



EMC® NetWorker®
Module for Microsoft SQL Server
Release 5.1

Installation Guide
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REV A01

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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: 7.0, 2000, 2005, and SQL Express

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 Installation and Administrator's Guide*

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.

Typographical conventions

EMC uses the following type style conventions in this document:

Normal

Used in running (nonprocedural) text for:

- 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, links, groups, service keys, file systems, notifications

Bold:

Used in running (nonprocedural) text for:

- Names of commands, daemons, options, programs, processes, services, applications, utilities, kernels, notifications, system call, man pages

Used in procedures for:

- 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
<code>Courier:</code>	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

Comments and suggestions about our product documentation are always welcome.

To provide feedback:

1. Go to:

<http://Powerlink.EMC.com>

2. Click the **Feedback** link.

This chapter includes the following sections:

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- ◆ [NetWorker PowerSnap Module support.....](#) 12

About NetWorker Module for SQL Server

The EMC[®] NetWorker[®] Module for Microsoft SQL Server, Release 5.1 is a NetWorker module that provides backup and restore of the following database and transaction logs:

- ◆ Microsoft SQL Server 2005
- ◆ Microsoft SQL Server 2005 Express
- ◆ Microsoft SQL Server 2000
- ◆ Microsoft SQL Server 7.0

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 11](#) provides details on how the NetWorker Module for Microsoft SQL Server and NetWorker software work with SQL Server.

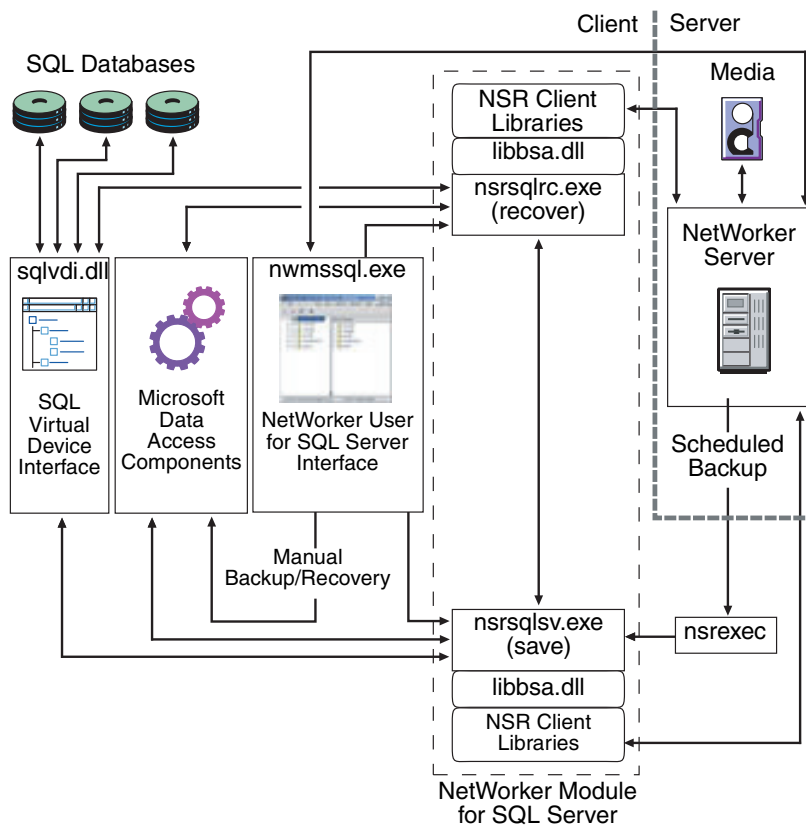


Figure 1 Module and NetWorker Setup with SQL Server

In addition to traditional backup and recovery, NetWorker Module for Microsoft SQL Server also provides snapshot backup and recovery of SQL Server 2000 and 2005 on Windows Server 2000 and Windows Server 2003 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 19.
3. Obtain the software as described in [“Accessing the NetWorker Module installation files”](#) on page 24.
4. Install the NetWorker Module software. For instructions, see [“Installing the NetWorker Module software”](#) on page 25.
5. Enable and register the NetWorker Module software. For instructions, see [Chapter 3, “Enabling and Registering the Software.”](#)

NetWorker software distribution

This release of NetWorker Module for Microsoft SQL Server supports the NetWorker 7.4 Software Distribution feature. This feature enables you to install this module on multiple hosts from the NetWorker server. The *EMC NetWorker Installation Guide* provides complete instructions and information about using the NetWorker Software Distribution feature.

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 pack installed:
 - Windows 2000 Advanced Server
 - Windows 2000 Enterprise Server
 - Windows 2000 Datacenter
- ◆ Windows Server 2003 with the latest service pack:
 - Windows Server 2003 Standard (32-bit)
 - Windows Server 2003 Enterprise (32-bit)
 - Windows Server 2003 Datacenter (32-bit)
 - Windows Server 2003 Enterprise (x64)
 - Windows Server 2003 Standard (x64)
 - Windows Server 2003 (Itanium 64-bit)

Microsoft SQL Server

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

- ◆ Microsoft SQL Server 2005
- ◆ Microsoft SQL Server 2005 Express
- ◆ Microsoft SQL Server 2000
- ◆ Microsoft SQL Server 7.0

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 16](#).

Table 1 NetWorker Module compatibility

SQL Server version	Windows Server version	Hardware platform	Backup and recovery method
2005	Windows 2000, Windows Server 2003	32-bit	Traditional and snapshot
2005	Windows Server 2003	x64 ^a , ia64	Traditional
2005 Express	Windows 2000, Windows Server 2003	32-bit	Traditional
2000	Windows 2000, Windows Server 2003	32-bit	Traditional and snapshot
2000, with sp4 and hotfix KB913100 ^b	Windows Server 2003	x64	Traditional
7.0	Windows 2000	32-bit	Traditional

- a. With the Windows Server 2003 x64 operating system, the SQL Server, NetWorker, and the module software are supported in native mode. Additionally, with SQL Server running in native mode, NetWorker and this module are also supported in WOW64 mode. This module software does not support SQL Server running in WOW64 mode.
- b. A Microsoft hotfix is required for this configuration because the 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: This module release supports a 32-bit SQL Server on an x64 platform. This enables the module to backup data for SQL 2000, with service pack 4, and SQL Express running on an x64 platform.

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 7.1 or later
 - PowerSnap Module software appropriate for the storage subsystem

For instructions on installing PowerSnap Module software, and more information about configuring a PowerSnap data mover, refer to the appropriate EMC NetWorker PowerSnap Module guide.

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 6.0.3 or later for traditional backups and restores of SQL Server 7.0, SQL Server 2000, and SQL Server 2005 data on Windows 2000.

Note: If the NetWorker Module software detects a NetWorker release earlier than 6.0, requests for traditional backups terminate with an error message.

- ◆ NetWorker client and server software release 7.0 or later for traditional backups and restores of SQL Server 2000 and 2005 data on Windows 2000 and Windows Server 2003.

- ◆ NetWorker client and server software release 7.1 or later for snapshot backups and restores of SQL Server 2000 and 2005 data on Windows 2000 and Windows Server 2003.
- ◆ NetWorker client and server software release 7.4 or later for internationalization and localization support. See [“Multiple language support” on page 14](#) for supported languages.

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

Software backward compatibility

This NetWorker Module software can successfully restore backups of all types made by all earlier releases of the software.

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 2 Space requirements for 32-bit platforms

Installation type	Space needed
Typical - English	6.8 MB
Typical – French	11.7 MB
Typical – Japanese	22.4 MB
Typical – Korean	19.4 MB
Typical – Simplified Chinese	16.4 MB
Custom – NetWorker Module software	6.0 MB
Custom – Configuration Wizard	896 KB
Custom – Language Pack – French	+ 4.9 MB
Custom – Language Pack – Japanese	+ 15.6 MB
Custom – Language Pack – Korean	+ 12.6 MB
Custom – Language Pack – Simplified Chinese	+ 9.5 MB

Table 3 Space requirements for x64 platforms (1 of 2)

Installation type	Space needed
Typical - English	9.1 MB
Typical – French	14.0 MB
Typical – Japanese	24.8 MB
Typical – Korean	21.7 MB
Typical – Simplified Chinese	18.6 MB

Table 3 Space requirements for x64 platforms (2 of 2)

Installation type	Space needed
Custom – NetWorker Module software	8.3 MB
Custom – Configuration Wizard	896 KB
Custom – Language Pack – French	+ 4.8 MB
Custom – Language Pack – Japanese	+ 15.6 MB
Custom – Language Pack – Korean	+ 12.5 MB
Custom – Language Pack – Simplified Chinese	+ 9.5 MB

Table 4 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 5.1.
- ◆ 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 23](#).

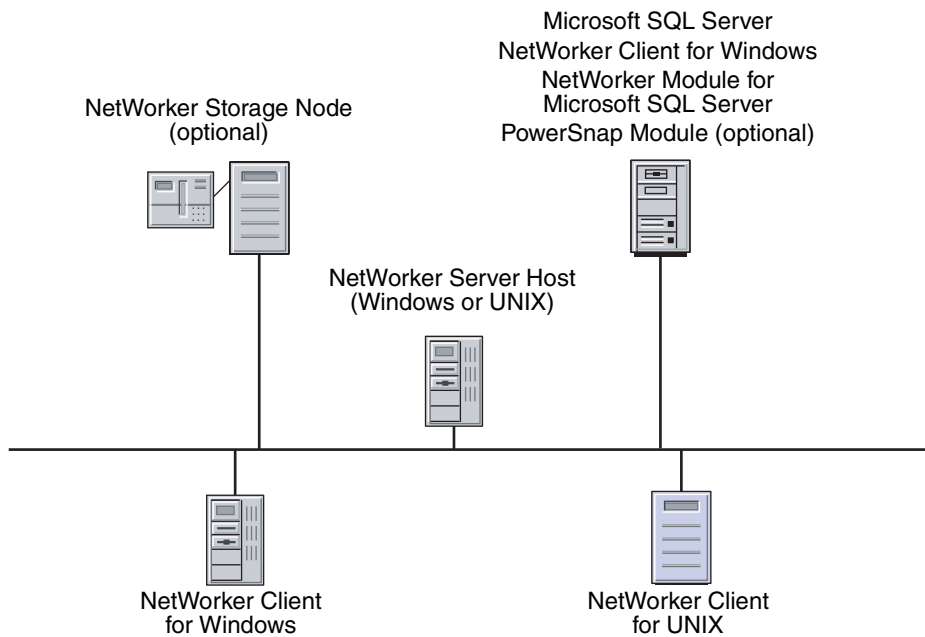


Figure 2 Configuration example

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 25](#).

To access the installation files from the EMC website:

To install the NetWorker Module from the website:

1. In your web browser, navigate to **www.software.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 5.1** 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 26](#).

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 [“Using SMS 2.0 to install the NetWorker Module” on page 29](#).
- ◆ If you plan to use the module software in a Microsoft cluster, see [“Microsoft cluster environments” on page 32](#).
- ◆ If you plan to use the NetWorker Configuration Wizard to configure scheduled backups see [“Configuring scheduled backups” on page 25](#).

Configuring scheduled backups

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

1. Install the NetWorker release 7.1 or later client software.
2. (Optional) Install the NetWorker Configuration Wizard.
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 19](#).
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 *nmsql51_win_x86.exe* (32-bit), *nmsql51_win_x64.exe* (x64), or *nmsql51_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 to release 5.1. 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 45](#) or [“Removing an installation by using the setup program” on page 46](#).
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 42](#).

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 18.

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

Using SMS 2.0 to install the NetWorker Module

Microsoft Systems Management Server (SMS) Version 2.0 can be used to install NetWorker Module for Microsoft SQL Server software automatically over an entire network. For the best results with an SMS installation perform the following before you install the NetWorker Module for Microsoft SQL Server software:

- ◆ Set up the SQL Server and SMS software. Refer to the Microsoft SMS documentation for procedures and system requirements.
- ◆ Do not configure the SMS server on a NetWorker server host. You can, however, configure the SMS server on a NetWorker client host.
- ◆ Test the SMS software.

The module software installation consists of three tasks:

- ◆ Creation of a module application source directory or directories.
- ◆ Creation of the SMS installation package.
- ◆ Creation of the job to install or remove the module software on the client computers.

Creating the application source directories

To create the NetWorker Module for Microsoft SQL Server application source directory:

1. Create a shared directory on one of the SMS site server's local disks, for example, *nmsql5.1*.
2. Copy all files from the appropriate directory on the product CD (`\MSSQLSVR\5.1\NETWORKR`) to the corresponding shared directory that was just created.

Creating the SMS installation package

Package Command Manager (PCM) can run in one of two modes:

- ◆ As a Windows application (foreground mode).
- ◆ As a Windows service (background mode).

To run background (unattended) installations, PCM must be running as a service on the target Windows client computer. For more information about using PCM, refer to Microsoft Knowledge Base article Q166765, *SMS: Deploying Packages Successfully with the PCM Service*.

To create the SMS installation package:

1. Use the **SMS Administrator** program to open the **Packages** window at the SMS site server.
2. From the **File** menu, select **New** to open the **Package Properties** dialog box.
3. Click **Import** to open the **File Browser** dialog box.
4. Select **Nwmssql.pdf** from shared directory you created on the SMS site server. (**Nwmssql.pdf** is a package definition file, not an Adobe Acrobat portable document file.) This file defines a package to install the module software as an automated background task that requires no user input.
5. Click **OK** to close the **File Browser** dialog box and return to the **Package Properties** dialog box.
6. Click **Workstations** to open the **Setup Package for Workstations** dialog box.
7. In the **Source Directory** text box, enter the server name and shared directory names as follows:

```
\\server_name\shared_dir_name
```

where:

- *server_name* is the name of the SMS site server.
 - *shared_dir_name* is the name of the shared directory that was created on the SMS site server as described under [“Creating the application source directories” on page 29](#).
8. Click **Close** to return to the **Package Properties** dialog box.
 9. Click **OK** to close the **Package Properties** dialog box.

Creating the install or uninstall job

To create the job to install or remove the NetWorker Module software by using SMS:

1. Open the **Packages** window at the SMS site server.
2. Open the **Sites** window.
3. From the **Packages** window, select the **NetWorker Module** package.
4. To open the **Job Details** dialog box, drag the **NetWorker Module** package to a computer in the **Sites** window.
5. In the **Send Phase** section of the **Job Details** dialog box, click **Even If Previously Sent**.
6. In the **Run Phase** section of the **Job Details** dialog box, select a setup option (either **Install** or **Uninstall**) from the menu under **Run Workstation Command**.
7. If you are using the PCM service (on Windows clients) to perform background installations, specify the job runtime in the "Mandatory After" (not the "Offer After") portion of the **Run Phase** section of the **Job Details** dialog box.
8. Click **OK** in the **Job Details** dialog box to close it.

SMS displays the **Job Properties** dialog box. For further details on configuring the job in the **Job Details** dialog box, refer to the Microsoft SMS documentation.

Microsoft cluster environments

TheNetWorker 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 7.0, 2000, or 2005 environments. Failover cluster support for the database engines is as follows:

- ◆ SQL Server 2005 supports:
 - 8-node failover clusters on 32-bit systems
 - 4-node clusters on 64-bit systems
- ◆ SQL Server 2000 supports:
 - 4-node failover cluster on 32-bit systems
 - 2-node failover clusters on 64-bit systems
- ◆ SQL Server 7.0 supports up to two nodes in a failover cluster.

If SQL Server 2005 is installed, up to 50 named instances can run as virtual servers in the cluster. SQL Server 2005 Enterprise Edition can have up to 50 SQL Server instances on a single computer.

If SQL Server 2000 is installed, up to 16 named instances can run as virtual servers in the cluster.

If SQL Server 7.0 is installed, the program supports an active/passive configuration with one virtual server, or an active/active configuration with two virtual servers.

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.

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 25](#) for additional information.

3. Install the enabler for this module. For more information, see [Chapter 3, “Enabling and Registering 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 35](#).
- ◆ A Client resource for the client host on which you installed the module. For instructions, see [“Creating a NetWorker client” on page 37](#).

For more information, refer to the documents listed in [Table 5 on page 35](#).

Table 5 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.	EMC NetWorker Administration Guide
For using the module software with the NetWorker server to perform backups and restores.	EMC NetWorker Module for Microsoft SQL Server Administrator's Guide Release 5.1

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, UNIX and Linux Version.

Creating a backup group for scheduled backups

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

Using NetWorker 7.2 or earlier

To create a backup group for scheduled backups of SQL Server:

1. In the **NetWorker Administrator** program, click **Manage Groups** from the **Configure** tab.
2. Right-click **Groups** and select **Create**.
3. In the **Name** attribute, enter a name for the group.
4. From the **Autostart** attribute, select **Enabled**.
5. Click **OK** to save the new group configuration.

To create a backup group for scheduled backups of SQL Server:

1. In the **NetWorker Administrator** program, select **Groups** from the **Customize** menu to open the Groups window.
2. Click **Create**.

3. In the **Name** attribute, enter the name of the group.
4. (Optional) In the **Comment** attribute, enter a description of the group.
5. For the **Autostart** attribute, select **Enabled**.
6. In the **Start Time** attribute, enter a new time, unless you want to keep the default time of 3:33 a.m.

Note: When you select a start time for different groups, schedule them far enough apart so that one group has completed backing up before the next group starts.

7. If the NetWorker PowerSnap Module software is also installed, configure the PowerSnap attributes as follows:
 - a. For the **Snapshot** attribute, select **True**.
 - b. For the **Snapshot Pool** attribute, select the pool that was configured specifically for PowerSnap operations.
 - c. For the **Snapshot Policy** attribute, select a preconfigured or a custom policy.
8. In the **Client Retries** attribute, select the number of retries. This value specifies the number of times the NetWorker server will attempt to back up a failed client.
9. In the **Clones** attribute, select **Yes** to automatically clone the group's backed-up data. You must have appendable volumes in the appropriate clone pool.

Note: If you select **No**, do not complete the clone-related step, and skip to step 11.

10. In the **Clone Pool** attribute, select the appropriate clone pool for the cloned data.
11. In the **Printer attribute**, enter the name of the printer on which **savegrp** will print the bootstrap save set information.
12. Complete other attributes as necessary, and click **Apply**.

Using NetWorker 7.3 or later

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.

Using NetWorker 7.2 and earlier

To add and configure a new NetWorker client:

1. In the **NetWorker Administrator** program, click the **Manage Clients** icon in the **Configure** tab.
2. Right-click **Clients** and select **Create**.
3. In the **Name** attribute, enter the DNS name of the SQL Server host.
4. 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

5. From the **Group** attribute, select the newly created backup group.
6. From the **Schedule** attribute, select **Default**.
7. From the **Browse Policy** attribute, select a browse policy.
8. From the **Retention Policy** attribute, select a retention policy.
9. Click **Preferences**.
10. In the **Aliases** attribute, enter the nicknames for the client computers that queries can match. Otherwise, queries match only the client name.

Note: Each Client resource should include both the DNS short name and long name in the **Aliases** attribute.

11. Click **Remote**.

12. In the **Backup Command** attribute, enter the following command (with the appropriate command options):

```
nsrsqlsv
```

13. Click **OK** to save the configuration.

To add and configure a new NetWorker client:

1. In the **NetWorker Administrator** program, select **Client Setup** from the **Clients menu**.
2. Click **Create**.
3. Complete steps 3 through 13 from [“Using NetWorker 7.2 and earlier” on page 38](#).

Using NetWorker 7.3 or later

In NetWorker 7.3, 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. Complete the attributes as described for [“Using NetWorker 7.2 and earlier” on page 38](#). The appropriate attributes are on the **General** tab except for the following:
 - the **Aliases** attribute, which is on the **Globals (1 of 2)** tab
 - the **Backup Command** attribute, which is on the **Apps & Modules** tab

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.

Testing with NetWorker 7.2 and earlier

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

1. Before the backup starts, ensure that both the SQL Server and the NetWorker client program are running.
2. Log in to the NetWorker server host with administrator privileges and start the NetWorker Administrator program.
3. Click **Manage Groups** on the **Configure** tab, and then click the plus sign (+) next to **Groups** to expand it.
4. From the list of available groups, right-click the newly created backup group and click **Start**.
5. When prompted to start the group, click **Yes**.
6. (Optional) To view the progress of the backup, click **Monitor**.
7. (Optional) To cancel a backup, select **Stop Group** from the **Operations** menu.

When the backup is finished:

- ◆ The backup status displayed for the selected backup group on the **Group Status** tab is updated according to the results of the backup.
- ◆ A message is logged in each of the following:

- The NetWorker server's *daemon.log* file
- The NetWorker client's Windows Event Viewer application log
- The module software application log
- The SQL Server message file

The client file index for the SQL Server host is backed up to the media volume labeled for the appropriate media volume pool.

Testing with NetWorker 7.3 and later

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.

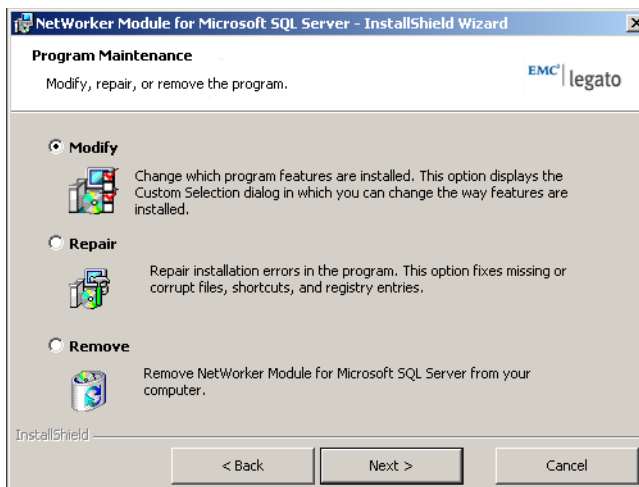


Figure 3 Program Maintenance dialog box

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 45](#).
- **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 46](#).

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**.

- 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**.

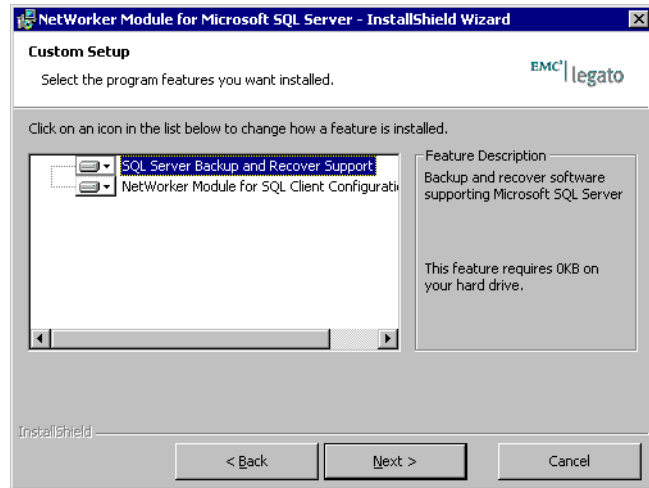


Figure 4 Custom Setup dialog box

Note: The module component of the NetWorker Configuration Wizard is available for installation only if the NetWorker release 7.2 or later client software and NetWorker Configuration Wizard are previously installed.

- Click **Next**.

The **Server** dialog box appears.

- 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.

- 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 these sections:

- ◆ How software is licensed 50
- ◆ The evaluation process 51
- ◆ The licensing process 54
- ◆ Multiplatform licensing 59
- ◆ Managing licenses 61

How software is licensed

Software and added features, such as modules, are installed in evaluation mode with all of the features enabled. The licensing of software means entry of enabler and authorization codes on the server for the environment. Without these codes, the software or added features will *not* run beyond the evaluation period.

Each installation of 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 software is installed and that all of the software and hardware requirements have been met on the computer that will access the Console.

NetWorker Module for Microsoft SQL Server licenses are tiered based on CPU.

- ◆ Tier 1 - 1 CPUs
- ◆ Tier 2 - 2 CPUs
- ◆ Tier 3 - 4 CPUs
- ◆ Tier 4 - 8+ processors

In a clustered environment, one license is required per active node.

For licensing codes and information, go to the EMC Powerlink[®] website (registration required) at:

<http://Powerlink.EMC.com>

The evaluation process

You can evaluate software two ways:

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

Evaluating a new installation

When you first install the 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 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 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.

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 54](#) provides instructions.
- ◆ [“Multiplatform licensing” on page 59](#) provides information on the different features.

Entering a temporary enabler code



CAUTION

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

NetWorker server release 7.2.x or earlier

To enter the temporary enabler code:

On UNIX

1. Log in as root or as NetWorker administrator on the NetWorker server.
2. Start the **NetWorker Administrator** program:

```
nwadmin &
```
3. From the **Server** menu, select **Registration**.
The **Registration** window opens.
4. Click **Create**.
5. In the **Enabler Code** attribute, enter the enabler code.
6. (Optional) In the **Comment** attribute, enter a description of the license.
7. Click **Apply**.

On Windows

1. Log in with administrator privileges to the NetWorker server.
2. Start the **NetWorker Administrator** program.
3. On the **Configure** tab, click **Registration**.
The **Registration** window opens.
4. Right-click **Registration** and select **Create**.
5. In the **Create Registration** window, enter the enabler code in the **Enabler Code** attribute.
6. (Optional) In the **Comment** attribute, enter a description of the license.
7. Click **OK**.

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. 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 software, you must purchase and enter 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 enter a corresponding authorization code.

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

- ◆ [“Task 1: Enter the license enabler code” on page 54](#)
- ◆ [“Task 2: Obtain an authorization code” on page 56](#)
- ◆ [“Task 3: Enter the authorization code” on page 56](#)

Task 1: Enter the license enabler code

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 could become disabled. Those devices would have to be reenabled manually after their licenses are installed.

NetWorker server release 7.2.x or earlier

To enter the license enabler code:

On UNIX

1. Log in as root or as NetWorker administrator on the NetWorker server.
2. Start the **NetWorker Administrator** program:

```
nwadmin &
```
3. From the **Server** menu, select **Registration**.
The **Registration** window opens.
4. If the **Registration** list displays a temporary enabler for the product or feature being licensed, select the enabler and click **Delete**.
5. In the **Registration** window, click **Create**.
6. In the **Enabler Code** attribute, enter the enabler code.

7. (Optional) In the **Comment** attribute, enter a description of the license.
8. Click **Apply**.

Repeat these steps to add any additional enabler codes.

On Windows

1. Log in with administrator privileges to the NetWorker server.
2. Start the **NetWorker Administrator** program.
3. On the **Configure** tab, click **Registration**.
The **Registration** window opens.
4. If a temporary enabler is listed, right-click the enabler and select **Delete**.
5. In the **Registration** window, right-click **Registration** and select **Create**.
6. In the **Create Registration** window, enter the enabler code in the **Enabler Code** attribute.
7. (Optional) In the **Comment** attribute, enter a description of the license.
8. Click **OK**.

Repeat these steps to add any additional enabler codes.

After you enter a license enabler code, you have 45 days as a registration period to authorize the NetWorker software.

NetWorker server release 7.3 or later

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. 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 these steps 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.

Task 2: Obtain an authorization code



IMPORTANT

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.

Task 3: 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, go to the EMC Powerlink website at: <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 61](#) provides information on use of the NetWorker License Manager, and the latest *EMC NetWorker License Manager Installation and Administration Guide*.

NetWorker server release 7.2.x or earlier

To enter the authorization code:

On UNIX

1. Log in as root or as NetWorker administrator on the NetWorker server.
2. Start the **NetWorker Administrator** program:

```
nwadmin &
```
3. From the **Server** menu, select **Registration**.
The **Registration** window opens.
4. Select the appropriate license.
5. In the **Auth Code** field, enter the authorization code.
6. Click **Apply**.

On Windows

1. Log in with administrator privileges to the NetWorker server.
2. Start the **NetWorker Administrator** program.
3. On the **Configure** tab, click **Registration**.
The **Registration** window opens.
4. Right-click the appropriate license and select **Edit**.
5. In the **Auth Code** field, enter the authorization code.
6. Click **OK**.

The license is now permanently enabled.

NetWorker server release 7.3 or later

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.

Multiplatform licensing

The client connections that come with a server can be used for only that server platform. A ClientPak[®] license allows the server to back up clients of different platforms. For example:

- ◆ The client connections that accompany a NetWorker server for Microsoft Windows can be used for Windows client computers only.
- ◆ The client connections that accompany a server for Solaris can be used for Solaris clients only.

With a ClientPak for UNIX, other UNIX platforms can be enabled for use with a server for Solaris. The ClientPak for UNIX supports all UNIX platforms. The ClientPak for UNIX is sufficient for all UNIX clients (backed up by a UNIX or Windows server).

Note: The NetWorker software treats Linux as a separate operating system. A ClientPak for Linux is necessary to back up Linux clients by either UNIX or Windows servers.

Multiplatform licensing scenario

A company was using a Linux server to back up Solaris, Linux, and Microsoft Windows clients. It needed two ClientPak licenses, one for Solaris and one for Microsoft Windows. The company added HP-UX and AIX clients, which required the addition of a ClientPak license for UNIX.

As the company grew and needed to add a server, it added a Windows 2000 server, which backed up the existing Windows clients and subsequent Windows 2000 clients without requiring a ClientPak. The company assigned the NetWorker server to a Solaris computer to back up the HP-UX, Solaris, and AIX clients by using a single ClientPak for UNIX.

Additional licenses

This section describes a few of the additional licenses that are 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. A cluster client or NDMP data server requires a special type of client connection license.

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.

NetWorker Application Modules

NetWorker Application Modules are licensed on the basis of one enabler per database type host. For example, to back up the Oracle database on two hosts, two NetWorker Module for Oracle enablers are required, even if the two hosts are backed up by the same server. However, if multiple database instances are running on a 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 provides information on how to license computers in a cluster.

NDMP licensing

NDMP licensing requires one NDMP Client Connection per NDMP data server. The NDMP Client Connection is valid for any supported NDMP data server. The NDMP data server does not require a standard client connection.

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.
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.

Setting Permissions on Windows Server 2003

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

This appendix includes the following section:

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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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