

SnapManager® 1.5 for Microsoft® SQL Server™

Release Notes

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Topics covered

About this document

These release notes cover the following topics:

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Features of this release

New and enhanced features

The major new and enhanced features of SnapManager® 1.5 for Microsoft® SQL Server™ include the following items:

- ◆ Enables the restore of a single database from a backup when multiple databases are collectively stored on a single LUN
- ◆ Support for up to 600 databases: 100 databases per SQL Server instance and up to six instances per single SQL Server
- ◆ Supports the storage of 100 databases per LUN (or 100 databases per volume)
- ◆ More flexible database layouts supported to concur with best practices
For example, all databases files (the .mdb files and the .ndf files) can be stored on LUN1, and all transaction log files (the .ldf files) can be stored on LUN2.
- ◆ Eliminates the need for a separate database verification server in a cluster configuration
A local instance on a cluster node can serve as a verification server. Previously, a local instance on a standalone server separate from the cluster nodes was required, costing additional hardware.
- ◆ Command line interface (CLI) support in addition to graphical user interface (GUI) operation, enabling backup and verification operations and better product flexibility and extendibility
- ◆ Enables better archiving support via post-backup command execution (including archival using SnapVault™ software)
- ◆ Multiple management groups for designating various levels of backup retention: standard, daily, and weekly
- ◆ Backup naming convention: generic name and unique name
- ◆ Support for FlexVol™ technology when used with Data ONTAP™ 7.0, enabling optimized storage management:
 - ❖ Flexible database layout for improved application performance
 - ❖ The ability to grow or shrink LUNs used for storing an SQL Server database, resulting in improved storage utilization

Note

FlexVol technology is also compatible with SnapManager 1.0 for Microsoft SQL Server, although the technology was not available at the time that SnapManager 1.0 for Microsoft SQL Server was launched. FlexVol technology was introduced in Data ONTAP 7.0.

- ◆ Selectable SnapMirror® update after operation
- ◆ GUI enhancements and improved error message reporting
- ◆ Unattended installation

Features introduced with SnapManager 1.0 for Microsoft SQL Server

SnapManager 1.0 for Microsoft SQL Server, the previous version of SnapManager for Microsoft SQL Server, introduced the following capabilities:

- ◆ Near-instantaneous hot backups and near-online restores, which reduce backup and recovery times from hours or days to minutes
- ◆ Automation of administrative tasks with an easy-to-use user interface
- ◆ Support for storage of multiple virtual disks belonging to the same or different SQL Servers or partitioned servers, on a single NetApp storage system volume, provided by SnapDrive™ software
- ◆ Support for both Ethernet and Fibre Channel environments, which provides the flexibility for deployment into existing Ethernet or Fibre Channel infrastructures

The SnapDrive 3.x software supports the use of iSCSI and FCP connected LUNs.

- ◆ Support for Microsoft Cluster Server (MSCS)
- ◆ Support for e-mail alerts sent to administrators warning of critical potential problems
- ◆ Support for NetApp® storage system SysLog and Autosupport services to convey information about errors and other events pertaining to virtual disks

Limitations

Using an SQL Server Agent to schedule a SnapManager backup job for a large number of databases

While creating a scheduled backup or verification job for a large number of databases with lengthy names, Snap Manager 1.5 for Microsoft SQL Server might disable the SQL Server Agent option in order to prevent sending command line input (automatically generated by SnapManager) of more than 8,000 characters to an SQL Server Agent. The reason for this is that an SQL Server Agent cannot accept a command line of more than 8,000 characters, and the likelihood of exceeding 8,000 characters of command line input increases with a large number of databases with lengthy names.

Features not supported with this release

SnapManager 1.5 for Microsoft SQL Server does not support the following uses:

- ◆ SnapManager does not support Microsoft SQL Server 6.5, 7.0, or 2005.
- ◆ SnapManager does not support SnapDrive versions prior to 3.1.
- ◆ SnapManager does not create or restore backups of Microsoft SQL Server 2000 databases that are stored on storage devices that are provided by companies other than NetApp.
- ◆ SnapManager does not support filegroup backups or filegroup restores of Microsoft SQL Server 2000 databases.
- ◆ SnapManager is not capable of backing up or restoring SQL Server 2000 databases that are accessed via CIFS.

Upgrade information

You can upgrade directly to SnapManager 1.5 for Microsoft SQL Server from SnapManager 1.0 for Microsoft SQL Server, after you have upgraded your NetApp storage system software and Windows host system software to meet the SnapManager system requirements.

Note

You do not need to stop SQL Server instances before or during the SnapManager software upgrade process.

Before you upgrade SnapManager

Before you upgrade from SnapManager 1.0 to SnapManager 1.5 for Microsoft SQL Server, be sure that your Windows host systems and the NetApp storage system are running the supported software versions.

- ◆ Ensure that each of your Windows host systems is running a compatible version of the Windows operating system and a compatible version of Microsoft SQL Server 2000. Additional requirements depend on your configuration.

For more information, see “[Windows host system requirements](#)” on page 7.

- ◆ Ensure that your NetApp storage system is running a compatible version of the Data ONTAP™ software. Additional requirements depend on your configuration.

For more information, see “[NetApp storage system requirements](#)” on page 8.

Note

For the most current list of system requirements, see the SnapManager 1.5 for Microsoft SQL Server Description Page on the NetApp on the Web (NOW) site at <http://now.netapp.com/NOW/cgi-bin/software/>.

The following paragraphs summarize the SnapManager system requirements that are particularly relevant to upgrading from SnapManager 1.0 to SnapManager 1.5 for Microsoft SQL Server.

Microsoft SQL Server 2000: SnapManager supports Microsoft SQL Server 2000, both Standard Edition and Enterprise Edition. For either edition, be sure that Microsoft SQL Server 2000 **Service Pack 3a** is installed.

SnapDrive: SnapManager 1.5 for Microsoft SQL Server is supported with SnapDrive **3.1**, whereas SnapManager 1.0 for Microsoft SQL Server is supported with SnapDrive 3.1, as well as older versions. If SnapDrive 3.1 is not already installed on your SQL Server computer, you will need to upgrade to that version.

Note

If you are currently running an older version of SnapDrive and are using **VLD-type virtual disks**, you will need to convert your VLD-type virtual disks to **LUNs** during the SnapDrive upgrade process. This process is described in the *SnapDrive 3.1 Installation and Administration Guide*.

Data ONTAP: If you need to upgrade SnapDrive on your Windows host systems, ensure that your NetApp storage system is running a compatible version of Data ONTAP.

SnapManager system requirements

For the most current list of system requirements, see the SnapManager 1.5 for Microsoft SQL Server Description Page on the NetApp on the Web (NOW) site at <http://now.netapp.com/NOW/cgi-bin/software/>.

Windows host system requirements

The following table lists the system requirements for SnapManager 1.5 for Microsoft SQL Server.

Windows host component	Requirement if the host system is running Windows 2000 Server	Requirement if the host system is running Windows Server 2003
Operating system	One of the following: ◆ Windows 2000 Server with SP4 ◆ Windows 2000 Advanced Server with SP4	One of the following: ◆ Windows Server 2003 Standard Edition ◆ Windows Server 2003 Enterprise Edition
Microsoft Windows hotfixes	See the SnapDrive software system requirements.	
Microsoft SQL Server 2000	One of the following editions of Microsoft SQL Server 2000 ◆ Standard Edition with SP3a ◆ Enterprise Edition with SP3a Note _____ The preceding requirement does not apply to a remote administration server.	
SnapDrive	SnapDrive 3.1 Note _____ For a remote administration server, SnapDrive is optional unless you intend to use the remote administration server to remotely administer SnapDrive. For a remote verification server, SnapDrive is required.	

Windows host component	Requirement if the host system is running Windows 2000 Server	Requirement if the host system is running Windows Server 2003
Licenses enabled	Depends on the type of SnapManager licensing purchased: ◆ If SnapManager is licensed per SQL Server, a SnapManager license is required on the Windows host system. ◆ If SnapManager is licensed per NetApp storage system, a SnapManager license is required on the storage system.	
Other hardware and software	See your SnapDrive documentation for complete details about the following system requirements: ◆ Host hardware platform ◆ LUN access protocol software Note_____ The preceding requirements do not apply to a remote administration server. _____	

NetApp storage system requirements

In order to be used with SnapManager, your NetApp storage system must meet the following requirements.

Storage system component	Requirements
Data ONTAP	See the SnapDrive software system requirements. This information is provided in the <i>SnapDrive 3.1 Installation and Administration Guide</i> .
SnapManager license	A SnapManager license is required on the storage system only if you have licensed SnapManager on a per-storage system basis.
Additional requirements	All of the SnapDrive requirements that apply: ◆ SnapRestore® feature ◆ iSCSI protocol, FCP protocols, or both ◆ SnapMirror license (if SnapMirror is used) ◆ Preferred IP address (if multiple IP addresses are used)

Bug fixes

The following table lists bugs that were fixed in SnapManager 1.5 for Microsoft SQL Server. For more information about any of these bugs, launch your Web browser, navigate to <http://now.netapp.com/NOW/cgi-bin/bol>, type the Bug ID into the Enter Bug IDs field, and then click Go.

Bug ID	Description
93972	Backup of the last transaction log before restore fails if the disk was disconnected and then reconnected.
94094	No option to avoid forcing the restore of the existing database that is restored from a stream-based backup.
96430	Unable to restore transaction log backups to an alternate location on a remote SQL Server using a writable virtual disk that is backed by a snapshot.
98102	Warning Event: SnapManager for SQL Server per-server license is not licensed on server.
99032	The <i>SnapManager 1.0 for Microsoft SQL Server Installation and Administration Guide</i> incorrectly states that archiving SnapManager for SQL backup sets that contain SnapDrive LUNs can be performed using the CIFS protocol (backup via Windows).
99132	Point-in-time restore might fail on Japanese or German systems.
99456	Description of requirements for configuring a remote administration server are not complete in the <i>SnapManager 1.0 for Microsoft SQL Server Installation and Administration Guide</i> .
99530	In the <i>SnapManager 1.0 for Microsoft SQL Server Installation and Administration Guide</i> , the migration procedure does not include the extra steps required to place transaction logs on a LUN that is separate from the LUN on which the data files reside.
101940	Unable to restore the master database belonging to a clustered SQL Server instance.

Bug ID	Description
104549	In the <i>SnapManager 1.0 for Microsoft SQL Server Installation and Administration Guide</i> , the description of requirements for a remote verification server are missing some details.
129261	Failure to migrate system databases or user databases of a named SQL Server instance on a Windows cluster server.
129388	Migrating the system database of a clustered SQL Server instance might fail.
129406	Restore of an SQL Server database that is stored on a LUN that also stores the SnapManager SnapInfo directory might fail.
129408	Failure to attach a user database to the SQL Server using the new database path configured by the Configuration Wizard.
136240	SnapManager might stall while restoring a database that is online.
137742	The restore of a LUN containing the SQL Server database files times out with Error Code: 0xc0040851 if the LUN restore operation takes longer than 50 minutes to finish.
139192	Backup might fail with Error Code: 0xc004089f "Waiting for the readiness of snapshot from all VDI backup threads or SnapDrive timed out".
139421	SnapManager might attempt to create a snapshot of a LUN that belongs to another cluster group.
142618	Selecting large fonts or a high DPI setting might cause some user interface components in SnapManager for SQL Server to become unavailable.
142763	Unable to restore a database to a remote named SQL Server instance using a writable snapshot.
146930	A backup operation that deletes older backups may log Error Code: 0xc0040884 "The specified snapinfo path for getting transaction log backup set(s) does not exist."
149267	SnapManager fails to create backups when the system's boot LUN is located in the same NetApp storage system volume as a LUN that stores databases.

Known issues

The following table lists issues known to exist in SnapManager 1.5 for Microsoft SQL Server. For the latest information about workarounds, launch your Web browser, navigate to <http://now.netapp.com/NOW/cgi-bin/bol>, type the Bug ID into the Enter Bug IDs field, and then click Go.

Bug ID	Description and workaround
89560	Database migration will fail if the SQL Server database to be migrated is currently in use. If an SQL Server database selected to be migrated by SnapManager is currently in use, the migration will fail. This includes both system databases and user databases. Workaround: Before you can migrate SQL databases, the database to be migrated must not have any users connected to it. For information about how to ensure that users are not connected to a database, see your SQL Server documentation.
90637	Unable to perform SQL Server database migration, transaction log backup, or the restore of databases whose names contain the “[” or “]” character(s) SnapManager for Microsoft SQL Server is unable to migrate a database to virtual disk if the name contains either the “[” character or the “]” character. Failures also occur when performing transaction log backups and restore of a database whose name contains either the “[” character or the “]” characters. Workaround: Rename the database using a name that does not contain either the “[” character or the “]” character.

Bug ID	Description and workaround
92736	The SnapManager operation fails with Error Code: 0x80040154 "Class not registered". If any of the COM components used by SnapManager are not registered correctly, SnapManager will display an error message with error code 0x80040154 "Class not registered" when you attempt to perform a SnapManager operation. The operation will fail, and the error message appears in either the operational status report or a Windows pop-up message box. Workaround: 1. Check the context of the operation to identify which COM component that SnapManager attempted to use is not registered. It can be a Microsoft SQL Server component (such as the VDI component or the SQL-DMO component), the SnapDrive service, or the SnapManager server component itself. To determine which SnapManager operation failed and which COM component caused the failure, see the Windows pop-up message box, the SnapManager operational status report, and the application event log error. 2. Reinstall the identified COM component or contact the vendor of the COM component for assistance.
143900	SnapManager backups might fail with error "the server threw an exception." When SnapManager is backing up the databases located on a NetApp storage system configured with multiple network interfaces, the backup operation might fail with the error "the server threw an exception." One of the causes for this error is that the PreferredFilerIPAddresses setting is not configured properly on the host system. Workaround: Set up the PreferredFilerIPAddresses setting on the host system as described in the following Microsoft KB article: http://now.netapp.com/Knowledgebase/solutionarea.asp?id=kb4350

Bug ID	Description and workaround
144161	The backups for a database are available for restore from more than one place after the database configuration was changed. In the SnapManager Restore tab or in the SnapManager Restore Wizard, the backups for a database might be listed in more than one place if the configuration of this database was changed. The backups for a database might be listed in the following locations in the tree view: ◆ Under its SQL Server name/database name The backup listed under the SQL Server instance name and database name is the backup that was created when the database was located on a LUN that was not used by any other databases. ◆ Under its drive letter (<i>VDISK__DriveLetter</i>) The backup listed under its drive letter is the backup that was created when other databases were located on the same LUN as this database. This behavior is expected if a database configuration was changed and the previous backup was not deleted. Workaround: The backups listed in both locations in the tree can be restored as long as they meet the prerequisites of SnapManager Restore. The administrator should identify and select the correct backup when restoring a database whose configuration was changed. When restoring the backup under the SQL Server name/database name tree view, if the database is sharing the LUN with other databases, then SnapManager will use the copy-based method to perform the restore operation.

Bug ID	Description and workaround
144437	The backup operation might fail when multiple databases are backed up concurrently. If you attempt to back up multiple databases concurrently, the operation might fail due to an insufficient number of worker threads. The backup failure is accompanied by one of the following two error messages: ◆ VDI backup threads backup preparation failed. ◆ Error code 0xc00408d1 The number of databases selected for concurrent backup exceeds the maximum number of SQL server worker threads that are available on the SQL server <ServerName> to perform this backup. Please increase the number of worker threads for SQL server <ServerName> to be greater than the sum of the worker thread required to service SQL client and the number of databases connected to SQL server <ServerName>, which are selected for concurrent backup. Using Enterprise Manager, the maximum number of worker threads can be configured from the Processor tab in the properties window for the SQL server <ServerName>. Workaround: To increase the maximum number of worker threads for this SQL Server, complete the following steps: 1. Open the Microsoft SQL Enterprise Manager. 2. Expand the server group. 3. Right-click the name of your SQL Server to open the context menu, then select Properties. 4. In the SQL Server Properties (Configure) dialog box, click to activate the Processor tab. 5. In the Maximum Worker Threads box, type or select a value from 32 through 32767. 6. Click OK to close the dialog box and apply the change.

Bug ID	Description and workaround
144499	The backup operation might stall when a clustered SQL Server instance moves from one node to another while a backup is in progress. SnapManager backup might stall when a clustered SQL Server instance moves from one node to another in the middle of a SnapManager backup operation. The SnapManager application is more likely to stall while performing a stream-based full database backup operation or a transaction log backup operation. Both of these SnapManager operations use the Microsoft SQL-DMO API. The stall occurs because the SnapManager application does not receive an indication that the backup job aborted due to the SQL Server instance moving from one node to another. Workaround: If the SnapManager operation stalls under these circumstances, use Windows Task Manager to stop both <code>SnapManager.exe</code> and <code>SmSqlSrvr.exe</code>, and then rerun the SnapManager backup operation.
144988	An information type of event is logged for a SnapManager installation failure. If the <code>SmSqlSrvr.exe</code> process, the <code>SnapManagerDebug.exe</code> process, or both are running during the SnapManager installation process, the installation package aborts the installation, and MSiInstaller logs an informational event for a SnapManager installation failure. Workaround: None.
145575	A <code>SystemTimeToFileTime</code> error might be reported when you double-click on a SnapManager backup. When you double-click on a SnapManager backup either in the SnapManager Restore tab or the SnapManager Restore Wizard, a “<code>SystemTimeToFileTime</code>” error might be reported. SnapManager received this error from the SQL Server while reading the backup header information. If you examine the application event log, you might find that an event with ID 3266 has been reported by SQL Server. For more information on this event, see the following Microsoft KB article; http://support.microsoft.com/default.aspx?scid=kb;en-us;290787 Workaround: This backup set might still be restorable. If you need to restore from this backup set, be sure to verify the database using DBCC after the restore operation finishes.

Bug ID	Description and workaround
149451	The restore of a replicated online database might fail with error code 0xc0040845. If you restore a replicated online database, the operation might fail while SnapManager is trying to detach the online database before the actual restore phase begins. This problem occurs only when the SnapManager “Restore database even if the database(s) is online” option is enabled. If this error occurs, the SnapManager report and event log both report the following error: Error Code: 0xc0040845 Failed to detach the database, which is online. Please disconnect all the connections that are using this database before proceeding with the database restore procedure. Workaround: Detach the database manually before performing the SnapManager restore operation. See the Microsoft SQL Server documentation for information about detaching a replicated database.
151263	The summary portion of a SnapManager backup report or verification report might erroneously show that all databases failed DBCC CHECKDB. When using a remote verification server to verify a backup set for multiple databases sharing one or two LUNs, the summary portion of the SnapManager backup report or verification report shows that all databases failed DBCC CHECKDB even if only one database failed the verification. Workaround: To determine which database or databases actually failed DBCC CHECKDB, see the following SnapManager information: ◆ The detail portion of the SnapManager backup report or verification report ◆ The application event log