



EMC[®] NetWorker[®] for Solaris

Version 8.2 SP1

Installation Guide

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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 technical support professional if a product does not function properly or does not function as described in this document.

Note

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Purpose

This document describes how to uninstall and install the NetWorker software.

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.

Revision history

The following table presents the revision history of this document.

Table 1 Revision history

Revision	Date	Description
01	Jan 28, 2015	First release of this document for EMC NetWorker 8.2 SP1

Related documentation

The NetWorker documentation set includes the following publications:

- *EMC NetWorker Online Software Compatibility Guide*
Provides a list of client, server, and storage node operating systems supported by the EMC information protection software versions. You can access the Online Software Compatibility Guide on the EMC Online Support site at <https://support.emc.com>. From the Support by Product pages, search for NetWorker using "Find a Product", and then select the Install, License, and Configure link.
- *EMC NetWorker Administration Guide*
Describes how to configure and maintain the NetWorker software.
- *EMC NetWorker Cluster Installation Guide*
Contains information related to configuring NetWorker software on cluster servers and clients.
- *EMC NetWorker Installation Guide*
Provides information on how to install, uninstall and update the NetWorker software for clients, storage nodes, and servers on all supported operating systems.

- *EMC NetWorker Updating from a Previous Release Guide*
Describes how to update the NetWorker software from a previously installed release.
- *EMC NetWorker Release Notes*
Contains information on new features and changes, fixed problems, known limitations, environment and system requirements for the latest NetWorker software release.
- *EMC NetWorker Avamar Devices Integration Guide*
Provides planning and configuration information on the use of Avamar devices in a NetWorker environment.
- *EMC NetWorker Command Reference Guide*
Provides reference information for NetWorker commands and options.
- *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*
Provides information on common NetWorker error messages.
- *EMC NetWorker Licensing Guide*
Provides information about licensing NetWorker products and features.
- *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**
The NetWorker User program is the Windows client interface. Describes how to use the NetWorker User program which is the Windows client interface connect to a NetWorker server to back up, recover, archive, and retrieve files over a network.

Special notice conventions used in this document

EMC uses the following conventions for special notices:

NOTICE

Addresses practices not related to personal injury.

Note

Presents information that is important, but not hazard-related.

Typographical conventions

EMC uses the following type style conventions in this document:

<i>Italic</i>	Use for full titles of publications referenced in text
Monospace	Use for: <ul style="list-style-type: none"> • System code • System output, such as an error message or script • Pathnames, file names, prompts, and syntax • Commands and options
<i>Monospace italic</i>	Use for variables
Monospace bold	Use for user input
[]	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 non-essential information omitted from the example

Where to get help

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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 DPAD.Doc.Feedback@emc.com

CHAPTER 1

Software Requirements

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- [IPv6 protocol](#)..... 12

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

The NetWorker command line interface (CLI), the NMC 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 NMC server.

The NetWorker software supports:

- The languages and the character sets that the underlying OS supports.
- 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 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 the following considerations.

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 NMC 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 NMC server.
- Install the corresponding language pack included with the NetWorker software package on the NetWorker client, server, storage node, and NMC 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 NMC client, the NMC 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 describe how to use the `nsr_render_log` program.

Message files that support localization include:

- `daemon.raw` file
- `nsrcpd.raw` file — the client push log
- `gstd.raw` file — the NMC server log file
- `networkkr.raw` file — the Windows recovery log file

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

Windows requirements

Consider these 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, `eur-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 the **Control Panel**.

UNIX requirements

Consider these 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.

Consider the following:

- 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 2

Installing the NetWorker Software

- [Roadmap for installing the NetWorker software on Solaris](#)..... 16
- [Reviewing the NetWorker requirements for Solaris](#).....16
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Roadmap for installing the NetWorker software on Solaris

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

1. The Software Requirements chapter lists the general requirements and considerations relevant to each supported Windows and UNIX operating systems.
2. [Reviewing the NetWorker requirements for Solaris on page 16](#) details Solaris specific requirements.
3. [Consider the NetWorker default directories on page 18](#) lists the default directory locations.
4. Install the NetWorker software:
 - [Installing the NetWorker client, server, and storage node packages on page 19](#) describes how to install the NetWorker server, storage node, and client software.
 - [Installing Console server on Solaris on page 21](#) describes how to install the NetWorker Console server.
5. The Verify the Installation chapter describes how to test the NetWorker software functionality.
6. Enable and register the NetWorker products. The *NetWorker Licensing Guide* provides information.

Reviewing the NetWorker requirements for Solaris

Before you install NetWorker on Solaris, review the package disk space requirements, and software requirements for Solaris 10 and Solaris zone support.

Package disk space requirements

This table lists the NetWorker packages and the compressed and uncompressed file sizes.

Table 2 Size of compressed and uncompressed files

Operating system	Compressed file	Uncompressed file
Solaris x86	74 MB	362 MB
Solaris 64-bit SPARC	406 MB	1.1 GB
Solaris x64/AMD64	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.
 1. Add the following line, to the `/etc/system` file:

```
set ip:do_tcp_fusion = 0
```

2. 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 website provides detailed information about patch dependencies and download information.

This table provides a summary of architecture specific patch requirements.

Table 3 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 	Backups of large save sets may fail on Solaris 10 systems if an Intel Gigabit Ethernet card, e1000g driver is used. Solaris 10 update 4 and later includes this patch.

Solaris zone requirements

NetWorker supports global, whole root, and sparse root zone configurations. Before you install NetWorker in a Solaris zone, review the following information.

Table 4 Solaris 10 Sun patch requirements

Architecture	Required patch
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 <i>NetWorker Administration Guide</i> 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.

Table 4 Solaris 10 Sun patch requirements (continued)

Architecture	Required patch
	“Using the save set all to back up particular file systems” in the <i>NetWorker Administration Guide</i> describes when to use the special ALL save sets.
Whole root zone considerations	<p>The NetWorker server, storage node including a dedicated storage node, and client software support a Solaris whole root zone.</p> <p>When you install NetWorker in a whole root zone, the NetWorker software is not required in the global zone.</p> <p>The NetWorker server software is not supported in a clustered Solaris whole root zone.</p>

Consider the NetWorker default directories

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.

This table specifies the default location and space requirements for the NetWorker software on a Solaris host.

Table 5 Default file locations and space requirements for Solaris

NetWorker package	Location	Space for Solaris x86	Space for Solaris x64	Space for Solaris AMD 64
Client (LGT0clnt)	<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 (LGT0serv)	<code>/usr/sbin</code>	n/a	135 MB	103 MB
	<code>/usr/lib/nsr</code>		72 KB	72 KB
Man pages (LGT0man)	<code>/share/man</code>	2.3 MB	2.2 MB	2.2 MB
French language pack (LGT0fr)	<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
Japanese language pack (LGT0ja)	<code>/opt/nsr</code>	3.2 MB	6.8 MB	6.8 MB
	<code>/usr/lib</code>	40 KB	40 KB	40 KB
	<code>/usr/sbin</code>	8 KB	8 KB	8 KB
	<code>/share/man</code>	2.2 MB	2.2 MB	2.2 MB

Table 5 Default file locations and space requirements for Solaris (continued)

NetWorker package	Location	Space for Solaris x86	Space for Solaris x64	Space for Solaris AMD 64
Korean language pack (LGTOko)	/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 (LGTOzh)	/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

Use the following procedure to change the location of the `/nsr` directory by creating a symbolic link from the new directory to the `/nsr` directory.

Procedure

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
```

3. Before you install 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.

Solaris: Installing the NetWorker client, server, and storage node packages

Use the following procedure to install the client, storage node, server software packages and the optional packages. For example, the man pages and language packs.

Procedure

1. Log in to the target host as root.
2. ~~Download the NetWorker software package from the EMC Online Support Site and extract the packages to a temporary location on the target host.~~
3. Ensure that there is sufficient disk space on the host to contain both the compressed NetWorker software package and the fully uncompressed files.
4. Create a backup copy of the `rpc.org` configuration file:

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

Descarga el software desde http://sistemas.uc3m.es/servicio_backup/cliente_networker/

5. 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]:
```

6. Specify the package numbers that are required for the installation type.

NOTICE

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**

7. When prompted to change the data directory, choose one of the following:

- Accept the default directory.
- Specify the directory.

8. 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 FDQN 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]:
```

Instale únicamente el NetWorker Client tecleando la opción 1.
El resto de paquetes software no son necesarios.

Teclee:
backup-l
backup-l.uc3m.es
si su servidor se encuentra en el campus de Leganés.
backup-g
backup-g.uc3m.es si su servidor se encuentra en el campus de Getafe.

NOTICE

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

9. 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.

10. During a NetWorker server upgrade only, stop the NetWorker daemons and start the daemons again. For example:

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

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

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

12. Si tiene un cortafuegos configurado, permita todo el tráfico hacia/desde el servidor de backup.

Deploying a VMware template for the host

Puede omitir este paso si no está desplegando una plantilla de VMware.

Review this section if you will create a VMware template of the host, which you will use to deploy multiple virtual machines.

When the NetWorker daemons start on the host, NetWorker creates resources in the NSRLA database. NetWorker operations require that each host in a data zone contain unique information in the database. To ensure that each VM will have a unique information in the NSRLA database, perform the following steps after you complete the NetWorker software installation and before you create the VMware template.

Procedure

1. Type `/etc/init.d/networker stop` to stop the NetWorker processes.
2. Type `ps -ef | grep /usr/sbin/nsr` to confirm that the NetWorker processes are not running.
3. Delete the `/nsr/res/nsrladb` directory.

Results

After you deploy the VMware template and start the VM, NetWorker will generate unique values in the NSRLA resource for the VM.

Installing Console server on Solaris

Puede omitir este paso. El software NMC no es necesario en su caso.

To manage the NetWorker server, install the Console server software on one host in the datazone and follow these instructions.

Reviewing the Console server requirements

Review this section before you install the Console server package.

- The Console server software supports:

- SolarisAMD64: Solaris 10 and 11
- Solaris SPARC (64-bit): Solaris 10 and 11
- The Console server does not support non-global zones.
- 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.

This table specifies the default location and space requirements for the Console server software on a Solaris host.

**Table 6** Solaris Console server default file locations and space requirements

| NetWorker package        | Location     | Space for Solaris x86 | Space for Solaris x64 | Space for Solaris AMD 64 |
|--------------------------|--------------|-----------------------|-----------------------|--------------------------|
| Console server (LGTONmc) | /opt/LGTONmc | n/a                   | 218 MB                | 230 MB                   |

## Solaris: Installing the NMC server software

Perform these steps as root to install the NMC software.

### Procedure

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 NMC 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 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. 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 NMC server uses this user/group to run the web server.

For example, use the default user/group.

```
[nobody/nobody]
```

7. For the web server port number, use the either of the following:

- The default port number (9000).
- A custom port number.

8. For the NMC server, use the either of the following:

- The default port number (9001).
- A custom port number .

**NOTICE**

Valid port numbers are between 1024 and 49151. Do not use port numbers that are already in use. For example, the NMC 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 7.6.x NMC server database:

- To proceed with the installation and NMC server database conversion, type **y**.
- Specify the location to store the database backup file. For example:

If the conversion fails, the following error message appears:

```

/opt/LGTONmc/lgto_gstdb
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 NMC server daemons:

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

14. To proceed with the installation of the NMC server package, type **y**.

15. Update the *MANPATH* variable for the NMC server man pages.

For example:

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

## Uninstalling the NetWorker and Console server on Solaris

Use this procedure to uninstall the NetWorker and Console server software from a Solaris host.

This table lists the package names associated with the different NetWorker software packages.

**Table 7** NetWorker packages on Solaris

| Component                           | Package name |
|-------------------------------------|--------------|
| Server                              | LGTOserv     |
| Storage node                        | LGTONode     |
| Console server                      | LGTONmc      |
| NetWorker License Manager           | LGTOlicm     |
| Client                              | LGTOclnt     |
| Man pages                           | LGTOman      |
| French language support             | LGTOfr       |
| Japanese language support           | LGTOja       |
| Korean                              | LGTOko       |
| Simplified Chinese language support | LGTOzh       |

### NOTICE

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.

Use the following procedure to uninstall the NetWorker and Console software.



**Procedure**

1. Shut down the NetWorker daemons when there are no backups and recoveries running. For example:

```
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:

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

5. Exclude packages not listed in the `pkginfo` command.
6. Type **y** to confirm the package removal.
7. Type **y** to continue with the package removal.
8. Repeat these last three steps for each package.

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

- 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 to remove each failed package.

9. 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`.
10. If Java Runtime Environment is no longer required, uninstall the JRE software package.



# CHAPTER 3

## Verifying the Installation

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## Roadmap for using NetWorker for the first time

Follow these procedures to connect to configure the Console server GUI, configure the Console server to manage a NetWorker server, to verify that the NetWorker software can perform management and backup tasks, and to start the console client after the first time.

### Starting 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

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.

Use the following procedure to update the Administrators list.

#### Procedure

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, follow this procedure to ensure that the Console is running.

### Procedure

1. Type the following command:

```
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.

---

3. For Windows Console servers:
  - a. 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.
  - b. Start the EMC GST Service service if the `gstd` process is not started. This will also start the `dbsrv12` and `httpd` processes.

## 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.

Use the following procedure to determine the Microsoft Internet Explorer version on the Windows Console client.

### Procedure

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

Use this procedure to connect to the Console server GUI from a Console client.

---

### Note

The Console server can also be a Console client.

---

### Procedure

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:
  - a. Type the NMC password.
  - b. Click **Next**.
8. On the **Set Database Backup Server** window:
  - a. Specify the name of the NetWorker server that will backup the Console server database.

- b. Click **Next**.
9. On the **Add NetWorker servers** window:
  - a. Specify the names of the NetWorker server that the Console server will manage, one name per line.
  - b. 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.

10. Click **Finish**. The **Console** window and the **Getting Started** window appear.

11. In the **Enterprise** window:

- a. Right click the NetWorker server.
- b. Select **Launch Application**.

The *NetWorker Administration Guide* describes how to perform common NetWorker tasks.

## Changing the NetWorker servers with access to the host

Use this procedure to define the NetWorker servers that can perform backups and directed recoveries on this host for the listed platforms.

- AIX
- HP-UX
- Linux

By default, any NetWorker server can:

- Backup this host.
- Perform a directed recover to this host.

Use the following procedure to change the NetWorker servers that can access the host.

### Procedure

1. Shutdown the NetWorker daemons:

```
nsr_shutdown
```

2. Edit or create the following file:

```
/nsr/res/servers
```

3. 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 backup or perform a directed recovery to the host.

4. Start the NetWorker daemons:

- AIX: `/etc/rc.nsr`
  - HP-UX: `/sbin/init.d/networker start`
  - Linux: `/etc/init.d/networker start`
5. For AIX and HP-UX only, confirm that the NetWorker daemons started:

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

## 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.

### Procedure

- Point the browser to the following url:  
`http://server_name:http_service_port`
- Double-click **NetWorker Console** in the Java Web Start Application Manager.
- On Windows Console clients, double-click the **NetWorker Management Console** desktop icon.