



EMC[®] NetWorker[®]

Release 8.1 Service Pack 1

Installation Guide

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EMC²

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REVISION HISTORY

Email your clarifications or suggestions for this document to:

BRSDocumentation@emc.com

The following table lists the revision history of this document.

Revision	Date	Description of added or changed sections
01	Nov 15, 2013	First release of this document for the <i>EMC NetWorker 8.1 SP1 Release</i> .

PREFACE

As part of an effort to improve its product lines, EMC periodically releases revisions of its software and hardware. Therefore, some functions described in this document might not be supported by all versions of the software or hardware currently in use. The product release notes provide the most up-to-date information on product features.

Contact your EMC representative if a product does not function properly or does not function as described in this document.

Note: This document was accurate at publication time. New versions of this document might be released on the EMC online support website. Check the EMC online support website to ensure that you are using the latest version of this document.

Audience

This document is part of the NetWorker documentation set and is intended for use by system administrators during the installation and setup of the NetWorker software.

NetWorker product documentation

The following EMC publications provide additional information:

- ◆ *NetWorker Administration Guide* — Describes how to configure and maintain the NetWorker software.
- ◆ *EMC NetWorker Cluster Integration Guide* — Describes how to install and administer the NetWorker software on cluster servers and clients.
- ◆ *EMC NetWorker Release Notes* — Contains information on new features, changes, fixed problems, known limitations, environmental considerations, and system requirements for the latest NetWorker software release.
- ◆ *NetWorker Command Reference Guide* — Provides reference information for the NetWorker commands and options.
- ◆ *EMC NetWorker Avamar Devices Integration Guide* — Provides planning and configuration information on the use of Avamar devices in a NetWorker environment.
- ◆ *EMC NetWorker Data Domain Deduplication Devices Integration Guide* — Provides planning and configuration information on the use of Data Domain devices for data deduplication backup and storage in a NetWorker environment.
- ◆ *EMC NetWorker Error Message Guide* — Describes common NetWorker error messages.
- ◆ *EMC NetWorker Licensing Guide* — Describes how to license the NetWorker products and the features.
- ◆ *NetWorker License Manager Installation and Administration Guide* — Describes how to install and administer the EMC License Manager application.

- ◆ *NetWorker Performance Optimization and Planning Guide* — Provides basic performance information to size, plan, and optimize the NetWorker environment.
- ◆ *EMC NetWorker Management Console Online Help* — Describes the day-to-day administration tasks performed in the NetWorker Management Console and the NetWorker Administration window. To view Help, click Help in the main menu.
- ◆ *EMC NetWorker User Online Help* — Describes how to use the NetWorker User program on a Windows client to connect to the NetWorker server and perform backup, recover, and archive operations.

NetWorker related documentation

- ◆ *NetWorker VMware Release Integration Guide* — Describes how to plan and configure VMware and the vStorage API for Data Protection (VADP) within an integrated EMC® NetWorker® environment.
- ◆ *NetWorker Procedure Generator* — The NetWorker Procedure Generator (NPG) is a stand-alone Windows application that generates precise user driven steps for high demand tasks carried out by customers, Support, and the field. With the NPG, each procedure is tailored and generated based on user-selectable prompts. This generated procedure:
 - Gathers the most critical parts of the NetWorker product guides
 - Combines the advice of the experts in a single document
 - Provides the content in a standardized format.

To access the NetWorker Procedure Generator, log on to:

<http://support.emc.com>

Specify NetWorker Procedure Generator in the Search EMC Support field. You must have a valid service agreement to use this site.

- ◆ *Technical Notes and White Papers* — Provide an in-depth technical perspective of a product or products as they apply to critical business issues or requirements. Technical notes and white papers include:
 - Technology and business considerations
 - Applied technologies
 - Detailed review
 - Best practices planning

To search for NetWorker Technical Notes and Whitepapers, log on to

<http://support.emc.com> and select Support By Product. In the Find a Product field, specify NetWorker. On the NetWorker Support By Product page, select Documentation.

Conventions used in this document

EMC uses the following conventions for special notices:

NOTICE

NOTICE is used to address practices not related to personal injury.

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

IMPORTANT

An important notice contains information essential to software or hardware operation.

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, and utilities URLs, pathnames, filenames, directory names, computer names, links, groups, service keys, file systems, and notifications
Bold	Used in running (nonprocedural) text for names of commands, daemons, options, programs, processes, services, applications, utilities, kernels, notifications, system calls, and 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 the 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 specific user input, such as commands
<i>Courier italic</i>	Used in procedures for: <ul style="list-style-type: none"> Variables on the 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 enclose content that the user must specify, such as 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 information about EMC products, licensing, and service, go to the EMC online support website (registration required) at:

<http://support.emc.com>

Technical support — For technical support, go to EMC Online Support Site and select Support > Request Support. On the Support page, you will see several options, including one to Live Chat with a support technician. Note to request support, you must have a valid support agreement. Contact your EMC sales representative for details about obtaining a valid support agreement or with questions about your account.

Online communities — Visit EMC Community Network at <https://community.EMC.com> for peer contacts, conversations, and content on product support and solutions. Interactively engage online with customers, partners, and certified professionals for all EMC products.

Your comments

Your suggestions will help us continue to improve the accuracy, organization, and overall quality of the user publications. Send your opinions of this document to:

BRSDocumentation@emc.com

CHAPTER 1

Getting Started

This chapter provides a summary roadmap of the NetWorker software installation and update process:

- ◆ [Installation roadmap](#)..... 14
- ◆ [Update roadmap](#) 15

Installation roadmap

Use this roadmap to install the NetWorker software, on a host that does not have a previous version of the NetWorker software installed.

1. [“Software Requirements” on page 25](#) provides the general requirements and considerations relevant to each supported Windows and UNIX operating systems.
2. Review the operating system specific chapter to install the NetWorker server, storage node, Console server, and client software:
 - [“AIX Installation” on page 65](#) describes how to install the NetWorker software on the supported AIX operating systems.
 - [“HP-UX Installation” on page 75](#) describes how to install the NetWorker software on the supported HP-UX operating systems.
 - [“Linux Installation” on page 81](#) describes how to install the NetWorker software on the supported Linux operating systems.
 - [“Mac OS-X Client Installation” on page 95](#) describes how to install the NetWorker software on the supported Mac OS-X operating systems.
 - [“Solaris Installation” on page 99](#) describes how to install the NetWorker software on the supported Solaris operating systems.
 - [“Microsoft Windows Installation” on page 111](#) describes how to install the NetWorker software on the supported Windows operating systems.
3. [“Verify the Installation” on page 131](#) describes how to test the NetWorker software functionality.
4. Enable and register the NetWorker products. The *NetWorker Licensing Guide* provides information.

Update roadmap

Use this roadmap to update the NetWorker software from a previous release.

1. [“Software Requirements” on page 25](#) provides the general requirements and considerations that are applicable to all of the supported Windows and UNIX operating systems.
2. [“Updating from a previous release” on page 31](#) describes how to update the NetWorker software on all of the supported operating systems in three different scenarios:
 - [“Updating NetWorker from 8.0.x or 8.1.x” on page 36](#) describes how to update the NetWorker software from NetWorker 8.0.x.
 - [“Updating NetWorker from 7.6.x” on page 40](#) describes how to update the NetWorker software from NetWorker 7.6.x.
 - [“Updating NetWorker by using Client Push” on page 51](#) describes how to use Software Distribution feature to update the NetWorker client and storage nodes.
 - [“Updating from a different bit version of NetWorker \(32-bit, 64-bit\)” on page 62](#) describes how to update a NetWorker server from a 32-bit operating systems to a 64-bit operating system, before updating the NetWorker software.
3. Review the operating system specific chapter to install the NetWorker server, the storage node, the Console server, or the client software:
 - [“AIX Installation” on page 65](#) describes how to install the NetWorker software on the supported AIX operating systems.
 - [“HP-UX Installation” on page 75](#) describes how to install the NetWorker software on the supported HP-UX operating systems.
 - [“Linux Installation” on page 81](#) describes how to install the NetWorker software on supported the Linux operating systems.
 - [“Mac OS-X Client Installation” on page 95](#) describes how to install the NetWorker software on the supported Mac OS-X operating systems.
 - [“Solaris Installation” on page 99](#) describes how to install the NetWorker software on the supported Solaris operating systems.
 - [“Microsoft Windows Installation” on page 111](#) describes how to install the NetWorker software on the supported Windows operating systems.
4. [“Verify the Installation” on page 131](#) describes on how to test the NetWorker software functionality.
5. Enable and register the NetWorker products. The *NetWorker Licensing Guide* provides more information.

CHAPTER 2

Introduction

This chapter includes these sections:

◆ About the NetWorker product	18
◆ NetWorker datazone.....	18
◆ NetWorker client	18
◆ NetWorker storage node.....	18
◆ NetWorker server	19
◆ NetWorker Management Console server	20
◆ Console client	21
◆ NetWorker daemons.....	22
◆ Enabler codes	23

About the NetWorker product

The EMC® NetWorker® product is a storage management software suite that provides backup, recovery, and other services to hosts with a wide variety of operating systems and data types. NetWorker products for different operating systems are interoperable. NetWorker provides the flexibility to design a storage management system that works best with the current computing environment.

The NetWorker software is distributed in these formats:

- ◆ In a media kit that contains the software and electronic documentation for several related NetWorker products.
- ◆ As a downloadable archive file from the *EMC Online Support Site* website.

The NetWorker product has these components:

- ◆ NetWorker client
- ◆ NetWorker storage node
- ◆ NetWorker server
- ◆ NetWorker Management Console server (NMC)
- ◆ NetWorker language packs
- ◆ NetWorker license manager

NetWorker datazone

A NetWorker datazone is a single NetWorker server and its client and storage node hosts.

NetWorker client

The NetWorker client software communicates with the NetWorker server and provides client initiated backup and recover functionality. Install the NetWorker client software on each host that you will back up on the NetWorker server.

Before you install the NetWorker client software, ensure that NetWorker supports the specific client operating system and hardware configuration.

The *EMC NetWorker Software Compatibility Guide* provides the most up-to-date information about compatibility.

NetWorker storage node

NetWorker can back up data to devices that are local to a NetWorker server or remotely to devices on a storage node. A storage node controls storage devices such as tape drives, disk devices, autochangers, and silos. The NetWorker server is a local storage node. You can use a remote storage node to offload most of the data movement involved in a backup or a recovery operation from the NetWorker server. A remote storage node improves performance but requires high I/O bandwidth to manage the transfer of data from local clients, or network clients to target devices. The operating system of a remote storage node can differ from the NetWorker server.

Before you install NetWorker on a storage node host, ensure that the operating system recognizes the devices. NetWorker supports a variety of media types and devices including:

- ◆ Disk devices
- ◆ Stand-alone tape devices
- ◆ Tape devices in an autochanger or silo tape library

The term *autochanger* refers to a variety of backup devices:

- Autoloader
- Carousel
- Datawheel
- Jukebox
- Library
- Near-line storage

The *NetWorker 7.3 (and Later) Hardware Compatibility Guide* provides the most up-to-date list of supported devices.

To avoid potential data loss when using tape devices:

- ◆ Ensure that the block-size mode for the tape devices is variable otherwise, recoveries can fail. The procedure to set up the device block size varies depending on the operating system.
- ◆ Use a nonrewinding tape device. NetWorker writes a file mark on the volume at the end of each backup. When the next backup occurs, NetWorker appends the data to the volume based on the position of the file mark. When a device automatically rewinds the tape, the file mark position is lost and the next backup overwrites existing data. You cannot recover the data.

Configuring Tape Devices for EMC NetWorker Technical Note on EMC Online Support Site provides best practices on how to configure tape devices for use by NetWorker server and storage nodes.

NetWorker server

The NetWorker server provides services to back up and recover the data of any NetWorker host in a datazone. The NetWorker server can also act as a storage node and control multiple remote storage nodes.

Table 1 on page 20 summarizes the different databases a NetWorker server uses to manage a datazone.

Table 1 NetWorker server database functions

Database	Function
Client File Index (CFI)	Tracks the files that belong to a save set. There is one client file index for each configured NetWorker client. The client file indexes can grow to become prohibitively large over time and negatively impact backup performance.
Media database (mm)	Tracks: <ul style="list-style-type: none"> • The volume name. • The location of each save set fragment on the physical media (file number/file record). • The backup dates of the save sets on the volume. • The filesystems in each save set. <hr/> <p>Note: There is only one media database per server.</p> <hr/> <p>The media database can grow to become prohibitively large over time and negatively impact backup performance.</p>
Jobs (jobsdb)	Stores for a limited amount of time, information about NetWorker job operations, for example: <ul style="list-style-type: none"> • Scheduled and queued backup and recovery operations. • Real-time backup and restore related activities. • All Console server communication. <p>Recovery operations do not require the data stored in the jobsdb database.</p>
Resource (resdb)	Stores the configuration information for a NetWorker server, for example: <ul style="list-style-type: none"> • NetWorker client backup configurations. • Schedule recover configurations. • Pool configurations. • Device configurations.
Client push (cpdb)	Stores configuration information for the Client push application.
nsrla	Stores configuration information for the NetWorker nsrexecd service.

NetWorker Management Console server

The NetWorker Management Console (NMC) server or Console server, is a Java-based web application and database server that provides centralized:

- ◆ Management of multiple NetWorker servers across multiple datazones.
- ◆ Monitoring of multiple NetWorker servers across multiple datazones.
- ◆ Reporting for multiple NetWorker servers across multiple datazones.

The Console server uses:

- ◆ Embedded Apache server software to:
 - Download of the Console jar files.
 - Startup of the Console server daemon or service.
- ◆ Embedded Sybase SQL Anywhere software to store reporting and Console server configuration information.

You can install the Console server software package on an AIX, Linux, Solaris, or Microsoft Windows host. The Console server software requires the NetWorker client software.

The *NetWorker Software Compatibility Guide* on *EMC Online Support Site* provides the latest information about supported operating system versions.

You can install the Console server software on the NetWorker server but EMC does not recommend this configuration when the NetWorker server manages 50 or more clients and when the Console server will monitor multiple datazones.

The minimum system requirements for a Console server host is 1 GHz with 512 MB of RAM.

To monitor:

- ◆ 50 servers—Use a Console server with at least Dual 1 GHz processors and no less than 2 GB of RAM.
- ◆ 100 servers— Use a Console server with at least Dual 1 GHz processors and no less than 4 GB of RAM.
- ◆ 200 servers—Use a Console server with at least Dual 1 GHz processors and no less than 8 GB of RAM.

To ensure Console server database backups, configure the Console server as a client of the NetWorker server. The *NetWorker Administration Guide* describes how to configure an Console server database backup

Console client

A Console client is any host in the environment that uses a web browser and Java Runtime Environment (JRE) to display the Console server GUI. Multiple users can access the Console server GUI concurrently from different browser sessions.

[Table 2 on page 21](#) summarizes the JRE and browser requirements for a Console client.

Table 2 Console client requirements (page 1 of 2)

Operating system	JRE and browser Requirements
AIX 6.1, 7.1	<ul style="list-style-type: none"> • JRE 1.6.x • Mozilla
HP-UX 11iv1, 11iv2, 11iv3	<ul style="list-style-type: none"> • JRE 1.6.x • Mozilla
Linux x86 (32-bit) RHEL 5, 6	<ul style="list-style-type: none"> • JRE 1.6.x or JRE 1.7.x • Mozilla • Firefox

Table 2 Console client requirements (page 2 of 2)

Operating system	JRE and browser Requirements
Linux em64T & AMD64 (64-bit) RHEL 5, RHEL6, SLES 10, SLES 11	<ul style="list-style-type: none"> • JRE 1.6.x or JRE 1.7.x • Firefox
Solaris 10 & 11 for Solaris SPARC, Solaris Opteron (64-bit)	<ul style="list-style-type: none"> • JRE 1.6.x or JRE 1.7.x • Mozilla
Windows XP, Windows 2003, 2003 R2 for x86, em64T & AMD64 (64-bit)	<ul style="list-style-type: none"> • JRE 1.6.x or JRE 1.7.x • Microsoft Internet Explorer 7 • Microsoft Internet Explorer 8 • on Windows XP and Windows 2003 • Microsoft Internet Explorer 8 on Windows XP, Windows 2003, Windows 7, Windows Vista, Windows 2008, Windows 2008 R2. • Microsoft Internet Explorer 9 on Windows 7, Windows Vista, Windows 2008, Windows 2008 R2 • Firefox 5.0 on Windows XP and Windows 2003. • Microsoft Internet Explorer 10 on Windows 8 and Windows 2012, in Desktop mode only. Windows 2012 and Windows 8 support JRE 1.7 only. <p>Notice: If you use Internet Explorer, then you must ensure that you use the Internet Explorer version that matches the JRE version. For example, when the host uses 32-bit JRE, ensure that you use 32-bit Internet Explorer to connect to the Console server GUI. “Windows only, confirming JRE version” on page 130 provides more information.</p>
Windows 7, Vista, Windows 1008, Windows 2008 R2 for x86, em64T & AMD64 (64-bit)	<ul style="list-style-type: none"> • JRE 1.6.x or JRE 1.7.x • Microsoft Internet Explorer 7 • Microsoft Internet Explorer 8 • Firefox
Windows 8 and Windows 2012	<ul style="list-style-type: none"> • JRE 1.7 only. • Microsoft Internet Explorer 10 in Desktop mode only.

NetWorker daemons

The NetWorker software requires processes on Windows or daemons on UNIX to run on the system and facilitate NetWorker operations in the datazone.

[Table 3 on page 22](#) lists the NetWorker daemons for each of the software components.

Table 3 NetWorker daemons

NetWorker packages	NetWorker daemons
NetWorker server	nsrd, nsrexecd, nsrindexd, nsrmmdbd, nsrmmmd, nsrjobd, nsrmmgd, nsrlcpd, nsrlogd, nsrsnmd, nsrncpd
NetWorker client	nsrexecd, nsrpsd
NetWorker storage node	nsrexecd, nsrmmmd, nsrlcpd, nsrsnmd
NetWorker Management Console server	gstd, httpd, dbsrv12, gstsmptrapd (optional)

Consider the following:

- ◆ The nsrmmmd process or daemon is present when one or more devices are enabled.
- ◆ The nsrmmgd process or daemon is present on the NetWorker server when a library is enabled.
- ◆ The nsrlcpd process or daemon is present on a NetWorker server and storage nodes with an attached library.
- ◆ The nsrncpd process or daemon is present on the NetWorker server during a client push software upgrade.
- ◆ The Console server daemon, gstd starts these additional processes:
 - dbsrv12 — the SQL Anywhere database process.
 - httpd — there will be 2 or more httpd processes.
 - gstsnmptrapd — an optional process that is present on the Console server when SNMP Trap monitoring is configured for a Data Domain system.

Enabler codes

Enabler codes or licenses activate the functionality of the NetWorker software and are generally sold separately. The *NetWorker License Guide* provides more information.

CHAPTER 3

Software Requirements

This chapter provides the general software requirements for the NetWorker software:

- ◆ [Multi-locale datazone requirements](#) 26
- ◆ [TCP/IP requirements](#) 28
- ◆ [IPv6 protocol](#)..... 28

Multi-locale datazone requirements

This section provides information to consider, when using the NetWorker software in a multi-locale datazone.

In a multi-locale datazone, you can configure hosts to run in different locales. The NetWorker software supports a multi-locale datazone.

The NetWorker command line interface (CLI), the Console server graphical user interface (NMC GUI) and the NetWorker User program are I18N compliant.

In a multi-locale datazone, users can display data and remotely manage their NetWorker environment in the locale defined on their local host. NetWorker supports different locales on the local host, the NetWorker server, and the Console server.

The NetWorker software includes language pack support for the French, the Japanese, the Simplified Chinese, the Korean, and the English locales.

The NetWorker software supports:

- ◆ The languages and the character sets that the underlying OS support.
- ◆ UTF-8 encoded input and output files.
- ◆ Non-English scheduled backup and archive requests.
- ◆ Non-English mounts on UNIX hosts.

The NetWorker software detects these mounts during a “All” save set backup.

- ◆ A directed recover to a non-English relocation directory.
- ◆ A save set recover of a non-English save set, independent of the locale of the source host.
- ◆ The *NetWorker 8.1 Administration Guide* describes how to perform NetWorker tasks in a multi-locale datazone.

Before you configure the NetWorker software in a multi-locale datazone, review these considerations:

- ◆ [“General multi-locale considerations” on page 26](#)
- ◆ [“Windows requirements” on page 27](#)
- ◆ [“UNIX requirements” on page 27](#)

General multi-locale considerations

This section describes general considerations to review before installing the NetWorker software in a multi-locale datazone.

To view localized textual elements for example: radio buttons and menu options, the dates, the times, and the numbers in the CLI, the Console server GUI, and the NetWorker User application, ensure that you:

- ◆ Install the required language font on the operating system of the host that is accessing the application interface.
- ◆ Enable the corresponding language locale on the operating system of the host that accesses the application interface.

- ◆ Enable the corresponding language locale on the Console server.
- ◆ Install the corresponding language pack included with the NetWorker software package on the NetWorker client, server, storage node, and Console server.

The NetWorker software does not support locales that the operating system defines or code sets that remap characters that have a special meaning for file systems, for example De_DE.646. Depending on the file system, these special characters might include the forward slash (/), the backward slash (\), the colon (:), or the period(.

When the appropriate non-English font is not available on the Console client, the Console GUI renders the localized textual elements in English or the elements might appear as illegible.

The CLI displays the data correctly when the current locale supports the characters and the encoding. However, when the user and system locales do not match on a Windows host, characters might display incorrectly.

The `nsr_render_log` command enables you to render English log file messages into the locale of the user that runs `nsr_render_log` command. The *NetWorker Command Reference Guide* or the UNIX man pages describes how to use the `nsr_render_log` program.

Message files that support localization include:

- ◆ `daemon.raw` file
- ◆ `nsrccd.raw` file — the client push log
- ◆ `gstd.raw` file — the Console server log file
- ◆ `networkr.raw` file — the Windows recovery log file

The *NetWorker 8.1 Administration Guide* on the *EMC Online Support Site* describes how to view raw log files.

Windows requirements

This section provides general locale requirements, when using a Windows Console client or the **NetWorker User** program in a multi-locale NetWorker datazone.

When non-UTF8 data from a UNIX host uses encoding that Windows does not support natively, for example `euc-jp`, the UNIX host data will not appear correctly on the Windows host.

The **NetWorker User** program displays the textual elements, dates, times, and numbers based on the Regional and Language Options settings in Control Panel.

UNIX requirements

This section provides general locale requirements when using a UNIX Console client in a multi-locale NetWorker datazone.

NetWorker does not support a non-ASCII installation directory. Create a symbolic link of the `/nsr` folder to a non-ASCII directory.

To display non-English textual elements, the dates, the times, and the numbers in the NMC GUI ensure that you:

- ◆ Install the appropriate NetWorker language package on the client.
- ◆ Define the LC_ALL and LANG environment variables to match the NetWorker language pack installed.

For example, on Solaris:

- To use the French NetWorker language pack, type:

```
setenv LANG fr
setenv LC_ALL fr
```

- To use the Japanese NetWorker language pack, type:

```
setenv LANG ja
setenv LC_ALL ja
```

- To use the Simplified Chinese NetWorker language pack, type:

```
setenv LANG zh
setenv LC_ALL zh
```

- To use the Korean NetWorker language pack, type:

```
setenv LANG ko
setenv LC_ALL ko
```

TCP/IP requirements

The NetWorker software requires that you install and configure TCP/IP on each host. Before you install the NetWorker software, ensure that:

- ◆ The `/etc/hosts` file on each Solaris and Linux NetWorker host contains an entry for the IPv4 loopback address:

```
127.0.0.1          localhost.localdomain localhost
```

- ◆ The NetWorker server when configured as a DHCP client, uses a reserved address that is synchronized with DNS.
- ◆ The name of the host that the `hostname` command returns on the system must match the name that the IP address resolves to when using `nslookup`.
- ◆ When using OS tools for example, `nslookup`, the IP address of the host must resolve to the same hostname defined for the NIC used by NetWorker
- ◆ The hostname does not contain an underscore character (`_`).

IPv6 protocol

Internet Protocol version 6 (IPv6) is a next generation Internet protocol used concurrently with IPv4 or in a pure IPv6 environment. IPv6 increases the number of available IP addresses and adds improvements in the areas of routing and network autoconfiguration.

IPv6 addresses are represented by 8 groups of 16-bit hexadecimal values that are separated by colons (`:`).

For example:

```
2001:0db8:85a3:0000:0000:8a2e:0370:7334
```

Most newer operating systems configure the IPv6 loopback interface, by default. To determine if the IPv6 loopback interface is configured on the host, use operating system tools such as **ifconfig** on UNIX and **ipconfig** on Windows. On UNIX systems, the device name of the loopback interface is usually lo or lo0.

NetWorker does not support temporary or link-local IPv6 addresses.

The client backup fails when the IPv6 address for the client is not:

- ◆ Stored in DNS or in the hosts file.
- ◆ Added to the client resource.

When the operating system configures the IPv6 loopback interface, ensure that:

- ◆ The hosts file on each NetWorker host has an entry that associates the IPv6 loopback interface (::1) with the localhost. Add the IPv6 loopback interface entry before the IPv4 loopback entry (127.0.0.1 localhost)

For example:

```
::1 localhost
127.0.0.1 localhost.localdomain localhost
```

- ◆ The IPv6 loopback entry must remain in the hosts file when the host is operating in a pure IPv4, pure IPv6, or dual stack configuration.

CHAPTER 4

Updating from a previous release

This chapter includes these sections:

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Introduction

This section provides you with the information to review before you update a NetWorker host to 8.1.x and provides detailed information about the update procedure on each supported operating system.

Note: [“Downgrade to a Previous Release” on page 143](#) provides the steps required to downgrade the NetWorker software.

Interoperability and backward compatibility

Before you update any host in the datazone, review information about the interoperability and backwards compatibility.

[Table 1 on page 32](#) summarizes interoperability and backward compatibility requirements.

Table 1 Interoperability and backward compatibility requirements (page 1 of 2)

When updating	Interoperability information
7.6.x and earlier storage nodes	<p>NetWorker 8.1.x server supports NetWorker 8.0.x and later storage nodes only.</p> <p>Update all NetWorker 7.6.x storage nodes to version 8.1.x before updating the NetWorker server. This includes storage nodes that are operating on standalone servers and dedicated storage nodes operating on application servers. Update storage nodes embedded within the EMC Disk Library (EDL SN) to NetWorker 8.0.x. EDL SN does not support NetWorker 8.1.x.</p> <p>Note: A NetWorker 8.1.x server disables NetWorker 7.6.x and earlier storage nodes.</p>
7.5.x NetWorker server	<p>You cannot directly update a NetWorker 7.5.x server to NetWorker 8.1.x.</p> <p>Use the following method to update the hosts in a NetWorker 7.5.x datazone:</p> <ol style="list-style-type: none"> 1. Update the NetWorker 7.5.x server to version 7.6.x. 2. Update each NetWorker storage node to version 8.1.x. <p>Note: Update EDL SN to NetWorker 8.0</p> <ol style="list-style-type: none"> 3. Update the NetWorker 7.6.x server to version 8.1.x. 4. Update the NetWorker clients to version 8.1.x.
8.0.x or 8.1 NetWorker server with synthetic full backups	<p>Starting with NetWorker 8.1 SP1, you cannot set the backup level for a group to synth_full. When you update the NetWorker server to 8.1 SP1, the backup level for a group that was configured to use the synth_full backup level will be blank.</p> <p>Before you update the NetWorker server software, review the Group configuration, and scripts that perform synthetic full backups by using the savegrp command. For groups that specify the synth_full backup level, perform one of the following actions:</p> <ul style="list-style-type: none"> • Modify the Level attribute to use the incr_synth_full level instead of synth_full. • Specify a schedule for the group that contains the synth_full level.

Table 1 Interoperability and backward compatibility requirements (page 2 of 2)

When updating	Interoperability information
7.5.x console server	Update a NetWorker 7.5.x Console server directly to NetWorker 8.1.x when the Console server is not the NetWorker server.
NMM 2.3 clients	NetWorker 8.1.x does not support NMM 2.3. Update hosts to NMM 2.4 before you update the NetWorker server and storage nodes.
Storage node	NetWorker 7.6.x and 8.0.x server supports a NetWorker 8.1.x storage node.
Console server	Console server 8.1.x supports NetWorker 7.6.x and 8.0.x servers. When the Console server is not the NetWorker server, update the Console server before you update the NetWorker server. NetWorker 7.6.x and 8.0.x Console servers do not support NetWorker 8.1.x servers.
Clients	NetWorker 8.1.x server supports NetWorker 8.0.x and 7.6.x clients. Note: The Client Configuration Wizard supports NetWorker 7.6 SP4 or later client only. NetWorker 7.6.x and 8.0.x servers and storage nodes support NetWorker 8.1.x clients.
Operating system	Update the operating system first and then update the NetWorker software.

Preparing the NetWorker server

Before you update the NetWorker server, ensure that the media database and client file indexes are in a consistent state and that you have a backup of the databases.

To prepare the NetWorker server, perform these steps from a command prompt on the NetWorker server as root on UNIX or administrator on Windows.

1. Put the NetWorker databases in a consistent state:

```
nsrim -X
nsrck -m
nsrck -L6
```

2. Record the current location of the NetWorker media database:

```
nsrls -m
```

3. Record the current location of the NetWorker client file indexes:

```
nsrls
```

4. Record the range of ports the NetWorker software uses:

```
nsrports
```

5. Perform a back up of the bootstrap, the client file indexes, and the resource database on the NetWorker server:

```
savegrp -O group
```

To back up all client file indexes, specify a group that contain all the NetWorker clients in the datazone.

If a group that contains all the clients does not exist, run multiple **savegrp** commands, specifying a different group each time, until you back up all clients indexes.

NOTICE

Ensure the media pool associated with the group has appendable media available.

6. Record the latest bootstrap save set ID (ssid) including the file number, the record number, and the associated volume label.

For example:

```
mminfo -B
```

date	time	level	ssid	file	record	volume
10/11/11	16:29:40	full	4254377781	0	0	bootstrap_vol.001

In this example:

- The save set ID (ssid) is 4254377781.
- The file number is 0.
- The record number is 0.
- The label of the volume that contains the bootstrap save set is bootstrap_vol.001.

Preparing the storage node for Virtual Synthetic Full

Virtual Synthetic Full (VSF) requires a value in the volume location attribute for a Data Domain device. NetWorker updates the volume location attribute during the device mount operation. Before you update a storage node that uses Data Domain devices, unmount each device. Once the update completes, mount each device.

Preparing for a Console server update

This section describes the steps you need to do on the Console server and Console clients before you update the Console server.

Preparing the Console server

Before you update the Console server, perform a level Full backup of the Console server database.

“Backing up NetWorker Console Management data” in the *NetWorker 8.1 Administration Guide* provides more information.

Preparing the Console clients

Review this section before you update the Console server for information about Console clients and how to clear the java cache.

NetWorker 8.1.x does not support the following previously supported Console clients:

- ◆ Apple OS-X for Intel
- ◆ Linux ia64-bit
- ◆ IBM system Z
- ◆ IBM Power Linux

The *EMC NetWorker Software Compatibility Guide* on EMC Online Support provides more information about supported Console server operating systems.

The Console server update process replaces the gconsole.jnlp file in the Java Web Start cache on the Console server. As a result, after a Console server update, the Console client fails to start the NMC GUI with an error message similar to the following:

```
Unable to launch NetWorker Management Console
```

To prevent this issue, on each host that you use as a Console client, clear the local java cache. This enables the Console client to download the new gconsole.jnlp file from the Console server.

The procedure is different for UNIX and Windows:

UNIX Console client

To clear the java cache on a UNIX Console client:

1. Run the **Java Web Start** program.
2. Move or delete the `$HOME/.java` directory:


```
cd $HOME
mv .java .java_orig
```
3. Run the `javaws -viewer` command to create a new `$HOME/.java` directory and start the **Java Cache Viewer**.
4. Reconfigure Java Web Start preferences if required and exit the **Java Cache Viewer**.

Windows Console client

To clear the java cache on a Windows Console client:

1. Open the **Java Control Panel** application.
2. On the **General** tab, in the **Temporary Internet Files** section, select **View...**
3. Delete the **NetWorker Management Console** entry, then click **Close**.
4. On the **General** tab, in the **Temporary Internet Files** section, select **Settings**.
5. 6. Select **Delete files...** and then click **OK**.
6. Close the **Java Cache Viewer** window and the **Java Control Panel** window.

Updating NetWorker from 8.0.x or 8.1.x

When you update the NetWorker software from 8.0.x or 8.1.x, some Linux operating systems and the Windows operating system allows you to update the NetWorker software without removing the previous version. For HP-UX, AIX, Debian, and Ubuntu you must remove the previous version of the NetWorker software, then install the newer version.

These sections describe how to update the NetWorker software from 8.0.x and 8.1.x:

- ◆ [“Updating NetWorker on RHEL, RedFlag, Oracle Enterprise Server, RedFlag Asianux, SuSE, Fedora and CentOS” on page 36](#)
- ◆ [“Updating NetWorker on AIX, HP-UX, Debian, Ubuntu, MAC-OSX, and Solaris” on page 37](#)
- ◆ [“Updating NetWorker and Console server on Windows” on page 38](#)
- ◆ [“For Console server updates only, reconfigure LDAP” on page 39](#)
- ◆ [“Authorizing the NetWorker server” on page 39](#)

Updating NetWorker on RHEL, RedFlag, Oracle Enterprise Server, RedFlag Asianux, SuSE, Fedora and CentOS

You can update the NetWorker client, server, storage node, and Console server software without first removing the previous version of the software by using the **rpm -U** command.

Before you remove the NetWorker software, remove the NetWorker module software including NetWorker Module for Databases and Applications and the NetWorker PowerSnap module. The appropriate module installation guide describes how to uninstall the module software.

Note: Use the **rpm -qa | grep lgto** command to display list of installed NetWorker packages.

To update the software, from the directory that contains the extracted NetWorker 8.1 software packages, type:

```
rpm -Uvh package [package]...
```

where *package [package]...* is a list of the software package required for the installation type. [Table 2 on page 36](#) provides a list of the software packages required for each installation type. Specify optional packages such as language packs and man pages in **rpm** command after the required packages for the installation type.

Table 2 List of NetWorker packages to update by installation type

Installation type	Packages
Client software	lgtoclnt-nw*.rpm
Storage Node software	lgtoclnt-nw*.rpm lgtonode*.rpm
Server software	lgtoclnt-nw*.rpm lgtonode*.rpm lgtoserv*.rpm
Console server	lgtoclnt-nw*.rpm lgtonmc*.rpm
Man pages	lgtoman*.rpm

Table 2 List of NetWorker packages to update by installation type

Installation type	Packages
Simplified Chinese language support	lgtozh*.rpm
French language support	lgtofr*.rpm
Japanese language support	lgtoja*.rpm
Korean language support	lgtoko*.rpm

For Console server updates only, after you update the Console server software, you must configure the Console server software. [“Configuring the Console server software” on page 90](#) provides more information.

After you update the NetWorker software, EMC recommends that you stop the NetWorker daemons on the NetWorker host, delete the /nsr/tmp directory, and then start the NetWorker daemons.

Updating NetWorker on AIX, HP-UX, Debian, Ubuntu, MAC-OSX, and Solaris

When you update the NetWorker server, the storage node, the client, and the Console server software from 8.0.x, remove the previous version of the NetWorker software, then install the newer version.

Uninstalling the previous version of NetWorker

Before you remove the NetWorker software, remove the NetWorker module software including NetWorker Module for Databases and Applications and the NetWorker PowerSnap module. The appropriate module installation guide describes how to uninstall the module software.

EMC recommends that after you remove the NetWorker software, you delete the /nsr/tmp directory.

These sections describe how to uninstall NetWorker:

- ◆ [“Uninstalling the NetWorker and Console server software on AIX” on page 72](#)
- ◆ [“Uninstalling the NetWorker software on HP-UX” on page 79](#)
- ◆ [“Uninstalling NetWorker and Console server software on Linux” on page 91](#)
- ◆ [“Uninstalling the NetWorker software on Mac OS-X” on page 98](#)
- ◆ [“Uninstalling the NetWorker and Console server on Solaris” on page 108](#)

Installing NetWorker

Install the NetWorker 8.1 software on the target host.

These sections describe how to install the NetWorker 8.1 software:

- ◆ [“Installing NetWorker on AIX” on page 66](#)
- ◆ [“Installing NetWorker on HP-UX” on page 76](#)
- ◆ [“Installing NetWorker on Linux” on page 82](#)
- ◆ [“Installing NetWorker on Mac-OSX” on page 96](#)
- ◆ [“Installing NetWorker on Solaris” on page 100](#)

NOTICE

If you removed the NetWorker module software before the NetWorker software update, reinstall the NetWorker Module software. The appropriate module install guide describes how to install the module software packages.

For the Console server only, install the Console server software

This section describes how to install the Console server software.

On UNIX, when the Console server is also the NetWorker server:

- ◆ Ensure that the httpd, gstd, and dbsrv9 processes are not running.
 - If gstd is running, then remove the Console server software.
 - If the httpd and dbsrv9 processes are running and you removed the Console software, then use the **kill -TERM** to stop the processes. Do not use the **kill -9** command to stop the dbsrv9 process.
- ◆ Install the NetWorker 8.1 Console server software after you successfully install the NetWorker software.

The following sections describe how to install the Console server software on the supported UNIX operating systems:

- ◆ [“Installing the Console server on AIX” on page 69](#)
- ◆ [“Installing Console server on Linux” on page 89](#)
- ◆ [“Installing Console server on Solaris” on page 105](#)

Updating NetWorker and Console server on Windows

You can update the NetWorker client, server, storage node and Console server software without first removing the previous version of the software by using the **setup.exe** command.

To update the NetWorker software:

1. Log in to the target host with a user that has administrator privileges.
2. For NetWorker 7.6.5 only, stop the NetWorker PowerSnap service.
3. In the directory that contains the extracted NetWorker software, run **setup.exe** in the networkr subdirectory.
4. On the **Choose Setup Language** window, select a language and click **OK**.
5. On the **Welcome to NetWorker Installation** window, click **Next**.
6. On the **Ready to update** window, click **Update**.
7. On the **NetWorker server selection** window, specify the NetWorker servers that will have access to backup the client and click **Next**.

Use **Update list to browse for available servers** or specify a server name in the **Enter a server name** field, then click **Add**.

8. For Console server only:
 - a. On the **Welcome to NetWorker Management Console Upgrade** window, click **Next**.

- b. On the **Product Configuration** window, click **Next**.
- c. On the **Ready to upgrade the Program** window, click **Upgrade**.

For Console server updates only, reconfigure LDAP

When the Console server uses Lightweight Directory Access Protocol (LDAP) authentication, attempts to login to the NMC server with the LDAP account after upgrading will succeed but the LDAP account will not have Networker Server Administration privileges. To resolve this issue, reconfigure LDAP authentication:

1. Move the following files from the *NMC_installation_directory*\gst\cst directory on Windows or the *NMC_installation_directory*/cst on UNIX to a temporary location:
 - Config.xml
 - csp.clb
 - csp.clb.bak
 - csp.cred
 - upgrade_cst.tag, if present
2. Rename the **Config.xml.template** file to **Config.xml**. The Console server starts in native authentication mode. Log in with the NMC Administrator user and the password that you defined before you configured NMC to use LDAP.

If you do not remember this password:

- a. Set the Environment Variable **GST_RESET_PW** to a value of 1.
 - b. Start the **EMC GST** service.
 - c. Connect to the Console server by using a browser.
 - d. Log in to the Console server with the administrator username and the password administrator. If prompted, create a new password for the administrator user.
3. Reconfigure the Console server to use LDAP authentication. “An external authentication authority” in the *NetWorker 8.1 Administration Guide* describes how to reconfigure LDAP authentication.
 4. If set, delete the **GST_RESET_PW** environment variable. This step prevents a password reset at each Console server login attempt.

Authorizing the NetWorker server

The NetWorker software adds a required update enabler code to the NetWorker server configuration. You cannot delete this enabler code. The update enabler code expires 45 days after the NetWorker server update, unless you use capacity-based licensing.

Contact EMC Licensing within 45 days of upgrading the NetWorker server to permanently authorize the update enabler. The *NetWorker Licensing Guide* describes how to authorize an update enabler and how to use the capacity-based license model.

NOTICE

If the update enabler expires or you do not apply the authorization code, the NetWorker software will not function at the new release level.

Updating NetWorker from 7.6.x

When updating the NetWorker software from 7.6.x, some Linux operating systems and the Windows operating system allows you to update the NetWorker software without removing the previous version. For HP-UX, AIX, Debian, and Ubuntu you must remove the previous version of the NetWorker software, then install the newer version.

NOTICE

After you update the NetWorker server, restart the NetWorker services.

The NetWorker 7.6.x and earlier installation process made modifications to **syslog.conf** file on UNIX hosts. The uninstall process removes entries made to this file. Before you remove the NetWorker software, back up the **syslog.conf** file.

The NetWorker 8.1 and later installation process does not modify the **syslog.conf** file.

NOTICE

Update each NetWorker storage node before you update the NetWorker server.

These sections describe how to update the NetWorker server, the storage node, the client, and the Console server software from 7.6.x:

- ◆ [“Determining the NetWorker version on the storage nodes” on page 40](#)
- ◆ [“Console server requirements” on page 41](#)
- ◆ [“UNIX only, backing up the configuration files” on page 42](#)
- ◆ [RHEL Linux only, enabling SELinux 43](#)
- ◆ [“Optional, moving the Console server files to a new Console server” on page 43](#)
- ◆ [“Updating NetWorker on RHEL, RedFlag, Oracle Enterprise Server, RedFlag Asianux, SuSE, Fedora and CentOS” on page 44](#)
- ◆ [“Updating NetWorker on AIX, HP-UX, Debian, Ubuntu, MAC-OSX, and Solaris” on page 72](#)
- ◆ [“Updating NetWorker and Console server on Windows” on page 38](#)
- ◆ [“Reviewing the Console server database conversion status” on page 47](#)
- ◆ [“For Console server updates only, reconfiguring LDAP” on page 49](#)
- ◆ [“UNIX only, retaining startup script customizations” on page 49](#)
- ◆ [“NetWorker server only, updating the Clone Storage Node attribute” on page 50](#)
- ◆ [“Optional, converting VCB client backups to VADP” on page 51](#)
- ◆ [“Confirming the update of all storage nodes” on page 51](#)
- ◆ [“Authorizing the NetWorker server” on page 51](#)

Determining the NetWorker version on the storage nodes

A NetWorker 8.1 server disables NetWorker 7.6.x and earlier storage nodes. Before you update the NetWorker server software, update each NetWorker storage node.

Use the **nsradmin** program as root on UNIX or as administrator on Windows to determine the NetWorker version installed on the storage nodes in a datazone:

1. From a command prompt, type:


```
nsradmin
```

2. Set the attribute type to **nsr storage node**:

```
nsradmin> . type: nsr storage node
```

3. Display the hostname of the storage node and the NetWorker software version:

```
nsradmin> show name;version
```

4. Display a list of every storage node in the datazone and the corresponding version of the NetWorker software:

```
nsradmin> print
```

5. Close the **nsradmin** program:

```
nsradmin> quit
```

For example:

```
nsradmin> . type: nsr storage node
Current query set
nsradmin> show name;version
nsradmin> print
          name: mystoragenode.domain.com;
          version: 7.6.3;
nsradmin> quit
```

Console server requirements

When you update the Console server software, the installation process automatically converts the SQLAnywhere database to a newer version. A special migration utility, `gstdbupgrade.sh` on UNIX and `gstdbupgrade.exe` on Windows performs the conversion process.

During the database conversion process, the migration utility:

- ◆ Automatically records the progress of the conversion in the `gstdbupgrade.log`.
- ◆ Displays the progress of the database conversion process to the console.

[“Reviewing the Console server database conversion status” on page 47](#) provides more information about the migration process.

The conversion of a Console server database:

- ◆ Can take several hours.

For example, it takes approximately 3 hours to migrate a 4.5 GB database on a dual core system with 16 GB RAM.

- ◆ Can be I/O and CPU intensive.

Avoid performing other resource intensive processes during a Console server database conversion.

- ◆ Requires the that file system that contains the Console server database directory has available space that is equal to double the size of the current database.

The Console server software does not support the following previously supported operating systems:

- ◆ HP-UX ia64
- ◆ Windows 2003, 2003 SP1, 2003 R2, Windows 32-bit
- ◆ AIX 5.2, AIX 5.3
- ◆ Solaris 9, Solaris x86

If the Console server runs on one of these operating systems, you cannot update the Console server to 8.1.x. Perform one of the following task:

- ◆ Install a new Console server in the datazone on a supported operating system. To provide historical reports, keep the old Console server at the previous NetWorker version.
- ◆ Install a new Console server in the datazone on a supported operating system and move the Console server database and configuration files to the new Console server. [“For the Console server only, install the Console server software” on page 38](#) provides more information.
- ◆ Update the operating system to a supported version before updating the Console servers software to version 8.0. The *EMC NetWorker Software Compatibility Guide* on EMC Online Support Site provides more information about supported Console server operating systems.

UNIX only, backing up the configuration files

The NetWorker software installation process overwrites the existing NetWorker startup script files. Back up the configuration files before you install the NetWorker software.

To back up the NetWorker configuration files:

1. Log in to the target host as root.
2. Create a backup copy of the original files.

For example:

```
cp original_file backup_file
```

[Table 3 on page 42](#) provides a list of the names and locations of the configuration files on each operating system.

Table 3 Configuration files on UNIX

Operating System	Original files
AIX	/etc/inittab /etc/rpc /etc/rc.nsr
HP-UX	/sbin/init.d/networker
Linux	/etc/init.d/networker /etc/rc3.d/S95networker /etc/rc5.d/S95networker /etc/rc0.d/K05networker
Solaris	/etc/init.d/networker

RHEL Linux only, enabling SELinux

NetWorker 7.6 SP3 and earlier did not support Linux hosts with SELinux enabled. NetWorker 8.1 and later supports SELinux.

To enable SELinux:

- ◆ On RHEL 5:
 - a. Run **system-config-securitylevel**.
 - b. In the window that appears, select the **SELinux** tab.
 - c. Select **Enable SELinux** and restart the system.
- ◆ On RHEL 6:
 - a. Ensure that the operating system contains these packages:
 - selinux-policy-targeted-3.7.19
 - policycoreutils-gui-2.0.83
 - selinux-policy-3.7.19
 - b. Use the **sestatus** command to determine the state of SELinux:

For example:

```
/usr/sbin/sestatus
```

```
SELinux status:                disabled
SELinuxfs mount:              /selinux
Current mode:                  enforcing
Mode from config file:        enforcing
```

When the SELinux status value is disabled:

- In the `/usr/bin` directory, open the SELinux program and configure the SELinux status:


```
system-config-selinux
```
- Change the **SELinux status** to **Enabled**.
- Restart the system.
- Use the **getenforce** command to confirm the status of SELinux.

Optional, moving the Console server files to a new Console server

If you replaced the Console server in the datazone, move the NMC database and configuration files to the new Console server before installing the Console server software.

To move the Console server database and configuration files:

1. On the current Console server, stop the `gstd` process on UNIX or service on Windows:
 - On AIX, type: **/etc/rc.gst stop**
 - On Linux and Solaris, type: **/etc/init.d/gst stop**
 - On HP-UX, type: **/sbin/init.d/gst stop**
 - On Windows: Stop the EMC GST service

2. Ensure the httpd, gstd, and dbrsv9 processes are not running. Use the **kill -TERM** to stop the processes. Do not use the **kill -9** command to stop the dbrsv9 process.
3. Copy the contents of the Console server database directory from the current Console server to a new directory on the new Console server.

The Console server database directory defaults to the following locations:

- AIX, HP-UX, and Linux: **/opt/lgtonmc/lgto_gstb**
- Solaris: **/opt/LGTONmc/lgto_gstb**
- Windows: *installation_dir*\Management\lgto_gstb

Note: The lgto_gstdb and lgto_gst.log files are binary files and gstd_db.conf is an ASCII file.

Updating NetWorker on RHEL, RedFlag, Oracle Enterprise Server, RedFlag Asianux, SuSE, Fedora and CentOS

You can update the NetWorker client, server, storage node, and Console server software without first removing the previous version of the software by using the **rpm -U** command.

Before you remove the NetWorker software, remove the NetWorker module software including NetWorker Module for Databases and Applications and the NetWorker PowerSnap module. The appropriate module installation guide describes how to uninstall the module software.

Note: Use the **rpm -qa | grep lgto** command to display list of installed NetWorker packages.

To update the software, from the directory that contains the extracted NetWorker 8.1 software packages, type:

```
rpm -Uvh package [package]...
```

where *package [package]...* is a list of the software package required for the installation type. [Table 2 on page 36](#) provides a list of the software packages required for each installation type. Specify optional packages such as language packs and man pages in **rpm** command after the required packages for the installation type.

Table 4 List of NetWorker packages to update by installation type

Installation type	Packages
Client software	lgtocInt-nw*.rpm
Storage Node software	lgtocInt-nw*.rpm lgtonode*.rpm
Server software	lgtocInt-nw*.rpm lgtonode*.rpm lgtoserv*.rpm
Console server	lgtocInt-nw*.rpm lgtonmc*.rpm
Man pages	lgtoman*.rpm
Simplified Chinese language support	lgtozh*.rpm

Table 4 List of NetWorker packages to update by installation type

Installation type	Packages
French language support	lgtofr*.rpm
Japanese language support	lgtoja*.rpm
Korean language support	lgtoko*.rpm

For Console server updates only, after you update the Console server software, you must configure the Console server software. [“Configuring the Console server software” on page 90](#) provides more information.

After you update the NetWorker software, EMC recommends that you stop the NetWorker daemons on the NetWorker host, delete the /nsr/tmp directory, and then start the NetWorker daemons.

Updating NetWorker on AIX, HP-UX, Debian, Ubuntu, MAC-OSX, and Solaris

When you update the NetWorker server, the storage node, the client, and the Console server software from 8.0.x, remove the previous version of the NetWorker software, then install the newer version.

Uninstalling the previous version of NetWorker

Before you remove the NetWorker software, remove the NetWorker module software including NetWorker Module for Databases and Applications and the NetWorker PowerSnap module. The appropriate module installation guide describes how to uninstall the module software.

EMC recommends that after you remove the NetWorker software, you delete the /nsr/tmp directory.

These sections describe how to uninstall NetWorker:

- ◆ [“Uninstalling the NetWorker and Console server software on AIX” on page 72](#)
- ◆ [“Uninstalling the NetWorker software on HP-UX” on page 79](#)
- ◆ [“Uninstalling NetWorker and Console server software on Linux” on page 91](#)
- ◆ [“Uninstalling the NetWorker software on Mac OS-X” on page 98](#)
- ◆ [“Uninstalling the NetWorker and Console server on Solaris” on page 108](#)

Installing NetWorker

Install the NetWorker 8.1 software on the target host.

These sections describe how to install the NetWorker 8.1 software:

- ◆ [“Installing NetWorker on AIX” on page 66](#)
- ◆ [“Installing NetWorker on HP-UX” on page 76](#)
- ◆ [“Installing NetWorker on Linux” on page 82](#)
- ◆ [“Installing NetWorker on Mac-OSX” on page 96](#)
- ◆ [“Installing NetWorker on Solaris” on page 100](#)

NOTICE

If you removed the NetWorker module software before the NetWorker software update, reinstall the NetWorker Module software. The appropriate module install guide describes how to install the module software packages.

For the Console server only, install the Console server software

This section describes how to install the Console server software.

On UNIX, when the Console server is also the NetWorker server:

- ◆ Ensure that the httpd, gstd, and dbsrv9 processes are not running.
 - If gstd is running, then remove the Console server software.
 - If the httpd and dbsrv9 processes are running and you removed the Console software, then use the **kill -TERM** to stop the processes. Do not use the **kill -9** command to stop the dbsrv9 process.
- ◆ Install the NetWorker 8.1 Console server software after you successfully install the NetWorker software.

The following sections describe how to install the Console server software on the supported UNIX operating systems:

- ◆ [“Installing the Console server on AIX” on page 69](#)
- ◆ [“Installing Console server on Linux” on page 89](#)
- ◆ [“Installing Console server on Solaris” on page 105](#)

Updating NetWorker and Console server on Windows

You can update the NetWorker client, server, storage node and Console server software without first removing the previous version of the software by using the **setup.exe** command.

To update the NetWorker software:

1. Log in to the target host with a user that has administrator privileges.
1. In the directory that contains the extracted NetWorker software, run **setup.exe** in the networkr subdirectory.
2. On the **Choose Setup Language** window, select a language and click **OK**.
3. On the **Welcome to NetWorker Installation** window, click **Next**.
4. On the **Ready to update** window, click **Update**.
5. For Console server only:
 - c. On the **Welcome to NetWorker Management Console Upgrade** window, click **Next**.
 - d. On the **Database Migration Information** window:
 - Optionally, click **Change** and select a new directory in which to save a copy of the Console server database.
 - Click **Next**.
6. Review the information in the **Product Configuration Summary** window and click **Next**.

7. In the **Ready to upgrade the Program** window, click **Upgrade**.

If the database conversion fails, then a message similar to the following appears:

```
Database upgrade failed. Please see C:\Program Files
(x86)\Legato\Management\GST\logs\gstdbupgrade.log for details. You
can continue finishing installation, then convert the database
manually, or exit installation now. Do you want to continue with the
installation?
```

- If you select **Yes**, the NetWorker and Console server software installation continues.
- If you select **No**, the NetWorker and Console server software installation fails. The software is rolled back to the previous version of the NetWorker and Console server software.

“[Reviewing the Console server database conversion status](#)” on page 47 describes how to determine the cause of the conversion failure and the steps to convert the database after the software install has completed.

- e. On the **NetWorker Management Console Setup Completed** window, clear **Launch the console client in the default browser immediately after exiting the InstallShield Wizard**, and click **Next**.
8. Optionally, on the **NetWorker setup complete** window, select **Run Change Journal Manager on exit**. The *NetWorker Administration Guide* describes how to configure the NetWorker software to use the **Windows Change Journal**. Click **OK** to complete the install.

NOTICE

If you removed NetWorker module software before you updated the NetWorker software, then reinstall the NetWorker Module software. The appropriate module install guide describes how to install the module software packages.

Reviewing the Console server database conversion status

This section describes how to determine the status of the Console server database conversion and how to attempt another database conversion if the conversion fails.

To confirm that the conversion is successful:

- ◆ Review the `gstd_db.conf` file, located in the following directory by default:
 - Windows: `NMC_installation_directory\Management\lgto_gstdb`
 - AIX and Linux: `/opt/lgtonmc/lgto_gstdb`
 - Solaris: `/opt/LGTONmc/lgto_gstdb`
- ◆ Search for the following line that denotes a successful database conversion:


```
db_format_12=yes
```

When the Console server database conversion fails, a message similar to the following appears:

```
Install failed to upgrade the database <full path>. Check the install
log <full path> for details. Please fix any environment related errors
mentioned in the log and then run the script <full path to script>
```

manually to upgrade the database after the install is complete.

If you see this message, then:

1. Review the **gstdbupgrade.log** file and correct the errors.

The **gstdbupgrade.log** appears in the following directories, by default:

- Solaris: `/opt/LGTONmc/logs`
- AIX and Linux: `/opt/lgtonmc/logs`
- Windows: `NMC_installation_directory\Management\GST\logs`

2. Start the database conversion manually:

- a. On UNIX:

```
gstdbupgrade.sh -p NMC_Database_dir -o log_file_directory -b Backup_NMC_database_dir
```

where:

- **gstdbupgrade.sh** appears in the `/opt/lgtonmc/sybase/bin` directory on AIX and Linux by default
- **gstdbupgrade.sh** appears in the `/opt/LGTONmc/sybase/bin` directory on Solaris by default.
- *NMC_database_dir* is the location of the Console server database. On AIX and Linux the directory is `/opt/lgtonmc/lgto_gstdb`. On Solaris the directory is `/opt/LGTONmc/lgto_gstdb`.
- *-o log_file_directory* is optional. Use this option to direct the database conversion log file to an alternate location.
- *-b Backup_NMC_database_dir* is optional. Use this option to specify an alternate location or path for the backup copy of the original NMC database. By default, the conversion process stores the backup copy in the same location as the original database.

NOTICE

On UNIX, the Console server 8.1.x software installation completes when a database conversion fails.

- b. On Windows, the installation process prompts you to continue or cancel the installation when the conversion fails. After you correct the errors in the **gstdbupgrade.log** file, try to convert the database in one of the following ways:
 - If you cancelled the installation of the NetWorker and Console server software then install the software again to convert the Console server database.
 - If you completed the installation of the NetWorker and Console server software then run **gstdbupgrade.exe** located in `NMC_installation_directory\Management\GST\sybase\bin` to manually convert the database.

For Console server updates only, reconfiguring LDAP

When the Console server uses Lightweight Directory Access Protocol (LDAP) authentication, attempts to log in to the Console server after an update may fail with the error: **Problem contacting server** *Servername: Connection refused:connect* and the EMC GST daemon stops.

When you see this error and the `gstd` process is not running:

1. From a command prompt change to the `NMC_installation_directory\management\logs` directory on Windows or `NMC_installation_directory/management/logs` directory on UNIX.
2. Render the `gstd.raw` log file and save the output to a text file:

```
nsr_render_log -pathmey gstd.raw 1>output.txt 2>&1
```
3. Review the `output.txt` file. If you see the error: **acm: External directory library initialization failed**, reconfigure LDAP authentication to correct the issue.

To reconfigure LDAP authentication:

- a. Move the following files from the `NMC_installation_directory\gst\cst` directory on Windows or the `NMC_installation_directory/cst` on UNIX to a temporary location:
 - Config.xml
 - csp.clb
 - csp.clb.bak
 - csp.cred
 - upgrade_cst.tag, if present

- b. Rename the `Config.xml.template` file to `Config.xml`. The Console server starts in native authentication mode. Log in with the NMC Administrator user and the password that you defined before you configured NMC to use LDAP.

If you do not remember this password:

- a. Set the Environment Variable `GST_RESET_PW` to a value of 1.
- b. Start the **EMC GST** service.
- c. Connect to the Console server by using a browser.
- d. Log in to the Console server with the administrator username and the password administrator. If prompted, create a new password for the administrator user.
- c. Reconfigure the Console server to use LDAP authentication. “An external authentication authority” in the *NetWorker 8.1 Administration Guide* describes how to reconfigure LDAP authentication.
- d. If set, delete the `GST_RESET_PW` environment variable. This step prevents a password reset at each Console server login attempt.

UNIX only, retaining startup script customizations

This section describes how to add startup script customizations made in previous versions of the NetWorker software, to the new `nsrrc` file.

NetWorker 8.0 and later introduces support for a new environment variable file. This file, **nsrrc**, is sourced before starting the nsrexecd and nsrd processes. Subsequent NetWorker software updates do not overwrite this new file.

Add environment variables previously defined in the NetWorker startup files to this new file:

1. Review the configuration files you copied in [“UNIX only, backing up the configuration files” on page 42](#) for a list of defined environment variables.

NOTICE

Do not overwrite the new startup files with the contents of the .orig files. Add the old customizations to the new environment variable file.

2. Create a Bourne shell script file called **nsrrc** in the **/nsr** directory.
3. Add the required environment variables and the **export** command to the **nsrrc** file.

For example:

```
ENV_VAR_NAME=value
export ENV_VAR_NAME
```

4. Save the file.
5. Stop the NetWorker daemons:

```
nsr_shutdown
```

6. Start the NetWorker daemons:

- On Solaris and Linux, type:

```
/etc/init.d/networker start
```

- On AIX, type:

```
/etc/rc.nsr
```

- On HP-UX, type:

```
/sbin/init.d/networker start
```

NetWorker server only, updating the Clone Storage Node attribute

When you update the NetWorker server software to NetWorker 8.1 and later, the NetWorker software automatically creates a new Clone Storage Node attribute for each existing Storage Node resource. The value in this attribute determines which storage node to use when writing clone data.

In the NetWorker 7.6.x and earlier software, the Clone Storage Node attribute was present in each NetWorker client resource. After a NetWorker server software update, the Clone Storage Node attribute is still present in each client resource but the attribute is read-only. The NetWorker 8.1 server does not use this attribute to determine which storage node to use when the writing clone data for the client.

By default, the Clone Storage Node attribute for each storage node resource does not contain any values. If required, after updating the NetWorker server software, modify the Clone Storage Node attribute for each storage node. The section *Directing clones to a special storage node* in the *NetWorker 8.1 Administration Guide* provides more information.

Optional, converting VCB client backups to VADP

The NetWorker 7.6 SP2 software and later supports a backup and recovery of VMware clients that uses the vStorage APIs for Data Protection (VADP) program. The NetWorker 7.6 SP2 and earlier software uses the VMware Consolidated Backups (VCB) program to protect VMware clients.

If you update the NetWorker server and the VM Proxy server from a version before NetWorker 7.6 SP2, use the `nsrvadpserv_tool` tool to convert virtual clients from VCB to VADP backups. The *NetWorker VMware Integration Guide* provides more information.

Confirming the update of all storage nodes

The NetWorker 8.1 server does not support a NetWorker 7.6.x and earlier storage node. Ensure that each NetWorker storage node in the datazone runs the NetWorker 8.1 software. [“Determining the NetWorker version on the storage nodes” on page 40](#) describes how to determine the NetWorker version running on all storage nodes in the datazone.

Authorizing the NetWorker server

The NetWorker software adds a required update enabler code to the NetWorker server configuration. You cannot delete this enabler code. The update enabler code expires 45 days after the NetWorker server update, unless you use capacity-based licensing.

Contact EMC Licensing within 45 days of upgrading the NetWorker server to permanently authorize the update enabler. The *NetWorker Licensing Guide* describes how to authorize an update enabler and how to use the capacity-based license model.

NOTICE

If the update enabler expires or you do not apply the authorization code, the NetWorker software will not function at the new release level.

Updating NetWorker by using Client Push

Use the software distribution feature, Client Push, to update the NetWorker and module software on NetWorker hosts in the datazone from the NetWorker server. You need not log in to each host and manually uninstall the old NetWorker software version and install the new NetWorker software version.

The following sections describe how to use client push:

- ◆ [“Client Push requirements” on page 52](#)
- ◆ [“Preparing the Media Kit Location” on page 53](#)
- ◆ [“Preparing the software repository” on page 54](#)
- ◆ [“Inventorying the target hosts for installed products” on page 57](#)

- ◆ [“Updating NetWorker products by using Client Push” on page 58](#)
- ◆ [“Troubleshooting client push” on page 61](#)

Client Push requirements

Before you use Client Push, ensure that the datazone satisfies the Client Push requirements.

[Table 5 on page 52](#) summarizes the Client Push datazone requirements.

Table 5 Client Push datazone requirements

NetWorker server and target host environment	Client Push requirements
NetWorker server and target host configuration	<ul style="list-style-type: none"> • The nsrexecd process must run on the target host. • At least one client instance exists on the NetWorker server.
Supported NetWorker products on the target host	<ul style="list-style-type: none"> • 7.3 and later client • 7.3 and later storage Node • 7.3 and later language packs • 7.3 and later man pages • NetWorker Module for Databases and Applications (NMDA) • NetWorker Module for Microsoft Applications 3.0
NetWorker server on Windows Server 2008	The Administrator and SYSTEM users require write access to the temp folders defined by the TEMP and TMP environment variables. Software updates, additions to the repository, and inventory operations require write access.
Supported operating systems on the NetWorker server	<ul style="list-style-type: none"> • Linux x86-64 • HP-UX IA-64 • IBM AIX • MS Windows x86-64 • Solaris Sparc, AMD 64

Note: You cannot use Client Push to update a clustered host, NMM 2.4.x or earlier client, NetWorker server, EMC License Manager server, Console server, a PowerSnap client, or MacOSX client.

Preparing the Media Kit Location

During a client push operation, the NetWorker server obtains the source NetWorker software packages from the software repository, located on the NetWorker server then pushes the software to the target host.

The Media Kit Location contains the source NetWorker 8.1 software packages used to update the NetWorker target hosts. The Media Kit Location can be the NetWorker software DVD or a directory that contains the extracted software packages.

If you will place multiple versions of the NetWorker software in the Media Kit Location, create separate subdirectories for each version to avoid overwriting files and directories. Each extracted package for each NetWorker version has an identical directory structure and the same filenames.

There are two different scenarios to consider when preparing the software repository to update the NetWorker software using client push:

- ◆ [“The NetWorker server is the same operating system as the target hosts” on page 53](#)
- ◆ [“The NetWorker server and target host operating systems differ” on page 53](#)

The NetWorker server is the same operating system as the target hosts

When the target hosts are the same operating system as the server, extract each software package to the Media Kit Location. The Media Kit Location must reside on a file system that is local to the NetWorker server.

The NetWorker server and target host operating systems differ

When the operating system of the target hosts differs from the NetWorker server, for example, when a Windows NetWorker server updates a UNIX client, you must configure a proxy host to store the cross platform packages.

The Proxy Media Kit Location is the directory on the proxy host that contains the cross platform software packages.

Follow these guidelines when configuring a proxy host:

- ◆ Use the same platform as the cross platform packages.
For example, if the NetWorker server is a Linux host, use a Windows proxy host to update Windows x86, Windows x64, and Windows ia64 clients.
- ◆ Install the NetWorker 7.6 or later client software.
- ◆ Create a client instance for the host on the NetWorker server.
- ◆ Create a media kit location that resides on a local file system and uses a path that does not contain spaces.
- ◆ The Proxy Media Kit Location should be locally available on the proxy host.
- ◆ Ensure that the NetWorker packages in the Proxy Media Kit Location are the same version as the packages in the Media Kit Location on the NetWorker server. When the packages differ, the update process indicates that the client software will be updated to the version that is in the NetWorker server Media Kit Location but the client is updated to the version in the Proxy Media Kit location.

To prepare the proxy media kit location:

1. On the NetWorker server, extract each compressed software package into the Media Kit Location.
2. On the proxy host:
 - a. Create a directory for the Proxy Media Kit Location.
 - b. Extract a copy of the cross platform software packages to the Proxy Media Kit Location.

For example:

When a Linux NetWorker server updates Windows x86, Windows x64, and Windows ia64 NetWorker clients, you must extract the Windows x86, Windows x64, and Windows ia64 packages to the Proxy Media Kit Location.

Preparing the software repository

Before you can use Client Push to update the NetWorker software, you must add the information about the NetWorker packages from the Media Kit Location into the Client Push software repository database.

You can use the Software Administration Wizard GUI or the **nsrpush** program to prepare the software repository database:

- ◆ [“Adding software to the repository using the Software Administration Wizard” on page 54](#) describes how to use the GUI interface to update the NetWorker software.
- ◆ [“Adding software to the repository using nsrpush” on page 55](#) describes how to use command line to update the NetWorker software.

Adding software to the repository using the Software Administration Wizard

Use the Software Administration Wizard in NMC to add software to the Client Push software repository.

1. Login to the NMC console with a user that is both an NMC administrator and a member of the **Application administrators** user group on the NetWorker server.
2. Connect to the NetWorker server in NMC.
3. In the **Configuration** menu, select **Software Administration Wizard...**
4. On the **Welcome to the Software Administration Wizard** window, click **Next**.
5. On the **Select Operation** window, select **Add or remove products from my software repository**, click **Next**.
6. On the **Software Repository Operations** window, select **Add software products to the repository** value, click **Next**.
7. On the **Create Software Repository** window, click **Yes** then click **Next**.
8. If this is the first time you are creating the repository, specify the Repository location, click **Next**. The default location is **C:\Program Files\EMC NetWorker\nsr\repository** on Windows and **/nsr/repository** on UNIX.
9. On the **Select platform type** window, select the platform type of the software to add to the repository, click **Next**.

10. On the **Add software products to repository** window, select **Yes**, click **Next**.
11. On the **Media Kit Location** window, specify the path to the **Media Kit location**, click **Next**.
12. The **Select Products** window appears a list of detected software packages in the repository. Select the products to add to the repository, click **Next**.

NOTICE

[“Troubleshooting client push” on page 61](#) provides more information if you do not see all of the products in the Media Kit Location or you see duplicate packages.

13. If you selected cross platform products, then the **Host and Media Kit location** window appears.
 - a. Specify the name of the Proxy host and the location of extracted software packages on the proxy.

Ensure the cross-platform path you specify includes the subdirectory that contains the metafile. For example, if the directory on the proxy client that contains the metafiles is **C:\media\win_x64**, specify this complete path.
 - b. Click **Next**.

NOTICE

Once started, you cannot cancel the add software to the repository operation.

14. In the **Message** window, click **OK**.

NOTICE

If a **usam** error appears, then review the **nsrcpd.raw** for error messages.

15. Confirm that the wizard added the software to the repository. The default location is **C:\Program Files\EMC NetWorker\nsr\repository** on Windows and **/nsr/repository** on UNIX.

Adding software to the repository using nsrpush

Log in to the NetWorker server with the root user on UNIX or the administrator user on Windows, and use the **nsrpush** program to add software to the software repository database.

1. Review the list of extracted products in the media kit location. The command to view the Windows and UNIX products differ:
 - For UNIX software products, type:


```
nsrpush -L -U -m media_kit_location
```
 - For Windows software products, type:


```
nsrpush -L -W -m media_kit_location
```

2. Use the **nsrpush** command to add packages, one at a time to the repository:

```
nsrpush -a -p Product_Name -v version -P platform -R repo_location  
-U|-W -m media_kit_location -c cross-platform_client -C  
cross_platform_media_kit_location
```

where:

- *Product_Name* is the name of the product:
 - NetWorker
 - “NetWorker Module for Microsoft Application”
 - “NetWorker Module for Databases and Applications”
- *version* is the version of the software product, for example 8.1
- *platform* is the operating system platform of the package: win_x64, win_x86
- **-R** *repo_location* specifies the path to the repository. Specify this option when you add software to the repository for the first time. The default location is **C:\Program Files\EMC NetWorker\nsr\repository** on Windows and **/nsr/repository** on UNIX.
- **-U** specifies a NetWorker server on UNIX and **-W** specifies a NetWorker server on Windows. Use the appropriate option for the NetWorker server.
- **-m** *media_kit_location* is the path to the media kit. Use this option you are not adding cross platform packages.
- **-C** *cross_platform_client* specifies the hostname of the proxy host. Use this option only when you add cross platform packages.
- **-C** *cross_platform_media_kit_location* specifies the location of the proxy media kit location. Use this option only when you add cross platform packages.

NOTICE

Once started, you cannot cancel the add software to the repository operation.

Example 1

To add the 64-bit Windows package to the repository to a NetWorker server on UNIX, where:

- ◆ The media kit location is **/tmp/prod**
- ◆ The proxy media kit location on the cross-platform host **windows_host** is **D:\temp\downloads**

Type the following command:

```
nsrpush -a -p NetWorker -v 8.1 -P solaris_64 -W -m /tmp/prod -c
```



```
"windows_host" -C "D:\temp\downloads"
```

Example 2

To add the 64-bit Solaris package to a repository on a Window NetWorker server host, where:

- ◆ The media kit location is **D:\temp\downloads**
- ◆ The proxy media kit location on the cross-platform host **solaris_host** is **/tmp/prod**

Type the following command:

```
nsrpush -a -p NetWorker -v 8.1 -P solaris_64 -U -m "D:\temp\downloads" -c "solaris_host" -C /tmp/prod
```

Inventorying the target hosts for installed products

Before you can update the NetWorker software on a host, you must inventory the host to determine the installed versions of NetWorker software.

Use the Software Configuration Wizard GUI or the **nsrpush** program to inventory target hosts:

- ◆ [“Inventorying installed products by using the Software Administration Wizard” on page 57](#)
- ◆ [“Inventorying installed products by using nsrpush” on page 58](#)

Inventorying installed products by using the Software Administration Wizard

Use the Software Administration Wizard in NMC to generate an inventory of NetWorker software installed on the target hosts.

1. Start the **Software Administration Wizard** and click **Next**.
2. In the **Select Operation** window, select **Discover the currently installed software products on my NetWorker clients**, click **Next**.

A list of the clients configured on the NetWorker server appears.

3. In the **Select Clients for Inventory** window, select the required clients and click **Next**.

NOTICE

The inventory of a client is valid at the time when you last ran the inventory operation. To ensure that the Wizard has the most current software inventory for a client, reinventory clients whose status is **Yes** in the **Already Inventoried** column.

4. In the **Client Inventory Started** window, accept the default **option, Yes**.
5. Click **Next** to monitor the inventory operation.

The **Monitor Activity** window appears and provides the status of inventory job in the top table and the status of each client inventory operation in the bottom window, for the selected inventory job. When the inventory job contains many clients, the job might take awhile to complete.

NOTICE

Do not use **Back** button until the inventory job completes.

If the inventory operation fails, review to the **nsrcpd.raw** file on the NetWorker server. Optionally, select the failed operation and click **Retry client job** to reattempt the inventory.

6. Click **Finish**.

Inventorying installed products by using nsrpush

Use the **nsrpush** command to generate an inventory of the NetWorker software installed on the target hosts.

NOTICE

You must add at least one package to the software repository before you can run an inventory operation.

To inventory hosts configured on the NetWorker server, type:

```
nsrpush -i -all|hostname...
```

where **-all** queries inventories every NetWorker client and *hostname* specifies the name of a host to inventory. Separate multiple hostnames with spaces.

Updating NetWorker products by using Client Push

Once a NetWorker host is in the Client Push inventory, use Client Push to update the host with software that resides in the Client Push software repository database.

For Windows hosts that support BBB, Client Push installs the BBB drivers. The *NetWorker Administration Guide* describes how to enable and configure BBB backups.

You can use the Software Administration Wizard or the nsrpush program to update NetWorker products on target hosts:

- ◆ [“Updating NetWorker by using the Software Administration Wizard” on page 58](#)
- ◆ [“Updating NetWorker using nsrpush” on page 59](#)

Updating NetWorker by using the Software Administration Wizard

You can use the Software Administration Wizard in NMC to update the NetWorker software on certain hosts in a datazone or update all hosts in a datazone that use a particular NetWorker product.

- ◆ To update NetWorker products on user specified host:
 1. Start the Software Administration Wizard and click **Next**.
 2. Select **Upgrade the software on my NetWorker clients** and click **Next**.
 3. Select the option **By Client, will upgrade on the clients that you select**, click **Next**.
 4. Select the appropriate hosts, and click **Next**.

Note: The wizard only displays only hosts that client push support.

5. A list of hosts and installed products appears. Select the hosts and products, and click **Next**.

NOTICE

If the wizard displays multiple versions of the same NetWorker product, then only select one version. When you select multiple versions of a product for the same client, the wizard only updates the client to the last version that you select.

6. The **Monitor Activity** window appears and provides the status of upgrade job in the top table and the status of each client upgrade operation in the bottom window, for the selected upgrade job. When the upgrade job contains many clients, the job might take awhile to complete.

NOTICE

Do not use Back button until the upgrade job completes.

If the update operation fails, review the **nsr`cpd`.raw** file on the NetWorker server. Optionally, select the failed operation then click **Retry client job** to reattempt the update.

7. Click **Finish**.
- ◆ To update the software packages on all hosts that match a user specified product and version:
 1. Start the **Software Administration Wizard**, click **Next**.
 2. Select **Upgrade the software on my NetWorker clients**, click **Next**.
 3. Select the option **By Product and Version, will upgrade all clients to a new software version**, click **Next**.
 4. Select one or more products that you want to update on the clients. For example, select NetWorker and NMDA. The wizard may display multiple versions of a product. To update the host, select only one version.
 5. Click **Next**. A list of clients and products appear, one client and product per line. Only clients with a software version that is earlier than the version selected in the **Select Products to upgrade** window appear.
 6. Select one or more of the client/product combinations to update, click **Next**.
 7. In **Monitor Activity** window, review the status of the upgrade operation, then click **Finish**.

If the update operation fails, review to the **nsr`cpd`.raw** file on the NetWorker server or `nw_install.server_name.log` in the `tmp` directory on the target host for error messages.

Select the failed operation and click **Retry client job** to reattempt the update.

Updating NetWorker using nsrpush

Log in to the NetWorker server with the root user on UNIX or the administrator user on Windows and use the **nsrpush** command to update all inventoried hosts or selected hosts of the NetWorker server.

- ◆ To query a host for a list of installed NetWorker products, type:

```
nsrpush -s -all|hostname...
```

where **-all** queries each inventoried client and *hostname* specifies the name of a host to query. Separate multiple hostnames with spaces.

- ◆ To update all hosts in a datazone with the exception of certain hosts, add the clients to the exclude list:

```
nsrpush -e hostname...
```

where **hostname** is the name of the host to exclude from the update process. Separate multiple hostnames with spaces.

Note: To remove clients from the exclude list, type **nsrpush -x hostname...**

- ◆ To update the NetWorker software, type:

```
nsrpush -u -p product -v version -Tp directory -To timeout  
-all|hostname...
```

where:

- *product* is the name of the product to update.
- *version* is the version of the product in the repository.
- **-Tp path** is optional and allows you to specify an alternate existing location with sufficient disk space, to store temporary installation files on the target host. When you specify multiple clients, you must specify the path in the same order. The default location is C:\windows\temp on Windows and /tmp on UNIX.

NOTICE

When the path does not exist on the target host NetWorker copies the temporary files to C:\ on a Windows host and / on a UNIX host.

- **-To timeout** is optional and allows you to define how long to attempt the update operation on a client before cancelling the operation. When you specify multiple clients, you must specify the timeout values in the same order. The default timeout value is different for each operating system:
 - Solaris, Linux, and Windows—600 seconds
 - AIX—200 seconds
 - HP Unix—400 seconds
- **-all** updates all inventoried clients that are not in the exclude list and *hostname* is the name of the host to update. Separate multiple hostnames with spaces.

Example 3

To update two client hosts, client1.emc.com and client2.emc.com to NetWorker 8.1, type:

```
nsrpush -u -p NetWorker -v 8.1 client1.emc.com client2.emc.com
```

NOTICE

If the update operation fails, review the **nsrcpd.raw** file on the NetWorker server or nw_install.server_name.log file in the tmp directory on the target host for error messages.

Troubleshooting client push

This section provides resolutions to common client push issues.

- ◆ [“No available products were found for the selected client\(s\) in the software repository” on page 61](#)
- ◆ [“Ran inventory scripts on client hostname but could not process the data” on page 61](#)
- ◆ [“Client hostname is in the excluded clients list” on page 61](#)
- ◆ [“Remote error running the tmp space check command on client” on page 62](#)
- ◆ [“Select Products window does not contain all products” on page 62](#)
- ◆ [“Select Products window contains duplicate packages” on page 62](#)

No available products were found for the selected client(s) in the software repository

This error message appears during an update operation in the following scenarios:

- ◆ When the software repository does not contain any software packages.
- ◆ When the required software is not in the software repository.
- ◆ When the version in selected client is more recent than the product version in the repository.

To resolve this issue, add software packages to the repository. [“Adding software to the repository using the Software Administration Wizard” on page 54](#) describes how to add the software from the Software Configuration Wizard. [“Adding software to the repository using nsrpush” on page 55](#) describes how to use **nsrpush** to add the software to the repository.

Ran inventory scripts on client *hostname* but could not process the data

This error message appears during an inventory operation of a client that uses when NMM 2.4.x or earlier. Client Push supports updates of NMM 3.0 and later clients only.

To resolve this issue, update the client using standard updating procedures.

Client *hostname* is in the excluded clients list

This message appears during an inventory or update operation when you specify the **-all** option or a hostname for a client that is in the Client Push exclude list.

To resolve this issue:

1. Determine which clients are in the exclude list:

```
nsrpush -d
```

2. Remove clients from the exclude list:

```
nsrpush -e hostname...
```

Remote error running the tmp space check command on client

This message appears when you specify the `-Tp` option to update the software but **nsrpush** has encountered an error accessing the specified path.

To resolve this issue, ensure that the:

- ◆ Path exists on the target host.

NOTICE

When the path does not exist, **nsrpush** copies the temporary files to `C:\` on Windows and in the root NetWorker installation directory on UNIX. For example, `/usr` on Linux.

- ◆ Filesystem that contains the path has sufficient disk space to store the temporary installation files.

Select Products window does not contain all products

When adding software to the repository by using the Software Configuration wizard, if the Select Product window does not contain all products in the Media Kit Location, then review the client push log file, `nsrcpd.raw` on the NetWorker server for error messages.

- ◆ On UNIX, the `/nsr/logs` directory contains the `nsrcpd.raw` file.
- ◆ On Windows, the `C:\Program Files\EMC NetWorker\nsr\logs` directory contains the `nsrcpd.raw` file.

Select Products window contains duplicate packages

When adding software to the repository, if you specify a Media Kit Location that contains multiple copies of the same NetWorker package, then the packages appears twice in the Select Products window.

To avoid this issue, ensure the Media Kit Location contains only one copy of a NetWorker package.

NOTICE

When you select both copies, only one copy is added to the repository.

Updating from a different bit version of NetWorker (32-bit, 64-bit)

This section describes how to update a 32-bit installation of the NetWorker software to a 64-bit version of the NetWorker software.

- ◆ When a 64-bit NetWorker storage node or client host has the 32-bit version of NetWorker installed, you can update to NetWorker software to the 64-bit version.

Use the appropriate operating system sections of this guide to remove the 32-bit version of the NetWorker software and install the 64-bit version of the NetWorker software.

- ◆ When a 64-bit NetWorker server on Windows has the 32-bit version of NetWorker installed, you can update the NetWorker software to the 64-bit version.

Use the appropriate operating system sections of this guide to remove the 32-bit version of the NetWorker software and install the 64-bit version of the NetWorker software.

- ◆ When 64-bit NetWorker server on UNIX has the 32-bit version of the NetWorker software installed, you cannot update to the 64-bit version of the NetWorker software. EMC Professional Services or a certified EMC partner must perform this update.

Updating from a previous release

CHAPTER 5

AIX Installation

This chapter includes these sections:

- ◆ [Installing NetWorker on AIX.....](#) 66
- ◆ [Installing the Console server on AIX.....](#) 69
- ◆ [Uninstalling the NetWorker and Console server software on AIX.....](#) 72

Installing NetWorker on AIX

Before installing the NetWorker software, review the following sections:

- ◆ [“Installation roadmap” on page 14](#)
- ◆ [“Software Requirements” on page 25](#)

Complete these tasks to install the NetWorker software:

- ◆ [“Reviewing the operating system requirements for AIX” on page 66](#)
- ◆ [“Changing the default directory locations” on page 67](#)
- ◆ [“Installing the NetWorker software on AIX” on page 68](#)

Reviewing the operating system requirements for AIX

This section describes the NetWorker software considerations for the AIX operating system.

In NetWorker 8.1 and later the NetWorker software does not support AIX 5.x.

Before installing the NetWorker software, review the operating system and IPv4 considerations:

- ◆ [“Packages disk space requirements for AIX” on page 66](#)
- ◆ [“AIX 6.1 requirements” on page 66](#)
- ◆ [“IPV4 requirements” on page 66](#)

Packages disk space requirements for AIX

Download the NetWorker software package from the EMC Online Support Site and extract the packages to a temporary location on the target host.

Ensure that there is sufficient disk space on the host to contain both the compressed NetWorker software package and the fully uncompressed files. The compressed package is 235 MB and the uncompressed size is 663 MB.

AIX 6.1 requirements

On AIX 6.1, system limits or memory management issues can cause core dumps and performance degradation during NetWorker operations.

To prevent these issues on AIX 6.1 TL04, install the hot fix for AIX APAR IZ65501.

IPV4 requirements

The default behavior of the AIX name resolver is to look up both the IPv4 and the IPv6 addresses for a host. If either address fails to resolve locally, the operating system requests the address from the DNS Server. If you did not configure IPv6 addressing, then the DNS Server request will time out and return a failure message. If the time out wait time is too long, some NetWorker commands can have a delayed response and time out.

To prevent the time out of NetWorker commands, change the default name resolution lookup behavior to prevent IPv6 lookups. AIX uses three methods to configure the name resolution mechanism. Ensure each method does not try to perform IPv6 lookups:

- ◆ NSORDER environment variable.

From the system prompt, type:

```
env
```

If the NSORDER variable is not **NSORDER=local,bind4**, type:

```
export NSORDER=local,bind4
```

- ◆ **/etc/irs.conf** file.

Ensure the hosts entries are:

```
hosts local
hosts dns4
```

- ◆ **/etc/netsvc.conf** file.

Ensure the hosts entry is:

```
hosts=local, bind4
```

Changing the default directory locations

This section describes the installation location of the NetWorker software and the disk space requirements.

The AIX **installp** utility installs the NetWorker software. This utility does not enable you to change installation location of NetWorker binaries.

The NetWorker software installs the binaries in the **/usr/bin** directory. If there is insufficient disk space to install the NetWorker software, the AIX **installp** utility allocates more disk space, to successfully complete the software installation.

The **/nsr** directory contains the NetWorker configuration, logs, and database files. To change this location create a symbolic link from the new directory to the **/nsr** directory.

For example:

1. Create another nsr directory on a disk with sufficient space:

```
mkdir /disk2/nsr
```

2. Link the new directory to the **/nsr** directory:

```
ln -s /disk2/nsr /nsr
```

Before you install the NetWorker software, ensure that:

- ◆ The **PATH** variable for the root and user accounts contains the **/usr/bin** directory.
- ◆ There is sufficient disk space to install the NetWorker software.

[Table 9 on page 68](#) specifies the default location and space requirements for the NetWorker software.

Table 9 AIX default file locations and space requirements

NetWorker package	Location	Space
Client (lgtocInt)	/opt/nsr	11 MB
	/usr/bin	156 MB
	/usr/lib	87 MB
	/usr/lpp	40 KB
Storage node (lgtonode)	/usr/bin	91 MB
	/usr/lib	18 MB
	/usr/lpp	28 KB
Server (lgtoserv)	/usr/bin	101 MB
	/usr/lpp	12 KB
Man pages (lgtoman)	/usr/lpp	36 KB
	/usr/share	2 MB
French Language Pack (lgtofr)	/opt/nsr	5 MB
	/usr/bin	4 KB
	/usr/lib	32 KB
	/usr/lpp	44 KB
	/usr/share	2 MB
Japanese Language Pack (lgtolja)	/opt/nsr	7 MB
	/usr/bin	4 KB
	/usr/lib	40 KB
	/usr/lpp	44 KB
	/usr/share	2 MB
Korean Language Pack (lgtoko)	/opt/nsr	6 MB
	/usr/bin	4 KB
	/usr/lib	28 KB
	/usr/lpp	44 KB
	/usr/share	2 MB
Simplified Chinese Language Pack (lgtozh)	/opt/nsr	6 MB
	/usr/bin	4 KB
	/usr/lib	24 KB
	/usr/lpp	40 KB
	/usr/share	1 MB
Client file index, media database, resource database, and log files	/nsr	varies

Installing the NetWorker software on AIX

This section describes how to install the client, the storage node, and the server software and optional software such as the man pages and language packs.

The NetWorker software ships in a 32-bit version. Install this version on both the 32-bit and the 64-bit versions of the AIX operating system.

To install the NetWorker software:

1. Log in to the target host as root.

2. Create a backup copy of the operating system configuration files:

```
cp /etc/rpc /etc/rpc.orig
cp /etc/inittab /etc/inittab.orig
```

3. Use the **installp** program to install the NetWorker software from the system prompt.

For example:

```
installp -a -d /dir_pathname package [package]...
```

where:

- */dir_pathname* is the complete pathname of the directory that contains the installation software.

For example, if you extract the NetWorker software packages to the **/software** directory, the *dir_pathname* is **/software/aixpower**.

- *package [package]...* is a list of the software package required for the installation type. [Table 10 on page 69](#) provide a list of the software packages required for each installation type.

Table 10 List of NetWorker packages required for each installation type

Installation type:	Packages:
Client software	LGTONw.clnt.rte
Storage Node software	LGTONw.clnt.rte LGTONw.node.rte
Server software	LGTONw.clnt.rte LGTONw.node.rte LGTONw.serv.rte
Man pages	LGTONw.man.rte
Simplified Chinese language support	LGTONw.zh.rte
French language support	LGTONw.fr.rte
Japanese language support	LGTONw.ja.rte
Korean language support	LGTONw.ko.rte

For example, to install the NetWorker server software, the man pages and the Japanese language pack, type:

```
installp -a -d /nw_packages/aixpower LGTONw.clnt.rte LGTONw.node.rte
LGTONw.serv.rte LGTONw.man.rte LGTONw.ja.rte
```

4. Confirm that the required packages successfully installed for each installation type:

```
lspp -L all | grep -i lgto*
```

Installing the Console server on AIX

To manage the NetWorker server, install the Console server software on one host in the NetWorker datazone.

Complete these tasks to install the Console server software:

- ◆ [“Reviewing Console server requirements” on page 70](#)
- ◆ [“Installing the Console server software” on page 70](#)
- ◆ [“Configuring the Console server software” on page 71](#)

Reviewing Console server requirements

This section describes the Console server requirements.

Before installing the Console server software package, review the following requirements:

- ◆ If you did not install the NetWorker client software on the target host, then install the NetWorker client software when you install the Console server software.
- ◆ A NetWorker 8.0 and later Console server software does not support AIX 5.2 and AIX 5.3.
- ◆ A NetWorker 8.1 Console server does not support AIX 32-bit NetWorker server. The *EMC NetWorker Software Compatibility Guide* on the EMC Online Support Site provides the most up to date information on supported Console server operating systems.

[“Optional, moving the Console server files to a new Console server” on page 43](#) describes how to migrate a Console server from a previously supported operating system to a new Console server.
- ◆ Ensure that there is sufficient disk space to install the Console server software files. [Table 11 on page 70](#) specifies the default location and space requirements for the Console server software on an AIX host.

Table 11 AIX Console server default file locations and space requirements

NetWorker package	Location	Size
LGTONmc.rte	/opt/lgtonmc	189 MB
	/usr/lpp	76 KB

Installing the Console server software

This section describes how to install the Console server software.

1. Log in to the target host as root.
2. Rename the **.toc** file in the directory that contains the NetWorker software packages.
3. If you installed NetWorker client software on the host:
 - Confirm that the **NetWorker Remote Exec** daemon, **nsrexecd** is started:

```
ps -ef | grep nsr
```
 - If the **nsrexecd** daemon is not started, type:

```
/etc/rc.nsr
```

- Use the **installp** program to install the Console server software from the system prompt:

```
installp -a -d /dir_pathname LGTONw.clntrte LGTONmc.rte  
[packages]...
```

where:

- /dir_pathname* is the complete pathname of the directory that contains the installation software.

For example, if you extracted the NetWorker software packages to the **/software** directory, the *dir_pathname* is **/software/aixpower**.

- Specify the LGTONw.clntrte* only if you did not previously install the NetWorker client package.
- [packages]...* is a list of the optional software packages.

For example, to install the Console server software with the French language pack and the NetWorker client software package, type:

```
installp -a -d /software/aixpower LGTONw.clntrte LGTONmc.rte  
LGTONw.fr.rte
```

- Confirm that the required package installation completed successfully:

```
lspp -L all | grep -i lgto*
```

Configuring the Console server software

Use the **nmc_config** command to configure the Console server software program.

To configure the console server software:

- From a system prompt, type:

```
/opt/lgtonmc/bin/nmc_config
```

- Specify a non-root user/group with limited privileges. The Console server uses this user/group to run the web server. For example, use the default user/group [nobody/nobody].
- For the web server port number, use the default port number (**9000**) or use a custom port number.

Valid port numbers are between **1024** and **49151**.

- For the Console server, use the default port number (**9001**) or use a custom port number. Valid port numbers are between **1024** and **49151**.

NOTICE

Do *not* use port numbers that are already in use. For example: The Console server uses port **2638** for TDS protocol communications with the Console database. The preferred port for EMC Data Protection Advisor product is **9002**.

- Specify the directory to use for the **lgtonmc** database.

For example:

```
/opt/lgtonmc/lgto_gstdb
```

6. If the installation process detects an existing database, type **y** to retain the existing database when prompted.
7. If the installation process detects a NetWorker 7.6.x Console server database:
 - a. To proceed with the installation and Console server database conversion, type **y**.
 - b. Specify the directory location for the database backup file.

For example:

```
/opt/lgtonmc/lgto_gstdb
```

If the conversion fails the following error message appears:

```
Install failed to upgrade the database full_path_and_database_name.
Check the upgrade log full_path_and_log_name_file for details.
Please, fix any environment related errors mentioned in the log and
then run the script <full path to gstdbupgrade.sh>
manually to upgrade the database after the install is complete.
```

8. Specify the location of the NetWorker binaries.

For example

```
/usr/bin
```

9. When prompted to start the Console server daemons:
 - If the database conversion is successful, type **y**.
 - If the database conversion encountered errors, type **n**. [“Reviewing the Console server database conversion status” on page 47](#) describes how to determine the cause of the conversion failure and the steps to convert the database after the software install has completed.
10. Update the **MANPATH** variable for the Console server man pages.

For example:

```
MANPATH=$MANPATH:/opt/lgtonmc/man
export MANPATH
```
11. [“Connecting to the Console server GUI for the first time” on page 132](#) describes on how connect to the Console server for the first time.

Uninstalling the NetWorker and Console server software on AIX

Use **installp** or **smitty** to uninstall the NetWorker software.

To uninstall the NetWorker software:

1. Log in to the target host as root.
2. Use the **lspp** command to get a list of installed NetWorker software packages:

```
lspp -L all | grep -i lgto*
```

3. Use **installp -u** to remove the software packages:

```
installp -u package [package]...
```

[Table 12 on page 73](#) provides a list of the installed packages for each installation type.

NOTICE

When removing multiple NetWorker software packages, specify the **LGTONw.clnt.rte** package last.

Table 12 Select NetWorker software packages to uninstall

Installation type	Software packages
Client software	LGTONw.clnt.rte
Storage Node software	LGTONw.node.rte LGTONw.clnt.rte
Server software	LGTONw.serv.rte LGTONw.node.rte LGTONw.clnt.rte
Console server software	LGTONmc.rte LGTONw.clnt.rte
Man pages	LGTONw.man.rte
NetWorker License Manager	LGTONw.licm.rte
French language support	LGTONw.fr.rte
Japanese language support	LGTONw.ja.rte
Korean language support	LGTONw.ko.rte
Simplified Chinese language support	LGTONw.zh.rte

For example, to uninstall the Console server software and the French language pack, type:

```
installp -u LGTONmc.rte LGTONw.fr.rte LGTONw.clnt.rte
```

4. To confirm the package removal, type:

```
ls1pp -L all | grep -i lgto*
```

5. If there is no plan to update or reinstall the software packages:
 - a. Remove the /nsr directory.
 - b. Delete the Console server directory. By default, this directory is /opt/lgtonmc.
6. If JRE is no longer required, remove the JRE program.

CHAPTER 6

HP-UX Installation

This chapter includes these sections:

- ◆ [Installing NetWorker on HP-UX](#) 76
- ◆ [Uninstalling the NetWorker software on HP-UX](#) 79

Installing NetWorker on HP-UX

Before installing the NetWorker software, review the following sections:

- ◆ “Installation roadmap” on page 14
- ◆ “Software Requirements” on page 25

Complete these tasks to install the NetWorker software:

- ◆ “Reviewing NetWorker requirements for HP-UX” on page 76
- ◆ “Changing default directory locations” on page 78
- ◆ “Installing the NetWorker software” on page 78

Reviewing NetWorker requirements for HP-UX

This section outlines the software considerations and requirements for the NetWorker software on supported HP-UX operating systems.

- ◆ “General requirements” on page 76
- ◆ “Package disk space requirements” on page 76
- ◆ “HP-UX 11iv3 requirements” on page 77
- ◆ “HP-UX 11iv2 requirements” on page 77
- ◆ “HP-UX on PA-RISC requirements” on page 77

General requirements

Perform these tasks before you install the NetWorker software on HP-UX.

1. Review the NetWorker Software Compatibility Guide for the latest information about supported HP-UX operating systems for each NetWorker installation type.
1. Ensure that the kernel parameter **maxfiles_lim** is a minimum value of **8192**.
2. Set the **nfile** value, according to the following formula:

The **nfile** setting + (*number of expected concurrent save times*)

The minimum value for the number of expected concurrent save times is 50.

For example:

```
nfile = 1 X 50
```

3. Ensure that the `/etc/nsswitch.conf` file contains an `ipnodes` policy:

```
ipnodes=files
```

If you do not specify an `ipnodes` policy, the NetWorker daemons fail to start with a message similar to the following:

```
lgtolmd: Failed to resolve the IPv6 localhost address ::1. Please
verify an entry for the IPv6 localhost address exists in your
/etc/hosts file and an "ipnodes" policy has been added to your
/etc/nsswitch.conf file.
```

Package disk space requirements

Download the NetWorker software package from the EMC Online Support Site and extract the packages to a temporary location on the target host.

Ensure that there is sufficient disk space on the host to contain both the compressed NetWorker software package and the fully uncompressed files.

[Table 13 on page 77](#) provides a list of NetWorker packages and the compressed and uncompressed file sizes.

Table 13 Size of compressed and uncompressed files

Operating system	Compressed file	Uncompressed file
HP-UX	191 MB	575 MB
HP-UX itanium	393 MB	1.4 GB

HP-UX 11iv3 requirements

Before you install the NetWorker software on HP-UX 11iv3, review the following considerations:

- ◆ If you use stape on an HP-UX11iv3 NetWorker server or storage node, install patch PHKL_36312 or later.
This will enhance tape device compatibility.
- ◆ For HP-UX NetWorker servers and storage nodes that use tape devices, install PHKL_41474 or higher.
This is required for CDI support.
- ◆ If you backup the /dev directory to a local HP-UX 11iv3 storage node, then the backup may fail and the system may fail to respond.

To avoid this issue, implement one of these options:

- Do not back up the /dev directory.
- Do not specify ALL in the client Save Set attribute or use a directive to exclude the /dev directory from the backup.
- Do not specify save sets that include the /dev directory in the backup.
- Use a remote storage node.

HP-UX 11iv2 requirements

Before you install the NetWorker software on HP-UX 11iv2, ensure that you install the PHSS_37500 and PHSS_39101 patches on the host.

HP-UX on PA-RISC requirements

This section describes the software considerations for HP-UX on PA-RISC.

Before you install the NetWorker client software on HP-UX RISC, install the following patches on the host:

- ◆ QPK1123(B.11.23.0712.070a) 1185010 Quality Pack Depot
- ◆ PHSS_37492

Changing default directory locations

NetWorker installs the binaries in the `/opt/networker/bin` directory. The `/nsr` directory contains the NetWorker configuration, logs, and database files.

You cannot change the location of the NetWorker binaries, configuration, log files and databases.

Before you install the NetWorker software, ensure that the `PATH` variable for the root and user account contains the `/opt/networker/bin` directory.

Installing the NetWorker software

This section describes how to use `swinstall` to install the client, storage node, and server software packages and optional packages such as the man pages and language packs on HP-UX 11.x or HP-UX 11i platforms on IPF.

The `swinstall` utility uses the character mode or the System Administration Manager (SAM) utility. The character mode `swinstall` screens contain the same information as the SAM utility. The same choices are made with both formats.

1. Log in to the target host as root.
2. Create a backup copy of the `rpc.org` configuration file:

```
cp /etc/rpc /etc/rpc.org
```

3. At the system prompt, type:

```
swinstall &
```

Note: If you use the character interface, do not include the `&` symbol.

4. Press **Enter**.
5. On the **Specify Source** window, provide the location of the NetWorker installation files:
 - a. In the **Source Depot Type** field, press **Enter** and select **Local Directory**.
 - b. In the **Source Host Name** field, ensure that the hostname of the target host is selected.
 - c. In the **Source Depot Path** field, type the full path of the **NetWorker.pkg** file.

For example:

```
/tmp/hpux11_ia64/NetWorker.pkg
```

6. Click **OK**.

- On the **SD Install - Software Selection** window, select and mark the software packages required for the installation type. [Table 14 on page 79](#) provides a summary of the NetWorker software packages required for each NetWorker component.

Table 14 HP-UX software packages

To install the:	Select these packages:
Client software	NWr-Client
Storage node software	NWr-Client NWr-Node
Server software	NWr-Client NWr-Node NWr-Server
Man pages	NWr-Man
French language support	NWr-FR
Japanese language support	NWr-JA
Korean language support	NWr-KO
Simplified Chinese language support	NWr-ZH

- Press **Enter**.
- On the **Actions** menu, click **Install**.
- Verify the status of the install analysis.
 - To review the log file and verify that the **swinstall** program did not encounter errors, click **Logfile**.
 - Correct any problems before you continue the installation.
- To continue with the installation, click **OK**.
- To review the log file for error or warning messages generated during installation, click **Logfile**.
- When the installation completes, click **Done**.
- Exit **swinstall**.
- [“Connecting to the Console server GUI for the first time” on page 132](#) describes how to use a Console client to connect to the NetWorker server.

Uninstalling the NetWorker software on HP-UX

As root, use the **swremove** utility to uninstall the NetWorker software.

- Shut down the NetWorker daemons:

```
nsr_shutdown
```

- Confirm that all of the NetWorker daemons stop:

```
ps -ef | grep nsr
```

3. To start the NetWorker software removal process, type:

```
swremove &
```

NOTICE

If you are using the character interface, do not include the **&** symbol.

4. On the **Software Selection** window, select the NetWorker software to remove.
5. On the **Actions** window, select **Remove**.
This runs an analysis of the remove operation.
6. To confirm that the analysis did not detect any problems, click **Logfile**.
Fix any reported problems before you continue with the operation.
7. On the **Remove Analysis** window, click **OK** to continue the remove operation.
8. On the **Remove** window, click **Done**.
9. On the **File** menu, select **Exit**.
10. Verify that all the files are removed from **/opt/networker** directory.
11. If there is no plan to update or reinstall the software packages, remove the **/nsr** directory.

CHAPTER 7

Linux Installation

This chapter includes these sections:

- ◆ [Installing NetWorker on Linux.....](#) 82
- ◆ [Installing Console server on Linux.....](#) 89
- ◆ [Uninstalling NetWorker and Console server software on Linux.....](#) 91

Installing NetWorker on Linux

Before installing the NetWorker software, review these sections:

- ◆ [“Installation roadmap” on page 14](#)
- ◆ [“Software Requirements” on page 25](#)

Complete these tasks to install the NetWorker software:

- ◆ [“Reviewing the operating system requirements for Linux” on page 82](#)
- ◆ [“Changing the default directory locations” on page 82](#)
- ◆ [“Preparing the Linux target host” on page 84](#)
- ◆ [“Installing the NetWorker packages on Linux” on page 84](#)
- ◆ [“Post installation consideration for st tape devices” on page 89](#)

Reviewing the operating system requirements for Linux

Download the NetWorker software package from the EMC Online Support Site and extract the packages to a temporary location on the target host.

Ensure that there is sufficient disk space on the host to contain both the compressed NetWorker software package and the fully uncompressed files.

[Table 15 on page 82](#) provides a list of NetWorker packages and the compressed and uncompressed file sizes.

Table 15 Size of compressed and uncompressed files

Operating system	Compressed file	Uncompressed file
Linux s390	22 MB	22 MB
Linux IBM PowerPC	20 MB	20 MB
Linux x86	179 MB	270 MB
Linux x86-64	395 MB	397 MB
Linux Itanium	115 MB	115 MB

NetWorker 8.1 does not support:

- ◆ NetWorker server on Linux 32-bit
- ◆ NetWorker server and storage node on Linux IA-64 bit

Changing the default directory locations

The NetWorker software installs the binaries in the /usr directory. The /nsr directory contains the NetWorker configuration, logs, and database files. You can change these directory locations on all supported Linux operating systems with the exception of Debian and Ubuntu. This section describes how to change the default directory locations for the binaries, the databases, and the log files on the target host.

[Table 16 on page 83](#) specifies the default location and space requirements for the NetWorker software in a Linux environment. Review this table to ensure that you have sufficient disk space to install the NetWorker software.

Table 16 Linux default file locations and space requirements

NetWorker Package	Location	Space				
		Linux ia64	Linux x86	Linux x64	Linux PPC64	Linux s390
Client (lgtocInt)	/usr/lib	60 MB	29 MB	50 MB	1.6 MB	1.6 MB
	/usr/sbin	204 MB	55 MB	78 MB	37MB	41 MB
	/usr/bin	66 MB	31 MB	33 MB	16 MB	18 MB
	/opt/nsr	21 MB	16 MB	21 MB	20.0 KB	20.0 KB
Storage node (lgtonode)	/usr/lib	n/a	n/a	11 MB	n/a	n/a
	/usr/sbin			67 MB		
Server (lgtoserv)	/usr/sbin	n/a	n/a	71 MB	n/a	n/a
Man pages (lgtoman)	/usr/share	1.7 MB	1.7 MB	1.8 MB	1.8 MB	n/a
French Language Pack (lgtofr)	/usr/lib	44 KB	44 KB	44 KB	n/a	n/a
	/usr/sbin	8.0KB	8.0 KB	8.0 KB		
	/usr/share	1.9 MB	1.9 MB	1.9 MB		
	/opt/nsr	5.2 MB	6.9 MB	8.2 MB		
Japanese Language Pack (lgtolja)	/usr/lib	52 KB	52 KB	52 KB	n/a	n/a
	/usr/sbin	8.0 KB	8.0 KB	8.0 KB		
	/usr/share	1.8 MB	1.8 MB	1.8 MB		
	/opt/nsr	5.9 MB	9.4 MB	9.4 MB		
Korean Language Pack (lgtoko)	/usr/lib	40 KB	40 KB	40 KB	n/a	n/a
	/usr/sbin	8.0 KB	8.0 KB	8.0 KB		
	/usr/share	1.7 MB	1.7 MB	1.7 MB		
	/opt/nsr	5.3 MB	8.5 MB	8.5 MB		
Simplified Chinese Language Pack (lgtozh)	/usr/lib	36 KB	36 KB	36 KB	n/a	n/a
	/usr/sbin	8.0 KB	8.0 KB	8.0 KB		
	/usr/share	1.4 MB	1.4 MB	1.4 MB		
	/opt/nsr	4.4 MB	8.0 MB	6.9 MB		
Client file index, media database, resource database	/nsr	varies	varies	varies	varies	varies

Changing the software installation directory

To install the NetWorker binaries in a non-default location, use **rpm --relocate** as root.

For example, to install the NetWorker server to the /nw directory:

1. Log in to the target host as root.
2. From the directory that contains the NetWorker packages, type:

```
rpm -ivh --relocate /usr=/nw lgtocInt*.rpm lgtonode*.rpm lgtoserv*.rpm
```

3. Modify the root **PATH** variable to include the bin and sbin subdirectories:

```
/nw/bin:/nw/sbin
```

4. Modify the LD_LIBRARY_PATH variable to specify the path to the /lib/nsr directory:

```
LD_LIBRARY_PATH=/nw/lib/nsr
```

5. Create a symbolic link for the cst folder:

```
ln -s /nw/opt/nsr/cst /opt/nsr/cst
```

Changing the configuration, log, and database files directory

To change the default location of the configuration, logs, and database files, create a symbolic link from the new directory to the /nsr directory.

For example:

1. Create another nsr directory on a disk with sufficient space:

```
mkdir /disk2/nsr
```

2. Link the new directory to the /nsr directory:

```
ln -s /disk2/nsr /nsr
```

Preparing the Linux target host

Before you install NetWorker, create a backup of the operating system configuration file and configure the target host to support NetWorker.

- ◆ Create a backup copy of the operating system configuration files:

```
cp /etc/rpc /etc/rpc.orig  
cp /etc/ld.so.conf /etc/ld.so.conf.orig
```

- ◆ Ensure that the PATH variable for the root and user accounts contains the /usr/sbin directory.
- ◆ If you enabled SELinux on your system, add the file contexts and the security contexts that the NetWorker software requires.

1. To add file contexts, type:

```
semanage fcontext -a -t textrel_shlib_t "/usr/lib/nsr/lib.*\so"
```

2. To update the security contexts, type:

```
restorecon -R /usr/lib/nsr"
```

NOTICE

If the **semanage** or the **restorecon** file does not exist on the Linux system, install the **policycoreutils-python** package.

Installing the NetWorker packages on Linux

This section describes how to install the client, the storage node, the server software, and optional packages such as the man pages and the language packages on a Linux system.

- ◆ [“RHEL, RedFlag, Oracle Enterprise Server, RedFlag Asianux, SuSE and CentOS” on page 85](#)
- ◆ [“Debian and Ubuntu” on page 86](#)

- ◆ [“Fedora” on page 87](#)

RHEL, RedFlag, Oracle Enterprise Server, RedFlag Asianux, SuSE and CentOS

On Redhat Enterprise Linux (RHEL), CentOS, Oracle Enterprise Server (OES), and RedFlag, you can use **rpm** or **yum** to install the NetWorker software. Using the **yum** program allows you to install the required operating system packages automatically, as necessary. On SuSE, you can only use **rpm** to install the NetWorker software.

From the directory that contains the extracted NetWorker software packages, use the appropriate installer application to install NetWorker:

- ◆ To use **yum**, type:

```
yum localinstall --nogpgcheck package [package]...
```

where **package** [*package*]... is a list of the software package required for the installation type. [Table 17 on page 86](#) provide a list of the software packages required for each installation type. Specify optional packages such as language packs and man pages in **rpm** command after the required packages for the installation type.

NOTICE

When the **yum** program cannot install missing package dependencies, the **yum** command fails and provides a list of missing packages. Manually install the package dependencies and run the **yum** command again.

- ◆ To use **rpm**, type:

```
rpm -ivh package [package]...
```

where **package** [*package*]... is a list of the software package required for the installation type. [Table 17 on page 86](#) provides a list of the software packages required for each installation type. Specify optional packages such as language packs and man pages in rpm command after the required packages for the installation type.

NOTICE

When the operating system packages that NetWorker requires are missing, the **rpm** command provides a list of missing packages and does not install the NetWorker software. Manually install missing package dependencies then run the **rpm** command again.

Table 17 List of NetWorker software packages required for each installation type

Installation type	Packages
Client software	lgtoclnw*.rpm
Storage Node software	lgtoclnw*.rpm lgtonode*.rpm
Server software	lgtoclnw*.rpm lgtonode*.rpm lgtoserv*.rpm
Man pages	lgtoman*.rpm
Simplified Chinese language support	lgtzh*.rpm
French language support	lgtfr*.rpm
Japanese language support	lgtja*.rpm
Korean language support	lgtko*.rpm

Example 4 Using yum to install NetWorker

To use **yum** to install the man pages during a NetWorker server install, type:

```
yum localinstall --nogpgcheck lgtoclnw*.rpm lgtonode*.rpm
lgtoserv*.rpm lgtoman*.rpm
```

NOTICE

Specify optional packages, such as the language packs and the man pages in the **yum** command after the required packages for the installation type.

Example 5 Using rpm to install NetWorker

To use **rpm** to install the man pages during a NetWorker server install, type:

```
rpm -ivh lgtoclnw*.rpm lgtonode*.rpm lgtoserv*.rpm lgtoman*.rpm
```

NOTICE

When the operating system packages that NetWorker requires are missing, the **rpm** command provides a list of missing packages and does not install the NetWorker software. Manually install missing package dependencies then run the **rpm** command again.

Debian and Ubuntu

On Debian and Ubuntu systems, use the **dpkg** program to install the NetWorker client software. To install the operating system packages that the NetWorker client software requires, use the **apt-get** program.

NOTICE

Ubuntu 10 requires the `libstdc++5` package but the Ubuntu software package repository does not include this package. Manually download and install the `libstdc++5` package for Debian before installing the NetWorker client software.

<http://packages.debian.org/squeeze/libstdc++5> provides more information.

To install the NetWorker software:

1. From a system prompt, run the **dpkg** command. For example:

```
dpkg -i lgtocInt_XXX.deb
```

where `lgtocInt_XXX.deb` is the name of the NetWorker client software package.

NOTICE

For Ubuntu, use **sudo** to run this command.

2. If required operating system packages are missing, then dependency errors similar to the following appear:

```
Unpacking lgtocInt (from lgtocInt_8.1_i386.deb) ...
dpkg: dependency problems prevent configuration of lgtocInt:
 lgtocInt depends on ksh | pdksh; however:
  Package ksh is not installed.
  Package pdksh is not installed.
 lgtocInt depends on libstdc++5; however:
  Package libstdc++5 is not installed.
 lgtocInt depends on libxp6; however:
  Package libxp6 is not installed.
dpkg: error processing lgtocInt (--install):
 dependency problems - leaving unconfigured
Errors were encountered while processing:
 lgtocInt
```

To resolve this issue:

1. Use the **apt-get** command to install the missing packages.

```
sudo apt-get -f upgrade
```

The **apt-get** command automatically completes the NetWorker software installation.

2. Confirm the **nsrexecd** process starts:

```
ps -ef | grep nsrexecd
```

3. Optionally, start the **nsrexecd** process:

```
sudo nsrexecd
```

Fedora

To install the NetWorker software on the Fedora operating system, you must perform additional steps to resolve package dependencies.

1. Before you install the NetWorker software, manually install the missing package dependencies, with the exception of `libcap.so.1`.
 - a. Use the **yum** command to identify missing dependencies.

For example:

```
# yum localinstall lgtocln*.rpm
Packages skipped because of dependency problems:
  compat-libstdc++-33-3.2.3-68.1.x86_64 from fedora
  glibc-2.14.90-24.fc16.9.i686 from updates
  ksh-20120801-1.fc16.x86_64 from updates
  libXp-1.0.0-16.fc15.x86_64 from fedora
  nss-softokn-freebl-3.13.5-1.fc16.i686 from updates
```

NOTICE

The **yum** command does not successfully install the NetWorker software.

- b. Use the **yum** program to manually install the missing package dependencies.

For example:

```
yum install compat-libstdc++-33 ksh libXp
glibc-2.14.90-24.fc16.9.i686
```

NOTICE

When you specify the **glib** package, use the full package name to ensure the correct **glib** package installs and not the **glibc-2.14.90-24.fc16.9.x86_64** package.

2. Use the **rpm** command to confirm that you resolved all missing package dependencies, with the exception of **libcap.so.1**.

For example:

```
# rpm -ivh lgtocln*.rpm
error: Failed dependencies:
libcap.so.1 is needed by lgtocln-8.1-1.i686
```

3. Use the **rpm** command with the **--nodeps** option to install the NetWorker software and ignore the **libcap.so1** dependency:

```
rpm -ivh --nodeps package [package]...
```

where *package [package]...* is a list of the software package required for the installation type.

[Table 18 on page 88](#) provide a list of the available NetWorker software packages.

Table 18 List of NetWorker software packages

Installation type:	Packages:
Client software	lgtocln*.rpm
Man pages	lgtoman*.rpm
Simplified chinese language support	lgtozh*.rpm
French language support	lgtofr*.rpm
Japanese language support	lgtoja*.rpm
Korean language support	lgtoko*.rpm

For example, to install the man pages during a NetWorker client install, type:


```
rpm -ivh --nodeps lgtoc1nt*.rpm lgtoman*.rpm
```

Post installation consideration for st tape devices

By default, the Linux kernel configures up to a maximum of 128 st tape devices. As a result, the **inquire** command and the Scan for Devices option in the NMC GUI, display a maximum of 128 st devices.

To resolve this issue, modify the st module of the Linux kernel and then recompile the kernel. This increases the maximum number of allowable st devices that the OS can create.

The Linux documentation describes how to change the ST_MAX_TAPES definition and perform a kernel reconfiguration, then a kernel rebuild, then a kernel install.

Appendix E in the *NetWorker Administration Guide* provides additional information.

Installing Console server on Linux

To manage the NetWorker server, install the Console server software on one host in the data zone.

- ◆ [“Reviewing Console server requirements” on page 89](#)
- ◆ [“Installing the Console server software on Linux” on page 89](#)
- ◆ [“Configuring the Console server software” on page 90](#)

Reviewing Console server requirements

Review these requirements before you install the Console server software.

- ◆ You can install the Console server on:
 - RHEL 5 and 6 (64-bit)
 - SuSE 10 and 11 (64-bit)
 - Centos 5 and 6 (64-bit)
 - OEL 5 (64-bit)

The *EMC NetWorker Software Compatibility Guide* on *EMC Online Support* provides the most up to date information on supported Console server operating systems.

- ◆ You may require UTF-8 converters for the operating system.
- ◆ Ensure that there is sufficient disk space to install the Console server software files. [Table 19 on page 89](#) specifies the default location and space requirements for the Console server software on a Linux host.

Table 19 Linux Console server default file locations and space requirements

NetWorker Package	Location	Space	
		Linux x86	Linux em64T and AMD64
Console server (LGTONmc)	/opt/lgtonmc	167 MB	167 MB

Installing the Console server software on Linux

To install the Console server on Linux, perform these steps on the target host, as root.

1. If you have already installed the NetWorker client software on the host:
 - Confirm that the NetWorker Remote Exec daemon, nsrexecd, is started:


```
ps -ef | grep nsr
```
 - Start nsrexecd, if required:


```
/etc/init.d/networker start
```
2. Install NetWorker from the directory that contains the extracted NetWorker software packages. On RHEL use **yum** or **rpm** to install the NetWorker software. On SuSE you can only use **rpm**.
 - To use **yum**, type:


```
yum localinstall --nogpgcheck lgtocInt*.rpm lgtonmc*.rpm
```

 where you specify *lgtocInt*.rpm* only if you did not previously install the NetWorker client software.

NOTICE

If **yum** cannot install missing package dependencies, **yum** fails and provides a list of missing packages. Manually install the package dependencies then run the **yum** command again.

- To use **rpm**, type:

```
rpm -ivh lgtocInt*.rpm lgtonmc*.rpm
```

where you specify *lgtocInt*.rpm* only if you did not install the NetWorker client software previously.

NOTICE

When the operating system packages that NetWorker requires are missing, the **rpm** command provides a list of missing packages and does not install the NetWorker software. Manually install missing package dependencies then run the **rpm** command again.

Configuring the Console server software

Use the **nmc_config** command to configure the Console server software program.

1. Start the configuration script:


```
/opt/lgtonmc/bin/nmc_config
```
2. Specify a non-root user/group with limited privileges. The Console server uses this user/group to run the web server. For example, use the default user/group [nobody/nobody].
3. For the web server port number, use the default port number (**9000**) or use a custom port number. Valid port numbers are between **1024** and **49151**.
4. For the Console server, use the default port number (**9001**) or use a custom port number. Valid port numbers are between **1024** and **49151**.

NOTICE

Do *not* use port numbers that are already in use. For example: The Console server uses port **2638** for TDS protocol communications with the Console database. The preferred port for EMC Data Protection Advisor product is **9002**.

5. Specify the directory to use for the lgtonmc database, for example, `/opt/lgtonmc/lgto_gstdb`.
6. If the installation process detects an existing database, then type **y** to retain the existing database.
7. If the installation process detects a NetWorker 7.6.x Console server database:
 - a. To continue with the installation and Console server database conversion, type **y**.
 - b. Specify the location to store the database backup file, for example: `/opt/lgtonmc/lgto_gstdb`.

If the conversion fails, then a message similar to the following appears:

```
Install failed to upgrade the database <full path and database
name>. Check the upgrade log <full path and log name file> for
details.
Please, fix any environment related errors mentioned in the log
and then run the script <full path to gstdbupgrade.sh>
manually to upgrade the database after the install is complete.
```

8. Specify the location of the NetWorker binaries.

For example:

```
/usr/sbin
```

9. When prompted to start the Console server daemons:
 - If the database conversion is successful, type **y**.
 - If the database conversion encountered errors, type **n**.

[“Reviewing the Console server database conversion status” on page 47](#) describes how to determine the cause of the conversion failure and the steps to convert the database after the software install has completed.
10. To continue with the installation of the Console server package, type **y**.
11. Update the **MANPATH** variable for the Console server man pages.

For example:

```
MANPATH=$MANPATH:/opt/lgtonmc/man
export MANPATH
```
12. [“Connecting to the Console server GUI for the first time” on page 132](#) describes how to connect to the NetWorker server from a Console client for the first time.

Uninstalling NetWorker and Console server software on Linux

The procedure to remove the NetWorker software differs for Debian and Ubuntu Linux from all other Linux operating systems.

- ◆ [“Uninstalling NetWorker on Debian and Ubuntu” on page 92](#)
- ◆ [“Uninstalling NetWorker on other Linux operating systems” on page 92](#)

Uninstalling NetWorker on Debian and Ubuntu

As root, use the **dpkg** command to uninstall the NetWorker client software from Debian and Ubuntu Linux systems.

```
dpkg -r lgtocInt
```

If there is no plan to update or reinstall the NetWorker software, use **dpkg -P lgtocInt** to remove the NetWorker configuration files.

Uninstalling NetWorker on other Linux operating systems

As root, use the **rpm -e *package_name*** command to remove individual NetWorker software packages or all NetWorker software packages simultaneously. For information about using **rpm**, refer to the **rpm** man page.

NOTICE

The NetWorker software packages have dependencies on each other, remove the packages in the following order: lgtolicm, lgtoserv, lgtonode, lgtonmc, lgtocInt. The man pages, lgtoman, and language packages do not have any dependencies. You can remove these packages in any order.

1. Get a list of the installed NetWorker packages:

```
rpm -qa | grep lgto
```

2. Use the **rpm -e** command to remove the NetWorker packages:

```
rpm -e package_name package_name package_name
```

For example, to remove the NetWorker packages from the Console server, type:

```
rpm -e lgtonmc lgtocInt
```

[Table 20 on page 92](#) provides a list of the package names associated with the different NetWorker components.

Table 20 NetWorker package names on Linux

Component	Package name
Server	lgtoserv
Storage node	lgtonode
Console server	lgtonmc
NetWorker License Manager	lgtolicm
Client	lgtocInt
Man pages	lgtoman
French language support	lgtofr

Table 20 NetWorker package names on Linux

Component	Package name
Japanese language support	lgtoja
Korean language support	lgtoko
Simplified chinese language support	lgtozh

3. If you will not update or reinstall the packages:
 - a. Remove the /nsr directory.
 - b. Delete the Console server directory. By default, this directory is /opt/lgtonmc.

CHAPTER 8

Mac OS-X Client Installation

This chapter includes these sections:

- ◆ [Installing NetWorker on Mac-OSX](#) 92
- ◆ [Uninstalling the NetWorker software on Mac OS-X](#) 94

Installing NetWorker on Mac-OSX

This section describes the requirements and tasks for installing the NetWorker client software on Mac-OSX.

- ◆ [“Reviewing the Mac OS-X requirements” on page 92](#)
- ◆ [“Installing NetWorker on Mac-OSX” on page 92](#)
- ◆ [“Verifying the software installation” on page 93](#)

Reviewing the Mac OS-X requirements

This section outlines the software requirements to consider when installing NetWorker on the Mac OS-X operating system.

The NetWorker software:

- ◆ Only supports the NetWorker client on Mac-OSX.
- ◆ Supports Mac OS Power PC and Mac OS Intel. The *EMC NetWorker Software Compatibility Guide* on the EMC Online Support Site provides more information on operating system versions supported.
- ◆ Supports the following filesystems:
 - HFS+ (including journaled)
 - HFS
 - UFS
- ◆ Requires 112 MB of free disk space for the software installation process:

/applications	8 MB
/usr/bin	40 MB
/usr/sbin	58 MB
/usr/lib/nsr	4 MB
/usr/share/man	2 MB

Installing the NetWorker software

The following section describes how to Install the NetWorker software.

Install NetWorker software in one of the following ways:

- ◆ [“From the Mac Console” on page 92](#)
- ◆ [“From a terminal window” on page 93](#)

From the Mac Console

To install the NetWorker software from the Mac Console:

1. Download the NetWorker software.
2. Double-click NetWorker.dmg file.

This mounts the NetWorker software on a NetWorker volume.

3. Double-click NetWorker.pkg on the NetWorker volume to launch the NetWorker software.
4. In the **Welcome to the NetWorker Client Installer** window, click **Continue**.
5. In the **End User License and Basic Maintenance Agreement** window, click **Continue**.
6. Click **Agree** to agree to the terms of the software license agreement.
7. Click **Install** to install the NetWorker client on the default volume.
Optionally, click the **Change Install Location...** and select another MacOSX volume.
8. Click **Close**.

From a terminal window

To install the NetWorker software from the terminal window:

1. Download the NetWorker software.
2. Mount the volume that contains the NetWorker software.

For example:

```
>hdiutil mount path to NetWorker software/MacOSX/NetWorker-dev.dmg
/dev/disk5   /Volumes/NetWorker-dev
```

3. Change to the directory that contains the NetWorker installation package.

For example:

```
cd /Volumes/NetWorker-dev
```

4. As a sudo user, use the **installer-pkg** program to install the NetWorker software.

For example:

```
$ sudo /usr/sbin/installer -pkg /Volumes/NetWorker-dev/NetWorker.pkg
-target / Password:*****
```

```
installer: Package name is NetWorker Client
installer: Installing at base path /
installer: The install was successful.
```

Verifying the software installation

To verify that the NetWorker client software installed correctly, ensure the nsrexecd daemon is running.

Confirm the nsrexecd daemon starts, in one of the following ways:

- ◆ Use the **Mac OS X Activity Monitor** application to confirm that the NetWorker client daemon, **nsrexecd** is active on the host.
- ◆ From a terminal window, type:

```
ps -ef | grep -i nsr
```

If the **nsrexecd** daemon did not start, as a sudo user, start the daemon from a terminal window.

For example:

```
$sudo /bin/launchctl start com.emc.NetWorker
```

Uninstalling the NetWorker software on Mac OS-X

Uninstall the NetWorker software from a system prompt.

To uninstall the NetWorker software:

1. Ensure that the NetWorker Recovery application is not running.
2. From a terminal window, type the following command:

```
$sudo /usr/sbin/NetWorkerUninstall
```

CHAPTER 9

Solaris Installation

This chapter includes these sections:

- ◆ [Installing NetWorker on Solaris](#) 100
- ◆ [Installing Console server on Solaris.....](#) 105
- ◆ [Uninstalling the NetWorker and Console server on Solaris](#) 108

Installing NetWorker on Solaris

Before installing the NetWorker software, review the following sections:

- ◆ [“Installation roadmap” on page 14](#)
- ◆ [“Software Requirements” on page 25](#)

Complete these tasks to install the NetWorker software:

- ◆ [“Reviewing the NetWorker requirements for Solaris” on page 100](#)
- ◆ [“Changing the default directories” on page 102](#)
- ◆ [“Installing NetWorker packages on Solaris” on page 103](#)

Reviewing the NetWorker requirements for Solaris

Before you install NetWorker on Solaris, review the software requirements for Solaris 10 and Solaris zone support:

- ◆ [“Package disk space requirements” on page 100](#)
- ◆ [“Solaris 10 requirements” on page 100](#)
- ◆ [“Solaris zone requirements” on page 101](#)

Package disk space requirements

Download the NetWorker software package from the EMC Online Support Site and extract the packages to a temporary location on the target host.

Ensure that there is sufficient disk space on the host to contain both the compressed NetWorker software package and the fully uncompressed files.

[Table 21 on page 100](#) provides a list of NetWorker packages and the compressed and uncompressed file sizes.

Table 21 Size of compressed and uncompressed files

Operating system	Compressed file	Uncompressed file
Solaris x86	74 MB	362 MB
Solaris x86-64	406 MB	1.1 GB
Solaris AMD	287 MB	1.2 GB

Solaris 10 requirements

Review these requirements before you install NetWorker on Solaris 10.

- ◆ Disable **TCP Fusion** on each Solaris 10 NetWorker server and storage node.
 - a. Add the following line, to the `/etc/system` file:


```
set ip:do_tcp_fusion = 0
```
 - b. Restart the host.
- ◆ For a storage node in a Solaris 10 whole root zone, ensure that:
 - All devices are in a single NetWorker datazone.
 - All storage nodes are running Solaris 10 update 5 or later, to provide shared SCSI command support.

The *Configuring Tape Devices for EMC NetWorker* Technical Note, available on the EMC Online Support Site describes how to configure devices in a whole root zone.

- ◆ Install the operating system patches required for each architecture.

Before installing the required operating system patches, consider the following:

- Some Sun patches might have dependencies on other Sun patches. Ensure that the host meets all dependencies before applying the patch.
- The Sun patches detailed below specify the patch version that first contained the fix. Over time, these Sun patches might become obsolete and replaced with a newer patch revision. In these instances, install the latest patch revision. The SunSolve web site provides detailed information about patch dependencies and download information.

[Table 22 on page 101](#) provides a summary of architecture specific patch requirements.

Table 22 Solaris 10 Sun patch requirements

Architecture	Required Patch	Reason
x86/Sparc	<ul style="list-style-type: none"> • Sun patch 142900-03 or later on Sparc. 	To avoid shared memory corruption which can cause possible hangs or failures of the NetWorker daemons on a NetWorker server.
Z86/Sparc	<ul style="list-style-type: none"> • Sun patch 102712-01 or later on Sparc. • Sun patch 102711-01 or later on x86. 	<p>Backups of large save sets may fail on Solaris 10 systems if an Intel Gigabit Ethernet card, e1000g driver is used.</p> <p>Note: Solaris 10 update 4 and later includes this patch.</p>

Solaris zone requirements

NetWorker supports global, a whole root, and a sparse root zone configurations.

Before you install NetWorker in a Solaris zone, review this information:

- ◆ [“Sparse root zone requirements” on page 101](#)
- ◆ [“Global zone requirements” on page 101](#)
- ◆ [“Whole root zone considerations” on page 102](#)

Sparse root zone requirements

A NetWorker client supports sparse root zones on Solaris 10. Before you install the NetWorker client software in each sparse root zone, install the same version of the NetWorker software in the global zone. You must create a client instance for the global zone and each sparse root zone. The *NetWorker Administration Guide* describes how to create a NetWorker client.

Global zone requirements

The NetWorker server, storage node including a dedicated storage node, and client software support a Solaris global zone.

Special ALL save sets are available to back up a global zone client when you install NetWorker in the global zone. “Using the save set all to back up particular file systems” in the *NetWorker Administration Guide* describes when to use the special ALL save sets.

Whole root zone considerations

The NetWorker server, storage node including a dedicated storage node, and client software support a Solaris whole root zone. When you install NetWorker a whole root zone, the NetWorker software is not required in the global zone. The NetWorker server software is not supported in a clustered Solaris whole root zone.

Changing the default directories

This section describes the installation location of the NetWorker software and the disk space requirements.

The NetWorker binaries are installed in the `/usr/sbin` directory and cannot be relocated.

The NetWorker configuration, logs, and database files are located in the `/nsr` directory. To change this location, create a symbolic link from the new directory to the `/nsr` directory.

For example:

1. Create another directory, on a disk with sufficient space:

```
mkdir /disk2/nsr
```

2. Link this directory to the `/nsr` directory:

```
ln -s /disk2/nsr /nsr
```

Before installing the NetWorker software, ensure that:

- ◆ The PATH variable for the root and user accounts contains the `/usr/sbin` directory.
- ◆ There is sufficient disk space to install the NetWorker files in the default location. [Table 23 on page 102](#) specifies the default location and space requirements for the NetWorker software on a Solaris host.

Table 23 Default file locations and space requirements for Solaris (page 1 of 2)

NetWorker Package	Location	Space		
		Solaris x86	Solaris x64	Solaris AMD 64
Client (LGTOfclnt)	<code>/opt/nsr</code>	11 MB	11 MB	11 MB
	<code>/usr/openwin</code>	8 KB	8 KB	8 KB
	<code>/usr/bin</code>	30 MB	66 MB	50 MB
	<code>/usr/sbin</code>	74 MB	143 MB	122 MB
	<code>/usr/lib/nsr</code>	12 MB	87 MB	79 MB
Storage node (LGTOnode)	<code>/usr/sbin</code>	n/a	135 MB	102 MB
	<code>/usr/lib/nsr</code>		21 MB	15 MB
Server (LGTOfserv)	<code>/usr/sbin</code>	n/a	135 MB	103 MB
	<code>/usr/lib/nsr</code>		72 KB	72 KB
Man pages (LGTOfman)	<code>/share/man</code>	2.3 MB	2.2 MB	2.2 MB
French Language Pack (LGTOfr)	<code>/opt/nsr</code>	2.7 MB	5.7 MB	5.7 MB
	<code>/usr/lib</code>	32 KB	32 KB	32 KB
	<code>/usr/sbin</code>	8 KB	8 KB	8 KB
	<code>/share/man</code>	2.3 MB	2.3 MB	2.3 MB

Table 23 Default file locations and space requirements for Solaris (page 2 of 2)

NetWorker Package	Location	Space		
		Solaris x86	Solaris x64	Solaris AMD 64
Japanese Language Pack (LGT0ja)	/opt/nsr	3.2 MB	6.8 MB	6.8 MB
	/usr/lib	40 KB	40 KB	40 KB
	/usr/sbin	8 KB	8 KB	8 KB
	/share/man	2.2 MB	2.2 MB	2.2 MB
Korean Language Pack (LGT0ko)	/opt/nsr	2.8 MB	6.0 MB	6.0 MB
	/usr/lib	32 KB	32 KB	32 KB
	/usr/sbin	8 KB	8 KB	8 KB
	/share/man	2.1 MB	2.1 MB	2.1 MB
Simplified Chinese Language Pack (LGT0zh)	/opt/nsr	2.1 MB	5.7 MB	5.7 MB
	/usr/lib	24 KB	24 KB	24 KB
	/usr/sbin	8 KB	8 KB	8 KB
	/share/man	1.9 MB	1.9 MB	1.9 MB
Client file index, media database, resource database	/nsr	varies	varies	varies

Installing NetWorker packages on Solaris

This section describes how to install the client, storage node and server software packages as well as optional packages, for example, the man pages and language packs.

To install the NetWorker software on a Solaris host:

1. Log in to the target host as root.
2. Create a backup copy of the **rpc.org** configuration file:

```
cp /etc/rpc /etc/rpc.org
```

3. Display the list of available installation packages:

```
pkgadd -d path_to_install_files
```

The following packages are available:

```
1 LGTOclnt      NetWorker Client
2 LGTOfr       NetWorker French Language Pack
3 LGTOja       NetWorker Japanese Language Pack
4 LGTOko       NetWorker Korean Language Pack
5 LGTOlicm     NetWorker License Manager
6 LGTOman      NetWorker Man Pages
7 LGTOnmc     NetWorker Management Console
8 LGTOnode     NetWorker Storage Node
9 LGTOserv     NetWorker Server
10 LGTOzh      NetWorker Chinese Language Pack
```

```
Select package(s) you wish to process (or 'all' to process all
packages). (default: all) [?,??,q]:
```

4. Specify the package numbers that are required for the installation type. When installing the NetWorker server and storage node software, the package order is important.

For example:

- For a NetWorker Client installation, type: 1
- For a NetWorker Storage node installation, type: 1,8
- For a NetWorker server installation, type: 1, 8, 9

Optional packages including the language packs and the man pages are specified in the **Select package** prompt by adding the associated package number after the minimum packages required for the installation type.

For example:

To install the man pages during a NetWorker server install, type: 1, 8, 9, 6

5. When prompted to change the data directory, choose one of the following:
 - Accept the default directory.
 - Specify the directory created in [“Changing the default directories” on page 102](#)
6. The installation prompts you to specify the NetWorker server that can access the host. To update the list:
 - a. Type **y**.
 - b. Specify the shortname and FQDN for each NetWorker server, one per line, that requires access to the NetWorker host. The first entry in this file becomes the default NetWorker server.

When all of the NetWorker servers are specified, press **Enter** without specifying a NetWorker server name, to complete the process.

For example:

```
Enter a NetWorker server hostname [no more]: mynwserver
Enter a NetWorker server hostname [no more]: mynwserver.emc.com
Enter a NetWorker server hostname [no more]:
```

NOTICE

When no servers are specified, any NetWorker server can back up or perform a directed recovery to the host.

7. After the client package installation completes, additional packages are installed automatically. It is not necessary to start the daemons after each package install:
 - If the installation type is a NetWorker server, then start the daemons when prompted during the LGTOserv package installation.
 - If the installation type is a NetWorker storage, then start the daemons when prompted during the LGTONode package installation.

8. During a NetWorker server upgrade only, stop the NetWorker daemons and start them again.

For example:

```
nsr_shutdown  
/etc/init.d/networker start
```

9. To confirm that the NetWorker daemons started successfully, type:

```
ps -ef | grep nsr
```

“[NetWorker daemons](#)” on [page 22](#) provides a list of the daemons that start for each installation type.

Installing Console server on Solaris

To manage the NetWorker server, install the Console server software on one host in the datazone.

- ◆ [“Reviewing the Console server requirements” on page 105](#)
- ◆ [“Reviewing the Console server requirements” on page 105](#)

Reviewing the Console server requirements

Review this section before you install the Console server package.

- ◆ The Console server software supports:
 - SolarisAMD64: Solaris 10 & 11
 - Solaris SPARC (64-bit): Solaris 10 & 11

The *EMC NetWorker Software Compatibility Guide* on the EMC Online Support Site provides the most up to date information on supported Console server operating systems.
- ◆ For Solaris 11 only, the Console server requires the ucb library. Ensure that the ucb package is installed on a Solaris 11 server.

To determine if the **ucb** package is installed, type:

```
pkg info | grep ucb
```

To install the **ucb** package, type:

```
pkg install compatibility/ucb
```

- ◆ When a Solaris 10 Console server is also the NetWorker server, the **nsrexecd** daemon might fail to restart with a socket binding error. To resolve this issue, install patch **147440-04** or later for SPARC.

To determine if the patch is applied, type:

```
showrev -p | grep 147440
```

- ◆ Ensure that there is sufficient disk space to install the Console server software files. [Table 24 on page 106](#) specifies the default location and space requirements for the Console server software on a Solaris host.

Table 24 Solaris Console server default file locations and space requirements

NetWorker Package	Location	Space		
		Solaris x86	Solaris x64	Solaris AMD 64
Console server (LGTOnmc)	/opt/LGTOnmc	n/a	218 MB	230 MB

Installing the Console server software

Perform these steps as root.

1. For Solaris 10 and later, set the environment variable **NONABI_SCRIPTS** to **TRUE**:

```
NONABI_SCRIPTS=TRUE
export NONABI_SCRIPTS
```

2. If the NetWorker client software is installed on the host:

- Confirm that the **nsrexecd** daemon is running:

```
ps -ef | grep nsr
```

- If the **nsrexecd** daemon is not running, type:

```
/etc/init.d/networker start
```

3. Navigate to the directory that contains the extracted Console server package and display the list of available NetWorker packages:

```
pkgadd -d path_to_install_files
```

The following packages are available:

```
1 LGTOclnt      NetWorker Client
2 LGTOfr       NetWorker French Language Pack
3 LGTOja       NetWorker Japanese Language Pack
4 LGTOko       NetWorker Korean Language Pack
5 LGTOlicm     NetWorker License Manager
6 LGTOman      NetWorker Man Pages
7 LGTOnc       NetWorker Management Console
8 LGTOnode     NetWorker Storage Node
9 LGTOserv     NetWorker Server
10 LGTOzh      NetWorker Chinese Language Pack
```

Select package(s) you wish to process (or 'all' to process all packages). (default: all) [?,??,q]:

4. At the **Select packages** prompt:

- If the NetWorker client software was not previously installed, type: **1, 7**.
- If the NetWorker client software is installed, type **7**.

5. Specify the directory to install the **LGTONmc** package.

For example:

/opt/LGTONmc

6. Specify a non-root user/group with limited privileges. The Console server uses this user/group to run the web server. For example, use the default user/group [nobody/nobody].

For example, use the default user/group **[nobody/nobody]**.

7. For the web server port number, use the default port number (**9000**) or use a custom port number. Valid port numbers are between **1024** and **49151**.
8. For the Console server, use the default port number (**9001**) or use a custom port number. Valid port numbers are between **1024** and **49151**.

NOTICE

Do *not* use port numbers that are already in use. For example, the Console server uses port **2638** for TDS protocol communications with the Console database. The preferred port for EMC Data Protection Advisor product is **9002**.

9. Specify the directory to use for the **LGTONmc** database.

For example:

/opt/LGTONmc/lgto_gstdb

10. If the installation process detects an existing database, type **y** to retain the existing database when prompted.
11. If the installation process detects a NetWorker 7.6.x Console server database:
 - a. To proceed with the installation and Console server database conversion, type **y**.
 - b. Specify the location to store the database backup file, for example:

/opt/LGTONmc/lgto_gstdb

If the conversion fails, the following error message appears:

```
Install failed to upgrade the database <full path and database name>. Check the upgrade log <full path and log name file> for details.
```

```
Please, fix any environment related errors mentioned in the log and then run the script <full path to gstdbupgrade.sh>
```

```
manually to upgrade the database after the install is complete.
```

12. Specify the location of the NetWorker binaries.

For example:

/usr/sbin

13. When prompted to start the Console server daemons:

- If the database conversion succeeds, type **y**.
- If the database conversion encountered errors, type **n**.

[“Reviewing the Console server database conversion status” on page 47](#) describes how to determine the cause of the conversion failure and the steps to convert the database.

14. To proceed with the installation of the Console server package, type **y**.
15. Update the **MANPATH** variable for the Console server man pages.

For example:

```
MANPATH=$MANPATH:/opt/LGTONmc/man
export MANPATH
```

16. [“Connecting to the Console server GUI for the first time” on page 132](#) describes how to connect to the Console server for the first time.

Uninstalling the NetWorker and Console server on Solaris

The following section describes how to uninstall the NetWorker and Console server software from a Solaris host.

When removing the NetWorker software packages in a sparse root zone, remove the NetWorker software packages from all sparse root zones first, then remove the NetWorker software packages from the global zone.

To uninstall the NetWorker software:

1. Shutdown the NetWorker daemons when there are no backups and recoveries running:

```
nsr_shutdown
/etc/init.d/gst stop
```

2. Confirm that the NetWorker and Console server daemons stopped:

```
ps -ef | grep nsr
ps -ef | grep gst
```

3. Determine which packages to remove:

```
pkginfo -i | grep LGTO
```

4. Remove each LGTO packages listed in the **pkginfo** output, in the following order. Exclude packages not listed in the **pkginfo** command:

```
pkgrm LGTOlicm LGTOserv LGTONode LGTONmc LGTOclnt LGTOman LGTOfr
LGTOja LGTOko LGTOzh
```

[Table 25 on page 108](#) provides a list of the package names associated with the different NetWorker software packages.

Table 25 NetWorker packages on Solaris (page 1 of 2)

Component	Package name
Server	LGTOserv
Storage node	LGTONode
Console server	LGTONmc
NetWorker License Manager	LGTOlicm

Table 25 NetWorker packages on Solaris (page 2 of 2)

Component	Package name
Client	LGTOclnt
Man pages	LGTOman
French language support	LGTOfr
Japanese language support	LGTOja
Korean	LGTOko
Simplified Chinese language support	LGTOzh

5. Type **y** to confirm the package removal.
6. Type **y** to continue with the package removal.
7. Repeat these last two steps for each package.

When removing the NetWorker client software package in a sparse root zone, the removal process may:

- Report that the uninstall cannot remove files, for example:

```
pkgrm: ERROR: unable to remove </usr/lib/nsr/product.res>
```

- Report a partial failure, for example:

```
Removal of <LGTOclnt> partially failed.
```

To completely remove the NetWorker client software packages in a sparse root zone, use the **pkgrm** program a second time on remove each failed package.

8. If there is no plan to update or reinstall the software packages:
 - a. Remove the **/nsr** directory.
 - b. Delete the Console server directory. By default, this directory is **/opt/LGTONmc**.
 - c.
9. If Java Runtime Environment is no longer required, uninstall the JRE software package.

CHAPTER 10

Microsoft Windows Installation

This chapter includes these sections:

- ◆ Installing NetWorker and Console software on Windows 112
- ◆ Installing the NetWorker and Console server on Windows 2008 Server Core 119
- ◆ Installing additional components 119
- ◆ Performing a silent install..... 124
- ◆ Uninstalling the NetWorker and Console server on Windows..... 125
- ◆ Using SMS to install or uninstall the NetWorker software 128

Installing NetWorker and Console software on Windows

This section describes the requirements and tasks for installing the NetWorker and the Console server software on Windows. The installer provides the ability to install both applications simultaneously.

Before installing the NetWorker software, review the following sections:

- ◆ [“Installation roadmap” on page 14](#)
- ◆ [“Software Requirements” on page 25](#)

Complete these tasks to install the NetWorker software:

- ◆ [“Reviewing the NetWorker software requirements” on page 112](#)
- ◆ [“Installing the NetWorker software” on page 114](#)
- ◆ [“Adjusting antivirus software settings” on page 118](#)

Reviewing the NetWorker software requirements

Review the information in this section before you install NetWorker on the Windows 2008, or the Windows 2003 operating systems.

- ◆ [“General considerations” on page 112](#)
- ◆ [“Package disk space requirements” on page 112](#)
- ◆ [“Location and disk space requirements” on page 113](#)
- ◆ [“Windows 2012 considerations” on page 113](#)
- ◆ [“Windows 2008 requirements” on page 113](#)
- ◆ [“Windows 2003 Considerations” on page 114](#)
- ◆ [“NetWorker server and storage node tape device requirements” on page 114](#)

General considerations

Consider the following before installing the NetWorker 8.1.x software on a Windows host:

- ◆ You cannot recover backups performed by using NetWorker 8.1.x to a pre-NetWorker 8.1 client.
- ◆ When the NetWorker software is installed on a File Allocation Table (FAT) partition, do not disable long name support.
- ◆ InstallShield stores the entire installation program in memory, even to install a single NetWorker software component.
- ◆ Install the latest Microsoft Windows update and critical patches.

Package disk space requirements

Download the NetWorker software package from the *EMC Online Support Site* and extract the packages to a temporary location on the target host.

Ensure that there is sufficient disk space on the host to contain both the compressed NetWorker software package and the fully uncompressed files.

[Table 26 on page 113](#) provides a list of NetWorker packages and the compressed and uncompressed file sizes.

Table 26 Size of compressed and uncompressed files

Operating system	Compressed file	Uncompressed file
Windows x64	212 MB	213 MB
Windows x86	101 MB	102 MB

Location and disk space requirements

Before installing the NetWorker software, review the disk space and location requirements. [Table 27 on page 113](#) specifies the default location and space requirements for the NetWorker software in a Microsoft Windows environment.

Table 27 Microsoft Windows default file locations and space requirements

NetWorker files	Location	Space	
		x86	x64
Client files	Program Files\EMC NetWorker\nsr	264 MB	383 MB
Console	Program Files\EMC NetWorker\Management	n/a	148 MB
Storage node	Program Files\EMC NetWorker\nsr	n/a	319 MB
Server	Program Files\EMC NetWorker\nsr	n/a	439 MB
Client file index, media database and resource database files	Program Files\EMC NetWorker\nsr\index Program Files\EMC NetWorker\nsr\mm Program Files\EMC NetWorker\nsr\res	varies	varies

The *EMC NetWorker Software Compatibility Guide* on the EMC Online Support Site provides the most up to date information on supported operating systems.

Windows 2012 considerations

The NetWorker server, storage node, and client software does not support Windows 2012 R2 Foundation Edition as a guest operating system on Hyper-V.

<http://technet.microsoft.com/en-us/library/jj679892.aspx> provides more information.

Windows 2008 requirements

Review these requirements before you install the NetWorker 8.1 and later software on a Windows 2008 and Windows 2008 R2 server:

- ◆ NetWorker 8.1 and later supports Windows 2008 64-bit and Windows 2008 R2 64-bit as a NetWorker server, storage node, and client. NetWorker 8.1 and later supports a Windows 2008 32-bit storage node and client.
- ◆ Use NetWorker Module for Microsoft Applications to backup Hyper-V hosts.
- ◆ Enable Windows Error Reporting (WER).

WER replaces the Dr Watson user dumps used in earlier releases of Windows and provides the ability to collect full User-Mode Dumps after an application crash. MSDN describes how to configure WER to collect User-Mode Dumps.

- ◆ The Microsoft Visual C++ 2005 Redistributable software (vcredist_x64.exe and vcredist_x86.exe) is included with the x64 and x86 NetWorker packages. During the NetWorker software installation process, the Microsoft Visual C++ 2005 Redistributable software is installed. Do not remove the Microsoft Visual C++ 2005 Redistributable software.
- ◆ Enable Data Execution Prevention to protect essential Windows programs and services:
 - a. Navigate to **Start > Control Panel > System and Security > System > Advanced system settings**.
 - b. Select **Advanced > Performance > Settings > Data Execution Prevention**.
 - c. Select **Turn on DEP for essential Windows programs and services only**.
 - d. Click **OK**.

Windows 2003 Considerations

Review the following considerations and recommendations before installing the NetWorker 8.1 software on Windows 2003:

- NetWorker 8.0 and later, only supports Windows 2003 as a NetWorker client.
The *EMC NetWorker Software Compatibility Guide* on the EMC Online Support Site provides the most up to date information on supported operating systems.
- The minimum recommended service pack version on Windows 2003 is SP2.
- Install the VSS roll up package. This package prevents some VSS snapshot issues. Microsoft kb article 940349 provides detailed information.
- During parallel backups of a client, VSS backups might fail. Microsoft kb article 975928 provides detailed information.
- When VSS tracing is enabled on Windows 2003 backups might fail in some situations. Microsoft kb article 951568 provides detailed information.
- Windows 2003 x64 servers require a Microsoft hot fix to support the backup and restore of MSDE VSS writers. Microsoft kb article 913100 provides detailed information.

NetWorker server and storage node tape device requirements

When SAN tape devices are configured on a Windows NetWorker server or a storage node, disable Test Unit Ready (TUR). Microsoft kb article 842411 describes how to disable TUR.

Installing the NetWorker software

This section explains how to install the client, the storage node, and the server software as well as the optional NetWorker software packages such as the Console server software and the language packages.

To install the NetWorker software packages and the optional NetWorker software packages on a Microsoft Windows host:

1. Log in to the target host with a user that has administrator privileges.
2. In the directory that contains the extracted NetWorker software, click **autorun.exe**.

- a. Select **Install EMC NetWorker 8.1.1 software**.
 - b. If a Windows security warning appears, click **Run**.
 - c. If you receive a warning message asking you trust running EMC components, then click **Yes**.
3. On the **Choose Setup Language** window, select a language and click **OK**.
 4. On the **Welcome to NetWorker Installation** window, click **Next**.
 5. On the **Customer Information** window, fill in the appropriate information, click **Next**.
 6. On the **Windows Firewall** window, select **Configure the Windows firewall**, click **Next**.

NOTICE

If you do not configure the firewall to allow inbound and outbound NetWorker software traffic, scheduled backups might fail.

7. On the **Installation Type** window, select the NetWorker software packages you want to install. [Table 28 on page 115](#) provides a description of the NetWorker software that is installed with each selection.

Table 28 Available NetWorker software packages on Windows

Selection	Description
Client	Installs the NetWorker client software package. Choose this component when the target host is a NetWorker client. “NetWorker client” on page 18 provides more information to review before you install the Client software.
Storage Node	Installs the NetWorker client and the storage node software packages. Choose this component when the target host is a NetWorker storage node. “NetWorker storage node” on page 18 provides more information to review before you install the Storage Node software.
Server and Client	Installs the NetWorker server, the storage node and the client software packages. Choose this installation type when the target host is a NetWorker server. “NetWorker server” on page 19 provides more information to review before you install the NetWorker server software.
NetWorker Management Console	Installs the Console server software. Choose this component to install the Console server software. The Console server software installation process starts automatically, after the NetWorker software installation completes. “NetWorker Management Console server” on page 20 provides more information to review before you install the Console server software.
Language Packs	Install additional language packs. During the NetWorker software installation, optional language packs are selected and installed.
NetWorker License Manager	Installs the License Manager server software. Choose this option when the target host is the License Manager server. Do not install NetWorker License Manager on a NetWorker server During the NetWorker software installation, the License Manager software is installed. <i>The NetWorker License Manager 9th Edition Installation and Administration Guide</i> , available on http://support.emc.com describes how to install and configure the NetWorker License manager software.

8. Click **Next** to accept the default installation location.

NOTICE

To install the NetWorker software in a location other than the default location, click **Change** then specify the installation path.

9. If the optional **Language Packs** component was selected previously, the **Feature Selection** window appears.

On the **Feature Selection** window:

- a. Select the required language packs.
- b. Select **This feature will be installed on local hard drive**, and click **Next**.

NOTICE

The English language pack is required and the selection cannot be cleared

10. On the **Ready to Install the Program** window, review the settings and click **Install**.

11. If the NetWorker server and client installation type was selected previously, the **License Agreement** window appears.

On the **License Agreement** window:

- a. Review the license agreement.
- b. Select **I accept the terms in this license agreement**, and click **Next**.

12. On the **NetWorker Server Selection** window, specify the NetWorker servers that will perform backups and directed recoveries on this host.

Consider the following:

- When you do not specify a server, you enable any NetWorker server to:
 - Backup this host.
 - Perform a directed recovery to this host.
- When adding NetWorker servers, specify both the short name and FQDN for each NetWorker server.
- The first name specified in the servers file becomes the default NetWorker server for the host.
- The NetWorker software stores the list of trusted NetWorker servers in the *NetWorker_installation_directory\res\servers* file.
- To add a NetWorker server that is not listed in the **Available Servers** list, type the name of the server in the **Enter a server name** text box, click **Add**.
- To browse for available NetWorker servers, click **Update List**. Select a NetWorker server from the **Available Servers** list.
- To add or remove NetWorker servers from the **Available Servers** list to the **Selected Servers** list, use the arrow buttons.

13. Click **Next**.

14. If the Console server software component was selected previously, the Console server installation launches. If the Console server component was not selected previously, proceed to [step 19](#).

To install the Console server software:

- a. On the **Welcome to NetWorker Management Console Installation** window, and click **Next**.
- b. On the **Customer Information** window, fill in the appropriate information, and click **Next**.
- c. On the **Product Setup** window, click **Next** to install the Console server software in the default directory.

To install the software in a different directory, click **Change** and specify a new location.

If the Console server database and configuration files were moved from a different Console server to this host, specify the location of the database and configuration files. [“For the Console server only, install the Console server software” on page 38](#) describes how to move the Console server database and configuration files to a new Console server.

NOTICE

If the **Setup** wizard detects that there is insufficient disk space to install the NetWorker software, another dialog box appears listing the local drives, and highlights the drive with insufficient disk space. The list also displays disk size, available space, and required space. Use this information to select an appropriate drive on which to install the software.

15. On the **Configuration Options** window, type the **Database Destination path**, the **IP port numbers** to use for the embedded HTTP server, and the **Client Service port**.

When doing this, consider the following:

- To change the default **Database Destination path**, select **Change**.
- To use the default port numbers, type **9000** for the HTTP server and **9001** for the Client Service port.
- To use different port numbers, type the new port numbers (between **1024** and **49151**).

NOTICE

Do *not* use port numbers that are already in use. For example: The Console server uses port **2638** for TDS protocol communications with the Console database. The preferred port for EMC Data Protection Advisor product is **9002**.

16. Click **Next**.
17. If the installation process detects an existing Console server database, then the **Customer Database Maintenance** window appears.

In the **Customer Database Maintenance** window, leave the default option **Keep the database** selected and click **Next**.

18. On the **NetWorker Management Console Setup Completed** window, clear **Launch the console client in the default browser immediately after exiting the InstallShield Wizard**, and click **Next**.
19. Optionally, on the **NetWorker setup complete** window, select **Run Change Journal Manager on exit**. The *NetWorker Administration Guide* describes how to configure the NetWorker software to use the **Windows Change Journal**.
20. Click **OK** to complete the install. If you performed a NetWorker server update from Control Panel:
 - Stop the **NetWorker Remote Exec** service. This will also stop the **NetWorker Backup and Recover** service and **EMC gstd** service.
 - Start the **NetWorker Backup and Recover** service. This will also start the **NetWorker Remote Exec** service. If the host is also the Console server, start the **EMC gstd** service.
21. Open **Task Manager** and ensure that the appropriate NetWorker daemons are started. [Table 3 on page 22](#) provides a list of the NetWorker daemons.
22. To manage and configure the NetWorker server, connect to the Console server. [“Using NetWorker for the first time” on page 128](#) provides more information.

Adjusting antivirus software settings

Undesirable behavior might occur if the antivirus software installed on a Windows host is not tuned for backup environments.

Configure the antivirus software to:

- ◆ Avoid scanning files that are opened for backup.

For example:

 - Clear **Opened for Backup** in the **Advanced Auto-Protect** option for Norton Antivirus.
 - Clear **Opened for Backup** in the **Scan Items** tab of McAfee’s **On-Access Scan Properties** window.
- ◆ Not monitor the following directories:
 - C:\Program Files\EMC or C:\Program files\Legato
 - C:\Program Files\EMC NetWorker\nsr\res or C:\Program Files\Legato\nsr\res
 - C:\Program Files\EMC NetWorker\nsr\mm or C:\Program Files\Legato\nsr\mm
 - C:\Program Files\EMC NetWorker\nsr\index or C:\Program Files\Legato\nsr\index
 - AFTD directories

Installing the NetWorker and Console server on Windows 2008 Server Core

This section describes how to install the NetWorker and Console server software on a Windows Server Core host.

NOTICE

The Console client GUI is not supported on the Windows 2008 Server Core. You can install the Console server on a Windows 2008 Server Core host but you cannot launch the Console client to connect to the Console server.

To install the NetWorker software:

1. Run **setup.exe** from the appropriate subdirectory to which the NetWorker installation software was extracted:
 - On 32-bit hosts: ...**win_x86\networkr**
 - On 64-bit hosts: ...**win_x64\networkr**
 - On 64-bit Itanium hosts: ...**win_ia64\networkr**

NOTICE

Do not use **autorun.exe** to install NetWorker. The **autorun.exe** program requires **Windows Explorer** which is not available with a Windows core installation.

2. Following the installation steps beginning at [step 3 on page 115](#).

Installing additional components

This section describes how to install additional optional components after the initial NetWorker software installation:

- ◆ [“Installing the Console server software on an existing NetWorker host” on page 119](#)
- ◆ [“Installing additional language packs” on page 121](#)
- ◆ [“Changing the installation type” on page 122](#)

Installing the Console server software on an existing NetWorker host

After you install the NetWorker software on a host, you can add the NetWorker Console server software.

[“NetWorker Management Console server” on page 20](#) provides best practice information about the Console server.

To install the Console server software:

1. Log in to the target host with a local administrator user.
2. From **Control Panel**, select the appropriate program to install application software.
3. Select **NetWorker** and click **Change**.
4. On the **Windows Firewall** window, click **Configure the Windows firewall**, and click **Next**.
5. On the **Install Type** window, click **NetWorker Management Console**, and click **Next**.

6. On the **Ready to Change** window, click **Change**.
7. On the **NetWorker Server Selection** window, specify the shortname and FDQN for each NetWorker server, one per line, that require access to the NetWorker host. The first entry becomes the default NetWorker server.
 - To add a NetWorker server that is not listed in the **Available Servers** list, type the name of the server in the **Enter a server name** text box, click **Add**.
 - To browse for available NetWorker servers, click **Update List**. Select a NetWorker server from the **Available Servers** list.
 - To add or remove NetWorker servers from the **Available Servers** list to the **Selected Servers** list, use the arrow buttons.

NOTICE

The list of trusted NetWorker servers is stored in the *NetWorker_installation_directory*\res\servers file. When no servers are specified, any NetWorker server can back up or perform a directed recovery to the host.

8. On the **Welcome to NetWorker Management Console Installation** window, click **Next**.
9. On the **Customer Information** window, fill in the appropriate information, and click **Next**.
10. On the **Product Setup** window, click **Next** to install the Console server software in the default directory.

To install the software in a different directory, click **Change** and specify a new location.

If the Console server database and configuration files were moved from a different Console server to this host, specify the location of the database and configuration files. [“For the Console server only, install the Console server software” on page 38](#) describes how to move the Console server database and configuration files to a new Console server.

NOTICE

If the **Setup** wizard detects that there is insufficient disk space to install the NetWorker software, another dialog box appears listing the local drives, and highlights the drive with insufficient disk space. The list also displays disk size, available space, and required space. Use this information to select an appropriate drive on which to install the software.

11. On the **Configuration Options** window, type the **Database Destination path**, the IP port numbers to use for the embedded HTTP server, and the **Client Service** port.

When doing this, consider the following:

- To change the default database path, select **Change**. If the Console server database was migrated to this host from another Console server, ensure that the default database path matches the location the files were copied to.
- To use the default port numbers, type **9000** for the HTTP server and **9001** for the Client Service port.
- To use different port numbers, type the new port numbers (between **1024** and **49151**).

NOTICE

Port **2638** is reserved by the Console server software for TDS protocol communications with the Console server database. Port **9002** is the preferred port for EMC Data Protection Advisor product.

12. Click **Next**.
13. Review the information in the **Product Configuration Summary** window and click **Next**.
14. On the **Ready to Install the Program** window, click **Install**.

When the Console server software is updated from a version prior to 8.0 and the database conversion fails:

- The following error message is displayed:

```
Install failed to upgrade the database full path and database name. Check the upgrade log full path and log name file for details.
```

```
Please, fix any environment related errors mentioned in the log and then run the script full path to gstdbupgrade.sh manually to upgrade the database after the install is complete.
```

- The NetWorker and Console server software installation fails. The software is rolled back to the previous version of the NetWorker and Console server software.

[“Reviewing the Console server database conversion status” on page 47](#) describes how to determine the cause of the conversion failure and the steps to convert the database after the software install has completed.

15. On the **NetWorker Management Console Setup Completed** window, clear **Launch the console client in the default browser immediately after exiting the InstallShield Wizard**, and click **Next**.

The **NetWorker Management Console Setup Completed** window provides:

- The location of the install.log file.
- The location of the gstd.raw file.
- The browser URL to specify in a browser window to access the Console server GUI from any desktop.

16. Optionally, on the **NetWorker setup complete** window, select **Run Change Journal Manager on exit**. The *NetWorker Administration Guide* describes how to configure the NetWorker software to use the Windows Change Journal.

17. Click **OK** to complete the install.

18. Open **Task Manager** and ensure that the appropriate NetWorker daemons are started.

[Table 3 on page 22](#) provides a list of the NetWorker daemons.

Installing additional language packs

1. Log in to the target host with a local administrator user.
2. From **Control Panel**, select the appropriate program to install the application software.
3. Select **NetWorker** and click **Change**.

4. On the **Welcome to NetWorker Maintenance** window and click **Next**.
5. On the **Maintenance Type** window, select **Change** and click **Next**.
6. Click **Configure the Windows firewall** and click **Next**.
7. Click **Language Packs** and click **Next**.
8. On the **Feature Selection** window, select the required language packs, select **This feature will be installed on local hard drive** and click **Next**.
The English language pack is required and cannot be unselected.
9. In the **Ready to Change** window, review the settings and click **Change**.
10. On the **NetWorker Server Selection** window, specify the short name and FQDN of each NetWorker servers that will perform backups and directed recoveries on this host:
 - To add a NetWorker server that does not appear in the **Available Servers** list, type the name of the server in **Enter a server name**, click **Add**.

NOTICE

The first name specified in the servers file becomes the default NetWorker server for the host.

- To browse for available NetWorker servers, click **Update List**. Select a NetWorker server from the **Available Servers** list.
- To add or remove NetWorker servers from the **Available Servers** list to the **Selected Servers** list, use the arrow buttons.

NOTICE

If you do not specify a NetWorker server, any NetWorker server can backup this host and perform a directed recovery of this host. The list of trusted NetWorker servers is stored in the *NetWorker_installation_directory*\res\servers file.

11. Click **Next**.
12. Click **OK** to complete the install.

Changing the installation type

A host set up as a NetWorker client, NetWorker server, or NetWorker storage node can be changed to another type.

This section describes how to change the installation type from:

- ◆ A NetWorker client to a NetWorker storage node.
- ◆ A NetWorker client to a NetWorker server.
- ◆ A NetWorker server to a NetWorker client.
- ◆ A NetWorker server to a NetWorker storage node.
- ◆ A NetWorker storage node to a NetWorker server.
- ◆ A NetWorker storage node to a NetWorker client.

Changing the installation type

1. Log in to the target host with a local administrator user.
2. From **Control Panel**, select the appropriate program to install application software.
3. Select **NetWorker** and click **Change**.
4. On the **Welcome to NetWorker Maintenance** window and click **Next**.
5. On the **Maintenance Type** window, select **Change** and click **Next**.
6. On the **Windows Firewall** windows, click **Configure the Windows firewall** and click **Next**.
7. On the **Installation Type** windows, choose an **Installation Type** and click **Next**.
8. On the **Ready to Change** window, click **Change**.
9. On the **NetWorker Server Selection** window, specify the NetWorker servers that will perform backups and directed recoveries on this host:
 - To add a NetWorker server that is not listed in the **Available Servers** list, type the name of the server in the **Enter a server name** text box, click **Add**.
 - To browse for available NetWorker servers, click **Update List**. Select a NetWorker server from the **Available Servers** list.
 - To add or remove NetWorker servers from the **Available Servers** list to the **Selected Servers** list, use the arrow buttons.

Consider the following:

- When no servers are specified, any NetWorker server can back up this host.
 - When no servers are specified, any NetWorker server can perform a directed recovery to this host.
 - When adding NetWorker servers, specify both the short name and FQDN for each NetWorker server.
 - The first name specified in the **servers** file becomes the default NetWorker server for the client.
 - The list of trusted NetWorker servers is stored in the *NetWorker_installation_directory\res\servers* file.
10. Click **Next**, then click **OK** to complete the install.

Installation Type Considerations:

After changing the installation type, complete the following tasks:

- ◆ When a NetWorker client or storage node is changed to a NetWorker server, ensure that the servers file for all of the NetWorker clients that will be backed up by the new NetWorker server is updated to reflect the new NetWorker server. The *NetWorker 8.0 SP1 Administration Guide* provides information on how to modify the servers file.
- ◆ When a NetWorker server is changed to a NetWorker client or storage node:
 - In the **Client Properties** window under the **Globals (1 of 2)** tab, update the **Server network Interface** attribute for each client configuration, as required, with the network interface of the new NetWorker server.

- Manually remove the following directories:
 - C:\Program Files\EMC NetWorker\nsr\mm
 - C:\Program Files\EMC NetWorker\nsr\index
 - C:\Program Files\EMC NetWorker\nsr\res\resdb
- ◆ When a NetWorker storage node is changed to a NetWorker client, modify the following resource attributes on the NetWorker server:
 - Remove the Media Pool device restrictions that are defined for devices on the storage node.
 - On the Devices window of NMC, remove all of the storage node devices.
 - On the Client Properties window, under the Globals (2 of 2) tab, update the following attributes for each client, as required:
 - Storage nodes
 - Recover storage nodes
 - On the Storage node properties window under the Configuration tab, update the Clone storage nodes attribute for all of the storage nodes, as required.

Performing a silent install

You can use the **setup.exe** program to perform a silent or unattended installation of the NetWorker storage node and client software.

1. From a command prompt, navigate to the **setup.exe** program in the directory where you extracted the NetWorker installation software.
2. Use the **setup.exe** command to install the software:

```
setup.exe /S /v" /qn /l*v filename.log INSTALLLEVEL=Type_of_Install  
NW_INSTALLLEVEL=Type_of_Install INSTALLDIR=directory  
NW_FIREWALL_CONFIG=[0/1] STARTSVC=[0/1] setuptype=Install"
```

where:

- *filename.log* is the name of the file to log installation messages. The installation process creates the log file in the same directory that you run **setup.exe**. When you omit */l*v filename.log*, the installation process does not log messages.
- *Type_of_install* specifies the level associated with the NetWorker installation type:
 - 100 is the install level for a client
 - 200 is the install level for a storage node
 - 300 is the install level for a server
- *directory* specifies the location to install the NetWorker software. Create this directory location before you run the silent install. When you omit **INSTALLDIR=directory**, the NetWorker software uses the default installation directory: C:\Program Files\EMC NetWorker\nsr.

- **NW_FIREWALL_CONFIG=[0/1]** determines whether or not the installation process configures firewall rules for NetWorker. To configure firewall rules, specify a value of 1. To instruct the installation process to not configure firewall rules, specify a value of 0. When you do not specify this option, the installation process defaults to a value of 0.
- **STARTSVC=[0/1]** determines whether or not the installation process starts the NetWorker services after the installation completes. To start the NetWorker services, specify a value of 1. To instruct the installation process to not start the NetWorker services, specify a value of 0. If you do not specify this option, the installation process defaults to a value of 0.

Uninstalling the NetWorker and Console server on Windows

This section describes how to uninstall the NetWorker and Console server software on supported Windows operating systems. It also provides instructions about how to uninstall the ConnectEMC software on Windows x86 hosts without removing the NetWorker client software.

- ◆ [“Uninstalling the NetWorker software” on page 125](#) describes how to uninstall the NetWorker and the Console server software.
- ◆ [“Performing a silent uninstall” on page 126](#) describes how to perform an unattended uninstall of the NetWorker client or storage node software.
- ◆ [“Uninstalling the NetWorker software on Windows 2008 Server Core” on page 126](#) describes how to uninstall the NetWorker software on Windows 2008 Server Core systems.

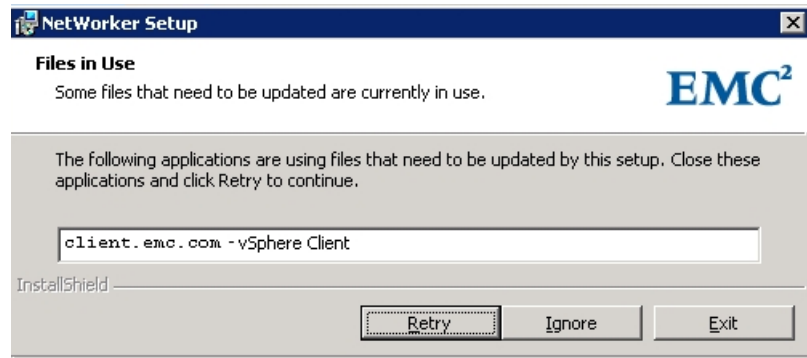
Uninstalling the NetWorker software

Use Control Panel to uninstall the NetWorker software, Console server software, and language pack software on a Windows host.

As the local administrator on the Windows host, perform the following steps to uninstall the NetWorker software packages:

1. Ensure that there are no programs, such as Windows Explorer, accessing the directories or the files in *NetWorker_install_path* directory. Prior to NetWorker 8.1, the default *NetWorker_install_path* is C:\Program Files\Legato.
2. From the Control Panel, select the appropriate program to uninstall application software.
 - When the host is the Console server, uninstall the Console server software package before the NetWorker software package:
 - Select **NetWorker Management Console** and click **Uninstall**.
 - Select **NetWorker Management Console Server** and click **Uninstall**.
 - Select **NetWorker** and click **Uninstall**. This will remove the NetWorker software and on x86 hosts, the ConnectEMC software.

- When the following window appears on a Windows systems with the vClient application running, click **Ignore**.



3. Optionally, remove the *NetWorker_install_path* directory. Do not remove the directory if the NetWorker or Console server software packages will be updated or reinstalled.
4. On all NetWorker console clients, delete the NetWorker Management Console desktop shortcut.

Performing a silent uninstall

Use the **msiexec.exe** program to perform a silent or unattended uninstall of the NetWorker client and storage node software.

1. From a command prompt, navigate to the folder that contains the **NetWorker.msi** file.

NOTICE

The **NetWorker.msi** file is in the *networkr* sub folder in the folder where you extracted the NetWorker installation software.

2. Use the **msiexec.exe** command to uninstall the software:

```
msiexec /quiet /uninstall "NetWorker"
```

Uninstalling the NetWorker software on Windows 2008 Server Core

Use one of the following methods to uninstall the NetWorker software from a Windows 2008 Server Core host:

- ◆ [“Uninstalling the NetWorker and Console server software by using setup.exe” on page 126](#) describes how to remove the NetWorker software when the NetWorker installation package is available.
- ◆ [“Uninstalling the NetWorker and Console server software by using wmic” on page 127](#) describes how to remove the NetWorker software when the NetWorker installation package is available.

Uninstalling the NetWorker and Console server software by using setup.exe

To uninstall the NetWorker and Console server software by using **setup.exe**:

1. From the *networkr* subdirectory in the temporary NetWorker installation directory, run **setup.exe**:

- On 32-bit hosts: ...\\win_x86\\networkr
 - On 64-bit hosts: ...\\win_x64\\networkr
 - On 64-bit Itanium hosts: ...\\win_ia64\\networkr
2. On the **Choose Setup Language** window, select a language and click **OK**.
 3. On the **Welcome to NetWorker Maintenance** window, click **Next**.
 4. On the **Maintenance Type** window, click **Remove** and click **Next**.

When **Maintenance Mode** is used to uninstall the NetWorker software on a system that has the Console server software installed, the Console server software is removed first, then the NetWorker software is removed.

5. In the **Ready to Remove** window, do not select the **Remove NetWorker Metadata** option.

During a NetWorker or Console server software update or a reinstallation of the software, this option should not be used.

By default, the **Remove NetWorker Metadata** checkbox is clear to ensure that all of the NetWorker configuration files (such as client file indexes, media database, logs, and resource files) are retained for a future installation of the NetWorker software package. When the **Remove NetWorker Metadata** checkbox is cleared, the following NetWorker files remain in the *NetWorker_installation_dir\\nsr* directory after the software is uninstalled:

- All log files
- All deduplication data
- All index entries
- All mm entries
- All res files
- All files in the `dir` directory
- All files in the debug directory

6. Click **Remove**, then click **Finish**.

Uninstalling the NetWorker and Console server software by using wmic

Use the Windows Management Instrumentation command-line utility, **wmic.exe** to uninstall the NetWorker software when the extracted NetWorker software package is not available on the Windows system.

To uninstall the NetWorker software by using the **wmic.exe** utility:

1. Log in to the Windows computer with a local administrator user and open a command prompt window.
2. When the host is a Console server, uninstall the Console server software before the NetWorker software:

```
c:\>wmic product where name="NetWorker Management Console Server"
uninstall
```

3. Review the output to confirm the uninstall is successful. The message **Method execution successful** indicates a successful uninstall.

For example:

```

Executing
(\\NW-host\ROOT\CIMV2:Win32_Product. IdentifyingNumber="{980A983E-16
0C-4FFD-890A-F4877066B679}",Name="NetWorker Management
 Console Server",Version="8.1.1")->Uninstall()
Method execution successful.
Out Parameters:
instance of __PARAMETERS
{
    ReturnValue = 0;
};

```

4. Uninstall the NetWorker software:

```
c:\>wmic product where name="NetWorker" uninstall
```

5. Review the output to confirm the uninstall is successful. The message **Method execution successful** indicates a successful uninstall.

For example:

```

Executing
(\\BV-TLCS\ROOT\CIMV2:Win32_Product. IdentifyingNumber="{74B15CCE-9
8DB-46F5-B634-5BE07C7FC85A}",Name="NetWorker",Version="
8.1.1")->Uninstall()
Method execution successful.
Out Parameters:
instance of __PARAMETERS
{
    ReturnValue = 0;
};

```

Detailed information about the **wmic.exe** utility is available in the Microsoft kb article 290216.

Using SMS to install or uninstall the NetWorker software

Use the Microsoft Systems Management Server (SMS) to perform a push installation and removal of the NetWorker software.

For best results, do not use a computer that is running the NetWorker server software as the SMS server host. Configure the SMS server software on a NetWorker client.

NOTICE

Refer to the Microsoft SMS documentation for detail information about how to perform SMS procedures, such as creating an installation package or deploying an installation job.

To use the SMS software to install or remove the NetWorker software:

1. Create a shared directory on a local disk on the SMS server.

For example, create a shared directory called networkr.

2. Copy all of the files from the appropriate directory on the NetWorker CD-ROM to the directory created in [step 1](#).

For example, copy all of the files from \win_x86\networkr on the CD-ROM to the networkr directory on the SMS server.

3. Use the SMS Administrator Console to create an installation package from the NetWorker.sms package definition file. The definition file is located in the networkr directory.

NOTICE

The NetWorker.sms file is intended to be used as starting point for a package definition. The Microsoft SMS documentation provides complete instructions on customizing the package definition for a specific environment.

4. Use the **SMS Administrator Console** to create an installation or uninstallation job for the package you created in [step 3](#) .
5. Deploy the installation or uninstallation job created in [step 4](#) .

CHAPTER 11

Verify the Installation

This chapter provides information about testing and verifying the NetWorker software installation. This chapter contains this section:

- ◆ [Using NetWorker for the first time.....](#) 132
- ◆ [Troubleshooting Console client connection issues.....](#) 136

Using NetWorker for the first time

This section describes how to connect to the Console server GUI, configure the Console server to manage a NetWorker server and verify that the NetWorker software can perform management and backup tasks.

To test the software:

- ◆ [“Connecting to the Console server GUI for the first time” on page 132](#)
- ◆ [“Changing the NetWorker servers with access to the host” on page 135](#)
- ◆ [“Starting the Console client after the first time” on page 136](#)

Connecting to the Console server GUI for the first time

The Console server is a Java web-based application that manages NetWorker server operations. A Console client is a host that connects to the Console server through a supported web browser, to display the Console server GUI.

These sections outline how to prepare the Console client and how to connect to the Console server GUI:

- ◆ [“Configuring the administrators list” on page 132](#)
- ◆ [“Enabling temporary internet file caching” on page 133](#)
- ◆ [“Ensuring required daemons are running” on page 133](#)
- ◆ [“Windows only, confirming JRE version” on page 134](#)
- ◆ [“Connecting to the Console server GUI” on page 134](#)

Configuring the administrators list

When the Console server and the NetWorker server are on separate hosts, add the owner of the `gstd` process and the NMC administrator user to the administrators list on the NetWorker server. This allows the NMC administrator user to administer and monitor the NetWorker server. The owner of the `gstd` process is the user that starts the `gstd` daemon on UNIX or the EMC GST service on Windows.

Note: When the Console server and the NetWorker server are the same host. The NetWorker server install automatically adds the owner of the `gstd` process and the NMC administrator user to the administrators list of the NetWorker server.

To update the administrators list:

1. Log in to the NetWorker server as an administrator on Windows or as root on UNIX.
2. From a command prompt, use the `nsraddadmin` command to add the `gstd` process owner to the administrators list of the NetWorker server.

By default, the process owner is the `SYSTEM` user on Windows and is the root user on UNIX.

For example:

- On a Windows NetWorker server, type:


```
nsraddadmin -u "user=SYSTEM, host=console_host"
```

- On a UNIX NetWorker server, type:

```
nsraddadmin -u "user=root, host=console_host
```

3. Add the NMC administrator user to the administrators list on the NetWorker server:

```
nsraddadmin -u "user=administrator, host=console_host"
```

where *console_host* is the Console server hostname.

Enabling temporary internet file caching

Enable the **Temporary internet file caching** attribute in the **Java Control Panel** of the Console client. When you do not enable this option in JRE, Java WebStart fails to start.

For Windows Console clients:

1. Browse to **Control Panel > Java > General > Temporary Internet Files > Settings**
2. Select **Keep temporary files on my computer**.

For UNIX Console clients:

1. Start the Java Web Start Application Manager, javaws.
2. Select **Enable temporary internet file caching**.

Ensuring required daemons are running

Ensure that the console processes `gstd`, `dbsrv12`, and `httpd` are running on the Console server.

For UNIX Console servers:

1. Type:

```
ps -ef | grep gstd
ps -ef | grep dbsrv12
ps -ef | grep httpd
```

Note: Two or more `httpd` processes appear. The parent `httpd` process runs as `root` and the child process(es) run as the username specified during the installation.

2. Start the `gstd` daemon, if it is not started. This will also start the `dbsrv12` and `httpd` processes:
 - On Solaris and Linux: `/etc/init.d/gst start`
 - On AIX: `/etc/rc.gst start`

NOTICE

If the `/etc/init.d/gst` file on Linux or `/etc/rc.gst` file on AIX does not exist, run the `/opt/lgtonmc/bin/nmc_config` script.

For Windows Console servers:

1. In **Task Manager**, confirm the `gstd`, `httpd`, and `dbsrv12` processes are running.

On Windows, the Console server software registers the `httpd` as the EMC GST Web Service. Two `httpd` processes start when the Console server is active.

2. Start the EMC GST Service service if the `gstd` process is not started.

This will also start the `dbsrv12` and `httpd` processes.

“Unable to start `gstd` process on Console server” on page 139 provides more information if the `gstd` process does not start.

Windows only, confirming JRE version

For Windows hosts only, ensure that you install the correct JRE program for the installed version of Microsoft Internet Explorer.

- ◆ For the 32-bit version of Microsoft Internet Explorer, install the 32-bit version of JRE.
- ◆ For the 64-bit version of Microsoft Internet Explorer, install the 64-bit version of JRE.

To determine the Microsoft Internet Explorer version on the Windows Console client:

1. Right-mouse click the Microsoft Internet Explorer shortcut and select **Properties**.
2. Review the **Target Path** field.

The **Target Path** is:

- `C:\Program Files (x86)\Internet Explorer\` for the 32-bit version of Microsoft Internet Explorer.
- `C:\Program Files\Internet Explorer\` for the 64-bit version of Microsoft Internet Explorer.

Connecting to the Console server GUI

This section describes how to connect to the Console server GUI from a Console client.

Note: The Console server can also be a Console client.

1. From a supported web browser session, type the URL of the Console server:

```
http://server_name:http_service_port
```

where:

- *server_name* is the name of the Console server.
- *http_service_port* is the port for the embedded HTTP server. The default HTTP port is 9000.

For example:

```
http://houston:9000
```

2. On the **Welcome** window, click **Start**.
3. On the **Security Warning** window, click **Start** to install and run **NetWorker Console**.
4. On the **Licensing Agreement** window, select **Accept**.
5. If you did not install the appropriate JRE version on the system, a prompt to install JRE appears. Follow the onscreen instructions to install JRE.
6. On the **Welcome to the Console Configuration Wizard** window, click **Next**.
7. On the **Set Administrator password** window, type the NMC password, then click **Next**.

8. On the **Set Database Backup Server** window, specify the name of the NetWorker server that will backup the Console server database, and then click **Next**.
9. On the **Add NetWorker servers** window, specify the names of the NetWorker server that the Console server will manage, one name per line. Leave the default options **Capture Events** and **Gather Reporting Data** enabled.

Consider the following:

- Enable the **Capture Events** option to allow the Console server to monitor and record alerts for events that occur on the NetWorker server.
 - Enable the **Gather Reporting Data** option to allow the Console server to automatically collect data about the NetWorker server and generate reports. The *NetWorker Administration Guide* on the EMC Online Support Site describes on how to run reports and the reports that are available.
10. Click **Finish**.

The **Console** window and the **Getting Started** window appear.

11. In the **Enterprise** window, right click the NetWorker server and select **Launch Application**.

The Overview chapter of the *NetWorker Administration Guide* describes how to perform common NetWorker tasks.

Changing the NetWorker servers with access to the host

By default, any NetWorker server can:

- ◆ Backup this host.
- ◆ Perform a directed recover to this host.

To define the NetWorker servers that can perform backups and directed recoveries on this host:

1. Shutdown the NetWorker daemons:

Unix: **nsr_shutdown**

Windows: Stop the **NetWorker Backup and Recovery** service.

2. Edit or create the **/nsr/res/servers** file on a UNIX host or the **C:\Program Files\EMC NetWorker\nsr\res\servers** file on Windows.

Specify the shortname and FDQN for each NetWorker server, one per line, that require access to the NetWorker host. The first entry in this file becomes the default NetWorker server.

NOTICE

When you do not specify any servers, any NetWorker server can back up or perform a directed recovery to the host.

3. Start the NetWorker daemons:

- AIX: `/etc/rc.nsr`
- HP-UX: `/sbin/init.d/networker start`
- Solaris and Linux: `/etc/init.d/networker start`
- Windows: Start the **NetWorker Backup and Recovery** service.

4. UNIX only, confirm that the NetWorker daemons started:

```
ps -ef | grep nsr
```

[“NetWorker daemons” on page 22](#) provides a list of the daemons that start for each installation type.

Starting the Console client after the first time

After the Console client has connected to the Console server once, use one of the following methods to access the Console server again:

- ◆ Point the browser to the same URL as in [“Connecting to the Console server GUI for the first time” on page 132](#).
- ◆ Double-click **NetWorker Console** in the **Java Web Start Application Manager**.
- ◆ On Windows Console clients, double-click the **NetWorker Management Console** desktop icon.

Troubleshooting Console client connection issues

This section provides a list of possible causes and resolutions for Console client connection issues:

- ◆ [“Unable to display to Console server web page” on page 136](#)
- ◆ [“Unable to connect to the Console server” on page 137](#)
- ◆ [“Error: error while loading shared libraries: libsas12.so.2: wrong ELF class: ELFCLASS64” on page 138](#)
- ◆ [“Unable to connect to server: Failed to contact using UDP ping” on page 138](#)
- ◆ [“Unable to start gstd process on Console server” on page 139](#)
- ◆ [“Warning: unable to detect Java Runtime Environment” on page 140](#)
- ◆ [“Cannot log in to the Console server with Firefox” on page 141](#)
- ◆ [“Cannot generate console reports after updating the Console server” on page 142](#)

Unable to display to Console server web page

If the Console server web page, for example `http://houston:9000` does not display on the console client:

1. Verify that the **gstd**, **dbsrv12**, and **httpd** processes start on the Console server. [“Unable to start gstd process on Console server” on page 139](#) provides more information if you cannot start the processes.
2. Confirm that you specified the correct port number to connect to the Console server. The default port number that you use to connect to the Console server is 9000 but the installation process allows you to specify a different port number.

To determine the service port:

a. Review the NMC configuration file on the Console server:

- Solaris: /opt/LGTONmc/gstd.conf
- AIX and Linux: /opt/lgtonmc/etc/gstd.conf
- Windows: C:\Program Files\EMC NetWorker\Management\GST\etc\gstd.conf

b. Confirm the port numbers defined for the Console server:

```
db_svc_port=port_number
http_svc_port=9000
```

c. Try to connect to the Console server by using the defined port.

3. Review the **gstd.raw** file.

If the gstd.raw file reports the error: **Aborting due to: Connection timed out**, then confirm that the required ports are open on the firewall to enable the console client to connect to the Console server.

By default, the required ports are:

- 9000
- 9001
- 2638

The *Configuring TCP Networks and Network Firewalls for EMC NetWorker* technical note on the EMC Online Support Site provides more information to determine the required ports for NetWorker hosts.

Unable to connect to the Console server

An attempt to connect to the Console server from the web page can fail with the following error messages:

- ◆ [“Error: Could not authenticate this username and password” on page 137](#)
- ◆ [“Error: Problem contacting server \(ip_address\): Connection timed out: connect” on page 138](#)
- ◆ [“Unable to launch NetWorker Management Console” on page 138](#)

Error: Could not authenticate this username and password

If the login attempt fails with this error message:

- ◆ Ensure that you specify the correct username and password.
- ◆ Clear the Java Temporary Internet files on the Console client.
- ◆ Delete any existing desktop shortcuts used to connect to the Console server before an Console server update and recreate them.

Error: Problem contacting server (ip_address): Connection timed out: connect

This error occurs when the IP address or hostname of the Console server changes and you do not reconfigure the .jnlp file on the Console server.

To reconfigure the .jnlp file:

1. Log in to the Console server as root on UNIX or administrator on Windows.
2. On UNIX Console servers only, configure the **LD_LIBRARY_PATH** environment variable:

For Solaris, type:

```
LD_LIBRARY_PATH=/opt/LGTONmc/bin:/opt/LGTONmc/sybase/lib  
export LD_LIBRARY_PATH
```

For AIX and Linux, type:

```
LD_LIBRARY_PATH=/opt/lgtonmc/bin:/opt/lgtonmc/sybase/lib  
export LD_LIBRARY_PATH
```

3. Run the **gstconfig** command from the following directory location:
 - Solaris: /opt/LGTONmc/bin
 - AIX and Linux: /opt/lgtonmc/bin
 - Windows: C:\Program Files\EMC NetWorker\Management\GST\bin
4. Start the gstd daemon on the Console server.

Unable to launch NetWorker Management Console

This message appears on a Console client the Java Cache was not cleared after an update to the Console server software. To resolve this issue, clear the Java Cache on the Console client. [“Preparing the Console clients” on page 35](#) provides more information.

Error: error while loading shared libraries: libsasl2.so.2: wrong ELF class: ELFCLASS64

This message occurs on 64-bit Linux systems, when you do not install the 32-bit version of the **cyrus-sasl** package.

To resolve this issue:

1. Log in to the Console server, as root.
2. Install the 32-bit operating system package **cyrus-sasl**
3. Start the gstd daemon:

```
/etc/init.d/gst start
```

Unable to connect to server: Failed to contact using UDP ping

If the NMC console fails to connect to the NetWorker server with the error:

```
Unable to connect to server: Failed to contact using UDP ping
```

To resolve this issue:

- ◆ Ensure that the NetWorker daemons start on the NetWorker server.

- ◆ For HP-UX Console clients:
 - a. In the NMC console, select **Setup > Setup System Options**.
 - b. Clear **RPC ping by using UDP when connecting to NetWorker** checkbox.
 - c. Click **OK**.
 - d. Try to connect to the NetWorker server in the NMC console.

Unable to start gstd process on Console server

This section describes how to troubleshoot when the Console client cannot connect to the Console server because the **gstd** process will not start.

When the gstd daemon does not start on the Console server, review the gstd.raw, db_output.log and web_output log files to obtain the exact error message.

The following directories contain the Console server log files:

- ◆ Solaris: /opt/LGTONmc/logs
- ◆ AIX and Linux: /opt/lgtonmc/logs
- ◆ Windows: C:\Program Files\EMC NetWorker\Management\GST\logs

Common Console server start-up errors include:

- ◆ [“Error: 'gstd: Internal error: could not get database handle.’” on page 139](#)
- ◆ [“Web server exited unexpectedly. Possible reasons include: previous instance of %s is still running. Please see 'web_output' file in this product's logs directory for the web server's output messages” on page 140](#)
- ◆ [“Error: error while loading shared libraries: libssl2.so.2: wrong ELF class: ELFCLASS64” on page 140](#)
- ◆ [“Warning: unable to detect Java Runtime Environment” on page 140](#)

Error: 'gstd: Internal error: could not get database handle.'

This error appears when the dbsrv12 process cannot start. Review the db_output.log file for specific errors.

Common reasons for this error include:

- ◆ Insufficient disk space in the file system that contains the NMC database directory.
- ◆ An orphaned dbsrv12 process is running on the Console server.
 - On UNIX, end the process by sending the SIGTERM signal, **kill -TERM**.
Do not use **kill -9**.

- On Windows, end the dbserv12 process in **Task Manager**.
- ◆ The Console server is running an unsupported version of JRE.

Web server exited unexpectedly. Possible reasons include: previous instance of %s is still running. Please see 'web_output' file in this product's logs directory for the web server's output messages

This error appears when the httpd process is not running on the Console server.

Common reasons for httpd start-up failures include:

- ◆ The httpd web service port, 9000 by default is in use by another process.
- ◆ On UNIX, an orphaned httpd process is running on the console server. End the process by sending the SIGTERM signal, **kill -TERM**.

Do not use the **kill -9** command.

- ◆ On Windows, another application is using the Apache server and the httpd daemon requires more time to start up.

To resolve this issue, enable the delayed start option for the EMC gstd process:

1. In the **Services** applet, right-mouse click the **EMC gstd** service and select **Properties**.
2. On the **General** tab, change the **Startup type** to **Automatic (delayed start)**.
3. Click **Ok**.
4. Stop the EMC gstd service, then start the EMC gstd service.

NOTICE

When you update the NetWorker software, enable the **delayed start** setting again.

Error: error while loading shared libraries: libsasl2.so.2: wrong ELF class: ELFCLASS64

This message appears on 64-bit Linux systems when the 32-bit version of the cyrus-sasl package is not installed.

To resolve this issue:

1. Install the 32-bit version of the cyrus-sasl package.
2. Start the gstd daemon:

```
/etc/init.d/gst start
```

Warning: unable to detect Java Runtime Environment

This message appears when:

- ◆ JRE is not installed on the Console client.
- ◆ Window only, the JRE version installed on the Console client does not match the Microsoft Internet Explorer version.

This message appears on 64-bit Windows systems when you use:

- 64-bit version of Microsoft Internet Explorer to connect to the Console server but the 32-bit version of JRE is installed.

- 32-bit version of Microsoft Internet Explorer to connect to the Console server but the 64-bit version of JRE is installed.

To resolve this issue:

- Install JRE on the Console client.
- For Windows only, install the correct JRE program for the installed Microsoft Internet Explorer version.
 - For the 32-bit version of Microsoft Internet Explorer, install the 32-bit version of JRE.
 - For the 64-bit version of Microsoft Internet Explorer, install the 64-bit version of JRE.

To determine the Microsoft Internet Explorer version on the Windows Console client:

1. Right-mouse click the Microsoft Internet Explorer shortcut and select **Properties**.
2. Review the **Target Path** field.

The **Target Path** is:

- C:\Program Files (x86)\Internet Explorer\ for the 32-bit version of Microsoft Internet Explorer.
- C:\Program Files\Internet Explorer\ for the 64-bit version of Microsoft Internet Explorer.

Cannot log in to the Console server with Firefox

On a Linux Console client, a message similar to the following can appear when you use Firefox to log in to the Console server:

```
Internal Server Error
```

```
The server encountered an internal error or misconfiguration and was
unable to complete your request. Please contact the server
administrator, @@ServerAdmin@@ and inform them of the time the error
occurred, and anything you might have done that may have caused the
error. More information about this error may be available in the server
error log.
```

To resolve this issue:

1. Remove the classic plugin file `libjavaplugin_oji.so` located in the Firefox plugins directory and any associated symbolic links.
2. Create a symbolic link to the **Java Plugin libnjp2.so** file in the Firefox plugins directory:

```
cd Firefox/plugins
ln -s JRE/lib/arch/libnjp2.so .
```

where:

- *Firefox* is the Firefox installation path.
- *JRE* is the Java installation path.
- *arch* is the directory appropriate to the computer architecture.

- ◆ For SuSE11 only, install these operating system packages:
 - glibc-locale-2.11.1
 - glibc-locale-32bit-2.11.1

Without these package, a message similar to the following appears and you cannot log in to the Console server:

```
Internal Server Error
The server encountered an internal error or misconfiguration and was
unable to complete your request.
Please contact the server administrator, @@ServerAdmin@@ and inform
them of the time the error occurred, and anything you might have done
that may have caused the error. More information about this error may
be available in the server error log.
```

Cannot generate console reports after updating the Console server

After updating the Console server software, generating Console server reports might fail with the error: **com.sybase.jdbc3.jdbc.SybDriver**. This error message appears when the Java Cache on the Console client is not deleted after a Console server update. To resolve this issue, delete the Java Cache on the Console client used to generate the reports.

[“Preparing the Console clients” on page 35](#) provides more information.

CHAPTER 12

Downgrade to a Previous Release

The procedure to downgrade the NetWorker 8.1 software differs depending on the installation type:

- ◆ [Downgrading a NetWorker server to NetWorker 8.0.x](#) 144
- ◆ [Downgrading a NetWorker server to NetWorker 7.6.x or earlier](#)..... 145
- ◆ [Downgrading a NetWorker storage node or client](#) 149
- ◆ [Downgrading the Console server](#) 151

Downgrading a NetWorker server to NetWorker 8.0.x

To revert the NetWorker server to NetWorker 8.0.x, perform these tasks:

- ◆ [“Uninstalling the NetWorker software” on page 144](#)
- ◆ [“For Windows only, remove the librpccomp.dll registry entry” on page 144](#)
- ◆ [“Deleting the NetWorker tmp directory” on page 145](#)
- ◆ [“Installing the NetWorker software” on page 145](#)

Uninstalling the NetWorker software

The following sections describe how to uninstall the NetWorker software:

- ◆ [“Uninstalling the NetWorker and Console server software on AIX” on page 72](#)
- ◆ [“Uninstalling the NetWorker software on HP-UX” on page 79](#)
- ◆ [“Uninstalling NetWorker and Console server software on Linux” on page 91](#)
- ◆ [“Uninstalling the NetWorker and Console server on Solaris” on page 108](#)
- ◆ [“Uninstalling the NetWorker and Console server on Windows” on page 125](#)

For Windows only, remove the librpccomp.dll registry entry

This section only applies to a Windows host where the NetWorker 8.1 DA version is currently installed, or was installed prior to upgrading to NetWorker 8.1 GA.

For example, the following downgrade scenarios require that you remove the **librpccomp.dll** registry entry on Windows NetWorker server:

- ◆ Downgrading an 8.1 (DA version) NetWorker server.
- ◆ Downgrading an 8.1 (GA version) NetWorker server that was previously running the DA version of the 8.1 software.

To remove the **librpccomp.dll** registry entry:

1. Start the **regedt32.exe** program
2. Navigate to the following registry setting:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\Windows\CurrentVersion\SharedDLLs
```

3. Delete the following key:

```
C:\Program Files\EMC NetWorker\nsr\bin\librpccomp.dll
```

NOTICE

If you do not remove the registry key after you install the previous version of the NetWorker software, the **nsrsnmd** process fails to start and the following error message appears in the daemon.raw file:

Unable to send the version information: Daemon versions for 'nsrsnmd version' and 'nsrmmd version' are not updated in NSRLA.

Deleting the NetWorker tmp directory

The location of the NetWorker tmp directory differs for Windows and UNIX:

- ◆ On Windows: C:\Program Files\Legato\nsr\tmp or C:\Program Files\EMC NetWorker\nsr\tmp
- ◆ On UNIX: /nsr/tmp

Installing the NetWorker software

Install the NetWorker 8.0.x version of the NetWorker server software. The following sections describe how to install the NetWorker software:

- ◆ [“AIX Installation” on page 65](#)
- ◆ [“HP-UX Installation” on page 75](#)
- ◆ [“Linux Installation” on page 81](#)
- ◆ [“Solaris Installation” on page 99](#)
- ◆ [“Microsoft Windows Installation” on page 111](#)

Note: If you used the PowerSnap module with NetWorker 8.0.x, then you must also install the PowerSnap module software.

Downgrading a NetWorker server to NetWorker 7.6.x or earlier

To revert the NetWorker server to the point-in-time immediately before a NetWorker 8.1 software update from 7.6.x or earlier, perform the following tasks:

- ◆ [“Uninstalling the NetWorker software” on page 145](#)
- ◆ [“For Windows only, remove the librpcmp.dll registry entry” on page 146](#)
- ◆ [“Deleting the NetWorker tmp directory” on page 146](#)
- ◆ [“Restoring pre-NetWorker 8.1 resources files” on page 146](#)
- ◆ [“Installing the NetWorker software” on page 147](#)
- ◆ [“UNIX only, retaining start-up script customizations” on page 148](#)
- ◆ [“Scanning the AFTD and Data Domain devices” on page 149](#)

Uninstalling the NetWorker software

The following sections describe how to uninstall the NetWorker software:

- ◆ [“Uninstalling the NetWorker and Console server software on AIX” on page 72](#)
- ◆ [“Uninstalling the NetWorker software on HP-UX” on page 79](#)
- ◆ [“Uninstalling NetWorker and Console server software on Linux” on page 91](#)
- ◆ [“Uninstalling the NetWorker and Console server on Solaris” on page 108](#)
- ◆ [“Uninstalling the NetWorker and Console server on Windows” on page 125](#)

NOTICE

If the NetWorker host is also the Console server, the Console server database must return to a point-in-time before the NetWorker 8.1 software update. [“Downgrading the Console server” on page 151](#) describes how to downgrade the Console server.

For Windows only, remove the `librcomp.dll` registry entry

This section only applies to a Windows host where the NetWorker 8.1 DA version is currently installed, or was installed prior to upgrading to NetWorker 8.1 GA.

For example, the following downgrade scenarios require that you remove the `librcomp.dll` registry entry on Windows NetWorker server:

- ◆ Downgrading an 8.1 (DA version) NetWorker server.
- ◆ Downgrading an 8.1 (GA version) NetWorker server that was previously running the DA version of the 8.1 software.

To remove the `librcomp.dll` registry entry:

1. Start the `regedt32.exe` program
2. Navigate to the following registry setting:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\Windows\CurrentVersion\SharedDLLs
```

3. Delete the following key:

```
C:\Program Files\EMC NetWorker\nsr\bin\librcomp.dll
```

NOTICE

If you do not remove the registry key after you install the previous version of the NetWorker software, the `nsrsnmd` process fails to start and the following error message appears in the `daemon.raw` file:

Unable to send the version information: Daemon versions for 'nsrsnmd version' and 'nsrmmmd version' are not updated in NSRLA.

Deleting the NetWorker tmp directory

The location of the NetWorker tmp directory differs for Windows and UNIX:

- ◆ On Windows: `C:\Program Files\Legato\nsr\tmp` or `C:\Program Files\EMC NetWorker\nsr\tmp`
- ◆ On UNIX: `/nsr/tmp`

Restoring pre-NetWorker 8.1 resources files

During the update, the NetWorker server update created a backup copy of the pre-NetWorker 8.1 resource files. Restore the pre-NetWorker 8.1 resource files:

1. Rename the current resource database directories.

For example:

- On UNIX, type:

```
mv /nsr/res/nsrdb /nsr/res/nsrdb.old
mv /nsr/res/nsrladb /nsr/res/nsrladb.old
```

- On Windows, rename:

```
C:\Program Files\Legato\nsr\res\nsrdb to C:\Program
Files\Legato\nsr\res\nsrdb.old
C:\Program Files\Legato\nsr\res\nsrladb to C:\Program
Files\Legato\nsr\res\nsrladb.old
```

2. Rename the pre-NetWorker 8.1 resource database directories.

For example:

- On UNIX, type:

```
mv /nsr/res/nsrdb.p80 /nsr/res/nsrdb
mv /nsr/res/nsrladb.p80 /nsr/res/nsrladb
```

- On Windows, rename:

- C:\Program Files\Legato\nsr\res\nsrdb.p80 to
C:\Program Files\Legato\nsr\res\nsrdb
- C:\Program Files\Legato\nsr\res\nsrladb.p80 to
C:\Program Files\Legato\nsr\res\nsrladb

3. Optionally, rename the current **servers** file and restore the pre-NetWorker 8.1 servers file.

For example:

- On UNIX, type:

```
mv /nsr/res/servers /nsr/res/servers.old
mv /nsr/res/servers.p80 /nsr/res/servers
```

- On Windows, rename:

- C:\Program Files\Legato\nsr\res\servers to
C:\Program Files\Legato\nsr\res\servers.old
- C:\Program Files\Legato\nsr\res\servers.p80 to
C:\Program Files\Legato\nsr\res\servers

Installing the NetWorker software

Install the previous version of the NetWorker server software. The *NetWorker 7.6 Installation Guide* provides describes how to install the NetWorker software and the pre-installation considerations.

Note: If you used the PowerSnap module with NetWorker 7.6.x, then you must also install the PowerSnap module software.

UNIX only, retaining start-up script customizations

The NetWorker 7.6.x software does not load the `/nsr/nsrrc` file before starting the `nsrexecd` and `nsrd` daemons.

If you defined environment variables in this file, perform one of the following tasks to retain start-up script customizations:

- ◆ [“Restoring backup copies of the start-up script files” on page 148](#)
- ◆ [“Modifying the start-up script files” on page 148](#)

[Table 29 on page 148](#) provides a list of the NetWorker startup files for each operating system.

Table 29 NetWorker startup script files

Operating System	Startup files
AIX	<code>/etc/rc.nsr</code>
HP-UX	<code>/sbin/init.d/networker</code>
Linux	<code>/etc/init.d/networker</code>
Solaris	<code>/etc/init.d/networker</code>

Restoring backup copies of the start-up script files

Before updating the NetWorker software to version 8.1, the update process recommended that you create a backup copy of the NetWorker start-up script files. Use these files to replace the current start-up script files.

To restore backup copies of the start-up script files:

1. Create a backup copy of the current version of the NetWorker start-up script file.
2. Rename the NetWorker 7.6.x copy of the startup script file to the appropriate file name.
3. Stop, then start the NetWorker daemons.

Modifying the start-up script files

If a copy of the original pre-NetWorker 8.1 start-up script files does not exist, modify the startup script files and add the environment variables defined in `/nsr/nsrrc` file.

To modify the start-up script files:

1. Edit the start-up script file for the operating system.
2. Before this line: `echo 'starting NetWorker daemons:' > /dev/console`, add the required environment variables, including the `export` command:

For example:

```
ENV_VAR_NAME=value
export ENV_VAR_NAME
```

3. Stop, then start the NetWorker daemons.

Scanning the AFTD and Data Domain devices

Use the **scanner -i** command to re-create media database entries for the read-only device of each AFTD and Data Domain device. The UNIX man page and the *NetWorker 8.1 Command Reference Guide* describe how to use the **scanner** command.

Downgrading a NetWorker storage node or client

Perform the following tasks to downgrade the NetWorker software:

- ◆ [“Uninstalling the NetWorker software” on page 149](#)
- ◆ [“Deleting the NetWorker tmp directory:” on page 149](#)
- ◆ [“Installing the NetWorker software” on page 150](#)
- ◆ [“UNIX only, retaining start-up script customizations” on page 150](#)

NOTICE

A NetWorker 8.1 server does not support NetWorker 7.6.x storage nodes. Downgrade the NetWorker server before downgrading any storage nodes in the data zone.

Uninstalling the NetWorker software

Uninstall the NetWorker software. Remove any NetWorker module software including NetWorker Module for Microsoft Applications and NetWorker Module for Database Applications on the host before removing NetWorker and Console server software. The appropriate module installation guide describes how to remove the module software.

The following sections describe how to uninstall the NetWorker software:

- ◆ [“Uninstalling the NetWorker and Console server software on AIX” on page 72](#)
- ◆ [“Uninstalling the NetWorker software on HP-UX” on page 79](#)
- ◆ [“Uninstalling NetWorker and Console server software on Linux” on page 91](#)
- ◆ [“Uninstalling the NetWorker software on Mac OS-X” on page 98](#)
- ◆ [“Uninstalling the NetWorker and Console server on Solaris” on page 108](#)
- ◆ [“Uninstalling the NetWorker and Console server on Windows” on page 125](#)

NOTICE

If the NetWorker host is also the Console server, the Console server database must return to a point-in-time before the NetWorker 8.1 software update. [“Downgrading the Console server” on page 151](#) describes how to downgrade the Console server.

Deleting the NetWorker tmp directory:

Delete the NetWorker tmp directory. The default location is different on Windows and UNIX hosts:

- ◆ On Windows: C:\Program Files\Legato\nsr\tmp or C:\Program Files\EMC NetWorker\nsr\tmp
- ◆ On UNIX: /nsr/tmp

Installing the NetWorker software

Install the previous version of the NetWorker and Console server software. The *NetWorker 7.6 Installation Guide* provides detailed information.

UNIX only, retaining start-up script customizations

The pre-NetWorker 8.1 software does not load the `/nsr/nsrcc` file before starting the `nsrexecd` and `nsrd` daemons.

If you defined environment variables in this file, perform one of the following tasks to retain start-up script customizations:

- ◆ “Restoring backup copies of the start-up script files” on page 150
- ◆ “Modifying the start-up script files” on page 150

Table 30 on page 150 provides a list of NetWorker start-up files for each operating system.

Table 30 NetWorker startup script files

Operating System	Startup files
AIX	<code>/etc/rc.nsr</code>
HP-UX	<code>/sbin/init.d/networker</code>
Linux	<code>/etc/init.d/networker</code>
Solaris	<code>/etc/init.d/networker</code>

Restoring backup copies of the start-up script files

Before updating the NetWorker software to version 8.1, the update process recommended that you create a backup copy of the NetWorker start-up script files. Use these files to replace the current start-up script files.

To restore backup copies of the start-up script files:

1. Create a backup copy of the current version of the NetWorker start-up script file.
2. Rename the pre-NetWorker 8.1 copy of the start-up script file to the appropriate file name.
3. Stop, then start the NetWorker daemons.

Modifying the start-up script files

If a copy of the original pre-NetWorker 8.1 start-up script files does not exist, modify the start-up script files and add the environment variables defined in `/nsr/nsrcc` file.

To modify the start-up script files:

1. Edit the start-up script file for the operating system.
2. Before this line: **echo 'starting NetWorker daemons:' > /dev/console**, add the required environment variables, including the **export** command:

For example:

```
ENV_VAR_NAME=value
export ENV_VAR_NAME
```

3. Stop, then start the NetWorker daemons.

Downgrading the Console server

To revert the Console server to the point-in-time immediately before the NetWorker 8.1 software update, perform the following tasks:

- ◆ [“Uninstalling the Console server software” on page 151](#)
- ◆ [“Installing the Console server software” on page 151](#)
- ◆ [“Recovering the previous version of the Console server database” on page 151](#)
- ◆ [“Configuring the Console clients to connect to the Console server” on page 153](#)

Uninstalling the Console server software

Uninstall the NetWorker and Console server software. Remove any NetWorker module software including NetWorker Module for Microsoft Applications and NetWorker Module for Database Applications on the host before removing NetWorker and Console server software. The appropriate module installation guide describes how to remove the module software.

The following sections describe how to uninstall the NetWorker and Console software:

- ◆ [“Uninstalling the NetWorker and Console server software on AIX” on page 72](#)
- ◆ [“Uninstalling NetWorker and Console server software on Linux” on page 91](#)
- ◆ [“Uninstalling the NetWorker and Console server on Solaris” on page 108](#)
- ◆ [“Uninstalling the NetWorker and Console server on Windows” on page 125](#)

Installing the Console server software

Install the previous version of the NetWorker and Console server software. The *NetWorker 7.6 Installation Guide* provides detailed information.

NOTICE

During the installation process, when prompted:

-To retain or overwrite the existing Console server database, you must overwrite the existing database.

-To remove the existing database on UNIX, type: y

Recovering the previous version of the Console server database

Restore the Console server database to a point-in-time before the Console server update in one of the following ways:

- ◆ [“Restoring the database conversion backup files” on page 152](#)
- ◆ [“Recovering the Console server database from a backup” on page 152](#)

Restoring the database conversion backup files

Before the Console server database conversion, the update process created a backup copy of the pre-NetWorker 8.1 Console server database files.

Use the backup copy of the Console server database files to restore the Console server to the point-in-time before the update:

1. Stop the **EMC gstd** daemon.
2. In the Console server database directory, rename the current Console server database files.

For example, rename:

lgto_gst.db to **lgto_gst.db.old**

gstd_db.conf to **gstd_db.conf.old**

lgto_gst.log to **lgto_gst.log.old**

By default, the location of the Console database directory is:

- C:\Program Files\EMC NetWorker\Management\lgto_gstdb on Windows
- opt/lgtonmc/lgto_gstdb on AIX and Linux
- /opt/LGTONmc/lgto_gstdb on Solaris.

3. Rename the Console server database backup files in the Console database directory.

For example, rename:

- gstd_db_bk.conf to gstd_db.conf
- lgto_gst_bk.db to lgto_gst.db
- lgto_gst_bk.log to lgto_gst.log

4. Start the **EMC gstd** daemon.

Recovering the Console server database from a backup

To recover the Console server database from a backup:

1. Stop the **EMC gstd** daemon.
2. From a command prompt on the Console server, type:

```
recoverpsm -s NetWorker_server -t date -f
```

where:

- *NetWorker_server* specifies the name of the NetWorker server that performed the Console server database backup.
- *date* specifies a date when you backed up the Console server before the upgrade.

NOTICE

When you do not stop the EMC gstd daemon before the recover, the recoverpsm command fails with an error message similar to the following: **“recoverpsm: FAILED 08001[Sybase][ODBC Driver][SQL Anywhere]Database name not unique -77 ”**

3. Start the **EMC gstd** daemon.

Configuring the Console clients to connect to the Console server

Before connecting to the Console server, on each Console client:

- ◆ Delete the existing Console desktop shortcut that you use to connect to the Console server.
- ◆ Clear the Java cache. [“Optional, converting VCB client backups to VADP” on page 51](#) provides more information.

Downgrade to a Previous Release