



EMC® NetWorker®
Module for Microsoft Applications
Release 2.2

Release Notes

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These release notes contain supplemental information about this release of EMC NetWorker Module for Microsoft Applications. Topics include:

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Revision history

Table 1 on page 2 presents the revision history of this document.

Table 1 **Revision history**

Revision	Date	Description
A07	February 5, 2010	Seventh revision of this document. This revision contains information for NMM release 2.2 build 96. The following sections have been added: <ul style="list-style-type: none"> • “Support for SQL directed recovery” on page 9 — Details about SQL directed recovery is provided in section “Directed recovery for SQL databases” on page 57. • “Fixed problems in NMM 2.2 build 96” on page 10 • “NMM 2.2 build 96 kit” on page 79
A06	September 8, 2009	Sixth revision of this document. The following sections have been added or updated: <ul style="list-style-type: none"> • “NMM support for NetWorker Module for Exchange” on page 8 • “NMM Active Directory granular backups cannot recover Group Policy Object data (LGTsc31471)” on page 20 • “Backup of two partitions of the same CLARiiON disk fails (LGTsc31159)” on page 25 • “Backup of Hyper-V fails in Microsoft Windows Storage Server 2008 and Microsoft Windows Unified Data Storage Server 2003 (WUDSS) (LGTsc31734)” on page 34 • “Backup of DPM 2007 SP1 fails in Microsoft Windows Storage Server 2008 and Microsoft Windows Unified Data Storage Server 2003 (WUDSS) (LGTsc23912)” on page 34 • “Backup and recovery of SharePoint data using NMM and NMSQL (LGTsc31397)” on page 56 • “Errata and changes in documentation” on page 71, which contains the following information: <ul style="list-style-type: none"> — “Additional information on supported NetWorker Server hosts” on page 71 on support for HP-UX PA-RISC and HP-UX IA64 platforms — “Incorrect string listed for 'Snapshot Policy' in administration guide (LGTsc30246)” on page 71 — “Error in commands for silent installation and removal of NMM (LGTsc31807)” on page 72 — “Verifying the installation (LGTsc30243)” on page 73 • Details about Microsoft SharePoint hotfix “KB971538” on page 76 • “Client security vulnerability hotfix in NMM 2.1 SP1 build 165 (LGTsc30291)” on page 78
A05	July 15, 2009	Fifth revision of this document. Corrections made in Table 5 on page 74.
A04	July 7, 2009	Fourth revision of this document. Table 5 on page 74 in Installation section lists the hotfixes required for NMM 2.2.

Revision	Date	Description
A03	June 24, 2009	<p>Third revision of this document.</p> <p>Added the following issues in the Known problems and limitations section:</p> <ul style="list-style-type: none"> • “Deduplication backup of NMM Client fails if using NetWorker 7.5.1 server (LGTsc28689)” on page 15 • “nwexinfo.exe is not started when NMM is installed on existing NetWorker storage node (LGTsc28503)” on page 20 <p>Removed “EMC VSS Provider for Celerra with Windows Server 2008” from under Unsupported Windows features section. EMC VSS Provider for Celerra with Windows Server 2008 is supported in NMM 2.2.</p>
A02	June 5, 2009	<p>Second revision of this document. The change made is:</p> <p>Corrected error in description of issue LGTsc29582 — SharePoint disaster recovery.</p>
A01	May 29, 2009	<p>First revision of this document for NetWorker Module for Microsoft Applications 2.2.</p>

Product description

The EMC[®] NetWorker[®] Module for Microsoft Applications 2.2 (NMM) uses Microsoft VSS technology to provide backup and recovery services for file systems, application data, and operating system data.

The NMM software allows for the creation of a point-in-time snapshot (copy) of data. Instead of backing up data directly from the physical file system, data is backed up from the snapshot. The snapshot includes exact copies of files and all open files. For example, databases and files that are open due to operator or system activity are included in a snapshot. In this way, files changed during the backup process are copied correctly. Snapshot backups ensure that:

- ◆ Applications can continue to write data to the volume during a backup.
- ◆ Open files are no longer omitted during a backup.
- ◆ Backups can be performed at any time, without locking out users.

The NMM software allows you to manage snapshots on disk to maximize backup and recovery performance.

The *EMC NetWorker Module for Microsoft Applications Release 2.2 Administration Guide* provides more details about all NMM features.

NMM backups

Backups are configured as scheduled snapshot backups on the NetWorker server. Ad hoc (manual) backups, from either the command line or from the NMM, are not supported at this time. However, one can manually start a scheduled snapshot backup at any time.

The NMM supports three types of snapshot backups:

- ◆ Nonpersistent backup (also referred to as a live backup)
- ◆ Instant backup with or without rollover
- ◆ Serverless backup (also referred to as proxy backup or an off-host backup)

Proxy client support

A proxy client is used to offload the processing requirements associated with serverless backups. Serverless backups free the backup client from much of the processing involved in an instant backup. These backups are particularly useful when there is additional processing involved in a scheduled backup. For example, to determine whether a snapshot of an Exchange database is consistent, the Exchange utility, **eseutil**, must be run against the snapshot. Running **eseutil** can be disk intensive. Therefore, offloading the work from the Exchange server to a proxy client frees resources on the Exchange server.

NMM recovery methods

There are three methods of recoveries:

- ◆ Conventional recovery
- ◆ Instant recovery
- ◆ Rollback recovery

By default, recoveries are performed from a conventional backup. If a conventional backup is unavailable for the selected browse time, an instant recovery is performed. The default recovery method can be specified in the NetWorker Recovery Options dialog box.

NMM recovery types

NMM provides several types of recovery for most Microsoft applications:

- ◆ Disaster recovery
- ◆ Granular recovery
- ◆ Directed recovery

In SharePoint, directed recovery is often called *Recovery to an alternate location*.

The *EMC NetWorker Module for Microsoft Applications Administration Guide Release 2.2* provides complete information about each of these types of recoveries and how to perform them for each application.

New features and changes

This section provides details about new features and enhancements in NMM 2.2.

- ◆ [“Deduplication support for backups of SQL, Exchange, SharePoint and Hyper-V” on page 6](#)
- ◆ [“Microsoft SharePoint enhancements” on page 6](#)
- ◆ [“SQL enhancements” on page 7](#)
- ◆ [“Exchange enhancements” on page 7](#)
- ◆ [“Hyper-V virtualization enhancements” on page 7](#)
- ◆ [“Additional enhancements” on page 7](#)
- ◆ [“Support in installation” on page 8](#)
- ◆ [“NMM support for NetWorker Module for Exchange” on page 8](#)
- ◆ [“SQL 2000 no longer supported” on page 8](#)
- ◆ [“Support for SQL directed recovery” on page 9](#)

Deduplication support for backups of SQL, Exchange, SharePoint and Hyper-V

NMM 2.2 incorporates NetWorker deduplication, which leverages Avamar Data Stores. This integration allows more efficient backup of SQL, Exchange, SharePoint (VSS, Optimized, Granular), and Hyper-V data through optional Avamar software, while using the familiar NetWorker backup and recovery UI.

Microsoft SharePoint enhancements

This section describes the SharePoint enhancements in NMM 2.2. The *EMC NetWorker Module for Microsoft Applications Release 2.2 Administration Guide* provides details about these enhancements.

- ◆ **SharePoint granular recovery to an alternate destination** — NMM 2.2 provides SharePoint granular recoveries to a location in an alternate SharePoint farm. This support includes the ability to recover SharePoint site collections, websites, sub-sites, lists, or any SharePoint object to an alternate SharePoint farm. The Restore to Alternate Location option is available in the SharePoint Pre-Recovery Options dialog box.
- ◆ **Better performance for large farm backups** — NMM 2.2 provides multiple performance enhancements including:
 - Parallel staging for multiple site-collections
 - Parallel backups from staging area to NetWorker Server for multiple site-collections
 - Running multiple save sets on a single web front end only'
- ◆ **Search by Author** — NMM 2.2 provides the ability to search NetWorker SharePoint save sets by author from the SharePoint Granular Search GUI tab.
- ◆ **Protecting a SharePoint farm** — NMM 2.2 provides three ways of protecting a SharePoint farm:
 - By using the SharePoint VSS Writer for disaster recovery
 - By using optimized backup and recovery
 - By using full granular backup and recovery
- ◆ **SharePoint objects available in NMM granular backup** — In addition to granular backup of farm, site collection, site, and sub-site, NMM 2.2 provides support for list.

- ◆ **Changes to the SharePoint prerecovery options UI** — The text in the SharePoint Pre-Recovery Options dialog box has been changed to enhance usability.
- ◆ **Displaying valid SharePoint 2007 syntax for granular backup** — The following option has been added in NMM 2.2:
`nsr_moss_save [-k website or sub-web url]`
Displays all the lists of specified websites or sub-web.
- ◆ **Selecting individual SharePoint content databases for recovery** — In the previous releases of NMM, a user was unable to select only individual SharePoint content databases for restore. When any content database was selected, the corresponding configuration and generic databases were also selected for recovery. This release of NMM provides the ability to select individual SharePoint content databases for recovery.

SQL enhancements

NMM 2.2 provides support for Microsoft SQL Server 2008.

Exchange enhancements

This release provides enhanced Exchange backup and recovery through the following features:

- Incremental backup support
- Exchange RSG browsing and mailbox recoveries
- Directed recoveries

Hyper-V virtualization enhancements

This release provides additional Hyper-V backup and functionality:

- Hyper-V directed recoveries
- Support for Windows Server 2008 – Server Core

Additional enhancements

This release also includes the enhancements:

- ◆ Monitoring capabilities for recovery jobs

- ◆ NetWorker cloning and staging support This NMM support requires NetWorker 7.5 or later. The *EMC NetWorker 7.5 Administration Guide* provides details for cloning and staging.
- ◆ NetWorker Server on Linux support (NetWorker Server 7.4 SP3 or later and NetWorker Storage Node 7.4 SP3 or later).

Support in installation

NMM 2.2 provides support for:

- ◆ Silent (unattended) installation and removal of the software on a stand-alone server.
- ◆ Remote installation and removal of the software by using Microsoft System Center Configuration Manager 2007 (SCCM) Server.

NMM support for NetWorker Module for Exchange

NetWorker Module for Exchange 5.1 SP1 or later can be installed with NMM 2.1 or later. While NMM can be used to perform database backups using VSS, NME can be used to perform granular backups (individual mailbox as well as public folder item- level backups).

Make sure:

- ◆ Not to back up the Exchange database using both NMM and NME. NME promotes any incremental database backups to Full, if NMM is installed and used for backups.
- ◆ NMM is installed before NME because NME checks for the existence of the core NetWorker Client during installation. The NMM software includes the core NetWorker Client functionality.

SQL 2000 no longer supported

Microsoft SQL Server 2000 is no longer supported by NMM.

Support for SQL directed recovery

This enhancement automates and allows ease of operation for SQL or SharePoint administrators to restore site-level backup and other objects from NMM disaster recovery backups to a SharePoint recovery farm.

“Directed recovery for SQL databases” on page 57 provides the procedure and other details.

Fixed problems

This section provides the problems that have been fixed in various NMM 2.2 builds.

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

- ◆ “Fixed problems in NMM 2.2 build 96” on page 10
- ◆ “Fixed problems in NMM 2.2 build 79 (GA)” on page 11

Fixed problems in NMM 2.2 build 96

Table 2 on page 10 lists the issues fixed in this build.

Note: NMM 2.2 build 96 is available on the EMC Support website at <http://Powerlink.EMC.com>. The *EMC NetWorker Module for Microsoft Applications Release 2.2 Installation Guide* contains installation information.

Before installing this build, make sure to uninstall any other version of NMM that you may have installed. The Support article esg110964 “How to detect if NMM is uninstalled correctly” provides details about how to make sure that the previously installed version of NMM is uninstalled correctly.

Table 2 Fixed problems in NMM 2.2 build 96 (page 1 of 2)

Issue number	Description
NW077272	Backup fails in SharePoint web front-end system with error: VSS_E_BAD_STATE.
NW080626	In SharePoint granular backup, restore to an alternate location fails if there is space in site name.
NW081023	Faulty error message handling in Exchange CCR backups can cause crash.
NW098076	Improvements to packaging procedures of kits.
NW101349	In SharePoint granular backup, the number of web applications or site must be less than or equal to 64.
NW102081	NMM GUI does not display all Active Directory entries. Only one is displayed.
NW102333	Exchange CCR backups of passive node fail with RPC credentials error when a 32 bit NetWorker server is used.
NW102502	DPM backup failed when installing DPM using an existing SQL instance.
NW102679	Need to correctly handle dual-NICs / backup LANs in Exchange Server. This is not supported for persistent snapshots or applications other than Exchange.
NW103459	Exchange CCR backup save sets are written to the wrong NetWorker pool.
NW103983	nrsnapck.exe crashes.

Table 2 Fixed problems in NMM 2.2 build 96 (page 2 of 2)

Issue number	Description
NW104262	In a SharePoint farm with three machines, for example SQL, Central Admin, and web front-end, some machines fail to roll over.
NW104355	Failure with nsrmmdbd authentication error message.
NW104486	Exchange CCR backup fails due to port memory leak fix from previous NMM fix. One common error seen is "could not find related savesets for snapsession."
NW104567	In DPM, nsrsnap_vss_save.exe crashes with an application error.
NW104855	In SharePoint granular recovery, the latest versions of the documents are lost.
NW105556	For Exchange backups, if an incremental backup fails, the next incremental backup is promoted to a full backup.
NW105799	In SharePoint granular backup, nsr_moss_save command fails for back up of sites that have special characters. The backup fails after staging is complete, so no errors are seen in the export logs.
NW105892	SharePoint backup of a site that references another site fails.
NW112121	SharePoint VSS backup fails after upgrading to NMM 2.2 build 91 hotfix.

Fixed problems in NMM 2.2 build 79 (GA)

[Table 3 on page 11](#) lists the issues fixed in this release. These issues are from the NMM 2.1 and 2.1 SP1 releases.

Table 3 Fixed problems in NMM 2.2 build 79 (page 1 of 3)

Issue number	Description
LGTsc19707	Backup fails when using short client name, after previously using the FQDN for the client device
LGTsc20071	SharePoint 2007 granular backup does not support multiple save sets at the same time
LGTsc20108	SharePoint 2007 granular recovery does not recover correct permission level for List

Table 3 Fixed problems in NMM 2.2 build 79 (page 2 of 3)

Issue number	Description
LGTsc20121	Multiple folder level save sets from the same volume are not displayed in the NMM recovery window
LGTsc20175	Incorrect Author information is displayed when browsing or searching SharePoint recovery sets
LGTsc20823	SharePoint search does not display Farm or File objects
LGTsc27380	The temporary storage location must contain a valid drive and folder
LGTsc20827	Error VSS_E_WRITERERROR_RETRYABLE
LGTsc22283	Changing the temporary storage location for the SharePoint backup
LGTsc23889	NMM does not support RSG configuration where the RSG system path restore location and RSG logs restore location are different
LGTsc22537	Optimized SharePoint granular backups must be specified in the backup command
LGTsc25314	FRS writer fails to recover during Windows Server 2008 AD disaster recovery
LGTsc26558	NMM installation fails for Proxy Storage Node because RMEExchangeInterfaceComponent is not installed
LGTsc26585	RM service CPU utilization is increased while doing parallel consistency checking
LGTsc26634	Consistency check parameters added to set threading and throttling to handle performance issues
LGTsc26983	If the hardware provider is in a cluster, the proxy host cannot be a member
LGTsc27196	SharePoint recovery of site fails for certain templates
LGTsc27318	Backups should be grouped with no more than 10 Storage Groups at a time

Table 3 Fixed problems in NMM 2.2 build 79 (page 3 of 3)

Issue number	Description
LGTsc26983	If the hardware provider is in a cluster, the proxy host cannot be a member
LGTsc26417	SharePoint backup and recover commands NSR_MOSS_RECOVER and NSR_MOSS_SAVE are not documented
LGTsc13843	NPS Writer fails if not configured properly on Windows Server 2008

Environment and system requirements

The *EMC Information Protection Software Compatibility Guide* and *EMC NetWorker Module for Microsoft Applications Release 2.2 Installation Guide* list hardware and software requirements for the NMM software.

Known problems and limitations

This section describes known problems and limitations for this release:

- ◆ [“Unsupported NetWorker features” on page 14](#)
- ◆ [“Unsupported Windows features” on page 14](#)
- ◆ [“NetWorker Server” on page 15](#)
- ◆ [“Microsoft Windows Server and clustering” on page 15](#)
- ◆ [“NetWorker Module for Microsoft Applications” on page 20](#)
- ◆ [“CLARiiON, Symmetrix, and providers” on page 25](#)
- ◆ [“Microsoft Exchange Server and Microsoft SQL Server” on page 29](#)
- ◆ [“Microsoft Hyper-V and Data Protection Manager” on page 34](#)
- ◆ [“Microsoft SharePoint” on page 41](#)

Unsupported NetWorker features

The following NetWorker features are not supported:

- ◆ Localization (L10N)
- ◆ Installation of dedicated Storage Node on NMM client host

Note: NMM supports proxy storage node. The *EMC NetWorker Module for Microsoft Applications Release 2.2 Administration Guide* provides more information.

- ◆ Adhoc/Manual Backups

Unsupported Windows features

The following Windows Server versions are not supported:

- ◆ Windows IA64 editions

The following Windows features are not supported:

- ◆ BitLocker encryption
- ◆ LAN-based Proxy Client or LAN-free backups, if dynamic disks are used
- ◆ VSS Hardware Providers with Windows dynamic disks
- ◆ Microsoft Software Shadow Copy provider — To perform persistent snapshots of clustered disks.
- ◆ Windows Automated System Recovery (ASR)
- ◆ Windows Storage Server Single Instance Storage (SIS) is supported, but recoveries will recover file data for all duplicate file. Data will not be lost if there is sufficient disk space to hold the duplicate copies.

The *EMC Information Protection Software Compatibility Guide* contains additional and the most up-to-date information about NMM compatibility.

NetWorker Server

This section lists the known problems and issues in NetWorker Server.

Deduplication backup of NMM Client fails if using NetWorker 7.5.1 server (LGTsc28689)

Deduplication backup failure is observed when backups are performed by using a NetWorker 7.5.1 server. The following error message appears: “50415:nrsnap_vss_save:nrsnap_vss_save: unable to extract key and value for argument '-A De-duplication'. Expecting '-A key=value' in this format.

69227:nrsnap_vss_save:nrsnap_vss_save: Failed to set value for a key=Deduplication”

Workaround

Make sure to install the patch, which is available at <ftp://ftp.legato.com/pub/NetWorker/Updates/NMM/NMM22/>.

NO_SUPPRESS option can cause backup operations to report failures (LGTsc13731)

In the NetWorker software release 7.3.x and later, savegroup does not support the NO_SUPPRESS option. This 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. In NMM this can also cause backup operations to report failures.

Workaround

Do not use the NO_SUPPRESS option.

NMM backup category shown as “invalid” in NMC (LGTsc29202)

During NMM client operations, the NMM category may display as invalid in the NetWorker Management Console Monitoring under Log. This behavior only occurs in NetWorker Server 7.5.1 and earlier.

Workaround

This will be fixed in NetWorker Server 7.5.2 or later.

Microsoft Windows Server and clustering

This section lists the known problems and issues in Microsoft Windows Server and clustering.

Active Directory attribute value for msNPAllowDialin not recovered under Windows Server 2003 SP1 (LGTpa95417)

For NMM clients running Windows Server 2003 SP1, the value for the Active Directory attribute **msNPAllowDialin** is unrecoverable. NMMs that run Windows Server 2003 R2 are unaffected.

Workaround

After recovering Active Directory, update the value for the **msNPAllowDialin** attribute if necessary. To edit this attribute use a Microsoft tool such as ADSI Edit, which is available by installing the Windows Server 2003 family Support Tools from the Windows Server 2003 family CD.

Snapshot cannot include both hardware and software snapshot volumes for clustered NetWorker VSS clients (LGTsc05386)

A NetWorker VSS client resource running on a cluster cannot include both hardware and software volumes in the same save set. Additionally, save set **All** cannot be specified for such a client resource. If both hardware and software volumes are included in a save set, the backup will fail.

Workaround

If a NMM client on a cluster has both hardware and software volumes, create at least two client resources: one for hardware volumes and one for software volumes. Additionally, do not specify save set **All** in any of the client resources for the NMM client. When using a hardware provider with a NMM client, you must configure a proxy client and the snapshot volume must be exported to a proxy outside of the cluster.

Failed Cluster Database recovery of legacy VSS backups may fail without displaying error message (LGTsc06190)

The NMM client can recover legacy VSS backups of the cluster database (VSS SYSTEM SERVICES) created prior to the upgrade to or installation of the NMM client. The Cluster Writer Service files may be successfully recovered, but the cluster database recovery may fail without displaying a recovery failure message.

Workaround

When recovering the cluster database, make sure that the cluster is not running on the other node.

Backup of Windows Server 2008 with proxy host fails (LGTsc11828)

If a Windows Server 2003 system is used as the proxy mount host for Windows Server 2008 production host, backup will fail.

Recovery failure after .NET 3.5 framework installation (LGTsc19814)

Volume and SYSTEM COMPONENTS restore fails if the system previously had .NET Framework 3.5 installed, and the OS was reinstalled but the .NET Framework 3.5 was not re-installed before attempting recovery. When recovery fails, an error is displayed: "The directory is not empty..."

Workaround

To restore the Volume and SYSTEM COMPONENTS on a system that previously had .NET Framework 3.5 installed at the time of the backup:

1. Reinstall the operating system.
2. Reinstall .NET Framework 3.5.
3. Install NMM.
4. Recover the volume and SYSTEM COMPONENTS.

SYSTEM COMPONENTS failure after McAfee uninstall (LGTsc18766)

If a program does not uninstall cleanly, some program files may still remain after uninstallation. This may cause SYSTEM COMPONENTS:\ backups to fail. This has been known to occur with McAfee VirusScan 8.5i, but may occur with other programs.

Workaround

Microsoft has identified this as an issue with the VSS System Writer. Microsoft Support KB article 955078 describes this issue and provides several solutions.

Installation of Microsoft Windows Server 2008 does not grant correct permissions to nsr\tmp directory (LGTsc15258)

During installation of the NMM client on Windows Server 2008, the `networker_install_dir\tmp` 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\tmp` directory:

1. In **Windows Explorer**, right-click on the `networker_install_dir\tmp` 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.

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

Windows Server 2008 COM+ Registry database is not recovered correctly (LGTsc15380)

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

Workaround

1. Log on to the system as a local system administrator.
2. Open a command window:
Click **Start**, click **Run**, type `cmd`, and then press **Enter**.
3. Change the working directory to the COM+ catalog files folder:
cd %windir%\registration
4. 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
```

Application and NMM upgrades may need to be reinstalled after System Writer recovery (LGTsc15889)

When recovering an older backup of the System Writer in Windows Server 2008, any application or NMM upgrades, service packs, or hot fixes that were installed since the backup may need to be reinstalled after the recovery.

NMM client does not support the NetWorker pathownerignore cluster functionality (LGTsc15116)

The pathownerignore cluster functionality is not supported in NMM. This restriction is not enforced by NMM code. In some circumstances the path owner may be ignored by NMM so that the data from a clustered disk is backed up under the indices of the physical node. But recovers of that data will fail.

Clustered disks must be backed up under a virtual cluster client (which is configured with an IP address). The *EMC Module for Microsoft Applications Release 2.2 Administration Guide* provides more information about backing up a clustered NMM client.

Workaround

Do not attempt to use the pathownerignore functionality. Ensure that a `nsr\bin\pathownerignore` file does not exist.

FRS writer fails to recover during Windows Server 2008 AD disaster recovery (LGTsc25314)

When performing a disaster recovery of a domain controller to a new machine, the FRS writer fails to recover.

Use of the `newsid.exe` utility is not supported. This utility is not supported if it is used originally to create the source machine. It is not supported if it is used to subsequently create the target machine.

Disaster recovery fails for Dell 2850 running Windows Server 2008 (LGTsc26386)

Disaster recovery will fail when a Dell 2850 running Windows Server 2008 is recovered to an alternate machine of the same type. According to the manufacturer's web site, the Dell 2850 is designed for Windows Server 2003, but should support basic Windows Server 2008 features and functionality. The Dell web site provides more information about supported hardware for Windows Server 2008:

http://www.dell.com/content/topics/global.aspx/alliances/en/os_certifications?c=us&cs=19&l=en&s=dhs&~tab=5

NetWorker Module for Microsoft Applications

This section lists the known problems and issues in NetWorker Module for Microsoft Applications.

NMM Active Directory granular backups cannot recover Group Policy Object data (LGTsc31471)

Recovery of Group Policy Object is done using NMM after doing granular backups of Active Directory. Although the recovery is successful, the Group Policy Object can not be viewed using Active Directory Users and Computers (ADUC) and Group Policy Management Console (GPMC).

nwexinfo.exe is not started when NMM is installed on existing NetWorker storage node (LGTsc28503)

When NMM 2.2 is installed on an existing NetWorker storage node installation, which has Exchange 2003 installed, nwexinfo.exe is not started. The nwexinfo.exe utility used to gather domain information for the Exchange Server.

Workaround

1. Contact EMC Support for the hotfix containing the nwexinfo.exe file. Manually copy the nwexinfo.exe file to C:\Program Files\Legato\nsr\bin location.
2. Click nwexinfo.exe. You are prompted to enter the Exchange credentials.

Conventional incremental backup does not save renamed files (LGTsc00665)

If, after performing a conventional full backup of a drive, you rename files and then perform a conventional incremental backup of the drive, the renamed files will not be saved and will not be browsable for recover in the NMM client window.

Invalid temporary path created during Event Log writer recovery (LGTpa96400)

When you recover a writer such as the System Components Event Log writer, an empty subdirectory is created at C:\temp\nsr_recover\timestamp\...\ ServiceState\EventLogs, where timestamp indicates the time and date of the recover operation. The creation of this subdirectory does not create any performance issues, but does cause the nsr_recov directory to not be removed after rebooting the system.

Workaround

After the client is rebooted, manually delete the nsr_recover directory.

Unable to browse save sets created by NMM client after downgrading from NMM client software to non-NMM client (LGTpa96395)

If, after installing the NMM software, you perform a save or rollover save operation and then decide to downgrade to a non-NMM client, you cannot browse the save sets created by the NMM client on the downgraded client software. This is because the format of the client file index entries changed with the NMM client, and previous NetWorker clients do not recognize this format.

Mounting one volume will mount all volumes in snapshot (LGTpa94348)

When mounting a volume for restore, all volumes included in that snapshot are also mounted. For example, if drives C:, D:, and E: are included in the snapshot and then you mount a directory from drive C: for restore, drives D: and E: also get mounted. The mounting of all volumes in the snapshot causes drive letters to be used up.

Recovering files to a deleted mount point (LGTpa95055)

To recover data to a deleted mount point, manually re-create the mount point before recovering the data. Re-creating the mount point enables the data to be recovered to the remote mount point location. Otherwise, the data is recovered to a local directory and the local directory name is the deleted mount point.

Limit of eight volumes included in save set for a client resource (LGTpa94348)

There is a limit of eight volumes included in a snapshot that is supported with the EMC VSS Provider.

Workaround

To back up more than eight volumes for a NMM host:

1. Create separate client resources for the host and limit the save set for each client resource to eight volumes.
2. Ensure that client resources are assigned to different backup groups so that no backup group contains more than eight volumes for a particular NMM host.

Note: Other hardware providers have their own limit for volumes included in the snapshot. Consult your provider's documentation for specific limits.

Character support for names of backup files and directories (LGTpa89319)

The backup of files and directories fail if they have file and directory names containing:

- ◆ Extended ASCII characters such as those in French or Spanish.

Note: Some extended ASCII characters not symbol related may not display properly.

- ◆ Unicode characters. These characters are often used in Asian languages.

Behavior of local directives in NMM (LGTpa94805)

Local directives specified in a nsr.dir file cannot refer to a nested directory.

Workaround

Place the directive file, nsr.dir, in the nested directory to which the directive applies. For example, the following directive specifies that all files with a .dll extension under the C:\Windows\system32 directory must be skipped when a backup is performed.

```
<<"C:\Windows\system32">>  
skip: *.dll
```

To enable the previous directive, place the directive file, nsr.dir, in the C:\Windows\system32 directory. If the directive is placed in the root of the C: drive, it is not executed upon backup.

Celerra snapshot failure due to inadequate file system size (LGTsc12292)

The file system size needs to be set correctly to accommodate snapshots.

The Celerra document *Configuring iSCSI targets on Celerra* describes how to set the file size correctly in the section "Planning considerations for iSCSI."

Recovery of large number of items fails if one or more items in a folder is deselected (LGTsc05792)

If one or more items is deselected in a folder that has been selected for recovery, then recovery may fail if the number of items in that folder is very large.

This scenario has occurred when testing the recovery of 50 K items in a folder.

Workaround

Select all items or the entire folder, and then perform recovery. After recovery, delete any unwanted items.

Multiple client resources with the same name cannot be combined in the same group (LGTsc15014)

If two or more client resources with the same name are in the same snapshot group, then some of the save sets will not be recoverable. NMM does not support combining multiple client resources with the same name in the same group.

Workaround

Either combine the client resources into a single client resource, or create separate groups and backup the individual clients in separate groups.

The *EMC NetWorker Module for Microsoft Applications Release 2.2 Administration Guide* provides more information about best practices and considerations for application backups, including using different policies for application server data and host operating system data and volumes.

When GUI is minimized during rollover, the GUI does not open again (LGTsc06558)

If a rollover is started from the GUI, and then the GUI is minimized, then the GUI cannot be opened to check monitoring status. The GUI may appear to be hung.

Workaround

Wait until rollover is complete, and then open the GUI.

Search results return everything from root node when searching from a subnode (LGTsc20731)

In the NMM System Recover Session window, if you use the context menu to search from within a folder several levels deep in the navigation tree, the search operation displays results from the root node down. This may occur when you right-click a sub node in the Browse pane and then click **Search for**. NMM switches to the Search tab, and the search path correctly displays the selected sub node. But when a search is performed, the results are from the root node down, not the selected sub node.

Data cannot be recovered from multiple snapshots at a time (LGTsc26194)

When there are multiple snapshots with different save times, the snapshot recovery will fail for one of the drives if data is selected from multiple snapshots at a time.

The following example describes one way this recovery failure might occur:

1. A snapshot policy is configured as 4/4/day/none.
2. A backup is performed of a local drive, C:\ .
3. A backup is performed of a local drive, I:\ .
4. After the backups, a recover session is opened in NMM, and the C and I drives are mounted for browsing the data.
5. Data is selected for recovery from both drives, for example C:\Test1 and I:\Test2.
6. The “snapshot restore” option is selected, and then the recovery operation is performed.
7. The result: *recovery of data from one of the drives, either C or I, will fail.*

Workaround

Use a conventional restore to recover data from multiple drives or save sets that are from different times.

At least one drive letter must be available for rollover of a snapshot (LGTsc27316)

When performing a rollover of a snapshot of the drive that contains the NMM binaries, at least one drive letter must be available to use as the temporary location for the mounted snapshot.

For example, the default installation folder for the NMM binaries is C:\Program Files\Legato\nsr. When performing a rollover of a snapshot of the C drive, at least one drive letter must be available to use as the temporary location of the mounted snapshot.

Clock skew between NetWorker server and NMM client can cause recovery error (LGTsc29650)

NMM clients must be kept in sync with the NetWorker server. If the clock times are not in sync and differ more than five minutes, problems will occur when recovering Full + Incremental backups.

NMM 2.2 does not use “Backup LAN” properly (LGTsc30002)

NMM 2.2 does not allow use of a “Backup LAN.” Backup information is instead placed on the production LAN, which may impair performance for production users as well as the backup itself.

CLARiiON, Symmetrix, and providers

This section lists the known problems and issues in CLARiiON, Symmetrix, and providers.

Backup of two partitions of the same CLARiiON disk fails (LGTsc31159)

Backup of two partitions of one SAN LUN is not supported. The *EMC Information Protection Software Compatibility Guide* contains the latest support information.

This limitation only applies to hardware based snapshot and does not apply to software based snapshot. When you try to back up two partitions of one SAN LUN, the backup fails and the following error appears in nmm.raw:

```
An error was detected during the replica creation.
Details in nmm.raw on % s. \n 1 0 16 starwar.duke.com
63315 1246425081 5 0 0 8252 8092 0 starwar.duke.com
nsrsnap_vss_save 26
```

```
NMM.. Exception caught: %s 1 0 25 Failed to create
replica.
```

Snapshot cannot include both CLARiiON and Symmetrix volumes (LGTpa91221)

A client resource cannot include both CLARiiON and Symmetrix volumes in the same save set. Additionally, save set **All** cannot be specified for such a client resource. If both CLARiiON and Symmetrix volumes are included in a save set, the backup will fail.

Workaround

If a NMM has both CLARiiON and Symmetrix volumes, create at least two client resources: one for CLARiiON volumes and one for Symmetrix volumes. Additionally, do not specify save set **All** in any of the client resources for the NMM.

EMC VSS Provider cannot take a snapshot of the volume on which Solutions Enabler is installed (LGTpa90841)

A CLARiiON or Symmetrix volume supported with the EMC VSS provider cannot take a snapshot of the volume on which Solutions Enabler is installed. Additionally, the volume on which Solutions Enabler is installed cannot be included in the same client resource and backup group with a CLARiiON or Symmetrix volume.

More information about this issue is provided in the EMC Solutions Enabler documentation.

Workaround

To protect a NMM using CLARiiON or Symmetrix storage:

- ◆ Install Solutions Enabler on a local volume (a volume that is not a CLARiiON or Symmetrix volume). When Solutions Enabler is installed on a local volume, the snapshot is taken with the software-based VSS System provider.
- ◆ Do not specify save set **All**.
- ◆ Create at least two client resources for the NMM. Create one client resource for the local volume on which Solutions Enabler is installed and create another client resource for the CLARiiON or Symmetrix volumes. Local volumes without Solutions Enabler installed can be included in any client resource.
- ◆ Ensure that the client resource for the local volume on which Solutions Enabler is installed and the client resource for the CLARiiON or Symmetrix volumes are not assigned to the same backup group.

Snapshot may fail to import when QLogic SanSurfer running (LGTpa90724)

Snapshots supported with a hardware provider may fail to import if the QLogic Management Suite Java Agent service running, and return a getoperation error.

Workaround

Use the QLogic SanSurfer utility to stop the QLogic Management Suite Java Agent service. Manually start the service only when required and then manually stop the service. The Primus eServer Solution article, emc129473, provides more information.

Hardware import failures and freeing up LUN resources (LGTpa88834)

When an import operation succeeds, LUN resources reserved for the import operation are freed automatically. When an import operation fails, the NMM cannot free resources when the snapshot is deleted through retention policy on hardware storage systems such as CLARiiON or Symmetrix.

Workaround

Free the LUN resources manually using the Microsoft **vshadow** utility or vendor supplied utilities.

The Microsoft **vshadow** utility is available in the Microsoft Volume Shadow Copy Service SDK 7.2, which is available for download from <http://www.microsoft.com/downloads/>.

Information about freeing resources with vendor utilities is available in the array of management utilities provided with your hardware storage systems.

Reclaiming array storage after an import failure (LGTsc03522)

When there is an import failure in CLARiiON snapshots or clones, or Symmetrix BCVs or VDEV, the snapshot session must be destroyed, synchronized, or terminated, depending on the hardware type, prior to the next backup.

Use the following examples as general descriptions of the process or procedure. Refer to the product documentation for more detailed steps and information to perform these on your system.

Workaround

For CLARiiON Snapshots (DIFF):

1. In **Navisphere Manager**, locate the snapshot name and session based on the timestamp.
2. If the snapshot belongs to a Storage Group(s), remove the snapshot from the Storage Group(s).
3. Select the session and then click **Stop Session**.
4. Select the snapshot and then click **Destroy Snapshot**.

The index entry “destroy, snapshot” in the *Navisphere Manager Help* provides more detailed steps and information.

For CLARiiON Clones (PLEX)

1. In **Navisphere Manager**, locate the clone group for the source LUN.
2. Right-click the clone group you want to synchronize, and then click **Synchronize**.

The topic “Synchronizing a fractured clone” in the *Navisphere Manager Help* provides more detailed steps and information.

For Symmetrix BCVs (PLEX)

- ◆ Make the BCVs *not ready*, using EMC Solutions Enabler Symmetrix CLI (SYMCLI)

For example:

```
symdev -sid SymmID [not_ready] <BCV#>
```

The *EMC Solutions Enabler Symmetrix CLI Command Reference* and the *EMC Solutions Enabler Symmetrix TimeFinder Family CLI Product Guide* provide detailed information about using the symdev command and options.

For Symmetrix VDEV (DIFF)

- ◆ Terminate the snap session using the symsnap command with the terminate option.

The *EMC Solutions Enabler Symmetrix CLI Command Reference* and the *EMC Solutions Enabler Symmetrix TimeFinder Family CLI Product Guide* provide more information about using the symsnap command and options.

Backups of CLARiiON volumes when connected to the storage array via iSCSI not supported (LGTsc29782)

NMM 2.2 does not support backups of CLARiiON volumes that connect to the storage array via iSCSI.

Microsoft Exchange Server and Microsoft SQL Server

This section lists the known problems and issues in Microsoft Exchange Server and Microsoft SQL Server.

SQL 2005 databases in recovery state are not skipped during backup or restore (LGTsc00754)

SQL 2005 databases in the recovery state are not skipped during a conventional backup or snapshot restore; the SQL Server Writer does not list database files in the recovery of the file system. This problem only occurs when you perform a file system backup of the file systems that contain these SQL database files. As a result, when you restore the file system where these databases reside, the files are overwritten.

Workaround

If the databases were participating in SQL Log Shipping, recreate the database from a fresh backup of the source, then reenables log shipping.

SQL backups with the MSDE Writer fail if a database is in suspect mode (LGTpa94615)

If any of the databases belonging to a SQL instance are in suspect mode, and a backup of the SQL instance is attempted with the Microsoft MSDE Writer, the snapshot backup will fail with the following error:

```
[3844] [S] 10/27/06 11:19:24 RM .. 027121 ERROR:
MSDEWriter has failed at prepare snapshot. The error is
VSS_E_WRITERERROR_NONRETRYABLE. The code is: 0x800423f4.
Check the application event log for more information.
[3844] [S] 10/27/06 11:19:24 RM .. 026003 ERROR:
Application Agent operation thaw has failed with an
error...
```

Workaround

Either delete or repair the suspect databases.

Rollback recovery fails if there is a public folder in Exchange (LGTsc20347)

If an attempt is made to perform rollback recovery of Exchange and there is a public folder, rollback will fail.

Workaround

There are several options available:

- ◆ **Option 1:** Attempting a rollback implies that you have a point-in-time (PIT) on hardware supported by EMC VSS Provider, because NMM does not support rollback in any other configuration. Instead of performing rollback from the PIT Management plug-in, use the System plug-in and request a recover from there. If there has been no rollover to NetWorker, or you have selected the option to try a point-in-time recover first, then NMM will perform a “file system” recovery. In this file system recovery, the .edb and log files will be selected from the point-in-time recovery and copied back to the production volume.

If there is also a rollover, then you can recover from there as well.

- ◆ **Option 2:** The storage group that contains the public folder database can be set up on a separate volume from the storage group that contains the mailbox databases.

Backing up data for a Microsoft Exchange or SQL application (LGTpa91971)

When backing up data for a Microsoft Exchange or SQL application, ensure that all databases are mounted. Unmounted databases are not backed up, and no warning appears during the backup operation to indicate if any databases are unmounted.

Exchange Storage Groups must be in the same locale as the Microsoft Exchange Server (LGTsc17699)

Microsoft requires Exchange Server 2003 Storage Group names to be in the same locale as the Microsoft Exchange Server.

Exchange backup requires that the System Path and Transaction Log be set to the same location (LGTpa93254)

When performing a backup of Microsoft Exchange, specify the same directory location (such as E:\) for both the System path and the Transaction log under the Storage Group properties in Microsoft Exchange System Manager.

Recovery of multiple databases in Recovery Storage Group fails (LGTsc21107)

When recovery of multiple databases in a Recovery Storage Group (RSG) is configured through Database Recovery Management in Exchange Management Console, restore of one or more of the database files may fail. This issue has been identified as a bug in Microsoft Exchange, not EMC NetWorker Module for Microsoft Applications. Microsoft is working on a fix for this issue.

Microsoft provides more information about this issue and workarounds in the Knowledge Base (KB) article 959065 “Wrong database name is added to Recovery Storage Group when more than one database exists in a Storage Group,” available at:

<http://support.microsoft.com/default.aspx?scid=kb;EN-US;959065>

Workaround

Use the Exchange Management Shell at the command line to configure an RSG. The *EMC NetWorker Module for Microsoft Applications Release 2.2 Administration Guide* provides detailed steps for this task in the chapter “Microsoft Exchange Server Backup and Recovery” in the section “Creating an RSG and adding target databases.”

NMM installation fails with irccd failure on Exchange Server 2003 (LGTsc26630)

Exchange backup may fail after NMM installation because the IRCCD.exe and nwexinfo.exe services must be run manually after installation. During any NMM installation, the IRCCD.exe service may need to be manually started. The *EMC Module for Microsoft Applications Release 2.2 Installation Guide* provides information on this issue.

In addition to manually starting the IRCCD services, in Exchange installations an additional step is required.

Workaround

At the command line, run the following command to update the Exchange domain information: **nwexinfo.exe**.

Exchange backup fails if some logs and databases are under normal path and some are under volume mount path (LGTsc22968)

Exchange backup may fail if it contains some Exchange Storage Group logs and databases that reside under a normal path, without a mount point, and some Exchange Storage Group logs and databases that reside under a volume mount point path.

Backup may fail, and display the following message:

```
-----
RM .. 026420 ERROR:An unexpected internal error occurred:
IRD:
mountRestoreState::handleFinalStatusMsg() :
validateState::runState() failed.
-----
```

Workaround

In the save set, use the volume mount path to specify all Exchange Storage Group logs and databases.

NMM does not support RSG configuration where the RSG system path restore location and RSG logs restore location are different (LGTsc23889)

Microsoft Exchange server supports an RSG configuration where the RSG system path restore location and RSG logs restore location can be different.

NMM does not currently support that configuration.

Workaround

Specify the same location for the RSG system path and the RSG log path.

Exchange backup fails with VSS_E_MAXIMUM_NUMBER_OF_VOLUMES_REACHED (LGTsc26385)

Attempting to perform a backup of more than 32 storage groups results in an error:

```
VSS_E_MAXIMUM_NUMBER_OF_VOLUMES_REACHEDVSS_E_MAXIMU
M_NUMBER_OF_VOLUMES_REACHED
```

This is a known Microsoft error described at:

[http://msdn.microsoft.com/en-us/library/aa382650\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/aa382650(VS.85).aspx)

Workaround

You can back up 32 storage groups in a single save set at a time.

Troubleshooting steps for RMEExchangeInterface component (LGTsc26559)

If there appear to be problems with the RMEExchangeInterface component, try one or more of the following:

- ◆ Check that the service is installed.
- ◆ Check service account. It should not be local system. It should be an account that has Exchange Administrator privileges.

Note: The service is not running by default, it runs on demand.

- ◆ Check the Install.log in C:\Program Files\EMC\rmagentps\client\bin\Install.log. The file itself does not contain much information. What is important is that the existence of this log confirms that the COM component was registered and the service was installed.
- ◆ Validate COM entry is present using the Component Services manager.
- ◆ Check the event log for any errors.

Exchange snapshot recovery failing with ImportCopy error (LGTsc25761)

For Exchange backup in NMM, it is highly recommended to avoid using persistent software shadow copy or copy-on-write backups. Due to the way data is distributed in Exchange databases, those types of snapshots may not remain valid long enough for recovery to be successful.

To ensure a valid and successful backup of Exchange, always use the setting backup=all when configuring the Client Resource. The EMC NetWorker Module for Microsoft Applications Administration Guide provides complete instructions for configuring a Client Resource in the Microsoft Exchange Backup and Recovery chapter.

NMM does support temporary software shadow copy or copy-on-write for Exchange, which may be necessary if your system does not use a CLARiiON or similar hardware storage array. For persistent snapshot support in an Exchange environment, use a hardware storage array in your Exchange backup and recovery strategy.

If a persistent software copy or copy-on-write backup is performed on an Exchange database, recovery may fail with an error message similar to the following:

```
%sERR: Error calling importCopy, status=%d:'%s' 3 0 35  
PS: (CPSImportService::ImportCopy) 1 2 15 24 107 Error  
obtaining volume name (s) for snapshot; Microsoft  
ShadowCopy Service has no knowledge of the snapshot.
```

Workaround

Always follow these recommended practices:

- ◆ Do not use persistent software shadow copy or copy-on-write for Exchange backup.
- ◆ Configure the NMM backup Client Resource snapshot policy to use the **backup=all** setting.
- ◆ Use a hardware storage array to handle backup, recovery, and storage operations. This minimizes the load on the Exchange server storage and resources by moving these operations to separate hardware.

Microsoft Hyper-V and Data Protection Manager

This section lists the known problems and issues in Microsoft Hyper-V and Data Protection Manager.

Backup of Hyper-V fails in Microsoft Windows Storage Server 2008 and Microsoft Windows Unified Data Storage Server 2003 (WUDSS) (LGTsc31734)

Hyper-V backup is not supported in Microsoft Windows Storage Server 2008 and Microsoft Windows Unified Data Storage Server 2003 (WUDSS).

Backup of DPM 2007 SP1 fails in Microsoft Windows Storage Server 2008 and Microsoft Windows Unified Data Storage Server 2003 (WUDSS) (LGTsc23912)

DPM 2007 backup is not supported in Microsoft Windows Storage Server 2008 and Microsoft Windows Unified Data Storage Server 2003 (WUDSS).

Save of DPM data with data mover fails with import error (LGTsc12128)

When performing a save operation of DPM database and replica without using data mover, save operation is successful.

If the DPM database and replica is saved with data mover, the save operation fails with an error similar to the following:

```
2007 12 12 16:52:02 (5628) main.
```

```
000551 ERROR:Import of dynamic disk group(s) cannot
proceed because Replication Manager was unable to
determine the existing dynamic disk groups on this
system (Call to vxdg list failed). Check to make
sure that Volume Manager is installed properly.
/*e*/
```

Workaround

NMM does not support dynamic disks with data mover (transportable snapshots). Perform save operations of DPM database and replica without using data mover.

NMM incorrectly reports replica recovery failure (LGTsc15805)

When recovering a single replica from among several replicas that were backed up, the recovery job may be reported as failing.

nrsrnap_vss_recover.exe will report failures for any replicas that were not targeted for recovery.

Workaround

No action is required for the replicas selected for recovery. The targeted replicas will recover successfully, and if failures are reported for replicas that were not selected for recovery, the recovery failure messages can be ignored.

Granular recovery of replica on Hyper-V guest leaves extra folder behind (LGTsc20357)

When a granular recovery of a DPM replica is performed, NMM recreates in the recovery folder the exact path to the replica as it appeared when backed up from the DPM server. This path includes the installation path of the DPM application and the subfolders containing replica data, similar to the following:

```
<recovery folder>\C\Program Files\Microsoft
DPM\DPM\Volumes\Replica\<replica data>
```

Following replica recovery, NMM attempts to remove the unnecessary DPM application folders, so the resulting path becomes:

```
<recovery folder>\<replica data>
```

When such a recovery is performed on a Hyper-V guest, NMM is unable to remove the DPM application folders.

Workaround

After a Hyper-V guest replica recovery, verify the recovery, and then manually delete the extra folders created in the replica path.

Data Protection Manager 2007 rollup installation requires resetting account permissions (LGTsc19637)

For compatibility on all supported platforms — Windows Server 2003 (x86 and x64) and Windows Server 2008 (x86, x64) — NMM requires that the initial installation of Data Protection Manager 2007 be followed by installation of the DPM 2007 rollup “System Center Data Protection Manager 2007 Feature Pack (x86),” available from the Microsoft downloads web site. However, installing the rollup also removes account permissions essential for recovery of the DPM configuration database, resulting in failed recoveries.

Workaround

Currently Microsoft has no service pack or hot fix available to fix this issue. The following steps are required to manually restore the permissions:

1. Install Data Protection Manager 2007.
2. Install the DPM 2007 Rollup.
3. Open the **Windows Registry**.
4. Locate the registry key:
HKLM/Software/Microsoft/Microsoft Data Protection Manager/Setup/DatabasePath
5. Get the value of the database path. For example:
C:\Program Files\Microsoft DPM\DPM\DPMDB
6. Close the **Windows Registry**.

7. Go to the folder obtained from the registry entry. For example:
The DPMDDB folder at C:\Program Files\Microsoft DPM\DPM\DPMDDB\.
8. Assign a full control permission to the folder, for the user:
Microsoft\$DPM\$Acct

After successful DPM backup, NMC occasionally displays the save group as failed (LGTsc20732)

Sometimes the NetWorker Management Console (NMC) displays the DPM backup save group as failed, even though the backup was successful.

Workaround

You can verify whether the save group backup succeeded or failed by either of the following methods:

- ◆ Check the nmm.raw file. This is the NMM log file and it is cumulative, so it is appended each time a backup or recover operation is performed. This file is located in the Applogs folder. For example, C:\Program Files\Legato\nsr\applogs\.
- ◆ Check the NMM GUI. If the save set is available in the DPM Recover Session window, then the save group backup was successful.

Defaults for disaster mode and granular mode on Hyper-V guest or physical machine (LGTsc20284)

The default recovery mode depends on whether it is a Hyper-V guest or physical machine:

- ◆ For Hyper-V guests, the default is disaster mode with directed recovery.
- ◆ For physical machines, the default is granular mode.

Hyper-V configuration requirements for backing up a virtual machine that contains multiple volumes (LGTsc18796)

When there are multiple volumes on the guest, backup may fail. When there are multiple volumes on the guest, VSS decides the shadowstorage area for the snapshots based on which volume has more space. This can lead to a condition where the snapshot of volume C and the snapshot of volume D both reside on volume D, since volume D has more space. During the snapshot revert stage in PostSnapshot, the snapshot of volume C may be lost if the snapshot of volume D is reverted first.

Workaround

To prepare a multiple volume guest for backup, use the **vssadmin** command to force the shadowstorage of each volume to be on the same volume.

Note: These commands must be run inside each guest, not the parent physical Hyper-V Server.

```
vssadmin Add ShadowStorage /For=C: /On=C:
vssadmin Add ShadowStorage /For=D: /On=D:
Repeat as needed for each volume in the virtual machine.
```

Unable to recover DPM database through System Recover Session (LGTsc20971)

To recover a DPM database, use DPM Recover Session. In the NMM GUI, when you select a DPM server and then select Recover, the submenu lists both System Recover Session and DPM Recover Session. Because the DPM database is a SQL database, it may appear selectable for recovery in System Recover Session. An attempt to recover a DPM database through System Recover Session will fail in the recovery operation.

Workaround

Always use the DPM Recovery Session UI to recover DPM databases.

Incorrect Hyper-V save set name for configuration file in Administration Guide (LGTsc26529)

In the NetWorker Module for Microsoft Applications Release 2.2 Administration Guide, one of the references to the Hyper-V save set name for backing up the configuration file is incorrect. In the “Microsoft Hyper-V Backup and Recovery” chapter, in the procedure “To create a Hyper-V Client resource,” there is an error in step 9.

The save set to back up the configuration file (Initial Store) incorrectly listed Information Store in the syntax, APPLICATIONS:\Microsoft Hyper-V*Information* Store. The text should say:

To back up the configuration file (Initial Store), specify:

APPLICATIONS:\Microsoft Hyper-V\Initial Store

DPM support requires DPM 2007 SP1 (LGTsc25460)

DPM support in NMM requires the installation of DPM 2007 SP1. Otherwise, replicas may not successfully recover.

The DPM 2007 SP1 download is available from Microsoft at:

- ◆ 32 bit: <http://www.microsoft.com/downloads/details.aspx?FamilyID=43cef22c-f027-4c0b-8fad-b081485c3efe>
- ◆ 64 bit: <http://www.microsoft.com/downloads/details.aspx?FamilyID=8ae5edac-4de8-44e0-a6f9-8afbb3e23585>

Hyper-V pass-through disks may not be backed up in a child partition backup (LGTsc28427)

In the *NetWorker Module for Microsoft Applications Administration Guide*, it is noted that for Hyper-V backups, the child partition pass-through disks are skipped in Hyper-V parent partition backup, and child partition pass-through disks are supported by backups within the child partition.

However, in some cases, Hyper-V parent partition backup of a child partition with a pass-through disk may fail completely. If this occurs, contact Microsoft support for assistance because the problem may be with the hardware configuration or the Microsoft Hyper-V writer.

Hyper-V redirection support restrictions (LGTsc27630)

There are a number of NMM 2.2 restrictions in the support of Hyper-V directed recover and relocated recover:

- ◆ NMM does not support directed recover or relocated recover of Hyper-V on a Hyper-V Server Cluster.
- ◆ Restoring Hyper-V VMs to non-Hyper-V Servers is not supported.
- ◆ The parent partition must be running Windows Server 2008 SP2 in order to recover, with relocation of files, a VM that has Hyper-V snapshots.
- ◆ NMM does not support relocation recover of Initial Store.
- ◆ When a VM is redirect recovered to a second Hyper-V Server, the user must update the Network Adapter settings of the VM with the Hyper-V Manager before starting the VM.
- ◆ Cannot relocate or redirect NMM Hyper-V back-ups taken before a NMM 2.2 upgrade.

Hyper-V destination host must have NMM 2.2 client installed (LGTsc29290)

When using the Hyper-V Restore Wizard, the host you specify on the Destination Host page must have the NMM 2.2 client installed. Otherwise, the Destination Path page browsing will not work correctly.

Hyper-V recover displays the wrong time for NMM 2.1 data recover (LGTsc29563)

When NMM 2.2 is used to recover a Hyper-V child backup that was created with NMM 2.1, the recovery may show as complete even though the recovery is still in progress.

Workaround

There are two workarounds:

- ◆ Upgrade the Hyper-V child machine to NMM 2.2.
- ◆ If an upgrade is not feasible, you can manually verify the recovery. After starting the recovery and allowing time to run, check the nmm.raw file on the Hyper-V child machine to verify that the recovery was successful.

NMM 2.2 requires the latest Hyper-V updates (LGTsc29584)

Prior to using NMM 2.2 to protect Hyper-V virtual machines, make sure you have the latest updates and hotfixes from Microsoft installed. There are several hotfixes for known Hyper-V issues, and NMM may not function properly if the fixes have not been installed. [Table 5 on page 74](#) provides the list of Hyper-V hotfixes required for NMM 2.2.

The Microsoft website provides more information about available Hyper-V updates:

Hyper-V Update List

<http://technet.microsoft.com/en-us/library/dd430893.aspx>.

The version of Integration Components running inside the VM should be the same as the version of Hyper-V on the host. For Hyper-V RTM, it is 6.0.6001.18016.

To confirm this in the Device Manager inside the guest VM:

1. Under System Devices in Device Manager, right-click the entry Hyper-V Volume Shadow Copy and then select **Properties**.
2. Check the version under the **Driver** tab. If the version does not match, insert the integration services disk by choosing the option under the **Action** menu in the VM console. Install the integration components and reboot the VM.

SYSTEM COMPONENT fileset backups fail on Windows Server 2008 Hyper-V role implementation (LGTsc30059)

NetWorker backups of the SYSTEM COMPONENT:\ 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\

DPM newly-allocated volumes not reported as “Allocated” (LGTsc29911)

When performing a DPM replica recovery, the **dpmsync -reallocate replica** command runs successfully, but sometimes in the subsequent procedure a recently-allocated volume is not reported by DPM to be in the “Allocated” state, causing it to be skipped.

Workaround

Retry a replica-only recovery. It is not necessary to run the “allocate volumes” utility again.

Microsoft SharePoint

This section lists the known problems and issues in Microsoft SharePoint.

Site collection and website features selected for publishing are not restored (LGTsc29955)

Restoring a website with default options in the Advanced Recovery dialog box, does not restore Site Collection features and Site features, if these options are enabled for the website.

Workaround

Select the All option in the Security Configuration section of the Advanced Recovery dialog box before recovery.

Recommendations for temporary staging folder in NMM 2.2 (LGTsc29812)

The space requirement for a temporary staging area differs depending on whether granular or optimized backup is performed. Additionally, in NMM 2.2, the space requirement for parallel staging is different. Backup may be unsuccessful if there is insufficient space for the staging folder.

Optimized backup — The free space needed is equal to the number of CPUs multiplied by the size of the largest site collection.

Granular backup — Because data is streamed to the NetWorker Server in parallel to staging, the free space requirement is a maximum of 5 GB for the manifested files. The space requirement increases if the number of objects in the SharePoint farm increases.

NMM 2.2 is not able to restore unique item, folder, or list security (LGTsc29813)

NMM SharePoint granular recovery is not able to restore the selected security permissions for a unique item, folder, or list. After restore, all the items inherit the security permissions from the parent.

Conflict resolution options do not work for few lists (LGTsc29810)

The conflict resolution options: *Restore over existing items*, *Skip if the items exists*, and *Add as a new version* do not work correctly for the following lists:

- ◆ Contacts
- ◆ Links
- ◆ Calendar
- ◆ Task
- ◆ Project task
- ◆ Custom list
- ◆ Custom list in datasheet view
- ◆ Languages and translators
- ◆ Announcement
- ◆ Issue tracking

Microsoft SharePoint error - Failed to compare two elements in the array (LGTsc29888)

This is a SharePoint setup issue. MOSS granular backup failed with the following error message:

“Notification: Staging completed with error at 5/11/2009 4:03:06 AM. Error: Failed to compare two elements in the array. An existing connection was forcibly closed by the remote host. No connection could be made because the target machine actively refused it.”

Restore to an alternate location fails if the website name contains space (LGTsc30153)

Back up a top-level website, which contains a space in its name. After successful backup, restore the website to an alternate location on the same farm or to a different farm. The restore fails and an error message appears.

Workaround

Make sure that the name of the website does not contain any space for the restore to an alternate location to be successful.

SharePoint disaster recovery (LGTsc29582)

Disaster recovery to alternate hardware does not launch SharePoint administration site and the error message “Service unavailable HTTP error 503” appears.

Workaround

[“SharePoint farm preparation for disaster recovery in standalone configuration on Microsoft Windows 2008 \(LGTsc29582\)”](#) on page 52 provides details for this issue.

Restore of SharePoint web applications fails if a web application is deleted (LGTsc20028)

If a web application is deleted, NMM cannot restore the web sites that belonged to the deleted web application.

Workaround

Create a web application, and do an alternate restore of the web sites to the newly created web application.

Backup of a large SharePoint farm requires inactivity timeout set to zero (LGTsc20555)

During the backup of a large or complete SharePoint farm, some web applications or websites may not be backed up if the inactivity timeout is not set to zero (0). Backup errors may be noted in the log file, but the backup may appear to be okay in the NetWorker Management Console.

Workaround

When configuring the NetWorker Client resource, set the inactivity timeout to zero (0) for the save group.

Required Volumes information is not displayed correctly in Microsoft SharePoint Services node (LGTsc13670)

In NMM, when you select and right-click the **Microsoft Office SharePoint Services** node or an item within that node, and then click **Required Volumes**, the volume information is not displayed. Instead, a message box is displayed:

```
NetWorker was not able to display required volumes information for the selected Microsoft Office SharePoint Services component. Please query the following node(s):
```

The message lists the nodes where the required volumes information can be found. The message may point to a local or remote host name, depending on where the SQL Server database for this Microsoft Office SharePoint Services is located.

Workaround

Query the nodes listed in the message:

1. In **NetWorker Module for Microsoft Applications**, navigate to the backup you want to check.

2. Select and right-click the **Microsoft Office SharePoint Services** node or an item within that node, and then click **Required Volumes**.

A NetWorker message box is displayed, with instructions to query the nodes that are listed in the message box.

3. Note the nodes listed in the message box, and click **OK**.
4. For each node that was listed, select and right-click the node, and then click **Required Volumes**.

Some SharePoint list items are not recovered after they were deleted from SharePoint (LGTsc20334)

Some list items are not recovered after they are deleted from SharePoint. This issue has been observed with the following types of lists:

- ◆ Announcements
- ◆ Custom List
- ◆ Survey
- ◆ Contacts
- ◆ Calender
- ◆ Task

Workaround

Try one of the following:

- ◆ Check the SharePoint Recycle Bin. If the deleted item exists in the Recycle Bin, it can be restored from there.

The default storage for the SharePoint Recycle Bin is 90 days, but this setting can be changed by the SharePoint administrator.

- ◆ Recover the list from an optimized backup of the top level site which contains the lists noted in this issue.

With an optimized backup, all items in the web application and top level site can be backed up and restored. An optimized backup is a non-granular backup, and cannot be recovered in a granular way. The optimized backup does not back up the entire SharePoint farm, and cannot be used for disaster recovery.

To perform an optimized backup, follow the steps in “Configuring a SharePoint 2007 Client resource for granular backup” in the “Microsoft SharePoint 2007 Granular Backup and

Recovery” chapter in the *EMC NetWorker Module for Microsoft Applications Release 2.2 Administration Guide* through step 13. At step 14, in the **Application information** attribute, type the following variable and value: *OPTIMIZED=true*.

- ◆ Recover the list from a full VSS-based backup.

Schedule regular full backups of the SharePoint farm, so that all items in the site collection are backed up and can be restored. The “Microsoft SharePoint Server Backup and Recovery” chapter in the *EMC NetWorker Module for Microsoft Applications Release 2.2 Administration Guide* provides complete steps for full backup and recovery of a SharePoint farm. Typically a backup plan for SharePoint includes regular full backups, for disaster recovery, and granular backups for granular recovery of specific SharePoint sites, subsites, lists, or objects.

SharePoint credentials are not set during installation (LGTsc20424)

When installing NMM on non-English versions of Windows Server 2008 x64, an error message may be displayed during NetWorker SharePoint Service Configuration. The error message may contain the following text:

“Error while modifying credentials of service” or “Unable to start the service”

Workaround

Manually set the username and password for the SharePoint service. Before assigning any user to start any service, assign permission of type “Log on as service” for each user account. For more information about “Log on as service,” consult Microsoft Server 2008 documentation.

SharePoint 2007 granular search and recovery limitations (LGTsc20363)

There are several known issues and limitations with granular recovery of SharePoint 2007 items:

- ◆ SharePoint granular search items that are marked will not appear in the summary results pane like Browse tab items do.
- ◆ You can select items from either the Browse tab or the Search tab, but not both at the same time. If an attempt is made to select from both, a warning message will be displayed.
- ◆ Within the Search tab, you can only search for one type of object.

- ◆ With leaf objects (items that are not containers), you can select multiple objects, but not the same objects from different backup times. If you try to select different versions of the same object, a warning message will be displayed.
- ◆ With container objects, you can only select one object at a time. If you try to select more than one container object, a warning message will be displayed.
- ◆ You can prevent additional messages from being displayed in this session by selecting the **Do not show this again for this session** checkbox. A session is defined as starting when the NMM client is opened, through the NMM operations, and ending when the NMM client is closed. Each time a new session is started, this checkbox is restored to the cleared (unselected) state.
- ◆ The **Update Version, Overwrite** option for in the Pre-Recovery Options dialog box does not always overwrite items if they already exist on the target. If the old version of the item is not overwritten, delete the file from the target and perform recovery of the file again.

SharePoint disaster recovery fails with SQL database recovery failure (LGTsc20972)

SQL master database recovery may fail, which causes SharePoint disaster recovery to fail. An error is displayed similar to the following:

```
63688:nsrsnap_vss_recover: NMM Cannot replace file
C:\Program Files\Microsoft SQL
Server\MSSQL.1\MSSQL\Data\master.mdf in comp master
in writer SqlServerWriter. Database must be put
into overwrite state.
```

Workaround

If this error occurs, then the specified files database needs to be moved, renamed, or deleted, and the recovery steps rerun from that point. The associated files are the master database file master.mdf and master log file mastlog.ldf.

Incorrect item names displayed in NMM granular backup of SharePoint 2007 (LGTsc19177)

In the NMM Recover view, NMM may display the wrong names in the item list for the following SharePoint list items:

- ◆ Custom list
- ◆ Custom list in datasheet view
- ◆ Import spreadsheet

When one of these lists is clicked in the navigation page, instead of displaying list item name, a number is displayed for each item name. For example: 1_.00, 2_.00, 3_.00. There is no data loss; all of the items in the list are displayed and available for selection and only the name of the item is displayed wrong.

When the item is actually recovered, the name of the item is not changed and will appear correctly in SharePoint with the original name of the item backed up.

SharePoint allows multiple items with the same name under one list (LGTsc20571)

With some types of lists, SharePoint allows multiple versions of the same item from different backups to be recovered to the same list. Duplicate items may be appended to the list instead of overwriting the item.

SharePoint assigns a unique id (GUID) to every item, so when an item is changed, it is assigned a new GUID even though the name of the item is the same. When the item is recovered, SharePoint uses the GUID, not the item name, to determine whether the recovered item is added to the list or replaces an item in the list. Multiple versions of the same item may appear in the list because they have different GUIDs.

This behavior occurs with items in the following types of lists:

- ◆ Announcement
- ◆ Calendar
- ◆ links
- ◆ Calendar
- ◆ Project tasks
- ◆ Task
- ◆ Issue tracking
- ◆ Custom list

- ◆ Custom list in Datasheet view
- ◆ Languages and Translators
- ◆ Import Spreadsheet

Workaround

After recovering items from these types of lists, check the recovered documents and delete or remove any extraneous files that may have been recovered.

SharePoint backup hangs after adding space to write NetWorker index (LGTsc27197)

If there is not enough space on the NetWorker server to write the index, a warning is displayed:

```
NetWorker index: (warning) Filesystem containing file
index for client '...' is getting full.
```

Even if you provide additional space on the NetWorker server after seeing the warning, backup fails to proceed, and no more warnings are displayed.

Workaround

1. Clear sufficient space for the index on the NetWorker server.
2. Stop the currently running backup.
3. Restart the backup.

SharePoint backup fails when host and proxy client do not match (LGTsc24206)

When using Data Mover to perform a SharePoint backup, the application host and proxy client must use the same operating system release, patch level and processor architecture:

- ◆ The application host and proxy client must be same operating system release.

For example both are Windows Server 2003 or both are Windows Server 2008.

- ◆ The application host and proxy client must be same operating system patch or service pack level.

For example, both are Windows Server 2003 R2 or both are Windows Server 2003 SP3.

- ◆ The application host and proxy client must be same processor architecture.

For example, both are x86 or both are amd64/x64.

Search for 'Object type=Folder' in SharePoint backup does not display all the folders (LGTsc26494)

When using the NMM GUI to search a SharePoint backup for an Object type=Folder, using the wild card * in the name field, only the lowest, most nested folder in the folder hierarchy is displayed. This may prevent you from locating and selecting folders within the folder hierarchy because they are not displayed. There are two workarounds available.

Workaround #1

This workaround allows you to see and select the items for recovery

1. Browse for the folder object in the NMM UI, and select it for recovery.
2. Click **Start Recovery**.

Workaround #2

This workaround allows you to select and mark items for recovery, but you will not be able to see all of the folders.

1. Perform a search for the item, selecting **Folder** as the object type and * as the search criteria.

The search results will display the lowest nested folder.
2. Select this item. When you select this item, the parent folders will automatically be selected.
3. Click **Start Recovery**.

NMM incremental backup fails for document in SharePoint Data Connection Library (LGTsc27989)

In some circumstances an incremental backup of a document in a Data Connection Library may fail with an error, "Could not find objects to back up."

This error may occur in the following circumstance:

1. A user creates a Data Connection Library list.
2. The user creates a folder, and uploads one or more documents to that folder.
3. The user performs a backup of the top level site.
4. The user uploads another document into the same folder.
5. The user performs an incremental backup and it fails with the error, "Could not find objects to back up."

This error only appears to occur when performing an incremental backup of a document added to a folder in a Data Connection Library, after backup of the top level site.

Workaround

If this error occurs, perform a full backup of the Data Connection Library or top level site.

Technical notes

Review the following technical notes for more information about NMM 2.2:

- ◆ *NetWorker Module for Microsoft Applications and EMC CLARiiON Implementing Proxy Node Backups Technical Notes* provides details on how to deploy EMC NetWorker Module for Microsoft Applications in a proxy backup configuration with EMC CLARiiON.
- ◆ *NetWorker Module for Microsoft Applications and EMC Symmetrix Implementing Proxy Node Backups 2.2 Technical Notes* provides details on how to deploy EMC NetWorker Module for Microsoft Applications in a proxy backup configuration with EMC Symmetrix.
- ◆ *Backup and Recovery of Microsoft Office SharePoint Server with NetWorker Module for Microsoft Applications 2.2 Technical Notes* provides details on how to deploy EMC NetWorker Module for Microsoft Applications to back up and recover Microsoft Office SharePoint 2007 Server.
- ◆ *Configuration Options for Exchange Backups and Recovery with NetWorker Module for Microsoft Applications Release 2.2 Technical Notes* provides detailed configuration information needed when using NMM 2.2 for backup and recovery of Microsoft Exchange.
- ◆ Review the following sections for details on issues LGTsc29582, LGTsc31397, and directed recovery for SQL databases.
 - [“SharePoint farm preparation for disaster recovery in standalone configuration on Microsoft Windows 2008 \(LGTsc29582\)”](#) on page 52
 - [“Backup and recovery of SharePoint data using NMM and NMSQL \(LGTsc31397\)”](#) on page 56
 - [“Directed recovery for SQL databases”](#) on page 57

SharePoint farm preparation for disaster recovery in standalone configuration on Microsoft Windows 2008 (LGTsc29582)

In case of a disaster loss of the SharePoint farm, the farm must be recovered to the same instance of the operating system (OS). To do this, perform a one-time backup of the OS by using Windows Server backup. Any subsequent system state and SharePoint backups can be performed using NMM.

Before recovering the farm, you must recover the OS that the farm was installed on. This disaster recovery procedure does not affect SharePoint Servers on Windows 2003.

Prerequisites:

- ◆ The Windows Server Backup output must be protected. Because this procedure involves using Windows Server Backup to back up the system to a remote location, it is critical that the system backup is protected with Networker. The remote backup of the system that was created using Windows Server backup should be backed up periodically from the remote client with Networker.
- ◆ Should a disaster of the remote server where the backup lies occur, a recovery of the server should involve recovery of this backed up data (for the SharePoint host). This is important because without this, the backed up data can expire on the Networker server and eventually be overwritten.
- ◆ Multi-server farm must be protected. Each node in the farm must be protected by using this procedure.

Recovering the OS

Note: In addition to successful OS recovery to the same hardware with reformatted hard drive, these steps can be used for OS recovery on an alternate but the same type of hardware with unknown state of the hard disk. If the OS does not boot up and “Safeboot has been corrupted” error message appears, format the drive, perform full installation of the OS, and then follow these steps.

To recover the OS:

1. Start the computer by using Windows 2008 installation DVD. In the first OS installation screen, click **Next**. Now, instead of selecting **Install now**, which installs a brand new instance of the OS, click **Repair your computer** option.

2. In the **System Recovery Option** dialog box, which assumes the existence of a clean hardware and shows up empty, click **Next**.
3. Click the **Command Prompt** link and a command window is started. Type the following command:

```
netsh interface ipv4 show interfaces
```

A list of all available network interfaces appears.

4. In the **System Recovery Options** dialog box, select **Windows Complete PC Restore**. The error message "A valid backup location could not be found" appears. Click **Cancel**.
5. Select **Restore a different backup**, and click **Next**.
6. In the **Select the location of the backup** dialog box, click **Advanced**, and then **Search for a backup on the network**. Click **Specify the location**. At this point the network adapter driver is installed. To verify, go back to the command window and type:

```
netsh interface ipv4 show interfaces
```

Two available network interfaces, loopback, and Local area Connection are displayed. If the *Local area Connection* is not listed, you will have to install the network driver provided by the manufacturer, which can be done from **Install a driver** link on **Windows Complete PC Restore Advanced...** dialog box.

7. Configure the **Local Area Connection** network to the same static IP as the original machine. In the command window type:

```
Start /w wpeinit
```

and then:

```
netsh interface ipv4 set address name = "<idx>"  
source=static address=<staticIP>
```

```
mask=<SubnetMask> gateway=<DefaultGateway>
```

for example:

```
netsh interface ipv4 set address name="2"  
source=static address=10.5.221.149  
mask=255.255.2550 gateway=10.5.221.1
```

8. Type **ipconfig** to verify if the new IP is set. You should be able to ping the machine that has the shared folder with the OS backup.

9. Go back to the **Windows Complete PC Restore** window, select **Advanced**, and then **Search for a backup on the network**. Type the location of the shared drive, where OS backup resides.

For example:

```
\\128.222.171.53\shared
```

10. Click **OK**. Log on as required and the backup location should be displayed. Select the backup location and click **Next**.
11. In the next window, select the backup date and click **Next**.
12. In the **Choose how to restore the backup** window, select the **Format and repartition disks** option and click **Next**. Click **Finish** and then **OK**.
13. After the restore completes, reboot the machine.

Performing SharePoint recovery

To perform the SharePoint recovery:

1. Start the NMM GUI and in the tree, select C: volume. Expand the C: volume node and deselect *Legato* folder under **Program Files**.
2. In **Options** menu, click **System Recover Session Options** and on **NetWorker** tab, clear **Use Microsoft best practices for selecting the system state** checkbox. In the browse tree, select **SYSTEM COMPONENTS** node, but clear **Microsoft Office Search** and **Microsoft Office SharePoint Search** options, which are recovered later as a part of SharePoint recovery.
3. Start the recovery and reboot when completed.
4. Recover SQL system databases. In the NMM tree view, expand **SqlServerWriter** node and under **APPLICATIONS**, select **master, model, msdb, ReportServer, ReportServerTempDB**.
5. Start the **Microsoft Office SharePoint Service**, and reboot when completed.
6. Recover **MOSS**. In the NMM tree view, expand **APPLICATIONS** node and select **Microsoft Office SharePoint Service**.
7. Start the SharePoint farm recovery.

Recovering the SharePoint farm

To recover the SharePoint farm:

1. Install **Windows Server Backup** by using **Server Manager**.

Log on to the Windows Server 2008 system as an administrator. Click **Start > All Programs > Administrative Tools**, and select **Server Manager**. In the tree pane, select the **Features** node and in the tasks pane, select the **Add Features** link. Select **Windows PowerShell** and **Windows Server Backup Features** options and complete the feature installation.

2. Run a manual backup to remote server share.

Start **Server Manager** and on the Storage node, select **Windows Server Backup**. In the **Actions** pane, click on the **Backup Once** link to start the wizard. Select different options and click **Next**.

3. In the **Select Backup Configuration** window, click **Custom**, and **Next**.
4. In **Select Backup Items** window, verify that the **System volume** and **Enable system recovery** options are checked, and click **Next**.
5. In **Specify Destination Type** window, select **Remote Shared Folder**, click **Next** and type the UNC path of the remote server share.
6. In **Specify Advanced Options** window, leave the default VSS copy backup, complete the wizard, and the backup.
7. Backup the SharePoint farm using NMM.

Configure NetWorker to back up system volume, system components, SQL system databases, and SharePoint. The saveset may look like this:

```
C:\
SYSTEM COMPONENTS:\
APPLICATIONS:\SqlServerWriter\\master
APPLICATIONS:\SqlServerWriter\\model
APPLICATIONS:\SqlServerWriter\\msdb
APPLICATIONS:\SqlServerWriter\

```

8. Reboot the system.

Backup and recovery of SharePoint data using NMM and NMSQL (LGTsc31397)

You can back up and recover SharePoint data using NMM and NMSQL where:

- ◆ NMM 2.2 provides disaster recovery protection for the SharePoint control databases such as CFG database, SSP web application, and search, and SharePoint granular protection.
- ◆ NMSQL provides SharePoint content database disaster recovery protection, provided that the content databases are on a separate server or cluster.

The advantages of backing up data using NMM and NMSQL include the use of full, differential, and incremental backups for SharePoint content databases and directed recoveries to alternate locations for use with third-party data mining applications. This procedure also allows direct SAN backups for SharePoint content databases using NetWorker dedicated storage node capabilities with NMSQL.

For example, you could be using:

- ◆ One Web Front-End, which is protected by NMM and configured for NMM SharePoint granular backup (full or differential).
- ◆ One SharePoint CFG database server, protected by NMM.
- ◆ One SharePoint Search database or index server, protected by NMM.
- ◆ One SharePoint or SQL content database cluster, protected by NMSQL and configured with dedicated storage node, SAN backups, and full or differential backups. The dedicated storage node can be created by installing NetWorker Storage Node and NMSQL on the host.

Use the following procedure for backup:

1. Configure SharePoint Web Front-end and SharePoint Central Administration in NMM for backup. Use the command **nsrsnap_vss_save -?** and provide the saveset from the command for the configuration.
2. Configure a separate group for SQL database backup through NMSQL. Backup is successful for both groups.

Use the following procedure for recovery:

1. Make sure to stop all SharePoint services because recovery will fail when database is in use.
2. Start recovery of SharePoint database from Web Front-end. The dependency dialogue to recover SQL databases appears.
3. Recover SharePoint database from SharePoint Server Central Administration. The dependency dialogue to recover SQL databases appears. You must first recover SQL.
4. Recover SQL through NMSQL.
5. Recover all SQL databases protected by SharePoint.
6. Now continue to recover NMM SharePoint data on both Web Front-end and Central Administration.

Directed recovery for SQL databases

The salient features are:

- ◆ SQL databases can be selected for directed recovery.
- ◆ The directed recovery is *Pull* directed recovery, where the NMM GUI is started on the machine to which the SQL database is restored.
- ◆ Once restore is complete, manual attachment of the SQL database using tools outside of NMM, for example SQL Management Studio, is required.

The directed recovery procedure does not use SQL Writer. A restore performed without using SQL Writer guarantees a crash-consistent database, which means that there are no torn or corrupted pages. But all transactions which were in progress at the time of the snapshot are rolled back. Users would lose the ability to restore the database with no recovery, and apply log backups to it.

Steps for directed recovery for SQL databases

Verify the following before restoring the SQL database content:

- ◆ The target machine, on which NMM GUI is started and the source machine are added as client resource on NetWorker.
- ◆ The recovery drive is available and has sufficient free disk space to accommodate the data. The disk space should be the same as the database to be recovered.

Perform the following steps for directed recovery of SQL databases:

1. Start the NMM GUI on the machine to which the SQL database is recovered.
2. Select the NetWorker Server containing the SQL backups, as described in [“Selecting the NetWorker Server” on page 59](#).
3. Select the client whose backup has been taken, from the NMM GUI, as described in [“Selecting the client” on page 60](#).
4. Select the desired SQL backups, as described in [“Selecting the desired SQL databases for directed recovery” on page 62](#).
5. Recover the SQL databases:
 - To the default recovery path, as described in [“Recover using default recover path” on page 63](#).
 - or —
 - To an alternate location from the SQL tab, as described in [“Recover using an alternate path” on page 65](#).
6. Select Start Recover.
7. When the recovery is complete,
 - a. Copy the recovered .mdf and .ldf files to the desired location, which may be on the same drive or different drive.
 - b. Using **SQL Management Studio**, manually attach the .mdf and the .ldf files from the respective locations.

[“Attaching the recovered SQL databases” on page 69](#) provides details.

For multiple NMM directed recovery on same recovery farm, use the same procedure for each of the source client. Provided there is not media access conflict, the restores can take place in parallel.

Selecting the NetWorker Server

To select the NetWorker Server containing the SQL backups:

1. To change the currently selected server, click the **Change NetWorker Server** icon on the toolbar. [Figure 1 on page 59](#) shows the **Change NetWorker Server** icon.

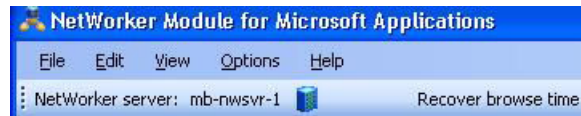


Figure 1 Change Server icon

The **Change NetWorker Server** dialog box as shown [Figure 2 on page 59](#), appears.

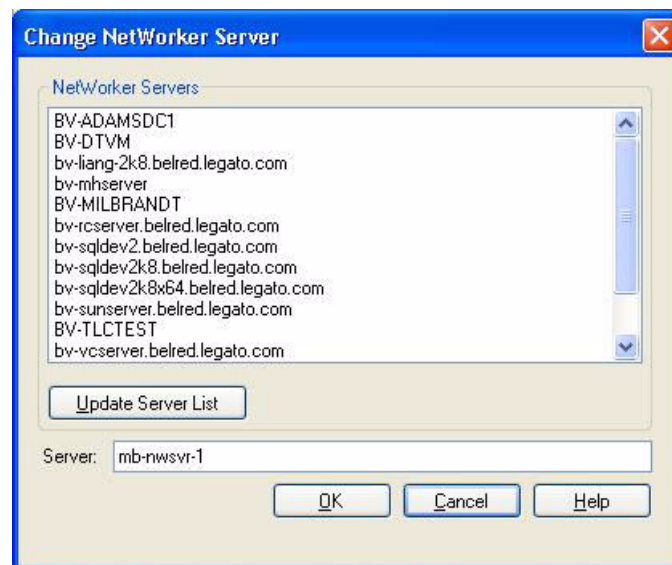


Figure 2 Change NetWorker Server dialog box

- a. Click the **Update Server List** button to refresh the list of NetWorker Servers.
 - b. Select the desired NetWorker Server and click **OK**.
2. Select the backed up client machine, as described in ["Selecting the client" on page 60](#).

Selecting the client

To select the client:

1. From the **Options** menu, select the **Configure Options...** to add the backed up client machine to the list of client machines that you can browse. [Figure 3 on page 60](#) shows the **Configure Options...**



Figure 3 Configure Options

The **Configuration Options** dialog box as shown in [Figure 4](#) on [page 61](#), appears.

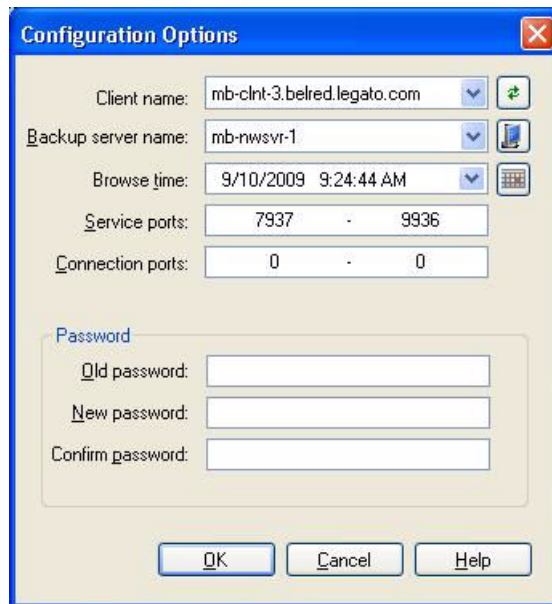


Figure 4 Configuration Options dialog box

2. Click the button next to the **Client name** field.

The **Select Viewable Clients** dialog box as shown in [Figure 5](#) on [page 61](#), appears.

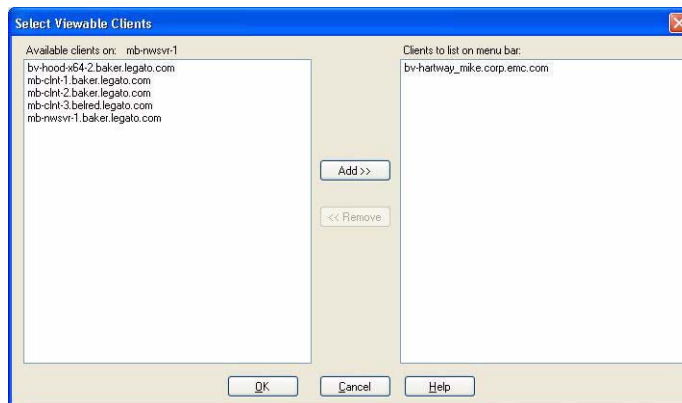


Figure 5 Select Viewable Clients dialog box

3. Select the backed up SQL Client from the **Selected clients on:** list and click **Add >>** to add the selected client to the list of clients in the **Client to list on menu bar:** list. Click **OK**.

The **Client** menu in the NMM GUI displays the list of selected clients that you can browse.

4. Select the desired SQL Client in the **Client** menu. [Figure 6 on page 62](#) shows the **Client** menu.

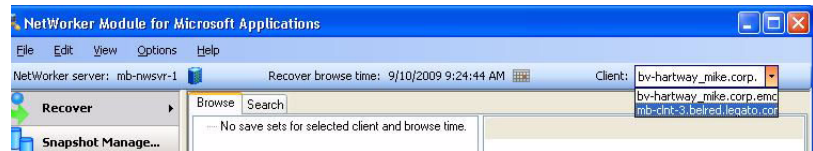


Figure 6 Client menu

5. Select the desired SQL Server for directed recovery as described in [“Selecting the desired SQL databases for directed recovery” on page 62](#).

Selecting the desired SQL databases for directed recovery

To select the desired SQL databases for directed recovery:

1. After the application reloads the current browse tree, make sure that the **System Recover Session** option is selected.

The Microsoft SQL Server application backups are now displayed for directed recover browsing in the current browse tree. [Figure 7 on page 62](#) shows the **System Recover Session** option.



Figure 7 System Recover Session plug-in

- Expand the **APPLICATIONS > SqlServerWriter** tree nodes, as shown in [Figure 8 on page 63](#).

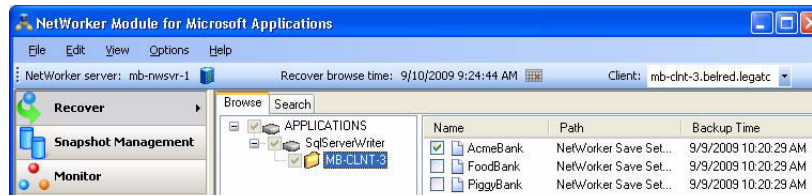


Figure 8 APPLICATIONS and SqlServerWriter nodes

- Select the desired instance and databases. Note that SQL System databases are not supported for SQL directed recovery.
- Recover the SQL databases:
 - To the default recover path, as described in [“Recover using default recover path” on page 63](#).
 - or
 - To an alternate location from the SQL tab, as described in [“Recover using an alternate path” on page 65](#).

Recover using default recover path

To recover SQL databases using the default recover path:

- Under the **System recover Session**, click **Recover...** [Figure 9 on page 63](#) shows the **Recover...** option.



Figure 9 Recover option

The **System Recover Session Options** dialog box as shown in [Figure 10 on page 64](#), appears.



Figure 10 System Recover Session Options dialog box

2. Click the **SQL** tab.
3. Select the **Restore SQL file to local machine using their original directory path** option.
4. Click **OK**.

The **File System Recover Summary** form as shown in [Figure 11 on page 64](#), appears.

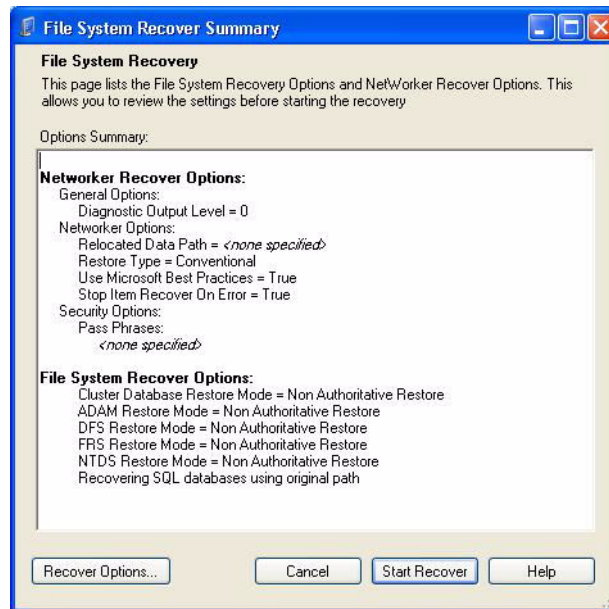


Figure 11 File System Recover Summary dialog box

Note: The SQL database recover path is based on the original path. This is the default SQL recover path option.

- Click **Start Recover** to initiate the directed recover.

Switch to the **Monitor** window to view the status and progress of the recover, as shown in [Figure 12 on page 65](#).

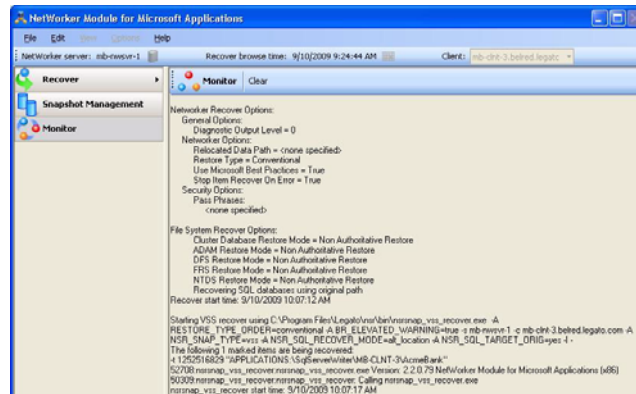


Figure 12 Monitor window

Recover using an alternate path

There are two alternate ways of navigating to the System Recover Session Options dialog box where an alternate SQL recover path can be specified:

- ◆ Selecting Recover Options... from the toolbar.
- ◆ Selecting the Recover Options... button in the File System Recover Summary dialog box as shown in [Figure 11 on page 64](#).

This section describes how you can use the Recover Options... option from the toolbar to select an alternate recover path to recover SQL databases.

To recover SQL databases using an alternate recover path:

1. Under **System Recover Session**, click **Recover Options...**
[Figure 13 on page 66](#) shows the **Recover Options...**



Figure 13 Recover Options

Note: The SQL tab is visible under Recover Options only when the source client SQL database backup is accessed and marked for recovery from the Client menu of the target client NMM GUI.

The **System Recover Session Options** dialog box appears.

2. Click the **SQL** tab.
3. Specify the destination path for the SQL databases. Select the **Specify the file system path where the SQL database(s) should be restored** option to enable the **Browse** button, as shown in [Figure 14 on page 66](#). The field is read-only and you cannot manually type a path. Click the **Browse...** button.

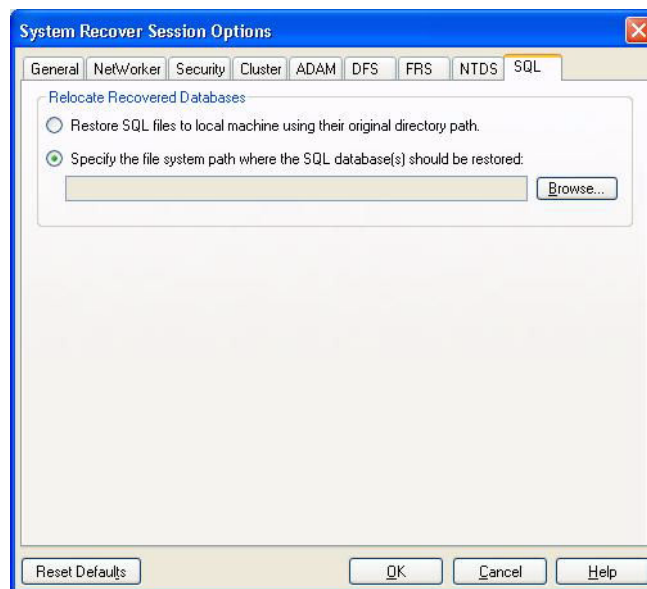


Figure 14 System Recover Session Options dialog box

The **Browse For Folder** dialog box as shown in [Figure 15 on page 67](#), appears.



Figure 15 Browse For Folder dialog box

Although you can select a network share in the **Browse For Folder** dialog box, it is not valid and you are informed when the recover is started.

4. Select the desired recover location and click **OK**. The **System Recover Session Options** dialog box appears.
5. Click **Recover....** The **File System Recover Summary** form appears.
6. Click **Start Recover** to initiate the directed recover.

If the SQL alternate recover path is invalid, for example, blank or network share, the error message dialog box as shown in [Figure 16 on page 67](#), appears.



Figure 16 Invalid Recover Options error message dialog box

7. Switch to the **Monitor** window as shown in [Figure 12 on page 65](#) to view the status and progress of the recover.

*Examples of log messages
in NMM log file and
Monitor window*

Examples of messages for SQL directed recover in both the NMM Log file and the UI Monitor window:

Case 1: Restore to original location messages in NMM log.

```
Command line:\n C:\Program
Files\Legato\nsr\bin\nsrsnap_vss_recover.exe -A
RESTORE_TYPE_ORDER=conventional -A
BR_ELEVATED_WARNING=true -s
mb-nwsvr-1.baker.legato.com -c
mb-clnt-3.belred.legato.com -A NSR_SNAP_TYPE=vss -A
NSR_SQL_RECOVER_MODE=alt_location -A
NSR_SQL_TARGET_ORIG=yes -I -

nsrsnap_vss_recover: flag=A
arg=NSR_SQL_RECOVER_MODE=alt_location

nsrsnap_vss_recover: flag=A
arg=NSR_SQL_TARGET_ORIG=yes

NMM .. Performing SQL directed restore.

NMM .. SQL directed restore will relocate database
files to their original locations.
```

Case 2: Restore to alternate location messages in NMM log.

```
Command line:\n C:\Program
Files\Legato\nsr\bin\nsrsnap_vss_recover.exe -A
RESTORE_TYPE_ORDER=conventional -A
BR_ELEVATED_WARNING=true -s
mb-nwsvr-1.baker.legato.com -c
mb-clnt-3.belred.legato.com -A NSR_SNAP_TYPE=vss -A
NSR_SQL_RECOVER_MODE=alt_location -A
NSR_SQL_TARGET_DIR=E:\ -I -

nsrsnap_vss_recover: flag=A
arg=NSR_SQL_RECOVER_MODE=alt_location

nsrsnap_vss_recover: flag=A
arg=NSR_SQL_TARGET_DIR=E:\

NMM .. Performing SQL directed restore.

NMM .. SQL directed restore will relocate database
files to path [E:\].

NMM .. SQL directed restore relocating database
files for database
[APPLICATIONS:\SqlServerWriter\MB-CLNT-3\AcmeBank].
```

```
NMM .. SQL directed recover, relocating file  
[C:\Program Files\Microsoft SQL Server  
\MSSQL10.MSSQLSERVER\MSSQL\DATA\AcmeBank.mdf] to  
[E:\Program Files\Microsoft SQL Server\  
MSSQL10.MSSQLSERVER\MSSQL\DATA\AcmeBank.mdf].
```

```
NMM .. SQL directed recover, relocating file  
[C:\Program Files\Microsoft SQL Server  
\MSSQL10.MSSQLSERVER\MSSQL\DATA\AcmeBank_log.ldf]  
to [E:\Program Files\Microsoft SQL Server\  
MSSQL10.MSSQLSERVER\MSSQL\DATA\AcmeBank_log.ldf].
```

```
NMM .. SQL directed recover, relocating file  
[C:\Program Files\Microsoft SQL Server  
\MSSQL10.MSSQLSERVER\MSSQL\DATA\AcmeBank2.mdf] to  
[E:\Program Files\Microsoft SQL Server\  
MSSQL10.MSSQLSERVER\MSSQL\DATA\AcmeBank2.mdf].
```

Attaching the recovered SQL databases

To manually attach the recovered SQL databases:

1. Start the **SQL Management Studio**.
2. Start attachment of SQL database from the **SQL Management Studio**.
3. In the **SQL Attach Database** dialog box, locate the primary data file to attach. SQL restores all primary database files (.mdf), logs files (.ldf), and secondary database files (.ndf), if present. The SQL administrator must know which files are the primary data files.

Once the primary data file is attached, SQL automatically identifies the other database files, provided the files are all at same location. If the files are not in the same location, then you must specify the respective locations of the restored .mdf, .ldf, and .ndf files.

4. Click **OK** to create the database.

The database is now created and available.

Troubleshooting issues

Review the following to troubleshoot issues that might come up during directed recovery of SQL databases:

- ◆ Ensure that the client machine where directed recovery browsing is performed has NMM 2.2 Build 88 or later installed, otherwise the SQL databases do not display for directed recover browsing.
- ◆ Restore one database at a time. For directed recovery of multiple databases, separate paths cannot be provided for each database. All the selected databases are restored to a single target path.
- ◆ While performing directed recovery for SQL, if the database files of the database which is to be recovered already exist at the target location, then the existing files are overwritten.

If this overwrite fails, because may be the files are in use by SQL, perform restore-at-reboot semantics and the files are replaced with the restored version once the reboot occurs. For the restore-at-reboot, the Reboot to complete recovery dialog box appears.

- ◆ Review the following known problems and limitations:
 - Directed recovery is not allowed from SQL System database.
 - Directed recovery of filestream database is not supported.
 - Directed recovery of TDE Encryption database is not supported.
 - Cross platform SQL directed recovery is not supported. For example, SQL backup on Windows 2008 and recovery on Windows 2003 or vice versa is not supported.
 - Directed recovery to the same machine is not supported.
 - Directed recovery to encrypted target is not supported.
 - Directed recovery to compressed drive is not supported. Although recovery takes place, the database attachment fails.
 - SQL DPM directed recovery is not supported.
 - No validation that the restore target paths are clustered paths is available.

If back up of the ADAM Writer is taken on a machine, and the source client is selected from the Client menu of the NMM GUI, then the ADAM Writer of the source machine is visible under Snapshot Management tab of the NMM GUI of the target machine.

Documentation

The documentation for NMM is available at:

<http://Powerlink.EMC.com>

Related documents include:

- ◆ *EMC Module for Microsoft Applications Release 2.2 Administration Guide*
- ◆ *EMC Module for Microsoft Applications Release 2.2 Installation Guide*
- ◆ *EMC NetWorker Release 7.5.x Multiplatform Version Administration Guide*
- ◆ *EMC NetWorker Release 7.5.x Multiplatform Version Installation Guide*
- ◆ *EMC NetWorker Release 7.5.x Multiplatform Version Release Notes*
- ◆ *EMC Information Protection Software Compatibility Guide*
- ◆ *EMC NetWorker License Manager Seventh Edition Installation and Administration Guide*
- ◆ *EMC Solutions Enabler Symmetrix CLI Version 6.3 Quick Reference*

Note: For updated disaster recovery information, consult the *EMC Module for Microsoft Applications Release 2.2 Administration Guide*.

Errata and changes in documentation

In addition to the documentation for NMM 2.2, review this section.

Additional information on supported NetWorker Server hosts

In addition to the hosts listed in section “Supported NetWorker Server hosts” of the *EMC Module for Microsoft Applications Release 2.2 Administration Guide*, both HP-UX PA-RISC and HP-UX IA64 are supported.

Incorrect string listed for 'Snapshot Policy' in administration guide (LGTsc30246)

In the *EMC Module for Microsoft Applications Release 2.2 Administration Guide*, section “Additional Exchange backup and recovery best practices” the valid values for Snapshot Policy are *All*, *None*, *First*, *Last*, or *Every[n]*. The value *always*, currently used in the text is incorrect.

Corrected text:

Avoid using copy-on-write for Microsoft Exchange snapshots for anything other than temporary snapshots. Copy-on-write can be used if data is to be backed up with the "All, None, First, Last, or Every[n]" setting in the Snapshot Policy in NetWorker Management Console. Otherwise, for reliable snapshots, split-technology such as cloning or mirroring is required.

Error in commands for silent installation and removal of NMM (LGTsc31807)

Instead of the commands in the table in section "Commands for silent installation of NMM" in *EMC Module for Microsoft Applications Release 2.2 Installation Guide*, use the commands given below:

Table 4 Commands for silent installation of NMM

Option	Description
<code>setup /s /v" /qb"</code>	Silent installation with progress bar.
<code>setup /s /v" /qn"</code>	Basic installation with no progress bar.
<code>setup /s /v" /qn /L*v """"%TEMP%\filename.log""""</code>	Installs NMM and creates a MSI log file. This command is useful for troubleshooting installation problems. The log file is created in the %TEMP% directory. Make sure to use triple quotes in the command in case the %TEMP% path contains spaces.

Instead of the commands in section "Sample commands for silent installation of NMM" in *EMC Module for Microsoft Applications Release 2.2 Installation Guide*, use the commands given below:

Instead of	Use
<code>\networker\setup.exe /s /v"/qn /L*v """"%TEMP%\filename.log"""" INSTALLDIR=""c:\Legato\nsr"" SERVERS=""server1 server2"" /w</code>	<code>\networker\setup /s /v" /qn /L*v """"%TEMP%\NMMinstall11.log"""" INSTALLDIR=""c:\Legato\nsr"" NW_SERVERS=""server1 server2"" " /w</code> Note: Make sure that there is space between (/v) and ("/qn).

Instead of the commands in section “Commands for silent removal of NMM” in *EMC Module for Microsoft Applications Release 2.2 Installation Guide*, use the commands given below:

Instead of	Use
<code>\networkr\ps\setup.exe /s /v"/qn /L*v """"%TEMP%\PSinstall.log"""" /x</code>	<code>\networkr\ps\setup.exe /s /v "/qn /L*v """"%TEMP%\PSuninstall.log"""" /x</code> Note: Make sure that there is space between (") and (/x), and space between (/v) and ("/qn).
<code>\networkr\setup.exe /s /v"/qn /L*v """"%TEMP%\NMMinstall.log""""NW_REMOVEMETADATA=1" /x</code>	<code>\networkr\setup.exe /s /v "/qn /L*v """"%TEMP%\NMMuninstall.log"""" NW_REMOVEMETADATA=1" /x</code> Note: Make sure that there is space between (") and (/x), and space between (/v) and ("/qn).

Verifying the installation (LGTsc30243)

The complete list of services that must be up and running after NMM 2.2 is installed are:

- ◆ For NetWorker — nsrexecd.exe
- ◆ For PowerSnap — nsrpsd.exe
- ◆ For Replication Manager — irccd.exe
- ◆ If NMM detects SharePoint during installation — NetWorker SharePoint Service Controller
- ◆ If NMM detects Exchange during installation — Replication Manager Exchange Interface

Software media, organization, and files

Information on software media, organization, and files is provided in the *EMC Module for Microsoft Applications Release 2.2 Installation Guide*.

Installation

The *EMC Module for Microsoft Applications Release 2.2 Installation Guide* contains details on installation of the NMM Client.

Note: Before performing a NMM client software upgrade, remove all existing snapshots. Also, ensure that PowerSnap snapshot entries are deleted before upgrading. Delete PowerSnap entries using the PowerSnap Client SnapManager or `nsmadmin`.

This section contains information on:

- ◆ [“Microsoft hotfixes required for NMM 2.2” on page 74](#)
- ◆ [“Client security vulnerability hotfix in NMM 2.1 SP1 build 165 \(LGTsc30291\)” on page 78](#)
- ◆ [“NMM 2.2 build 96 kit” on page 79](#)

Microsoft hotfixes required for NMM 2.2

[Table 5 on page 74](#) lists the hotfixes required for NMM 2.2. Consult EMC Support at <http://Powerlink.EMC.com> for requirements for STORport and Replication Manager. Download the hotfixes from the Microsoft website.

Table 5 Hotfixes required for NMM 2.2 (page 1 of 5)

Hotfix ID	W2K3 X86	W2K3 X64	W2K8 X32	W2K8 X64	Applies to	Description
Volume shadowcopy service (VSS)						
KB940349	X	X			VSS	VSS update rollup package for Windows Server 2003 to resolve some VSS snapshot issues.
KB951568	X				VSS	VSS-based backup operations may fail if VSS tracing is enabled on a Windows Server 2003-based computer that has hotfix 940349 applied.
KB949391	X	X			VSS	When VSS tries to delete hardware support snapshots on a computer that is running Windows Server 2003 or an x64 version of Windows XP, the operation may fail.

Table 5 Hotfixes required for NMM 2.2 (page 2 of 5)

Hotfix ID	W2K3 X86	W2K3 X64	W2K8 X32	W2K8 X64	Applies to	Description
KB943545	X	X			VSS	The following error message is displayed by the IOCTL_SCSI_GET_INQUIRY_DATA operation on a Windows Server 2003-based computer: "STATUS_INVALID_DEVICE_REQUEST"
KB939315	X	X			VSS	<p>Note: Only apply this hotfix if needed.</p> <p>When you shut down a computer that is running the Microsoft Storport storage driver (Storport.sys) on Windows Server 2003 Service Pack 2 (SP2), you may receive a "Stop 0x0000009C" error message that resembles the following:</p> <pre> *** STOP: 0x0000009C (parameter1, parameter2, parameter3, parameter4) MACHINE_CHECK_EXCEPTION </pre> <p>This error occurs because of a problem in the version of Storport that is included in Windows Server 2003 SP2 and in update 932755. These versions of Storport incorrectly forward interrupts to the miniport after the PCI bus is in the "device off" state (D3).</p>
Storage arrays						
KB908980	X	X			CLARiiON Storport Drivers	For Windows Server 2003 configurations running STORport drivers with CLARiiON storage arrays.
KB916048	X	X			Symmetrix/ CLARiiON	Hot fix for any host running Microsoft Windows Server 2003/SP1 or Microsoft Windows Server 2003/R2 and connected to Symmetrix or CLARiiON storage.
KB903081	X	X			Symmetrix Storport Drivers	Hotfix WindowsServer2003-KB903081-x86-ENU.exe available for Windows Server 2003 configurations running STORport drivers with Symmetrix storage arrays.
EMC Replication Manager SP1 (RM)						
KB891957	X	X			RM	Microsoft hotfix WindowsServer2003-KB891957-x86-ENU.exe for Replication Manager SP1. Update is available that fixes various Volume Shadow Copy Service issues in Windows Server 2003.

Table 5 Hotfixes required for NMM 2.2 (page 3 of 5)

Hotfix ID	W2K3 X86	W2K3 X64	W2K8 X32	W2K8 X64	Applies to	Description
KB898790	X	X			RM	Microsoft hotfix WindowsServer2003-KB898790-x86-ENU.exe for Replication Manager SP1. Volume mount points on disks in a server cluster may intermittently become unavailable after you install Windows Server 2003 Service Pack 1.
KB912063	X	X			RM	Microsoft hotfix WindowsServer2003-KB912063-x86-ENU.exe for Replication Manager SP1. A Windows Server 2003-based computer stops responding when you perform a backup of an Exchange Server database.
Microsoft SQL Server						
KB934396	X	X	X	X	Microsoft SQL Server 2005	Apply this hotfix if you are using SQL Server 2005. Although Microsoft SQL Server 2005 Service Pack 2 and 3 include this hotfix, do not apply this hotfix.
Microsoft SharePoint						
KB971538	X				Microsoft SharePoint 2007; SharePoint Services 3.0 Service Pack 2	<p>Note: If you have already installed hotfix 961755, then <i>also</i> install hotfix 971538. If you have not installed hotfix 961755, then install <i>only</i> hotfix 971538.</p> <p>Cumulative update packages for Windows SharePoint Services 3.0 contain hotfixes for the Windows SharePoint Services 3.0 issues that were fixed since the release of Windows SharePoint Services 3.0. This build of the cumulative update package is also known as build 12.0.6510.5001.</p> <p>Go to the Microsoft support website and search for KB971538 - "Description of the Windows SharePoint Services 3.0 Cumulative Update Server Hotfix Package (WSS server-package): June 30, 2009" and follow the directions provided on the website.</p>

Table 5 Hotfixes required for NMM 2.2 (page 4 of 5)

Hotfix ID	W2K3 X86	W2K3 X64	W2K8 X32	W2K8 X64	Applies to	Description
KB961755	X				Microsoft SharePoint 2007; SharePoint Services 3.0	<p>Installation of "Windows SharePoint Services 3.0 Cumulative Update package: February 24, 2009" can significantly improve SharePoint granular backup performance, due to improvements in how SharePoint gathers item metadata for staging.</p> <p>The cumulative update packages for Windows SharePoint Services 3.0 contain hotfixes for the Windows SharePoint Services 3.0 issues that have been fixed since the release of Windows SharePoint Services 3.0. Installation of this cumulative update applies to Microsoft SharePoint Server 2007 and Windows SharePoint Services 3.0 installations. This build of the cumulative update package is also known as build 12.0.6341.5000.</p> <p>Go to the Microsoft support website and search for KB961755 — "SharePoint Services 3.0 Cumulative Update package: dated February 24, 2009" and follow the directions provided on the website.</p>
Microsoft Hyper-V						
KB950050			X	X	Microsoft Hyper-V	If this update is not installed prior to recovery, the system will not come back after recovery of SYSTEM COMPONENTS.
KB967560			X	X	Microsoft Hyper-V	When a scheduled save is started, the following error message may appear in the event viewer: "ASR Error: Failed to collect critical information for ASR Backup." The reason is ASR is unable to obtain disk information for device 3 (Win32 error code 0x2).
KB951308			X	X	Microsoft Hyper-V	Apply to each cluster node for cluster deployment. This provides increased functionality and virtual machine control in the Windows Server 2008 Failover Cluster Management console for the Hyper-V role.
KB956697				X	Microsoft Hyper-V	When the Hyper-V writer seems to go missing due to the presence of corrupt Virtual Machine configuration files in the Hyper-V Server.
KB958184				X	Microsoft Hyper-V	When virtual machine files are saved on a volume mounted on a failover cluster using a volume GUID.

Table 5 Hotfixes required for NMM 2.2 (page 5 of 5)

Hotfix ID	W2K3 X86	W2K3 X64	W2K8 X32	W2K8 X64	Applies to	Description
KB959962				X	Microsoft Hyper-V	Hyper-V writer update if the backup fails for one of the following reasons: <ul style="list-style-type: none"> • Retryable VSS error. • VSS application writer provider is going to bad state. • If recovery of a virtual machine is failing because it has legacy network adaptors attached. After performing this update, you must update the integration services on each of the virtual machines running on the server by inserting the Integration Services Disk from the Action menu in the virtual machine's management console. This will require a restart of virtual machine.
KB960038			X	X	Microsoft Hyper-V	Apply to all Hyper-V hosts. This update for Windows Server 2008 fixes a crash of the Hyper-V host server which you may experience when backups are made using Hyper-V writer.
KB959978			X	X	Microsoft Hyper-V	Apply when you back up a Windows Server 2003-based virtual machine on a Windows Server 2008 Hyper-V-based computer and get the following message: <pre>"GetWriterStatus FAILED for Selected writer [Microsoft Hyper-V VSS Writer], writer is in state [9] [VSS_WS_FAILED_AT_FREEZE]"</pre>

Client security vulnerability hotfix in NMM 2.1 SP1 build 165 (LGTsc30291)

The NMM 2.2 release already contains this hotfix.

This hotfix contains the solution for issue LGTsc30291: Security Fix for RMAPI Service, ZDI-CAN-451, ESA-09-010 and is required for NMM 2.1 SP1. The *EMC NetWorker Module for Microsoft Applications Release 2.1 Release Notes* contains details about this hotfix.

NMM 2.2 build 96 kit

NMM 2.2 build 96 is available on the EMC Support website at <http://Powerlink.EMC.com>. The *EMC NetWorker Module for Microsoft Applications Release 2.2 Installation Guide* contains installation information.

Before installing this build, make sure to uninstall any other version of NMM that you may have installed. The Support article esg110964 “How to detect if NMM is uninstalled correctly” provides details about how to make sure that the previously installed version of NMM is uninstalled correctly.

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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