17](#) lists the software requirements that must be met before the installation.



CAUTION

To avoid potential data loss, do not install or use the NetWorker Module for Microsoft Applications with other vendor's VSS Requestor backup solutions. Data loss may occur if other VSS Requestor backup solutions delete shadowcopies created by the NetWorker Module for Microsoft Applications. Additionally, restoring an application by using another vendor's VSS Requestor backup solution may prevent the same application from being restored with the NetWorker Module for Microsoft Applications.

Table 1 Software requirements (page 1 of 2)

Hardware	Software requirements	Version
NetWorker Server host	NetWorker Server software	<p>The NMM Client is supported from NetWorker Server 7.3.3 or later on the following hosts:</p> <ul style="list-style-type: none"> • AIX • HP-UX (PA-RISC) • Solaris (SPARC) • Windows <p>For NMM granular recovery of Microsoft Office SharePoint 2007, NetWorker Server 7.4 Service Pack 2 or later is required.</p> <p>Note: The NMM Client is not supported from NetWorker Server running on Linux.</p>
EMC CLARiiON®	EMC CLARiiON FLARE® operating environment	FLARE version 19, 22, 24, or 26
	NaviCLI	The version that corresponds to the FLARE operating environment that is being used or later.
	NaviAgent	
	Hotfixes for Storport drivers	For Windows Server 2003 configurations running Storport drivers with CLARiiON storage arrays, the following hotfix from Microsoft is required: WindowsServer2003-KB908980-v2-x86-ENU.exe
HBA drivers	Driver: ql2300.sys 9.1.2.16 (w32) Consult EMC Support at http://Powerlink.EMC.com for HBA driver requirements.	
EMC Symmetrix®	EMC Symmetrix	<p>EMC DMX-4 microcode 5771 or later</p> <p>EMC DMX-3 microcode 5771 or later</p> <p>EMC DMX 800,1000, 2000, 3000 microcode 5670 or later</p> <p>EMC Symmetrix 8000 microcode 5566 or later</p>
	Hotfixes for STORport drivers	WindowsServer2003-KB903081-x86-ENU.exe Consult EMC Support at http://Powerlink.EMC.com for requirements for STORport.
EMC VSS Provider	Required only if EMC CLARiiON or Symmetrix hardware is used.	EMC VSS Provider v4.0.1, which includes EMC Solutions Enabler 6.5.1.3.

Table 1 Software requirements (page 2 of 2)

Hardware	Software requirements	Version
EMC Celerra® Provider	Required only if EMC Celerra hardware is used.	Celerra VSS Provider v1.7.x or later
All	Microsoft hotfixes for Replication Manager	<p>SP1 and Microsoft hotfixes</p> <p>The list of Microsoft hotfixes for Replication Manager are as follows:</p> <ul style="list-style-type: none"> • WindowsServer2003-KB891957-x86-ENU.exe • WindowsServer2003-KB898790-x86-ENU.exe • WindowsServer2003-KB912063-x86-ENU.exe <p>(Consult EMC Support at http://Powerlink.EMC.com for requirements for Replication Manager.)</p>
	Hotfix for any host running Microsoft Windows Server 2003/SP1 or Microsoft Windows Server 2003/R2 and connected to Symmetrix or CLARiiON storage.	KB916048 QFE

Installation directories

When NMM is installed, two directories are created:

- ◆ The NetWorker and PowerSnap™ binaries are located in the `%ProgramFiles%\Legato\nsr\bin` directory.
- ◆ The Replication Manager binaries are located in the `%ProgramFiles%\EMC\rmagentps\client\bin` directory.

[Table 2 on page 19](#) lists the installation services for NetWorker, PowerSnap, and Replication Manager.

Table 2 Services

Service names (in service control manager)	Service nicknames (use with the 'net start' command)	Process names
NetWorker Remote Exec	nsrexecd	nsrexecd.exe
NetWorker PowerSnap Service	nsrpsd	nsrpsd.exe
Replication Manager Client for RMAgentPS	rmagentps	irccd.exe

This chapter includes the following sections:

- ◆ [Installing the software](#) 22
- ◆ [Installing NMM in a MSCS environment](#) 25
- ◆ [Maintaining NetWorker Module for Microsoft Applications](#)..... 26
- ◆ [Removing NMM](#)..... 28
- ◆ [Removing previous installation of Solutions Enabler](#) 29
- ◆ [Upgrading to NetWorker Module for Microsoft Applications storage node](#)..... 30
- ◆ [Setting up a proxy server for rapid backups of VSS snapshots](#)..... 31

Installing the software



CAUTION

Remove all previous installations of NetWorker before installing NetWorker Module for Microsoft Applications, except if you want to use the LAN-free configuration. In the LAN-free configuration, only the NetWorker Storage Node should be installed. “[Removing NMM](#)” on page 28 provides information about how to remove a NetWorker Module for Microsoft Applications installation. “[Upgrading to NetWorker Module for Microsoft Applications storage node](#)” on page 30 provides information about installing the NMM storage node.

To install NetWorker Module for Microsoft Applications (NMM) software on a Microsoft Windows computer, complete the following tasks:

- ◆ “[Task 1: Access the installation files](#)” on page 22
- ◆ “[Task 2: Install the software](#)” on page 23

Task 1: Access the installation files

Access the installation files from one of the following sources:

- ◆ “[From a DVD](#)” on page 22
- ◆ “[From the EMC website](#)” on page 22

From a DVD

To access the NMM software from a local DVD:

1. Log in as administrator or equivalent on the NetWorker server.
2. Insert the NMM DVD into the DVD drive.
3. Run **setup.exe** directly from the DVD.

From the EMC website

To access the evaluation version of the NMM software from the EMC Support website:

1. Go to <http://softwareforms.EMC.com/resources/downloads/>.
2. On the **Evaluation Software Request** page, select **NetWorker Module for Microsoft Applications** from the products list and click **Release 2.1** for the Windows platform.
3. Complete and submit the **Evaluation Request Form** with the contact information. An EMC Sales Representative will send you an email with a URL to the NMM download file on the EMC FTP site.

Task 2: Install the software

Once you have accessed the NMM software files, you are ready to begin the installation.

To install NMM:

1. Run the Setup program (**setup.exe**) to launch the installation wizard.

The **Welcome to NetWorker Module for Microsoft Applications Installation** wizard appears.

2. Click **Next**.

The **Customer Information** dialog box appears.

3. Type the name and organization information and click **Next**.

The **License Agreement** dialog box appears.

4. Read the license agreement. To accept, select the **I accept the terms in the license agreement** option, and click **Next**.

The **Installation Location** dialog box appears.

5. To choose an alternate location for the installation folder, click **Change** and select a different installation location. Click **Next**.

6. In the **Change Folder** dialog box, specify the alternate folder location and name, and click **OK**.

The **Replication Manager Client Setup** dialog box appears.

7. For **Control Port** and **Data Port**, specify two different port number values that will be used by the Replication Manager Client service. For most installations, the values supplied will be satisfactory.



CAUTION

EMC Replication Manager is also sold as a separate product. Do not attempt to run the Replication Manager product on the same system as NMM.

You may change the Replication Manager port settings from the command line after the installation is complete. "[Changing Replication Manager port settings](#)" on page 53 provides more information.

Note: Occasionally, an error message is displayed that installation was unable to create a Windows Firewall exception for `irccd.exe`. "[Windows Firewall exception error for irccd.exe](#)" on page 44 provides steps to manually add the exception.

8. In the **Ready to Install** dialog box, click **Next** to start the NMM installation.

The installation may take several minutes.

If Microsoft Exchange Server is installed on the same installation machine, the **nwexinfo** dialog box appears. In the **nwexinfo** dialog box, type the Exchange Server domain information (**Domain**, **Username**, and **Password**) and click **OK**.

9. In the **NetWorker User Module for Microsoft Applications Setup Complete** window, click **Finish** to complete the installation and exit the installation wizard.

10. Enable and register the NMM software according to instructions in [Chapter 3, "Licensing and Enabling the Software."](#)
11. Configure the setup according to instructions in [Chapter 4, "Configuring the Software."](#)

Installing NMM in a MSCS environment

When installing the NMM software in a Microsoft Cluster Server (MSCS) environment, if you plan to use CLARiiON or Symmetrix hardware with EMC VSS Provider, ensure that first Microsoft Distributed Transaction Coordinator (MSDTC) is installed and running before installing the EMC VSS Provider. The EMC VSS Provider will install EMC Solutions Enabler, and Solutions Enabler requires that MSDTC be running. The *EMC Solutions Enabler Version 6.3 Installation Guide* provides details about installing and running Solutions Enabler.

Note: EMC Solutions Enabler will be present only when using EMC VSS Provider.

To install the NMM software in a MSCS environment:

1. Install the NMM software on the private disk of each physical node.
2. Configure each physical node as a Client resource on the NetWorker server.
3. In the **Remote Access** attribute of each virtual Client resource, type the names of the physical nodes.
4. Configure privileges for each physical node on the NetWorker server:
 - a. In the **Users** attribute of the **Administrators** user group, add the following values for each physical node in the cluster. Add each value on a separate line:


```
user=administrator,host=VSS_cluster_node
user=system,host=VSS_cluster_node
```

 where *VSS_cluster_node* is the DNS hostname of the physical node.
 - b. Click **OK**.

The *EMC NetWorker Module for Microsoft Applications Release 2.1 Administration Guide* provides more information about configuring a clustered Client resource.

For information about deploying Microsoft Exchange Server 2003 in a cluster, go to the Microsoft website.

Verifying the installation

Ensure that the following services are up and running:

- ◆ For NetWorker—**nsrexecd.exe**
- ◆ For PowerSnap—**nsrpsd.exe**
- ◆ For Replication Manager—**irccd.exe**

Maintaining NetWorker Module for Microsoft Applications

After installing the NMM software, you may run the Setup program in maintenance mode to change, repair, or remove the existing client installation.

To run the Setup program in maintenance mode

1. Log in as administrator on the client server.
2. To run the Setup program in maintenance mode, do one of the following:
 - Run the **setup.exe** file.
 - Select **Start > Settings > Control Panel > Add/Remove Programs**. Select the NetWorker Module for Microsoft Applications and click **Change**.

The **Welcome to NetWorker User Module for Microsoft Applications Maintenance** dialog box appears.

3. Click **Next**.


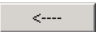
The Setup program detects the existing NMM installation and displays the **Maintenance Type** dialog box.

4. Select the type of maintenance to perform and click **Next**:
 - **Change** — Changes:
 - The password for Exchange Server using **nwexinfo**.
 - To a different authorized NetWorker server.
[“To change the password or change to a different authorized server” on page 26](#) provides more information.
 - **Repair** — Replaces corrupt files and adds missing files, shortcuts, registries, and services. [“To repair the NetWorker Module for Microsoft Applications software installation” on page 27](#) provides more information.
 - **Remove** — Removes the NMM software from the system. [“Removing NMM by running the Setup program in maintenance mode” on page 28](#) provides more information.

To change the password or change to a different authorized server

1. Start the Setup program in the maintenance mode. [“To run the Setup program in maintenance mode” on page 26](#) provides more information.
2. In the **Maintenance Type** dialog box, select **Change** and click **Next**.

The **Ready to Change** dialog box appears.

3. In the **Ready to Change** dialog box, click **Change** to proceed.
4. In the **NetWorker Server Selection** dialog box, do any of the following:
 - a. Click **Update List** to browse for all the available servers, and click **Add** to add a server to the **Available Servers** list.
 - b. Select a server from the **Available Servers** list and click  to move the server to the **Selected Servers** list.
 - c. Select a server from the **Selected Servers** list and click  to return it to the **Available Servers** list.
 - d. Type a server name in the **Enter a server name** field.



CAUTION

If an authorized server list is used together with a proxy server, then the proxy server must also authorize the production server, and the production server authorize the proxy server.

5. Click **Next**.

The selected NetWorker server is used to back up the data on the client. If you have not selected an alternate server, the default server is used to back up the data on the client.

To repair the NetWorker Module for Microsoft Applications software installation

1. Start the Setup program in the maintenance mode. [“To run the Setup program in maintenance mode” on page 26](#) provides more information.
2. In the **Maintenance Type** dialog box, select **Repair** and click **Next**.
3. In the **Ready to Repair** dialog box, click **Repair** to proceed.

The Setup program repairs the NMM software. The process may take several minutes.

Note: You can repair the PowerSnap and Replication Manager binaries by selecting Start > Control Panel > Add/Remove Programs.

Removing NMM

Before installing NetWorker Module for Microsoft Applications, remove any previous version of the NetWorker VSS client.

Removing NMM by running the Setup program in maintenance mode

To remove NetWorker Module for Microsoft Applications software, PowerSnap, and Replication Manager:

1. Start the Setup program in the maintenance mode. [“To run the Setup program in maintenance mode” on page 26](#) provides more information.
2. In the **Maintenance Type** dialog box, select **Remove** and then click **Next**.
3. In the **Ready to Remove** dialog box:
 - a. Select the **Remove NetWorker User Module for Microsoft Applications Metadata** option.

The Legato and rmagentps directories, and the Legato and RMService registry entries are removed.

Note: If you want to keep the existing data for reinstallation of the NetWorker Module for Microsoft Applications, then leave the **Remove NetWorker User Module for Microsoft Applications Metadata** option cleared.

- b. Click **Remove**.

Removing previous installation of Solutions Enabler

To uninstall Solutions Enabler:

1. Stop the Solutions Enabler services before uninstalling the Solutions Enabler software by using the following command:

```
net stop storapid
```

2. Select **Start > Settings > Control Panel > Add/Remove Programs**, and select **EMC Solutions Enabler**.
3. Click **Remove**.

Upgrading to NetWorker Module for Microsoft Applications storage node

NMM supports upgrading NetWorker 7.3.3 or later to NetWorker Module for Microsoft Applications storage node.

To upgrade to NetWorker Module for Microsoft Applications storage node:

1. Ensure that you have installed the NetWorker storage node on the server.

The *EMC NetWorker Release 7.4 Multiplatform Version Installation Guide* provides information about installing the NetWorker storage node.

2. Install the NMM software. “[Installing the software](#)” on page 22 provides more information.

When the NMM installation detects that a NetWorker storage node is already installed on the server, a message window appears. It states that an existing NetWorker Storage Node installation has been detected, and asks if you want to install the NetWorker Module for Microsoft Applications client as the storage node.

3. Click **OK** to upgrade to NMM storage node.

The NMM storage node is installed.

Although the PowerSnap and Replication Manager binaries are installed on the existing storage node during the upgrade procedure, the NMM storage node cannot be used as the NMM client.

Setting up a proxy server for rapid backups of VSS snapshots

To be able to take rapid backups of VSS snapshots created by NMM, you can set up the NMM software or the NMM storage node to act as the proxy client. The storage node acts as the proxy client in a SAN-based storage node configuration.

The *EMC NetWorker Module for Microsoft Applications Release 2.1 Administration Guide* provides more information.

This chapter includes the following sections:

◆ NMM client software licensing	34
◆ The evaluation process	35
◆ The licensing process	37
◆ Update enablers.....	40
◆ Managing EMC licenses	41

NMM client software licensing

The NetWorker software is installed in evaluation mode. The licensing of NetWorker software means entry of enabler and authorization codes on the server for the NetWorker environment. Without these codes, the software or added features will not run beyond the evaluation period.

Each installation of NMM client must be licensed with an enabler that activates the software and allows you to use the software. All licensing takes place on the server. The licenses are typed and stored on the server, and the server enforces the licensing.

Base enablers come in different editions, which enable varying degrees of functionality. Add-on enablers allow a broader scope of features.

Add-on enabler names

The specific add-on enabler for the NMM client is *NetWorker Module for Microsoft Applications*. The enabler name for NMM may vary depending on which version of NetWorker is installed, whether NetWorker Server has been upgraded, and in what order it was installed or upgraded:

- ◆ If an NMM add-on enabler is installed on NetWorker 7.4 SP2 or later, the add-on enabler is displayed as *NetWorker Module for Microsoft Applications*.
- ◆ If an NMM add-on enabler is installed on NetWorker prior to release 7.4 SP2, the add-on enabler is displayed under the old VSS license name *Volume Shadowcopy Service for Windows*. If the same NetWorker Server is then upgraded to NetWorker 7.4 SP2 or later, the existing add-on enabler is still displayed under the old VSS license name *Volume Shadowcopy Service for Windows*.
- ◆ If an older version of NetWorker Server, with an add-on enabler that uses the old name, is upgraded to NetWorker Server 7.4 SP2 or later, and then a new NMM add-on enabler is installed, then the new add-on enabler is displayed as *NetWorker Module for Microsoft Applications* in addition to the old enabler *Volume Shadowcopy Service for Windows*. Even though both names are present, the enablers will be combined and used correctly as different client systems claim them.

The steps in this chapter assume that all of the software and hardware requirements have been met and the NMM client software is installed.

The evaluation process

Evaluating NMM client software can take place in two ways:

- ◆ By evaluating a new installation of the software on a Windows server
- ◆ By evaluating NetWorker features on an existing NetWorker installation

Evaluating a new installation

When you first install the NMM client software, you can evaluate it with all the modules and features for 30 days free without typing any codes.

By the end of the evaluation period, you must purchase, type, and authorize a base enabler to continue to use the NMM client software to restore data. The base enabler is the license that enables the edition purchased.

To continue to use the modules and features that were available with the evaluation software, you might need to purchase the NMM client add-on enabler, depending on the edition of the base enabler.

Evaluating features on an existing installation

If you are evaluating one or more NMM client modules or features on an edition of the software that has already been installed and enabled, you must type a temporary enabler for each module or feature. The temporary enabler is valid for 45 days.

Contents documentation in the *EMC Information Protection and Availability Product Families Media Kit*, and [“Where to get help” on page 7](#) provide information about how to obtain a temporary enabler code.

[“Typing a temporary enabler code” on page 35](#) provides information about how to type the temporary enabler code. By the end of the evaluation period, you must purchase, type, and authorize the corresponding license enablers to continue to use modules or features evaluated by you. [“The licensing process” on page 37](#) provides instructions.

Typing a temporary enabler code



CAUTION

The temporary enabler code is valid on only one computer in a network. If you type the same code on more than one computer in a network, a copy protection violation error occurs and the NMM client software is disabled on all NetWorker servers with duplicate enablers.

To type the temporary enabler code:

1. Start the NetWorker Management Console software.
2. Launch the **Administration** window:
 - a. From the **Console** window, click **Enterprise**.
 - b. From the left pane, select a NetWorker server in the **Enterprise** list.
 - c. From the right pane, select the application.
 - d. From the **Enterprise** menu, click **Launch Application**.

The **Administration** window is launched as a separate application.

3. From the **Administration** window, click **Configuration**.
4. In the left pane, select **Registration**.
5. From the **File** menu, select **New**.
6. In the **Enabler Code** attribute, type the enabler code.
7. In the **Name** attribute, type the name of the license.
8. (Optional) In the **Comment** attribute, type a description of the license.
9. Click **OK**.

The licensing process

To permanently use NMM client software, you must purchase and type a license enabler code, and then authorize it. This licensing process is the same for all editions of software as well as for individual modules and features.

The license enabler code that you purchase is valid for 45 days, as a registration period. During the registration period, you must obtain and type a corresponding authorization code.

The following sections explain how to type and authorize the license enabler:

- ◆ [“Task 1: Type the license enabler code” on page 37](#)
- ◆ [“Task 2: Obtain an authorization code” on page 38](#)
- ◆ [“Task 3: Type the authorization code” on page 38](#)

Task 1: Type the license enabler code

License enabler codes are included in either the letter announcing the updated or upgraded software, or on the Enabler Certificate you receive when you purchase a software license. This depends on whether the software purchased is a first-time purchase or an updated or upgraded version.

Note: To save time when typing multiple licenses, type the base enabler last. Otherwise, once a base enabler is typed, devices that do not yet have licenses typed may be disabled. Those devices would have to be reenabled manually after their licenses are installed.

To type the license enabler code:

1. Start the NetWorker Management Console software.
2. Launch the **Administration** window:
 - a. From the **Console** window, click **Enterprise**.
 - b. From the left pane, click a NetWorker server in the **Enterprise** list.
 - c. From the right pane, click the application.
 - d. From the **Enterprise** menu, select **Launch Application**. The **Administration** window is launched as a separate application.
3. In the **Administration** window, click **Configuration**.
4. In the left pane, select **Registrations**.
5. From the **File** menu, select **New**.
The **Create Registration** dialog box appears.
6. In the **Enabler Code** attribute, type the enabler code.
7. In the **Name** attribute, type the name of the license.
8. (Optional) In the **Comment** attribute, type a description of the license.
9. Click **OK**.

The new license is added and appears in the right pane. Repeat the procedure to add any additional enabler codes. After you type a license enabler code, you have 45 days as a registration period to authorize the NMM client software.

Task 2: Obtain an authorization code

Registration of NMM client software takes place by obtaining an authorization code. Obtain a unique authorization code through one of the following methods:

- ◆ “Using the EMC website” on page 38
- ◆ “Using email” on page 38



CAUTION

If the software or feature is not authorized by the end of the 45-day registration period, the NMM client function or feature is disabled.

Using the EMC website

Register products and obtain authorization codes online by completing a registration form on the EMC website at <http://Powerlink.EMC.com>. Web registration takes just a few minutes and is available 24 hours a day, 7 days a week.

An authorization code that permanently enables the NetWorker license is sent by email.

Using email

To register the software and obtain an authorization code by email:

1. Start the NetWorker Management Console software.
2. Launch the **Administration** window:
 - a. From the **Console** window, click **Enterprise**.
 - b. From the left pane, select a NetWorker server in the **Enterprise** list.
 - c. From the right pane, click the application.
 - d. From the **Enterprise** menu, select **Launch Application**. The **Administration** window is launched as a separate application.
3. In the **Administration** window, click **Configuration**.
4. In the left pane, select the NetWorker server.
5. From the **File** menu, select **Properties**.
The **Properties** dialog box appears.
6. Select the **Customer Information** tab and complete your contact information.
7. Email your registration information. For contact information, go to the EMC CustomerNet portal at <http://Powerlink.EMC.com>

An authorization code that permanently enables the updated NetWorker software is sent to you.

Task 3: Type the authorization code

To complete the licensing process, you must type the unique authorization code on the NetWorker server within 45 days of typing the license enabler code.

If the authorization process is successful, the expiration date for the license displays "Authorized - No expiration date." If the authorization is not verified in this way, contact <http://Powerlink.EMC.com>

To avoid an interruption in restores, if you move the NMM client software from one computer to another, or to change the network address of a computer after the software is installed, perform one of the following:

- ◆ Obtain a new authorization code. You need the host ID of the original server as well as the new server. The host ID appears in the server's Registration window.
- ◆ Install and configure the License Manager software. [“Managing EMC licenses” on page 41](#) and the latest *EMC NetWorker License Manager Installation Guide* provide more information about using the License Manager.

To type the authorization code:

1. Start the NetWorker Management Console software.
2. Launch the **Administration** window:
 - a. From the **Console** window, click **Enterprise**.
 - b. From the left pane, select a NetWorker server in the **Enterprise** list.
 - c. From the right pane, click the application.
 - d. From the **Enterprise** menu, select **Launch Application**.

The **Administration** window is launched as a separate application.

3. In the **Administration** window, click **Configuration**.
4. In the left pane, select **Registration**.
5. In the right pane, select a license.
6. From the **File** menu, select **Properties**.
7. In the **Auth Code** attribute, type the authorization code for the product (the authorization code assigned to the specified permanent enabler or update enabler code).
8. Click **OK**.

The license is now permanently enabled.

Update enablers

To update existing NMM client software to a major release (one that introduces important new features), an update enabler is necessary. Update enablers are required for any major NetWorker software update, including the current NetWorker release. To use the License Manager, the NetWorker server must be release 5.0 or later.

With a first-time purchase of NMM client software, a one-year update agreement might be included. After 1 year, an update enabler may be acquired with a new update agreement purchase.

Additional licenses

This section describes a few of the additional licenses required to operate some of the NetWorker features.

Client connection licenses

Every computer to be restored in a NetWorker datazone requires a client connection license, even the NetWorker server. The client connection license may be one of the licenses supplied with the base enabler or purchased separately. A cluster client or NDMP data server requires a special type of client connection license, as described in [“Cluster clients” on page 40](#) or [“Managing EMC licenses” on page 41](#).

NetWorker application modules

NetWorker application modules are licensed on the basis of one enabler per database type host. For example, to back up the Exchange database on two hosts, two NetWorker module for Exchange enablers are required, even if the two hosts are backed up by the same server.

However, if multiple database instances are running on a NetWorker client host, only one NetWorker module enabler is required for that one host.

Cluster clients

For each physical node in a cluster, you must purchase a Cluster Client Connection, which takes the place of one standard client connection. The *EMC NetWorker Release 7.3.2 Multiplatform Version Administration Guide* provides more information on licensing computers in a cluster.

Managing EMC licenses

The License Manager provides centralized license management, allowing you to maintain all of an enterprise's NetWorker licenses from a single computer. With the License Manager, you can move NMM client software from one computer to another, or change the IP address on an existing NetWorker server without having to reauthorize the software. The License Manager can be installed as an option during NMM client software installation.

To begin to implement the License Manager:

1. Contact Licensing to obtain bulk enabler codes. Go to <http://Powerlink.EMC.com> for more information.
2. Install the License Manager software.
3. Configure the License Manager software.
4. Configure the NetWorker servers to access the License Manager for their licenses.

The *EMC NetWorker License Manager Installation Guide* provides details on installing and using the License Manager.

This chapter includes the following sections:

- ◆ [Configuring Windows firewall settings](#)..... 44
- ◆ [Configurations specific to PowerSnap](#) 47
- ◆ [Configurations specific to CLARiiON](#) 48
- ◆ [Configurations specific to Symmetrix](#)..... 50
- ◆ [Updating NMM settings with Exchange username, password, or domain](#)..... 52
- ◆ [Changing Replication Manager port settings](#) 53

Configuring Windows firewall settings

NetWorker Module for Microsoft Applications (NMM) will automatically configure Windows firewall settings during installation. There is no need to run the Security Configuration Wizard to create firewall exceptions for the NMM client. The previous version of NMM, NetWorker VSS Client, required running the SCW. The SCW settings were then saved to the configuration file NetWorkerEXT.xml, which is no longer needed.

NMM settings can also be modified after installation:

1. Click **Start**, and then click **Control Panel**.
2. Open **Add or Remove Programs**, select **NetWorker Module for Microsoft Applications**, and then click **Change**.

Windows Firewall exception error for irccd.exe

Occasionally, the following error message is displayed during installation:

"Unable to create a Windows Firewall exception for C:\Program Files\EMC\rmagentps\client\bin\irccd.exe. File not found."

If this occurs, manually configure the firewall setting, and then validate the configuration.

To configure the firewall:

1. Click **Start**, and then click **Control Panel**.
2. Open **Add or Remove Programs**, select **NetWorker Module for Microsoft Applications**, and then click **Change**.
3. When the **Welcome to NetWorker User Module for Microsoft Applications Maintenance** dialog box appears, click **Next**.
4. In the **Windows Firewall** screen, select **Configure the Windows Firewall**.
5. Click **Next** until you finish the configuration wizard.
6. Click **Start**, and then click **Control Panel**.
7. Open **Windows Firewall**.
8. Click the **Exceptions** tab.
9. In the **Programs and Services** list, verify that **EMC Replication Manager Client for RMAgentPS** appears and is selected:
 - If the checkbox is not selected, select it.
 - If there is no entry for **EMC Replication Manager Client for RMAgentPS**, manually add it:
 - a. Click **Add Program**.
 - b. Click **Browse**.
 - c. Type **C:\Program Files\EMC\rmagentps\client\bin\irccd.exe**.
If NMM was installed on an another drive letter other than C:\, specify the correct path to irccd.exe as needed.
 - d. Click **OK**.

Using NMM with a VSS Hardware Provider

NMM can use a VSS Hardware Provider for persistent snapshots or off-host backups. To enable these to work together, use the following processes to configure the hardware array and NMM:

[“Hardware array installation and configuration” on page 45](#)

[“NMM installation and configuration for hardware provider support” on page 46](#)

Hardware array installation and configuration

1. Install and license the appropriate snapshot software for the array :
 - For EMC CLARiiON:
 - SnapView Clone
 - SnapView Snapshots
 - For EMC DMX/Symmetrix:
 - TimeFinder/Mirror
 - TimeFinder/Clone
 - TimeFinder/Snap
 - For EMC Celerra: Celerra Snapshots
 - For Dell EqualLogic PS Series: EqualLogic Snapshots
 - For IBM System Storage DS6000/DS8000: IBM FlashCopy
2. Install the appropriate HBA drivers and Windows VSS/VDS hotfixes.
3. Install the appropriate host-based EMC storage software, such as PowerPath, Navisphere host-based utilities, as required by the supporting array and customer environment.
4. Install the appropriate VSS HW Provider on the Windows Server hosting the application:
 - For EMC VSS Common Provider for EMC Symmetrix, Symmetrix DMX™ and CLARiiON arrays:
 - The EMC VSS Common Provider is available on Powerlink at <http://Powerlink.EMC.com>
 - Release Notes for the EMC VSS Common Provider can be found on Powerlink at <http://Powerlink.EMC.com>
 - For EMC Celerra VSS Provider for Celerra arrays: The EMC Celerra VSS Provider is available on Powerlink at <http://Powerlink.EMC.com>
 - For Dell/EqualLogic Integration ToolKit for EqualLogic PS Series arrays: Check with Dell for access and support information.
 - For IBM DS6000 and DS8000 arrays:
The IBM System Storage DS Open API Package is available at <http://www-1.ibm.com/support/docview.wss?uid=ssg1S4000372&rs=555>
 - For Windows Unified Data Storage Server (WUDSS):
Check Microsoft documentation for access and support information.
5. Configure LUNs for Clones or Snapshots as required.

6. Verify that the VSS HW Provider is available for use:
 - a. Run 'vssadmin list providers' on the application server.
 - b. Test if the hardware provider is functioning properly using VSHADOW.exe in Windows Server 2003 or DISKSHADOW.exe in Windows Server 2008 to validate creation of hardware snapshots.

NMM installation and configuration for hardware provider support

1. Install the NMM client on the Windows Server hosting the application.
2. Configure a NetWorker Client scheduled backup as needed for the application:
 - a. Configure a snapshot policy to match application requirements.
 - b. Configure a backup group, referencing the snapshot policy.
 - c. Configure a Client resource as required for the application, including NetWorker User Group entries.
 - d. Configure a proxy client if required, including NetWorker User Group entries.
3. Run and test the NMM scheduled backup.

Configurations specific to PowerSnap

If you do not have administrative rights and are running programs, add the username for the account that is logged into the server:

1. Set the PowerSnap NetWorker security using *NMC* (from **Configuration > User Groups**)
2. Add the following values to the Administrators User Group for the production host and proxy host:

user=Administrator,host=<fqdn>

For example:

- For production host:
user=system,host=bv-clsrv.belred.emc.com
- For proxy host:
user=system,host=qe2.belred.emc.com

Configurations specific to CLARiiON

To configure CLARiiON storage arrays, refer to your CLARiiON documentation. Additionally, ensure that the following configuration tasks are performed:

- ◆ “Task 1: Update the CLARiiON configuration file” on page 48
- ◆ “Task 2: Update the SYMCFG authorization list” on page 49
- ◆ “Task 3: Update the Navisphere Privileged Users list” on page 49

System rollback may fail with CLARiiON if the configuration information is not current

If a CLARiiON array is migrated, or the information in the CLARiiON configuration is not up-to-date, rollback may fail. If there is more than one entry in the CLARiiON clarcnfg file, Replication Manager only uses the first entry. If the clarcnfg file is not current, the first entry may be pointing to a CLARiiON that is no longer connected to the system.

Edit the clarcnfg file so that there is only entry, pointing to the current CLARiiON you want to use.

Task 1: Update the CLARiiON configuration file

To support Replication Manager, edit the CLARiiON configuration file (clarcnfg) with the CLARiiON array name and the IP addresses or DNS hostnames of the two storage processors that exist in each CLARiiON machine.

The clarcnfg file is located in the
%ProgramFiles%\EMC\SYMAPI\config\clarcnfg directory.

Use the following sample configuration file template as a guide when adding values to your CLARiiON configuration file. Obtain the values from the CLARiiON array configuration.

```
#####
#
# CLARiiON CONFIGURATION FILE TEMPLATE
# This CLARiiON configuration file provides network addresses
# (hostnames or IP addresses) for the two Storage Processors on
# each CLARiiON which can be seen by this host. To load
# information about CLARiiON systems, CLARAPI must be able to
# communicate with the Navisphere Agent that administers them.
# CLARAPI Discovery depends on valid entries in this file.
#
# CLARiiON Arrayname      Storage Processor A      Storage Processor B
# XXXXXXXXXXXXX          losat246                  losat247
#
# APM00052211461         10.5.221.132             10.5.221.133
```

Task 2: Update the SYMCFG authorization list

The SYMCFG authorization list must be updated to support the EMC VSS Provider. Use the following example to update the SYMCFG authorization list for your configuration. In the following example, the two hostname IP addresses identify the two storage processors that exist on each CLARiiON machine:

1. Update the SYMCFG authorization list with the hostname IP address, username, and password for storage processor A. For example:

```
%ProgramFiles%\EMC\SYMCLI\bin>>symcfg authorization add -host 10.5.221.132 -username gadmin -password rdc4xyz
```

2. Update the SYMCFG authorization list with the host name IP address, user name, and password for storage processor B. For example:

```
%ProgramFiles%\EMC\SYMCLI\bin>>symcfg authorization add -host 10.5.221.133 -username gadmin -password rdc4xyz
```

3. Verify that the SYMCFG authorization list has been updated correctly. For example:

```
%ProgramFiles%\EMC\SYMCLI\bin>>symcfg authorization list
```

Hostname	Username
-----	-----
10.5.221.132	gadmin
10.5.221.133	gadmin

Task 3: Update the Navisphere Privileged Users list

EMC Navisphere is software that enables the management of CLARiiON storage systems. To create a secure environment, update the EMC Navisphere Privileged Users list with the DNS hostname or IP address of the CLARiiON storage processors (SPA and SPB).

Enter values in the Privileged Users list in the following format:

```
system@hostname_SPA
```

```
system@hostname_SPB
```

where *hostname_SPA* and *hostname_SPB* are the DNS hostnames or IP addresses of the CLARiiON storage processors.

The *EMC Navisphere Manager Administrator's Guide* provides more information about adding entries to the Privileged Users list.

Configurations specific to Symmetrix

This section contains instructions for setting up the device group and establishing mirrors with BCVs on Symmetrix.

For all other options, use the **-help** option with any SYMCLI. The *EMC Solutions Enabler Symmetrix CLI Version 6.3 Quick Reference* or *EMC Solutions Enabler Symmetrix TimeFinder Family CLI Version 6.3 Product Guide* provide more information about using the **-help** option.

To create a device group and attach the STD and BCV devices:

1. To create device group, type the following command:

```
symdgm create <device group name>
```

For example:

```
symdgm create nw_group
```

2. To add a STD device to the device group, use the following command:

```
symdgm -g <device group name> -sid <Symm id> add dev <symm device name>
```

For example:

```
symdgm -g nw_group -sid 197 add dev 019
```

3. To add a BCV to the device group, use the following command:

```
symbcv -g <device group name> -sid <Symm id> add dev <symm device name>
```

For example:

```
symbcv -g nw_group -sid 197 add dev 0C0
```

4. Check the device group:

```
symdgm -g <device group name> list
```

For example:

```
symdgm -g nw_group list
```

This command examines information about the new device group created inside the SYMAPI database (sympai_db_bin) which resides on the host.

5. To query the mirror status on device group, use the following command:

```
symmir -g <device group name>
```

For example:

```
symmir -g nw_group
```

This displays the mirror relationship, though it is shown as *Split* because no mirror is established between the STD and BCV devices.

Note: Record the logical device name for the STD device displayed in the output for use in the next step. For example, DEV001.

6. Attach the STD and BCV device using the following command:

```
symmir -g <device group name> attach <STD logical device name> BCV dev <symm device name>
```

For example:

```
symmir nw_group attach DEV001 BCV dev 0C0
```

- To display the attachment status and current pairing relationship, use the following command:

```
symmir -g <device group name> -attach query
```

For example:

```
symmir -g nw_group -attach query
```

- Establish the mirror between STD device and BCV device using the following command:

```
symmir -g <device group name> -full -noprompt -v establish
```

For example:

```
symmir -g nw_group -full -noprompt -v establish
```

- To query the status and attach info, use the following command:

```
symmir -g <device group name> query
```

```
symmir -g <device group name> -attach query
```

For example:

```
symmir -g nw_group query
```

```
symmir -g nw_group -attach query
```

This should show *SyncInProgress* or *Synchronized* state.

- To detach the relationship, use the following command:

```
symmir -g <device group name> detach <STD Logical name> BCV dev <symm device name>
```

For example:

```
symmir -g nw_group detach DEV001 BCV dev 0C0
```

- To add more BCVs to any STD device, use the following command:

```
symmir -g <device group name> -full establish <STD logical device name> bcv ld <BCV logical device name> -noprompt
```

For example:

```
symmir -g nw_group -full establish DEV002 bcv ld BCV004 -noprompt
```

- To check the status of all mirrors, use the following command:

```
symmir -g <device group name> query -multi
```

For example:

```
symmir -g nw_group query -multi
```

Updating NMM settings with Exchange username, password, or domain

If changes are made to the Microsoft Exchange Services account, changes may be necessary in the NMM settings to continue NMM access to the account. The steps for updating the Exchange username or account information in NMM are different for Exchange Server 2003 and Exchange Server 2007.

Updating account information in NMM for Exchange Server 2003

When NMM is installed on an Exchange Server 2003 server, the **nwexinfo.exe** utility runs as part of the NetWorker Module for Microsoft Applications installation. This utility updates the NMM software with the Exchange username, password, and domain.

Run the **nwexinfo.exe** utility again if:

- ◆ The Exchange server is installed after the NMM is installed.
- ◆ The username, password, or domain changes after the NMM is installed.

To run the **nwexinfo.exe** utility, double-click the **nwexinfo.exe** file from the `%ProgramFiles%\Legato\nsr\bin` directory.

Updating Exchange Service account information in NMM for Exchange Server 2007

When changes are made to the Exchange Services account in Exchange Server 2007, the username and account information must be updated in:

- ◆ The Replication Manager-supplied Exchange 2007 Service for NMM.
- ◆ The COM registration associated with that Replication Manager-supplied Exchange 2007 Service for NMM.

Changing Replication Manager port settings

The Replication Manager port settings are specified during the NMM installation. However, you can use the following procedure to change the Replication Manager port settings after NMM is installed.

To change the Replication Manager port settings:

1. From the command line, stop the **rmagentps** service.

For example:

```
net stop rmagentps
```

2. From the `%ProgramFiles%\EMC\rmagentps\client\bin` directory, run the **ircdd** command to change the port settings.

For example:

```
ircdd -p <control_channel_port> -P <data_channel_port>
```

3. From the `%ProgramFiles%\Legato\nsr\res` directory, edit **mps.res**.

```
type: RM Service Ports;
```

```
Control Port: <control_channel_port>
```

```
Data Port: <data_channel_port>
```

For example:

```
type: RM Service Ports;
```

```
Control Port: 6728;
```

```
Data Port: 6729;
```

4. Start the **rmagentps** service.

For example:

```
net start rmagentps
```


A

add-on enablers 34
attachment status 51
authorization code 38

B

base enablers 34
BCV devices 50
BCVs 50

C

check device group 50
CLARiiON array configuration 48
CLARiiON configuration file 48
copy protection violation error 35
create device group 50
current pairing relationship 51

D

device group 50
duplicate enablers 35

E

enabler certificate 37
establishing mirrors 50
evaluating NetWorker software 35
Exchange server 52

H

-help option 50

L

License Manager software 39
licensing process 38

N

new authorization code 39
NMC 47
nwexinfo.exe utility 52

P

PowerSnap NetWorker security 47
production host 47
proxy host 47
purchased edition 35

R

registration period 37
Replication Manager port settings 53
rmagentps service 53

S

sample configuration file 48
split 50
status of mirrors 51
STD devices 50
SYMAPI database 50
SYMCLI 50
synchronized 51
SyncInProg 51

T

temporary enabler 35

U

utility 52

