



RELEASE NOTES

EMC[®] NetWorker[®]
Release 7.4
Multiplatform Version
Service Pack 3

Release Notes
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These release notes contain supplemental information about the EMC[®] NetWorker[®] 7.4 Service Pack 3, Service Pack 2, Service Pack 1, and NetWorker 7.4 releases.

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Revision history

The EMC NetWorker 7.4 Release Notes was originally published in June, 2007. [Table 1](#) lists revisions to this document that have been made since that date.

Table 1 **Revision history (page 1 of 3)**

Date	Description
September 2008	<p>The following sections have been added for the 7.4 Service Pack 3 release:</p> <ul style="list-style-type: none"> • “NetWorker Release 7.4 Service Pack 3” on page 5 • “Fixed bugs in release 7.4 Service Pack 3” on page 50 • “Problems and limitations discovered in release 7.4 Service Pack 3” on page 65 • “Documentation errata for the NetWorker release 7.4 Service Pack 3 documentation” • “Changes to the NetWorker Administration Guide Message log management section” on page 146 <p>The following sections have been added to the “Problems and limitations discovered in release 7.4 Service Pack 2” section:</p> <ul style="list-style-type: none"> • “LGTsc18716”: “Deploying NetWorker with a Hyper-V Guest on Microsoft Windows Server 2008 is not currently supported” on page 82 • “LGTsc13933”: “VSS system state backups may fail if programs were not cleanly uninstalled” on page 84 <p>The following sections have been updated for the 7.4 and 7.4 Service Pack 1 releases:</p> <ul style="list-style-type: none"> • “Directed recover fails with permission errors on Windows” on page 121 • “Replicated dedupe savesets are not deleted” on page 95
June, 2008	<p>The following updates have been made to the 7.4 Service Pack 2:</p> <ul style="list-style-type: none"> • “End of Service Life for NetWorker release 7.2” on page 24 added to the “New features and changes” section. • “Java Web Start cache path and non-English characters” on page 62 added to the “Fixed bugs in release 7.4 Service Pack 2” section. • LGTpa83927 added to “Problems and limitations discovered in release 7.4 Service Pack 2”. • “Open File Management on Microsoft Windows” on page 136 added to the “Internationalization support” section. • “Change to save set expiration time” on page 142 added to the “Internationalization support” section. • “NDMP client license support for connecting media library to NAS” on page 144 added to the “Documentation errata” section. • “Changes to the NetWorker Administration Guide Message log management section” on page 146 added to the “Documentation errata” section.

Table 1 Revision history (page 2 of 3)

Date	Description
March, 2008	<p>The following sections have been added for the 7.4 Service Pack 2 release:</p> <ul style="list-style-type: none"> • “NetWorker Release 7.4 Service Pack 1” on page 28 • “Fixed bugs in release 7.4 Service Pack 2” on page 53 • “Problems and limitations discovered in release 7.4 Service Pack 2” on page 81 • “Documentation errata for the NetWorker release 7.4 Service Pack 2 documentation” <p>The following sections have been added for the 7.4 and 7.4 Service Pack 1 releases:</p> <ul style="list-style-type: none"> • “NetWorker 7.4 and NetWorker 7.4 Service Pack 1 security alert (LGTsc14258)” on page 33 • “NetWorker 7.4 and NetWorker 7.4 Service Pack 1 security alert (LGTsc14258)” on page 48 <p>The following sections have been added to the “Documentation errata” section:</p> <ul style="list-style-type: none"> • “The recover -U command not documented in man page or Command Reference Guide” on page 144 • “Addition to EMC AutoStart Installation Instructions” on page 145 • “Incorrect instructions for recovering MSCS Cluster service” on page 145
February, 2008	<p>The following updates have been made to the 7.4 Service Pack 1:</p> <ul style="list-style-type: none"> • AFTD devices required for de-duplication backups, under “NetWorker de-duplication backups” on page 28. • LGTsc12970, LGTsc12500, LGTsc11618, LGTsc11491, and LGTsc09583 added to “Problems and limitations discovered in releases 7.4 and 7.4 Service Pack 1” on page 88. • “Incorrect information on storage nodes supported with servers in NetWorker Installation Guide” and “nsrmm command documentation does not reflect proper command syntax” added to “Documentation errata” on page 143. • “EMC NetWorker Dashboard Option version 1.0 SP2 is supported” on page 28
December, 2007	<p>The 7.4 Service Pack 1 includes the following new and enhanced features:</p> <ul style="list-style-type: none"> • “NetWorker de-duplication backups” on page 28 • “Storage Node selection during cloning in a CDL environment and the FORCE_REC_AFFINITY environment variable” on page 30 • “Improved VMware Consolidated Backup support” on page 31 • “NDMP DAR (Direct Access Recovery)” on page 32 • “NDMP DDAR (Directory Direct Access Recovery)” on page 32 <p>The 7.4 Service Pack 1 includes the following additions, corrections, and omissions:</p> <ul style="list-style-type: none"> • “Configuring the NetWorker software to back up a VMware virtual client by using VCB” on page 31 • “NetWorker can overwrite EDM tape labels” on page 39 • “Fixed bugs in NetWorker release 7.4 Service Pack 1” on page 56 • “NetWorker release 7.4.x does not support EBA 2.1.1” on page 64 • “Problems and limitations discovered in releases 7.4 and 7.4 Service Pack 1” on page 88 • “EMC NetWorker License Manager not supported on Solaris Opteron platform” on page 136

Table 1 Revision history (page 3 of 3)

Date	Description
September, 2007	<p>Release 7.4 includes the following new and enhanced features:</p> <ul style="list-style-type: none"> • “Enhancements to nwrecover” on page 37 • “Licensing changes” on page 38 • “Internationalization support” on page 34 • “Improvements in managing tables in NMC” on page 38 • “Tapes can be loaded without mounting” on page 38 • “Inventory and Label operations” on page 38 • “DSN cluster backup” on page 39 • “NetWorker can overwrite EDM tape labels” on page 39 • “NO_SUPPRESS option no longer supported” on page 39 <p>Release 7.4 includes the following additions, corrections, and omissions:</p> <ul style="list-style-type: none"> • “Limitations in NetWorker support for Novell’s OES Linux” on page 98 • “JRE version mismatch causes authentication failure, stops GSTD” on page 101 • “Potential data loss if running a scanner against an AFTD” on page 47 • “Limitations when updating clients using the Software Administration Wizard”. • “NO_SUPPRESS option no longer supported” on page 146 • “Error message on SuSE 10 (x86) for Failed Dependencies” on page 146
June, 2007	<ul style="list-style-type: none"> • NetWorker 7.4 released.

Product description

The EMC NetWorker 7.4 Service Pack 3 release provides significant functional enhancements in a number of areas, including support for the following:

- ◆ Support for the NetWorker server and storage node on Microsoft Windows Server 2008
- ◆ Support for Bare Metal Recovery
- ◆ NetWorker client support for VCS on Solaris, Linux, and Microsoft Windows

Before installing NetWorker release 7.4 Service Pack 3, review the NetWorker release 7.4 Service Pack 1 installation guide, administration guide, and other documentation. The section [“Documentation” on page 143](#) lists the complete NetWorker release 7.4.x documentation.

New features and changes

The NetWorker software contains the following new features and enhancements. More detailed information on these features is provided in the EMC NetWorker Administration Guide.

- ◆ [“NetWorker Release 7.4 Service Pack 3” on page 5](#)
- ◆ [“NetWorker Release 7.4 Service Pack 2” on page 19](#)
- ◆ [“NetWorker Release 7.4 Service Pack 1” on page 28](#)
- ◆ [“NetWorker Release 7.4” on page 34](#)

NetWorker Release 7.4 Service Pack 3

NetWorker release 7.4 Service Pack 3 includes these new features and changes:

- ◆ [“Support to automatically import NetWorker license enablers and authorization codes from EMC Powerlink Licensing” on page 6](#)
- ◆ [“Support for Bare Metal Recovery \(BMR\)” on page 9](#)
- ◆ [“Support for Veritas Cluster Server 5.0” on page 9](#)
- ◆ [“Support for Microsoft Failover Cluster on Windows Server 2008” on page 9](#)
- ◆ [“Support for EMC Avamar Server version 4.0.1” on page 10](#)
- ◆ [“Support for NetWorker server on Microsoft Windows Server 2008” on page 10](#)
- ◆ [“Support for the NetWorker storage node on Microsoft Windows Server 2008” on page 10](#)
- ◆ [“Support for DAS silo on Microsoft Windows Server 2008” on page 10](#)
- ◆ [“Support for the NMC server and client on Microsoft Windows Server 2008” on page 10](#)
- ◆ [“Support for NetWorker client with Windows Server 2008 Hyper-V Guest Operating System” on page 13](#)
- ◆ [“NetWorker support for virtual environments” on page 13](#)
- ◆ [“Support for de-duplication client platforms” on page 14](#)

- ◆ “New alert message added for NetWorker licenses that are about to expire, or have expired” on page 15
- ◆ “Support in the nwrecover program for specifying a particular NetWorker server during a client recovery operation” on page 15
- ◆ “Support in the winworkr program for specifying a particular NetWorker server” on page 16
- ◆ “New information message added for local directives applied to client data” on page 16
- ◆ “Support to persistently turn on the NDMP DDAR setting” on page 17
- ◆ “Diagnostic Mode can be set and now saved as a user preference” on page 17
- ◆ “User configurable notifications added for SCSI bus resets” on page 17
- ◆ “New log messages added for directed recovery operations” on page 17
- ◆ “Support to update the current inventory of devices” on page 18

Support to automatically import NetWorker license enablers and authorization codes from EMC Powerlink Licensing

NetWorker release 7.4 Service Pack 3 introduces support to automatically import and install NetWorker license enablers and authorization codes from EMC Powerlink[®] Licensing directly to a NetWorker server or a License Manager system.

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

The license enabler code that you purchase is valid for 45 days, as a registration period. During the registration period, you must obtain and enter a corresponding authorization code. Refer to the *NetWorker Release 7.4 Service Pack 1 Installation Guide* for instructions of purchasing, enabling and authorizing the NetWorker software.

How to download the NetWorker License Enabler Codes from EMC Powerlink Licensing

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

To download the license enabler codes from EMC Powerlink:

1. Go to the EMC Powerlink website (registration required) at:
<http://Powerlink.EMC.com>
2. Select **Support > Product Registration and License Keys** and follow the instructions for your product. The **Powerlink Licensing Home** page appears.
3. On the **Powerlink Licensing Home** page, select **Download Enabler Codes** in the **NetWorker Tools** section. The **Search for Downloading Enabler Codes** page appears.
4. For the **%HostID** attribute, enter a valid HostID.
5. Click **Search**. The **Search for Downloading Enabler Codes** page appears displaying the list of hosts that match the criteria.
6. Click the HostID that matches the criteria. The **Download** page appears.

7. Click **Download Enablers** and follow the prompts to download and save the files.

The download includes the following three files:

- ◆ ReadMe file
 - Describes the process and how to use nsradmin to load the enablers.
 - Format: ReadMe_<HostID>_<Date>.txt
 - Example: ReadMe_df010b3f_20080814.txt
- ◆ Nsradmin file
 - This file loads into **nsradmin**.
 - Format: <HostID><date>.nsradmin
 - Example: df010b3f_20080814.nsradmin
- ◆ CSV file
 - This file contains the enabler codes and the information related to them including part descriptions, part numbers, and authorization (auth) codes. You can import this file into Excel and search and sort the contents.
 - Format: <hostID>.csv
 - Example: df010b3f.csv

These files can be downloaded at any time from Powerlink:

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

How to apply the NetWorker License Enabler codes

1. Ensure that you have the following permissions on the NetWorker server. The permissions differ for Windows, Linux, and UNIX.
 - Windows: Administrator
 - UNIX and Linux: Root
2. Identify the location where the files were downloaded.
3. Run the following **nsradmin** command from the directory where the source_file is located.

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

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


```
nsradmin -i source_file > out_file
```
- To install the NetWorker licenses on a remote NetWorker server, enter this command:


```
nsradmin -i source_file -s server_name > out_file
```
- To install the NetWorker licenses on a License Manager system, enter this command:


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

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

- Success entry message in the output file.

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

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

- Failed entry message in the output file.

If a license load failed, entries similar to the following might appear.

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

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

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

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

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

How to provide feedback

To provide feedback:

- ◆ If these error message appears in the output file or you would like to provide feedback, contact EMC licensing.
- ◆ If you can not determine the reason for a failure or experience problems with updating the NetWorker license, contact EMC Support. You can open a Service Request on powerlink.emc.com.

Support for Bare Metal Recovery (BMR)

NetWorker release 7.4 Service Pack 3 provides integration with EMC HomeBase Agent version 6.1.3 to enable Bare Metal Recovery (BMR) of server system data.

During the NetWorker client installation, the HomeBase Agent installation binaries are copied to a standard location (on UNIX, /opt/homebase-agent; on Windows, \NWInstallDIR\HomeBaseAgent). You must run the installation script to install the HomeBase Agent software.

The HomeBase Agent collects configuration information about the operating system platform of the host on which it is installed. This information is called a profile.

A profile can be used to:

- ◆ Monitor configuration changes
- ◆ Migrate configuration changes
- ◆ Recover the operating system's configuration from an EMC HomeBase Server

The profile data includes hardware configurations, operating system levels, system tuning, network configuration and connections, security, and storage layouts. This information is captured with a NetWorker saveset backup and is sent to a secure HomeBase server for storage and analysis.

BMR backup is available on Windows, Solaris, and Red Hat Linux platforms. The HomeBase Server is required to perform a BMR server recovery or migration.

Note: The NetWorker software only provides support for HomeBase Agent version 6.1.3; other versions of HomeBase are not supported.

The following documents provide information about the HomeBase Server features:

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

[“Bare Metal Recovery \(BMR\) installation and administration” on page 171](#) provides detailed information on BMR.

Support for Veritas Cluster Server 5.0

NetWorker release 7.4 Service Pack 3 introduces NetWorker client support for Veritas Cluster Server 5.0 (VCS) on Solaris, Linux, and Microsoft Windows 2003.

[“Veritas Cluster Server 5.0 installation” on page 149](#) provides information on how to install the NetWorker client software in a Veritas Cluster Server 5.0 environment.

Support for Microsoft Failover Cluster on Windows Server 2008

NetWorker release 7.4 Service Pack 3 introduces support for Microsoft Failover Cluster on Windows Server 2008.

[“Microsoft Failover Cluster on Windows Server 2008 installation” on page 161](#) provides information on how to install the NetWorker software in a Microsoft Failover Cluster on Windows Server 2008 environment.

Support for EMC Avamar Server version 4.0.1

NetWorker release 7.4 Service Pack 3 introduces support for Avamar[®] version 4.0.1.

Support for NetWorker server on Microsoft Windows Server 2008

NetWorker release 7.4 Service Pack 3 includes support for the NetWorker server that is running on Microsoft Windows Server 2008.

The following table lists additional NetWorker support for Microsoft Windows Server 2008.

Table 2 NetWorker support for Windows Server 2008

NetWorker feature	Description
Microsoft Windows Server 2008 failover cluster support	Provides the same level of failover cluster support as was provided for previous releases of Windows Server.
NetWorker server support for Microsoft Windows Server 2008	When NetWorker Server is installed on Windows Server 2008, then NetWorker clients, storage nodes, and other resources can be configured for this server.

Support for the NetWorker storage node on Microsoft Windows Server 2008

NetWorker release 7.4 Service Pack 3 includes support for the NetWorker storage node that is running on Microsoft Windows Server 2008.

NetWorker can be installed and configured as a NetWorker storage node on a Microsoft Windows Server 2008 machine.

Support for DAS silo on Microsoft Windows Server 2008

NetWorker release 7.4 Service Pack 3 includes support for DAS silos running on Microsoft Windows Server 2008 (x86 or 32-bit).

Support for the NMC server and client on Microsoft Windows Server 2008

NetWorker release 7.4 Service Pack 3 includes support for the NetWorker Management Console (NMC) server and client that is running on Microsoft Windows Server 2008.

NetWorker can be installed and configured as an NMC server and client on a Microsoft Windows Server 2008 machine.

NetWorker Management Console requirements

Table 3 on page 11 lists the requirements for the Console.

Table 3 Console requirements (page 1 of 2)

System features	Operating system	Requirement
Operating system	AIX	<ul style="list-style-type: none"> AIX5L version 5.2 (32-bit, 64-bit) AIX5L version 5.3 (32-bit, 64-bit)
	HP-UX	<ul style="list-style-type: none"> HP 11i version 2 HP 11i version 3
	Linux for x86	<ul style="list-style-type: none"> Red Hat Enterprise Server 3 Red Hat Enterprise Server 4 Red Hat Enterprise Server 5 SuSE Linux Enterprise Server 8 SuSE Linux Enterprise Server 9 SuSE Linux Enterprise Server 10 <p>Note: SuSE Linux Enterprise Server version 9.2 is <i>not</i> supported.</p>
	Linux for em64T Linux for AMD64	<ul style="list-style-type: none"> Red Hat Enterprise Server 3 Red Hat Enterprise Server 4 Red Hat Enterprise Server 5 SuSE Linux Enterprise Server 9 SuSE Linux Enterprise Server 10 <p>Note: SuSE Linux Enterprise Server version 9.2 is <i>not</i> supported.</p>
	Microsoft Windows for x86	<ul style="list-style-type: none"> Microsoft Windows 2000, with SP3 Microsoft Windows 2000, with SP4 Microsoft Windows 2003, with SP1, Microsoft Windows 2003, with SP2 Microsoft Windows 2008
	Microsoft Windows for em64T Microsoft Windows for AMD64	<ul style="list-style-type: none"> Microsoft Windows 2003, with SP2 Enterprise Edition Microsoft Windows 2003, with SP2 Datacenter Edition Microsoft Windows 2008
	Solaris	<ul style="list-style-type: none"> Solaris 8, 9, 10
Java Runtime Environment	AIX	JRE starting from version 1.4.2 or later.
	HP-UX	
	Linux	
	Solaris	
	Microsoft Window 2000 Microsoft Window 2003 Microsoft Window XP	
	Microsoft Windows Vista Microsoft Windows 2008	

Table 3 Console requirements (page 2 of 2)

System features	Operating system	Requirement
Browsers	AIX	<ul style="list-style-type: none"> • Mozilla 1.7 on the supported AIX platforms.
	HP-UX	<ul style="list-style-type: none"> • Mozilla 1.6 on the supported HP-UX platforms.
	Linux for x86	<ul style="list-style-type: none"> • Mozilla 1.7 on the supported Linux platforms.
	Linux for em64T Linux for AMD64	
	Microsoft Windows	Microsoft Internet Explorer 6: <ul style="list-style-type: none"> • Microsoft Windows 2000 Microsoft Internet Explorer 6 or 7: <ul style="list-style-type: none"> • Microsoft Windows XP • Microsoft Windows 2003 Microsoft Internet Explorer 7: <ul style="list-style-type: none"> • Microsoft Windows Vista • Microsoft Windows 2008
	Solaris	<ul style="list-style-type: none"> • Mozilla 1.7 on the supported Solaris platforms.
Available disk space	AIX	<ul style="list-style-type: none"> • Console client: 10 MB • JRE with Web Start: 55 MB
	HP-UX	<ul style="list-style-type: none"> • Console client: 10 MB • JRE with Web Start: 55 MB
	Linux	<ul style="list-style-type: none"> • Console client: 10 MB • JRE with Web Start: 55 MB
	Microsoft Windows	<ul style="list-style-type: none"> • Console client: 5 MB • JRE with Web Start: 50 MB
	Solaris	<ul style="list-style-type: none"> • Console client: 10 MB • JRE with Web Start: 55 MB
RAM	AIX	A minimum of 512 MB to run reports.
	HP-UX	
	Linux	
	Microsoft Windows	
	Solaris	
Graphics card	AIX	Must support the display of the following: <ul style="list-style-type: none"> • At least 16-bit color (at least 65,000 colors) • Screen resolution of at least 1024 x 768
	HP-UX	
	Linux	
	Microsoft Windows	
	Solaris	

Support for NetWorker client with Windows Server 2008 Hyper-V Guest Operating System

NetWorker release 7.4 Service Pack 3 introduces NetWorker client backup and recovery support of system state and data volumes within Hyper-V guest machines running Microsoft Windows Server 2008 supported guest operating systems.

Note: The NetWorker client support within a Hyper-V guest machine is independent of the Hyper-V role implementation on Windows Server 2008 or Windows Server 2008 Core.

The *EMC Software Compatibility Guide* provides a detailed list of NetWorker client supported Hyper-V guest operating systems.

NetWorker support for virtual environments

NetWorker release 7.4 Service Pack 3 introduces a new simplified licensing model for virtualized environments. The *EMC Software Compatibility Guide* provides a detailed list of supported server virtualization environments.

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

- ◆ **Virtual client.** Set the attribute to “Yes” by selecting the Virtual Client attribute checkbox if the client is a virtual client.
- ◆ **Physical host.** If the client is a virtual client, set the attribute to the hostname of the primary/initial physical machine hosting the virtual client.

Virtual Edition Client Connection license

A new license type, Virtual Edition Client Connection, has been introduced with NetWorker release 7.4 Service Pack 3. The Virtual Edition Client Connection works with all server virtualization environments supported by the NetWorker software.

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

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

- ◆ Changing the Virtual client physical hostname attribute in the Client resources for all virtual clients that reference the physical host.
- ◆ Deleting all Client resources for virtual clients that reference the physical host.

Licensing changes for NetWorker Modules in virtual environments

When NetWorker Module software is running natively on a virtual machine, one module license will be consumed per physical host. The virtual edition client connection license allows file system backups of unlimited number of VMs on a single physical host.

For application-consistent backups, a NetWorker Virtual Edition Client and the appropriate NetWorker Application module are required for each of the individual virtual machines. One license is required for each application type (SQL,

Exchange, SharePoint, Oracle, SAP, etc.) used within all of the virtual machines on a single physical server. There are no changes to model codes for NetWorker Modules, so use existing codes and license enablers.

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

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

The VCC license is not automatically applied to an existing VM after upgrading to NetWorker 7.4 SP3. As a result, the VM uses one standard client license for the pre-existing virtual client instead of using the virtual client license.

To enable the use of the virtual client license and free up the use of the standard client license, select the Virtual client attribute checkbox for this client's resource, and specify the Physical Host.

Licensing Changes for VMware Consolidated Backup

With NetWorker release 7.4 Service Pack 3, when VMware Consolidate Backup (VCB) is being used, each proxy backup host will consume one standard Client Connection license, regardless of how many virtual clients are configured to backup via the proxy backup host. [“Configuring the NetWorker software to back up a VMware virtual client by using VCB” on page 31](#) provides details about configuring a client for VCB backup.

Support for de-duplication client platforms

The following table lists the supported de-duplication client platforms.

Table 4 List of supported de-duplication client platforms (page 1 of 2)

Operating system	Version	Platform	Operating system bit
AIX 5L	5L, 5.2, 5.3	IBM RS/6000	32-bit, 64-bit
HP-UX	11iv1, 11iv2	HP 9000	32-bit, 64-bit
Mac OS X	10.4.x	PowerPC	32-bit
Solaris	8, 9, 10	Sun SPARC	32, 64-bit
Red Hat Enterprise Linux AS/ES/ WS	3.0	Intel IA-32	32-bit
	3.0	AMD64/EMT64T	64-bit
	4.0	Intel IA-32	32-bit
	4.0	AMD64/EMT64T	64-bit
SuSE Linux Enterprise Server	9.0	Intel IA-32	32-bit
	9.0	AMD64/EMT64T	32-bit

Table 4 List of supported de-duplication client platforms (page 2 of 2)

Operating system	Version	Platform	Operating system bit
Microsoft Windows	Server 2003	Intel IA-32	32-bit
	Server 2003 X64	AMD64/EMT64T	64-bit
	XP	Intel IA-32	32-bit
	XP professional x64	AMD64/EMT64T	64-bit
	2000	Intel IA-32	32-bit

New alert message added for NetWorker licenses that are about to expire, or have expired

A new license alert message has been defined in the NetWorker software. An alert is generated 15 days before a NetWorker license is about to expire, or has just expired. The alert appears until the NetWorker license is authorized or deleted.

To view the license alert:

- ◆ From the **NetWorker Administration** window, click **Monitoring>Alert**.
- ◆ From the **Console** window, click **Events**.

Support in the `nwrecover` program for specifying a particular NetWorker server during a client recovery operation

NetWorker release 7.4 Service Pack 3 includes support for specifying a particular NetWorker server during a recovery operation using the `nwrecover` program.

When performing a NetWorker client recovery operation, you can enter a specific NetWorker server to connect to using the `-s` option, or you can select the server using the **Change Server** dialog box in the `nwrecover` user interface:

- ◆ If a NetWorker server is specified from the command line using `-s servername`, the software connects to the specified NetWorker server.
- ◆ If no server is specified from the command line and the `servers` file contains only one NetWorker server entry, the `nwrecover` program connects to the NetWorker server listed in the `servers` file.
The `servers` file is located in `/nsr/res/servers`.
- ◆ If no server is specified from the command line and the `servers` file contains more than one NetWorker server entry, the **Change Server** dialog box appears. You can select a NetWorker server from the list.
- ◆ If no server is specified from the command line and the `servers` file is empty, the **Change Server** dialog box appears.
 - Select the NetWorker server from the list.
 - Click **Update** to view additional NetWorker servers on the network.

Support in the winworkr program for specifying a particular NetWorker server

NetWorker release 7.4 Service Pack 3 includes support for specifying a particular NetWorker server during a backup or recovery operation using the **winworkr** program.

When performing a NetWorker client backup or recovery operation, you can enter a specific NetWorker server to connect to using the **-s** option, or you can select the server using the **Change Server** dialog box in the **winworkr** user interface:

- ◆ If a NetWorker server is specified from the command line using **-s servername**, the software connects to the specified NetWorker server.
- ◆ If no server is specified from the command line and the *servers* file contains one or more NetWorker server entries, the **Change Server** dialog box appears.
 - Select the NetWorker server from the list.
 - Click **Update List** to view additional NetWorker servers on the network.The *servers* file is located in *C:\Program Files\Legato\nsr\res\servers*.
- ◆ If no server is specified from the command line and the *servers* file is empty, the **Change Server** dialog box appears with no NetWorker servers listed.
 - Type the name of a NetWorker server in the field.
 - Click **Update List** to view additional NetWorker servers on the network.

To set the default NetWorker server:

1. In the **Change Server** dialog box, select the NetWorker server from the list.
2. Select the **Save as Default Server checkbox** and then click **OK**.

The software connects to the specified NetWorker server and sets it as the default server in the registry.

New information message added for local directives applied to client data

A new information message has been defined in the NetWorker software. An information message is generated when the NetWorker software detects that a local directive has been applied to a directory on a client that is to be backed up.

The directives information message for:

- ◆ Scheduled backups is logged in *nsr/logs/messages* file.
- ◆ Manual backups is printed to *stderr*.

Data loss might occur when data that should be backed up is not backed up because local directives were applied to client directories and then forgotten about.

Support to persistently turn on the NDMP DDAR setting

The new *ndmp_ddar_clientname* file has been defined in the NetWorker software. Use this file to persistently turn the NDMP Directory Direct Access Recovery (DDAR) setting on or off for a NetWorker client attached to a NAS filer, across different recovery sessions.

Using the *ndmp_ddar_clientname* file

To turn on DDAR persistently for a NetWorker client across different recovery sessions:

1. Create the following file in the */nsr/debug/* directory:

```
ndmp_ddar_clientname
```

Where *clientname* is a hostname or IP address of the NetWorker client associated with the NAS filer to which data is recovered.

2. Ensure that the *clientname* part of the filename exactly matches the name in the NetWorker client resource. For example:
 - If the client resource associated with the filer is named *abc.emc.com*, create a file named *ndmp_ddar_abc.emc.com* in the */nsr/debug* directory.
 - If the client resource name is an IP address *192.168.0.10*, create a file named *ndmp_ddar_192.168.0.10* in the */nsr/debug* directory.

For example, the file *ndmp_ddar_mynasfiler* turns on DDAR for *mynasfiler*.

The *ndmp_ddar_clientname* file can be used in conjunction with the *NSR_NDMP_DDAR* environment variable.

Diagnostic Mode can be set and now saved as a user preference

Diagnostic Mode can be set to On or Off and that setting will be saved as a user preference for subsequent NMC sessions.

User configurable notifications added for SCSI bus resets

A new user configurable notification has been defined in the NetWorker software. This notification sends an alert when a SCSI bus reset is detected and logged in the *daemon.raw* file.

The *EMC NetWorker Administration Guide* provides details on how to configure the Action field for notifications.

New log messages added for directed recovery operations

A new success or failure log message for directed recovery operations has been defined in the NetWorker software.

This new log message includes the name of the NetWorker client that saved the files. During a directed recovery operation, the recovered save sets belong to the NetWorker client named in the new success or failure log message.

The success or failure log message for the host that initiates the directed recovery displays in the Console. The success or failure log message for the NetWorker server is logged in the *daemon.log* file.

Note: The success or failure log message in daemon.log is seen only when a directed recovery is run with the **-R** option from CLI command prompt, or when the Recover GUI is launched on a different client than the one to where the data is being recovered.

The *EMC NetWorker Administration Guide* provides details on how to configure the Action field for notifications.

Support to update the current inventory of devices

When devices are re-ordered, the NetWorker software detects the change and stops the backup or recover operation. This prevents the following errors from occurring:

- ◆ Duplication of volume information appearing in the NetWorker jukebox resource.
- ◆ Volumes are unavailable in the NetWorker media database.

To manually update the current inventory of devices, perform the following:

1. Ensure that CDI is enabled on all the devices.
2. For each storage node that contains devices that do not have the serial number listed, perform a "scan for devices" to populate and update the serial number data in the NetWorker resource database.

Devices whose serial numbers do not appear in the resource database might have been manually configured or added using a previous version of NetWorker software.

NetWorker Release 7.4 Service Pack 2

NetWorker release 7.4 Service Pack 2 includes these new features and changes:

- ◆ “Support for NetWorker client on Microsoft Windows Server 2008” on page 19
- ◆ “Support for NetWorker client on Microsoft Windows Server 2008 Core” on page 23
- ◆ “Support for NetWorker client on Microsoft Windows Vista SP1” on page 23
- ◆ “Licensing changes” on page 24
- ◆ “Support for JRE 1.6” on page 24
- ◆ “Support for NetWorker server and storage node on Red Hat Enterprise Server 5” on page 24
- ◆ “Support for NetWorker client on Mac OS X 10.5” on page 25
- ◆ “New media library attribute and addition to the device configuration wizard” on page 25
- ◆ “New save set All-<file system-type> functionality” on page 25
- ◆ “New volume flag added to indicate save sets on the volume may need to be scanned” on page 25
- ◆ “Change to behavior of save output files” on page 27

Support for NetWorker client on Microsoft Windows Server 2008

NetWorker release 7.4 Service Pack 2 includes support for the NetWorker client that is running on Microsoft Windows Server 2008.

The following notes and limitations apply to NetWorker client support on Windows Server 2008:

Windows Server 2008 cluster support

NetWorker release 7.4 Service Pack 2 supports backup and recovery of Windows Server 2008 clusters. There are some differences in the Cluster Writer save set names between Windows Server 2003 and Windows Server 2008.

In Windows Server 2003, the NetWorker software uses the following specifications:

- ◆ Cluster writer name: Cluster Service Writer
- ◆ Backup and recovery saveset: Under the VSS SYSTEM SERVICES system save set
- ◆ Mode: Regular recovery mode only, using the NetWorker user interface or command line.

In Windows Server 2008, the NetWorker software uses the following specifications:

- ◆ Cluster writer name: Cluster Database
- ◆ Backup and recovery save set: Under the VSS SYSTEM SERVICES system save set

- ◆ Two recovery modes:
 - Authoritative restore, which uses command-line only
 - Non-authoritative restore, which uses the NetWorker user interface or command line.

Windows Server upgrade notes

When upgrading the operating system, perform a full backup. For example, when you upgrade a server from Windows Server 2003 to Windows Server 2008, perform a full backup after completing the upgrade.

Windows Server 2008 does not support recoveries of Windows Server 2003 backups of the Cluster Writer. Although NetWorker release 7.4 Service Pack 2 does not prevent attempts to recover a Windows Server 2003 Cluster to a Windows Server 2008 Cluster, recoveries will fail.

Cluster Writer recovery options for Windows Server 2008

Nonauthoritative restore (default)

Use this mode if the cluster is completely lost. In such cases, the cluster service does not run on either node, and the cluster database is missing or corrupted. Nonauthoritative restores restore the cluster but do not restore a particular version of the database. After the nonauthoritative restore is complete, you must follow up with an authoritative restore to recover a specific version of the database. The NetWorker software performs an nonauthoritative restore by default. You must ensure that the VSS SYSTEM BOOT saveset is also selected.

1. In the **NetWorker User** program, select the following save sets:
 - a. The entire **VSS SYSTEM BOOT** save set.
 - b. In the **VSS SYSTEM SERVICES** system save set, select **Cluster Writer**.
2. Start the recovery.
3. Reboot the system when prompted.
4. Repeat [step 1](#) and [step 2](#) on the other nodes as needed.

Authoritative restore

Use this mode when the cluster configuration is lost, but the cluster is otherwise functioning normally. For example, when a cluster resource was accidentally deleted or you want to revert to a previous cluster configuration. The cluster must be functioning normally on all nodes.

Note: Authoritative restores of the Cluster Writer are supported only for Windows Server 2008.

Authoritative recovery

To perform an authoritative recovery from a NetWorker release 7.4 Service Pack 2 backup of a Windows Server 2008 cluster database, you must use a command line. You cannot perform this authoritative recovery from the NetWorker User program.

To perform an authoritative restore of the NetWorker release 7.4 Service Pack 2 Cluster Writer:

1. Ensure that the cluster service is running in the local system.
2. Ensure that the cluster service is running on all nodes.
3. Type the following string on the command line:

```
recover -s NWServername -U -N "VSS SYSTEM SERVICES:\Cluster Database"
```

Where *NWServername* is the name of the NetWorker Server.

Note: Authoritative restores of the Windows 2008 cluster writer will restart the cluster service on all nodes in the cluster.

Windows 2008 on Itanium IA64 not supported

Due to an issue with Microsoft's implementation of IA64, the NetWorker software for Windows Server 2008 is not supported on IA64.

Non-VSS backups not supported on Windows Server 2008

The NetWorker client for Windows Server 2008 does not support non-VSS backups. In particular, the non-VSS system save sets (SYSTEM DB, SYSTEM BOOT and SYSTEM FILES) are not supported. However, if snapshot of the volume fails, the NetWorker software will automatically fall back to a non-VSS backup of the system save sets.

Event logs

Windows Server 2008 does not have an event log writer. The event logs will not be backed up as part of the VSS system save sets. The event logs are backed up as part of the file system.

UDDI backups

On Windows Server 2008, Universal Description, Discovery, and Integration (UDDI) databases can be configured to use either Windows Internal Database or an existing SQL Server installation. If UDDI is configured to use Windows Internal Database, the NetWorker client will save the UDDI data. However, if the UDDI is configured to use an existing SQL server (SQL Express or SQL Server 2005), the NetWorker client does not save the UDDI data.

To back up a UDDI database that is not configured to use Windows Internal Database, either use the NetWorker Module for Microsoft Applications or use the UDDI backup tool. The UDDI Services MMC snap-in Help file provides more information about the UDDI backup tool.

Extensible Firmware Interface

NetWorker release 7.4 Service Pack 2 does not support Microsoft Windows Server 2008 systems that use Extensible Firmware Interface (EFI) operating system loaders.

Microsoft Windows Server 2008 Registry System hive and COM+ Registry database not recovered correctly

NetWorker System State restores on Windows Server 2008 do not correctly recover the Registry System hive and COM+ Registry database. There is a workaround that enables you to do a full system recovery.

Workaround

Before performing this restore, you will need:

- ◆ Windows Server 2008 Installation DVD
- ◆ System BIOS modified to boot from DVD drive

You must complete all steps for a successful restore of the Registry System hive and COM+ Registry database:

1. Using the NetWorker User program (Winworkr), initiate a system recovery that includes all of the VSS Components, the system drive (the drive that contains the \WINNT directory, normally C:), and all other volumes that contain critical operating system data.
2. When the NetWorker User program has finished restoring the system data and prompts you to reboot, perform the following steps first:

- a. Copy the restored system hive that resides in the NetWorker nsr_recover path to a safe location on the system drive.

For example, make a repair directory under the Windows directory and copy the file there:

```
mkdir c:\windows\repair
```

```
copy c:\temp\nsr_recover\...\windows\system32\config\system
c:\windows\repair\system
```

- b. Let the system reboot.
3. When the login window appears after the reboot, do not log on. Insert the Windows Server 2008 installation DVD into the DVD drive.
4. Restart the computer.
5. Use the DVD to boot the computer into **Windows Recovery Console**.
6. On the Windows Server 2008 install preferences screen, select your preferences for language, time, and keyboard, and then click **Enter**.
7. On the **Install now** screen click **Repair Your Computer**.
8. Select an operating system to repair, and then click **Next**.
9. On the **System Recovery Options** screen, click **Command Prompt**.
10. In the command window, change to the system drive:

```
c:
```

11. Rename the current system hive to system.bak:

```
cd c:\windows\system32\config
rename system system.bak
```

12. Copy the system file created in step 2 to the config directory:

```
copy c:\windows\repair\system c:\windows\system32\config\system
```

13. Exit the command window.
14. Remove the Windows 2008 Installation DVD from the DVD drive.
15. Click **Restart** to exit the Recovery Console.

16. Reboot the system.
17. Log on to the system as a local system administrator.
18. Open a command window.
19. Change the working directory to the COM+ catalog files folder:

```
cd %windir%\registration
```

20. Delete all the COM+ catalog files that are not in use, except for the R000000000001.clb file. The following command will prompt you to confirm the deletion of each file; select N for the R000000000001.clb file if it exists.

```
del /p *.clb
```

Support for NetWorker client on Microsoft Windows Server 2008 Core

NetWorker release 7.4 Service Pack 2 includes support for the NetWorker client that runs on Microsoft Windows Server 2008 Core.

Because Microsoft Windows Server 2008 Core contains limited feature functionality, in addition to the notes and limitations described in [“Support for NetWorker client on Microsoft Windows Server 2008” on page 19](#), the following limitations apply to using the NetWorker software on Windows Server 2008 Core.

NetWorker User online help does not display on Windows Server 2008 Core

Because Windows Server 2008 Core does not include support for Windows online help, the help for the NetWorker User program does not appear.

Uninstalling the NetWorker software on Windows Server 2008 Core

Because Windows Server 2008 Core does not include support for Control Panel applets, you cannot uninstall the NetWorker software by using the Add/Remove Programs applet.

To uninstall the software, perform one of the following:

- ◆ Run the setup.exe file from the NetWorker installation disk and select to uninstall the software.
- ◆ Use the Windows Management Instrumentation command-line utility (wmic.exe) to access information about NetWorker and to uninstall it. The Microsoft Knowledgebase article 290216 provides further information about the Windows Management Instrumentation utility.

Support for NetWorker client on Microsoft Windows Vista SP1

With NetWorker release 7.4 Service Pack 2, support for the NetWorker on Microsoft Windows Vista is extended to include support for Vista Service Pack 1.

Non-VSS backups not supported on Windows Vista

The NetWorker client for Windows Vista does not support non-VSS backups. In particular, the non-VSS system save sets (SYSTEM DB, SYSTEM BOOT and SYSTEM FILES) are not supported. However, if snapshot of the volume fails, the NetWorker software will automatically fall back to a non-VSS backup of the system save sets.

Event logs

Windows Vista does not have an event log writer. The event logs will not be backed up as part of the VSS system save sets. The event logs are backed up as part of the file system.

Microsoft Windows Vista Registry System hive and COM+ Registry database not recovered correctly

NetWorker System State restores on Windows Vista do not correctly recover the Registry System hive and COM+ Registry database. See [“Microsoft Windows Server 2008 Registry System hive and COM+ Registry database not recovered correctly”](#) on page 21 for the necessary workaround.

End of Service Life for NetWorker release 7.2

NetWorker release 7.2 reached its End of Service Life on June 30, 2008. Extended support will be available until June 30, 2010. For more information, please contact your support renewals representative.

Licensing changes

The following changes have been made to licensing for NetWorker release 7.4 Service Pack 2:

- ◆ VSS licensing: A license is no longer required to perform open file backups of system and data volumes on Microsoft Windows.

For this change to take effect, the NetWorker server and all NetWorker VSS client machines will have to be upgraded to 7.4 Service Pack 2. Otherwise, previous licensing requirements are enforced.

- ◆ Cluster Client Connections license: With NetWorker release 7.4 Service Pack 2, the Cluster Client Connections license is eliminated. Cluster clients no longer require a separate license. Instead, each physical node of the cluster will consume one regular Client Connection license.

For this change to take effect, the NetWorker server and all clustered NetWorker client machines will have to be upgraded to 7.4 Service Pack 2. Otherwise, previous licensing requirements are enforced.

Support for JRE 1.6

NetWorker release 7.4 Service Pack 2 adds support for Java Runtime Environment (JRE) 1.6 for use with the NetWorker Management Console (NMC). NMC continues to support JRE 1.4.2 and JRE 1.5, and the JRE distributed with the installation continues to be version 1.5_13.

EMC NetWorker Dashboard not supported with JRE 1.6

EMC NetWorker Dashboard 1.0.2 is not supported with JRE 1.6. If you are using Dashboard in conjunction with NetWorker release 7.4 Service Pack 2, you must use JRE 1.4.2 or JRE 1.5.

Support for NetWorker server and storage node on Red Hat Enterprise Server 5

NetWorker release 7.4 Service Pack 2 introduces support for NetWorker server and storage node on Red Hat Enterprise Server 5 (x86 and IA64 platforms).

Support for NetWorker client on Mac OS X 10.5

NetWorker release 7.4 Service Pack 2 introduces support for NetWorker client on Mac OS X 10.5.

New media library attribute and addition to the device configuration wizard

A new attribute, Use Persistent Names, has been added to the General tab of the Storage Node resource for NetWorker release 7.4 Service Pack 2. When this attribute is selected, configuration of a tape library (by using autoconfiguration from NMC) on a Linux host attempts to use the symbolic name for media library control ports and devices controlled by udev on Linux. When using the device configuration wizard, you can also select this option during autoconfiguration of devices.

New save set All-<file system-type> functionality

A new type of keyword has been implemented in NetWorker release 7.4 Service Pack 2, which can be used in the client's Save Set attribute to back up all locally mounted file systems of a particular type that would normally be backed up using the All keyword. The new keyword uses the following syntax:

```
All-filesystem-type
```

For example, to back up all locally mounted ZFS filesystems on a Solaris host, type the following in the client's Save Set attribute:

```
All-zfs
```

New save set All-local functionality for Solaris zones

Additionally, a new keyword has been introduced for backing up all local zones. The All-local keyword can be entered in the client's Save Set attribute and will function as follows:

- ◆ If the All-local keyword is defined for a global zone, all nonglobal zones will be backed up.
- ◆ If the All-local keyword is defined for a local zone, all of the zone will be backed up.

New volume flag added to indicate save sets on the volume may need to be scanned

After a recovery of the bootstrap, some volumes may have save sets written to them that are newer than the recovered bootstrap. Because this situation could result in the newer save sets being overwritten during a recover space operation, the NetWorker software now includes a new volume flag, S. This flag indicates that save sets on the volume may need to be scanned into the media database. When the "scan needed" flag is set, the volume will be locked and a recover space operation will not be performed.

Setting the Scan Needed volume flag with the mmrecov command

Two new options, **-N** and **-F**, have been added to **mmrecov** command. The **-N** option forces the **mmrecov** command to set the Scan Needed flag for all volumes in the recovered media database that are not marked read-only. The **-F** option, which must be used with **-N** option, sets the Scan Needed flag just for volumes in file type or advanced file type devices. These options are turned off by default.

Note: For tape volumes, CDI must be enabled for the Scan Needed flag to protect the data on the tape. If CDI is not enabled, the flag will be ignored.

Determining if the Scan Needed flag is set for a volume

To determine if the Scan Needed flag is set, perform one of the following:

- ◆ From the command line, run the following command:

```
mminfo -r "volume, valid,volflags"
```

This will list the flags associated with the volume, for example:

volume	valid	flags
trout.legato.com.001	7014259	S
trout.legato.com.001.RO	4285204339	S

The **S** flag indicates that the "scan needed" flag is set.

- ◆ In the NetWorker Console Administration:
 1. Select **Media**.
 2. Select the appropriate server and select **Volumes**.
 3. In the **Volumes** table, under **Mode**, volumes with this flag set will display the mode as Scan Needed.

Determining the last file and record number on a volume with the Scan Needed flag set

When a volume is marked with the "scan needed" flag, it may not be necessary to scan the entire volume into the media database. Because scanning an entire volume can take several hours, it may be preferable to scan in only those save sets that are not in the media database, rather than the entire volume.

To scan in only those save sets that are not in the media database:

1. First determine the last file and record number currently stored in the media database:

```
mminfo -avot -q "volume=vol_name" -r "ssid,mediafile,mediarec"
```

Where *vol_name* is the name of the volume with the "scan needed" flag set.

2. Run the scanner command using the **-I** and **-r** options to instruct scanner to begin scanning at the last file and record number:

```
scanner -I -f file_num -r rec_num
```

Where *file_num* and *rec_num* are the last file and record number reported in the **mminfo** output in [step 1](#).

How to clear the Scan Needed volume flag

To clear the scan flag, perform the following:

1. Run the **scanner -i** command to scan in all the save sets in those volumes into the NetWorker databases.
2. After running the scanner **-i** command, do one of the following:
 - Run the **nsrmm** command with the **-o notscan volume_name** option to clear the scan flag. For example:

```
nsrmm -o notscan vol_1
```

- In the NetWorker Console Administration:
 1. Select **Media**.
 2. Select the appropriate server and select **Volumes**.
 3. In the **Volumes** table, right click the volume and select **Mark Scan Needed**.
 4. Select **Scan is NOT needed** and click **OK**.

Note: You can also set the Scan Needed flag for a volume by entering the `nsrmm` command with the `-o scan volume_name` option or by selecting **Scan is needed** in the NetWorker Console.

Change to behavior of save output files

With NetWorker release 7.4 Service Pack 2, the following changes have been made to the behavior of save output files:

- ◆ Existing save output files will be deleted when a new save group starts for that group. The deletion does not happen if the `savegrp` command is run with the `-p` or `-n` options.
- ◆ The savegroup completion report no longer includes save output filenames.
- ◆ If the save fails, or if the `savegrp` command is run in verbose mode, the save output filename will be added to the daemon log file for scheduled backups, or written to `stderr` for manual backups. Only the filename will be displayed, not the content of the save output file.

Note: Do not run the `savegrp` command with both verbose mode and the `NO_SUPPRESS` option enabled. If both of these options are used, the savegroup completion report may grow to several hundreds of megabytes if there are large number of clients with millions of files. This may cause the `savegrp` command to hang without an error.

Querying with wildcards in the `nsradmin` program

With NetWorker release 7.4 Service Pack 2, regular expression queries have been enabled for the `nsradmin` command line program, using a new command, `regex`.

The `regex` command can either be set to `on`, which enables regular expression queries, or `off`, which retains the previous behavior in which wildcards are not supported for queries. By default, `regex` is `off`.

To enable regular expression queries in the `nsradmin` program:

1. At the `nsradmin` prompt, type the `regex on` command:

```
nsradmin> regex on
```

2. Perform a query by using wildcards, for example:

```
nsradmin> print type: NSR pool; name: Index*
```

This will return all pools that begin with the name "Index," for example:

```
name: Indexed Archive;
name: Indexed Archive Clone;
```

NetWorker Release 7.4 Service Pack 1

NetWorker release 7.4 Service Pack 1 includes these new features and changes:

- ◆ “EMC NetWorker Dashboard Option version 1.0 SP2 is supported” on page 28
- ◆ “NetWorker de-duplication backups” on page 28
- ◆ “NetWorker de-duplication node” on page 29
- ◆ “Localized version of NetWorker software with de-duplication” on page 29
- ◆ “De-duplication not supported with Cluster configurations” on page 29
- ◆ “Second full de-duplication backup of a non-English pathname slower than the previous backup (LGTsc12071)” on page 29
- ◆ “Supported de-duplication client platforms” on page 29
- ◆ “Tips on performing de-duplication and conventional backups by using command line save” on page 30
- ◆ “Storage Node selection during cloning in a CDL environment and the FORCE_REC_AFFINITY environment variable” on page 30
- ◆ “ClientPak enabler no longer required” on page 31
- ◆ “Improved VMware Consolidated Backup support” on page 31
- ◆ “NDMP DAR (Direct Access Recovery)” on page 32
- ◆ “NDMP DDAR (Directory Direct Access Recovery)” on page 32

EMC NetWorker Dashboard Option version 1.0 SP2 is supported

EMC NetWorker Dashboard Option is an intelligent backup correlation and impact analysis tool. With this backup management solution, you gain better monitoring of the backup environment, reduce the time to troubleshoot backup and recovery issues, and proactively avoid future problems. Refer to the NetWorker Dashboard documentation for more information.

NetWorker de-duplication backups

New with NetWorker release 7.4 SP1 is support for de-duplication backups. De-duplication is a method of backup that identifies redundant data segments at the source and backs up only unique segments, thereby reducing the time required to perform backups and both the network bandwidth and storage space used for backups. The NetWorker software uses EMC Avamar technology to provide de-duplication.

IMPORTANT

When using de-duplication with NetWorker, an Advanced File Type Device (AFTD) is required to back up the metadata of the de-duplication save sets. The AFTD can either be defined as a storage node for the de-duplication client, or as the device for the pool that includes the de-duplication client

NetWorker de-duplication node

A NetWorker de-duplication node is an EMC Avamar server that stores de-duplicated backup data. The initial backup to a de-duplication node should be a full backup. During subsequent backups, the Avamar infrastructure identifies redundant data segments at the source and backs up only unique segments, not entire files that contain changes. This reduces the time required to perform backups, as well as both the network bandwidth and storage space used for backups.

Avamar server installation is separate from NetWorker installation, and is performed by EMC Professional Services. The Avamar server must be configured as a NetWorker de-duplication node, and it must be available when a de-duplication Client resource is created, as well as when it receives backup data from NetWorker de-duplication clients.

The *NetWorker Release 7.4 Service Pack 1 Administration Guide* has more information about de-duplication nodes and de-duplication clients.

Localized version of NetWorker software with de-duplication

NetWorker 7.4 Service Pack 1 software is supported in all localized environments that are supported for release 7.4. However, changes made for de-duplication are not localized. Error messages and graphical user interface elements that have been added in NetWorker 7.4 Service Pack 1 appear in English.

De-duplication not supported with Cluster configurations

This release of NetWorker does not support de-duplication backups of clusters.

Second full de-duplication backup of a non-English pathname slower than the previous backup (LGTsc12071)

The second time a full de-duplication backup of a non-English pathname is run, the checkfile process fails to find the hashid that was previously backed up. The performance of the backup will be slower than the first full backup was.

Supported de-duplication client platforms

The following table lists the supported de-duplication client platforms.

Table 7 List of supported de-duplication client platforms (page 1 of 2)

Operating system	Version	Platform	Operating system Bit
AIX 5L	5L, 5.2, 5.3	IBM RS/6000	32, 64-bit
HP-UX	11iv1, 11iv2	HP 9000	32, 64-bit
Mac OS X	10.4.x	PowerPC	32-bit
Solaris	8, 9, 10	Sun SPARC	32, 64-bit
Red Hat Enterprise Linux AS/ ES/ WS	3.0	Intel IA-32	32-bit
	3.0	AMD64/EMT64T	64-bit
	4.0	Intel IA-32	32-bit
	4.0	AMD64/EMT64T	64-bit
SuSE Linux Enterprise Server	9.0	Intel IA-32	32-bit
	9.0	AMD64/EMT64T	32-bit

Table 7 List of supported de-duplication client platforms (page 2 of 2)

Operating system	Version	Platform	Operating system Bit
Microsoft Windows	Server 2003	Intel IA-32	32-bit
	Server 2003 X64	AMD64/EMT64T	64-bit
	XP	Intel IA-32	32-bit
	XP professional x64	AMD64/EMT64T	64-bit
	2000	Intel IA-32	32-bit

Tips on performing de-duplication and conventional backups by using command line save

If you have multiple client instances and multiple configurations, performing de-duplication and conventional backups using command line works as follows:

- ◆ If a save process is invoked using the **save -g group** command and the de-duplication client instance is tied to that group, then a de-duplication backup is performed for the pathname indicated at the end of the **save** command.
- ◆ If the group contains more than one client instance where one is marked for de-duplication and another client instance is not marked for de-duplication, then the save sets are resolved according to the instance which they belong too. For example, save sets marked for de-duplication will be, and save sets under not marked for de-duplication will not.
- ◆ If the **save** command is issued without the **-g option**, then it works as follows:
 - a. If the backup path matches one of the save sets listed in any of the client instances, then that client instance will be chosen and will therefore be backed up a de-duplication /conventional save set.
 - b. If the backup path does not match any of the save sets listed in all the client instances, then first client instance will be chosen (in the order of creation time).
 - c. Once the client instance is figured out, a regular or de-duplication backup will be performed based on how it is defined.

Note: Have separate groups for de-duplication clients so that backups from command line can pass the group name to pick the right client instance.

Storage Node selection during cloning in a CDL environment and the FORCE_REC_AFFINITY environment variable

When cloning is used in a CDL environment, the NetWorker software will always behave as if the FORCE_REC_AFFINITY environment variable is set to Yes. This will force the NetWorker server to use the recover storage node affinity list even if the requested volume is already mounted. The recover storage node affinity list is the combination of the following two factors:

1. The client's Recover Storage Nodes list (or, if this is empty, the client's Storage Nodes list).
2. The storage nodes on which the volume can be mounted (only considered if the requested volume is in a media library).

The storage nodes on which the volume can be mounted are determined in the following manner:

- ◆ If the volume is in a media library, then the storage node on which the volume can be mounted is the host listed in the Read Host attribute for the Library resource.
- ◆ If the volume is in a library and the Read Host attribute for the Library resource is not set, then the storage nodes on which the volume can be mounted are the list of hosts associated with the devices in the library.

Refer to the man page for `nsr_client` for further details on the `FORCE_REC_AFFINITY` environment variable.

ClientPak enabler no longer required

With NetWorker release 7.4 SP1, ClientPak[®] enablers are no longer required. Client licensing is now based solely on the client connection/cluster client connection enablers.

Improved VMware Consolidated Backup support

A number of improvements have been made for VMware Consolidated Backup (VCB) support for this release. NetWorker release 7.4 SP1 now includes:

- ◆ Simplified VCB configuration via the Client resource.
- ◆ The ability to perform a full backup of the virtual client (including configuration files on the ESX server) or a backup of all the filesystems attached to the virtual client. You can also select a single drive letter for backup.
- ◆ Backups are now stored in NetWorker by using the virtual client name, rather than the VCB proxy name.
- ◆ Recovery workflows are simplified. You can now browse the client file index of the virtual client, perform a full backup of the ESX server including configuration files, and staged recoveries from any client or ESX server.

Configuring the NetWorker software to back up a VMware virtual client by using VCB

To configure the NetWorker software to back up a VMware virtual client by using VCB:

1. Create a new NetWorker Client resource for the VMware virtual client or edit an existing client by right-clicking the client in the in the **Configuration** screen of the **Administration** window and selecting **Properties**.
2. For the **Save Set** attribute, do one of the following:
 - Specify a file or directory to be backed up. For example:
 - To back up the C: drive, enter `c\`
 - To back up a specified directory, such as Documents and Settings, type `c\Documents and Settings`
 - Specify one of the following keywords:
 - **ALLVMFS** Backs up all virtual machine filesystems
 - ***FULL*** Backs up a full image of the virtual machine

Note: Due to limits with the VCB integration module, only one entry is allowed for the Save Set attribute.

3. On the Apps and Modules tab, select **VCB** for the **Proxy Backup Type** attribute.
4. Enter the name of the VCB proxy in the **Proxy Backup Host** attribute.
5. Click **OK**.

After the virtual client has been backed up, its client index can be browsed, and data can be recovered directly to the virtual client or can be recovered onto a different virtual client using directed recovery. *FULL* image backups can be restored directly on the VCB proxy or CIFS mount point. VMware provided utilities VMconverter or VCBrestore can be used for disaster recovery of the full virtual machine using the full image.

NDMP DAR (Direct Access Recovery)

When DAR is enabled at the time of backup (DIRECT=y in the client configuration application information), each file saved during backup catalogues location information (known as fh_info) in the index database.

During recover, this location information is sent back to the NDMP server, along with the file list so that the NDMP server can directly seek to the location and restore the file.

NDMP DDAR (Directory Direct Access Recovery)

The DDAR feature is an enhancement to the DAR feature intended to optimize recover performance in cases where a directory is selected for restore. When using DDAR, only the directory pathnames are included in the restore list (the nlist) as opposed to plain DAR where all files under the directory are included in the recovery name list. The NAS filer then restores all files and directories under the directory path specified in the recover operation. This enhancement significantly improves the performance where lots of files are involved in the restore while reducing the network traffic and memory consumption.

For instance, if you select a directory of 100 thousand files from the recover browser, then a normal DAR recovery will expand the directory and select all 100 thousand files for restore. All 100 thousand files will travel from browser to nsrndmp_recover and nsrndmp_recover to NDMP server.

With DDAR, when this directory is selected, browser will not expand it to all 100 thousand files. The browser will be sending just this directory path to nsrndmp_recover and nsrndmp_recover to NDMP server.

To enable this feature, set the NSR_NDMP_DDAR environment variable before launching recover. The backup has to be DAR enabled.

Do not set the NSR_NDMP_RECOVER_DIR and NSR_NDMP_DDAR environment variables at the same time.

NDMP DDAR supported versions

The DDAR feature is not supported on all versions of a filer. For example, DDAR is supported on EMC Celerra[®] with DART 5.5 or later and NetApp with OnTAP 6.4 or later. NetWorker supports DDAR from 7.2.2 onwards.

If your filer supports DDAR, then set the NSR_NDMP_DDAR variable to Y to enable DDAR when recovering your data.

The following should be noted about DDAR:

- ◆ DDAR applies only to the directory where as DAR applies only to the file
- ◆ DAR is supported from NDMP version 3
- ◆ DDAR is supported from NDMP version 4.
- ◆ If a file is selected under a directory when the NSR_NDMP_DDAR environment variable is set, then it will be restored as a regular restore.
- ◆ Both the NSR_NDMP_DDAR and NSR_NDMP_RECOVER_DIR variables cannot be set at the same time.

NetWorker 7.4 and NetWorker 7.4 Service Pack 1 security alert (LGTsc14258)

NetWorker release 7.4 and NetWorker release 7.4 Service Pack 1 contains a potential heap overflow vulnerability discovered in the RPC protocol parsing library, librpc.dll. EMC strongly recommends installing NetWorker release 7.4 Service Pack 2, made available through Powerlink at Support > Software Downloads and Licensing > Downloads J-O > NetWorker. More details on the security alert can be found in the Knowledgebase article emc183834, available from powerlink.emc.com.

NetWorker Release 7.4

NetWorker release 7.4 includes these new features:

- ◆ [“Internationalization support” on page 34](#)
- ◆ [“Enhancements to nwrecover” on page 37](#)
- ◆ [“Licensing changes” on page 38](#)
- ◆ [“Improvements in managing tables in NMC” on page 38](#)
- ◆ [“Tapes can be loaded without mounting” on page 38](#)
- ◆ [“Inventory and Label operations” on page 38](#)
- ◆ [“DSN cluster backup” on page 39](#)
- ◆ [“NetWorker can overwrite EDM tape labels” on page 39](#)
- ◆ [“NO_SUPPRESS option no longer supported” on page 39](#)
- ◆ [“Temporary enabler required for a Virtual Tape Library” on page 39](#)
- ◆ [“Update enabler required when updating from NetWorker releases prior to 7.3” on page 39](#)
- ◆ [“Microsoft Vista support” on page 39](#)
- ◆ [“Direct SCSI backup and recover feature” on page 40](#)
- ◆ [“Improved advanced file type device configuration” on page 40](#)
- ◆ [“Software Distribution: Updating NetWorker clients using the Software Administration Wizard” on page 40](#)
- ◆ [“Changes to log files” on page 44](#)
- ◆ [“NetWorker Management Console drag-and-drop enhancements” on page 45](#)
- ◆ [“Copy groups with clients” on page 46](#)
- ◆ [“Ability to operate on multiple library devices and slots” on page 46](#)
- ◆ [“Inactive files report” on page 46](#)
- ◆ [“Most client graphical interfaces on UNIX discontinued” on page 47](#)
- ◆ [“SILO License changes” on page 47](#)
- ◆ [“Cluster support and internationalization” on page 47](#)
- ◆ [“NetWorker can automatically overwrite EDM tape labels” on page 47](#)
- ◆ [“NetWorker 7.4 and NetWorker 7.4 Service Pack 1 security alert \(LGTsc14258\)” on page 48](#)

Internationalization support

The NetWorker release 7.4.x software has been internationalized. As a result, the NetWorker software now supports language packs, which can be installed as part of the NetWorker installation process, or can be installed separately after the NetWorker software has been installed.

The following sections detail enhancements and important notes pertaining to the internationalized NetWorker software:

- ◆ [“Man page locales” on page 35](#)
- ◆ [“Supported locales” on page 35](#)

- ◆ [“Multiple locales fully supported within the same datazone” on page 36](#)
- ◆ [“Multilocale log file viewing” on page 36](#)
- ◆ [“Interoperability with previous releases of NetWorker” on page 36](#)
- ◆ [“Scheduled backup or Archive Requests of non-ASCII files or directories” on page 36](#)
- ◆ [“Changing the Locale in the NMC GUI” on page 36](#)
- ◆ [“Internationalization support” on page 131](#)

Man page locales

Man pages are displayed based on the locale setting for a specific language.

The following EUC locales are supported:

- ◆ Chinese: **EUC-CN**
- ◆ French: **ISO8859-15**
- ◆ Korean: **EUC-KR**
- ◆ Japanese: **EUC-JP**

If the locale is not set to a specific language matching an installed language pack, the man pages will be displayed in English.

Supported locales

[Table 8 on page 35](#) lists the supported locales.

Table 8 Supported locales

Language	Operating system				
	Windows	Solaris	HPUX	AIX	Linux
English	English	OS Default Locale	OS Default Locale	OS Default Locale	OS Default Locale
French	French (France)	UTF-8 ISO8859-1 ISO8859-15	UTF-8 ISO8859-1 ISO8859-15	UTF-8 ISO8859-1 ISO8859-15	UTF-8 ISO8859-1 ISO8859-15
Japanese	Japanese (Japan)	UTF-8 EUC-JP S-JIS	UTF-8 EUC-JP	UTF-8 EUC-JP	UTF-8 EUC-JP S-JIS
Chinese	Chinese (China)	UTF-8 EUC-CN GB18030 GBK BIG5	UTF-8 EUC-CN	UTF-8 EUC-CN	UTF-8 EUC-CN GB18030 GBK BIG5
Korean	Korean (Korea)	UTF-8	UTF-8	UTF-8	UTF-8

Note: Localization is not supported on the Mac OS, Tru 64 or SGI platforms.

Multiple locales fully supported within the same datazone

The NetWorker software now fully supports the use of multiple languages within the same datazone. A server running in any locale can manage clients running in any locale. This includes configuration, data backup and recovery, and maintenance.

For example, a NetWorker server running in an English locale can be used to view and manage backups from a client running in a Japanese locale. There are certain limitations in this support, depending on the platform; for example, when browsing client backups on a UNIX system, only those characters supported by the locale currently running on the system from which the browsing is performed will be correctly displayed.

Multilocale log file viewing

Log files can be displayed in the user's current locale, regardless of the locale running on the host where the log files were created. The section "[Changes to log files](#)" on page 44 has more information about viewing log files.

Interoperability with previous releases of NetWorker

Multiple locales within the same datazone is only fully supported if all NetWorker installations in the datazone are at release level 7.4. The following limitations apply:

- ◆ In datazones with a NetWorker release 7.3 server and NetWorker 7.4 clients, support for scheduled backups of path or file names containing non-ASCII characters is limited to the support provided by the NetWorker release 7.3.
- ◆ Binaries from releases earlier than 7.3 will not be able to display UNIX save sets containing non-ASCII characters correctly.
- ◆ UNIX paths containing non-ASCII characters may be incorrectly displayed on Windows. Windows does not have native support for many character sets used on UNIX. If a non-ASCII character is encoded using these character sets, it will not be displayed correctly on Windows. An example of these character sets include **euc-jp**, **euc-cn** and **euc-tw**.

Scheduled backup or Archive Requests of non-ASCII files or directories

The value of the **Save Operations** attribute in Clients or Archive Requests resource should be set to:

- ◆ NetWorker UNIX clients at release 7.4 or higher: **I18N:mode=nativepath**.
- ◆ NetWorker UNIX clients at a release level prior to 7.4: **I18N:mode=utf8path**.
- ◆ Microsoft Windows clients: **I18N:mode=utf8path**

If the Client Configuration Wizard is used to create the Clients resource, the Save Operations attribute will be automatically filled-in based on the client platform when non-ASCII save sets are specified.

Changing the Locale in the NMC GUI

There are three conditions for the displayed textual elements (messages, dates, time and numbers) in the NMC GUI:

1. If there is an appropriate NetWorker language pack installed on the NMC server, all textual elements will be rendered to the current user locale.
2. If no NetWorker language pack is installed on the NMC server, all textual elements will be rendered to English.

3. If the locale is neither supported by the NetWorker software nor has an appropriate NetWorker language pack installed, all textual elements will be rendered to English, except dates, times and numbers which will appear in the current user locale that is supported by the installed JRE on the user host.

The NMC GUI must be restarted to apply any change to the locale.

Example 1

There is a French language pack installed on the NMC server and the user locale is French. The user logs in to the NMC server. In the NMC GUI, all textual elements will be in French.

Example 2

The installed JRE supports French and the user locale is French. There is no French (France) language pack installed on the NMC server. In the NMC GUI, all texts and messages will be in English, except dates, time and numbers will be in French.

It is the user's responsibility to change the locale and apply the change correctly to the operating system. For example, changing and applying the locale to Windows server 2003 and Solaris 5.9 are as follows:

Windows server 2003

1. Click **Start**.
2. Select **Control panel > Regional and Language Options > Regional Options**.
3. Select the language.
4. Select the location.
5. Click **Ok**.

Solaris 5.9

1. Logout to the **Welcome** dialog box.
2. Click **Options > Language**.
3. Select the language.
4. Log in.

Note: Date and times may be still in North American format. Not all date and time displayed are internationalized. This is a known deficiency that will be addressed in a future release.

Enhancements to nwrecover

The following enhancements have been made to the **nwrecover** program for NetWorker release 7.4:

- ◆ CDE improvements — CDE is now localized, and features improved index searching. A search can be cancelled, results can be marked for recovery, and versions can be queried and marked.
- ◆ Client file index search — you can now search by pathname fragment, backup date, and owner. Also, save set and client file index browsing is now consolidated into one window.

- ◆ Save set search — you can now search by save set path, SSID, backup date and annotation (archives). Save set search now features support for directed recoveries in UNIX, the ability to log the recover output to a text file, and is supported on AIX, HP-UX IRIX, Linux, Solaris and Tru64 platforms. Additionally, you can specify AES passphrase from the GUI (NetWorker 7.3.x only supports this functionality from the command line).

Licensing changes

The following licensing changes have been made for NetWorker release 7.4:

- ◆ For NetWorker servers, clients and storage nodes, licensing changes are enforced when:
 - NetWorker server is 7.4 and clients/storage nodes are release 7.4.
 - NetWorker server is 7.4 and clients are earlier releases.

New licensing changes will not be enforced when the NetWorker clients/storage nodes are release 7.4 and the NetWorker server is earlier than release 7.4.

- ◆ For NDMP licenses:
 - There is now one NDMP for each array
 - A new NDMP client attribute called NDMP array name has been added, which is user specified.
- ◆ For VTL licenses:
 - There is now one VTL frame license for each physical VTL hardware frame.
 - VTLs are licensed by capacity: 10 TB and 50TB.
 - Different brands of VTL will be considered different frames.
 - A new "default VTL location" attribute has been added for user specification of frameid.
 - Before performing an upgrade, you must get a VTL license in exchange for the jukebox license. Otherwise, VTL operations will fail after the upgrade.
- ◆ For MSCS cluster licenses, a virtual node in a MSCS no longer requires a cluster client connection license, as is the case for previous releases of NetWorker. Only one cluster license is required for each physical node.

Improvements in managing tables in NMC

The Devices window in NMC has been enhanced so that all device tables (for example, inventory, mount) are updated in real time in the messages column.

Also, a new status table has been added to the Devices window so that you do not need to switch to the Monitoring window to view the status of library operations. "Supply User Input" can be done from the Status Table.

Tapes can be loaded without mounting

Mounting is no longer required before loading a tape. This enhancement is equivalent to running `nsrjb -lnv` from the command line.

Inventory and Label operations

Fast/Silent and Slow/Verbose inventory options have been removed. A Fast/Silent inventory will now be performed by default. Additionally, you can choose to suppress the overwrite existing label prompt during label operations.

DSN cluster backup

The Physical node can be configured as a DSN to back up the cluster's virtual node.

NetWorker can overwrite EDM tape labels

NetWorker is now able to overwrite EDM tape labels without any additional requirements, such as using the EDM Restore node. When the prompt "Are you sure you want to over-write EDM label with a new label?" appears, enter **Y** and NetWorker will overwrite the label.

NO_SUPPRESS option no longer supported

In the NetWorker software release 7.3.x and later, the **savegrp** command does not support the NO_SUPPRESS option, which means there will be no extra output obtained in the messages file if you create the NO_SUPPRESS file in /nsr/debug and in /nsr/tmp.

The issue of reporting missing files in backup was solved with the fix provided by LGTpa80970. This fix is available to all NetWorker clients running NetWorker release 7.3.2 Jumbo Build 11 or later. You can also retrieve this information by running **savegrp -vvv** (the verbose output).

Temporary enabler required for a Virtual Tape Library

A new VTL licensing model has been introduced. A temporary Virtual Tape Library (VTL) license must be applied before updating to NetWorker release 7.4 or the VTL may become disabled. The temporary enabler is **3b38bd-77c79e-0ebe01**. If a VTL becomes disabled, set the VTL's **Enabled** attribute to **Yes** after the VTL enabler code is installed. Each Virtual Tape Library hardware frame requires one VTL frame license and will support an unlimited number of VTLs on that frame.

Contact EMC Sales Support and Renewals to exchange an Autochanger license for a VTL enabler. Prior to release 7.4, a VTL was licensed as an individual media library. You cannot use the media library enabler for a VTL.

Update enabler required when updating from NetWorker releases prior to 7.3

When updating from a NetWorker release earlier than 7.3, the required update enabler is **150397-d1e144-54605f**.

Contact EMC licensing to get the upgrade enabler permanently authorized.

Microsoft Vista support

The NetWorker client is now supported on Microsoft Windows Vista. The NetWorker server and storage node are not supported on Microsoft Windows Vista.

Note: The NMC Server is not supported on Windows Vista. Vista is only supported as an NMC client.

Volume Shadow Copy (VSS) with Microsoft Windows Vista

Microsoft Windows Vista supports Volume Shadow Copy (VSS) backups only. Legacy (non-VSS) SYSTEM save sets are not supported on Windows Vista. VSS support is provided with the base Vista client license; no VSS client license is required for Vista.

Automated System Recovery (ASR) with Microsoft Windows Vista

The Automated System Recovery (ASR) feature in Microsoft Vista is not supported with the 7.4 release of the NetWorker software.

Direct SCSI backup and recover feature

Direct SCSI backup and recover feature enables:

- ◆ The direct backup and recovery of Small Computer System Interface (SCSI) devices without the requirement of mounting on the backup host if an access path is available to these devices over a Storage Area Network (SAN).
- ◆ Migration to the NetWorker software to perform a backup and recover of business continuance volume (BCV) devices on an EMC Symmetrix® server (as well as backup and recover of raw devices) over a SCSI bus. In a Symmetrix storage environment, these devices can be viewed from a primary application host and from a proxy backup host.
- ◆ Protect BCV devices from a proxy backup host as a raw backup.

The *EMC NetWorker Administration Guide* provides more information on the direct SCSI backup and recover feature.

Improved advanced file type device configuration

A new advance file type device (AFTD) Allowed Directories attribute provides control over the directories where an AFTD can be created on a storage node. Only a NetWorker administrator with security privileges can set up an allowed directory list for creating an AFTD.

Before creating an AFTD, set up a AFTD Allowed Directories to control access to storage node file systems. If this attribute is populated, it will restrict the creation of an AFTD so that the device path will be under its list of directories. If this attribute is left empty, there will be no restrictions placed on the path of an AFTD when it is created.

When creating a new AFTD device from the **nwadmin** program, a verification dialog box will pop up after the user commits the new AFTD device. The verification dialog box will ask the user if they wish to have the NetWorker software verify the device path to ensure that it exists on the file system of the storage node where the AFTD will be created. If you select the verification option, the NetWorker software ensures that the device path exists. If the device path does not exist, an error message will be displayed and the AFTD will not be created.

The user may then retype a different path or quit the creation of the AFTD. If there is a conflict due to change of allowed directories, the change of allowed directories will be rejected.

Software Distribution: Updating NetWorker clients using the Software Administration Wizard

Use the **Software Administration Wizard** to remotely distribute and update the NetWorker software from a centralized NetWorker server to one or more NetWorker clients. The *EMC NetWorker Installation Guide* contains full instructions on how to update clients.

You can update these NetWorker software packages on computers that have the NetWorker release 7.3 or later client software already installed:

- ◆ Client
- ◆ Storage node

- ◆ Man pages
- ◆ NetWorker Application Modules

Ensure that all NetWorker scheduled backups have been stopped before starting the upgrade.

Note: The Software Administration Wizard is *unsupported* on: HP Tru 64 UNIX, IRIX, Mac OS X, NetWare, Open VMS platforms, and cluster environments.

The software distribution feature is unsupported by module releases prior to NetWorker Module for Oracle, Release 4.5, NetWorker Module for Exchange, Release 5.1 and NetWorker Module for SQL, Release 5.1. For more information on software distribution support, refer to the latest release of these modules at the EMC Powerlink website at <http://Powerlink.EMC.com>.

Limitations when updating clients using the Software Administration Wizard

The following limitations exist when using the Software Administration Wizard to push client software:

- ◆ “Software Distribution databases must be manually backed up (LGTpa95236)” on page 41
- ◆ “Client inventory is not performed automatically when you run the update (LGTpa95237)” on page 42
- ◆ “Software Distribution repository location cannot be changed once it is set (LGTpa95240)” on page 42
- ◆ “Software Distribution is not supported on NetWorker servers with a system block size less than 1024 bytes (LGTsc06051)” on page 43
- ◆ “The nsrccd daemon incorrectly detects a software administration operation is still running, and will not allow another operation to be started (LGTsc03204)” on page 43
- ◆ “Unable to add to the software distribution repository on a Windows NetWorker server (LGTpa96030)” on page 43
- ◆ “Clients that cannot be updated using the Software Administration Wizard” on page 43
- ◆ “The nsrpush -L command fails if the software distribution repository is not created (LGTsc06034)” on page 44
- ◆ “The nsrpush -L command fails if the software distribution repository is not created (LGTsc06034)” on page 44
- ◆ “Client backups must be stopped before the push (LGTsc00881)” on page 44

Software Distribution databases must be manually backed up (LGTpa95236)

Software Distribution databases must be manually backed up. Currently, there is no means to backup the Software Distribution database using the bootstrap. As a result, Software Distribution resources (for example, <nsr_dir>\res\cpdb) are not recovered during a disaster recovery and are not saved as part of the bootstrap.

Workaround

There are two ways to back up the Software Distribution databases and re-create the Software Distribution resources:

- ◆ Manually back up the <nsr dir>\res\cpdb directory and the software repository directory (by default /nsr/repository), and then recover it. This method is not a substitute for disaster recovery.
- ◆ Re-create the database, since it is not critical to server operations.

Client inventory is not performed automatically when you run the update (LGTpa95237)

Client inventory is not performed automatically when you run the update. Before updating to release 7.4, perform an inventory of the client.

Running Software Distribution to perform an inventory before an update is necessary in order to retrieve the latest list of software installed on the client.

If an inventory of the client is not performed before updating, the following can occur:

- ◆ The update will install only the packages retrieved during the last inventory. Newly installed and supported packages will not be updated.
- ◆ Software Distribution will not have the information about these unsupported packages if you install an unsupported package on the client after an inventory is done.

Software Distribution repository location cannot be changed once it is set (LGTpa95240)

The Software Distribution repository location cannot be changed once it is set, and the repository directory cannot be deleted once it is created. If the repository operation fails (for example, because of a permissions error), you cannot delete the repository. Once Software Distribution becomes aware that the repository is created it begins adding products.

If the repository creation fails, no error message appears to identify that the repository has not been created. Software Distribution continues to ask for products to be added and for the location of media.

Upon addition of products, the program displays a success message even though no products have been added to the repository.

Workaround

To re-create the repository:

1. Delete the master resource by running the following command:

```
nsradmin -d location
```

where *location* is the location of the resource files. (i.e., /nsr/res/cpdb).

2. Type the following commands at the **nsradmin>** prompt:

```
nsradmin> . type: NSR Client Push Master
nsradmin> delete
```

3. Type **Y** when prompted with **Delete?**.
4. Type **quit** to exit the **nsradmin** program.

5. End the **nsrccd** process before restarting the SAW or **nsrpush** process.
6. Restart the **nsrccd** process.

You will then be prompted to re-create the repository the next time you attempt a repository operation. Note that the issue with not checking for permissions still exists.

The nsrccd daemon incorrectly detects a software administration operation is still running, and will not allow another operation to be started (LGTsc03204)

If the NetWorker Management Console or the **nsrccd** daemon crashes during a software administration operation (for example, an inventory or upgrade operation), and you attempt the operation again without restarting the NetWorker software, the software distribution daemon still detects the operation is running, and returns an error indicating the operation failed. When the daemon is in this state, you cannot start another inventory or upgrade operation, although you can still do repository operations or monitoring activities.

Workaround

Stop and restart the software distribution daemon (**nsrccd**), or restart all of the NetWorker daemons.

Software Distribution is not supported on NetWorker servers with a system block size less than 1024 bytes (LGTsc06051)

Software Distribution operations will fail on NetWorker Server hosts that have an operating system block size that is less than 1024 bytes. The Dell PE2950 is an example of one such host.

Unable to add to the software distribution repository on a Windows NetWorker server (LGTpa96030)

You cannot add to the software distribution repository on a Windows NetWorker server from a media kit mounted on a mapped/network drive. Performing an add-to-repository operation on a Windows server fails if the media is not mounted locally on the server.

Workaround

Perform one of the following procedures:

- ◆ Move the distribution software to the Windows machine, either on CD or to a local disk.
- ◆ When adding software to the repository, start the **client push** daemon manually (Program Files\Legato\nsr\bin\nsrccd) as a system administrator immediately before starting either the Software Administration wizard or the client push **CLI - nsrpush**.

Clients that cannot be updated using the Software Administration Wizard

You cannot use the **Software Administration Wizard** to push the NetWorker software to a client under the following conditions:

- ◆ Cannot perform a fresh install of the NetWorker software on a client machine. NetWorker release 7.3 must already be installed on the client machine.
- ◆ Cannot upgrade clustered clients. This is automatically prevented.
- ◆ Cannot upgrade clients with EMC PowerSnap™ packages installed. This is automatically prevented.

- ◆ Cannot upgrade hosts with NetWorker Server, License Manager or NetWorker Console packages installed (automatically prevented).
- ◆ Cannot upgrade the NetWorker software on clients where a module is installed unless both the NetWorker and module software is upgraded simultaneously on AIX. Modules can be upgraded independently.
- ◆ Cannot upgrade the NetWorker software if the NetWorker software is not installed on the same drive for the Windows operating system.
- ◆ Cannot install language packages as part of the upgrade process from NetWorker release 7.3 to release 7.4. English is installed by default.

The `nsrpush -L` command fails if the software distribution repository is not created (LGTsc06034)

The `nsrpush -L` command is used to list products in the Client push repository. If the repository has not yet been created, the following error message is displayed:

```
Repository location is not set.
```

Workaround

Use the NetWorker Console interface to create the repository.

Client backups must be stopped before the push (LGTsc00881)

You must manually stop all NetWorker scheduled backups before starting the upgrades. Otherwise, saves (for example, a scheduled group save) of clients will continue during the upgrade of the client.

Changes to log files

A number of changes have been made to log files in NetWorker release 7.4 to better accommodate internationalized message logging.

New log file viewer

Log files must be viewed using the `nsr_render_log` (UNIX/Linux) or the `nsr_render_log.exe` (Microsoft Windows) program. The **`nsr_render_log`** program is a non-interactive command line program which renders internationalized NetWorker log files into the appropriate language in which to view the log. The default language is based on the user's current locale. Users in different geographical locations can simultaneously render the same log file. For information on the **`nsr_render_log`** program, see the NetWorker manpages. The new log file viewer should not be used to view log files from clients before release 7.4. These files should continue to be viewed using a regular text editor.

Log file naming convention

Log files in NetWorker release 7.4 are now named with a `.raw` extension (for example, **`daemon.raw`**). This indicates that the log file has not rendered into a language-specific version and must be viewed using the **`nsr_render_log`** program.

Security-sensitive information protection in log file

Users concerned about security-sensitive information in their log file may want to render with the `-z` option. This may be of particular interest to users who may not want to share this information for confidentiality reasons.

This will obfuscate the following types of confidential information:

- ◆ Usernames
- ◆ Hostnames
- ◆ IP addresses

NetWorker Management Console drag-and-drop enhancements

The NetWorker Management Console has been enhanced to include the following drag-and-drop functionality:

- ◆ [“Drag-and-drop resources between resource types” on page 45](#)
- ◆ [“Copy and paste tabular information” on page 45](#)
- ◆ [“Move clients between groups” on page 45](#)

Drag-and-drop resources between resource types

The enhanced drag-and-drop functionality allows multiple resources to be selected and moved from one resource type to another.

In the NetWorker Console user interface, the enhanced functionality provides the ability to:

- ◆ Drag-and-drop an individual folder node in the enterprise hierarchy to another folder.
- ◆ Drag-and-drop a host node in the enterprise hierarchy to another folder in the hierarchy tree.
- ◆ Drag-and-drop volumes for mounting and unmounting volumes.
- ◆ Select an individual folder in the navigation tree to display its contents. Select a series of folders and/or hosts in the table and drag-and-drop into the hierarchy tree or the folder contents table.

Note: Multiple selection for drag-and-drop is unsupported in the navigation tree. Only one object may be selected for drag-and-drop in the navigation tree

In the NetWorker Administrator user interface, you can drag-and-drop selected NetWorker clients from one group to another.

Copy and paste tabular information

Tabular information can be selected and moved to a operating system clipboard using the enhanced drag-and-drop functionality provided in the 7.4 release. All tables support selecting multiple rows in a table and the ability to copy and paste the data in the selected rows to the system clipboard using drag-and-drop functionality. Subsequently, the data in the operating system clipboard can be moved to a target application.

Note: Drag-and-drop operations from the operating system clipboard back to a table is unsupported.

Move clients between groups

The added drag-and-drop functionality allows you to select multiple clients from one group and drag them to another group.

Copy groups with clients

A Copy with Clients operation has been added to the 7.4 release to manage NetWorker resources. The Copy with Client feature allows you to copy an existing group resource including the associated NetWorker group and all client resources. The Copy with Clients operation enables the following actions:

- ◆ Copy an existing NSR group.
- ◆ Ensure the original client list is preserved in the new group.
- ◆ All NSR Client resources are automatically updated.

Note: The Copy with Clients operation is only available to a NSR group resource type. Consequently, the new functionality is only available if a NetWorker group is selected in the configuration window in the NetWorker console.

Ability to operate on multiple library devices and slots

A single operation can be performed on multiple library devices and slots. Multiple rows can be selected in both the Devices and Slots tables at the same time.

In the Devices table for a library, multiple devices can be selected to perform the following operations:

- ◆ Unmount
- ◆ Release device (STL only)
- ◆ Enable/Disable

In the Slots table for a device, multiple volume operations can be performed for the following operations:

- ◆ Mount
- ◆ Load without Mount
- ◆ Withdraw
- ◆ Label
- ◆ Inventory
- ◆ Remove (STL and EMC AlphaStor[®] only)

Inactive files report

A NetWorker administrator can manage inactive files on a client or group and set the NetWorker software to automatically generate a list of inactive files in an environment. Inactive files are files that have not been accessed or modified other than being backed up regularly. The period of time a file has been inactive is called the Inactivity Threshold. The inactive files report can do the following:

- ◆ Identify the percentage of inactive files backed up as part of a group
- ◆ Set the threshold time periods per group so that the percentage of inactive files in that group does not exceed the threshold time period.
- ◆ Set alerts so that the NetWorker software sends an alert when the Inactivity Threshold set for a group is exceeded.
- ◆ Report the percentage of inactive files per client.

The inactivity files report is unsupported on pre-7.4 release NetWorker servers.

Client support for this feature will only be enabled on Windows platforms. Server enhancements (new attributes in **nsrd** and **nsrjobd**) are available on all supported server platforms.

Most client graphical interfaces on UNIX discontinued

With NetWorker release 7.4, a number of client graphical interfaces on UNIX have been discontinued.

The following interfaces are no longer supported:

- ◆ **nwbackup**
- ◆ **nwarchive**
- ◆ **nwretrieve** - The **nwretrieve** program remains visible in the 7.4 release and functions as a symbolic link to the **nwrecover** program for backwards compatibility. The **nwretrieve** program will open in Recover Archive Save Set mode.

The **nwrecover** graphical interface continues to be supported for data recovery. The functionality in the **nwretrieve** interface has been added to the **nwrecover** interface.

Command line interfaces are available to perform the actions that the discontinued interfaces supported:

- ◆ To perform manual backups, use the **save** command.
- ◆ To perform manual archive operations, use the **nsrarchive** command.

SILO License changes

SILO licenses will be discontinued in the 7.4 release. Autochanger licenses will support SILO functionality. NetWorker will continue to support existing SILO licenses. Autochanger licenses will support SILO functionality on SILO hardware.

For example, you want to license 120 slots of a 300 slot SILO, a 128-slot Autochanger license will suffice.

Cluster support and internationalization

Microsoft Cluster Server (MSCS) is fully supported in all supported locales. The following clusters are supported in English only:

- ◆ Sun Cluster
- ◆ Veritas Cluster
- ◆ HP MC/ServiceGuard
- ◆ TruCluster
- ◆ IBM HACMP

NetWorker can automatically overwrite EDM tape labels

NetWorker can overwrite EDM tape labels. Previously, NetWorker would not automatically overwrite an EDM tape label. EDM tapes had to be manually relabeled.

NetWorker 7.4 and NetWorker 7.4 Service Pack 1 security alert (LGTsc14258)

NetWorker release 7.4 and NetWorker release 7.4 Service Pack 1 and contain a potential heap overflow vulnerability discovered in the RPC protocol parsing library, librpc.dll. EMC strongly recommends installing NetWorker release 7.4 Service Pack 2, made available through Powerlink at Support > Software Downloads and Licensing > Downloads J-O > NetWorker.

More details on the security alert can be found in the Knowledgebase article emc183834, available from powerlink.emc.com.

Fixed problems

These sections provide details on fixed bugs for the NetWorker releases:

- ◆ [“Fixed bugs in release 7.4 Service Pack 3” on page 50](#)
- ◆ [“Fixed bugs in release 7.4 Service Pack 2” on page 53](#)
- ◆ [“Fixed bugs in release 7.4 Service Pack 1” on page 56](#)
- ◆ [“Fixed bugs in release 7.4” on page 59](#)

Product issue details in Issue Tracker

EMC Issue Tracker offers online access for up-to-date product issue information.

Product issues are sorted alphabetically by product feature and by issue number within each product feature. Product issue details include a three column table with the following information for each product issue:

- ◆ Issue number — Unique case number assigned to track the problem. If the problem was found during product test by EMC, the unique case number can be identified by its 3-letter product suffix.
- ◆ Product feature The name of the feature affected.
- ◆ Problem summary — A short (one or two sentence) description of the problem.

*Example issue number
search*

When searching for a NetWorker defect in Issue Tracker, list the Defect Number followed by suffix **nw_c**. For example, **12345nw_c**. Do not enter an LGTpa or LGTsc prefix that may be provided by Customer Support with an Issue Number in Issue Tracker.

- ◆ Fix Number — Number of the patch or fix for the problem.
- ◆ Knowledgebase ID — EMC Knowledgebase solution describing the issue.
- ◆ Host OS — Operating system version affected by the problem.
- ◆ Host Type — Host Type affected by the problem.
- ◆ Problem Summary — High-level description of the problem.
- ◆ Symptom — Observable behavior of the problem.
- ◆ Special Conditions — Brief description of the unique scenarios that may need to occur in order to reproduce the issue.
- ◆ Workaround or Fix Summary — Detailed description of what was fixed and any known workarounds.
- ◆ Found In Version — EMC product version where the problem was found.
- ◆ Impact Level — Severity and impact of the issue.
- ◆ Additional Feature — Additional categorization of problems within an EMC product feature set.
- ◆ Impact Statement — Description of how the issue might affect the customers environment.

Note: The most up-to-date product issues for EMC NetWorker release 7.4 Service Pack 3 are detailed online in the EMC Issue Tracker available on the EMC Powerlink website: <http://Powerlink.EMC.com>.

Fixed bugs in release 7.4 Service Pack 3

Table 9 on page 50 lists customer reported defects resolved in release 7.4 Service Pack 3.

Table 9 Fixed bugs in NetWorker release 7.4 Service Pack 3 (page 1 of 3)

Issue number for Customer Service	Issue number	Description
LGTpa80816	80816nw_c	SYSTEM STATE backup of Windows client fails.
LGTsc05056	05056nw_c	The NetWorker software continues to use service devices for inventories.
LGTsc06212	06212nw_c	Media events are reset on unsuccessful mounts.
LGTsc08291	08291nw_c	Client priority is not honored with NetWorker release 7.3.2 for UNIX.
LGTsc08306	08306nw_c	An inquire operation returns errors on AMD & Intel Core 2 Duo servers.
LGTsc08478	08478 nw_c	NDMP DSA save sessions do not display correctly in the NetWorker Management Console.
LGTsc09583	09583nw_c	nsrck -L6 crashes on NetWorker release 7.4.
LGTsc09605	09605nw_c	During an unauthorized login, gstd stops after db error.
LGTsc10419	10419_c	nsrlic -v command does not report the correct number of enablers that were used.
LGTsc10789	10789nw_c	jbedit locks when an NDMP drive is added to an ACSLS jukebox.
LGTsc11109	11109nw_c	A Linux recover operation does not properly report an add failure.
LGTsc11537	11537nw_c	nsrjobd does purge dbg subdirectories according to the purge rules.
LGTsc12252	12252nw_c	Poor performance of the compress directive in NetWorker releases 7.4 and 7.3.x.
LGTsc13286	13286nw_c	Cloning expired savesets causes them to have an infinite retention period.
LGTsc13328	13328nw_c	Library operations do not update the current inventory.
LGTsc13364	13364nw_c	With duplicate volume names, you must select a new name or remove the original.
LGTsc13474	13474nw_c	Save.exe core dumps on DFS backups with VSS.
LGTsc13496	13496nw_c	With the save command, the SYSTEM FILES save set fails with a crash.
LGTsc13562	13562nw_c	Saveset inactivity timeouts result in the improper dismounting of a volume.
LGTsc13592	13592nw_c	The NetWorker software automatically deletes devices from the jukebox .
LGTsc13595	13595nw_c	SYSTEM STATE backup fails on Windows clients.
LGTsc13630	13630nw_c	The expiration dates of volumes containing PowerSnap backups incorrectly display as January 2038.
LGTsc13672	13672nw_c	inquire cores on NetWorker 7.3 SP3.
LGTsc14523	14523nw_c	The nsrexecd process dies intermittently.

Table 9 Fixed bugs in NetWorker release 7.4 Service Pack 3 (page 2 of 3)

Issue number for Customer Service	Issue number	Description
LGTsc14565	14565nw_c	NetWorker writes to read-only side of AFTD.
LGTsc14566	14566nw_c	The saveset duration is incorrect in NetWorker release 7.3 SP3.
LGTsc14572	14572nw_c	The same volume is reported in multiple slots in the NSR jukebox.
LGTsc14596	14596nw_c	Set the NSR_NDMP_DDAR variable on the server.
LGTsc14605	14605nw_c	GSTD periodically core dumps.
LGTsc14887	14887nw_c	Repeated message "nsrd: Device xxxxx has been reset" displays.
LGTsc14980	14980nw_c	Incorrect return status given from the successful nsrmm command.
LGTsc15207	15207nw_c	Expired sessions are displayed on the active session view.
LGTsc15239	15239nw_c	nsrjobd crashes when killing savegrp processes.
LGTsc15422	15422nw_c	The winworker program closes when recovering a directory with many subfolders.
LGTsc15434	15434nw_c	The NetWorker software does not properly handle the drive empty error.
LGTsc15448	15448nw_c	NDMP cannot handle the Sun NAS 5320 filer.
LGTsc15480	15480nw_c	nsrmm core dumps on AIX.
LGTsc15505	15505nw_c	Sessions from a directed restore operation are not listed in the NetWorker Management Console.
LGTsc15762	15762nw_c	NetWorker Management Console release 3.4.1: save set list status errors.
LGTsc15959	15959nw_c	Group parallelism not honored when using the nsrscsi_save command.
LGTsc16223	16223nw_c	mminfo valid is inconsistent with scanner valid for volumes.
LGTsc16367	16367nw_c	NetWorker periodically chooses the RO side of an AFTD for writing.
LGTsc16460	16460nw_c	The LUS driver causes kernel panic errors.
LGTsc16539	16539nw_c	DL data loss occurs on a backup after cleaning up space on a FTD.
LGTsc16736	16736nw_c	nsrcpd restarts and fails to log auth messages.
LGTsc16781	16781nw_c	Recycling a volume to a different pool does not update the volume name based on the label template for the pool.
LGTsc16795	16795nw_c	nsrmmdbd crashes after an upgrade to NetWorker 7.3. SP3 from NetWorker 7.3.2 Jumbo.
LGTsc16801	16801nw_c	RPC errors occur on NetWorker when invoking asm "holey" to backup .nsf files, and NetWorker loses connection.
LGTsc16906	16906nw_c	EBS corrupts the base enabler after restarting the NetWorker software.
LGTsc16908	16908nw_c	CAC NDMP backups run on an average of two sessions at a time.
LGTsc16984	16984nw_c	NetWorker does not resolve the alias for RSN as it does for SN.
LGTsc17072	17072nw_c	Client backups do not start when the savegrp starts.
LGTsc17276	17276nw_c	NDMP saveset recover operations fail when a client file index is not generated.
LGTsc17407	17407nw_c	The NetWorker User GUI displays Japanese characters incorrectly.

Table 9 Fixed bugs in NetWorker release 7.4 Service Pack 3 (page 3 of 3)

Issue number for Customer Service	Issue number	Description
LGTsc17641	17641nw_c	Commands which issue SCSI commands (inquire , dvdetect , nsrlcpd) may core dump on Linux systems using udev persistent binding if more than 256 SCSI devices are configured on the system.
LGTsc18039	18039nw_c	On VTL, you must enable FORCE_REC_AFFINITY.
LGTsc19190	19190nw_c	The NetWorker Management Console crashes with faulting module librap.dll, fault addr. 0x0000e114 errors.
LGTsc19284	19284nw_c	Fix the calculation on when to check the server parallelism for nsrjobd .
LGTsc19285	19285nw_c	Improve nsrjobd performance by removing notification jobs.
LGTsc19357	19357nw_c	A savegrp operation fails after an RPC error.
LGTsc19463	19463nw_c	Unable to scan for devices on a NetWorker 7.3.x server when using NetWorker 7.4.2 NMC.
LGTsc19786	19786nw_c	nsrmmmd hangs reading while performing a manual clone operation.

Fixed bugs in release 7.4 Service Pack 2

Table 11 on page 56 lists customer reported defects resolved in release 7.4 Service Pack 2.

Table 10 Fixed bugs in NetWorker release 7.4 Service Pack 2 (page 1 of 3)

Issue number for Customer Service	Issue number	Description
LGTsc07904	07904nw_c	Implement a hard timeout value for savegrp.
LGTpa96321	96321nw_c	Message informs the user of the presence of the .nsr file.
LGTpa14511	14511nw_c	Save the Diagnostic Mode value as a user preference.
LGTsc13364	13364nw_c	Duplicate volume names appear and cause errors if recyclable tapes are loaded automatically.
LGTsc13592	13592nw_c	NetWorker automatically deletes devices from the autochanger.
LGTsc14572	14572nw_c	The same volume is reported in multiple slots in NSR jukebox.
LGTsc13328	13328nw_c	The current inventory is not updated by the library operations.
LGTsc10789	10789nw_c	jbedit locks when trying to add an NDMP drive in the ACSLS jukebox.
LGTsc04147	04147nw_c	Give warning if a pool is disable that meets the criteria.
LGTpa80517	80517nw_c	If VSS is disabled, the content of %SystemRoot%/winsxs was not backed up.
LGTpa80816	80816nw_c	SYSTEM STATE backup of Windows client was failing on Windows 2003.
LGTpa88341	88341nw_c	For ZFS directories, access control list permissions were not automatically propagated to the recovered files.
LGTsc04471	04471nw_c	The NetWorker User Program (winworkr) program stopped responding if a required volume is off line when initiating a recovery.
LGTsc06375	06375nw_c	Combined update of NetWorker and NetWorker Module for Exchange using Software Distribution is successful but is reported as failed
LGTsc06575	06575nw_c	On Windows 2003, an application exception was occurring with save.exe during the backup of a named pipe.
LGTsc07193	07193nw_c	When a file type device is marked as full and save sets are removed, the "written" field was not recalculated to accurately reflect the amount of data written to the device.
LGTsc07375	07375nw_c	When using an IBM Silo 3494, the error "nsrjb: RAP error: No jukeboxes are currently usable." appears even though the silo is enabled.
LGTsc07376	07376nw_c	When the NetWorker server was accessing a CentricStor VTL, the CentricStor could not change its jukebox resource to a state of "ready."
LGTsc07632	07632nw_c	When there was a missing file mark on a tape, nsrmmd would core dump.
LGTsc08391	08391nw_c	AlphaStor was exporting empty NetWorker tapes.
LGTsc09194	09194nw_c	When a tape was not properly dismounted, the final file mark on the tape could be overwritten, resulting in I/O errors.
LGTsc09236	09236nw_c	The scanner command was hanging when there are more than 700 savesets on an advanced file type device.

Table 10 Fixed bugs in NetWorker release 7.4 Service Pack 2 (page 2 of 3)

Issue number for Customer Service	Issue number	Description
LGTsc09289	09289nw_c	The wrong encoding was used for localized notifications, resulting in unreadable notifications in non UTF-8 languages.
LGTsc09660	09660nw_c	When a logical volume manager was being used with Linux and the keyword "ALL" was used for the client's Save Set attribute, not all locally mounted file systems were being backed up.
LGTsc09670	09670nw_c	The jbconfig command did not allow an underscore character in the name of an EMC AlphaStor™ library.
LGTsc09692	09692nw_c	Out-of-date output files in the savegroup completion report were not automatically deleted.
LGTsc09942	09942nw_c	With an AlphaStor library, the NetWorker software was not correctly identifying that the wrong volume was in a drive and was attempting to overwrite the volume name.
LGTsc10070	10070nw_c	Due to a race condition, the nsrjobd daemon was intermittently core dumping during backup.
LGTsc10111	10111nw_c	An incorrect error message was displayed when the nsrmmd daemon reported an error.
LGTsc10413	10413nw_c	Due to an attempt to access a dereferenced pointer, the nsrd daemon was crashing during backup.
LGTsc10748	10748nw_c	The nsrjb -a command was failing to allocate new volumes in ACSLS.
LGTsc10821	10821nw_c	DAS silos were taking a long time to mount tapes.
LGTsc11183	11183nw_c	The nsrmmgd daemon was core dumping when the jbedit program was used to add a new drive while backups were running.
LGTsc11222	11222nw_c	No entries were recorded in the NetWorker Backup Statistics report.
LGTsc11274	11274nw_c	Backup were failing when the save set list had a very large number of save sets defined.
LGTsc11491	11491nw_c	Backups of the Oracle database were failing when a raw partition was identified by a drive letter.
LGTsc11525	11525nw_c	Shutdown or startup of cluster service intermittently resulted in an incomplete NetWorker shutdown.
LGTsc11571	11571nw_c	When multiple groups were configured with the same name but using different upper or lowercase letters, the group names were not correctly displayed in NMC reports.
LGTsc12061	12061nw_c	Events in the events table could not be dismissed until the event is resolved.
LGTsc12318	12318nw_c	The NetWorker cluster service did not detect HACMP when the state of Fileset cluster.es.server.rte was CE.
LGTsc12693	12693nw_c	Queries performed by the mminfo command were reporting aborted clone save sets as successful.
LGTsc13045	13045nw_c	The nsradmin program did not support queries with wildcards.
LGTsc13574	13574nw_c	Due to a incorrect memory pointer, the nsrmmd daemon was core dumping.
LGTsc13606	13606nw_c	When two storage nodes shared a media library but did not share a drive, and a volume was mounted in the drive for node_A and was then requested for node_B, the drive was incorrectly loaded into the drive for node_A.
LGTsc13630	13630nw_c	Powersnap coversets were not allowing Powersnap backups to expire.
LGTsc13672	13672nw_c	The inquire command was core dumping because of an attempt to access a null pointer.
LGTsc13793	13793nw_c	The nsrlcpd daemon was reporting that there was not enough memory when attempting to load a tape.
LGTsc14078	14078nw_c	When a VCB proxy client was also defined as a dedicated storage node, the proxy client was not able to use the dedicated storage node.

Table 10 Fixed bugs in NetWorker release 7.4 Service Pack 2 (page 3 of 3)

Issue number for Customer Service	Issue number	Description
LGTsc14081	14081nw_c	With VMware Consolidated backup, if the mount point did not contain the string "vcb," then when a directory level or an ALLVMFS backup was performed, the backup was reported as successful but no data was backed up.
LGTsc14258	14258nw_c	Heap overflow security vulnerability in the RPC protocol parsing library, librpc.dll.
LGTsc14870	14870nw_c	Cluster files were missing from Solaris AMD64 packages.

Fixed bugs in release 7.4 Service Pack 1

Table 11 on page 56 lists customer reported defects resolved in release 7.4 Service Pack 1.

Table 11 Fixed bugs in NetWorker release 7.4 Service Pack 1 (page 1 of 3)

Issue number for Customer Service	Issue number	Description
LGTpa90556	90556nw_c	On Windows and AIX operating systems, the restart level for a group was based on a midnight-to-midnight schedule, not based on the group's restart window.
LGTpa93119	93119nw_c	The savegroup completion notification did not have a blank line between client names. A space has been added between client names to improve the clarity of the savegroup completion report.
LGTpa95473	95473nw_c	The winworkr program did not display icons for the directory or files of an UNC save set in the recovery window.
LGTpa95583	95583nw_c	After a successful full backup and merge of a file history, files were left in the /nsr/tmp directory. The following error message was reported in the messages log: Error removing temporary FH index directory: Directory not empty
LGTsc01032	01032nw_c	If the NetWorker software was not installed to a standard directory on a Solaris operating system, the LGTOdrv package did not install correctly.
LGTsc01612	01612nw_c	A NetWorker server running could not bring a virtual tape library to a ready state using CentricStor. The nsrlcpd daemon attempted to bring the jukebox to a ready state, but never completes the process.
LGTsc01831	01831nw_c	After upgrading from release 7.2.1 to 7.3.2 Jumbo on AIX 5.3, and applying fixes LGTpa91490 and LGTsc00637, the nsrlcpd process stopped responding.
LGTsc02652	02652nw_c	Media verification failed at the end of a tape because aborted and restarted save set errors were not reported to the NetWorker software.
LGTsc03036	03036nw_c	If a back schedule for a savegroup encounters a Skip level for a day, a created group (not default group) reported the following error messages in the daemon log: "Save Set Cloning Failed" and "Automatic cloning of save sets to pool Default Clone failed." If the backup schedule is set to Skip then there will not be any regular saves, and therefore no clone jobs. The messages were generated incorrectly.
LGTsc03424	03424nw_c	The client post command pstclntsave does not run until all clients in the group finish the backup.
LGTsc03785	03785nw_c	After upgrading from 7.2.2 to 7.2.2 Jumbo with LGTpa92822, all authorization codes with licenses were reset because the composite hostid was not calculated anymore.
LGTsc03920	03920nw_c	The NetWorker software fails to configure device on a HP-UX G5 server running Windows 2003 with Windows 2003 Service Pack 2. The inquire, jbcconfig and sji commands all failed with the following error: Error in nt_lus_get_inquiry; error was 1
LGTsc03934	03934nw_c	If a mount request was cancelled because of an "operation timeout" one of two things occurred: The library was never notified to cancel the mount operation. Or, when the (now cancelled) mount operation completed, the completion message was ignored because it was not expecting it and the library becomes out of sync with the NetWorker software.
LGTsc05168	05168nw_c	The nsrmm -o recyclable volume_name command was unable to change the save set flag to Recyclable.
LGTsc05267	05267nw_c	After AlphaStor imported a NetWorker volume, the NetWorker software failed to update the correct available slot count.
LGTsc06017	06017nw_c	The mminfo -q "full" command reported the status of all volumes, not just the full volumes.

Table 11 Fixed bugs in NetWorker release 7.4 Service Pack 1 (page 2 of 3)

Issue number for Customer Service	Issue number	Description
LGTsc06218	06218nw_c	The jbconfig command did not recognize a dedicated storage node license. By default the dedicated storage node was configured as a storage node device.
LGTsc06237	06237nw_c	A NetWorker server running Tru64 was unable to configure and utilize a jukebox with AlphaStor releases 3.1 and later.
LGTsc06342	06342nw_c	The nsrlic -v command core dumped when checking NDMP licenses.
LGTsc06431	06431nw_c	The failed Cloned ssid does not display the "a" clflags in NMC GUI.
LGTsc06624	06624nw_c	A nsrjobd core dumped on Linux when running a backup on an inaccessible machine.
LGTsc06647	06647nw_c	The NetWorker software failed to use all the I/O ports to withdraw volumes at the same time in an ACSLS environment. Only the first I/O port was used for withdrawing volumes.
LGTsc06671	06671nw_c	Scheduled savegroups stopped responding with the status "Contacting client" due to nsrmmd processes having out-of-sync I/O issues.
LGTsc06790	06790nw_c	After upgrading from NetWorker release 7.2.1 to 7.3.2-jumbo-update2, the nsrjobd process frequently core dumped due to insufficient memory.
LGTsc07067	07067nw_c	The winworkr.exe program was crashing when a file with very long pathname was being recovered and that file was password-protected.
LGTsc07194	07194nw_c	For DDS license, a, incorrect OS-type license was being obtained from the NetWorker License Manager.
LGTsc07286	07286nw_c	The gstd.exe program intermittently crashed if the save set name is null in the job record.
LGTsc07356	07356nw_c	Save sets were removed from an AFTD, but no record of removing the save sets was logged.
LGTsc07546	07546nw_c	Multiplexing could not be one using NDMP configured tape devices if the Group Parallelism value was set to 0 and Client Parallelism set to 1.
LGTsc07669	07669nw_c	Savegroup completion notifications were getting truncated thereby providing incomplete status.
LGTsc07828	07828nw_c	The NetWorker software was unable to communicate with a silo using NetWorker commands after upgrading to release NW 7.3.2 build 399 running Windows 2000 Service Pack 4.
LGTsc07897	07897nw_c	The NetWorker software was writing to a Read Only AFTD.
LGTsc08007	08007nw_c	The nsrim -X command did not put a file device volume from a full state to appendable state.
LGTsc08056	08056nw_c	The mminfo command was crashing due to an invalid frag pointer in the media database.
LGTsc08135	08135nw_c	The nsrmmd process generated a core dump when unmounting a volume.
LGTsc08547	08547nw_c	During the generation of NMC report of Data Retention, the NMC GUI did not display the default retention policy correctly in Japanese.
LGTsc07064	07064nw_c	Savegroup completion reports were truncated when and backing up 30 or more clients.
LGTsc05965	05965nw_c	The nsrjb command operations were not displaying information on all cartridges.
LGTsc06661	06661nw_c	When a WORM tape was creating the tape using the Create DLT WORM and WORM attribute in a pool, it could not be relabeled.
LGTsc06229	06229nw_c	The expiration column for a newly labeled volume was displayed as disabled.
LGTsc03171	03171nw_c	The NetWorker Console was not JRE 1.6 compliant with Microsoft Windows.

Table 11 Fixed bugs in NetWorker release 7.4 Service Pack 1 (page 3 of 3)

Issue number for Customer Service	Issue number	Description
LGTsc02865	02865nw_c	The NetWorker Console fonts were corrupted when launched on a Linux operating system for Asian languages.
LGTsc04674	04674nw_c	Save operations to a device connected to an HP-UX 11.31 (11iv3) system will hung if CDI was enabled on the device.
LGTpa89233	89233nw_c	NDMP recovery was failing if both the NSR_NDMP_DDAR and NSR_NDMP_RECOVER_DIR variables were toggled.

Fixed bugs in release 7.4

Table 12 on page 59 lists customer reported defects resolved in release 7.4.

Table 12 Fixed bugs in NetWorker release 7.4 (page 1 of 2)

Issue number for Customer Service	Issue number for Issue Tracker	Description
LGTpa89454	89454nw_c	The nsrexecd process core dumps intermittently when backing up an Oracle database.
LGTpa89690	89690nw_c	The nsrjb - l command has been enhanced. The nsrjb manpage has full details on the enhancements.
LGTpa93433	93433nw_c	The nsrlcpd command stops responding after trying to make a third ssi connection.
LGTpa93937	93937nw_c	The NetWorker Management Console version 3.2.3 displayed the same information for two different groups when one group was already open on another system.
LGTpa90414	90414nw_c	The gstd.exe program consumed large amounts of memory after upgrading to NetWorker Console version 3.2.2.
LGTpa93479	93479nw_c	A media database entry with ssflags and/or cflags in an expired state cannot be recovered.
LGTpa93791	93791nw_c	The gstd log file was populated with large amounts of error messages indicating data was not being stored causing a the NetWorker Console to stop responding.
LGTpa93988	93988nw_c	A ssi process did not follow the SSI_HOSTNAME directive and associate itself with the defined Alias/IP address.
LGTpa94577	94577nw_c	The NetWorker Console could not reconfigure devices.
LGTpa94844	94844nw_c	After installing NetWorker Console, the gstd services did not connect the correct port to the http service.
LGTpa96035	96035nw_c	A login error was reported when using the gstcreport command if the command was dependant on port 2638.
LGTpa90245	90245nw_c	The modload and modunload commands did not always successfully read the sgen.conf file on Solaris 10.
LGTsc00555	00555nw_c	During a startup, the NetWorker software did not differentiate between multiple configured ACSLS systems and reported unknown volumes loaded in other configured ACSLS silos.
LGTpa96100	96100nw_c	If the /etc/utmp directory was emptied, removed, or corrupted, the nsrjb and inquire commands stopped responding on HP-UX.
LGTsc00473	00473nw_c	If one of multiple configured ACSLS silos failed when starting the NetWorker software, other nsrlcpd processes connected to the wrong ssi process causing other libraries to fail as well.
LGTsc00637	00637nw_c	A silo became unavailable and could not be configured after upgrading from NetWorker release 7.2.1 to 7.3.2.
LGTsc01053	01053nw_c	An save set that was aborted then restarted after an End of Tape error was not reported by an AIX generic driver with HP LTO2 drives.
LGTsc01315	01315nw_c	The nsrim -X command took many days to complete and the nsrmmdbd process used 100% of the CPU.
LGTsc02627	02627nw_c	The nsrmmgd process stopped responding after external library issues. As a result, the backup server had to be restarted.
LGTsc02687	02687nw_c	Performance spikes in the nsrjobd process caused a session channel failure resulting in a loss of reported data.

Table 12 Fixed bugs in NetWorker release 7.4 (page 2 of 2)

Issue number for Customer Service	Issue number for Issue Tracker	Description
LGTsc02781	02781nw_c	The nsrjb command core dumps caused issues when trying to label, mount and un-mount tapes.
LGTsc04683	04683nw_c	The nsrd process did not start correctly in AAM cluster.
LGTpa59710	59710nw_c	NetWorker Module Console installation path could not contain non-ASCII characters on all supported platforms.

Environment and system requirements

This section describes specific environment and system requirements.

System configuration requirements for a dedicated NetWorker server

Table 14 on page 61 outlines the following:

- ◆ Minimum system configuration requirements be met when running the NetWorker software on a dedicated NetWorker server.
- ◆ Tips when setting parameters at the operating system level.

Note: If the following system requirements are not met, the performance of the NetWorker software could be significantly affected or the NetWorker daemons might crash.

Table 13 Minimum system requirements for a dedicated NetWorker server

	Minimum recommended configuration
CPU	Dual Core with a minimum of 1.5 GHz speed for each CPU
RAM	2 GB
Swap space	4 GB minimum (at least twice RAM)

Table 14 Minimum system requirements for a dedicated NetWorker server

	Minimum recommended configuration		
Kernel parameters	The following plimit values for all NetWorker daemons should be set to maximum as follows:		
	Resource	Current	Maximum
	Time	Unlimited	Unlimited
	file(blocks)	Unlimited	Unlimited
	data(Kbytes)	Unlimited	Unlimited
	stack(Kbytes)	8192	Unlimited
	coredump(blocks)	Unlimited	Unlimited
	nofiles(descriptors)	65536	65536
	vmemory(Kbytes)	Unlimited	Unlimited
	Dedicated NetWorker storage nodes and servers should be tuned to for shared memory usage as follows:		
msgsys:msginfo_msgmni=1024 msgsys:msginfo_msgtql=1024 semsys:seminfo_semmni=2048 semsys:seminfo_semmns=2048 semsys:seminfo_semopm=128 shmsys:shminfo_shmmax=33554432 shmsys:shminfo_shmmni=512 These settings are not required for Solaris 10, but are required for Solaris 8 and 9.			

The *NetWorker Performance Tuning Guide* has information on tuning the operating system and is available at: <http://Powerlink.EMC.com>.

Java Web Start jnlp file caching issue after upgrading the NetWorker Console

After the NetWorker Console is upgraded or a client locale is changed, the `gconsole.jnlp` file will be different than the original `gconsole.jnlp` file in the Java Web Start cache. The NetWorker console will fail to launch.

Workaround

Remove the Select the NetWorker Management Console Application and Language Pack from the Java Application Cache Viewer:

1. Run the **Java Application Cache Viewer**. From the command line, use the `javaws` command to launch the application.
2. Select the **NetWorker Management Console Application and Language Pack**.
3. Click **Remove Selected Application**.
4. Clear the temporary files used by Java applications:
 - a. In the **Java Application Cache Viewer**, select **Preferences** from the **Edit** menu.
 - b. Click **Delete Files** and click **OK**.

Java Web Start cache path and non-English characters

If the path for the Java Web Start cache contains non-English characters, this will cause the NetWorker Console to fail to launch. The resolution to this problem is to change the Java Web Start cache path to a path that contains no non-English characters.

The Java Web Start cache path is changed in the Java Web Start Console. Different JRE versions have different names for the Java Web Start Console; please consult java.sun.com for details.

Windows hot fix required for Vista to recover VSS System files

Due to an issue with the Microsoft Windows Vista operating system, a hot fix is required to successfully recover VSS System files. Contact Microsoft to obtain the fix. Details can be found at: <http://support.microsoft.com/kb/935606>.

Features provided with base enablers

Table 15 on page 63 lists the features that are available as part of NetWorker base enablers.

Table 15 Features provided with base enablers

Feature	Support by edition			
	Power	Network	Workgroup	Business
Number of included client connections	12	10	8	8
Parallel data streams per NetWorker server	64	32	32	32
Parallel datastreams per storage node ^a	64	32	N/A	N/A
Number of physical devices per server	32	16	4	4
Increase in datazone's devices, per storage node license	32	16	N/A	N/A
Maximum number of devices	512 ^b	256	4	4

a.Storage nodes available for additional cost for the Power and Network Editions only.

b.Available in NetWorker 7.2.x and later. For NetWorker 7.1.x the maximum is 256.

Additional features available with base enablers

Table 16 on page 63 lists the features that are available for support with NetWorker base enablers.

Table 16 Additional features available with base enablers (page 1 of 2)

Feature	Support by edition			
	Power	Network	Workgroup	Business
Additional client connections	Yes	Yes	No	No
Storage nodes	Yes	Yes	No	No
Cluster support	Server and Client	Client	No	Maximum 2 Cluster client connections
ClientPak Module for heterogeneous environments	Yes	Yes	Yes	Yes
NetWorker NDMP Client Connections	Yes	Yes	No	Maximum 2 NDMP client connections
Dynamic Drive Sharing Option	Yes	Yes	N/A	N/A
NetWorker DiskBackup Option	Yes	Yes	Yes	Yes
NetWorker Archive Module	Yes	Yes	No	No
Autochanger Software Modules	All	All	1-9, 1-16, 1-20, 1-32	Only 1-26 included in base
NetWorker Application Modules	Yes	Yes	Yes	Yes
NetWorker Windows Server 2003 Open File Option	Yes	Yes	Yes	Yes

Table 16 Additional features available with base enablers (page 2 of 2)

Feature	Support by edition			
	Power	Network	Workgroup	Business
Open File Manager	Yes	Yes	Yes	Yes
NetWorker PowerSnap Modules	Yes	Yes	No	No
NetWorker SnapImage Module	Yes	Yes	No	Yes
VSS Support for Windows 2003	Yes	Yes	Yes	Yes
Simple Network Management Protocol (SNMP)	Yes	Yes	Yes	Yes

NetWorker release 7.4.x does not support EBA 2.1.1

The NetWorker release 7.4.x does not support EBA 2.1.1. The minimum requirement is EBA 2.1.2.

Known problems and limitations

This section describes known limitations found in the entire NetWorker family of releases.

- ◆ [“Problems and limitations discovered in release 7.4 Service Pack 3” on page 65](#)
- ◆ [“Problems and limitations discovered in release 7.4 Service Pack 2” on page 81](#)
- ◆ [“Problems and limitations discovered in releases 7.4 and 7.4 Service Pack 1” on page 88](#)
- ◆ [“Problems and limitations discovered in releases previous to 7.4” on page 91](#)

Note: The most up-to-date product issues for EMC NetWorker are detailed online in the EMC Issue Tracker, available on the EMC Powerlink website: <http://Powerlink.EMC.com>.

Problems and limitations discovered in release 7.4 Service Pack 3

[Table 17 on page 65](#) identifies problem issues and limitations discovered in NetWorker release 7.4 SP2 that continue to be applicable.

Table 17 Limitations discovered in NetWorker release 7.4 Service Pack 3 (page 1 of 3)

Defect Number	Issue Tracker Issue number	Description of limitation	Limitation in operating system
“LGTsc19401” on page 67	19401nw	Removable Storage Manager (RSM) not supported.	Linux, UNIX, and Microsoft Windows
“LGTsc19241” on page 67	19241nw	For Microsoft Windows Server 2008 raw devices are not saved under the virtual client's index	Microsoft Windows
“LGTsc20566” on page 68	20566nw	The contents of the /opt, /var, /etc directories are not excluded when the -B option is used.	Linux, Microsoft Windows, and Solaris
“LGTsc20558” on page 68	20558nw	After a BRM recovery operation the root password might change.	Linux, Microsoft Windows, and Solaris
“LGTsc20557” on page 69	20557nw	The Homebase Agent is not supported in a Cluster environment.	Linux, Microsoft Windows, and Solaris
“LGTsc20517” on page 69	20517nw	For each NetWorker client that is BMR enabled, set the save set attribute in the client resource to ALL.	Linux, Microsoft Windows and Solaris
“LGTsc16423” on page 69	16423nw	nsrbmr does not give proper error messages under certain conditions.	Linux, Microsoft Windows and Solaris
“LGTsc19916” on page 69	19916nw	Extended profile not included in file system recover when using recover -B option.	Solaris
“LGTsc19682” on page 70	19682nw	mcclimcs.xml files not updated when using change-passwords utility to modify password for MCUser.	Microsoft Windows

Table 17 Limitations discovered in NetWorker release 7.4 Service Pack 3 (page 2 of 3)

Defect Number	Issue Tracker Issue number	Description of limitation	Limitation in operating system
"LGTsc19676" on page 70	19676nw	Broker connects to first available storage node if no device or mmd available on first host.	Solaris
"LGTsc18397" on page 70	18397nw	Cannot set nsrdir parameter for virtual server using remote Microsoft Management Console (MMC).	Microsoft Windows
"LGTsc17737" on page 71	17737nw	Error message does not display for annotations with similar characters at end.	Microsoft Windows
"LGTsc09483" on page 71	09483nw	Not all save sets listed after running mminfo command with dedupe option.	Solaris
"LGTsc19514" on page 71	19514nw	Delay in cancelling savegroups in NMC for BMR enabled clients.	Linux, Microsoft Windows, and Solaris
"LGTsc19513" on page 71	19513nw	HomeBase installation files are automatically extracted during a NetWorker client install.	Linux, Microsoft Windows, and Solaris
"LGTsc19364" on page 71	19364nw	Last-modified date changed for files recovered to Sun Cluster global file system.	Solaris
"LGTsc19388" on page 72	19388nw	NetWorker and the HomeBase agent (BMR) licenses work independently.	Linux, Microsoft Windows, and Solaris
"LGTsc16831" on page 72	16831nw	For Microsoft Windows, ensure that the HomeBase agent software installed in the same installation path as the NetWorker software .	Microsoft Windows
"LGTsc18023" on page 73	18023nw	For UNIX, only install the NetWorker HomeBase agent software in the NetWorker default installation directory.	Linux and Solaris
"LGTsc18641" on page 73	18641nw	Before restoring the base profile, manually edit the fields in the recovery-configuration.xml file.	Linux, Microsoft Windows, and Solaris
"LGTsc19402" on page 73	19402nw	The <code>-e exclude file</code> option behaves differently for files and directories.	Linux, Microsoft Windows, and Solaris
"LGTsc20332" on page 74	20332nw	Files and directories should be in specific order in exclude file.	Linux, Microsoft Windows, and Solaris
"LGTsc19396" on page 74	19396nw	The recover <code>-e exclude file</code> option does not exclude any files if the directory is incorrectly specified in the exclude file.	Linux, Microsoft Windows, and Solaris
"LGTsc19084" on page 75	19084nw	The recover <code>-e exclude file</code> option does not support NDMP file systems.	Linux, UNIX, and Microsoft Windows
"LGTsc19405" on page 75	19405nw	No file name checks for remote clients when using the <code>--e exclude file</code> option with a directed recovery operation.	Linux, Microsoft Windows, and Solaris
"LGTsc18925" on page 75	18925nw	Unable to launch the NetWorker Dashboard software with NetWorker Release 7.4 Service Pack 3.	Microsoft Windows

Table 17 Limitations discovered in NetWorker release 7.4 Service Pack 3 (page 3 of 3)

Defect Number	Issue Tracker Issue number	Description of limitation	Limitation in operating system
"LGTsc19315" on page 76	19315nw	VSS system files backup fail on Windows Server 2008 Hyper-V role implementation.	Microsoft Windows
"LGTsc16575" on page 76	16575nw	A backup might fail for CIFS shares on Microsoft Windows hosts.	Microsoft Windows
"LGTsc18589" on page 77	18589nw	A backup might fail if the system clocks for the NetWorker server and client differ more than the default of one day or the user specified interval.	Linux, UNIX, and Microsoft Windows
"LGTsc17703" on page 77	17703nw	How to back up a NetWorker Windows client that has multiple domains that are part of both an AD domain, and a DNS domain.	Microsoft Windows
"LGTsc17220" on page 78	17220nw	When upgrading to NetWorker 7.4.x from 7.2.2, customized values that were set for Service and Connection Port Ranges might be reset to the default values.	Linux, UNIX, and Microsoft Windows
"LGTsc10295" on page 78	10295nw	De-dup recover sessions do not display in the NMC GUI.	Linux, UNIX, and Microsoft Windows
"LGTsc14770" on page 78	14770nw	NetWorker support for Solaris 8 and 9 HBAs and drivers.	Solaris
"LGTsc14700" on page 79	14700nw	Support for Windows Change Journal Manager with Microsoft Windows 2008.	Microsoft Windows
"LGTsc08756" on page 79	08756nw	Text searched for in the NetWorker Console Help program does not get highlighted correctly if using JRE 1.5.x for Asian languages.	Solaris
"LGTsc10796" on page 79	10796nw	Do not recover identical save sets with different sids to the same target directory.	Linux, UNIX, and Microsoft Windows
"LGTsc16661" on page 80	16661nw	Marking volumes as Recyclable might slow system performance.	Linux, UNIX, and Microsoft Windows

Removable Storage Manager (RSM) not supported

LGTsc19401

NetWorker release 7.4 SP3 does not support RSM. You cannot use the NetWorker software to allocate one or more volumes in an RSM library.

For Microsoft Windows Server 2008 raw devices are not saved under the virtual client's index

LGTsc19241

When performing a savegroup of save set "All" for the virtual client, raw device are excluded from the backup list, even when directives are used. When a backup of the raw device is performed from the command line, the raw device is saved under the physical host's index, rather than the virtual client's.

Workaround

To work around the problem and back up the raw devices under the physical node's index:

1. Edit the client resource for the virtual client:
 - a. Update the save set list to include the raw device, for example:

```
\\.\M:
```

- b. For the Backup Command attribute, set the following value to force the save sets go to the correct index:

```
save -c virtual_client_name
```

- c. Create a directive using *rawasm*, for example:

```
rawasm:  \\.M:
```

2. On all nodes in the cluster, create the *pathownerignore* file. Ensure that the *pathownerignore* file is created in the NetWorker installation directory, for example:

```
c:\Program Files\Legato\nsr\bin
```

The contents of the */opt*, */var*, */etc* directories are not excluded when the *-B* option is used

LGTsc20566

During the HomeBase base profile recovery, the *exclude.NETWORKER* is created in *<hombaseagent>/install* path. The *-B* option uses this exclude file and excludes the specified files and directories.

However, the *exclude.NETWORKER* file does not exclude files and directories under the following directories. Data from these directories are not recovered from the source to the target system since they might cause issues during the recovery and migration operations:

- ◆ */opt*
- ◆ */var*
- ◆ */etc*

To recover application files installed under */var* or */opt*, you must manually recover the data to the appropriate directories for the application.

To recover configuration files or service binaries under */etc*, you must manually recover those files and directories.

After a BRM recovery operation the root password might change

LGTsc20558

After BMR recovery (base profile) operation, the root password might change. For example:

- ◆ On UNIX, the root password might be re-set to *risckey*.
- ◆ On Microsoft Windows a new admin user and password is created. You can log in as administrator with the profiled servers password or as the indigostone user. For example:
 - Admin user name: *indigostone*
 - Admin user name password: *H0meBase*

The Homebase Agent is not supported in a Cluster environment

LGTsc20557

For NetWorker Release 7.4 Service Pack 3, the Homebase Agent is not supported in a Cluster environment.

For each NetWorker client that is BMR enabled, set the save set attribute in the client resource to ALL

LGTsc20517

If the extended profile is not backed up as part of the NetWorker data set, a recovery or migration of the source to the target system can not be performed.

For each NetWorker client that is BMR enabled, set the **save set** attribute in the client resource to **ALL**. This ensures that the extended profile is part of NetWorker data backup.

The location of extended profile differs for Microsoft Windows and UNIX:

- ◆ Microsoft Windows: *NetWorker_install_path\HomeBaseAgent\history*
- ◆ UNIX: */opt/homebase-agent/history*

Note: Where *NetWorker_install_path* is the location of the NetWorker installation files.

nsrbmr does not give proper error messages under certain conditions

LGTsc16423

An appropriate error message is not displayed when both BMR profiling status and **savegrp** status fail due to one of the following:

- ◆ The Homebase agent is uninstalled and a **savegrp** with BMR enabled client is performed.
- ◆ A communication issue occurs between **nwserv** and **nwclnt**.

An error message displays but BMR profiling still completes with a status of "pass" in the following scenarios:

- ◆ The Homebase agent services are stopped during or after profiling. In this case, **nsrbmr** completes without any errors.
- ◆ Incorrect options are specified in the BMR options field under client properties. A command usage error displays, but profiling status indicates "pass".
- ◆ After installation, when the first **savegrp** is performed with BMR enabled client, the HomeBase server name is specified in the server properties and the BMR options field is left blank.

Once the **savegrp** is completed for the BMR enabled client, it is recommended to check the status of the BMR profile completion to ensure that BMR profiling has completed successfully.

Extended profile not included in file system recover when using recover -B option

LGTsc19916

When a file system recover is performed using the **recover -B** option, the extended profile is excluded. The extended profile needs to be recovered separately. The profile by default resides on the client in *<installdir>\HomeBaseAgent\history*.

mcclimcs.xml files not updated when using change-passwords utility to modify password for MCUser**LGTsc19682**

When the **change-passwords** utility is used to modify the password for MCUser, none of the mcclimcs.xml files on the utility node are updated with the new password information. As a result, mccli fails to pick up the new user/password.

When **change-passwords** has been used to change the password for MCUser, update the password for the MCUser account in the following mcclimcs.xml files on the utility node:

- ◆ /data01/home/admin/.avamardata/var/mc/cli_data/prefs/mcclimcs.xml
- ◆ /data01/home/dpn/.avamardata/var/mc/cli_data/prefs/mcclimcs.xml
- ◆ /root/.avamardata/var/mc/cli_data/prefs/mcclimcs.xml
- ◆ /usr/local/avamar/lib/mcclimcs.xml
- ◆ /.avamardata/var/mc/cli_data/prefs/mcclimcs.xml

Broker connects to first available storage node if no device or mmd available on first host**LGTsc19676**

If there is no device or mmd available on the first host in the affinity list, the broker continues through the affinity list until the first available storage node is located. Since the broker is not designed for file and AFTD devices, it does not recognize that the volume and the device are inseparable (for example, the broker could request an AFTD volume to be mounted on a different host). This is only a problem with stand alone devices, because volumes are not associated with storage nodes.

Workaround

To work around the problem, assign different devices to different pools. If the volume is not in a jukebox, the server has no way of knowing which volume can be mounted on which storage node.

Cannot set nsrdir parameter for virtual server using remote Microsoft Management Console (MMC)**LGTsc18397**

When configuring a virtual NetWorker server on Windows Server 2008 Core using a remote Microsoft Management Console (MMC), the **nsrdir** parameter for the NetWorker Server service cannot be set because the service's Properties tab is not visible.

Workaround

It is necessary to register the NetWorker server resource type on the remote machine running MMC in order to view the service's Properties tab to change the settings. To register the resource type:

1. Install the NetWorker server software.
2. Run **regcnsrd -r** on the remote machine.

You can now use a remote MMC to set the parameters.

Note: Besides MMC, you can also use the CLI cluster command on the cluster to set the **nsrdir** value. For example: **cluster res networker /priv: NsrDir="I:\nsr"**

Error message does not display for annotations with similar characters at the end

LGTsc17737

`Nsrretrieve` does not display an error message when a retrieve is performed using regular expressions for 2 annotations with similar characters at the end.

Not all save sets listed after running `mminfo` command with dedupe option

LGTsc09483

When you run the `mminfo` command with the `-q dedupe` option to view save sets created using de-duplication, the command does not list the following types of save sets:

- ◆ Empty save sets
- ◆ Save sets in which nothing was backed up as the result of skip directives

Such save sets are treated as regular save sets, not as de-duplicated save sets.

Delay in cancelling savegroups in NMC for BMR enabled clients

LGTsc19514

Stopping a savegroup from NMC when there are BMR clients enabled for profiling does not result in the savegroup being cancelled immediately. The clients with BMR enabled must wait until the profiling jobs complete before the savegroup is cancelled. Once the profiling completes, the savegroup is cancelled and subsequent savegroups for the clients will not be triggered.

HomeBase installation files are automatically extracted during a NetWorker client install

LGTsc19513

As part of the NetWorker client install, the HomeBase agent binary and setup files are always extracted to the standard location for all supported NetWorker platforms.

To install the EMC HomeBase agent, run the HomeBase setup file. The location of the setup file for Microsoft Windows and UNIX is different:

- ◆ Microsoft Windows: `\NWInstallDIR\HomeBaseAgent\setup_homebase.bat`
- ◆ UNIX: `/opt/homebase-agent/setup-homebase`

Note: For UNIX, the install directory `HomeBaseAgent` is at the same peer level as the `nsr` directory.

Last-modified date changed for files recovered to Sun Cluster global file system

LGTsc19364

The last-modified date for files recovered to the SUN Cluster global file system may be displayed as the current time instead of the last date the files were changed, due to an issue with Sun Cluster version 3.2.

Workaround

Disable `pxfs_fastwrite` by performing the following:

1. On all cluster nodes, run:


```
# echo "pxfs_fastwrite_enabled/W 0" |mdb -kw
```
2. Unmount, then mount the global file systems for the change to appear.

To re-enable fastwrite:

1. Set the variable `pxfs_fastwrite_enabled` to 1.
2. Unmount, then mount the global file systems.

More information on this issue is provided at the following web site:

http://bugs.opensolaris.org/bugdatabase/view_bug.do?bug_id=6540206

NetWorker and the HomeBase agent (BMR) licenses work independently

LGTsc19388

The software licenses for the NetWorker software and the HomeBase agent (Bare Metal Recovery) software work independently.

Example 1

If the Bare Metal Recovery (BMR) license is *disabled* and the base enabler license for the NetWorker server where the client is configured is *enabled*, the following occurs when a savegroup is run:

- ◆ The BMR profiling fails
- ◆ The NetWorker backup succeeds

Example 2

If the Bare Metal Recovery (BMR) license is *enabled* and the base enabler license for the NetWorker server where the client is configured is *disabled*, the following occurs when a savegroup is run:

- ◆ The BMR profiling succeeds
- ◆ The NetWorker backup fails

For Microsoft Windows, ensure that the HomeBase agent software is installed in the same installation path as the NetWorker software

LGTsc16831

For Microsoft Windows, ensure that the HomeBase agent software is installed in the same installation path as the NetWorker software.

It is not recommended to manually install the HomeBase agent software into a location that was not specified during the NetWorker software installation process.

On Microsoft Windows, the HomeBase agent installation path is at the same level as the default or user defined installation directory. For example:

```
C:\Program Files\Legato\nsr
C:\Program Files\Legato\HomeBaseAgent
```

Example

For example, if the NetWorker software is installed under:

- ◆ *C:\Program Files\Legato* which is the default location for the NetWorker software, then the HomeBase agent software is installed under the following location: *C:\Program Files\Legato\HomebaseAgent*
- ◆ *C:\Legato* which is an example of a non-default installation location for the NetWorker software, then the HomeBase agent software is installed under the following location: *C:\Legato\HomebaseAgent*

For UNIX, only install the NetWorker HomeBase agent software in the NetWorker default installation directory

LGTsc18023

On all UNIX platforms, ensure that the NetWorker HomeBase agent software is only installed in the default installation directory. Do not install the software in another directory. For example, the default installation directory is located in:

/opt/homebase-agent

On all UNIX platforms, the NetWorker bare metal recovery profiling feature will not work if the HomeBase agent software is installed in a location other than the default installation directory, */opt/homebase-agent*.

Before restoring the base profile, manually edit the fields in the recovery-configuration.xml file

LGTsc18641

If the HomeBase agent is installed with the NetWorker client package, the base profile for the HomeBase agent might not be updated.

Before you restore the base profile, you must first update the *recovery-configuration.xml* file or the recovery operation might fail.

Workaround

To work around this issue, manually edit the fields in the following file before performing a recovery of the base profile:

install_dir/etc/config/recovery/custom/recovery-configuration.xml

Note: Where *install_dir* is the location of the Homebase agent installation directory.

The recover -e exclude file option behaves differently for files and directories

LGTsc19402

The **recover -e exclude file** option behaves differently for files and directories.

If the content of exclude file has */etc/a**, the following occurs:

- ◆ File names that start with the character **a** are excluded.
- ◆ Directory names that start with the character **a** are excluded only when the directories are empty.
- ◆ The NetWorker recover operation looks for the entries which start with the character **a**:
 - If it is the end node in the tree, then the recover operation will exclude that entry.
 - If it is not end node in the tree, then the NetWorker software will recover the contents inside the tree.

Examples

If the content of exclude file has */etc/a**, enter the following in the exclude file:

- ◆ To exclude all contents under a directory:


```
directory_name/*
```
- ◆ To exclude all files and directories inside the '/':


```
/*
```

- ◆ To avoid recovering the '/':
/**
- ◆ To exclude all files starting with the character **a** inside '/':
/a*

This excludes all of the files starting with the character **a** inside '/'. It also excludes the empty directories starting with the character **a**.
- ◆ To exclude all files and empty directories inside the '/':
/?*

Files and directories should be specified in a specific order in the exclude file

LGTsc20332

The procedure to recover all files and directories specified in the exclude file using wildcard characters differs when performing an index or save set recovery operation.

Index recover operation

During an index recovery operation, to exclude all files and directories specified in the exclude file using wildcard characters, you must specify the file names first before the directory names in the exclude file.

For example, to exclude all files that begin with character **h** in the directory */etc*, enter the following:

```
/etc/h*
/etc/h*/*
```

Save set recover operation

During a saveset recovery operation, to exclude all files and directories specified in the exclude file using wildcard characters, you must specify the directory names first before the file names in the exclude file.

For example, to exclude all files that begin with character **h** in the directory */etc*, enter the following:

```
/etc/h*/*
/etc/h*
```

The recover **-e exclude file** option does not exclude any files if the directory is incorrectly specified in the exclude file

LGTsc19396

While performing a recover with **-e exclude file** option, the recover operation does not exclude any files if the directory is incorrectly specified in the exclude file.

Examples

If the directory in the exclude file is incorrectly entered as:

```
/opt
```

instead of:

```
/opt/*
```

The recover operation will not exclude any files and the command line output displays the total number of exclude files as 1.

The recover -e <exclude file> option does not support NDMP file systems

LGTsc19084

Do not use the **-e *exclude file*** option to exclude NDMP file system files and directories during a recover operation.

If the **-e *exclude file*** option is used with the **recover** command during a NDMP file system recover operation, the specified files listed with the **-e *exclude file*** option will not be excluded from the recovery and the following message will appear:

```
Total files excluded in the exclusion list is '0'
```

No file name checks for remote clients when using the -e *exclude file* option with a directed recovery operation

LGTsc19405

The NetWorker software does not validate specified exclude file names when the **-e *exclude file*** option is used with a remote client during a directed recovery operation. The validation will not be performed because the specified exclude file is present on the target client when the recovery is invoked.

If the **-e *exclude file*** option is used with a local recover operation, the NetWorker software validates the specified exclude file name. If the file does not exist, an error message appears. This validation is limited to only local recover operations.

Unable to launch the NetWorker Dashboard software with NetWorker Release 7.4 Service Pack 3 installed

LGTsc18925

If the NetWorker Dashboard software is installed on a computer with NetWorker Release 7.4 Service Pack 3 already installed, the NetWorker Dashboard software will not start.

The following errors might occur:

- ◆ At the end of the NWD server installation process, a warning message might appear stating that the NWD server could not start.
- ◆ After starting the NWD Server process, either manually through Microsoft Windows Services or automatically on system start up, the NWD server process might stop shortly afterwards.
- ◆ When launching the NWD GUI, a message might appear stating that the NWD server process is not running.

Workaround

To work around this issue:

1. Open and edit the *serverproperties.xml* file. The file is located in:

```
NWD_Install_Dir\classes\serverproperties.xml
```

Note: Where *NWD_Install_Dir* is the installation directory where the NWD server software was installed.

2. Locate the text specifying the **dbport** value. For example:

```
<param name="dbport">2638;DoBroadcast=NONE;HOST=myhost</param>
```

3. Edit the text string so that it contains only the port information. For example:

```
<param name="dbport">2638</param>
```

4. Save the *serverproperties.xml* file.
5. Re-start the NWD server process.

VSS system fileset backups fail on Windows Server 2008 Hyper-V role implementation

LGtsc19315

NetWorker backups of the VSS SYSTEM FILESET fail on Windows Server 2008 with Hyper-V role implementation.

Workaround

To work around this issue:

1. Copy the *slanaccel.exe* file from the following location:

```
C:\Windows\winsxs\amd64_microsoft-hyper-v-slanaccel_31bf3856ad364e35_6.0.6001.18000_none_1db986a6500c51a0\
```

2. Save the copied *slanaccel.exe* file to the following location:

```
C:\windows\system32\
```

A backup might fail for CIFS shares on Microsoft Windows hosts

LGtsc16575

A backup might fail for CIFS shares on a Microsoft Windows host. When **nsrexecd** is started as a service (context account), it can not obtain the CIFS path because of access restrictions to its security credentials from the NetWorker client (**nsrexecd**). By default, **nsrexecd** starts as a service under the SYSTEM account that does not have the correct permissions to access the CIFS share.

A message similar to the following appears:

```
save: \\10.31.73.80\bluenose\sam\t1.txt: "No such file or directory"
```

Workaround

To work around this issue:

1. Create an account on the NetWorker client machine with the same username and password as an account with permissions to the CIFS shares.
2. Perform one of the following backup operations:
 - Backup the CIFS shares saveset:
 - a. Edit the Client resource for the NetWorker client that is backing up the CIFS share:
 - For the **Remote User** attribute, enter the username from step 1.
 - For the **Password** attribute, enter the password from step 1.
 - b. Use the **savegrp** command to backup the CIFS shares saveset from the command line. For example:

```
# savegrp client_name -G group_name
```

- Backup the CIFS shares:
 - a. Ensure that the NetWorker client is connected to the CIFS share. For example:
Run a command shell that:
 - Has a mapped share with *net use \\IP_address\share*
 - Is connected with the username and password that has access to the CIFS share.
 - b. Use the **Save -L** command to backup the CIFS shares. For example:
Save -L

A backup might fail if the system clocks for the NetWorker server and client differ more than the default of one day or the user specified interval

LGTsc18589

A backup might fail if the system clocks for the NetWorker server and client differ more than the default of one day, or the user specified interval specified in `NSR_SAVE_REQ_TIMEOUT`.

An error message similar to the following appears:

```
39077:save: error, Automatically cancelling save request: save is
unable to start active session in 136216 seconds.
```

Note: Where the reported interval reflects the degree of the time disagreement between the NetWorker server and client.

Workaround

To set a common time reference, periodically run a clock synchronization utility on all administered network systems.

The commands to set a common time reference differ for UNIX and Microsoft Windows systems:

- ◆ For UNIX:

```
ntpdate local_ntp_server_hostname
```

Where *local_ntp_server_hostname* is the hostname of the local time server.

- ◆ For Microsoft Windows:

```
w32tm /resync
```

Note: Microsoft Knowledgebase article 314054 contains information about configuring the Microsoft Windows time service.

How to back up a NetWorker Windows client that has multiple domains that are part of both an AD domain, and a DNS domain

LGTsc17703

To back up a NetWorker Windows client that has multiple domains that are part of both an AD domain and a DNS domain, perform one of the following steps:

- ◆ Define the AD domain name, which is the Full Computer Name, in the NetWorker server's */etc/hosts* file.

- ◆ Define the AD domain, which is the Full Computer Name, in the Active Directory DNS. Also, on the NetWorker server, open the Client resource and add the Full Computer Name in the alias list.

When upgrading to NetWorker 7.4.x from 7.2.2, customized values that were set for Service and Connection Port Ranges might be reset to the default values

LGTsc17220

In the following scenario, customized values that had been set for Service and Connection Port Ranges will be reset to the default values:

1. Customize port settings in NetWorker 7.2.2
2. Upgrade to NetWorker 7.4.x from NetWorker 7.2.2
3. Downgrade back to NetWorker 7.2.2
4. Upgrade to NetWorker 7.4.x

This upgrade to NetWorker 7.4.x resets the Service and Connect Port Ranges to the default values from the customized values made in NetWorker 7.2.2.

Workaround

To work around this issue, perform one of the following:

- ◆ After upgrading to NetWorker 7.4.x from NetWorker 7.2.2, manually reset the values for the Service and Connection Port Ranges.
- ◆ After downgrading to NetWorker 7.2.2, and prior to a subsequent NetWorker upgrade, remove the `nsrladb` folder from the following directory:

```
install/nsr/res/
```

The `nsrladb` folder contains the NetWorker release 7.4.x resource definitions.

Note: Any settings made in NetWorker release 7.4.x will be lost. However, the impact of this is relative to the number of resources that were changed since upgrading the NetWorker software. If no changes were performed, deleting the `nsrladb` folder will have no impact.

De-dup recover sessions do not display in the NMC GUI

LGTsc10295

De-dup recover sessions do not display in the Monitoring window of the NetWorker Management Console. However, de-dup save sessions display.

To view the Monitoring window:

1. From the **Administration** window, click **Monitoring**.
2. Click **Session**.

NetWorker support for Solaris 8 and 9 HBAs and drivers

LGTsc14770

In order to ensure correct NetWorker operation on Solaris 8 or 9 systems, the environment variable definition `USE_LUS_NO=YES` must be set.

NetWorker for Solaris uses the Solaris `cfgadm` utility to obtain device information. In environments where the `cfgadm` utility works correctly, the NetWorker software

will work correctly. If the `cfgadm` utility does not see the devices, the NetWorker software will not see the devices.

Workaround

To work around this issue:

1. Set this environment variable definition:

```
USE_LUS_NO=YES
```

This forces NetWorker to use the `cfgadm` utility.

2. Ensure that the `USE_LUS_NO=YES` environment variable is made available to:
 - The NetWorker daemons
 - Any command shell in which NetWorker CLI commands are run

Note: When `USE_LUS_NO` is set, do **not** run the `lus_add_fp_devs.sh` script.

Support for Windows Change Journal Manager with Microsoft Windows 2008

LGTsc14700

When VSS is used, the Microsoft Change Journal is not used. Microsoft Windows 2008 is VSS only, so Windows 2008 does not use the Windows Change Journal.

Text searched for in the NetWorker Console Help program does not get highlighted correctly if using JRE 1.5.x for Asian languages

LGTsc08756

Due to a known limitation with JRE 1.5.x (Sun bug 6375606), when performing a search for text in the NetWorker Console Help program, the search is completed but the keyword is not highlighted correctly.

Do not recover identical save sets with different ssids to the same target directory

LGTsc10796

Do not perform a save set recovery from the command prompt, with multiple save set IDs that all point to the same file/directory path and will be recovered into the original location.

Data corruption might occur when the same dir/file path is backed up multiple times. This creates multiple save sets, each with a different save set ID. For example, `ssid1` and `ssid2` are save set IDs created for the same file/directory path, at different save or backup times.

When the `recover` command or the `nsrretrieve` command is run to retrieve more than one instance of the save set, each with a different save set ID, into the original location, the recovered instance of the directory/file from `ssid1` might be overwritten by the recovered data of the same directory/file from `ssid2`, or vice-versa.

Example

Data corruption might occur in the following scenario:

```
recover -s server -c client -S ssid1 -S ssid2
nsrretrieve -s server -S ssid1 -S ssid2
```

where `ssid1` and `ssid2`, are save set IDs of the same file/directory.

Marking volumes as recyclable might slow system performance

LGTsc16661

The following factors might slow system performance when marking a volume as recyclable.

For each volume that is to be marked as recyclable:

1. The number of save set clone instances that reside on that particular volume and are required to be marked as expired.
2. The number of clones or clone instances for each of the save set clone instances on that particular volume, that reside on other volumes.

The number of clones that are created for a save set, equal the number of save set clone instances. Each save set clone instance has the same ssid and unique clone ID. Each save set clone instance resides on a separate volume. The first instance of backup also has a clone ID.

Thus, the volume being marked as recyclable might contain save sets that have multiple clone instances that reside on other volumes. These clone instances need to be checked before the save sets are marked as expired. A save set, identified by the ssid, only expires when all of the clone instances, which are identified by a clone ID, expire.

To mark a volume as recyclable:

- ◆ From the server's **Administration** window, click **Media**.
 - a. In the navigation tree, select **Volumes**. The **Volumes** detail table appears.
 - b. Right-click a volume in the **Volumes** detail table, and select **Recycle**. The **Recycle** window appears. It names the selected volume.
 - c. Select the recycle policy: **Auto** (default) or **Manual**.
 - d. Click **OK**.
- ◆ From the command prompt, enter the following:

```
nsrmm -o recyclable volume
```

Problems and limitations discovered in release 7.4 Service Pack 2

Table 18 on page 81 identifies problem issues and limitations discovered in NetWorker release 7.4 SP2 that continue to be applicable.

Table 18 Limitations discovered in NetWorker release 7.4 Service Pack 2 (page 1 of 2)

Defect Number	Issue Tracker Issue number	Description of limitation	Limitation in operating system
"LGTsc18716" on page 82	18716nw	Deploying NetWorker with a Hyper-V Guest on Microsoft Windows Server 2008 is not supported.	Microsoft Windows
"LGTsc04870" on page 82	04870nw	The <code>nsr_shutdown</code> command fails when a large number of savegroups are running.	Linux, UNIX, and Microsoft Windows
"LGTsc10292" on page 82	10292nw	Incorrectly configured NPS role results in failed backup of VSS SYSTEM SERVICES of Windows Server 2008.	Microsoft Windows
"LGTsc11158" on page 82	11158nw	Cannot create an advanced file-type device on a remote storage node device.	Linux, UNIX, and Microsoft Windows
"LGTsc11914" on page 83	11914nw	Active Directory Lightweight Directory Services backup fails for Windows 2008 client.	Microsoft Windows
"LGTsc13139" on page 83	13139nw	VMware Consolidated Backup not terminating completely.	Microsoft Windows
"LGTsc13141" on page 83	13141nw	Save Operation attribute not functioning correctly with VMware Consolidated Backup.	Microsoft Windows
"LGTsc13799" on page 83	13799nw	Antivirus programs block recovery.	Microsoft Windows
"LGTsc13933" on page 84	13933nw	VSS system state backups may fail if programs were not cleanly uninstalled.	Microsoft Windows
"LGTsc14023" on page 84	14023nw	Package requirement for Linux platforms.	Linux
"LGTsc14352" on page 84	14352nw	Incorrect path suggested during <code>jbconfig</code> of ACSLS silo for HP Tru64.	HP Tru64
"LGTsc14577" on page 85	14577nw	NetWorker interactive recover does not recover the registry and the com+ regdb writers.	Microsoft Windows
"LGTsc14872" on page 85	14872nw	Global directives not supported with VMware Consolidated Backup.	Microsoft Windows
"LGTsc14930" on page 85	14930nw	An uninstall that uses the Add/Remove Programs functionality in Windows does not function correctly with User Account Control enabled.	Microsoft Windows
"LGTsc14956" on page 85	14956nw	Not all drives in a VCB file level backup are browsable.	Microsoft Windows
"LGTsc15061" on page 86	15061nw	Savegroup completion report for VCB backups does not contain expected information about save sets.	Microsoft Windows
"LGTsc15157" on page 86	15157nw	Microsoft Windows Server 2008 Registry System hive is not recovered correctly.	Microsoft Windows
"LGTsc15172" on page 86	15172nw	Microsoft Windows Server 2008 COM+ Registry database is not recovered correctly.	Microsoft Windows

Table 18 Limitations discovered in NetWorker release 7.4 Service Pack 2 (page 2 of 2)

Defect Number	Issue Tracker Issue number	Description of limitation	Limitation in operating system
"LGTsc15236" on page 86	15236nw	Incorrect error during recovery of VCB backups.	Microsoft Windows
"LGTsc15258" on page 87	15258nw	Installation of Microsoft Windows Server 2008 does not grant correct permissions to nsr/tmp directory.	Microsoft Windows
"LGTsc15490" on page 87	15490nw	Linux upgrade using <code>rpm -Uvh</code> not working correctly.	Linux
"LGTsc15782" on page 87	15782nw	Cannot register a highly available NetWorker server in x64 MSCS environments.	Microsoft Windows

Deploying NetWorker with a Hyper-V Guest on Microsoft Windows Server 2008 is not currently supported

LGTsc18716

Deploying NetWorker 7.4 SP2 release with a Hyper-V Guest on Microsoft Windows Server 2008 is not currently supported.

The `nsr_shutdown` command fails when a large number of savegroups are running

LGTsc04870

When a large number of savegroup sessions are running (more than 100), the `nsr_shutdown` command fails because its default timeout of 180 seconds is exceeded.

Workaround

To resolve this issue, increase the timeout for the `nsr_shutdown` command by including the `-t` flag, which overrides the default timeout. The `-t` flag is defined in seconds.

Incorrectly configured NPS role results in failed backup of VSS SYSTEM SERVICES of Windows Server 2008

LGTsc10292

Due to a problem identified by Microsoft with Windows Server 2008, an incorrectly configured Network Policy Server (NPS) results in the writer incorrectly reporting files to the NetWorker software. As a result, the backup of the VSS SYSTEM SERVICES fails.

The Microsoft defect number for this issue is 872233.

Cannot create an advanced file-type device on a remote storage node device

LGTsc11158

If the `nsrmmmd` daemon has not started on the storage node, creation of an advanced file-type device (AFTD) on the storage node will fail because the `nsrmmmd` daemon cannot validate the AFTD path.

Workaround

If this issue is encountered, either:

- ◆ Select **No** to the **Verify path** prompt when the AFTD is being created, then manually label the device.
- ◆ Attempt to create the AFTD again.

Active Directory Lightweight Directory Services backup fails for Windows 2008 client**LGTsc11914**

When running a scheduled backup of a save group which includes a Windows 2008 client configured with Active Directory Lightweight Directory Services (AD LDS), the backup may fail with the following error:

```
"VSS USER DATA:\ VSS USER DATA: ERROR: VSS failed to process
snapshot, error=0x800423f4. The VSS writer operation failed
because of an error that might recur if another shadow copy is
created.
```

There will also be ADAM Writer errors in the Application Event Log that correspond to the time of the save of the ADAM component.

Workaround

To avoid this problem, increase the **Client Retries** attribute on the **Advanced** tab of the Group resource. Increasing the value to 2 or 3 will resolve the problem.

VMware Consolidated Backup not terminating completely**LGTsc13139**

During a VMware Consolidated Backup (VCB) backup, if the **savegrp** process is stopped, the VCB backup is not completely terminated.

Workaround

To resolve this issue, manually kill the **save** process on the VCB proxy host. You may also need to manually clean up the VCB snapshot on the proxy host.

Save Operation attribute not functioning correctly with VMware Consolidated Backup**LGTsc13141**

When the Save Operation attribute for the Client resource contains an equals (=) sign (for example, `vss:*=off`), backups using VMware Consolidated Backup (VCB) do not correctly parse the **save** command. As a result, the backup may fail, or an incorrect save set name may be registered in the media database and client file index.

Workaround

Do not include any values that contain an equals sign in the Save Operation attribute for the Client resource.

Antivirus programs block recovery**LGTsc13799**

During recovery, antivirus programs may block the recovery of certain files. Antivirus programs are designed to protect their own program files and settings from external threats that may be attempting to disable the program. The antivirus program may not be able to distinguish between a recovery and an attack.

Workaround

Prior to recovery, disable the antivirus program's protection properties. Consult your anti-virus program's documentation for further information. After recovery, reenable the program's protection properties.

VSS system state backups may fail if programs were not cleanly uninstalled**LGTsc13933**

If a program is not cleanly uninstalled and some files continue to exist after uninstallation, VSS system state backups will fail with an error similar to:

```
VSS SYSTEM FILESET: System Writer - Get file attributes returned
error 3 for VSS file filename
```

For example:

```
VSS SYSTEM FILESET: System Writer - Get file attributes returned
error 3 for VSS file
\\?\GLOBALROOT\Device\HarddiskVolumeShadowCopy71\users\admini~1.
bur\appdata\local\temp\2\unz34b2.tmp
```

Workaround

To resolve this issue:

1. Reinstall the program that did not cleanly uninstall.
2. Uninstall the program by using the Windows Installer CleanUp Utility.

Microsoft Knowledgebase articles 290301 and 955078 contains more information about the Windows Installer CleanUp Utility.

Package requirement for Linux platforms**LGTsc14023**

During installation on all supported Linux platforms, the installation will fail with a package dependency error if the `compat-libstdc++` package is not installed.

Workaround

Prior to installation, install the appropriate `compat-libstdc++` for your platform:

- ◆ 32 bit Intel platforms: install the `compat-libstdc++-33-3.2.3-47.3.i386.rpm` package.
- ◆ 64 bit Intel platforms: install the `compat-libstdc++-33-3.2.3-47.3.x86_64.rpm` package.

Incorrect path suggested during `jbconfig` of ACSLS silo for HP Tru64**LGTsc14352**

When using `jbconfig` to configure an ACSLS silo on HP Tru64, the default location for the path to the STL library is incorrect. Currently, `jbconfig` states:

```
=>Pathname of the STL library for the ACSLS silo?
[/usr/opt/networker/bin/libstlstk.so]
```

The correct path should be:

```
/usr/opt/networker/lib/libstlstk.so
```

Workaround

Identify the correct path for the STL library, rather than selecting the incorrect default path.

NetWorker interactive recover does not recover the registry and the com+ regdb writers**LGTsc14577**

You cannot perform a system recover of the registry and com+ regdb writers by using the interactive mode of the **recover** command.

Workaround

Perform a system recovery using the noninteractive mode of the **recover** command, or use the NetWorker User program.

Global directives not supported with VMware Consolidated Backup**LGTsc14872**

When global directives are defined in the Client resource for a VMware Consolidated Backup (VCB), the **savegrp** program will hang.

Workaround

Do not use any global directives with VCB backups.

Uninstall using Add/Remove Programs does not function correctly with User Account Control enabled**LGTsc14930**

When User Account Control for Microsoft Windows Server 2008 is enabled, uninstallation by using the Add/Remove Programs function produces errors and does not remove all programs.

Workaround

Disable User Account Control prior to uninstalling.

Not all drives in a VCB file level backup are browsable**LGTsc14956**

When performing a virtual machine restore from a file level VCB backup, only the drive letters that exist on the proxy host will be seen in the Recover window. For example, if the proxy host has only a C:\ drive and the virtual machine has a C:\, D:\ and E:\ drive, then during the restore of the virtual machine, only the C:\ drive of the Virtual machine will be displayed.

Workaround

To resolve this problem, perform one of the following:

- ◆ From the NetWorker User program:
 1. Select **Change Selection** from the **File** menu.
 2. Type the drive that you want to browse.

Note: This workaround will need to be performed each time you change the browse time.

- ◆ From the **recover** command:
 1. Change to the root of the current directory:

```
recover> cd /
```
 2. Change to the drive that you want to browse, for example:

```
recover> cd e:
```
 3. Verify that you can now browse the drive:

```
recover> dir
```

Savegroup completion report for VCB backups does not contain expected information about save sets

LGTsc15061

When a VCB backup is performed, the savegroup completion report does not contain information about the save sets created during the backup. The report does indicate the success or failure of the backup but does not contain expected information about the save sets, such as the save set name, level, and other information.

Workaround

Query the client file index or the media database to determine information about the save sets that were backed up.

Microsoft Windows Server 2008 and Windows Vista Registry System hive is not recovered correctly

LGTsc15157

NetWorker System State restores on Windows Server 2008 and Windows Vista do not correctly recover the Registry System hive database.

Workaround

See [“Microsoft Windows Server 2008 Registry System hive and COM+ Registry database not recovered correctly” on page 21](#) for details about the workaround for this limitation.

Microsoft Windows Server 2008 and Windows Vista COM+ Registry database is not recovered correctly

LGTsc15172

NetWorker System State restores on Windows Server 2008 and Windows Vista do not correctly recover the COM+ Registry database.

Workaround

See [“Microsoft Windows Server 2008 Registry System hive and COM+ Registry database not recovered correctly” on page 21](#) for details about the workaround for this limitation.

Incorrect error during recovery of VCB backups

LGTsc15236

During a file-based recovery of a VCB backup, when a drive letter (rather than a filename or directory) is identified for recovery, the following error message is displayed:

```
Failed to write to directory_location The directory is not empty.
```

This error occurs when using either the **recover** command or the NetWorker User Program (winworkr).

Workaround

The error message is incorrect and should be ignored.

Installation of Microsoft Windows Server 2008 does not grant correct permissions to nsr\ntp directory**LGTsc15258**

During installation of the NetWorker client on Windows Server 2008, the *networker_install_dir\ntp* directory does not have the correct permissions. The Administrator account needs write permissions to this directory.

Workaround

Manually change the permissions to the *networker_install_dir\ntp* directory:

1. In **Windows Explorer**, right-click on the *networker_install_dir\ntp* directory and select **Properties**.
2. Select the **Security** tab.
3. Temporarily change the ownership to the Administrators group.
4. Grant Read/Write permissions to the Administrators group.
5. Change the ownership back to the system.

Upgrading on Linux with rpm -Uvh not working correctly**LGTsc15490**

When upgrading on Linux systems using the **rpm -Uvh package_name** command, the NetWorker startup script, */etc/init.d/networker*, is not installed.

Workaround

To upgrade on Linux systems, use the following steps:

1. Uninstall NetWorker packages using **rpm -e**.
2. Install the new versions of NetWorker packages using **rpm -ivh**.

Cannot register a highly available NetWorker server in x64 MSCS environments**LGTsc15782**

Runtime components of Visual C++ libraries are not included in the NetWorker installation. As a result, the NetWorker server cannot be registered as a highly available server.

Workaround

Install the Microsoft Visual C++ 2005 Redistributable Package (x64) from following link:

<http://www.microsoft.com/downloads/details.aspx?familyid=90548130-4468-4BBC-9673-D6ACABD5D13B&displaylang=en>

After installing this package, the NetWorker server can be registered as a highly available server.

Problems and limitations discovered in releases 7.4 and 7.4 Service Pack 1

[Table 19 on page 88](#) identifies problem issues and limitations discovered in NetWorker release 7.4 and 7.4 Service Pack 1 that continue to apply.

Note: Some limitations in release 7.4 may have originated in a prior release. [Table 20 on page 91](#) lists limitations discovered prior to release 7.4.

Table 19 Limitations in NetWorker releases 7.4 and 7.4 Service Pack 1 (page 1 of 3)

Defect number	Issue Tracker Issue number	Description of limitation	Limitation in operating system
"LGTsc12970" on page 95	12970nw	Backups of /dev directory fail in HP-UX 11i v3 on PA_RISC and IA64.	UNIX
"LGTsc12500" on page 95	12500nw	NetWorker release 7.4 SP1 must be installed using the --nodeps option on SuSE 8.	Linux
"LGTsc11618" on page 95	11618nw	Restoring full VM image on ESX server fails.	Linux
"LGTsc09583" on page 96	09583nw	The nsrck commands fails with application errors on Windows after upgrading to release 7.4.x from release 7.2.x or earlier.	Microsoft Windows
"LGTsc10950" on page 96	10950nw	VMware Consolidated Backup 1.0.x is not supported on Windows Server 2003, Enterprise Edition (x64) Service Pack 2.	Microsoft Windows
"LGTsc11734" on page 96	11734nw	Unable to restore files encrypted with both Microsoft Windows Encrypting File System & AES encryption.	Microsoft Windows
"LGTsc08054" on page 96	08054nw	Erroneous error message may be generated by Linux operating systems when performing an I/O to a volume.	Linux
"LGTsc10796" on page 97	10796nw	Cannot detect the first existing file when recovering save sets using the command line.	UNIX
"LGTsc10665" on page 97	10665nw	Cannot view log files created with the nsr_render_log command.	UNIX, Microsoft Windows
"LGTpa94794" on page 97	94794nw	The nsrlcpd process does not start for an ACSLS jukebox when DDS is implemented.	Linux, UNIX, and Microsoft Windows
"LGTsc06809" on page 98	06809nw	Clients running pre-7.4 releases cannot use the mminfo -N command to query save set names longer than 255 bytes.	Linux, UNIX, and Microsoft Windows
"LGTsc06585" on page 98	06585nw	Running the Linux 64 bit package with the 2.6.x kernel may result in crashes.	Linux
"LGTsc06312" on page 98	06312nw	The nsr_render_log program doesn't accept input from STDIN.	UNIX
"LGTsc09257" on page 100	09257nw	A user cannot be a member of more than 512 groups.	Linux, UNIX, and Microsoft Windows
"LGTsc08978" on page 101	08978nw	New pdksh package required on SuSE 10 x86.	Linux
"LGTsc08958" on page 101	08958nw	JRE version mismatch causes authentication failure, stops GSTD.	Linux

Table 19 Limitations in NetWorker releases 7.4 and 7.4 Service Pack 1 (page 2 of 3)

Defect number	Issue Tracker Issue number	Description of limitation	Limitation in operating system
"LGTsc08478" on page 101	08478nw	NDMP DSA save sessions do not appear in NMC.	Linux
"LGTsc06577" on page 102	06577nw	The nwrecover program might fail to launch on a Solaris Sparc V240 server.	UNIX
"LGTsc03478" on page 101	03478nw	Incorrect error message reported when starting the NetWorker console on Red Hat 64-bit Enterprise Server 4.	UNIX
"LGTsc06288" on page 101	06288nw	Error incorrectly states you need to perform an uninstall when updating from NetWorker 7.2.2 32-bit to NetWorker 7.4 64-bit.	Linux, UNIX, and Microsoft Windows
"LGTsc06172" on page 102	06172nw	Testing large number of groups in parallel causes core dumps.	Linux, UNIX, and Microsoft Windows
"LGTsc05990" on page 102	05990nw	FSRM Disk Quota may not be restored to previous settings after recovery.	Linux, UNIX, and Microsoft Windows
"LGTsc06358" on page 104	06358nw	NetWorker becomes unresponsive when attempting an invalid clone operation.	Linux, UNIX, and Microsoft Windows
"LGTsc01923" on page 106	01923nw	Cannot query UNIX non-ASCII save sets in the NetWorker Management Console.	UNIX
"LGTsc02903" on page 104	02903nw	NetWorker Management Console may become unresponsive when opened using Exceed.	UNIX and Linux
"LGTpa91475" on page 106	91475nw	The savenpc command fails if the precommand and post command contains any non-ASCII characters.	Linux, UNIX, and Microsoft Windows
"LGTsc00365" on page 105	00365nw	On HP-UX the NetWorker Server window does not appear.	Linux, UNIX, and Microsoft Windows
"LGTsc01115" on page 105	01115nw	Cannot copy and paste Japanese characters using the NetWorker Management Console.	Linux, UNIX, and Microsoft Windows
"LGTpa95162" on page 104	95162nw	Newly created groups are not displayed by the NetWorker Console GUI after moving system date back in time.	Linux and UNIX
"LGTpa88188" on page 105	88188nw	Scan for Devices configures all devices as a regular storage node device.	Linux, UNIX, and Microsoft Windows
"LGTsc01705" on page 104	01705nw	Unable to perform a stage operation with a 7.4 storage node and a 7.3.x server without the 7.3.2 Jumbo Update 1 installed.	Linux and UNIX
"LGTsc00850" on page 108	00850nw	Restrictions associated with the ZFS file system.	UNIX
"LGTsc01587" on page 107	01587nw	Group details window is empty after upgrading from NetWorker release 7.2.2.	Linux, UNIX, and Microsoft Windows
"LGTsc01446" on page 104	01446nw	The Virtual Jukebox attribute for a CDL virtual tape library is not automatically set after upgrading to release 7.4.	Linux, UNIX, and Microsoft Windows
"LGTpa96168" on page 104	96168nw	Cannot launch NetWorker Console Help program on Solaris 10 with a JRE earlier than version 1.5.0_09.	UNIX
"LGTpa95406" on page 103	95406nw	The jbverify command is not supported on Solaris 10.	UNIX

Table 19 Limitations in NetWorker releases 7.4 and 7.4 Service Pack 1 (page 3 of 3)

Defect number	Issue Tracker Issue number	Description of limitation	Limitation in operating system
"LGTsc06325" on page 119	06325nw	An ASR recovery might fail on Microsoft Windows 2003.	Microsoft Windows
"LGTpa93001" on page 120	93001nw	Virtual tapes are listed as "full" after mounting.	Microsoft Windows
"LGTpa95900" on page 120	95900nw	On NetApps files, filenames ending with special characters might be renamed.	Microsoft Windows
"LGTpa94966" on page 119	94966nw	The winworkr program fails to retrieve successfully archived files if a slash (\) character was entered in the annotation string.	Microsoft Windows
"LGTpa95019" on page 121	95019nw	When upgrading from release 7.3.1 the Virtual jukeboxes attribute will not be set correctly.	Microsoft Windows
"LGTpa83927" on page 121	83927nw	Directed recover using the CLI fails with permission errors on Windows.	Microsoft Windows
"LGTsc00167" on page 120	00167nw	The winworkr program will not relocate to a partition not exist on the initiating host if the NetWorker server is running release 7.4 and the client is running release 7.2.	Microsoft Windows
"LGTpa57158" on page 119	57158nw	Current user locale is used With JRE 1.4.2 on Microsoft Windows.	Microsoft Windows
"LGTsc03894" on page 134	03894nw	The garbled characters may appear in the NetWorker Console GUI on Solaris.	UNIX
"LGTsc04756" on page 134	04756nw	The font is very small in the Japanese language Configuration Client Wizard.	Linux, UNIX, and Microsoft Windows
"LGTpa88887" on page 134	88887nw	Entering non-ASCII characters in NetWorker user interfaces.	Linux, UNIX, and Microsoft Windows
"LGTsc05339" on page 133	05339nw	Recovering a large number of files may take longer in the French locales on Solaris.	UNIX
"LGTsc05879" on page 103	05879nw	NMC version 3.4 and NWD version 1.0 cannot be installed on the same host.	Linux, UNIX, and Microsoft Windows
"LGTsc06280" on page 103	06280nw	Inventory operation in Software Administration Wizard delays for unreachable clients.	UNIX
"LGTsc05166" on page 102	05166nw	DiskXtender Data Manager filesystems get archived on NetWorker.	Microsoft Windows
"LGTsc03123" on page 133	03123nw	The nwrecover program might fail to launch in UTF-8 locales on Linux platform.	Linux
"LGTsc04862" on page 133	04862nw	Mixed locales display in NetWorker installation wizards on Windows.	Microsoft Windows
"LGTsc02814" on page 134	02814nw	Problem with highlighted text in the NetWorker Console Help program after search using JRE 1.5.x in Japanese or Chinese Languages.	UNIX

Problems and limitations discovered in releases previous to 7.4

Table 20 on page 91 identifies problem issues and limitations discovered in NetWorker release prior to 7.4 that continue to be applicable.

Table 20 Limitations discovered in NetWorker releases prior to 7.4 (page 1 of 4)

Defect Number	Issue Tracker Issue number	Description of limitation	Limitation in operating system
"LGTsc19665" on page 95	19665nw	Replicated dedupe savesets are not deleted	Linux, UNIX, and Microsoft Windows
"LGTpa89947" on page 106	89947nw	Cannot deposit volumes in a DAS silo.	Linux, UNIX, and Microsoft Windows
"LGTpa89946" on page 106	89946nw	Cannot configure a DAS silo using the NetWorker Management Console.	Linux, UNIX, and Microsoft Windows
"LGTpa87308" on page 106	87308nw	Using the withdraw command to withdraw a volume on a partitioned library fails.	Linux, UNIX, and Microsoft Windows
"LGTpa91299" on page 107	91299nw	ZFS file systems are not automatically backed up when performing a savegroup backup of ALL.	Linux and UNIX
"LGTpa88065" on page 107	88065nw	If a connection is lost during an NDMP backup to a NAS filer the NetWorker software stops responding.	Linux, UNIX, and Microsoft Windows
"LGTpa91406" on page 107	91406nw	The ls -l command does not display files recovered from a NetApp Data ONTAP 6.5 file system.	Linux and UNIX
"LGTpa87730" on page 108	87730nw	Cannot launch the NetWorker Console from a Linux PowerPC client.	Linux
"LGTpa83579" on page 108	83579nw	Device operations using the right click option might be lost.	Linux and UNIX
"LGTpa83273" on page 109	83273nw	Misleading error message reported if an invalid NDMP storage node password is entered when labeling a volume.	Linux, UNIX, and Microsoft Windows
"LGTpa83221" on page 108	83221nw	Backup might default to an incorrect server If the -s option is not specified with the save command.	Linux, UNIX, and Microsoft Windows
"LGTpa82503" on page 109	82503nw	Media capacity notification not logged in the media database.	Linux and UNIX
"LGTpa81024" on page 109	81024nw	Fatal error incorrectly reported no printer available to print a bootstrap on AIX 5.3.	Linux and UNIX
"LGTpa83273" on page 109	83273nw	Misleading error message reported if an invalid NDMP storage node password is entered when labeling a volume.	Linux and UNIX
"LGTpa80901" on page 109	80901nw	Labeling volumes concurrently might fail when using the NetWorker Console.	Linux and UNIX
"LGTpa80764" on page 109	80764nw	No alternative location provided for the java14.sdk.tar file if the /tmp directory is full.	Linux and UNIX
"LGTpa87657" on page 118	87657nw	The udev tool is unsupported on Emulex running Linux RedHat AS 4 using default kernel 2.6.	Linux
"LGTpa82503" on page 109	82503nw	Media capacity notification not logged in the media database.	Linux, UNIX, and Microsoft Windows

Table 20 Limitations discovered in NetWorker releases prior to 7.4 (page 2 of 4)

Defect Number	Issue Tracker Issue number	Description of limitation	Limitation in operating system
"LGTpa80901" on page 109	80901nw	Labeling volumes concurrently might fail when using the NetWorker Console.	Linux, UNIX, and Microsoft Windows
"LGTpa74492" on page 123	74492nw	The jbconfig command might fail on Windows 2003 with a multidrive jukebox.	Microsoft Windows
"LGTpa77990" on page 124	77990nw	Cannot run commands in nsradmin without the nsrexecd daemon.	Microsoft Windows
"LGTpa82436" on page 123	82436nw	VSS on windows server 2003 x64 is unsupported without a Microsoft Hotfix.	Microsoft Windows
"LGTpa82555" on page 122	82555nw	Remote client save sets with japanese characters are displayed incorrectly.	Microsoft Windows
"LGTpa83706" on page 122	83706nw	ASR and non-ASR recovery fails if the Windows install CD does not match the service pack level of the data being backed up.	Microsoft Windows
"LGTpa83820" on page 122	83820nw	Files backed up from a VSS system filesset appear in the file system tree.	Microsoft Windows
"LGTpa88065" on page 107	88065nw	If a connection is lost during an NDMP backup to a NAS filer the NetWorker software stops responding.	UNIX
"LGTpa79047" on page 123	79047nw	Windows firewall interferes with the client configuration wizard.	Microsoft Windows
"LGTpa76457" on page 110	76457nw	The mminfo command does not display a weekly summary of save set usage during the change to daylight savings time.	Linux, UNIX, and Microsoft Windows
"LGTpa75719" on page 110	75719nw	Save set status is displayed as invalid if A DSA backup is terminated due to an invalid backup path.	Linux and UNIX
"LGTpa75339" on page 124	75339nw	Backup will fail with remote exec service if passwords are not configured correctly.	Microsoft Windows
"LGTpa74026" on page 110	74026nw	The scanner command might stop responding if it encounters an aborted save set backed up to an NDMP device.	Linux and UNIX
"LGTpa73509" on page 110	73509nw	The /system/object and /system/contract directories are not skipped during a backup on Solaris 10.	UNIX Only
"LGTpa70320" on page 110	70320nw	Automatic cloning might fail when using a single staging policy.	Linux, UNIX, and Microsoft Windows
"LGTpa68867" on page 111	68867nw	Tape gets stuck in a drive when labeling Linux Red Hat.	Linux
"LGTpa66196" on page 124	66196nw	Warning when using AlphaStor 3.0x with SR2 on a Windows server with a NetWorker for Windows 2000 storage node.	Microsoft Windows
"LGTpa66140" on page 124	66140nw	The jbconfig command reports a BNCHMARKVS640 DLT drive as 4mm.	Microsoft Windows
"LGTpa62490" on page 111	62490nw	Cloning on an EMC DART CFS 5.2 is unsupported.	Linux, UNIX, and Microsoft Windows
"LGTpa61643" on page 111	61643nw	Package installation on Linux IA64 Red Hat results in an error.	Linux

Table 20 Limitations discovered in NetWorker releases prior to 7.4 (page 3 of 4)

Defect Number	Issue Tracker Issue number	Description of limitation	Limitation in operating system
"LGTpa54632" on page 112	54632nw	Error message appears in daemon log when labeling a volume that contains PowerSnap save sets.	Linux and UNIX
"LGTpa55566" on page 112	55566nw	When recovering data from multiple volumes the NetWorker software might stop responding.	Linux and UNIX
"LGTpa54165" on page 112	54165nw	Error message generated if the snapshot policy is configured to request more snapshots than a Savegroup can generate.	Linux and UNIX
"LGTpa53364" on page 113	53364nw	SCSI device ID displayed differently than NetWorker NDMP devices.	Linux and UNIX
"LGTpa55128" on page 113	55128nw	Slow Solaris tape operations when using an IBMtape driver with IBM LTO-2 Tape drives and the NetWorker CDI.	UNIX Only
"LGTpa51725" on page 113	51725nw	NetWorker software attempts to eject a stuck tape.	Linux and UNIX
"LGTpa66565" on page 111	66565nw	Volume retention information does not apply to volumes that contain snapsets.	Linux, UNIX, and Microsoft Windows
"LGTpa51184" on page 114	51184nw	Increase server parallelism to complete concurrent operations.	Linux and UNIX
"LGTpa51045" on page 114	51045nw	Perform a save set recovery when using the save command with the -I input_file option.	Linux and UNIX
"LGTpa50807" on page 114	50807nw	Error downgrading to business edition.	Linux, UNIX, and Microsoft Windows
"LGTpa50485" on page 115	50485nw	Increase the value of the save mount timeout attribute when auto media management is enabled and a corrupt tape is encountered.	Linux and UNIX
"LGTpa45470" on page 116	45470nw	Volume remains in the tape drive if the storage node nsrmm is not responding in a shared drive environment with DDS.	Linux, UNIX, and Microsoft Windows
"LGTpa44863" on page 116	44863nw	Files larger than 2 GB can break the save set consolidation process.	Linux, UNIX, and Microsoft Windows
"LGTpa43135" on page 116	43135nw	System log notifications fail on SuSE 8.0.	Linux
"LGTpa37996" on page 116	37996nw	The nsrjb -L and -I operations fail with an Exabyte Mammoth-2 tape drive with Fibre Channel device.	Linux and UNIX
"LGTpa65644" on page 117	65644nw	NDMP save sets in status recyclable are not recoverable.	Linux, UNIX, and Microsoft Windows
"LGTpa62224" on page 125	62224nw	NetWorker License Manager allowance limitation.	Microsoft Windows
"LGTpa61694" on page 124	61694nw	SHAREPOINT save set cannot be excluded with directives when a save set of ALL is specified.	Microsoft Windows
"LGTpa58888" on page 125	58888nw	Command-Line Backup and Recovery of SYSTEM Save Sets.	Microsoft Windows
"LGTpa58422" on page 126	58422nw	VSS backups of raw devices unsupported.	Microsoft Windows

Table 20 Limitations discovered in NetWorker releases prior to 7.4 (page 4 of 4)

Defect Number	Issue Tracker Issue number	Description of limitation	Limitation in operating system
"LGTpa58356" on page 118	58356nw	Label tape operation fails on an HP-UX platform if CDI is turned on and IBM tape driver is used.	Linux and UNIX
"LGTpa58215" on page 126	58215nw	Jukebox fails to allocate enough devices.	Microsoft Windows
"LGTpa57709" on page 126	57709nw	Removable storage manager jukebox configures all devices automatically.	Microsoft Windows
"LGTpa54620" on page 129	54620nw	Microsoft VSS backups on a FAT32 partition take longer than on an NTFS partition.	Microsoft Windows
"LGTpa50089" on page 126	50089nw	Entering the inquire command during tape activity causes a device error.	Microsoft Windows
"LGTpa48556" on page 127	48556nw	Preventing duplicate filenames during recovery.	Microsoft Windows
"LGTpa48322" on page 127	48322nw	Windows error message during automated system recovery.	Microsoft Windows
"LGTpa48374" on page 118	48374nw	Managing optical drives with Solaris 9.	Linux and UNIX
"LGTpa50279" on page 119	50279nw	Cannot label a tape if CDI is enabled on a tape drive on HP Tru64 5.1.	Linux and UNIX
"LGTpa41039" on page 127	41039nw	Windows management instrumentation database might stop responding.	Microsoft Windows
"LGTpa37996" on page 116	37996nw	The <code>nsrjb -L</code> and <code>-I</code> operations fail with an Exabyte Mammoth-2 tape drive with Fibre Channel device.	Linux, UNIX, and Microsoft Windows
"LGTpa37508" on page 117	37508nw	Limitation on browse and retention policy dates	Linux, UNIX, and Microsoft Windows
"LGTpa35856" on page 127	35856nw	No message is logged if resource files are missing.	Microsoft Windows
"LGTpa36367" on page 129	36367nw	Tape Drive Requires Cleaning Error Message.	Microsoft Windows
"LGTpa35407" on page 128	35407nw	Change journal manager problems with multiple servers.	Microsoft Windows
"LGTpa35171" on page 129	35171nw	Hot fix required to operate the NetWorker software in a Windows 2000 Clustered Environment running service Pack 1 or 2.	Microsoft Windows
"LGTpa23372" on page 130	23372nw	Concurrent multiclient recovery on Windows 2000.	Microsoft Windows
"LGTpa28717" on page 129	28717nw	A backup fails if the servers file lists only the virtual NetWorker server.	Microsoft Windows
"LGTpa33868" on page 130	33868nw	Windows 2000 server cannot handle large numbers of concurrent saves.	Microsoft Windows

Replicated dedupe savesets are not deleted

LGTsc19665

NetWorker Release 7.4 Service Pack 1 and later supports deduplication in Avamar environments where the primary server is replicated to another server.

When a snap-up that is generated on the primary Avamar server as a result of dedupe saveset creation operation, the snap is replicated to the secondary Avamar server. These snapups have infinite retention time.

When the NetWorker software deletes the dedupe saveset, the replicated snapup on the secondary Avamar server is left untouched. Over time this might result in secondary Axion server running out of space. This occurs because of the left over snapups that are no longer on primary Axion server.

Backups of /dev directory fail in HP-UX 11i v3 on PA_RISC and IA64

LGTsc12970

If you back up the /dev directory using a local storage node in an HP-UX 11i v3 environment on PA_RISC and IA64, the backup fails and the system freezes.

Workaround

To work around this issue:

- ◆ Do not back up the /dev directory. Do not specify Save Set ALL in the client's Save Set attribute, and do not specify save sets that include the /dev directory in the backup.
- ◆ Use a directive to exclude the /dev directory from the backup.
- ◆ Use a remote storage node.

NetWorker release 7.4 Service Pack 1 and Service Pack 2 must be installed by using the --nodeps option on SuSE 8

LGTsc12500

An RPM dependency error occurs on SuSE Linux Enterprise Server 8 when installing the NetWorker release 7.4 Service Pack 1 software.

Workaround

To perform the installation, run the **rpm** program using the **--nodeps** option. For example:

```
rpm -i --nodeps lgtoclnr-7.4.1-1.i686.rpm
```

Restoring full VM image on ESX server fails

LGTsc11618

When attempting to restore a full VM image directly onto the ESX server, the recovery fails.

Workaround

Recover to the proxy host and use VirtualCenter tools (VMware Converter).

The nsrck command fails with application errors on Windows after upgrading to release 7.4.x from release 7.2.x or earlier

LGTsc09583

When running **nsrck** command on NetWorker release 7.4.x after upgrading from release 7.2.x or earlier, the **nsrck** command fails with an application error. To correct this, do the following:

1. Remove the **Read Only** attribute in the properties of the client file index directory (c:\program files\legato\nsr\index).
2. When prompted, select **Apply changes to this folder, subfolders and file**.

When running an **nsrck -L7** command on releases 7.4.x, the following error will be generated:

```
the restore client directory will have the read-only attribute
set again.
```

3. Remove the **Read Only** attribute on the directory again.
4. Run the **nsrck -L7** command.
5. Manually remove the
c:\programfiles\legato\nsr\index\\db6\recovered directory.

VMware Consolidated Backup 1.0.x is not supported on Windows Server 2003, Enterprise Edition (x64) Service Pack 2

LGTsc10950

VMware Consolidated Backup 1.0.x is not supported on Windows Server 2003, Enterprise Edition (x64) Service Pack 2.

Unable to restore files encrypted with both Microsoft Windows Encrypting File System & AES encryption

LGTsc11734

When AES encryption is applied to a file that is also encrypted using the Microsoft Windows Encrypting File System (EFS), the backup will be reported as successful. However, recovery of the file fails and the following message is written to the networker log file:

```
recover: Error recovering <filename>. The RPC call completed before
all pipes were processed.
```

Workaround

Do not use AES encryption when backing up files that are encrypted by using EFS.

Erroneous error message may be generated by Linux operating systems when performing an I/O to a volume

LGTsc08054

The following erroneous error message may be generated by Linux operating systems when performing an I/O to a volume:

```
kernel: program nsrmmmd is using deprecated SCSI ioctl, please
convert it to SG_IO.
```

Ignore this message. In upcoming NetWorker releases, this warning from the kernel will stop.

Cannot view log files created on a Windows on UNIX with the `nsr_render_log` command

LGTsc10665

When log files created on Windows operating systems are viewed on a UNIX operating system using the `nsr_render_log` command, `nsr_render_log` core dumps. View the log files created on a Windows operating system using a Windows operating system.

The `nsrlcpd` process does not start for an ACSLS jukebox when DDS is implemented

LGTpa94794

The `nsrlcpd` process does not start for an ACSLS jukebox when DDS is implemented.

Workaround

To work around this issue:

1. Stop the NetWorker services, or disable the jukebox (to stop the `nsrlcpd` process).
2. Print the device filenames from the jukebox configuration. For example:


```
devices: "rd=katana:/dev/rmt/0cbn", /dev/rmt/0cbn,
         "rd=katana:/dev/rmt/1cbn", /dev/rmt/1cbn;
```
3. Find the device filenames from the jukebox configuration. For example:


```
STL device names: "0,0,0,0", "0,0,0,0", "", "";
```
4. Update the STL device names field to be match device filenames. For example:


```
replace STL device names: "0,0,0,0", "0,0,0,0", "", "";
```

 with


```
STL device names: "0,0,0,0", "0,0,0,0", "0,0,0,1", "0,0,0,1";
```

 because


```
"rd=katana:/dev/rmt/0cbn", /dev/rmt/0cbn corresponds to 0,0,0,0 and
"rd=katana:/dev/rmt/1cbn", /dev/rmt/1cbn corresponds to 0,0,0,1 in the
acsls silo.
```
5. Restart the NetWorker server, or enable the jukebox (for `nsrlcpd` to be started). Contact Customer Support for further details and reference esg90408.

Cannot detect the first existing file when recovering save sets using the command line

LGTsc10796

If the destination folder for a recover operation has some files with the same name in the recover list, the NetWorker software may not prompt you before overwriting for the first file in the list.

For example, the `recover` command did not issue the prompt: `"/source1/a file exists, overwrite (n, y, N, Y) or rename (r, R) [n]?"` for the first file "a". The first file was overwritten.

Clients running pre-7.4 releases cannot use the `mminfo -N` command to query save set names longer than 255 bytes

LGTsc06809

Clients running pre-7.4 releases cannot use the `mminfo -N` command to query save set names longer than 255 bytes. This issue is caused by the enhancement in release 7.4 for supporting longer save set names for to up to 1024 bytes (was 255 bytes in release 7.3) to accommodate non-ASCII save set names, which will take more bytes.

Workaround

There are two workarounds for this issue if you are using a pre-7.3 client:

- ◆ Do not specify `-N` option on pre-7.4 `mminfo` to query save set names longer than 255 bytes. For example, the `mminfo -avot` command can be issued, but will only display the 1st 255 bytes of save set name.
- ◆ Use the `mminfo -N` command with a 7.4 client to view save set names longer than 255 bytes.

Running the Linux 64-bit package with the 2.6.x kernel may result in crashes

LGTsc06585

A compatibility issue with `libc` and `pthread` libraries on Linux 2.6 kernel-based environments causes problems when running the 64-bit package for Linux on platforms built on the 2.6.x kernel (for example, RedHat AS 4 and SuSE SLES 9). Although operation may be normal at first, continued use of the 64-bit package with a 2.6.x kernel may result in crashes of various programs.

Use the 32-bit package when running with a 2.6.x kernel. Running a 32-bit package instead of the 64-bit package should have no operational impact. The 64-bit package can still be used for kernel version 2.4 Linux variants such as RedHat AS 3 and SuSE SLES 8.

The `nsr_render_log` doesn't accept input from STDIN

LGTsc06312

The `nsr_render_log` does not accept input from STDIN. The following error message is displayed:

```
Please provide the input log file name with the path.
```

After the error message the usage information is listed.

Workaround

Type the following command:

```
tail -f /nsr/logs/daemon.raw | nsr_render_log -
```

Limitations in NetWorker support for Novell's OES Linux

The following are limitations to support for Novell's OES Linux with NetWorker 7.4:

- ◆ ["Metadata modifier field not recovered" on page 99](#)
- ◆ ["Creating eDirectory backup files for NetWorker backup and recovery" on page 99](#)

- ◆ [“Creating GroupWise backup files for NetWorker backup and recovery” on page 100](#)

IMPORTANT

NSS+eDirectory backups and GroupWise backups are two unrelated procedures and should be considered separately.

Metadata modifier field not recovered

When you perform backup and recovery by using the NetWorker software, it does not recover the metadata modifier field for NSS files or directories.

Creating eDirectory backup files for NetWorker backup and recovery

eDirectory is a database of Network resources that contains extra information related to NSS objects. However, since eDirectory is not part of the file system, when you perform backup and recovery using the NetWorker software, NetWorker does not recover eDirectory data as it was backed up.

Workaround

NetWorker can perform a parallel backup and recover of eDirectory files using eMBox/DSBK (eMBox is a GUI version of DSBK). DSBK is a command line tool used to back up eDirectory as a complete database, saving all the information on a file that is created when running the pre-and-post script. The file created by DSBK is saved by NetWorker along with the backup of the file system.

The following is an example of how to create a pre-and-post script to backup and recover eDirectory.

Note: If performing a manual (non-scheduled) backup, DSBK should always be run before the NSS filesystem backup. If performing a scheduled backup, initiate DSBK by a pre-command script using savepnp, and ensure that the savegrp includes the exported database on the filesystem. DSBK should always create the eDirectory backup file before save runs, so NetWorker can back up both the filesystem and the DSBK file. If performing a recovery, the same order applies. Recover eDirectory using DSBK, and then recover the NSS filesystem.

To back up and recover eDirectory by using DSBK:

1. In the `/etc/dsbk.conf` file, set the following value:

```
/root/dsbk.command
```

The output for the command is written to eDirectory's log file.

2. Run the following command:

```
dsbk backup -f /media/nss/NSS1/ndsbk -l /media/nss/NSS1/nds.log
```

Two files are created; ndsbk and nds.log. The ndsbk file contains eDirectory information that can be backed up using the NetWorker software. The nds.log file contains messages for the successful creation or errors.

3. Using the NetWorker software, recover the ndsbk file.

Once the file has been recovered, you can recover eDirectory.

4. To recover eDirectory, run the following command:

```
dsbk restore -f /media/nss/NSS1/ndsbk -l /media/nss/NSS1/nds.log  
-r -a -o
```

Creating GroupWise backup files for NetWorker backup and recovery

When you perform backup and recovery using the NetWorker software, you need to create a pre-and-post script to backup GroupWise so that NetWorker can recover GroupWise data as it was backed up.

Workaround

The following is an example of how to create a pre-and-post script to backup GroupWise:

1. Create a backup directory (i.e., backup).
2. Run this command to copy the Post office (-p) to the backup directory:

```
./dbcoppy -m -p -v /gw /backup
```

3. Run this command to copy the Domain (-d) to the backup directory:

```
./dbcoppy -m -d -v /gw /backup
```

You can now use the NetWorker software to back up the backup directory.

4. Run the following command to stop GroupWise:

```
./rcgrpwise stop
```

5. Remove GroupWise and the backup directory.

6. Run the following command to start GroupWise:

```
./rcgrpwise start
```

The following is an example of how to create pre-and-post script to recover GroupWise:

1. Use NetWorker to recover the backup directory.
2. Run the following command to stop GroupWise:

```
./rcgrpwise stop
```

3. Run the following command to copy the Domain (-d) from the backup directory to the GroupWise directory:

```
./dbcoppy -m -d -v /backup /gw
```

4. Run the following command to copy the Post office (-p) from the backup directory to the GroupWise directory:

```
./dbcoppy -m -p -v /backup /gw
```

5. Run the following command to start GroupWise:

```
./rcgrpwise start
```

6. Run the following command to view the status of GroupWise and confirm that the recovery was successful:

```
./rcgrpwise status
```

A user cannot be a member of more than 512 groups

LGTsc09257

A user cannot be a member of more than 512 groups when running any operation with NetWorker software. If the user is a member of more than 512 groups, the following message appears:

Maximum number of groups exceeded, some groups may be dropped from the credential. Number of groups the user belongs to: XXX, maximum number of groups supported: 512

New pdksh package required on SuSE 10 x86

LGTsc08978

A failed dependencies error occurs on the SuSE 10 x86 platform if the required version of the pdksh package is not installed. The following is displayed:

```
error: Failed dependencies: /bin/ksh is needed by lgtoclnt-7.4-1
```

Workaround

Install **pdksh-5.2.14-801.i586.rpm**, which can be downloaded from the SuSE/Novell website.

You could alternatively install the packages with the **--nodeps** option.

JRE version mismatch causes authentication failure, stops GSTD

LGTsc08958

After updating to NetWorker version 7.4, if the JRE version installed on the system is lower than the JRE version bundled with NetWorker, NMC cannot be launched and the GSTD process stops with an "authentication failure" error message.

Workaround

Update to JRE version 1.5.0_11, the version bundled with NetWorker 7.4.

NDMP DSA save sessions do not display correctly in NMC

LGTsc08478

After updating to NetWorker release 7.4 and later, entries for NDMP DSA save sessions do not appear in the Sessions information tab in the NetWorker Management Console, and therefore the status of NDMP DSA backups cannot be identified. This information is correctly generated in the jobsdb.

Incorrect error message reported when starting the NetWorker console on Red Hat 64-bit Enterprise Server 4

LGTsc03478

On a Red Hat 64-bit Enterprise Server 4, the preinstalled Mozilla browser incorrectly reports that the JRE is not installed. The NetWorker console uses Javascript to detect the JRE installation and a warning message appear reporting that the correct JRE is not installed on the client machine.

If the correct JRE is already installed, ignore the error message. To start the NetWorker Console, click the Start link in the line of "If you have installed JRE1.4.2 and 1.5, then click here to start NetWorker Management Console" from the Mozilla browser.

Error incorrectly states you need to perform an uninstall when updating from NetWorker 7.2.2 32-bit to NetWorker 7.4 64-bit

LGTsc06288

When updating from NetWorker release 7.2.2 32-bit on x64 to NetWorker 7.4 64-bit, an error message is displayed stating that the 32-bit NetWorker software is already installed and should be uninstalled. It is not necessary to do a complete uninstall of NetWorker release 7.2.2 to perform this update.

Workaround

Perform a partial uninstall of NetWorker release 7.2.2 32-bit, then install NetWorker release 7.4 64-bit to the same location that the 7.2.2 32-bit version was installed.

Note: The 32-bit version of NetWorker release 7.3.x is the only version of 32-bit NetWorker software that is supported on ntx64. NetWorker release 7.4 and later does not allow 32-bit NetWorker to be installed on ntx64.

The nsrjob process core dumped when running a large number of groups in parallel**LGTsc06172**

The **nsrjobd** process core dumped when running a large number of groups (exceeding 150) running in parallel. Several other core dumps might occur in the same scenario including the **nsrindexd** and **nsrexecd**.

FSRM Disk Quota may not be restored to previous settings after recovery**LGTsc05990**

The NetWorker software might not restore the previous FSRM Disk Quota configuration after the Disk Quota recovery. Some of the changes made to the setup values after saving the FSRM Disk Quota may remain after the recovery operation. However, if the Disk Quota is completely deleted, it can be restored to the previous configuration.

The nwrecover program might fail to launch on a Solaris Sparc V240 server**LGTsc06577**

The **nwrecover** program might fail to launch on a Solaris Sparc V240 server if the following CDE/Motif patch is not installed:

Solaris 10 CDE 1.6 Runtime update:

sparc: 119280

x86: 119281

DiskXtender Data Manager filesystems get archived on NetWorker**LGTsc05166**

On the Data Manager filesystem for Windows, when you perform a client or server initiated archive of the filesystem containing the file stubs (or if you archive the file stubs themselves), filesystems managed by the DiskXtender Data Manager are archived by NetWorker, and no error message is displayed. With DiskXtender running on UNIX, NetWorker properly fails the archiving and reports the error.

There are several problems that may result from the archive:

- ◆ If an archive is scheduled with grooming, this may cause the file stubs to be deleted.
- ◆ If an archive retrieve is performed, the existing file stubs may be overwritten.
- ◆ If the DX schedule is running after grooming, the file on the media server may be deleted.

NMC version 3.4 and NWD version 1.0 cannot be installed on the same host

LGTsc05879

If NetWorker Dashboard (NWD) 1.0 is installed on the NetWorker Management Console Server 3.4 host, the NMC GUI fails to download, and a Java Web Start error displays. NMC 3.4 and NWD 1.0 cannot function together due to database security and Java certificate issues, and the NMC GUI will not launch if NWD is installed on the same host as the NMC Server.

Workaround

Uninstall NWD before updating to NMC 3.4 for NetWorker release 7.4.

Performing a save set query can take a long time if the query parameter in the Query Save Set tab is set to "Save Time" and From and To calendars for 3 or more days

LGTsc05053

In a large scale NetWorker environment, performing a save set query can take a long time if the query parameter in the **Query Save Set** tab is set to **Save Time** and **3 or more days** in the From and To calendar.

An Operation in Progress window appears up with the following message:

```
Getting save set information from NetWorker server <server name>
```

This dialog box will remain till the save set query is complete blocking you from performing any other operations on the NetWorker server.

Workaround

Perform the save set query using the **mminfo** command from the command line.

Inventory operation in Software Administration Wizard delays for unreachable clients

LGTsc06280

When starting an inventory operation using the Software Administration Wizard, there is a delay of 7 to 8 minutes for each client configured on the server that is unreachable (for example, if a NSR Installed Software resource entry does not exist) and has not previously been inventoried. Once started, you cannot cancel the inventory operation and must wait until the **Select Clients for Inventory** window displays to continue the operation.

Workaround

Ensure there are no unreachable clients on the server. Also, if you want to perform an inventory operation but do not need to inventory specific clients, inventory all clients using the **nsrpush** command with the **-all** option (for example, **nsrpush -i -all**).

The **jbverify** command is not supported on Solaris 10

LGTpa95406

The **jbverify** command is not supported on Solaris 10. The NetWorker software has an autoconfiguration option provided in release 7.3 that ensures a jukebox is configured correctly.

NetWorker Management Console may become unresponsive when opened using Exceed**LGTsc02903**

When using Exceed to launch the NetWorker Management Console from a UNIX or Linux system, the NMC GUI may become unresponsive.

Workaround

Enable the **XTEST (X11R6)** variable in the Exceed XConfig program on the Windows host.

NetWorker becomes unresponsive when attempting an invalid clone operation**LGTsc06358**

You cannot put multiple instances of the same clone onto a single volume. NetWorker should prevent the operation and provide an error message. Instead, if this operation is attempted, NetWorker becomes unresponsive.

Workaround

Ensure that multiple instances of a clone are placed on different volumes.

Cannot launch NetWorker Console Help program on Solaris 10 with a JRE earlier than version 1.5.0_09**LGTpa96168**

The NetWorker Console Help program will not launch if the JRE version is earlier than 1.4.2_11 and 1.5.0_09.

The Virtual Jukebox attribute for a CDL Virtual Tape Library is not automatically set after upgrading**LGTsc01446**

If the **jbconfig** command was used to configure a CDL VTL in the 7.3.2 release, the Virtual Jukebox attribute is not automatically set after upgrading to the 7.4 release.

Workaround

After upgrading to release 7.4, initiate a Scan for Devices operation using the NetWorker Console to scan only the NetWorker storage node on which the VTL is configured. The NetWorker software will update all VTL related attributes utilizing the new VTL license.

This behavior does not occur when using the auto-configuration option.

Unable to perform a stage operation with a 7.4 storage node and a 7.3.x server without the 7.3.2 Jumbo Update 1 installed**LGTsc01705**

A staging operation will not work with a 7.4 storage node and a 7.3.x server unless the 7.3.x server is running the 7.3.2 release with the Jumbo Update 1 installed.

Newly created groups are not displayed by the NetWorker Console after moving system date back in time**LGTpa95162**

If the system date is moved to a past date and subsequently moved back to the current date, newly created groups are not displayed in the NetWorker Console.

Workaround

Select the Archive Request tab from within the Monitoring task window and the Groups table will refresh.

On HP-UX the NetWorker Server window does not appear

LGTsc00365

On HP-UX, the following error message appears if the NetWorker Management Console **Setup> Setup System Options** attribute is checked and the NetWorker server window does not appear:

```
"Unable to connect to server: Failed to contact using UDP ping."
```

Workaround

1. Open the NetWorker Management Console window and select **Setup> Setup System Options**.
2. Ensure that RPC ping using UDP when connecting to NetWorker is unchecked.

Scan for Devices configures all devices as a regular storage node device

LGTpa88188

When adding a new device to a jukebox, the scan operation detects a device, but incorrectly displays it as a storage node device. Attempting to configure the device as standalone device fails with the following error message:

```
cannot create the device, storage node enabler is required
```

Workaround

1. Using the Console, create a new device. For example:

```
rd=Storage_Node:/dev/rmt/...
```
2. Specify the device is a Dedicated Storage Node by using the **Configuration** tab.
3. Use **jbedit** command to add a new drive to this device. The **jbedit** man page contains more information regarding the use of the **jbedit** command.

Cannot copy and paste Japanese characters by using the NetWorker Management Console

LGTsc01115

On UNIX platforms, cannot copy and paste Japanese characters with **Ctrl+C** and **Ctrl+V** using the NetWorker Management Console.

For recoveries operations using Celerra filers, misleading error messages might display

LGTpa96554

On Celerra filers, the recovery of a backup containing a recursive directory can result in the generation of log messages:

```
NDMP Service Debug: Too much retry on header research
```

This log message can be intermittent in nature as subsequent recoveries of the same back might not result in the generation of a log message.

This log message does not affect the recovery and can be ignored.

Cannot query UNIX non-ASCII save sets in the NetWorker Management Console

LGTsc01923

Because of differences between the encoding used to create non-ASCII save sets on UNIX platforms and the encoding used by the NetWorker Management Console to query the media database, using in the Query Save Set window to query for non-ASCII save sets that were created on UNIX platforms will result in no matches being found.

The savenpc command fails if the precommand and post command contains any non-ASCII characters

LGTpa91475

The **savenpc** command fails if the precommand and post command contains any non-ASCII characters. When editing the `<group-name>.res` file for the **savenpc** command, the use of UTF-8 BOM characters is unsupported. Some text editors, such as Windows Notepad, include UTF-8 BOM at the beginning of the file. You need to create a UTF-8 encoded file without the UTF-8 BOM.

If you use a text editor that includes UTF-8 BOM characters, use a hex editor to remove the first 3 bytes in the UTF-8 encoded file. The UTF-8 BOM character is 3 bytes long and the value is `0xef 0xbb 0xbf`.

Cannot configure a DAS silo using the NetWorker Management Console

LGTpa89946

The NetWorker Management Console cannot be used to configure a DAS silo. To configure a DAS silo, use the **jbconfig** command.

Cannot deposit a volume from the CAP (I/O Port) using nsrjb -d command

LGTpa89947

Cannot deposit a volume from the CAP (I/O Port) using **nsrjb -d** command. A silo volume deposit requires the **-T** and **-a** options in sequence to add a volume in the media database.

The sequence of operations is:

```
nsrjb -d -T BarCode
```

Ignore the error message that appears.

```
nsrjb -a -T Barcode
```

Using the withdraw command to withdraw a volume on a partitioned library fails

LGTpa87308

The withdraw command fails when a volume is withdrawn from a partitioned library.

Workaround

When using the **withdraw** command, specify the port number also. For example,

```
nsrjb -w -S 1 -P 2 -vvv
```

ZFS filesystems are not automatically backed up when performing a savegrp backup of ALL

LGTPa91299

The `savefs` command fails to automatically backup a ZFS file system when performing a savegrp backup of ALL. The ZFS file systems do not appear in the `/etc/vfstab` file.

Workaround

To workaroud this issue do one of the following:

- ◆ Explicitly set the file systems for backup in the client's save set list.
- ◆ Set the ZFS file systems to legacy mount point behavior and add an entry to the `/etc/vfstab` file.

For example:

```
# zfs umount <zpool>
# zfs set mountpoint=legacy <zpool>
```

Add an entry to the `/etc/vfstab`. For example:

```
<zpool> - /mypool zfs - yes -
where /mypool is the mount point

# mount /mypool
```

If a connection is lost during an NDMP backup to a NAS filer the NetWorker software stops responding

LGTPa88065

If a connection is lost during an NDMP backup to a NAS filer, a connection reset by peer error is written to the daemon log file, but the `nsrndmp_save`, `ndmp2fh` and `nsrmmd` processes stop responding. The tape device also appears in writing mode, but stops responding.

Workaround

Stop the `nsrndmp_save`, `ndmp2fh` and `nsrmmd` processes by using `kill -9I` command, and restart NetWorker daemons to free the tape device.

The ls -l command does not display files recovered from a NetApp Data ONTAP 6.5 file system

LGTPa91406

After performing a recovery from a NetApp Data ONTAP 6.5 file system mounted on a UNIX client (NFS share), the recovered files are not displayed if the `ls -l` command is entered.

Workaround

Unmount and remount the file system and the files are visible.

Group details window is empty after upgrading from NetWorker release 7.2.2

LGTsc01587

After upgrading to NetWorker release 7.4 from release 7.2.2, savegroups details run prior to the upgrade do not appear in the Group Details window.

Restrictions associated with the ZFS file system

LGTsc00850

The following are restrictions associated with the ZFS file system:

- ◆ Only a root user with full access to ZFS directories may recover files. ZFS files can be restored to a UFS file system. When restoring ZFS files to a UFS file system, only the permission information is retained, the access control entries are not retained. If a non-root user attempts to recover a ZFS file, the recover operation will core dump.
- ◆ ZFS snapshots and the files in ZFS directories are not backed up or restored when restoring the original files. File systems must be explicitly specified in the client's save set attribute. ZFS file systems will not be recognized if you use the ALL keyword.
- ◆ Backup and recovery of raw partitions on Solaris ZFS filesystems is unsupported.

Cannot launch the NetWorker Console from a Linux PowerPC client or using the browser of another supported Operating System

LGTpa87730

The NetWorker Console client GUI is unsupported on a PowerPC Linux client. Client operations must be performed from the NetWorker Console server.

1. Above **Required-Start: networker** script, add these two lines to the file:

Default-Start: 3 5

Default-Stop: 0 1 2 6

2. Run the **chkconfig --add gst** command:

This command adds a symbolic link to the **gst** script in the **/etc/init.d/rc3.d** and **/etc/init.d/rc5.d** directories.

Backup might default to an incorrect server if the -s option is not specified with the save command

LGTpa83221

On a NetWorker client, if the **-s servername** option is not specified with the **save pathname** command, the **save** command does not select the first server name in the **/nsr/res/servers** file. The **save** command selects the first server it contacts on the network.

Workaround

Use the **-s servername** option with the **save** command to specify a specific NetWorker server.

Device operations using the right-click option might be lost

LGTpa83579

Device operations that use the Console are limited if a resource was created by a pre-7.4 release NetWorker server that used the **nsradmin** program in nonvisual mode. Mount, unmount, and label operations cannot be performed by using the right-click option.

Workaround

Delete and re-create the device.

Note: This limitation only occurs when the Type attribute is in lowercase.

Media capacity notification not logged in the media database

LGTPa82503

When the maximum number of save sets for a volume is reached, no notification is logged in the media database indicating a volume reached capacity.

Fatal error incorrectly reported no printer available to print a bootstrap on AIX 5.3

LGTPa81024

After a save group operation completed successfully, the Completed Successfully table of the Group Details window incorrectly reported a fatal error. This window indicates there is not a printer available to print the bootstrap.

Misleading error message reported if an invalid NDMP storage node password is entered when labeling a volume

LGTPa83273

If an invalid NDMP storage node password is entered when labeling a volume, the error message does not indicate that the password is incorrect. Instead, this error message is reported:

```
command operation `LOAD', command ID 231 is not connected
```

Labeling volumes concurrently might fail when using the NetWorker Management Console

LGTPa80901

When labeling a volume by using the NetWorker Console, concurrent label operations might fail if one of these conditions is true:

- ◆ Two or more label operations are running concurrently.
- ◆ The operation is using the same pool, or two pools with the same label template.

This error message appears:

```
Error: Duplicate volume name `rh64.014'. Select a new name or remove the original volume."
```

Workaround

Use the **nsrjb** command to perform concurrent label operations. The *EMC NetWorker Command Reference Guide* or the UNIX man pages has more information on the **nsrjb** command.

No alternative location provided for the java14.sdk.tar file if the /tmp directory is full

LGTPa80764

After installing the NetWorker Console server on an AIX platform, if the /tmp directory does not have enough space for the java14.sdk.tar JRE file, this error message appears:

```
There is not enough room on the disk to save /tmp/uontdion.tar.
Remove unnecessary files from the disk and try again, or try
saving in a different location.
```

The /var/log/lastlog file causes a save process to appear to hang on RedHat AS4 x86_64**LGTpa79664**

RedHat AS4 x86_64 creates a 4TB sparse file, /var/log/lastlog, during the install process. A save process that includes this file appears to hang while it reads the sparse file. The save process executes after the delay.

The mminfo command does not display a weekly summary of save set usage during the change to daylight savings time**LGTpa76457**

If you use **mminfo** query to get a weekly save set usage summary during the change to daylight saving time (last Sunday of October and first Sunday of April), there is no information for the day of the change.

Save set status is displayed as invalid if a DSA backup is terminated due to an invalid backup path**LGTpa75719**

If a DSA backup is terminated due to an invalid backup path, the save set status is displayed as invalid ss (for file type devices and tape devices) in the Volumes window. The Volume window should not display information about the save set status.

The scanner command might stop responding if it encounters an aborted save set backed up to an NDMP device**LGTpa74026**

The **scanner** command might stop responding if:

- ◆ The **scanner** command encounters a save set backed up to an NDMP device.
- ◆ The save set aborts after the start note is written.
- ◆ The last complete save set was backed up to the device and cannot be scanned.

Automatic cloning might fail when using a single staging policy**LGTpa70320**

Automatic cloning will fail when using a single staging policy if the following apply:

- ◆ Backup is to an advanced file type device.
- ◆ Server Parallelism value is set low (two or less).
- ◆ Recover space and check file system interval is approximately three and five minutes.
- ◆ High-water mark is set at a low value (approximately 10 percent).

This error message appears:

```
Error: nsrd: nonexistent cloneid (SSID) for saveset(ss_name)
```

The /system/object and /system/contract directories are not skipped during a backup on Solaris 10**LGTpa73509**

The **/system/object** and **/system/contract** directories should be skipped when running backups on a Solaris 10 operating system.

Create a .nsr file with directives to skip the **/system/object** and **/system/contract** directories.

If the directories are not skipped, error messages are reported during a backup. For example:

```
enoexec:/system/contract save: readdir overflow error, backup of
  directory cannot continue
enoexec: /system/contract          level=full,      3 KB 00:04:06
  9 files
```

Tape gets stuck in a drive when labeling Linux Red Hat

LGTPa68867

While labeling tape in a DDS configuration by using a NetWorker server that is running Linux Red Hat, the tape becomes stuck in the drive and this error message is displayed:

```
unload failure-retrying 30 seconds
```

To prevent a tape from being stuck in the drive, set the `auto_lock` setting to "0" (Off) in the `/etc/stinit.def` file for these drive types:

- ◆ Sony AIT-2 and AIT-3
- ◆ IBM LTO Gen1
- ◆ HP LTO Gen1
- ◆ IBM LTO GEN2
- ◆ IBM 3580 drive LTO-1
- ◆ IBM 3592 J1A
- ◆ Quantum DLT 7000

By default the `auto_lock` setting is set to 1 (On).

Volume retention information does not apply to volumes that contain snapshots

LGTPa66565

The output produced by the `mminfo` command by using the `volretent` flag (the date the last save set on this volume expires) does not apply to volumes that contain snapshots.

Cloning on an EMC DART CFS 5.2 is unsupported

LGTPa62490

Cloning on an EMC DART CFS 5.2 is unsupported.

The source tape begins reading data after the clone tape is mounted and the clone operation fails. The source drive does not exit the reading data state.

A clone error is reported in the `/nsr/cores/nsrndmp_clone` file.

Package installation on Linux IA64 Red Hat results in an error

LGTPa61643

During installation of NetWorker packages on Linux IA64, the `rpm` program incorrectly reports these missing library errors:

```
rpm -i lgtocInt-1.ia64.rpm
  error: Failed dependencies:
  ld-linux-ia64.so.2 is needed by lgtocInt-1
  libc.so.6.1 is needed by lgtocInt-1
```

libc.so.6.1(GLIBC_2.2) is needed by lgtocln-1
 libncurses.so.5 is needed by lgtocln-1

Workaround

To correct the installation errors:

1. Log in as root.
2. Verify that the libraries exist.
3. Run the **rpm** program, for example:

```
rpm -i --nodeps lgtocln-1.ia64.rpm
```
4. Repeat this procedure for each required NetWorker package, **lgtonode**, **lgtoserv**, or **lgtodrvr**.

Error message appears in daemon log file when labeling a volume that contains PowerSnap save sets

LGTPa54632

When labeling a volume that contains PowerSnap save sets, this error message appears in the daemon log file:

```
nsrmmdbd: error, null
```

Ignore the error messages in the daemon log file. No actual error occurred.

When recovering data from multiple volumes the NetWorker software might stop responding

LGTPa55566

When recovering data from multiple volumes, the recovery client might receive repeated server busy messages if the NetWorker software cannot simultaneously mount all of the volumes.

Workaround

Disable the striped recovery on the server.

Note: To disable striped recovery, create the file `/nsr/debug/no_striped_recover` in the `/nsr/debug` directory on the server. All recoveries started after this file is created will not use the striped recovery.

Error message generated if the snapshot policy is configured to request more snapshots than a Savegroup can generate

LGTPa54165

If a snapshot policy is configured to request more snapshots than a savegroup can generate for a group in a given time, the savegroup generates this error message when running the group, and does not back up that group:

```
timestamp savegrp: RAP error: Invalid snapshot policy with
number_of_requested_snapshots snapshot creation per day.
NetWorker will not be able to create, number_of_requested_
snapshots from timestamp in a single day.
```

Workaround

To resolve this issue, do one of the following:

- ◆ Modify the savegroup Start Time and Interval attributes of the Group resource to synchronize the resource with the snapshot policy.
- ◆ Modify the snapshot policy to synchronize it with the Group resource.

The *EMC NetWorker Administration Guide* contains more information on modifying the Start Time and Interval attributes and snapshot policies.

SCSI device ID displayed differently than NetWorker NDMP devices**LGTPa53364**

For NetWorker NDMP devices, the bus number in the control port is offset by a value of 1,024 so that they occupy a different range compared to a locally attached SCSI jukebox. This offset helps visually differentiate the type of device (NDMP or non-NDMP). The actual value of the NDMP device bus number can be obtained from the NDMP Bus Number field. This is found if you select Jukeboxes from the Media menu.

All client file index entries might appear not to have been deleted**LGTPa56231**

The NetWorker software does not delete all client file index entries under these conditions:

- ◆ All save sets are recycled.
- ◆ Volumes are deleted.
- ◆ Device is relabeled.

After running the `nsrck -L6` command, the `nsrinfo client` output command indicates there are still browsable files.

This is an issue only when all save sets for a client are deleted from the media database. If there is at least one valid save set for that client in the media database, the `nsrck -L6` command deletes the invalid save set records from client file index.

Slow Solaris tape operations when using an IBMtape driver with IBM LTO-2 tape drives and the NetWorker CDI**LGTPa55128**

Solaris tape operations are slow when using an IBM tape driver with IBM LTO-2 tape drives when **CDI** is turned on.

Note: This behavior is seen with the Solaris `st` driver.

Workaround

Turn **CDI** off.

NetWorker software attempts to eject a stuck tape**LGTPa51725**

If a hardware problem results in a tape becoming stuck in a drive, the NetWorker software tries to eject the tape instead of continuing the backup on another tape. In this situation, save stream backups from clients intended for the stuck tape/drive might fail.

If the NetWorker software keeps trying to eject a stuck tape:

1. Mark the volume as read-only.
2. Disable the drive.
3. Manually eject the tape.
4. Inventory the slot to which the tape was ejected.
5. Resolve the hardware error that led to the tape becoming stuck in the drive (for example, a faulty tape or a faulty drive).
6. Reenable the drive.
7. Mark the volume appendable again (if appropriate).

Increase server parallelism to complete concurrent operations

LGTPa51184

There may be a need to increase the server parallelism value to complete the concurrent operations with an advanced file type device (AFTD) device when the number of simultaneous save sessions reaches the maximum value for server parallelism.

For example, if the server parallelism is set to 4, and there are 4 simultaneous saves going to an AFTD, set the server parallelism to 5 to complete a concurrent clone/stage operation from this AFTD while the four saves are in progress.

Note: This requirement might be more apparent with AFTD as it supports concurrent operations, but it is applicable to all other device types with a similar setup.

Perform a save set recovery when using the save command with the -I input_file option

LGTPa51045

When using the **save** command with the **-I input_file** option and one of the entries is deleted while the backup is running, the remaining entries in the input file are saved successfully. However, connecting directories are not saved and you are unable to perform index-based recoveries. The workaround is to perform a save set recovery.

Error downgrading to business edition

LGTPa50807

The licensing utility (**nsrkap**) cannot downgrade to the Business Edition from a higher enabler.

Workaround

To downgrade from Power Edition or Network Edition to Business Edition:

1. Enter the computer's hostname in the License Server attribute, if a license service is not specified:
 - a. In the **NetWorker Administrator** program on the NetWorker server, select **Server Setup** from the **Server** menu.
 - b. From the **View** menu, select **Details**.
 - c. Enter the hostname in the **License Server** attribute and select **Add**.

2. Delete the base enabler of the edition being downgraded:
 - a. From the **Server** menu, select **Registration**.
 - b. In the **Registration** window, select the NetWorker product whose enabler code you want to delete.
A series of windows appear.
 - c. Click **OK** in the windows and repeat the steps to delete the base enabler.
3. Select the hostname from the NetWorker server's **License Server** attribute:
 - a. From the **Server** menu, select **Server Setup**.
 - b. From the **View** menu, select **Details**.
 - c. Select the hostname in the **License Server** attribute that was entered in step 1 and click **Delete**
 - d. Click **Apply**.
4. Enter the Business Edition enabler code:
 - a. From the **Server** menu, select **Registration**.
 - b. Click the **Create**.
 - c. Enter the Business Edition enabler code in the **Enabler Code** attribute and click **Apply**.

Increase the value of the save mount time-out attribute when auto media management is enabled and a corrupt tape is encountered

LGTpa50485

Note: This issue has only been seen on SDLT110/220 drives.

A label operation may take more than 30 minutes before it fails under these conditions:

- ◆ Automedia management is enabled and a backup is initiated.
- ◆ The NetWorker software encounters a corrupted tape during label operations.

The NetWorker software keeps a record of the location of the corrupted tape only for the current backup operation, so a corrupted tape could be used again for the next backup operation if the operator does not remove it.

Workaround

To increase the value of the **Save Mount Time-out** attribute to 60 minutes from the default 30 minutes:

1. In the **NetWorker Administrator** program, select **Devices** from the **Media** menu to open the **Devices** window.
2. From the **View** menu, select **Details** to display the hidden attributes.
3. Set the **Save Mount Time-out** attribute to 60 minutes.

Element status feature must be manually enabled for jukeboxes that support the feature

LGTPa26003

When a jukebox supports the element status feature, but that feature is not enabled in the Autochanger resource of the NetWorker Administrator program, **nsrjb -I** and **nsrjb -H** commands do *not* work properly.

When using jukeboxes that support the element status feature, ensure that this feature is enabled in the Autochanger resource of the NetWorker Administration program under the tab preferences in the Jukebox Features section before using the **nsrjb** command.

NDMP save sets in status recyclable are not recoverable

LGTPa65644

NDMP save sets cannot be recovered if they are in the status eligible for recycling. This error message appears:

```
Failed save set, not recoverable
```

Workaround

Set the status of the save set to **recoverable**.

Limitation on browse and retention policy dates

LGTPa37508

Client file index browse and save set retention policies can be set no later than the year 2038. This is caused by an operating system limitation in which support for time is limited to a maximum of 68 years starting from the year 1970.

Note: An expired save set retention date does not immediately result in the save set being overwritten.

Save sets can only be overwritten if the following is true:

- ◆ The retention policy has expired and NetWorker uses the storage volume for backup.
- ◆ The storage volume is relabeled.
- ◆ Entries are manually deleted from the storage volume.

Workaround

To enable full browse and retention policies beyond the year 2038, use the NetWorker Archive feature. Archived data is never subject to automatic recycling, so it cannot be accidentally overwritten.

Cannot change the browse time if there are files for recovery

LGTPa38176

The following warning message is displayed if you attempt to change the browse time if files are marked for recovery.

```
There are files marked for recovery.
OK to ignore the marked files.
Cancel to stay with the current browse time.
OK / Cancel
```

Unmark files for recovery before attempting to change the browse time.

The udev tool is unsupported on Emulex running Linux RedHat AS 4 using default kernel 2.6

LGTPa87657

The **udev** tool is unsupported on Emulex running Linux RedHat AS 4 using default kernel 2.6.

Label tape operation fails on an HP-UX platform if CDI is turned on and IBM tape driver is used

LGTPa58356

On an HP-UX platform, a label tape operation fails with this error message if CDI is turned on and an IBM tape driver is used:

```
Error: while operating on slot `1': write open error: drive status
      is Drive reports no error - but state is unknown
```

Workaround

To avoid a failed label tape operation, turn off **CDI**.

The IBM Atape driver version 3.0.1.8 does not display this behavior. The *EMC NetWorker Hardware Compatibility Guide* contains more information and is available at <http://Powerlink.EMC.com>.

Managing optical drives with Solaris 9

LGTPa48374

With Solaris 9, the Volume Management daemon (**vold**) is changed so that it automatically attempts to manage all removable media devices. Because of this change, the Volume Management daemon may interfere with NetWorker operations related to optical drives.

Workaround

Disable the **vold** daemon *or* modify the daemon configuration file:

Disable the vold daemon

To disable the volume management (**vold**) daemon:

1. Log in as **root** on the NetWorker storage node, and remove or rename the `/etc/rc2.d/*volmgt` script.
2. Enter the `/etc/init.d/volmgt stop` command.

Modify the daemon configuration file

To modify the daemon configuration file:

1. Log in as **root** on the NetWorker storage node, and open the daemon configuration file, `/etc/vold.conf`, in a text editor.
2. Comment out this line in the **Devices to Use** section.

```
use rmtscsi drive /dev/rtdsk/c*s2 dev_rmtscsi.so rmtscsi%d
```

After commenting out this line, the **Devices to Use** section of the configuration file looks similar to this:

```
# Devices to use
# use rmtscsi drive /dev/rtdsk/c*s2 dev_rmtscsi.so rmtscsi%d
```

3. Save the configuration file.

4. Reinitialize the **Volume Management** daemon with the new configuration file settings. One way to do this is to send a hang-up signal to the daemon, for example:

```
ps -ef | grep vold
kill -HUP vold_pid
```

where *vold_pid* is the process ID of the volume management daemon, **vold**.

Cannot label a tape if CDI is enabled on a tape drive on HP Tru64 5.1

LGTpa50279

To use the CDI feature with a storage node or server that is running on HP Tru64 UNIX version 5.1, install the latest patch kit available from Hewlett-Packard. If you choose not to install the patch kit on the Tru64 5.1 operating system, disable the CDI feature on any preconfigured devices.

An ASR recovery might fail on Microsoft Windows 2003

LGTsc06325

An ASR recovery might fail on Microsoft Windows 2003. The recovery appears to complete successfully, but after the computer reboots and the user enters his name and password, the following error is reported:

```
"A problem is preventing Windows from accurately checking the
license for this computer. Error Code: 0x8007007f"
```

Full access is denied to the restored machine. The *NetWorker Disaster Recovery Guide* contains full details on recovering the ASR recovery.

The winworkr program fails to retrieve successfully archived files if a slash (\) character was entered in the annotation string

LGTpa94966

The **winworkr** program fails to retrieve successfully archived files if a slash (\) character was entered in the annotation string.

Workaround

Enter a double slash (\\) into the annotation string and the files will be archived and retrieve operations perform successfully.

Current user locale is used with JRE 1.4.2 on Microsoft Windows

LGTpa57158

Due to a limitation in JRE 1.4.2 on Microsoft Windows, the JRE uses the system locale rather than the current user locale.

Workaround

If you are using JRE 1.4.2 and need to change the locale for the NetWorker software, change the Windows system locale rather than the current user locale.

This bug is fixed in JRE 1.5, which is provided by default with the NetWorker installation software.

Virtual tapes are listed as full after mounting

LGTpa93001

In a Windows environment when using virtual IBM tape drives, virtual tapes are listed as "full" even though 0 KB have been written to the tape. This can be observed after labeling and mounting the tape.

Workaround

Change the system configuration to use an equivalent tape drive from a manufacturer other than IBM. For example, enter HP LTO-3, instead of IBM LTO-3.

On NetApps files, filenames ending with special characters might be renamed

LGTpa95900

On NetApps filers, the recovery of filenames ending with the special character sequence `~n` (where `n` is a number) might be renamed with `~1` appended at the end of the name. For example, a file named `C~1` might be restored with the name `C~1~1`.

This behavior might occur when the `DIRECT=Y` application parameter has been defined in the NetApps client instance.

Workaround

To perform a file level recovery of a file with a special character sequence, perform one of the following:

- ◆ Set the following environment variable prior to performing a file level recovery:

```
NSR_NDMP_RECOVER_NO_DAR=y
```

- ◆ Redefine the NetApps client application parameters:

```
DIRECT=Y.
```

Note: This will not address the recovery of legacy backups performed prior to the `DIRECT=Y` parameter removal. In this case, you must set the `NSR_NDMP_RECOVER_NO_DAR=y` environment variable before performing the recovery operation.

The winworkr program will not relocate to a partition not existing on the initiating host if the NetWorker server is running release 7.4 and the client is running release 7.2

LGTsc00167

If the NetWorker server is running release 7.4, and the 7.2 release is installed on a client, a directed recover will not relocate to a partition that does not exist on the host initiating the recover operation. An error message is displayed indicating that it is an invalid directory.

Workaround

Upgrade the client to release 7.4 or create the appropriate directory on the host initiating the recovery.

When upgrading from release 7.3.1 the Virtual Jukeboxes attribute will not be set correctly

LGTPa95019

When upgrading from the 7.3.1 release to the 7.4 release, the Virtual Jukeboxes attribute will not be set if you previously configured a Virtual Tape Library (VTL) using the 7.3.1 release. After upgrading to 7.4, the Virtual Jukeboxes attribute uses the normal jukebox license instead of a VTL license. The VTL still functions normally using the normal jukebox license.

The Virtual Jukeboxes attribute will function normally if upgrading to the 7.4 release from 7.3.2.

Directed recover fails with permission errors on Windows

LGTPa83927

A directed recover operation fails when using the command line interface (CLI) and the **winworkr** program. Permission errors display if the NetWorker server is running Windows and the client where the files are to be recovered to is also running Windows.

Workaround

To perform a directed recover, one of the two following conditions must be met based on your environment:

- ◆ If the NetWorker server and target recover client are in the same domain:
 - Start the NetWorker server (**nsrd**) as a domain user that is in the Windows Administrators group on the NetWorker server machine.
 - Ensure that the user has the same password on both machines.
- ◆ If both machines are not in a domain, or they are not in the same domain:
 - Ensure that the user:
 - Exists on both machines.
 - Has the same password on both machines.
 - Is in the Windows Administrators group on the NetWorker server machine.
 - Start the NetWorker server (**nsrd**) as a domain user that is in the Windows Administrators group on the NetWorker server machine.

Cannot configure a DAS silo using the NetWorker Management Console

LGTPa89946

The NetWorker Management Console cannot be used to configure a DAS silo. To configure a DAS silo, use the **jbconfig** command.

Microsoft Windows username cannot contain a '!' character

LGTPa86214

The NetWorker Management Console does not launch correctly if a Microsoft Windows user name contains a '!' character. This error message is displayed:

```
"Can't find bundle for base name res/gwt_rb, locale en_US"
```

NetWorker Management Console can be launched from the same machine when logged in as a user with no special characters in the name.

Files backed up from a VSS system file set appear in the file system tree

LGTPa83820

On a Windows 2003 operating system, saving a VSS save set, such as VSS SYSTEM FILESET: or VSS SYSTEM SERVICES: creates index entries for backed-up files as well as their parent directories. This can cause problems when browsing the recover items by displaying the version from the VSS backup as part of the file system.

Note: If the VSS system saves sets are marked along with the file system, the save sets will fail to recover and the status will indicate those folders failed (for example, you select **My Computer** using the **winworkr** program). This is expected behavior.

Unable to configure an ACSLS silo on Windows with lib_attach 1.4.1

LGTPa89859

The NetWorker software is unable to configure an ACSLS silo on Windows with lib_attach 1.4.1. If the NetWorker **nsrexecd** service is started first, it begins serving the portmapper services on port 111. In this situation, the Windows Services for UNIX portmapper is unable to start, causing dependent services to fail. Conversely, if the Windows Services for UNIX portmapper is started first, the NetWorker **nsrexecd** process will simply not service portmapper requests on port 111, allowing both products to coexist without problems.

Workaround

1. Shut down the NetWorker daemons.
2. Add a value to the Windows Registry to delay the start of the **nsrexecd** service until the Windows Services for UNIX portmapper is running. Technical Bulletin 375: Portmapper Conflict between NetWorker and Microsoft Windows Services for UNIX is available at <http://Powerlink.EMC.com>.
3. Restart the NetWorker daemons.

ASR and non-ASR recovery fails if the windows install CD does not match the service pack level of the data being backed up

LGTPa83706

If you have installed a Service Pack on a client machine, you will not be able to perform an automated system recovery (ASR) or non-ASR recovery unless the data you are trying to backup has the same service pack(s) incorporated into the backup. For example, this behavior occurs if you backed a Windows 2003 Server SP1 machine and then use a Windows 2003 Server CD during the recovery.

To ensure an ASR recovery succeeds, use a Windows install CD that matches the service pack level of the backed-up data that you are trying to recover. Otherwise, an ASR recovery will not succeed. The *EMC NetWorker Disaster Recovery Guide* contains more information on a Windows non-ASR recovery if the backup and the CD do not match.

Remote client save sets with Japanese characters are displayed incorrectly

LGTPa82555

The **nsrinfo** and **recover** commands display remote client save sets with Japanese characters incorrectly. The command line on Windows does not support UTF-8 natively so the Japanese characters will not display correctly.

Note: This behavior does not occur when using the **mminfo** command or browse Japanese files from **winworkr** or NetWorker Console.

VSS on Windows Server 2003 x64 is unsupported

LGTPa82436

Due to problems that Microsoft is encountering with certain VSS writers, this release of the NetWorker software cannot support VSS on Windows Server 2003 x64 platforms.

VSS on Windows Server 2003 x64 can be supported if the following Microsoft hot fix is installed: <http://support.microsoft.com/default.aspx?scid=kb;en-us;913100>.

Windows firewall interferes with the Client Configuration Wizard

LGTPa79047

The Windows Server 2003 Firewall prevents the Client Configuration Wizard from connecting to a Windows Server 2003 client. When this occurs the following error message appears:

```
Cannot establish connection to client
```

To ensure successful scheduled backups from the client, modify the Windows 2003 firewall settings to create an exception through the firewall for the **nsrscsd.exe** program:

1. On the client machine, start the **Windows Firewall** applet from the **Control Panel**. If the firewall is set to **On**, switch to the **Exceptions** tab.
2. Select **Add Program** to create an exception for the **nsrscsd.exe** program.
3. Browse to the NetWorker installation directory and select **nsrscsd.exe** in the `\nsr\bin` directory.
4. Verify that the checkbox is marked enabling the exception for the **nsrscsd.exe** program.

The jbconfig command might fail on Windows 2003 with a multidrive jukebox

LGTPa74492

When configuring media libraries on Windows Server 2003, the **jbconfig** command might fail with this error:

```
jukebox error: scsi command MODE_SENSE failed.
```

If this error message appears:

1. Right-click **My Computer** and select **Manage**.
2. Select **Device Manager**.
3. Right-click the effected library and select **Disable**.
4. Rerun the **jbconfig** command.

Cannot run commands in nsradmin without the nsrexecd daemon**LGTpa77990**

To increase datazone security, running the **nsradmin** program, or any other NetWorker command on a host without the **nsrexecd** daemon running, is unsupported.

New authentication fails if you run the **nsradmin** program without the **nsrexecd** daemon. If old authentication is disallowed in a datazone, the **nsrexecd** daemon is required to connect to the server even when running **nsradmin** from a client.

Backup will fail with remote exec service if passwords are not configured correctly**LGTpa75339**

A backup will fail if the following is true:

- ◆ A NetWorker Remote Exec service on a client machine is configured so that the service is initiated by a local system account.
- ◆ The remote user and password field for the client is configured to use the same username and password as the Remote Exec service.

This error message is reported:

```
Cannot authenticate user: a required privilege is not held by the
client. Permission denied.
```

Workaround

To avoid this issue, configure the NetWorker Remote Exec service on the client to initiate with the local system account and populate the Remote User and Password fields of the client by using the NetWorker Administrator program.

SHAREPOINT save set cannot be excluded with directives when a save set of ALL is specified**LGTpa61694**

The SHAREPOINT save set cannot be excluded with directives when a save set of ALL is specified for backup.

The jbconfig command reports a BNCHMARKVS640 DLT drive as 4mm**LGTpa66140**

When using the **jbconfig** command to configure an autodetected SCSI jukebox by selecting option 2, **Configure an Autodetected SCSI Jukebox**, a BNCHMARKVS640 DLT drive is incorrectly reported as a 4mm drive.

To work around this issue, select option 4, **Configure an SJI Jukebox**, to specify the drive.

Warning when using AlphaStor 3.0x with SR2 on a Windows server with a NetWorker for Windows 2000 storage node**LGTpa66196**

When using AlphaStor 3.0x with Service Release 2 on a Windows server with Windows 2000 Storage node, this scenario might occur:

The **nsrcnct** process terminates after loading a volume into the storage node tape devices. The **nsrcnct** process is contacted by the **nsrjb** program to perform a mount request. If the **nsrcnct** process does *not* remain active during the backup, the process fails and the tape is ejected from the drive.

To prevent the `nsrcnct` process from failing, add the `system@storagenode` (default) or the account that starts the NetWorker services.

This problem only occurs with the AlphaStor SR2 release when both the NetWorker storage node and server are running Windows 2000.

NetWorker License Manager allowance limitation

LGTpa62224

If NetWorker License Manager is used to allocate licenses to specific servers, wait a minimum of two minutes. Failure to allow two minutes for the synchronization to occur may result in incorrect assignment of a license to the server.

Command line backup and recovery of SYSTEM save sets

LGTpa58888

When backing up or recovering SYSTEM or VSS SYSTEM save sets from the command line, these limitations apply:

- ◆ A maximum of one SYSTEM or VSS SYSTEM save set can be included in the same **save** or **recover** command.
- ◆ File system directories cannot be specified in the same **save** or **recover** command.
- ◆ A maximum of one SYSTEM or the VSS SYSTEM save set can be specified in an input file.

Note: An input file is specified in a **save** or **recover** command with the **-I** option.

File system directories cannot be specified in an input file.

Examples of invalid command line entries include:

```
recover -s servername "SYSTEM DB:" "SYSTEM STATE:"
recover -s servername D:\letters "SYSTEM DB:"
save -s servername "SYSTEM DB:" "SYSTEM STATE:"
save -s servername D:\letters "SYSTEM DB:"
save -s servername -I D:\list.txt
```

where **list.txt** is an input file. Examples of invalid input files include:

- ◆ The following input file is invalid because it includes a file system and a VSS SYSTEM save set:

```
D:\letters
VSS SYSTEM BOOT:
```

- ◆ The following input value file is invalid because it includes multiple VSS SYSTEM save sets:

```
VSS SYSTEM BOOT:
VSS SYSTEM SERVICES:
```

Examples of valid command line entries include:

```
save -s servername "VSS SYSTEM BOOT:"
save -s servername "VSS SYSTEM SERVICES:"
recover -s servername "VSS SYSTEM BOOT:"
recover -s servername "VSS SYSTEM SERVICES:"
```

Workaround

To back up multiple SYSTEM or VSS SYSTEM save sets in one operation, choose one of these options:

- ◆ In the NetWorker Administration window, edit the Client resource to include multiple SYSTEM or VSS SYSTEM save sets. Alternatively, ensure that the default save set All is selected for the Client resource.
- ◆ In the NetWorker User program, mark all of the required SYSTEM or VSS SYSTEM save sets and any other required save sets and then complete the backup.

To recover multiple SYSTEM or VSS SYSTEM save sets in one operation, from the NetWorker User program, mark all of the required SYSTEM or VSS SYSTEM save sets and any other required save sets and then complete the recovery.

The *EMC NetWorker Administration Guide* contains more information about editing Client resources, using the NetWorker Administrator program or the NetWorker User program.

Jukebox fails to allocate enough devices**LGTPa58215**

When the NetWorker jukebox control command (**nsrjb**) attempts to access an eligible drive to complete a NetWorker service daemon (**nsrd**) task, the drive reports as busy. This error message is displayed:

```
Error 'nsrd: Jukebox 'xx' failed cannot allocate enough devices
```

Workaround

Wait for the eligible drive to become free and retry the operation. If the problem persists, contact EMC Technical Support.

VSS backups of raw devices unsupported**LGTPa58422**

NetWorker release 7.4 does not support the VSS backups of raw devices.

Removable storage manager jukebox configures all devices automatically**LGTPa57709**

When using the **jbconfig** command to configure a tape drive, a Removable Storage Manager (RSM) jukebox configures all devices automatically and picks the most generic device type available. For example, if you are configuring a 4 mm 20 GB tape drive, the RSM jukebox defines the device as a 4 mm type device, not 4 mm 20 GB. Likewise, if you are configuring a DLT8000 device, it is configured as DLT. Therefore, you might not receive the same performance and usage as with a fully defined device.

Entering the inquire command during tape activity causes a device error**LGTPa50089**

Issuing the **inquire** command from the command line while there is any tape activity, such as labeling of tapes or backing up of data, might cause an operating system crash or a device I/O error.

Preventing duplicate filenames during recovery

LGTpa48556

Because of the case-sensitive nature of Portable Operating System Interface (POSIX) compliance, NetWorker software can restore a file when another file exists with the same name but different case. For example, if the **FILE1.DOC file** exists on the target client, restoring **file1.docfile** can result in two files with the same name but different case. The contents of the two files may or may not be the same.

To avoid this problem, disable POSIX compliance by setting this system environment variable:

```
NSR_DISABLE_POSIX_CREATE=YES
```

The Windows online help contains detailed instructions about setting system environment variables.

Windows error message during automated system recovery

LGTpa48322

Due to a problem in Windows XP Professional and Windows Server 2003, this error message may appear when you start an ASR disaster recovery of a client computer:

```
Can't create partition...
```

This error is intermittent. To work around the problem, restart the ASR recovery.

NetWorker software might stop responding when running SQL server 2000 and NetWorker client

LGTpa41044

On systems running both SQL Server 2000 and the NetWorker client, the NetWorker software might stop responding when obtaining device information on the client computer.

To work around this issue, obtain the hot fix for the Microsoft operating system bug. The Microsoft Knowledgebase article Q319246, *FIX: Error Dialog Box During SQL Server Database Backup* contains more information on this hot fix.

Windows management instrumentation database might stop responding

LGTpa41039

While performing a save of the Windows Management Instrumentation (WMI) database, the **save** process stops responding during a Microsoft application programming interface (API) call. A Microsoft API call should be nonblocking.

To work around this issue, obtain the hot fix for the Microsoft operating system bug. The Microsoft Knowledgebase article Q319579, *COM Activity Deadlock Causes IIS to Stop Responding*, contains more information on this hot fix.

No message is logged if resource files are missing

LGTpa35856

If one or more resource files are somehow removed from the NetWorker resource database directories (as a result of disk corruption or manual deletion, for example), no error message is logged in the daemon log file.

Change journal manager problems with multiple servers

LGTPa35407

Configuring multiple NetWorker servers to back up a client with Change Journal enabled is unsupported. Such a configuration can cause problems in the Change Journal Manager.

A volume's Change Journal state (enabled or disabled) is maintained in the client computer's registry. This key is created the first time the client is backed up with Change Journal enabled. If a second NetWorker server backs up the same client while Change Journal is enabled, a second registry key is created. These keys are named for the NetWorker server that performed the backup.

For example, the following registry keys will be present on a client that is backed up by two servers while Change Journal is enabled for at least one volume:

```
HKEY_LOCAL_MACHINE
SOFTWARE
Legato
NetWorker
Change Journal
Server1
Server2
```

If a volume's Change Journal state appears enabled in the **Server1** key and disabled in the **Server2** key, you cannot edit the volume's settings by using the Change Journal Manager.

When the volume is selected, the NetWorker Uses Change Journal checkbox is dimmed, indicating that components controlled by the checkbox have different states. Details of each volume's state are displayed in the textbox.

Note: No data is lost if a backup occurs while the client is configured as described in this section.

If you experience this problem, perform these procedure on the client:

1. Stop the NetWorker services.
2. Start the **regedit** program.
3. Expand the **HKEY_LOCAL_MACHINE>SOFTWARE>Legato>NetWorker>Change Journal**.
4. As an optional precaution, select the NetWorker key, and select **Export Registry File** from the **Registry** menu to save a copy of the current configuration.
5. Select the key for one of the servers under **Change Journal** and delete all of the values the key contains. (Do not delete the server key itself).
6. Repeat step 5 for each server key under **Change Journal**.
7. Restart the NetWorker services.

Use Change Journal Manager to enable or disable the Change Journal on each of the client computer's volumes.

NetWorker software fails to use tapes preinitialized in NDMP-enabled tape devices

LGTPa28778

If a new tape is preinitialized in an NDMP-enabled tape device, the NetWorker software does not use the tape.

To ensure that NetWorker software uses all tapes in an NDMP tape device:

- ◆ Do not use tapes that were preinitialized in an NDMP-enabled tape device.
- ◆ Label preinitialized tapes in a non-NDMP tape drive before inserting the tape into an NDMP tape drive or jukebox.

A backup fails if the servers file lists only the virtual NetWorker server

LGTPa28717

If the virtual NetWorker server is listed in the `\nsr\res\servers` file, the physical nodes must also be listed there. A backup fails if a virtual NetWorker server is listed in the `servers` file and you create a savegroup to which you add a physical node that does not own the NetWorker Server resource. To avoid this problem, do one of the following:

- ◆ Leave the `servers` file blank.

Note: If the `servers` file is blank, any NetWorker server can back up the client.

- ◆ Ensure that if the virtual NetWorker server is added to the `servers` file, all physical nodes are also added to the list.

Microsoft VSS backups on a FAT32 partition take longer than on an NTFS partition

LGTPa54620

VSS backups of files on a FAT32 partition take longer than VSS backups of files on an NTFS partition. This is a known Microsoft issue.

Tape drive requires cleaning error message

LGTPa36367

When trying to create a tape backup, the Windows 2000 `dlttape.sys` device driver may read and report soft and hard errors on digital linear tape (DLT) drives. When this occurs, the backup is not created and this error message appears:

```
Tape Drive Requires Cleaning
```

A supported hot fix is now available from Microsoft, but apply it only to systems experiencing this specific problem. Therefore, if you are not severely affected by this problem, Microsoft recommends waiting for the next Windows 2000 service pack containing this fix. To resolve this problem immediately, contact Microsoft Product Support Services to obtain the hot fix.

Hot fix required to operate the NetWorker software in a Windows 2000 Clustered Environment running Service Pack 1 or 2

LGTPa35171

To run NetWorker software in a Windows 2000 cluster environment by using MSCS and the Windows Service Pack 1 or 2, apply the Microsoft `Gethostbyaddr()` hot fix. The hot fix is available from Microsoft Product Support Services. The `Gethostbyaddr()` hot fix is not required if Windows 2000 Service Pack 3 is installed on the cluster nodes. It is only required when running Service Pack 1 or 2.

Windows 2000 server cannot handle large numbers of concurrent saves

LGTPa33868

Running a large number of concurrent saves might cause the server to stop responding.

To work around this issue, increase the desktop heap for noninteractive processes from the default value (512 KB) to 3,072 KB. If the failures continue to occur, increase the heap up to 5,120 KB.

Concurrent multiclient recovery on Windows 2000

LGTPa23372

In the NetWorker Administration window, the Parallelism attribute specifies the maximum number of clients that the NetWorker server may back up or recover simultaneously. Each client being recovered typically requires 10 MB to 15 MB of memory or more if large numbers of files are being recovered on the NetWorker server host. For example, recovering 30 clients concurrently might require approximately 450 MB of memory.

The recovery operation has been tested to recover up to 30 clients concurrently. Attempting to recover more than 30 clients concurrently with insufficient virtual memory might cause the recovery operation to fail with this error message:

```
nsrindexd.exe - Application Error
The application failed to initialize properly (0xc0000142).
Click OK to terminate the application.
```

To avoid a failure when recovering a large number of clients concurrently:

- ◆ In the **Set Up Server** dialog box in the **NetWorker Administration** window, reduce the **Parallelism** attribute to 25 or less.
- ◆ Increase the virtual memory on the NetWorker server host to 2 GB or more (or enough to accommodate at least 15 MB per client).
- ◆ Use a multiprocessor computer as the NetWorker server host.

Cannot change the browse time if there are files for recovery

LGTPa38176

This warning message is displayed if you attempt to change the browse time if files are marked for recovery.

```
There are files marked for recovery.
OK to ignore the marked files.
Cancel to stay with the current browse time.
OK / Cancel
```

Unmark files for recovery before attempting to change the browse time.

Internationalization support

These sections describe important information and known limitations pertaining to the internationalized NetWorker release:

- ◆ [“Important notes and tips” on page 131](#)
- ◆ [“Known limitations” on page 132](#)

Important notes and tips

This section provides important notes and tips for using internationalized NetWorker release 7.4 software.

Locale settings with NDMP

When running NDMP backups, the locale setting has to be consistent in your environment. All UNIX flavored locale settings on the filer (including UTF-8) must be the same and the NMC client can be run only on an UNIX client set to the exact same locale setting as the filer.

Backup and recovery operations can be run on any locale, but if you try and browse on a locale that is different from the original locale the filenames appear as random characters.

Java Web Start jnlp file caching issue after upgrading the NetWorker Console

After the NetWorker Console is upgraded or a client locale is changed, the `gconsole.jnlp` file will be different than the original `gconsole.jnlp` file in the Java Web Start cache. The NetWorker Console will fail to launch.

Workaround

Remove the Select the NetWorker Management Console Application and Language Pack from the Java Application Cache Viewer:

1. Run the Java Application Cache Viewer.
2. Select the NetWorker Management Console Application and Language Pack.
3. Click on the Remove Selected Application.

Localized software contains some English text

The localized versions of the NetWorker software include components that have not been localized. Some strings from the operating system have also been left intentionally unlocalized. The `nsrwatch` and `nsradmin` programs are not localized.

The English language components do not affect the functionality of the software.

The only RAP value that supports non-ASCII characters is the Save Set attribute of the Client and Archive Request resources.

Fonts may not display correctly in UNIX Motif GUIs in non-english locales

If you are having trouble displaying fonts in the `nwrecover` program, for your current locale, ensure the operating system is configured to display them.

Maximum NetWorker supported path

The maximum length of the NetWorker supported path has increased to 12 KB. The number of characters supported in the path is dependent on the language of the characters *and* any specific operating system limitations.

Non-English characters require more bytes than English characters. Ensure that the filepath and directory names remain within the limits imposed by the operating system and the NetWorker software.

Man pages are in EUC encoded in Extended Unix Code (EUC)

Man pages are EUC encoded. Only EUC locales support man pages.

Display of an unsupported character in the current locale

If the NetWorker software encounters a character that is unsupported in the current locale, it replaces the character with a '?'. Previously, a 'l' was used in place of an unsupported character.

Backwards and forwards compatibility issues

The internationalization (I18N) support available with NetWorker release 7.4 is not fully compatible with NetWorker release 7.2.x or earlier. In environments where earlier releases of NetWorker are installed, some functionality might *not* be available. However, data saved on a NetWorker 7.2.x or earlier client can be restored to a NetWorker 7.4 client.

This is a list of limitations found in a NetWorker environment:

- ◆ The backup and recovery of NetWorker 7.2.x data to a NetWorker 7.4 server is supported. However, all limitations existing on pre-7.4 clients apply.
- ◆ Filenames with multibyte characters saved by using a NetWorker 7.2.x or earlier client might be displayed incorrectly. This affects filenames from both UNIX and NDMP backups.
- ◆ The user interface in NetWorker releases earlier than 7.4 incorrectly handles filenames with non-ASCII characters saved by NetWorker 7.4.
- ◆ The directed recovery of filenames that consist of non-ASCII characters between NetWorker 7.4 clients and pre-7.4 clients is unsupported. The directed recovery of data between pre-7.4 clients requires that all clients are run in the same locale.
- ◆ Data with locale encoding of the filenames not matching the locale in which the NetWorker binary is run, results in corrupted filenames on localized NetWorker. The filenames cannot be correctly recovered by the NetWorker software.

Known limitations

This section describes known limitations when using internationalized NetWorker software.

The `nwrecover` program will not start on Linux platforms for Asian Languages if the necessary fonts are not installed

LGTsc02808

The `nwrecover` program will not start on Linux platforms for Asian Languages if the necessary fonts are not installed.

Workaround

Ensure the correct fonts are installed.

The `nwrecover` program might fail to launch in UTF-8 locales on Linux platforms

LGTsc03123

The `nwrecover` program might fail to launch due to font errors in UTF-8 locales on Linux platforms.

Workaround

Perform recover operations from the command line.

Mixed locales display in NetWorker installation wizards on Windows

LGTsc04862

In the NetWorker Windows installation wizard, if you select a language for the installation language that is different than your Windows operating system language, the subsequent pages displayed in mixed locales. First, an operating system language Wizard page is displayed in your Windows operating system locale. When you click **Next**, the language switches back to the selected installation language. For example, on a Japanese Windows operating system, if you select English for the installation language, first a Japanese Wizard page is displayed. When you click **Next**, the language switches back to English.

Workaround

Use the following procedure to ensure a consistent language is used:

1. Change the **Regional** Option to a supported language.
2. Select a NetWorker installation language that is the same as the one specified in the **Regional** Option.
3. Continue the NetWorker installation.

Recovering a large number of files may take a long time in the French locales on Solaris

LGTsc05339

In the French locale on Solaris, a degradation in performance may be seen when recovering a large number of files (greater than 100,000).

To improve performance, expand the command dialog box to reveal the complete path names of the files being recovered in the output field.

Garbled characters may appear in the NetWorker Console GUI font list on Solaris

LGTsc03894

Garbled characters may appear in the NetWorker Console GUI font list for font names if the fonts do not have English names, or the localized names are not recognized by the JRE.

The font is very small in the Japanese language Configuration Client Wizard

LGTsc04756

The font is very small in the Japanese language Configuration Client Wizard.

Workaround

Manually increase the Japanese font size by editing the **NSR_WIZARD_FONT** script in the `/usr/bin/nwwiz` script to improve the character display. Edit the **NSR_WIZARD_FONT** as follows:

```
export NSR_WIZARD_FONT=Mincho
export NSR_WIZARD_FONT_SIZE=12
```

Problem with highlighted text in the NetWorker Console Help program after performing a search using JRE 1.5.x for Asian languages

LGTsc02814

Due to a known limitation with JRE 1.5.x (Sun bug 6375606), text that is highlighted in the NetWorker Console Help program after a search has been performed will not be highlighted correctly.

Entering non-ASCII characters in NetWorker user interfaces

LGTpa88887

Non-ASCII characters are supported only for the **Save Set** attribute in **Client** and **Archive Request** resources. However, user interfaces such as the NetWorker Management Console do not prevent the user from entering non-ASCII characters for other attributes in NetWorker resources.

Non-ASCII save set names are displayed incorrectly in nsradmin visual mode on Linux

LGTpa92833

Non-ASCII save set names are displayed incorrectly in **nsradmin** visual mode on Linux.

Workarounds

To work around this limitation, do one of the following:

- ◆ Use the **print nsr client** command in **nsradmin** window to view the non-ASCII save set.
- ◆ Use the Console GUI on the Linux client to view the non-ASCII save set.

Solaris 9 does not support certain non-English code sets

Solaris 9 does not support certain code sets. The Sun website has a full list of supported code sets.

The XAPPLRESDIR environment variable must be set to operate the NetWorker Console on HP-UX**LGTPa79450**

To operate the NetWorker Console on HP-UX that is running a non-English locale, the **XAPPLRESDIR** environment variable must be set as follows:

```
XAPPLRESDIR=/usr/lib/X11/app-defaults
```

Technical notes

This section describes important notes and tips for using the NetWorker software.

Open File Management on Microsoft Windows

NetWorker 7.4 Service Pack 2 clients will automatically use VSS for filesystem backups, avoiding the need for Open File Manager. A license is not required when used in conjunction with a NetWorker 7.4 Service Pack 2 server.

NetWorker clients prior to release 7.4 Service Pack 2 will also automatically use VSS for filesystems backups, whether or not the NetWorker VSS Client for Microsoft Windows is installed. However, those clients will require a NetWorker VSS Client Connection license.

Table 21 Recommended management of open files

Windows 2000 and XP	Windows 2003	Windows 2008 and Vista
No VSS is available in the operating system. For all versions of NetWorker, use Open File Manager to back up open files.	Use VSS to back up open files. <ul style="list-style-type: none"> If both client and server are using release 7.4 Service Pack 2, no VSS Client Connection license is required. If client or server are at using a release prior to 7.4 Service Pack 2, a VSS Client Connection license is required. 	Use VSS to back up open files. <ul style="list-style-type: none"> If both client and server are Windows 2008, no VSS Client Connection license is required. If the client is Windows Vista and the server is using release 7.4 Service Pack 2, no VSS Client Connection license is required. If a Windows 2008 or Vista client is used with a server using a release prior to 7.4 Service Pack 2, a VSS Client Connection license is required.

EMC NetWorker License Manager not supported on Solaris Opteron platform

The 7.4 NetWorker release does not support the EMC NetWorker License Manager on the Solaris Opteron platform.

Changing font size and enabling scrollbars in wizards

You can manually increase the font size by editing the `NSR_WIZARD_FONT` variable in the `/usr/bin/nwwiz` script to improve the character display. For example, edit the `NSR_WIZARD_FONT` as follows:

```
export NSR_WIZARD_FONT=Mincho
export NSR_WIZARD_FONT_SIZE=12
```

You can enable scrollbars for the wizard by setting the `NSR_WIZARD_USE_SCROLLBARS` variable in the `/usr/bin/nwwiz` script to **Yes** as follows:

```
export NSR_WIZARD_USE_SCROLLBARS=Yes
```

NetWorker Management Console does not support Microsoft Internet Explorer version 7.0

Microsoft Internet Explorer version 7.0 is not supported by NMC on any Windows platforms except Microsoft Vista.

A server does not support a NetWorker client running release 7.0.x or earlier

A NetWorker server does not support a NetWorker client running release 7.0.x or earlier.

Single clients or archive requests resource for UNIX non-ASCII paths support only one locale

A single Clients or Archive Requests resource supports non-ASCII UNIX paths belonging to only one locale. If you have paths in multiple locales, you must create multiple Clients or Archive Requests resource. A Clients or Archive Requests resource supports paths only from a single locale on UNIX.

Note: This limitation does not apply to Microsoft Windows paths.

VMware qualification

NetWorker release 7.4 is qualified with VMware. The VMware documentation contains the most current information on VMware support with NetWorker software.

Symbolic links are not restored during DAR recovery with NetApp

During a DAR recovery, symbolic links for files, directories, and other specific files, such as device files or named pipes, cannot be recovered. To recover these files, use the NetApp **restore** command with the **-x** option. The Network Appliance documentation has more information about the NetApp restore command.

SYSTEM save set archive unsupported on Microsoft Windows

Archiving of SYSTEM or VSS SYSTEM save sets is not currently supported.

NetWorker connections through a firewall

The **NSR_KEEPLIVE_WAIT** variable sets the timeout limit that the **nsrexecd** daemon uses to keep messages active once a connection to the NetWorker server has been established through a firewall. The period that **nsrexecd** will send keep-alive messages to **nsrexec** is adjustable by the **NSR_KEEPLIVE_WAIT** environment variable. Set this environment variable to the desired number of seconds between keep-alive wait messages. If the **NSR_KEEPLIVE_WAIT** variable is not set or is set to an invalid value, (0, a negative number, or a nonnumeric string) then no keep-alive message is sent.

Raising the maximum number of open files on Solaris 7 and 8

On Solaris 7 and 8 operating systems that run in 64-bit mode, this error message might appear in the daemon log file if the default 1,024 file descriptor hard limit is reached:

```
nsrd cannot accept any more connections - Too many open files
```

By default on Solaris 7 and 8 operating systems, the hard file descriptor limit is set to 1,024. To raise the file descriptor hard limit, you must set the **rlim_fd_max** kernel parameter to a higher value in the */etc/system* file and then reboot.

For example, to raise the open file descriptor hard limit to 4,096, include this definition in the */etc/system* file:

```
set rlim_fd_max=4,096
```

Note: Increasing the value of the **rlim_fd_max** kernel parameter impacts all running processes on the system.

NetWorker security

Technical Bulletin 372: NetWorker Security describes several circumstances that can compromise NetWorker security, and provides solutions for protecting and configuring the NetWorker environment to safeguard it against these security risks.

Technical Bulletin 372: NetWorker Security is available on the EMC website at <http://Powerlink.EMC.com>.

Pause recommended between file creation and backup with EMC IP4700

If a level 1 to 9 backup is run on an EMC IP4700 filer within five minutes of creating a file, more files than expected may be saved. For example, if a level 1 backup is run, followed by a level 2 backup, and both of these backups complete within five minutes of the file being created, the newly created file might appear on both the level 1 and level 2 backups, even though the files should only be added to the level 1 backup. To avoid this problem, wait at least five minutes after creating a file to run a backup.

Bus reset can rewind tape on Microsoft Windows

Tape devices shared by more than one computer can experience unpredictable bus resets from any of the computers. These reset commands can cause a tape on a shared bus (such as SCSI or Fibre Channel) to rewind. The results can include:

- ◆ Tapes that are prematurely treated as full.
- ◆ Corrupted data on tapes.

System configurations that do not properly protect tape devices shared by more than one computer can experience these bus resets. Some switching hardware can be configured to protect tape devices from resets. Certain operating systems include built-in protection (that can be turned on by the user) against stray bus resets.

To determine whether the switch or operating system includes such protection, and to learn how to use it, refer to the manufacturer's documentation or contact the manufacturer.

Note: Whatever solution you select *must* block the reset command from the tape drives, but must *not* block it from certain cluster-controlled disks. The reset is a necessary part of the disk arbitration process in some cluster environments. To determine whether this applies in your environment, refer to the cluster documentation.

The NetWorker software does *not* support configuring a tape device in a shared SCSI or Fibre Channel environment without using either a hardware switch or an appropriate operating system solution to handle the bus reset issue.

Microsoft does not support attaching any tape drive to any shared SCSI bus that also hosts cluster-controlled disks because of this issue.

Older versions of Intel unsupported on NetWorker software on Linux

To take advantage of IA-32 586 and 686 optimizations in the compiler, as well as the new instructions provided on these architectures, the NetWorker release 7.4 for Linux does not support older versions of Intel, such as 486.

Note: NetWorker release 6.1.x for Linux fully supports older versions of Intel architecture, including 386 and 486.

TruCluster versions 5.1Bv3 and later supported

The NetWorker software supports only TruCluster 5.1Bv3 and later.

NetWorker features unsupported for Windows NT 4.0, Windows 2000 and Windows Server 2003

These NetWorker features are unsupported on Windows:

- ◆ Directed recovery of Encrypting File Systems (EFS)
- ◆ Directed recovery of SYSTEM or VSS SYSTEM save sets
- ◆ Verified (-V) backup of the EFS
- ◆ Verified (-V) backup of SYSTEM or VSS SYSTEM save sets
- ◆ Archiving of SYSTEM or VSS SYSTEM save sets

Considerations when using an advanced file type device

The AFTD device can be deployed in varying environments with local disks, NFS and CIFS mounted/mapped disks. Operation of this feature is affected by the configuration. Ensure that the AFTD is fully operational in the production environment before you deploy it as part of regularly scheduled operations.

As part of the validation process, include these tests:

- ◆ Backup
- ◆ Recover
- ◆ Staging
- ◆ Cloning
- ◆ Maximum file-size compatibility between the operating system and a disk device
- ◆ Device behavior when the disk is full

Some versions of NFS or CIFS drop data blocks when a file system becomes full. Use versions of NFS, CIFS, and operating systems that fully interoperate and handle a full file system in a robust manner.

On some disk devices, the volume labeling process may take longer than expected. This extended labeling time depends on the type of disk device being used and does not indicate a limitation of the NetWorker software.

The upper limits of save set size depend on the upper limits supported by the operating system or the file size specified by the disk device vendor.

Disable a driver before configuring an a media library if the driver was automatically installed on Microsoft Windows 2000 or Server 2003

On a Windows 2000 or Server 2003 operating system, if a driver is automatically installed for a media library, first disable the driver before configuring a media library using the NetWorker software.

This does not apply to media library configured as RSM autochangers. Media libraries configured as RSM works with media library driver enabled.

Enabling a NetWare 4.22 clients on Windows

Support for a NetWare client is controlled by the environment variable **NSR_SUPPORT_NetWare_4X**. By default, the supported is disabled. To enable support for NetWare clients set the server system environment variable **NSR_SUPPORT_NetWare_4X** to 1:

1. Open **Control Panel** and select **System**.
2. In **System Properties** attribute, select the **Advanced** tab.
3. Select the **Environment Variables** option. A new window will appear called **System Variables**.
4. Click **New**.
 - a. Enter **NSR_SUPPORT_NetWare_4X** for the **Variable Name**.
 - b. Enter **1** for the **Variable Value**.
5. Reboot the computer.
6. Open a command prompt window and type this command:

```
set NSR_SUPPORT_NetWare_4X=1
```

When NetWare support is enabled and a NetWare client establishes connection with the **nsrd** process, this message will appear in the daemon log file:

```
Support for NetWare clients is enabled
```

Adjusting client parallelism to decrease VSS backup failures on Microsoft Windows

If VSS is licensed and enabled and timeout failures occur when backing up save sets, try decreasing the value of the client Parallelism setting.

During a VSS backup, a snapshot is taken of each specified save set. The client Parallelism setting determines how many snapshots are taken concurrently. Since snapshots consume system resources, the more snapshots that are taken concurrently, the more likely it is that a snapshot will fail.

After a failed attempt, NetWorker software waits ten minutes before attempting another snapshot, as recommended by Microsoft. After three unsuccessful snapshot attempts, the backup of the save set fails.

When backing up a large number of save sets, decreasing the value of the client Parallelism helps to ensure successful snapshots.

Using the NSR_NDMP_RESTORE_LIMIT environment variable on Microsoft Windows

The **NSR_NDMP_RESTORE_LIMIT** environment variable is used to limit memory consumption during recoveries involving a large number of index entries (millions). This is specifically useful if there is not enough swap space or memory for the number of index entries selected for the recovery. If the variable is not set, the recovery might fail with this error message:

```
out of memory
```

To avoid a failure:

1. In the NetWorker startup script, set the **NSR_NDMP_RESTORE_LIMIT** environment variable to an appropriate value.
2. The value of the **NSR_NDMP_RESTORE_LIMIT** environment variable determines the maximum number of entries that the **recover** program can allocate memory to. For example, if the total number of entries is 3 million, then the **NSR_NDMP_RESTORE_LIMIT** can be set to 50,000 or 1,000,000, but less than 3,000,000.
3. In the **NetWorker Administration** window, select **Recover**.
4. Select the files to recover, and click **OK**.

The recovery is divided into multiple recoveries, where each has the **NSR_NDMP_RESTORE_LIMIT** entries successfully recovered in their respective sessions.

Manually removing data left behind from a partial uninstall of NetWorker software on Microsoft Windows

When performing a partial uninstall of the NetWorker software by using the **Add/Remove Programs** option in the Windows Control Panel, if **Change** is selected, certain folders, files, and registry keys remain on the system. This occurs when the **Remove NetWorker Metadata** checkbox was left unselected.

To remove this data:

1. Open Windows Explorer, and delete %SystemDrive%\Program Files\Legato\nsr.
2. Open the Windows Registry Editor, and delete <\\HKEY_CURRENT_USER\Software\Legato>.

If **Remove** is selected, the checkbox will not appear and a partial uninstall is performed.

Client retries setting with VMware Consolidated Backups

When using NetWorker software with VMware Consolidated Backups (VCB), the Client Retries attribute for Group resources should be set to 0. If Client Retries is set to any value higher than 0 and the backup fails, the NetWorker software will retry the backup regardless of the state of the VCB backup itself. This can result in the VMware utility generating errors such as "mount point already exists" or "backup snapshot already exists."

Change to save set expiration time

For NetWorker releases 7.3.x and later, when a save set reaches its scheduled browse or retention policy deadline (the day when the save set expires or becomes no longer browsable), the time of expiration on that day is 23:59:59 (11:59:59 pm). For NetWorker releases 7.2.x and earlier, the time of expiration for the save set matches the time of day the save set was originally created.

For example, if a save set was backed up on May 1, 2005 at 1:00 pm and the browse or retention policy is set to 5 years, with NetWorker releases 7.2.x and earlier, the save set would have expired on May 1, 2010 at 1:00 pm. With NetWorker releases 7.3.x and later, the save set will expire on May 1, 2010 at 11:59:59 pm.

Documentation

This sections describes documentation and any documentation corrections and/or additions to the 7.4 NetWorker release:

- ◆ [“Related documentation” on page 143](#)
- ◆ [“Documentation errata” on page 143](#)

Related documentation

The following documents contain more information on the NetWorker software:

- ◆ *EMC NetWorker Release 7.4 Service Pack 1 Multiplatform Version Administration Guide*
- ◆ *EMC NetWorker Release 7.4 Service Pack 1 Multiplatform Version Installation Guide*
- ◆ *EMC NetWorker Release 7.4 Service Pack 1, Multiplatform Version Disaster Recovery Guide*
- ◆ *EMC NetWorker Command Reference Guide*
- ◆ *EMC NetWorker Error Message Guide*
- ◆ *EMC NetWorker Cross-Platform Version Performance Tuning Guide*
- ◆ *EMC NetWorker License Manager Installation and Administration Guide*
- ◆ *EMC NetWorker License Manager Release Notes*
- ◆ UNIX man pages
- ◆ Software compatibility guide

Documentation errata

The following sections outline documentation and corrections to the NetWorker release 7.4 Service Pack 3, Service Pack 2, Service Pack 1, and NetWorker release 7.4 documentation.

Documentation errata for the NetWorker release 7.4 Service Pack 3 documentation

The following section outlines documentation corrections and/or additions to the NetWorker release 7.4 Service Pack 3.

nsrauth (strong authentication) is enabled by default for authentication, not oldauth

The *EMC NetWorker Release 7.4 Service Pack 1 Administration Guide* indicates on page 457 that **oldauth** is enabled by default for authentication. **Oldauth** is still supported, but **nsrauth** is now enabled by default. The paragraph should read:

“For compatibility with earlier NetWorker releases, **oldauth** authentication is supported. If two hosts cannot authenticate by using **nsrauth** (strong authentication), which is enabled by default, then **oldauth** can be tried. The authentication strength that is allowed for any host relationship can be specified. “

Incorrect information for installing a JRE on Solaris in the NetWorker Installation Guide

The *EMC NetWorker Installation Guide* indicates on page 104 the wrong command to install a JRE on Solaris. The correct command is:

c. Run the following script:

```
tmpdir/jre-1_5_0_11-solaris-sparc.sh
```

Documentation errata for the NetWorker release 7.4 Service Pack 2 documentation

The following section outlines documentation corrections and/or additions to the NetWorker release 7.4 Service Pack 1.

NDMP client license support for connecting media library to NAS

The following note should be added to the *EMC NetWorker Release 7.4 Service Pack 1 Multiplatform Version Administration Guide* on page 515 under Prerequisites for Tape server support for NDMP client backup:

Note: NDMP devices do not require separate Storage Node modules when configured in a local and/or 3-way configurations.

Clarification of the syntax for the recover command with the -U option

The *EMC NetWorker Release 7.4 Service Pack 1 Multiplatform Version Administration Guide* should contain clarification regarding the supported syntax for the **recover** command with the **-U** option. Page 605 describes by using the **-U** option to perform an authoritative restore of the ADAM or DFS Replication writers. This section should include the following information:

When using the **-U** option, you must specify one, and only one, writer. The following are *not* supported:

- ◆ No writer specified, for example:

```
recover -s server -U -N "VSS USER DATA:\"
```

- ◆ More than one writer specified, for example:

```
recover -s server -U -N "VSS USER DATA:\ADAM (Address Book)
Writer;DFS Replication service writer"
```

Documentation errata for the NetWorker release 7.4 Service Pack 1 documentation

The following section outlines documentation corrections and/or additions to the NetWorker release 7.4 Service Pack 1.

The recover -U command not documented in man page or Command Reference Guide

The **-U** command line option for the **recover** command is not documented in the **recover** man page or the *EMC NetWorker Command Reference Guide* for NetWorker release 7.4 Service Pack 1.

The **-U** option instructs the NetWorker software to perform an authoritative restore of the DFS Replication service writer.

The syntax to restore the writer from the command line is:

```
recover -s <server name></server> -U -N "VSS USER DATA:\DFS
Replication service writer
```

Note: Authoritative restores of the DFS Replication service writer can only be performed from the command line; restores of the DFS Replication service writer performed from the NetWorker User graphical interface will be nonauthoritative.

Addition to EMC AutoStart Installation Instructions

The following information should be added to the *EMC NetWorker Release 7.4 Service Pack 1 Multiplatform Version Cluster Installation Guide* instructions for installing NetWorker in EMC AutoStart environments:

Add the virtual hostnames to the hosts ## file on each cluster node (located in %SystemRoot%\system32\drivers\etc).

This should be added to instructions on page 24, section "Task 5: Define the NetWorker server as highly available," and page 28, section "Task 2: Configure NetWorker client software as highly available."

Incorrect instructions for recovering MSCS Cluster service

On page 330 of the *EMC NetWorker Release 7.4 Service Pack 1 Multiplatform Version Administration Guide*, information in table 51 for preparing for recovery of the cluster service is incorrect. This should read:

Shut down the cluster service on any nodes in the cluster on which the service is running, *except* for the node on which the recover will be performed. To shut down the cluster service, do one of the following:

- ◆ Type the **net stop clussvc** command at the command prompt.
- ◆ Use the Microsoft Computer Management program.

Documentation errata for the NetWorker release 7.4 documentation

The following section outlines any documentation corrections and/or additions to the NetWorker release 7.4.

Incorrect information on storage nodes supported with servers in NetWorker Installation Guide

The *EMC NetWorker Installation Guide* indicates the following on page 42:

"A NetWorker storage node release 7.4 and later is not compatible with a NetWorker server earlier than release 7.4. Update the NetWorker servers before updating a storage node."

This information is incorrect. A NetWorker 7.4 and later storage node is supported with a NetWorker 7.3.x server.

nsrmm command documentation does not reflect proper command syntax

The *EMC NetWorker Administration Guide* and the *EMC NetWorker Command Reference Guide* do not specify the proper syntax for the **nsrmm** command. The examples currently provide the short name ssid (10 characters), when the long name ssid (53 characters) is more commonly used and is guaranteed to be unique.

The long format of ssid can be obtained by running the **mminfo** command with **-r "ssid(53)"**. The **mminfo** man page provides more details for performing a query and report of a saveset record in long format.

Incorrect default maximum log file size

In all non-English versions of the *EMC NetWorker Administration Guide*, as well as all versions of the online help, the section "Message log management," in Chapter 18, NetWorker Server Management, contains an incorrect default value for the maximum log file size.

The documentation states the default size is 1,024 KB. The correct value is 2 MB.

NO_SUPRESS option no longer supported

The *EMC NetWorker Command Reference Guide* and the `savegrp` man page incorrectly identify the `NO_SUPRESS` option as supported. In NetWorker software release 7.3.x and later, `savegroup` does not support the `NO_SUPPRESS` option.

Error message on SuSE 10 (x86) for Failed Dependencies

A new error message has been added for failed dependencies on the SuSE 10 x86 platform. This is currently not documented in the *EMC NetWorker Error Message Guide*. This error occurs if the required version of the `pdksh` package is not installed. The following is displayed:

```
error: Failed dependencies:
/bin/ksh is needed by lgtoclnt-7.4-1
```

The resolution is to install `pdksh-5.2.14-801.i586.rpm`, which can be downloaded from the SuSE/Novell website.

You could alternatively install the packages with the `--nodeps` option.

Changes to the NetWorker Administration Guide Message log management section

Because the `NSR_MAXLOGSIZE` environment variable is not supported in NetWorker release 7.4 and later, the Message log management section in Chapter 17 of the *EMC NetWorker Release 7.4 Multiplatform Version Administration Guide* should be replaced with the following:

Message log management

The NetWorker server stores the messages generated by the NetWorker server daemons in a message:

On Windows: `<NetWorker_install_dir>\logs`

On UNIX: `/nsr/logs`

You can use control the size of the log files by changing the maximum size of log files in the NSRLA database. When the maximum size is reached, the log file is renamed and a new log file is started. The maximum number of versions of log files can also be set in the NSRLA database.

To change the maximum size and versions of a log file

1. Log in as root or as Windows administrator on the NetWorker client or server on which the log files are stored.
2. Type this at the command prompt:

```
nsradmin -p nsrexec
```

The `nsradmin` prompt appears.

3. To display a list of all available log file resources:
 - a. Type the following at the nsradmin prompt:
. type: NSR log
 - b. Next, type the following:
print
A list of all available log file resources will be displayed.
4. Select the appropriate log file resource for editing by typing the following at the nsradmin prompt:
. type: NSR log; name: *log_file_name*
For example, to select the daemon.raw file, type the following:
. type: NSR log; name: daemon.raw
5. Set the following attributes to determine the maximum size and number of versions of the log file:
 - **maximum size MB:** The maximum size, in megabytes, for the log file. After this size has been reached, the existing log file is renamed, up to the number of log files defined in the maximum versions attribute, and a new log file is created.
 - **maximum versions:** The maximum number of versions of the log file that should be saved.

Installation

This section provides information on installing and updating the NetWorker software.

- ◆ [“NetWorker Release 7.4 Service Pack 3” on page 148](#)
- ◆ [“NetWorker Release 7.4 Service Pack 1” on page 175](#)

NetWorker Release 7.4 Service Pack 3

This section provides information on installing and updating the NetWorker Release 7.4 Service Pack 3 software:

- ◆ [NetWorker client location and space requirements 148](#)
- ◆ [Veritas Cluster Server 5.0 installation 149](#)
- ◆ [Microsoft Failover Cluster on Windows Server 2008 installation 161](#)
- ◆ [Bare Metal Recovery \(BMR\) installation and administration 171](#)

NetWorker client location and space requirements

This section specifies the location and space requirements for the NetWorker client software for NetWorker Release 7.4 SP3.

Microsoft Windows

[Table 22 on page 148](#) specifies the location and space requirements for the NetWorker client software in a Microsoft Windows environment.

Table 22 Microsoft Windows location and space requirements

NetWorker files	Location	Space		
		x86	x64	ia64
NetWorker client files and NetWorker catalog	Legato\nsr\	110 MB	110 MB	110 MB
EMC HomeBase agent binary	Legato\HomebBaseAgent\	400 MB	400 MB	not applicable
Temporary space required for EMC HomeBase agent	%TEMP%	400 MB	400 MB	not applicable

Linux

[Table 23 on page 148](#) specifies the location and space requirements for the NetWorker client software in a Linux environment.

Table 23 Linux location and space requirements

NetWorker files	Location	Space		
		x86	x64	ia64
NetWorker client files and NetWorker catalog	/usr/bin /usr/sbin /usr/lib/nsr /opt/nsr	110 MB	110 MB	110 MB

Table 23 Linux location and space requirements

NetWorker files	Location	Space		
		x86	x64	ia64
EMC HomeBase agent binary	/opt/homebase-agent/	400 MB	400 MB	not applicable
Temporary space required for EMC HomeBase agent	/tmp	400 MB	400 MB	not applicable

Solaris location and space requirements

Table 24 on page 149 specifies the location and space requirements for the NetWorker client software in a Solaris environment.

Table 24 Solaris location and space requirements

NetWorker files	Location	Space		
		Sparc	x86	amd64
NetWorker client files and NetWorker catalog	/usr/bin /usr/sbin /usr/lib/nsr /opt/nsr	200 MB	200 MB	200 MB
EMC HomeBase agent binary	/opt/homebase-agent/	440 MB	not applicable	not applicable
Temporary space required for EMC HomeBase agent	/tmp	440 MB	not applicable	not applicable

Veritas Cluster Server 5.0 installation

NetWorker release 7.4 Service Pack 3 introduces NetWorker client support for Veritas Cluster Server 5.0 (VCS) on Solaris, Linux, and Microsoft Windows 2003.

The topics include:

- ◆ [“Software requirements” on page 149](#)
- ◆ [“Installing only the NetWorker client software in a cluster” on page 150](#)
- ◆ [“How to hasten NetWorker software operations within large VCS configurations” on page 160](#)
- ◆ [“Uninstalling the NetWorker software” on page 160](#)

Software requirements

Ensure that the following software is installed on each node in the cluster:

- ◆ Veritas Cluster Server
- ◆ NetWorker release 7.4 SP3
- ◆ Veritas Volume Manager VxVM (optional)
- ◆ Veritas File System VxFS (optional)

The *EMC Information Protection Software Compatibility Guide* provides the most up-to-date software and hardware requirements.

Note: A stand-alone or highly available (virtual) NetWorker server is *not* supported in the cluster. The NetWorker server must be outside the cluster. Virtual storage nodes and a highly available NetWorker Management Console server are also *not* supported in the cluster.

Installing only the NetWorker client software in a cluster

The installation procedures differ for Windows, Linux, and Solaris:

- ◆ [“Windows installation” on page 150](#) provides information on how to install the NetWorker client software on Windows.
- ◆ [“Linux and Solaris installation” on page 155](#) provides information on how to install the NetWorker client software on Linux and Solaris.

Windows installation

In this configuration, the NetWorker server is running on a node that is not a member of the cluster.

To install the NetWorker client on the cluster node, read and follow the procedures for these tasks:

- ◆ [“Task 1: Install the NetWorker client software” on page 150](#)
- ◆ [“Task 2: Configure the NetWorker client software as cluster aware” on page 150](#)
- ◆ [“Task 3: Register the NWClient resource type” on page 151](#)
- ◆ [“Task 4: Define the list of trusted NetWorker servers” on page 153](#)
- ◆ [“Task 5: Configure clients under the NetWorker server” on page 153](#)
- ◆ [“Task 6: Verify that the Client and Group resources have been configured” on page 154](#)

Note: Ensure the NetWorker client software is installed on every physical node in the cluster to be backed up.

Task 1: Install the NetWorker client software

To install the NetWorker client software on each node in the cluster:

1. Ensure that the operating system is updated with the most recent cluster patch.
2. Install the NetWorker client software on the physical disk of each node in the cluster to be backed up.

Task 2: Configure the NetWorker client software as cluster aware

On each node in the cluster:

1. Log in as **administrator** on each node.
2. Ensure that the `C:\WINDOWS\system32\drivers\etc\hosts` file contains the name of the virtual hosts.

The virtual hostnames can be published in the Domain Name System (DNS) or Network Information Services (NIS).

3. Run the cluster configuration program, `<NSR_BIN>\lc_config.exe`.

This script creates the NWClient resource type that may need to be added later to the Veritas Cluster Server configuration.

In response to the prompt, enter the location where the Veritas Cluster Server is to be installed:

```
Enter the directory in which your Veritas Cluster Server software
is installed (typically something like C:\Program Files
\Veritas\cluster server):
```

Note: Any changes to the configuration can be undone by running the `lc_config.exe -r` option and then running the `lc_config.exe` again.

Task 3: Register the NWClient resource type

You might need to configure an instance of the NetWorker Client resource type (NWClient) for virtual clients that own data on shared devices. Virtual clients in the Veritas Cluster Server are IP type resources.

Depending on the Veritas Cluster service group configuration, this task might not be required. Create an instance of the NWClient resource type in Veritas Cluster service groups that:

- ◆ Contain raw devices or logical volumes to back up.
- ◆ Contain more than one IP type resource.
- ◆ Are parallel with one or more IP type resources.

Creating an instance of NWClient resource type is optional if the following conditions exist:

- ◆ The failover Veritas Cluster service group has only one IP type resource.
- ◆ The owned file systems on the shared devices are instances of the mount type resource contained in the same service group.

Check the Veritas Cluster Server configuration to determine which, if any, service groups require one or more NWClient resources. If no such groups require NWClient resources, proceed to [“Task 4: Define the list of trusted NetWorker servers” on page 153](#).

About NWClient resources

Before performing this task, review the information in this section to become familiar with the structure of an NWClient resource.

The NWClient resource type definition is:

```
type NWClient
static str ArgList[] = { IPAddress, Owned_paths }
NameRule = NWClient_ + resource.IPAddress
static str Operations = None
str IPAddress
str Owned_paths[])
```

Table 25 on page 152 describes the required NWClient resource attributes.

Table 25 NWClient resource required attributes

Required attributes	Type and dimension	Definition
IPAddress	string, scalar	IP address of the virtual NetWorker client. An IP type resource with a matching Address attribute must exist in the service group.
Owned_paths	string, vector	A list of file systems or raw devices on a shared storage device. These file systems or raw devices are owned by the virtual NetWorker client specified by the IP Address attribute.

Example 1 NWClient resource sample configuration

The following is a sample of a configured NWClient resource:

```
NWClient nw_helene
IPAddress="137.69.104.251"
Owned_paths={ "S:\shared1", "T:\shared2" }
```

Register the NWClient resource and create NWClient resource instances

This section describes how to register the NWClient resource and create NWClient resource instances.

To register the resource type and create resource instances:

1. Save the existing Veritas Cluster Server configuration and prevent further changes while **main.cf** is modified:

```
haconf -dump -makero
```

2. Stop Veritas Cluster Server on all nodes and leave the resources available:

```
hastop -all -force
```

3. Make a backup copy of the main.cf file:

```
cd C:\Program Files\Veritas\cluster server\conf\config
cp main.cf main.cf.orig
```

4. Copy the NWClient resource definition file, which is located in the Veritas Cluster Server configuration directory:

```
cp C:\Program Files\Veritas\cluster server\conf\NWClient.cf
C:\Program Files\Veritas\cluster server
\conf\config\NWClient.cf
```

5. Add the following include statement to the main.cf file and then close and save the file:

```
include "NWClient.cf"
```

6. Verify the syntax of the file, *C:\Program Files\Veritas\cluster server\conf\config\main.cf*:

```
hacf -verify config
```

7. Start the Veritas Cluster Server engine:

```
hastart
```

8. Log in to the remaining nodes in the cluster and start the Veritas Cluster Server engine:

```
hastart
```

9. Verify the status of all the service groups:

```
hagrps -display
```

10. Add the NWClient resource instance to each service group that has an IP type resource and either of the following on shared storage:

- File systems
- Raw devices

Task 4: Define the list of trusted NetWorker servers

Before a NetWorker server can back up a client, the client must grant the server access. Granting access is controlled by the `servers` file.

To define the list of trusted NetWorker servers, perform the following steps on each node in the cluster:

1. Edit or create the `%SystemDrive%\Program Files\Legato\nsr\res\servers` file.
2. Add the NetWorker servers, one per line, that require access to this client.

Note: If the `%SystemDrive%\Program Files\Legato\nsr\res\servers` file is empty or does not exist, any NetWorker server is authorized to:

- Access and back up the client.
- Perform a directed recovery to the client.

Task 5: Configure clients under the NetWorker server

To configure the NetWorker server:

1. (Optional) Define save groups.
2. Make each physical client within the cluster a client of the NetWorker server.

For each physical client in the cluster:

- a. Create a new client.
- b. For the **Name** attribute, type the name of the physical client.

3. Make each virtual client within the cluster a client of the physical client.

For each virtual client in the cluster:

- a. Create a new client.
- b. For the **Name** attribute, type the name of the NetWorker server.
- c. For the **Remote Access** attribute, enter the `user@hostname` of each physical node within the cluster.
- d. For the **Group** attribute, select a group.

Note: The first time the NetWorker application runs, it creates the Client resource for the NetWorker virtual server.

4. To back up a NetWorker Windows client that has multiple domains that are part of both an Active Directory domain, and a DNS domain, perform one of the following steps:
 - Define the Active Directory domain name, which is the Full Computer Name, in the NetWorker server's */etc/hosts* file.
 - Define the AD domain, which is the Full Computer Name, in the Active Directory DNS. Also, on the NetWorker server, open the Client resource and add the Full Computer Name in the alias list.
5. Schedule backups by using the NetWorker application.

Task 6: Verify that the Client and Group resources have been configured

To verify that the Client and Group resources on the NetWorker server are properly configured, run a test probe for each client from the node where the NetWorker server is running:

```
savegrp -pv -c client_name group_name
```

If the test probe does not display all the scheduled save sets:

- ◆ Check the cluster configuration by using the cluster management software. If necessary, reconfigure the cluster.
- ◆ Ensure that the save sets defined for the client are owned by that client. If necessary, redistribute the client save sets to the appropriate **Client** resources.

Note: Misconfiguration of the Cluster resources might cause scheduled save sets to be dropped from the backup. The *EMC NetWorker Administration Guide* provides more information.

- ◆ Type this command to override scheduled save rules:

```
echo NUL: NetWorker_bin_dir\pathownerignore
```

This command allows any path to be backed up for a client, whether it is owned by the virtual client or physical node. The *EMC NetWorker Administration Guide* provides more information.

- ◆ Run a second test probe to verify the configuration.

If the **pathownerignore** file was used, check that the NetWorker scheduled save uses the correct client index. If the wrong index is used, the save sets can be forced to go to the correct index:

1. From the NetWorker **Administration** window, select a client and edit its properties.
2. For the **Backup Command** attribute, type the name of a backup script that contains

```
save -c client_name
```

The *EMC NetWorker Administration Guide* provides details about the **Backup Command** attribute.

Linux and Solaris installation

In this configuration, the NetWorker server is running on a node that is not a member of the cluster.

To install the NetWorker client software on the cluster node, perform the following:

- ◆ [“Task 1: Install the software” on page 155](#)
- ◆ [“Task 2: Configure NetWorker client software as cluster aware” on page 155](#)
- ◆ [“Task 3: Register the NWClient resource type” on page 156](#)
- ◆ [“Task 4: Define the list of trusted NetWorker servers” on page 158](#)
- ◆ [“Task 5: Configure clients under the NetWorker server” on page 158](#)
- ◆ [“Task 6: Verify that the Client and Group resources have been configured” on page 159](#)

Note: Ensure the NetWorker client software is installed on every physical node in the cluster to be backed up.

Task 1: Install the software

To install the software:

1. Ensure that the operating environment and the Veritas Cluster Server software are already installed and configured on all cluster nodes.
2. If the Veritas Cluster Server installation and configuration directories are different from the default directories, set the following environment variables:
 - VCS_HOME
The default directory is `/opt/VRTSvcs`.
 - VCS_CONF
The default directory is `/etc/VRTSvcs`.
3. Ensure that the PATH environment variable includes the following:


```
/usr/sbin
$VCS_HOME/bin
```

The default directory is `/opt/VRTSvcs/bin`.
4. Install the NetWorker client software on the physical disk of each node in the cluster to be backed up.

Note: For the installation prompt, do *not* press **Enter** or **select All**. Accepting the **All** response installs the server package.

Task 2: Configure NetWorker client software as cluster aware

To define and configure a NetWorker client as cluster aware:

1. Log in as root on each node where the NetWorker software is being installed.
2. On each cluster node in the cluster, ensure that the following file contains the name of the virtual hosts:

`/etc/hosts`

The virtual hostnames can be published in the Domain Name System (DNS) or Network Information Services (NIS).

- For each node in the cluster, run the cluster configuration script:

```
/usr/sbin/networker.cluster
```

This script creates the NWClient resource type that might need to be added later to the Veritas Cluster Server configuration.

```
Enter directory where local NetWorker database is installed
[/nsr]?
```

In response to the prompt, type the location of the local NetWorker database directory provided during the installation procedure. For example:

```
/space/nsr
```

Note: Any changes to the configuration can be undone by running the **networker.cluster -r** option and then running the **networker.cluster** script again.

Task 3: Register the NWClient resource type

You might need to configure an instance of the NetWorker Client resource type (NWClient) for virtual clients that own data on shared devices. Virtual clients in the Veritas Cluster Server are IP type resources.

Depending on the Veritas Cluster service group configuration, this task might not be required. Create an instance of NWClient resource type in Veritas Cluster service groups that:

- ◆ Contains raw devices or logical volumes to back up.
- ◆ Contains more than one IP type resource.
- ◆ Is parallel with one or more IP type resources.

Creating an instance of NWClient resource type is optional if the following conditions exist:

- ◆ The failover Veritas Cluster service group has only one IP type resource.
- ◆ The owned filesystems on the shared devices are instances of the mount type resource contained in the same service group.

Check the Veritas Cluster Server configuration to determine which, if any, service groups require one or more NWClient resources. If no such groups require NWClient resources, proceed to [“Task 4: Define the list of trusted NetWorker servers” on page 158](#).

About NWClient resources

Before performing this task, review the information in this section to become familiar with the structure of an NWClient resource.

The NWClient resource type definition is:

```
type NWClient
static str ArgList[] = { IPAddress, Owned_paths }
NameRule = NWClient_ + resource.IPAddress
static str Operations = None
str IPAddress
str Owned_paths[])
```

Table 26 on page 157 describes the required NWClient resource attributes.

Table 26 NWClient resource required attributes

Required attributes	Type and dimension	Definition
IPAddress	string, scalar	IP address of the virtual NetWorker client. An IP type resource with a matching Address attribute must exist in the service group.
Owned_paths	string, vector	A list of file systems or raw devices on a shared storage device. These file systems or raw devices are owned by the virtual NetWorker client specified by the IP Address attribute.

Example 2 NWClient resource sample configuration

The following is a sample of a configured NWClient resource:

```
NWClient nw_helene
IPAddress="137.69.104.251"
Owned_paths={ "/shared1", "/shared2", "/dev/rdisk/c1t4d0s4" }
```

Register the NWClient resource and create NWClient resource instances

This section describes how to register the NWClient resource and create NWClient resource instances.

To register the resource type and create resource instances:

1. Save the existing Veritas Cluster Server configuration and prevent further changes while **main.cf** is modified:

```
haconf -dump -makero
```

2. Stop the Veritas Cluster Server software on all nodes and leave the resources available:

```
hastop -all -force
```

3. Make a backup copy of the **main.cf** file:

```
cd /etc/VRTSvcs/conf/config
cp main.cf main.cf.orig
```

4. Copy the NWClient resource definition file that is in the Veritas Cluster Server configuration directory:

```
cp /etc/VRTSvcs/conf/NWClient.cf /etc/VRTSvcs
/conf /config/NWClient.cf
```

5. Add the following include statement to the main.cf file and then close and save the file:

```
include "NWClient.cf"
```

6. Verify the syntax of the file, */etc/VRTSvcs/conf/config/main.cf*:

```
hacf -verify config
```

7. Start the Veritas **Cluster Server** engine:

```
hastart
```

8. Log in on the remaining nodes in the cluster and start the Veritas **Cluster Server** engine:

```
hastart
```

9. Verify the status of all service groups:

```
hagrp -display
```

10. Add the NWClient resource instance to each service group that has an IP type resource and either of the following on the shared storage:

- File systems
- Raw devices

Task 4: Define the list of trusted NetWorker servers

Before a NetWorker server can back up a client, the client must grant the server access. Granting access is controlled by the servers file.

Note: If the `/nsr/res/servers` file is empty or does not exist, any NetWorker server is authorized to:

- Access and backup the client.
 - Perform a directed recovery to the client.
-

To define the list of trusted NetWorker servers, perform the following steps on each node in the cluster:

1. Shut down the NetWorker processes and verify that all daemons have stopped:

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

2. Edit or create the `/nsr/res/servers` file and add the set of NetWorker servers, one per line, that require access to this client.
3. Check the NetWorker boot-time startup file to see whether `nsrexecd` is being run with the `-s` option. If the `-s` option exists, remove all occurrences. For example:

```
-s servername
```

4. Restart the NetWorker daemons:

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

Task 5: Configure clients under the NetWorker server

To configure each client under the NetWorker server:

1. (Optional) Define save groups.
2. Make each physical client within the cluster a client of the NetWorker server.
For each physical client in the cluster:
 - a. Create a new client.
 - b. For the **Name** attribute, type the name of the physical client.
3. Make each virtual client within the cluster a client of the NetWorker server.
For each virtual client in the cluster:
 - a. Create a new NetWorker client.
 - b. For the **Name** attribute, type the name of the virtual client.

- c. For the **Remote Access** attribute, add entries for each physical client within the cluster. For example:

```
root@clus_phys1
```

- d. For the **Group** attribute, select a group.

Note: The first time the NetWorker application runs, it creates the Client resource for the NetWorker virtual server.

4. Schedule backups by using the NetWorker application.

Task 6: Verify that the Client and Group resources have been configured

To verify that the Client and Group resources are properly configured, run a test probe for each client from the node where the NetWorker application is running:

```
savegrp -pv -c client_name group_name
```

If the test probe does not display all the scheduled save sets:

- ◆ Check the cluster configuration by using the cluster management software. If necessary, reconfigure the cluster.
- ◆ Ensure that the save sets defined for the client are owned by that client. If necessary, redistribute the client save sets to the appropriate **Client** resources.

Note: Misconfiguration of the Cluster resources might cause scheduled save sets to be dropped from the backup. The *EMC NetWorker Administration Guide* provides more information.

- ◆ Type this command to override scheduled save rules:

```
touch networker_bin_dir/pathownerignore
```

This command allows any path to be backed up for a client, whether it is owned by the virtual client or physical node. The *EMC NetWorker Administration Guide* provides more information.

- ◆ Run a second test probe to verify the configuration.

If the **pathownerignore** file was used, check that the NetWorker scheduled save uses the correct client index.

If the wrong index is used, the save sets can be forced to go to the correct index:

1. From the NetWorker **Administration** window, select a client and edit its properties.
2. For the **Backup Command** attribute, type the name of a backup script that contains

```
save -c client_name
```

The *EMC NetWorker Administration Guide* provides details about the **Backup Command** attribute.

How to hasten NetWorker software operations within large VCS configurations

Use the `NSR_CLU_CACHE_TIMEOUT` environment variable to hasten NetWorker startup and the running of NetWorker applications, such as `save`. The `NSR_CLU_CACHE_TIMEOUT` environment variable allows the NetWorker software to cache queries of the VCS configuration information.

If NetWorker software performance slows down because of a large number of resources and resource groups configured in VCS, on each node in the cluster, set the `NSR_CLU_CACHE_TIMEOUT` environment variable to a certain number (in seconds). The cache will not be used if this variable is not set or is set incorrectly.

Uninstalling the NetWorker software

The procedure to uninstall the NetWorker software from a cluster environment differs for Windows and UNIX.

Uninstalling on Windows

To uninstall the NetWorker software from a cluster environment:

1. On one node in the cluster, remove all the instances of the NWClient resource type and remove the NWClient type definition from the configuration.
2. On each node in the cluster:
 - a. Log in as administrator on the computer from which the software is being removed.
 - b. Undo all changes to the configuration by running the following:

```
lc_config.exe -r
```

Uninstall the NetWorker client software from each node. The NetWorker Installation Guide provides instructions.

Uninstalling on Solaris and Linux

To uninstall the NetWorker software from a cluster environment:

1. On one node in the cluster, remove all the instances of the NWClient resource type and remove the NWClient type definition from the configuration.
For information, refer to the **hares (1m)** and **hatype(1m)** man pages.
2. On each node in the cluster:
 - a. Log in as root on the computer from which the software is being removed.
 - b. Undo all changes to the configuration by running the **networker.cluster -r** option.
 - c. To shut down the NetWorker daemons, type:

```
nsr_shutdown
```

A list of NetWorker daemons to be shut down appears, and you are prompted whether to continue.

3. To uninstall a single NetWorker software package or all of the NetWorker packages simultaneously, type:

- For Linux:

```
rpm -e lgtoman-x.x.x lgtolicm-x.x.x lgtoserv-x.x.x lgtonode-x.x.x lgtoclnr-x.x.x
```

- For Solaris:

```
pkgrm LGToman LGToserv LGTOnode LGTonmc LGTolicm LGTOclnt
```

Note: where *x.x.x* identifies the specific NetWorker release.

Microsoft Failover Cluster on Windows Server 2008 installation

NetWorker release 7.4 Service Pack 3 introduces support for Microsoft Failover Cluster on Windows Server 2008.

The topics include:

- ◆ [“Installation requirements” on page 161](#)
- ◆ [“Installing the NetWorker software in a Microsoft Failover Cluster environment” on page 161](#)
- ◆ [“Installing only the NetWorker client software” on page 167](#)
- ◆ [“Uninstalling the NetWorker software in a Microsoft Failover Cluster environment” on page 169](#)

Installation requirements

Ensure that the following software is installed on each node in the cluster:

- ◆ Microsoft Windows Server 2008, Standard, Enterprise, and Datacenter Editions, 32-bit or x64 version
- ◆ NetWorker release 7.4 SP3

The *EMC Information Protection Software Compatibility Guide* provides the most up-to-date software and hardware requirements.

Note: In Windows Server 2008, Failover Cluster Management is the new name for the Cluster Administrator program provided in Windows Server 2003.

Installing the NetWorker software in a Microsoft Failover Cluster environment

See these sections to install the NetWorker software in Microsoft Failover Cluster environment:

- ◆ [“Installing a NetWorker server as a highly available application” on page 161](#)
- ◆ [“Installing only the NetWorker client software” on page 167](#)

Installing a NetWorker server as a highly available application

The following tasks explain how to configure a NetWorker server as a highly available application in Microsoft Failover Cluster:

- ◆ [“Task 1: Install the NetWorker software” on page 162](#)
- ◆ [“Task 2: Create and register the NetWorker Server resource type” on page 162](#)
- ◆ [“Task 3: Verify the NetWorker server resource type” on page 162](#)
- ◆ [“Task 4: Create NetWorker Server virtual service and required components resource” on page 163](#)
- ◆ [“Task 5: Set a dependency between the NetWorker server IP address and its shared disk” on page 163](#)
- ◆ [“Task 6: Finish configuring the NetWorker Server resource” on page 164](#)
- ◆ [“Task 7: Bring the NetWorker Server resource online” on page 165](#)

- ◆ “Task 8: Configure the NetWorker virtual server” on page 165
- ◆ “Task 9: Configure clients on the NetWorker virtual server” on page 165
- ◆ “Task 10: Verify that the Client and Group resources have been configured” on page 167

Task 1: Install the NetWorker software

On each node in the cluster, install NetWorker software in the same location on a private disk.

To install the software:

1. Log in as Administrator to the node where you will install NetWorker software
2. On one node in the cluster:
 - a. Complete the installation.
 - b. From the **NetWorker Administration** window, note the host ID number for the appropriate cluster license.
3. On the rest of the physical nodes in the cluster:
 - a. Complete the installation.
 - b. From the **NetWorker Administration** window, note the host ID number for the appropriate cluster license.

The *EMC NetWorker Installation Guide* provides detailed installation instructions.

Task 2: Create and register the NetWorker Server resource type

To create and register the NetWorker Server resource type:

1. Verify that NetWorker server software is installed in the same location on each node in the cluster.
2. On one of the cluster nodes, type:

```
regcnsrd -c
```

This creates the NetWorker server resource type. It also registers the NetWorker server resource extension module so that the NetWorker Server resource type can be managed from this node.

3. On the rest of the cluster nodes, type:

```
regcnsrd -r
```

If prompted with the following, type **Y**:

```
Is this machine a member of the cluster on which you want to
register Resource Extension for NetWorker Server resource?
```

This registers the NetWorker server resource extension module so the NetWorker Server resource type can be managed from this node.

Task 3: Verify the NetWorker server resource type

To verify that a **NetWorker Server** resource type exists (Windows Server 2008):

1. In the **Failover Cluster Management** program, right click on the name of the cluster and then select **Properties**.
2. From the Resource Types tab, verify that the **NetWorker Server** is listed in the User Defined Resource Types list.

The Client Access Point resource type defines the NetWorker server's virtual identity. The Storage resource type is for the shared nsr directory.

Task 4: Create NetWorker Server virtual service and required components resource

To create the NetWorker Server virtual service:

1. In the **Failover Cluster Management** program, select the cluster name.
2. From the **Action** menu, select **Configure a Service or Application**. The **High Availability Wizard** is displayed.
3. On the **Before You Begin** page, click **Next**.
4. On the **Select Service or Application** page, select **Other Server** from the list, and then click **Next**.
5. On the **Client Access Point** page, complete the **Name** and **Address** attributes, and then click **Next**. For example:

```
Name: bu-ara
NetWorks: 10.5.162.0/23
Address: 10.5.163.219
```

6. On the **Select Storage** page, check the storage volume for the NetWorker server, and then click **Next**. For example,


```
Cluster Disk 2
```
7. In the **Select Resource Type** list, select the NetWorker Server resource type that was created in [“Task 2: Create and register the NetWorker Server resource type” on page 162](#), and then click **Next**.
8. On the **Confirmation** page, confirm the resource configurations and click **Next**. The High Availability Wizard creates the resources components and the group.

When the Summary page appears, ignore the following message that appears on the page, because the steps in [“Task 5: Set a dependency between the NetWorker server IP address and its shared disk” on page 163](#) detail the required additional configuration steps:

```
The group will not be brought online since the resources may need
additional configuration. Please finish configuration and bring
the group online.
```

9. On the **Summary** page, click **Finish**.

Note: Do not create a **Generic Application** resource for the NetWorker virtual server.

Task 5: Set a dependency between the NetWorker server IP address and its shared disk

To set a dependency between NetWorker server IP address and its shared disk:

1. In the **Failover Cluster Management** program, right-click the IP Address resource just created in the NetWorker virtual service, and then click **Properties**.
2. On the **Dependencies** tab:
 - a. Click **Insert** to add an empty dependency line.

- b. Select the shared disk associated with the NetWorker virtual server from the Resource list. For example:

Cluster Disk 2

3. Click **OK** to close the **Properties** window of the IP Address resource.

Task 6: Finish configuring the NetWorker Server resource

To finish configuring a NetWorker Server resource:

1. In the **Failover Cluster Management** program, right-click the new NetWorker Server resource created in the NetWorker virtual service, and then click **Properties**.

2. On the **Dependencies** tab:

- a. Click **Insert** to add an empty dependency line.
- b. Select the name of the NetWorker Network Name resource from the Resource list. For example:

Name: *bu-ara*

3. Set the **NsrDir** parameter.

The steps differ if using a local or remote Microsoft Management Console to configure and manage the cluster.

- If using a local Microsoft Management Console to configure the cluster:
 - a. On the **Parameters** tab, specify the following attributes:

Server Name: (leave blank)
NsrDir: P:\nsr
Additional Arguments: (leave blank)

Note: The directory path entered for the NsrDir attribute must reside on the NetWorker server shared disk.

- b. Click **OK** to close the **Properties** window of the New NetWorker Server resource.

Note: Do not create multiple instances of the NetWorker Server resources. Creating more than one instance of a NetWorker Server resource interferes with how the existing NetWorker Server resources function.

- If using a remote Microsoft Console to configure the cluster:
 - a. Click **OK** to close the **Properties** window of the New NetWorker Server resource.

Note: Do not create multiple instances of the NetWorker Server resources. Creating more than one instance of a NetWorker Server resource interferes with how the existing NetWorker Server resources function.

- b. From one node in the cluster, use the command line to set the **NsrDir** parameter. For example:

C:\>cluster res new_NetWorker_server /priv NsrDir="P:\nsr"

Where *new_NetWorker_server* is the default name of the newly created NetWorker server resource.

Note: The directory path entered for the NsrDir parameter must reside on the NetWorker server shared disk.

Task 7: Bring the NetWorker Server resource online

To bring the NetWorker Server resource online:

1. In the **Failover Cluster Management** program, select the service where the NetWorker Server resource exists.
2. Select the **NetWorker Server** resource.
3. From the **Action** menu, select **Bring this resource online** to bring the NetWorker server online.

The state of the NetWorker Server resource changes to Online Pending.

4. Wait until the state of the **NetWorker Server** resource changes to **Online**.

These steps stop the **NetWorker Remote Exec** service and restart all of the NetWorker services.

Task 8: Configure the NetWorker virtual server

To configure the NetWorker virtual server:

1. Log in to the cluster node that is running the NetWorker virtual server.
2. Start the NetWorker Management Console software.
3. From the NetWorker **Administration** window, click **Configuration**.
 - a. In the left pane, select the NetWorker server.
 - b. From the **File** menu, select **Properties**. The **Properties** dialog box appears.
 - c. For the **Administrator** attribute, add entries for any cluster nodes that are not already listed. For example: administrator@cluster_phy1
4. Click **OK**.

Note: To specify which NetWorker servers can back up a particular client, edit the NetWorker_install_path\res\servers file and add the NetWorker virtual host and each cluster node.

Task 9: Configure clients on the NetWorker virtual server

To configure the NetWorker Client resource:

1. On each physical node, ensure that the following file contains the names of virtual hosts:

```
%SystemRoot%\system32\drivers\etc\hosts
```

2. Start the **NetWorker Management Console** software.
3. Make each physical node within the cluster a client of the NetWorker virtual server.

For each physical node in the cluster:

- a. Create a new **Client** resource.
- b. For the **Name** attribute, type the name of the physical host.

The *EMC NetWorker Administration Guide* details how to create a Client resource.

4. Make each virtual node within the cluster a client of the NetWorker virtual server.

For each virtual node in the cluster:

- a. Create a new **Client** resource.
- b. For the **Name** attribute, type the name of the virtual host.
- c. For the **Remote Access** attribute, type the *user@hostname* of each physical node within the cluster.

5. To back up a NetWorker Windows client that has multiple domains that are part of both an Active Directory domain, and a DNS domain, perform one of the following steps:

- Define the Active Directory domain name, which is the Full Computer Name, in the NetWorker server's */etc/hosts* file.
- Define the AD domain, which is the Full Computer Name, in the Active Directory DNS. Also, on the NetWorker server, open the Client resource and add the Full Computer Name in the alias list.

6. Define one or more **NetWorker Group** resources to include the virtual hosts and each of the physical nodes in the cluster:

- a. Create the necessary groups and define their attributes as appropriate.
- b. For each group, select **Enabled** for the **Autorestart** attribute.
- c. For each group, ensure that **Manual Restart** is *not* selected in the **Options** attribute (under the **Advanced** tab).

Note: The only save sets that restart after a virtual server failover are those that belong to a group in which **Autorestart** is enabled and **Manual Restart** is disabled.

After the client configuration is complete:

- ◆ The NetWorker virtual server uses the IP address of the NetWorker virtual host, regardless of which cluster node currently masters the NetWorker virtual server.
- ◆ The NetWorker virtual server takes the identity of the NetWorker virtual server's hostname, regardless of which cluster node is currently running the NetWorker service.
- ◆ The first time NetWorker server runs, it creates the Client resource for the NetWorker virtual host. Client resources must be created manually for any cluster node that is to be backed up by the NetWorker virtual server.

Task 10: Verify that the Client and Group resources have been configured

To verify that the Client and Group resources are properly configured, run a test probe for each client from the node where the NetWorker application is running:

```
savegrp -pv -c client_name group_name
```

If the test probe does not display all the scheduled save sets:

- ◆ Check the cluster configuration by using the cluster management software. If necessary, reconfigure the cluster.
- ◆ Ensure that the save sets defined for the client are owned by that client. If necessary, redistribute the client save sets to the appropriate **Client** resources.

Note: Misconfiguration of the Cluster resources might cause scheduled save sets to be dropped from the backup. The *EMC NetWorker Administration Guide* provides more information.

- ◆ Type this command to override scheduled save rules:

```
touch networker_bin_dir/pathownerignore
```

This command allows any path to be backed up for a client, whether it is owned by the virtual client or physical node. The *EMC NetWorker Administration Guide* provides more information.

- ◆ Run a second test probe to verify the configuration.

If the **pathownerignore** file was used, check that the NetWorker scheduled save uses the correct client index.

If the wrong index is used, the save sets can be forced to go to the correct index:

1. From the NetWorker **Administration** window, select a client and edit its properties.
2. For the **Backup Command** attribute, type the name of a backup script that contains:

```
save -c client_name
```

The *EMC NetWorker Administration Guide* provides details about the **Backup Command** attribute.

Installing only the NetWorker client software

In this configuration, the NetWorker server is running on a node that is not a member of the cluster.

To install NetWorker client on the cluster node, read and follow the procedures for these tasks:

- ◆ [“Task 1: Install the NetWorker client software” on page 168](#)
- ◆ [“Task 2: Define the list of trusted NetWorker servers” on page 168](#)
- ◆ [“Task 3: Configure clients under the NetWorker server” on page 168](#)
- ◆ [“Task 4: Verify that the Client and Group resources have been configured” on page 169](#)

Note: Ensure the NetWorker client software is installed on every physical node in the cluster to be backed up.

Task 1: Install the NetWorker client software

To install the NetWorker client software on each node in the cluster:

1. Ensure that the operating system is updated with the most recent cluster patch.
2. Install the NetWorker client software on the physical disk of each node in the cluster to be backed up.

Task 2: Define the list of trusted NetWorker servers

Before a NetWorker server can back up a client, the client must grant the server access. Granting access is controlled by the `servers` file.

To define the list of trusted NetWorker servers, perform the following steps on each node in the cluster:

1. Edit or create the `%SystemDrive%\Program Files\Legato\nsr\res\servers` file.
2. Add the NetWorker servers, one per line, that require access to this client.

Note: If the `%SystemDrive%\Program Files\Legato\nsr\res\servers` file is empty or does not exist, any NetWorker server is authorized to:

- Access and back up the client.
- Perform a directed recovery to the client.

Task 3: Configure clients under the NetWorker server

To configure the NetWorker server:

1. (Optional) Define save groups.
2. Make each physical Client within the cluster a client of the NetWorker server.

For each physical client in the cluster:

- a. Create a new client.
- b. For the **Name** attribute, type the name of the physical client.
3. Make each virtual client within the cluster a client of the physical client.

For each virtual client in the cluster:

- a. Create a new client.
- b. For the **Name** attribute, type the name of the virtual client.
- c. For the **Remote Access** attribute, enter the `user@hostname` of each physical node within the cluster.
- d. For the **Group** attribute, select a group.

Note: The first time the NetWorker application runs, it creates the Client resource for the NetWorker virtual server.

4. To back up a NetWorker Windows client that has multiple domains that are part of both an Active Directory domain and a DNS domain, perform one of the following steps:
 - Define the Active Directory domain name, which is the Full Computer Name, in the NetWorker server's `/etc/hosts` file.

- Define the AD domain, which is the Full Computer Name, in the Active Directory DNS. Also, on the NetWorker server, open the Client resource and add the Full Computer Name in the alias list.
5. Schedule backups by using the NetWorker application.

Task 4: Verify that the Client and Group resources have been configured

To verify that the Client and Group resources on the NetWorker server are properly configured, run a test probe for each client from the node where the NetWorker server is running:

```
savegrp -pv -c client_name group_name
```

If the test probe does not display all the scheduled save sets:

- ◆ Check the cluster configuration by using the cluster management software. If necessary, reconfigure the cluster.
- ◆ Ensure that the save sets defined for the client are owned by that client. If necessary, redistribute the client save sets to the appropriate Client resources.

Note: Misconfiguration of the Cluster resources might cause scheduled save sets to be dropped from the backup. The *EMC NetWorker Administration Guide* provides more information.

- ◆ Type this command to override scheduled save rules:

```
echo NUL: NetWorker_bin_dir\pathownerignore
```

This command allows any path to be backed up for a client, whether it is owned by the virtual client or physical node. The *EMC NetWorker Administration Guide* provides more information.

- ◆ Run a second test probe to verify the configuration.

If the **pathownerignore** file was used, check that the NetWorker scheduled save uses the correct client index. If the wrong index is used, the save sets can be forced to go to the correct index:

1. From the NetWorker **Administration** window, select a client and edit its properties.
2. For the **Backup Command** attribute, type the name of a backup script that contains:

```
save -c client_name
```

The *EMC NetWorker Administration Guide* provides details about the **Backup Command** attribute.

Uninstalling the NetWorker software in a Microsoft Failover Cluster environment

If the NetWorker server is configured as a cluster resource, perform the following steps before removing the NetWorker software. If the NetWorker server is installed as a stand-alone application (not cluster managed) or only the client software is installed, follow the standard uninstall procedure for NetWorker software. The *EMC NetWorker Installation Guide* provides instructions on how to uninstall the software.

Note: Before uninstalling NetWorker software from a cluster node, close the **Failover Cluster Management** program.

From all the nodes in the cluster

To uninstall NetWorker software from all the nodes in the cluster:

1. Unregister and remove the NetWorker Server resource:
 - a. In the **Failover Cluster Management** program, select **Action>Take this resource offline** to bring the **NetWorker Server** resource **Offline**.
 - b. Select **Action>Delete** to delete the **NetWorker Server** resource from **Microsoft Failover Cluster**.
 - c. Run the **regcnsrd -u** command on all but the last member of the cluster.
If you are prompted with the following question, type **y**:

```
Is this machine a member of the cluster on which you want to un-register Resource Extension for NetWorker Server resource?
```
 - d. Run the **regcnsrd -d** command on the last member of the cluster.
2. Close the **Failover Cluster Management** program on all the nodes where you plan to uninstall NetWorker software.
3. Uninstall the NetWorker software from all nodes.

From only one node in the cluster

Use the following procedure if the NetWorker server software is installed on more than one node and all these nodes are possible owners that can host the NetWorker Server resource.

To uninstall NetWorker software from only one node in the cluster:

1. From one node in the cluster, run the **regcnsrd -u** command. If you are prompted with the following message, type **y**:

```
Is this machine a member of the cluster on which you want to un-register Resource Extension for NetWorker Server resource?
```
2. Log in to another node in the cluster that can host the NetWorker server.
3. Remove the node that you are uninstalling from the **Possible Owners** attribute in the **NetWorker Server** resource.

Note: To determine the possible owners of the **NetWorker Server** cluster resource, review the properties of the **NetWorker Server** resource.

4. Close the **Failover Cluster Management** program on the node where you plan to uninstall the **NetWorker** software.

Uninstall the **NetWorker** software from the node. The *EMC NetWorker Installation Guide* provides detailed instructions.

Bare Metal Recovery (BMR) installation and administration

The following section provides information on BMR:

- ◆ [“Supported BMR client platforms” on page 171](#)
- ◆ [“Installing the HomeBase Agent software” on page 171](#)
- ◆ [“Establishing communication with a HomeBase Server” on page 172](#)
- ◆ [“Enabling the BMR client” on page 172](#)
- ◆ [“Performing a BMR recovery or server migration” on page 173](#)
- ◆ [“Excluding files for BMR recovery” on page 174](#)

Supported BMR client platforms

The BMR feature is included in the NetWorker Client installation for the following platforms outlined in [Table 27](#):

Table 27 BMR client supported platforms

Operating system level	Additional notes
Windows 2000, with Service Pack 4 or later	x86 platforms
Windows Server 2003, with Service Pack 1 or later	x86 and x64 platforms
Windows XP Professional, with Service Pack 1 or later	x86 and x64 platforms
Sun Solaris 9	SPARC platforms
Sun Solaris 10	SPARC platforms
Red Hat Enterprise Linux 4	x86, and x64 platforms
Red Hat Enterprise Linux 5	x86 and x64 platforms
Windows or Red Hat Linux deployed in VMware, versions 1.0, 1.0.1, and 1.0.3	x86 and x64 platforms

Note: The latest service packs for Java support are required, especially on Solaris.

Installing the HomeBase Agent software

As part of the NetWorker client install, the HomeBase agent binary and setup files are always extracted to the standard location for all supported NetWorker platforms.

To install the EMC HomeBase agent, run the HomeBase setup file. The location of the setup file for Microsoft Windows and UNIX is different:

- ◆ Microsoft Windows: `\NWInstallDIR\HomeBaseAgent\setup_homebase.bat`
- ◆ UNIX: `/opt/homebase-agent/setup-homebase`

Note: For UNIX, the install directory **HomeBaseAgent** is at the same peer level as the **nsr** directory.

The *EMC NetWorker Installation Guide* provides complete information for installing a NetWorker client.

A BMR data recovery requires an EMC HomeBase Server, which is installed and licensed separately. The *EMC HomeBase Server Installation and Administration Guide* provides information about installing a HomeBase Server.

Establishing communication with a HomeBase Server

Connection with a HomeBase Server version 6.1.3 is enabled during the set up of the NetWorker server 7.4.3 or later software through the Console. This connection enables the delivery of profile data from the NetWorker client to the HomeBase Server.

To enable BMR support:

1. From the **Administration** window, click **Configuration**.
2. Select the NetWorker server name.
3. From the **File** menu, select **Properties**.
4. In the **Properties** dialog box, click the **Configuration** tab.
5. Enter the HomeBase Server IP address or hostname in the BMR server field.
6. Click **OK**.

Note: Make sure that the HomeBase Server SSL protocol is configured to and activated on the HomeBase Server. The *EMC HomeBase Server Installation and Administration Guide* provides information about enabling the SSL protocol.

Enabling the BMR client

The HomeBase Agent enables the BMR data backup. During the NetWorker client installation, the HomeBase Agent installation binaries are copied to a standard location. You must run the installation script to install the HomeBase Agent software. The *EMC NetWorker Installation Guide* provides complete information for installing a NetWorker client.

A BMR data recovery requires an EMC HomeBase Server, which is installed and licensed separately. The *EMC HomeBase Server Installation and Administration Guide* provides information about installing a HomeBase Server.

A HomeBase Agent license batch code is required to enable the NetWorker BMR feature. Contact your EMC HomeBase representative for licensing information. The HomeBase Server will also need to communicate with this client with a HomeBase Agent license batch. Communication can be established from the client command line using the **hba licensing announce** command. See the *EMC HomeBase Agent Installation and Administration Guide* for details, or enter **hba -h** for command usage.

To enable a BMR backup for a client:

1. From the **Administration** window, click **Configuration**.
2. Click **Clients**.
3. Right-click the client to be enabled, then select **Properties**.
The **Properties** dialog box appears.
4. Click the **Globals (2 of 2)** tab.
5. Click the **BMR** check box.

6. Enter the following in the BMR options field:

`-L license_batch_code`

Additional options can be specified in this field that define how the profile is generated. See the *EMC HomeBase Agent Installation and Administration Guide* for HomeBase Agent command line options.

Note: If there is a change to the HomeBase Server or license batch, the new license must be updated.

7. Click **OK**.

The HomeBase base and extended profile, used during a BMR recovery, are generated when the client's scheduled saveset is run. The base profile is stored in the HomeBase Server and the extended profile remains on the client machine.

Using NetWorker client port under a firewall server

If the NetWorker client is under a firewall server, the NetWorker client port (18821) that establishes the connection between the HomeBase server and HomeBase Agent must be open.

To perform any tasks related to the HomeBase Agent from the HomeBase server GUI:

1. Ensure that the necessary ports are open in the firewall server.
2. From the HomeBase server, ensure that the HomeBase Agent is connected under the firewall.

Performing a BMR recovery or server migration

This section provides an outline of the steps required to perform a BMR recovery or server migration. See the EMC HomeBase product documentation for complete details and instructions pertaining to the HomeBase Server and HomeBase Agents.

A BMR recovery is performed from the HomeBase Server and Console in the following order:

1. On the new machine, deploy an operating system that matches the operating system of the profiled client that is being restored.

Windows and Linux operating systems can be deployed from the HomeBase Server web pages. UNIX operating systems are deployed manually with package matching and validation performed through the HomeBase Server web pages.

2. Install a NetWorker client on the machine that will serve as the recovery server. The machine on which the client data is recovered does not need to match the hardware of the original client.

Note: The Console server and the HomeBase Server must be able to communicate with the recovery server.

3. The HomeBase Server communicates with the client through a HomeBase Agent license batch. However, the HomeBase license batch is not required during a server recovery or migration operation.

To establish communication, perform the following:

- a. From the command line of the client, use the **hba licensing announce** command. See the *EMC HomeBase Agent Installation and Administration Guide* for details, or enter **hba -h** for command usage.
- b. Add the HomeBase server name to the value field in the recovery configuration file that is located in the HomeBase Agent subdirectory. For example:

```
HomeBaseAgent\etc\config\recovery\custom\recovery-configuration.xml
```

4. From the HomeBase Server web pages, restore the base profile onto the new machine. See the *EMC HomeBase Agent Recovery Guide* for the platform specific to this machine.

Note: The base profile will configure the new client to match the IP and network configuration of the client that was profiled. To avoid IP conflicts on the network, make sure that the original client is not available.

5. Reboot the client.
6. From the client, recover the client system drive and system state savesets.

Make sure that the **Options> Exclusion Options> Exclusion File List> Perform special handling for Bare Metal Recovery** check box is selected. This automatically excludes files that the HomeBase Server has recovered with the base profile restore.

Note: The *exclude.NETWORKER* file is located in the HomeBase Agent exclude subdirectory and can be edited to exclude additional data. However, this should be done with extreme caution.

7. Reboot the client.
8. From the HomeBase Server web pages or the client command line, restore the extended profile on the client. See the *EMC HomeBase Agent Installation and Administration Guide* for details, or enter **hba -h** for command usage.

Extended profiles are not transferred to the HomeBase Server unless the server is configured to do so for the client system. Extended profiles, by default, reside on the client in `<installdir>\HomeBaseAgent\history\`.

The extended profile must exist on the client. It can be downloaded from the HomeBase Server web pages or restored through the data recovery in [step 6](#).

9. Reboot the recovered client.

Excluding files for BMR recovery

A HomeBase profile restore is one of the first steps in a BMR recovery. A NetWorker client data restore may restore files that were previously restored by HomeBase. An exclusion file is provided to ensure that there is no overlap between a HomeBase profile restore and the NetWorker client data restore. The EMC HomeBase Recovery Guides provide complete information about excluding files from recovery.

Before performing a data restore in a BMR recovery, enable the use of the default exclude file.

To enable the exclude file:

1. In the **NetWorker User** program, select **Exclusion Options** from the **Options** menu.
2. In the **Exclusion File List** dialog box, select the **Perform special handling for Bare Metal Recovery** check box.

To add a custom exclude file, enter the full path in the field provided and click **Add**.

IMPORTANT

Custom exclude lists should be used with caution and tested before recovery to a production system is performed.

3. Click **OK**.

NetWorker Release 7.4 Service Pack 1

This section describes installation and upgrading notes for NetWorker Release 7.4 Service Pack 1.

Using Windows Server 2003 SP1 Security Configuration Wizard with NetWorker software

This section describes how to set up security on a Windows Server 2003 (Service Pack 1) platform that is running NetWorker VSS Client, software.

Before configuring the NetWorker VSS Client system, install the Security Configuration Wizard (SCW). The wizard is included with Windows Server 2003 (Service Pack 1), but is not installed by default.

To find information about the wizard installation, select the Security Configuration Wizard shortcut that appears on the Windows 2003 desktop after the Service Pack 1 is installed.

After installing the wizard, use it to select the appropriate security parameters and ensure that the firewall settings do not impact NetWorker processes.

By default, the Windows firewall is disabled. If the Windows firewall is enabled, then NetWorker processes are unable to send information through the firewall unless you enable exceptions.

The NetWorker software will fail:

- ◆ If during the installation of Service Pack 1, you skip the Network Security step and select the defaults. The Windows firewall configuration prevents the NetWorker software from functioning correctly.
- ◆ If you increase the network security by using the Security Configuration Wizard. The Windows firewall prevents NetWorker processes from passing information through the firewall.

To configure the NetWorker system to function properly on a Windows Server 2003 (Service Pack 1) platform, use one of the following procedures:

- ◆ [“How to extend the Security Configuration wizard” on page 176](#)
- ◆ [“How to manually configure exceptions for the Windows firewall” on page 176](#)
- ◆ [“Using Windows Server 2003 SP1 Security Configuration Wizard with NetWorker Software” on page 176](#)

How to extend the Security Configuration wizard

To extend the Security Configuration wizard:

1. Copy `install_dir\legato\nsr\bin\NetWorkerEXT.XML` to the `\WINDOWS\security\msscw\kbs` directory.
2. Run the following command from the `\Windows\security\msscw\kbs` directory:

```
scwcmd register \kbname:NetWorker\kbfile:NetWorkerEXT.XML
```

3. Choose **Client** as the NetWorker role and run the **Security Configuration Wizard**.

How to manually configure exceptions for the Windows firewall

To manually configure exceptions for the Windows firewall:

1. From the Windows Start menu, click **Control Panel**, and select **Windows Firewall**.
2. Select the **Extensions** tab and click **Add Program**.
3. Click **Browse**, then navigate to the directory that contains the NetWorker software. The default installation directory for the NetWorker software is `C:\Program Files\Legato\nsr\bin`.
4. For each NetWorker Client Binary executable file, click **Open**, then click **Add**.
 - `nsrexecd.exe`
 - `nsrexec.exe`
5. Restart the NetWorker VSS Client software.

Using Windows Server 2003 SP1 Security Configuration Wizard with NetWorker Software

To ensure that the firewall settings do not impact NetWorker processes, you must use the **Security Configuration Wizard** to select the appropriate security parameters.

EMC Technical Bulletin, 410: Using Windows Server 2003 SP1 Security Configuration Wizard with NetWorker Software describes how to set up security on a Windows Server 2003 (with Service Pack 1) platform that runs NetWorker 7.x software.

Virtual Tape Library Frame license enabler required when upgrading from release 7.3.2 to the 7.4 release

A new license enabler is available that provides a single Virtual Tape Library (VTL) license for a physical library. This allows multiple VTLs to be attached to a physical library with a single license.

The VTL license enabler must be obtained before upgrading from the 7.3.2 release to 7.4. The VTL Frame License must be entered when upgrading to the 7.4 release. The *EMC NetWorker Installation Guide* contains complete instructions on upgrading and licensing the NetWorker software.

Note: If the VTL license is not entered during the upgrade process, label or mount operations using a VTL will fail. Enter the VTL Frame License and all VTL operations will succeed.

Backwards compatibility

NetWorker release 7.4 is fully compatible with the following:

- ◆ NetWorker 7.4 servers work with clients that run NetWorker releases 7.3.x, 7.2.x and 7.1.x on all supported operating system platforms.
- ◆ NetWorker 7.4 server is backward compatible with storage nodes that run NetWorker release 7.3.x, and NetWorker release 7.3.x server compatible with storage nodes that run NetWorker 7.4.
- ◆ NetWorker 7.4 clients work with NetWorker servers that run NetWorker releases 7.3.x, 7.2.x and 7.1.x.

Cannot revert to NetWorker release 7.2 after updating to release 7.4

When updating to NetWorker release 7.4 or later, there is no way to revert to NetWorker release 7.2. It is a one-way conversion.

If you are updating from NetWorker release 7.3 to release 7.4, you can revert to release 7.3, however the NMC database cannot be reverted unless you start with a new gstd database when reverting to the 7.3.x version of NMC, or perform the restore from a 7.3.x NMC backup.

650 MB of available temporary space required to install the NetWorker software

InstallShield requires that the entire installation program must be put into memory, even if you only intend to install a single NetWorker software component. You must have 650 MB of available temporary space to install any component of the NetWorker software.

File type device with a trailing backslash character (\) fails to mount when upgrading from release 6.1.4 on Windows 2003

When upgrading from NetWorker release 6.1.4 to release 7.2.1 or later on Windows 2003, a file type device with a trailing backslash character (\) fails to mount.

When a file type device is created and labeled with trailing backslash character (for example, d:\filedev\) in release 6.1.4, a mount operation fails after upgrading to release 7.2.1 or later. This error message appears:

```
Cannot open <file-type-device-name> for reading. Invalid argument
```

Workaround

Re-create the file type device without the trailing '\' character. For example, for f:\filedev\:

1. Delete the device resource for f:\filedev\.
2. Create the device resource for f:\filedev (without trailing '\') as file Media type.

3. Mount the device `f:\filedev`.

Host Agent service

The Host Agent service is not currently supported in NetWorker release 7.4. During the NetWorker installation, a service named Host Agent is added to the computer. By default, this service is not started, and does not perform any function. The Host Agent service has been added in preparation for a future release.

These files related to the Host Agent service are installed with the software in the default NetWorker installation location:

Binary files:

- ◆ `hasubmit.exe`
- ◆ `hagetconf.exe`
- ◆ `hafs.exe`
- ◆ `hasys.exe`
- ◆ `hascsi.exe`
- ◆ `hadump.exe` (NetWorker server only)
- ◆ `haprune.exe` (NetWorker server only)
- ◆ `hagentd.exe` (NetWorker server only)

Schema files:

- ◆ `hafs.sch`
- ◆ `hasys.sch`
- ◆ `hascsi.sch`

You can safely leave all of the installed Host Agent files on the computer.

Required NDMP version for DAR on NetApp Data ONTAP 6.1

To perform a direct access restore (DAR) on a NetApp system, you must be running OnTap V6.1 and NetWorker release 7.1.x or later in order to use NDMP version 4. Recovery fails if you use an earlier version of NDMP or an earlier release of NetWorker.

Verify the NDMP version

To verify the NDMP version:

1. Log in to the NetApp Data ONTAP 6.1 system.
2. Type this command to display the version:

```
ndmpd status
```

The NDMP version appears if:

- An NDMP process is running, the status of that process appears.
- An NDMP process is not running, the **ndmpd** on or off state is displayed.

Change the NDMP version

To change the NDMP version:

1. Type this command to stop the NDMP process:

```
ndmpd off
```

The NetApp host confirms that the NDMP process has stopped.

2. Type this command to change the NDMP version:

```
ndmpd version 3
```

Note: The NDMP version can also be set to 4.

3. Enter this command to restart the NDMP process:

```
ndmpd on
```

The NetApp host confirms that the NDMP process has been started. You can now run DAR.

Incompatibility of New.net and NetWorker software

Software from New.net, Inc. loads a dynamic link library (DLL) named *newdotnet.dll*, which modifies the Windows TCP/IP stack in ways that are incompatible with NetWorker software. The result is that many NetWorker programs, including **save.exe**, fail on exit.

This is a New.net problem that NetWorker software cannot work around. New.net software is associated with these products and/or companies: Go!Zilla, BearShare, MP3.com, iMesh, Babylon, Cydoor, Webshots, and GDiVX.

If you suspect the New.net DLL to be a problem, search for *newdotnet.dll* on the system drive. If it is present, this file must be uninstalled in order for the NetWorker software to function properly.

To uninstall the New.net software:

1. Open the **Windows Control Panel**.
2. Select **Add/Remove Programs**.
3. Select **New.net**, and click **Remove**.
4. Do *not* manually delete the **newdotnet.dll** file. If the file is manually deleted, the system becomes unusable.

Troubleshooting and getting help

EMC support, product, and licensing information can be obtained as follows.

Product information — For documentation, release notes, software updates, or for information about EMC products, licensing, and service, go to the EMC Powerlink® website (registration required) at:

<http://Powerlink.EMC.com>

Technical support — For technical support, go to EMC Customer Service on Powerlink. To open a service request through Powerlink, you must have a valid support agreement. Please contact your EMC sales representative for details about obtaining a valid support agreement or to answer any questions about your account.

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