



EMC[®] NetWorker[®]
Module for Microsoft SQL Server
Release 5.2 Service Pack 1

Installation Guide

P/N 300-008-657
REV A01

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Published May, 2009

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As part of an effort to improve and enhance the performance and capabilities of its product lines, EMC periodically releases revisions of its hardware and software. Therefore, some functions described in this document may not be supported by all versions of the software or hardware currently in use. For the most up-to-date information on product features, refer to your 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 SQL Server documentation set, and is intended for use by system administrators during installation and setup of the product. Operators who monitor daily backups may also find this guide helpful.

Readers of this guide are expected to be familiar with the following:

- ◆ EMC NetWorker software
- ◆ Microsoft SQL Server versions 2000, 2005, and 2008

**Related
documentation**

Related documents include:

The following documentation provides additional information relevant to the use this NetWorker Module software:

- ◆ *EMC NetWorker Module for Microsoft SQL Server Administration Guide*
- ◆ *EMC NetWorker Module for Microsoft SQL Server Installation Guide*
- ◆ *EMC NetWorker Module for Microsoft SQL Server Release Notes*
- ◆ EMC NetWorker Module for Microsoft SQL Server Online Help
- ◆ EMC NetWorker PowerSnap Module version specific installation and administration guides

Documentation specific to the NetWorker server version are also available:

- ◆ *EMC NetWorker Administration Guide*
- ◆ *EMC NetWorker Installation Guide*
- ◆ *EMC NetWorker Release Notes*

Hardware and software compatibility guides are also available at:

<http://Powerlink.EMC.com>

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.

**IMPORTANT**

An important notice contains information essential to operation of the software.

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, functions, utilities URLs, pathnames, filenames, directory names, computer names, filenames, 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 calls, 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:
- SSGdocumentation@EMC.com

This chapter includes the following sections:

- ◆ [About NetWorker Module for SQL Server.....](#) 10
- ◆ [NetWorker PowerSnap Module support.....](#) 11

About NetWorker Module for SQL Server

The EMC[®] NetWorker[®] Module for Microsoft SQL Server, release 5.2 Service Pack 1, is a NetWorker module that provides backup and restore of the following database and transaction logs:

- ◆ Microsoft SQL Server 2008
- ◆ Microsoft SQL Server 2005
- ◆ Microsoft SQL Server 2000

This module integrates data protection procedures for Microsoft SQL Server databases with the NetWorker software. This provides a comprehensive storage management solution that addresses the need for cross-platform support of enterprise applications on UNIX and Microsoft Windows operating systems.

Figure 1 on page 10 provides details on how the NetWorker Module for Microsoft SQL Server and NetWorker software work with SQL Server.

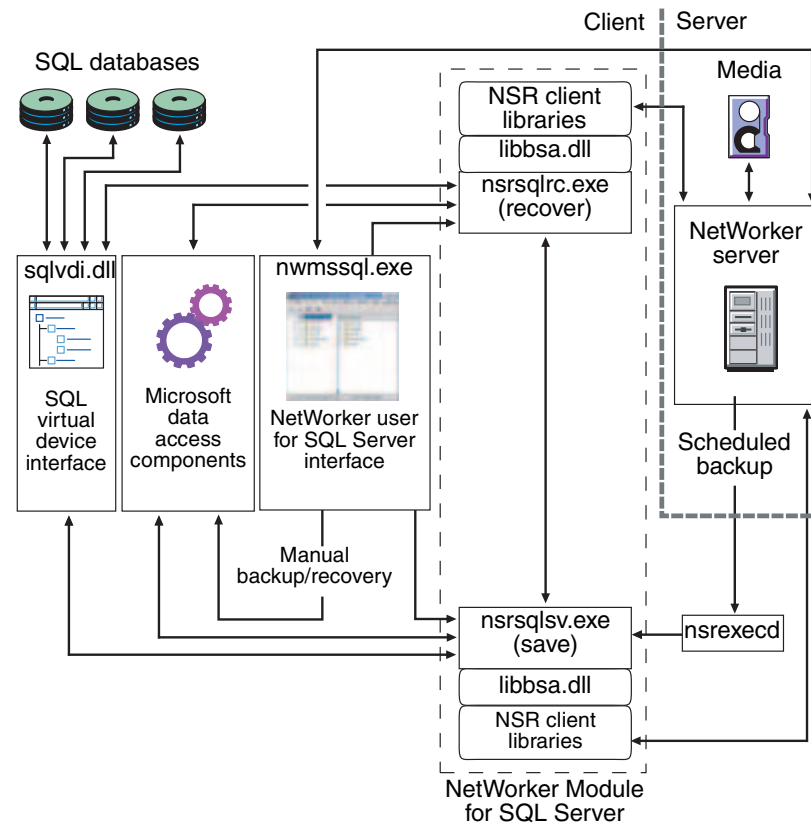


Figure 1 Module and NetWorker setup with SQL Server

In addition to traditional backup and recovery, NetWorker Module for Microsoft SQL Server also provides snapshot backup and recovery of SQL Server 2000, 2005, and 2008 on Windows Server 2000, Windows Server 2003, and Windows Server 2008 computers.

NetWorker PowerSnap Module support

NetWorker Module for Microsoft SQL Server supports NetWorker PowerSnap™ Modules, which interface with a snapshot-capable storage subsystem and the NetWorker and NetWorker Module for Microsoft SQL Server software. For a current list of supported storage subsystems, refer to the EMC Software Compatibility Guides.

By using the NetWorker PowerSnap Module appropriate for the SQL Server storage subsystem, you can create and manage *point-in-time* (PiT) copies, or snapshots, of Microsoft SQL Server data. For more information on PowerSnap Modules, refer to the EMC NetWorker PowerSnap Module guides for the specific storage subsystem.

This chapter includes the following sections:

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Installation roadmap

The following roadmap provides an overview of the NetWorker Module for Microsoft SQL Server software installation tasks:

1. Review [“Software requirements”](#) on page 15.
2. Review [“Installation prerequisites”](#) on page 18.
3. Obtain the software as described in [“Accessing the NetWorker Module installation files”](#) on page 22.
4. Install the NetWorker Module software. For instructions, see [“Installing the NetWorker Module software”](#) on page 23.
5. Enable and register the NetWorker Module software. For instructions, see [Chapter 3, “Licensing and Enabling the Software.”](#)

NetWorker Module features

This release of NetWorker Module for Microsoft SQL Server offers several new features, including:

- ◆ IPv6 support with NetWorker client, storage nodes, and servers configured for IPv6 support.
- ◆ Integration with the NetWorker 7.5 Client Configuration Wizard. This wizard enables simple backup configuration of the NetWorker Module for SQL Server client. To use the Configuration Wizard, NetWorker 7.5 server and client must be installed.
- ◆ Push install from a NetWorker 7.5 or later server. This enables a NetWorker server administrator to mount a DVD containing the NetWorker Module binaries, and push the installation of the module to a NetWorker client.
- ◆ Multiple language support.

Multiple language support

This module release has been translated into the following languages:

- ◆ Japanese
- ◆ Simplified Chinese
- ◆ French
- ◆ Korean

This release of the NetWorker Module for Microsoft SQL Server can be installed in these non-English environments. Ensure that the appropriate fonts are installed to support the chosen language.

Note: Full language support requires that the module is installed with the NetWorker 7.4 or later client.

Software requirements

This section specifies the software that is required for successful installation of NetWorker Module for Microsoft SQL Server software.

Supported operating systems

This module supports the following editions of Microsoft Windows:

- ◆ Windows 2000 with the latest service packs
- ◆ Windows Server 2003 with the latest service packs
- ◆ Windows Server 2008 with the latest service packs

See [“Microsoft Windows and SQL Server compatibility”](#) on page 15 for SQL Server and operating system compatibility with this module.

Microsoft SQL Server

The NetWorker Module for Microsoft SQL Server software supports the following versions of Microsoft SQL Server:

- ◆ Microsoft SQL Server 2008 Express, Workgroup, Standard, Web, Compact, and Enterprise editions
- ◆ Microsoft SQL Server 2005 Express, Workgroup, Standard, and Enterprise editions
- ◆ Microsoft SQL Server 2000 Standard and Enterprise editions

Microsoft Windows and SQL Server compatibility

NetWorker Module for Microsoft SQL Server is compatible with Microsoft Windows and Microsoft SQL Server, as shown in [Table 1](#) on page 15.

Table 1 NetWorker Module compatibility

SQL Server versions	Windows Server versions	Cluster support
SQL Server 2008 (x86, x64) SQL Server 2005 (x86, x64), service pack 2	Windows Server 2008 (x86, x64)	Windows Server 2008 Enterprise edition Windows Server 2008 Datacenter edition
SQL Server 2008 (x86, x64, IA64) SQL Server 2005 (x86, x64, IA64), service pack 2	Windows Server 2003 R2 (x64, x86, IA64) Windows Server 2003 (x64, x86, IA64) Windows 2000 (x86)	Windows Server 2003 Enterprise edition Windows Server 2003 Datacenter edition Windows 2000 Advanced Server Windows 2000 Datacenter Server
SQL Server 2000 (x86, IA64), service pack 4 and hotfix KB913100	Windows Server 2003 R2 (x64, x86, IA64) Windows Server 2003 (x64, x86, IA64) Windows 2000 (x86)	Windows Server 2003 Enterprise edition Windows Server 2003 Datacenter edition Windows 2000 Advanced Server Windows 2000 Datacenter Server

- ◆ With the Windows Server 2003 x64 operating system, the SQL Server, NetWorker, and the module software are supported in native mode. This module software does support SQL Server running in WOW64 mode.

- ◆ A Microsoft hotfix is required for the module running on Windows Server 2003 x64 with SQL Server 2000. SQL Server 2000 Virtual Device Interface (Sqlvdi.dll) is a 32-bit DLL. The 64-bit Volume Shadow Copy Service (VSS) writer that is included with the x64 edition of Windows Server 2003 requires an x64 edition of Sqlvdi.dll to work correctly. The Microsoft knowledgebase article <http://support.microsoft.com/kb/913100/> provides more information.

Note: The EMC software compatibility guide at <http://Powerlink.EMC.com> contains the latest supported platforms, qualifications, and service pack information for NetWorker and the modules.

NetWorker PowerSnap Module

The NetWorker PowerSnap Module software is required only if the NetWorker Module for Microsoft SQL Server software is to perform snapshot backup and recovery operations. For recovery of snapshot backups, PowerSnap Module software is *not* required on the target SQL Server host.

For snapshot backup support, the SQL Server host must have a supported snapshot-capable storage subsystem.

PowerSnap Module software requirements are as follows:

- ◆ The SQL Server host must have the appropriate PowerSnap Module installed.
- ◆ If a computer other than the SQL Server host is configured as the PowerSnap data mover (proxy client), the data mover host must have the following software installed:
 - NetWorker software release 7.4 or later
 - PowerSnap Module software appropriate for the storage subsystem

[Table 2 on page 16](#) lists configurations for snapshot backup and recovery with NetWorker Module for SQL Server, release 5.2 SP1:

Table 2 NetWorker Module and PowerSnap support

SQL Server versions	Operating System versions	PowerSnap Arrays
SQL Server 2008 (x86) SQL Server 2005 (x86) SQL Server 2000 (x86)	Windows Server 2003 R2 (x86) Windows Server 2003 (x86)	PowerSnap for Symmetrix® DMX
SQL Server 2008 (x86, x64) SQL Server 2005 (x86, x64) SQL Server 2000 (x86)	Windows Server 2003 R2 (x86, x64) Windows Server 2003 (x86, x64)	PowerSnap for CLARiiON®
SQL Server 2008 (x86) SQL Server 2005 (x86) SQL Server 2000 (x86)	Windows Server 2003 R2 (x86) Windows Server 2003 (x86)	PowerSnap for RecoverPoint

See the PowerSnap documentation and the EMC software compatibility guides for additional information.

NetWorker software

The NetWorker client software must be installed on the SQL Server host computer. For more information about the installation requirements for NetWorker client software, refer to the appropriate *EMC NetWorker Installation Guide*.

The NetWorker software requirements for NetWorker Module for Microsoft SQL Server software are as follows:

- ◆ NetWorker client and server software release 7.4 or later for internationalization and localization support.
- ◆ NetWorker client and server software release 7.4.2 or later for Windows Server 2008 and SQL Server 2008 support.

Note: The `nsr_render_log` is required to view module logs and is supplied with NetWorker 7.4 and later releases. For releases prior to 7.4, this can be obtained from EMC Customer Support.

- ◆ NetWorker client and server software release 7.5 or later for Client Configuration Wizard support.
- ◆ NetWorker client and server software release 7.5 or later for IPv6 support.

NetWorker Module for Microsoft SQL Server software can connect to and interact with a NetWorker server running on any supported operating system platform.

Note: The NetWorker Configuration Wizard will not work with SQL Server 2008 unless the "Microsoft SQL Server 2005 Backward Compatibility Components" package is installed. The Configuration Wizard uses SQL-DMO to communicate with SQL Server, which was removed from SQL Server 2008. The backward compatibility package can be downloaded from <http://www.microsoft.com/downloads/>.

Software backward compatibility

This NetWorker Module software can successfully restore backups of all types made by NetWorker Module for SQL Server 4.0 and later.

NetWorker installation path

This guide refers to the root directory of the NetWorker installation path by using the variable `NetWorker_install_path`. The actual location represented by this variable depends on when and how the NetWorker software was installed.

The NetWorker default location is `%SystemDrive%\Program Files\Legato\nsr`.

Installation prerequisites

Before installing the NetWorker Module for Microsoft SQL Server, verify that the following prerequisites are met:

- ◆ The SQL Server host must meet the installation requirements. For details, see [“Software requirements” on page 15](#).
- ◆ The SQL Server host must have enough disk space available for the software installation:.

Table 3 Space requirements for 32-bit platforms

Installation type	Space needed
Typical – English	6.8 MB
Custom – NetWorker Module software	6.0 MB
Custom – Configuration Wizard	896 KB

Table 4 Space requirements for x64 platforms

Installation type	Space needed
Typical – English	9.1 MB
Custom – NetWorker Module software	8.3 MB
Custom – Configuration Wizard	896 KB

Table 5 Space requirements for ia64 platforms

Installation type	Space needed
Typical	15.6 MB

Temporary files created during installation require additional space. After the installation is complete, the temporary files are deleted.

- ◆ The NetWorker client software must be installed on the SQL Server host.
- ◆ Any previous release of this module must be removed before you begin an installation of release 5.2 SP1.
- ◆ The installation operator must have Windows domain administrator privileges. The release notes provide more information on creating generic configurations for users.

The upgrade option

Selection of the upgrade option in the NetWorker Module for Microsoft SQL Server software setup program automatically removes a previous release of the software. Registry entries are also removed.



CAUTION

Removing the module software deletes certain registry setting configurations. This includes any pool settings you specified in the NetWorker User for SQL Server Backup Options dialog box. Make a record of the pool settings. The Backup Options dialog box is accessed from the Options menu when you select Backup Options in the NetWorker User for SQL Server program.

There are two ways to manually remove an earlier release of this module:

- ◆ Use the Windows **Add/Remove** feature in the **Control Panel**.
- ◆ Complete the following steps:
 1. Access the directory on the CD or hard drive from which you installed the previous NetWorker Module for Microsoft SQL Server release.
 2. Run **setup.exe** to start the module **Setup** program. Because the software is already installed, the **Setup** program runs in maintenance mode. Click **Next**.
 3. Click **Remove**, and then click **Next**.
 4. In the **Remove the Program** dialog box, click **Remove**.

Note: When removing the module software from a Microsoft cluster, you must perform this procedure on each physical cluster node.

Where to install the NetWorker Module

The NetWorker client software and the NetWorker Module for Microsoft SQL Server software must both be installed on the SQL Server host. The NetWorker server software may be installed on the SQL Server host, or on a separate computer.

- ◆ A NetWorker server is a system running the NetWorker server software with a connected backup storage device.
- ◆ A NetWorker client is a system running the NetWorker client software, which receives storage management services from the NetWorker server.

After you install the NetWorker Module for Microsoft SQL Server software, configure the SQL Server host as a client of the NetWorker server.

On the same computer

To take advantage of NetWorker immediate-save technology, install the NetWorker server software on the SQL Server host. Immediate saves improve backup performance because the data is not moved over the network. However, do not install the NetWorker server software on the SQL Server host if the NetWorker server supports a large numbers of clients. The SQL Server host and NetWorker software compete for the same system resources when installed on the same computer.

In this configuration, consider using a NetWorker storage node. For instructions on configuring and using a storage node, refer to the *EMC NetWorker Administration Guide*.

Note: The immediate save feature is available with a NetWorker Power Edition license.

On separate computers

Typically, the NetWorker server software resides on one computer and the SQL Server software on another, as shown in [Figure 2 on page 21](#).

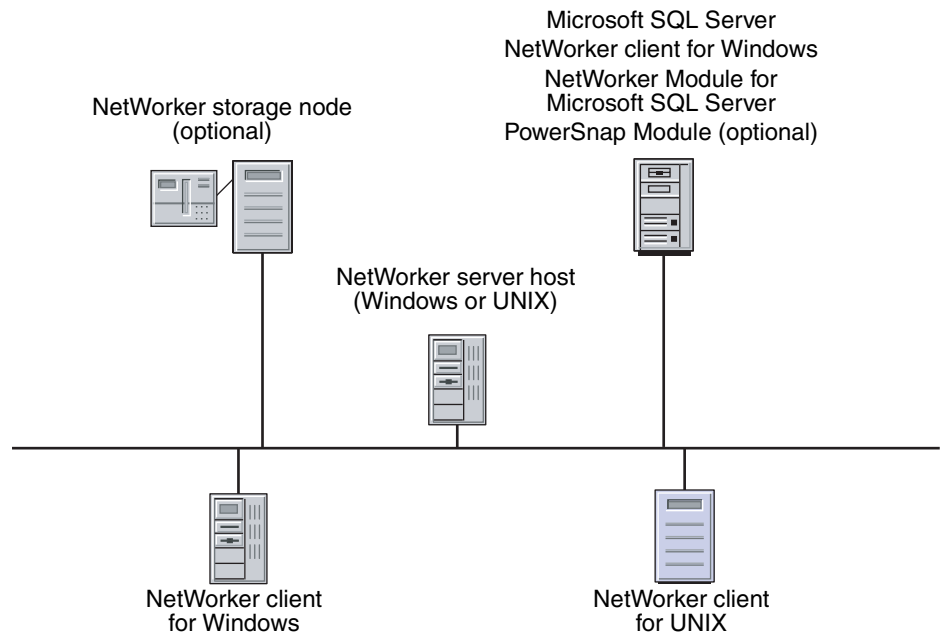


Figure 2 Configuration example

Accessing the NetWorker Module installation files

This section explains how to access the NetWorker Module for Microsoft SQL Server software installation files from the following locations.

To access the installation files from a CD:

1. Load the NetWorker Module for Microsoft SQL Server CD in the SQL Server host or a remote server.
2. If installing from a remote server, create a shared volume for the CD drive.
3. Log in with administrator privileges to the Windows computer that is running the SQL Server.
4. Start Windows Explorer and select the CD drive.
5. To complete the installation, see [“Installing the NetWorker Module software” on page 23](#).

To access the installation files from the EMC website:

1. In your web browser, navigate to www.EMC.com.
2. Under **Resources**, click the **Evaluation Software** link.
The **Evaluation Software Request** page appears.
3. Click the **Search by Product** list, select **NetWorker Module for Microsoft SQL Server** from the list, and then select **Release 5.2 SP1** from the list of releases.
4. On the **Evaluation Software Request** form, enter contact information and submit it.

You will receive an email message from an EMC sales representative, with your assigned username, password, and a URL to the NetWorker Module download file on the FTP site.

5. After you receive this email, create a temporary directory to download the software.
6. Navigate to the website specified in the email, and log on with your assigned username and password.
7. Download the NetWorker Module evaluation software to the temporary directory.
8. To complete the installation, follow the steps in [“Installing the software” on page 23](#).

Installing the NetWorker Module software

First determine if any of these situations apply:

- ◆ If you plan to use Microsoft Systems management Server (SMS) to install the module software, see [“Microsoft cluster environments” on page 26](#).
- ◆ If you plan to use the module software in a Microsoft cluster, see [“Microsoft cluster environments” on page 26](#).
- ◆ If you plan to use the NetWorker Configuration Wizard to configure scheduled backups see [“Configuring scheduled backups” on page 23](#).

Configuring scheduled backups

To use the NetWorker Configuration Wizard to configure NetWorker Module for Microsoft SQL Server scheduled backups:

1. Install the NetWorker client software.
2. (Optional) Install the NetWorker Configuration Wizard.

Note: The NetWorker Configuration Wizard will not work with SQL Server 2008 unless the "Microsoft SQL Server 2005 Backward Compatibility Components" package is installed. The Configuration Wizard uses SQL-DMO to communicate with SQL Server, which was removed from SQL Server 2008. The backward compatibility package can be downloaded from <http://www.microsoft.com/downloads/>.

3. Install the NetWorker Module for Microsoft SQL Server software.
4. Ensure that the hostname of the computer that is running the wizard is included in the `/nsr/res/servers` or `NetWorker_install_path\res\servers` file on the NetWorker Module for Microsoft SQL Server client (or the servers file is empty). If the servers file is not empty, it must also include the hostnames of all the NetWorker servers authorized to back up the client.

Installing the software

To install the NetWorker Module for Microsoft SQL Server software:

1. Verify that the target computer satisfies the requirements. For details, see [“Software requirements” on page 15](#).
2. Ensure that prerequisites have been met. For details, see [“Installation prerequisites” on page 18](#).
3. Log in with administrator privileges to the target computer.
4. Exit all NetWorker programs.
5. In Windows Explorer, go to the directory containing the NetWorker Module for Microsoft SQL Server installation files. The content of this directory depends on the source for the module software:
 - If from the CD, this directory contains `setup.exe`.
 - If from the EMC website, this directory contains `nmsql521_win_x86.exe` (32-bit), `nmsql521_win_x64.exe` (x64), or `nmsql521_win_ia64.exe` (ia64).
6. Double-click the appropriate executable file.

The **Welcome** dialog box is displayed.

- If this is a new installation of NetWorker Module for Microsoft SQL Server, proceed to step 7.
 - If a previous version of the NetWorker Module is already installed, the **Welcome** dialog box provides an **Upgrade** button and offers to upgrade the software. In this case, click **Upgrade**, and then **Install**, and proceed to step 9.
 - If the module software is already installed, the **Welcome** dialog box offers to repair or remove the software. In this case, click **Next** and then proceed to either [“Repairing an installation” on page 34](#) or [“Removing an installation by using the setup program” on page 35](#).
7. Click **Next**. The **License Agreement** dialog box appears.
 8. Read the license agreement. If you accept the terms, select the appropriate option and click **Next**.

Note: If Microsoft SQL Server is not yet installed on this computer, a message prompts you to install it before using the NetWorker Module for Microsoft SQL Server program. Click **OK** to continue with the installation.

9. If the NetWorker Configuration Wizard is *not* installed, skip this step and proceed to step 11.

If the NetWorker Configuration Wizard is installed, the **Setup Type** dialog box appears.

In the **Setup Type** dialog box, select one of the following and click **Next**:

- **Complete** — Automatically installs the module software and the module Server component of the NetWorker Configuration Wizard.
- **Custom** — Enables you to install the module software, the wizard component, or both.

Note: If you opt to install only the module software (without the wizard component) during the initial installation, you can run **setup.exe** in maintenance mode later and install the wizard component. For instructions, see [“Maintaining a NetWorker Module installation” on page 32](#).

10. If you selected **Complete** in step 9, the **Server** dialog box appears. Skip this step and proceed to step 11.
If you selected **Custom**, the **Custom Setup** dialog box appears.
Installation of module Server component of the NetWorker Configuration Wizard lets you use the wizard to configure scheduled backups of SQL Server data.
To exclude the module Server component of the NetWorker Configuration Wizard from the installation:
 - a. Click the **NetWorker Module for Microsoft SQL Server Client Configuration Wizard** icon.
 - b. Select **This feature will not be available**.
11. In the **Server** dialog box, select one of the following:
 - To specify a NetWorker server that can back up the SQL Server host, enter the name of the NetWorker server in the **Default NetWorker Server** text box.
 - To use the local computer as the NetWorker server, leave the **Default NetWorker Server** text box blank.
12. Click **Next**. The **Ready to Install the Program** dialog box is displayed.

13. Click **Install** to begin the installation.

The **Setup** program performs the following:

- Adds NetWorker User for SQL Server to the NetWorker group in the Windows **Start** menu.
- Installs the module software in the <NetWorker_install_path>\bin directory.

Note: For more information about the NetWorker installation path, see [“NetWorker installation path” on page 17](#).

14. In the **InstallShield Wizard Completed** dialog box, click **Finish** to exit the wizard.

Microsoft cluster environments

The NetWorker Module for Microsoft SQL Server software can be installed in a Microsoft cluster and configured to do the following:

- ◆ Perform backup and recover operations in a Microsoft Cluster Server (MSCS) environment.
- ◆ Provide backup and restore capability for SQL Server data stored on the cluster disks of a virtual server.

The software also can perform backup and restore for failover cluster configurations in SQL Server 2000, 2005, or 2008 environments.

For each physical cluster node, the NetWorker client and NetWorker Module for Microsoft SQL Server software must be installed on a private disk owned by the node. Do not install the module software on a shared cluster disk.

The Microsoft product documentation provides details about cluster and SQL Server configuration and compatibility requirements.

Installing the software in a Microsoft cluster

To install NetWorker Module for Microsoft SQL Server software in an MSCS cluster:

1. Install the NetWorker client software on a local disk of each physical node in the cluster.

Note: Install the module software into the default NetWorker installation directory.

During the installation, you are prompted to specify the hostnames of NetWorker servers that are authorized to back up the client's data. The list of authorized servers is stored in the *NetWorker_install_path*\res\servers file on the NetWorker client:

- For snapshot backups in a Microsoft cluster, the servers file on each cluster node must either contain the hostnames of all nodes in the cluster, or be blank (contain no hostnames).
- For traditional backup operations, you do not need to list cluster hostnames in the servers file.

For instructions on editing the servers file after the NetWorker software installation, refer to the *EMC NetWorker Administration Guide*.

Note: A NetWorker client's servers file that does not contain any hostnames could be a security risk because any NetWorker server would have access to the client's data.

2. Install the module software on the local disk of each physical node in the cluster.

The software is automatically installed at the same location as the NetWorker client software. See [“Installing the NetWorker Module software” on page 23](#) for additional information.

3. Install the enabler for this module. For more information, see [Chapter 3, "Licensing and Enabling the Software."](#)
4. (Optional) If the SQL Server has a snapshot-capable storage subsystem, install the appropriate NetWorker PowerSnap Module. For instructions on installing and configuring the software in a Microsoft cluster, refer to the appropriate EMC NetWorker PowerSnap Module guide.

Configuring and testing the installation

This section provides information about testing and verifying the NetWorker Module for Microsoft SQL Server software installation. To verify that the module software is installed properly, you must first configure the SQL Server host as a NetWorker client and enable the Autostart option.

Perform a test backup of SQL Server by using NetWorker Module for Microsoft SQL Server to ensure that:

- ◆ The necessary components are installed and configured properly.
- ◆ The NetWorker server can access the SQL Server host and perform a scheduled backup.

Configuring the NetWorker Module

Due to the complexity of configuring scheduled backups, complete one of the following before you begin the configuration:

- ◆ Perform a manual backup.
- ◆ Use the NetWorker Configuration Wizard to configure a basic scheduled backup.

Before you use the NetWorker Module for Microsoft SQL Server software to back up the databases managed by SQL Server, you must configure the NetWorker server to run with the module by creating the following:

- ◆ A backup Group resource for scheduled backups of SQL Server. For instructions, see [“Creating a backup group for scheduled backups” on page 29](#).
- ◆ A Client resource for the client host on which you installed the module. For instructions, see [“Creating a NetWorker client” on page 29](#).

For more information, refer to the documents listed in [Table 6 on page 28](#).

Table 6 Reference documentation

Type of information	Documentation
For using the NetWorker Administrator program or the NetWorker Configuration Wizard to configure scheduled backups and add clients to the NetWorker server.	<i>EMC NetWorker Administration Guide</i>
For using the module software with the NetWorker server to perform backups and restores.	<i>EMC NetWorker Module for Microsoft SQL Server Administration Guide</i>

Note: The following set of instructions for creating a backup group and NetWorker client are specific to running the NetWorker Administrator program from a Windows computer. To perform these procedures from a UNIX computer, refer to the *EMC NetWorker Administration Guide*.

Creating a backup group for scheduled backups

The following instructions provide basic detail on the procedures for the current versions of NetWorker software.

To create a group:

1. From the **Administration** window of the NetWorker Management Console, click **Configuration**.
2. In the expanded left pane, select **Groups**.
3. From the **File** menu, select **New**.
4. In the **Name** attribute, enter a name for the group.
5. In the **Comment** attribute, enter a description of the group.
6. For the **Start Time** attribute, enter a new time, unless it is appropriate to maintain the default time of 3:33 a.m. Ensure that start times for different groups are far enough apart so that one group has completed backing up before the next group starts.
7. For the **Autostart** attribute, select **Enabled**.
8. In the **Printer** attribute, enter the name of the printer on which bootstrap save set information will be printed.
9. Click **Advanced**.
10. For the **Client Retries** attribute, change the number of retries, if necessary. This value specifies the number of times the NetWorker software attempts to back up a failed client.
11. Click **OK**.

Creating a NetWorker client

The SQL Server host must be configured as a NetWorker client by using the Client resource in the NetWorker Administrator program. The Client resource provides the NetWorker server with information about the following:

- ◆ The data to back up for a client.
- ◆ How long to maintain entries for the data in the online index for restoring (browse policy).
- ◆ How long to keep the media containing the client's backed-up data (retention policy).

You can configure each Microsoft SQL Server database on the same host as a separate NetWorker Client resource.

Note: When the NetWorker Server is a UNIX server, a scheduled backup may require the Remote User and password field to be populated with a SQL administrator account in the format *domain\username*. It should be noted that if the password for this account is changed, the remote password field for the client instance will also need to be updated or the backups will fail.

For a clustered SQL client, enter information for the account performing the backups.

To add and configure a new NetWorker client:

1. From the **Administration** window of the NetWorker Management Console, click **Configuration**.
2. In the expanded left pane, select **Clients**.
3. From the **File** menu, select **New**.
4. In the **Name** attribute, enter the DNS name of the SQL Server host.
5. In the **Save Set** attribute, specify the items to back up.

For example, to back up all databases on the SQL Server host, enter:

MSSQL:

To back up a named instance, enter:

MSSQL\$*<instancename>:db_name*

6. From the **Group** attribute, select the newly created backup group.
7. From the **Schedule** attribute, select **Default**.
8. From the **Browse Policy** attribute, select a browse policy.
9. From the **Retention Policy** attribute, select a retention policy.
10. Click **Preferences**.
11. Enter the attributes information on the **General** tab except for the following:
 - In the **Aliases** attribute on the **Globals (1 of 2)** tab, enter the nicknames for the client computers that queries can match. Otherwise, queries match only the client name. Each Client resource should include both the DNS short name and long name.
 - In the **Backup Command** attribute on the **Apps & Modules** tab, enter the following command (with the appropriate command options):


```
nsrsqlsv
```
12. Click **OK** to save the configuration.

Configuring volume pools

You can create or edit destination volume pools for scheduled backups in the **NetWorker Administrator Pools** resource. For details on using pools, refer to the *EMC NetWorker Administration Guide* and the *EMC NetWorker Module for Microsoft SQL Server Administration Guide*.

Starting a test backup

The NetWorker Module for Microsoft SQL Server backup of a SQL Server database is always a full backup. A full backup backs up the entire database, including uncommitted transactions in the logs. The full backup accurately reflects the state of a live database, including all transaction log data, at approximately the time the backup completes. As the backup ends, the old logs are truncated and the logs begin collecting transaction data again.

If you do not assign specific pools before performing a scheduled backup, the database and transaction log backup data are automatically directed to the media pools selected on the NetWorker server. If no pools are selected on the NetWorker server, backup data is automatically directed to the NetWorker preconfigured pool called Default.



CAUTION

A backup cannot run if there is no media volume mounted in the backup device. Make sure that a labeled media volume is mounted in the backup device before starting a backup. The volume should be labeled for the volume pool where the backup is to be directed. If there is no volume in the backup device when a backup is started, no messages appear in the Backup Status window.

To test the SQL Server backup you scheduled in the NetWorker Administration program:

Note: When a group backup is started manually, the NetWorker server runs the backup at the level of the next scheduled backup, such as full, level [1 – 9], incremental, or consolidated.

1. From the **Administration** window, click **Monitoring**.
2. Click **Groups**.
3. Right-click the group to start, then select **Start**.
4. Click **Yes** to confirm the start.

The NetWorker server immediately backs up the clients in the group, overriding the scheduled backup start time. The group icon changes to the clock icon until the backup has completed or is interrupted.

Maintaining a NetWorker Module installation

After NetWorker Module for Microsoft SQL Server software is installed, you can run the **Setup** program in maintenance mode to repair or remove the existing installation.

Running the setup program in maintenance mode

When NetWorker Module for Microsoft SQL Server is already installed, the Setup program automatically runs in maintenance mode:

1. Log in with administrator privileges to the target computer.
2. Exit all NetWorker programs.
3. In Windows Explorer, go to the directory that contains the module software setup files (setup.exe).
4. In the **Welcome to the InstallShield Wizard for NetWorker Module for Microsoft SQL Server** dialog box, click **Next**.

The **Setup** program detects the existing NetWorker Module for Microsoft SQL Server installation and automatically displays the **Program Maintenance** dialog box, as in [Figure 3 on page 32](#).

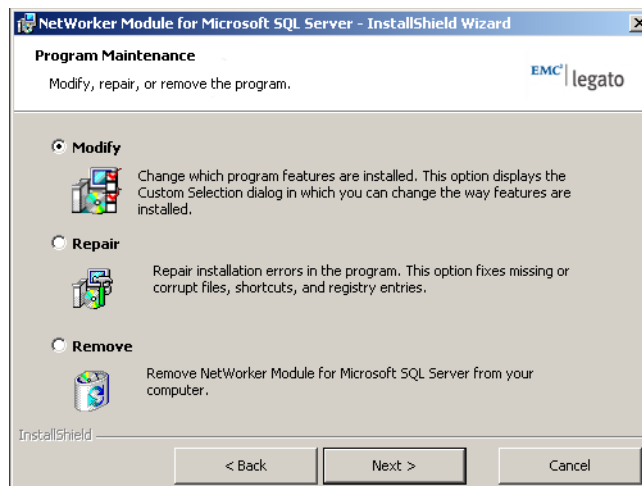


Figure 3 Program Maintenance dialog box

5. Select the task you want to perform, then proceed to the appropriate procedure to complete the maintenance task:
 - **Modify** — Add new features to the existing installation.

Note: Modify is available for a NetWorker Module for Microsoft SQL Server that is running in 32-bit mode. Modify is not available if it is running in a 64-bit mode. Only the SQL Server Backup and Recovery component is available for 64-bit installations.

- **Repair** — Replace missing or corrupted program files, or repair registry entries and shortcuts in the existing module installation. For instructions, see [“Repairing an installation” on page 34](#).

- **Remove** — Use the **Setup** program's installation removal function to remove the module software. Alternatively, you can use the **Add/Remove** program in the **Windows Control Panel** to remove the module software installation. For instructions, see [“Removing the NetWorker Module software” on page 35](#).

Adding program features to an installation

To add program features to an existing NetWorker Module for Microsoft SQL Server installation:

1. In Windows Explorer, go to the directory that contains the module software setup files and run the **setup.exe** program.

Because the software is already installed, the **Setup** program now runs in maintenance mode.

2. In the **Program Maintenance** dialog box, select **Modify**, and click **Next**.
3. In the **Custom Setup** dialog box, click the icon of each program feature to be installed and select **This feature will be installed on local hard drive**, as in [Figure 4 on page 33](#).

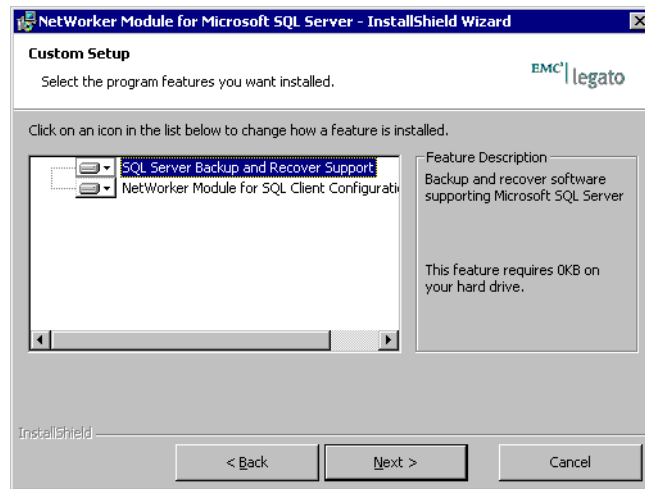


Figure 4 Custom Setup dialog box

4. Click **Next**.
The **Server** dialog box appears.
5. In the **Server** dialog box, enter the hostname of the default NetWorker server to which the NetWorker User for SQL Server program will connect when started.
If you do not enter a default NetWorker server, NetWorker User for SQL Server attempts to connect to the local host.
6. In the **Ready to Modify** dialog box, click **Install** to begin the installation.
The **Setup** program then adds the selected program features to the existing installation.

Repairing an installation

To repair an existing NetWorker Module for Microsoft SQL Server software installation:

1. In Windows Explorer, go to the directory that contains the module software setup files and run the **setup.exe** program.

Because the software is already installed, the **Setup** program now runs in maintenance mode.

2. In the **Program Maintenance** dialog box, select **Repair**, and then click **Next**.
3. In the **Ready to Repair** dialog box, click **Install** to begin the installation.

The **Setup** program reinstalls the module software files as necessary.

Removing the NetWorker Module software

You can remove an existing installation of the NetWorker Module for Microsoft SQL Server either by using the **Setup** program, or the Windows Add/Remove Programs tool.

Note: When removing the module software from a cluster, you must perform the procedure on each cluster node.

Removing an installation by using the setup program

To remove a NetWorker Module for Microsoft SQL Server installation by using the **Setup** program:

1. In the Windows Explorer, go to the directory that contains the module software setup files and run the **setup.exe** program.

Because the software is already installed, the **Setup** program now runs in maintenance mode.

2. Click **Next**.
3. In the **Program Maintenance** dialog box, select **Remove**, and click **Next**.
4. In the **Remove the Program** dialog box, click **Remove**.

The **Setup** program removes all module software program files and registry settings.

Removing an installation by using the Add/Remove Programs tool

To remove a NetWorker Module for Microsoft SQL Server installation by using the Windows Add/Remove Programs tool:

1. From the Windows server, click the **Start** menu and select the **Control Panel**.
2. From the **Control Panel**, select **Add/Remove Programs**.
3. From the **Add/Remove Programs** window, select **NetWorker Module for Microsoft SQL Server**.
4. Click **Remove**.

The chapter includes the following sections:

◆ How NetWorker software is licensed.....	38
◆ NetWorker Module for Microsoft SQL Server licensing	38
◆ The evaluation process	39
◆ The licensing process	40
◆ NetWorker simplified licensing for virtual environments.....	45
◆ Additional licenses.....	46
◆ Managing licenses	47

How NetWorker software is licensed

NetWorker software and added features, such as modules, are installed in evaluation mode with all of the features enabled for a period of 30 days. 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 NetWorker server software must be licensed with a base enabler. This enabler “turns on” the software and allows you to use a particular bundle of features, such as a specified number of clients and devices. All licensing takes place on the server. The licenses are entered and stored on the server. 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.

The steps in this chapter assume that the NetWorker software is installed and that all of the software and hardware requirements have been met on the computer that will access the NetWorker Management Console.

NetWorker Module for Microsoft SQL Server licensing

The NetWorker Module for SQL Server supports the following two configurations:

- ◆ Standalone (non-clustered)

One license is required per physical machine. Multiple SQL Server instances may be installed.

- ◆ MSCS Active-Passive Cluster (one node is active and the other node(s) is used for failover)

One NetWorker Module license is required per SQL virtual server. NetWorker Module for SQL Server licenses in an active-passive cluster environment are based on the number of SQL virtual servers. For example, in a cluster that has two nodes and four SQL virtual servers, four NetWorker Module licenses are needed to backup the four SQL virtual servers.

The following are example scenarios:

- ◆ On a SQL stand-alone server, where SQL Server supports multiple instances, only one NetWorker Module license is required.

PhysicalServer1, 10.0.000.100, SQL Server instance -> 1 license

- ◆ In a SQL cluster, where SQL Server allows only one instance per SQL virtual server, NMSQL requires a license for each name/IP address combination.

VirtualServer1, 10.0.000.101, SQL Server -> 1 license

VirtualServer2, 10.0.000.102, SQL Server -> 1 license

VirtualServer3, 10.0.000.103, SQL Server -> 1 license

Note: The SQL Server host can also be licensed on a dedicated storage node to allow for LAN-free data protection.

The evaluation process

You can evaluate NetWorker software two ways:

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

Evaluating a new installation

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

By the end of the evaluation period, you must purchase, enter, and authorize a base enabler to continue to use the NetWorker software to back up data. The base enabler is the license that enables the edition purchased.

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

Evaluating features on an existing installation

If you are evaluating one or more NetWorker Modules or features on an edition of NetWorker software that has already been installed and enabled, enter a temporary enabler for each module or feature. The temporary enabler is valid for 45 days.

To obtain a temporary enabler code, do one of the following:

- ◆ Go to the <http://Powerlink.EMC.com> website, select **Support > Software Downloads and Licensing > License Management**, and then follow the instructions for your product.
- ◆ Refer to the EMC Information Protection and Availability Product Families Media Kit.

An alert message is generated 15 days before a NetWorker license is about to expire. The alert remains until the NetWorker license is authorized or deleted.

To view the license alert:

- ◆ From the **NetWorker Administration** window, click **Monitoring**, and select the **Alert** tab.
- ◆ From the **Console** window, click **Events**.

By the end of the evaluation period, you must purchase, install, and authorize the corresponding license enablers to continue to use modules or features you have evaluated. “[The licensing process](#)” on [page 40](#) provides instructions.

Entering a temporary enabler code for NetWorker server release 7.3 or later

To enter the temporary enabler code:

1. Start the **Management Console** software.
2. Open the **Administration** window:
 - a. In the **Console** window, click **Enterprise**.
 - b. In the left pane, select a server in the **Enterprise** list.

- c. In 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. (Optional) In the **Comment** attribute, type a description of the license.
8. Click **OK**.

The licensing process

To permanently use NetWorker software, you must purchase and enter a license enabler code, and then authorize it. This licensing process is the same for all editions of NetWorker 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 enter a corresponding authorization code. More instructions for purchasing, enabling, and authorizing the NetWorker software are provided in the section “[NetWorker Module for Microsoft SQL Server licensing](#)” on page 38.



IMPORTANT

Automatically importing and installing the NetWorker license enablers and authorization codes from EMC Powerlink® is the recommended way to obtain and install license enablers and authorization codes. Do *not* perform the tasks in the section “[Manually enter and authorize the license enabler](#)” on page 43 unless you cannot import and install automatically.

Automatically import NetWorker license enablers and authorization codes from Powerlink

Automatically import and install NetWorker license enablers and authorization codes from EMC Powerlink Licensing directly to a NetWorker server or a License Manager system by using the following procedures.

Download the NetWorker license enabler codes from EMC Powerlink Licensing

You can install the NetWorker licenses to a local NetWorker server, a remote NetWorker server, or to a License Manager system.

To download the license enabler codes from EMC Powerlink:

1. Go to the EMC Powerlink website (registration required) at <http://Powerlink.EMC.com>.
2. Select **Support > Software Downloads and Licensing > License Management**, and then select **NetWorker** from **Licensing D-Q** and follow the instructions for your product. The **Powerlink Licensing Home** page appears.

Note: If the LAC # has not yet been entered, activated, and associated with the host ID, follow the instructions in the email received from EMC Licensing before proceeding to the next step.

3. On the **Powerlink Licensing Home** page, select **Download Enabler Codes** in the **NetWorker Tools** section.

The **Search for Downloading Enabler Codes** page appears.

4. For the **%HostID** attribute, enter a valid HostID.
5. Click **Search**.

The **Search for Downloading Enabler Codes** page appears, displaying the list of hosts that match the criteria.

6. Click the HostID that matches the criteria.

The **Download** page appears.

7. Click **Download Enablers**, then separately click the **Download CSV**, **Download nsradmin**, and **Download ReadMe** buttons to download and save these three files:

- ReadMe file

This file describes the process and how to use **nsradmin** to load the enablers.

- Format: ReadMe_<HostID>_<Date>.txt
- Example: ReadMe_df010b3f_20080814.txt

- nsradmin file

This file loads into **nsradmin**.

- Format: <HostID><date>.nsradmin
- Example: df010b3f_20080814.nsradmin

- CSV file

This file contains the enabler codes and the information related to them, including part descriptions, part numbers, and authorization (auth) codes. You can import this file into Excel and search and sort the contents.

- Format: <hostID>.csv
- Example: df010b3f.csv

These files can be downloaded at any time from Powerlink.

Note: As additional licenses are added to a host profile, these new licenses will be included in future downloads.

Apply the NetWorker license enabler codes

Perform the following to apply enabler codes:

1. Ensure that you have the following permissions on the NetWorker server. The permissions differ for Windows, Linux, and UNIX:
 - Windows: Administrator
 - UNIX and Linux: root
2. Identify the location where the files were downloaded.

- Run the following **nsradmin** command from the directory where the *source_file* is located.

Note: The **nsradmin** command can be run from any NetWorker client, storage node, or server.

- To install the NetWorker licenses on the NetWorker server, type this command:

```
nsradmin -i source_file > output_file
```

- To install the NetWorker licenses on a remote NetWorker server, type this command:

```
nsradmin -i source_file -s server_name > output_file
```

- To install the NetWorker licenses on a License Manager system, type this command:

```
nsradmin -i source_file -s server_name -p lgtolmd > output_file
```

- Open and review the *output_file* for success or failure messages to ensure that the NetWorker licenses have been properly installed.

- Success message in the output file.

If the first attempt to load a license was successful, a message similar to the following appears in the output file:

```
C:\PROGRA~1\Legato\nsr\bin\std>nsradmin -i infile
created resource id 25.0.0.20.96.108.23.72.137.69.168.135(1)
Current query set
updated resource id 25.0.0.20.96.108.23.72.137.69.168.135(2)
```

- Failure message in the output file.

If a license load failed, a message similar to one of the following might appear:

- This message in the output file indicates that the license already exists in NetWorker and can be ignored:

```
C:\PROGRA~1\Legato\nsr\bin\std>nsradmin -i infile
create failed: A license enabler already exists with enabler
code xxxxxxx-xxxxxx-xxxxxx
Current query set
updated resource id 25.0.0.20.96.108.23.72.137.69.168.135(3)
```

Note: If the **nsradmin** command has previously been run on a host, failure messages might be generated for NetWorker licenses that already exist.

- This message in the output file indicates that the NetWorker server processes are not running on the system. To work around this issue, start the NetWorker processes on the NetWorker server:

```
C:\PROGRA~1\Legato\nsr\bin\std>nsradmin -i infile pasb-tomp
39078:nsradmin: RPC error: Program not registered (severity 4,
number 15)
```

Provide feedback

To provide feedback:

- If error messages appear in the output file or you would like to provide feedback, contact EMC Licensing.
- If you cannot determine the reason for a failure or experience problems with updating the NetWorker license, contact EMC Customer Support. You can open a Service Request on <http://Powerlink.EMC.com>.

Manually enter and authorize the license enabler

These sections explain how to enter and authorize the license enabler manually:

1. [“Enter the license enabler code for NetWorker server release 7.3 or later” on page 43](#)
2. [“Obtain an authorization code” on page 44](#)
3. [“Enter the authorization code” on page 44](#)

Enter the license enabler code for NetWorker server release 7.3 or later

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

To enter the license enabler code:

1. Start the **Management Console** software.
2. Open the **Administration** window:
 - a. In the **Console** window, click **Enterprise**.
 - b. In the left pane, click a server in the **Enterprise** list.
 - c. In 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. (Optional) In the **Comment** attribute, type a description of the license.
8. Click **OK**.

The new license is added and appears in the right pane. Repeat [step 1](#) to [step 8](#) to add any additional enabler codes.

After you type a license enabler code, you have 45 days as a registration period to authorize the software. An alert message is generated 15 days before a NetWorker license is about to expire. The alert remains until the NetWorker license is authorized or deleted.

To view the license alert:

- ◆ From the **NetWorker Administration** window, click **Monitoring** and select the **Alert** tab.
- ◆ From the **Console** window, click **Events**.

Obtain an authorization code



IMPORTANT

<http://Powerlink.EMC.com> > License Management. If the software or feature is *not* authorized by the end of the 45-day registration period, the backup function or feature is disabled. However, data that was backed up during the registration period can still be recovered from local devices.

Enter the authorization code

To complete the licensing process, you must enter the unique authorization code on the server within 45 days of entering 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 the <http://Powerlink.EMC.com>.

To avoid an interruption in scheduled backups if you move the 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 NetWorker License Manager software. "Managing licenses" on page 47 provides information on use of the NetWorker License Manager, and the latest NetWorker License Manager Installation and Administration guide.

To enter the authorization code:

1. Start the **Management Console** software.
2. Open the **Administration** window:
 - a. In the **Console** window, click **Enterprise**.
 - b. In the left pane, select a server in the **Enterprise** list.
 - c. In 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 is the 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 software to a major release, an update enabler is necessary. With a first-time purchase of software, a one-year update agreement may be included. After a year, an update enabler may be acquired with a new update agreement purchase.

Update enabler code for updating from NetWorker releases prior to release 7.5

When updating from an earlier NetWorker release to release 7.5, the required update enabler is ea7e6c-a61631-bf0db0.



IMPORTANT

Be sure to apply the update enabler *before* upgrading to NetWorker release 7.5. Contact EMC Licensing within 45 days to have the update enabler permanently authorized.

NetWorker simplified licensing for virtual environments

NetWorker introduces a simplified licensing model for virtualized environments. The EMC Software Compatibility Guide provides a detailed list of supported server virtualization environments.

Two new attributes have been added to the General tab of the Client resource to identify the client as a virtual client:

- ◆ Virtual Client — If the client is a virtual client, set the attribute to Yes by selecting the Virtual Client attribute checkbox.
- ◆ Physical Host — If the client is a virtual client, set the attribute to the hostname of the primary/initial physical machine hosting the virtual client.

Virtual Edition Client Connection license

A new license type, Virtual Edition Client Connection, works with all server virtualization environments supported by the NetWorker software.

The host identified in the Physical Host attribute consumes one Virtual Edition Client Connection license, regardless of how many virtual clients are running on that host. If a virtual machine is licensed on one physical host and then migrates to another physical host, the new physical host requires its own Virtual Client Connection license. The hostname does not need to be fully qualified, and must be less than 64 bytes. All clients sharing the same physical host must use an identical name; do *not* mix name formats such as short, FQDN, or IP address.

To free a Virtual Client Connection license that has been assigned to a physical host, all references to the physical host must be removed by either of the following:

- ◆ Changing the Virtual Client and/or Physical Host attribute in the Client resources for all virtual clients that reference the physical host.
- or
- ◆ Deleting all Client resources for virtual clients that reference the physical host.

Licensing changes for NetWorker Modules in virtual environments

When NetWorker Module software is running natively on one or more virtual machines, one module license per module type is consumed per physical host, regardless of the number of virtual clients associated with that physical host. The

physical host itself also requires a Virtual Edition Client Connection license. Every physical machine that might host virtual clients with modules should be licensed in this way.

One license is required for each application type (SQL, Exchange, SharePoint, Oracle, SAP) used within all of the virtual machines on a single physical server. There are no changes to model codes for NetWorker Modules, so use existing codes and license enablers.

Also, for module licenses that specify the operating system, operating system restrictions are not enforced for modules running on virtual clients, allowing the physical host to run multiple types of virtual operating systems without regard for operating system restrictions in the module license.

Applying the Virtual Client license to an existing VM after upgrading from a previous release

The Virtual Client Connection license is not automatically applied to an existing VM after upgrading to NetWorker release 7.5. As a result, the VM uses one standard client license for the pre-existing virtual client instead of using the virtual client license.

To take advantage of the Virtual Edition Client Connection licensing policies and free up the use of the standard client license, select the Virtual Client attribute checkbox for this client's resource, and specify the Physical Host attribute.

Licensing changes for VMware Consolidated Backup

When VMware Consolidated Backup (VCB) is being used, each proxy backup host consumes one standard Client Connection license, regardless of how many virtual clients are configured to back up through the proxy backup host.

Additional licenses

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

Client connection licenses

Every computer to be backed up in a datazone requires a client connection license, even the server. The client connection license may be one of the licenses that is supplied with the base enabler or purchased separately. An NDMP data server requires a special type of client connection license.

Note: ClientPak[®] enablers are no longer required. Client licensing is now based solely on the client connection enablers.

Storage nodes

Each storage node requires a storage node license, in addition to its client connection license. A dedicated storage node, which allows the storage node to back up only itself, is licensed separately.

Cluster clients

Cluster clients no longer require a separate license. Each physical node in a cluster consumes one regular Client Connection license.

HomeBase Server and Agent

The HomeBase Server and Agent have separate licensing schemes and require separate enablers. The following documentation provides more information on HomeBase licensing:

- ◆ *EMC HomeBase Server Installation and Administration Guide*
- ◆ *EMC HomeBase Agent Installation and Administration Guide*

Managing licenses

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

To begin to implement the NetWorker License Manager:

1. Obtain bulk enabler codes at <http://Powerlink.EMC.com>.
2. Install the NetWorker License Manager software.
3. Configure the NetWorker License Manager software.
4. Configure the NetWorker servers to access the NetWorker License Manager for their licenses.

The latest NetWorker License Manager Installation and Administration Guide provides more information on how to install and use the NetWorker License Manager.

This appendix describes how to set permissions for the NetWorker Module for Microsoft SQL Server on Windows Server 2003.

This appendix includes the following section:

- ◆ [Setting access rights for the NetWorker Module](#) 50

Setting access rights for the NetWorker Module

The NetWorker Module for Microsoft SQL Server on Windows Server 2003 requires access to various system folders and resources. By default, non-administrator user accounts are limited and do not have the necessary privileges to run the NetWorker Module. The following steps enable a local system administrator to configure these user accounts to run the NetWorker Module for Microsoft SQL Server.

To grant the permissions to NetWorker Module for Microsoft SQL Server for accounts that are not the members of the local administrator group, set the following registry and file objects permissions:

1. Make sure that the security settings on the applogs directory, under the NetWorker Module for Microsoft SQL Server installation path, allow **Modify**. (The default installation path is C:\Program Files\Legato\nsr\applogs).
2. Make sure that the following registry keys have the following permissions set:

Native registry keys

- HKLM\Software\Legato\BSMSQL\Environment (**Full**)
- HKLM\Software\Microsoft\DataAccess (**Read**)
- HKLM\Software\Microsoft\MSSQLServer (**Read**)
- HKLM\Software\Microsoft\Microsoft SQL Server (**Read**)

WOW64 registry keys (32-bit SQL Server on 64-bit systems)

- HKLM\Software\Wow6432Node\Microsoft\MSSQLServer (**Read**)
- HKLM\Software\Wow6432Node\Microsoft\Microsoft SQL Server (**Read**)

3. Make sure that the account is also:
 - Able to Create Global Objects under the local Security Policy, which is required by the SQL VDI interface used by this module.
 - A member of the Backup Operator's group.
 - Included in the sysadmin role within SQL Server.

The Microsoft SQL Server product documentation provides complete procedures for these tasks.

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