

SnapManager® 2.1.2 for Microsoft® SQL Server™

Release Notes

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Part number 215-04079_A0
July 2008

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Topics covered

About this document

These release notes cover the following topics:

- ◆ [“Features of this release”](#) on page 2
- ◆ [“SnapManager for SQL Server command-line restore \(SmSqlRstr\) utility”](#) on page 2
- ◆ [“Limitations of this release”](#) on page 19
- ◆ [“Upgrade information”](#) on page 20
- ◆ [“SnapManager system requirements”](#) on page 22
- ◆ [“Bug fixes”](#) on page 26
- ◆ [“Known issues”](#) on page 27

Features of this release

New and enhanced features

SnapManager 2.1.2 for Microsoft SQL Server introduces the following new feature:

- ◆ Windows Server 2008 support

SnapManager 2.1.2 also includes all the features of SnapManager 2.1.1 and SnapManager 2.1R1.

The new feature of SnapManager® 2.1.1 for Microsoft® SQL Server™ includes the following:

- ◆ SnapManager for SQL Server Command-line Restore utility - SmSqlRstr

Major new and enhanced features of SnapManager® 2.1R1 for Microsoft® SQL Server™ include the following:

- ◆ Backup of read-only databases
- ◆ Management and configuration of resource databases

SnapManager for SQL Server command-line restore (SmSqlRstr) utility

This section describes the SnapManager 2.1.2 for Microsoft SQL Server restore operations you can run using SmSqlRstr, the SnapManager command-line utility. SmSqlRstr enables you to enter SnapManager restore commands individually in the command line or through automation scripts.

SmSqlRstr enables you to initiate a restore, with most of the options available through the Restore wizard or the SnapManager Restore tab in the SnapManager GUI. This feature enables you to create scripts to invoke SnapManager functionality without having to use the SnapManager GUI.

Location of the command-line utility : SmSqlRstr.exe is located in the SnapManager installation directory. The following is the default installation directory for SnapManager 2.1.2 for Microsoft SQL Server:

C:\Program Files\NetApp\SnapManager for SQL Server

Summary of parameters: When you launch SmSqlRstr, it displays a summary of parameters as follows:

```
Usage: SmSqlRstr -H <SQL Server Host name>**** [-U <Login> -P  
<Password>]
```

```
-S <Original SQL Server Instance>
```

```

        [-B <Original Database Names>]
        [-L <Number of transaction logs to replay>]
-B Backup <Name of backup which is to be restored>***
        [-DBOnline Restore databases even if existing databases are
online]
        [-O <Point-in-time string>](Format: YYYY-MM-DDTHH:MM:SS)]
        [-T <New SQL Server Instance for restore to alternate
location>] *
        [-N <New Database Name>]
        [-R Recover Database (No Additional logs can be restored)]
        [-M Mount as new database using restore]**
        [-Q <Verification SQL Server Instance>] [-I <verify Login> -
W <verify Passwd>]
        [-ListBackups List details of backup sets]
[-NV Do not verify backupset]
        [-V verbose]

[-WAIT Verbose output will wait for user keystroke before closing
output window. Use this switch with -V]

```

Note:

The switch -ListBackups can be used only with the following switches

-H, -S, -B, -V

Note:

* -M is mandatory with -T

** -M is mandatory, if restore is done on same instance

*** -Backup is mandatory for restore operations and not required for the switch -ListBackups

**** -H <standalone server host name | cluster virtual server name >

Tips for using the command-line utility: Remember the following guidelines when using SmSqlRstr:

- ◆ All parameters and options are case-insensitive. For example, using the option -ListBackups will achieve the same results as using -listbackups.
- ◆ When a parameter value string contains spaces, ensure that you enclose it within double quotes. For example, if the database name my db1 contains space, use "my db1" instead of my db1.

- ◆ SmSqlRstr generates a report file if you have specified the -H switch with the appropriate machine name as the argument. A report file is generated in the installation directory under the Report/Restore folder. Information about the execution status is available in the report file.

- ◆ SmSqlRstr supports three modes:
 - ❖ Verbose mode: Switch -V is specified as one of the command-line arguments. In Verbose mode, you can see the progress of command execution on the console window.
 - ❖ Verbose mode with wait: Verbose with wait mode results in interactive behavior. You should specify the -WAIT switch along with the -V switch for this mode. In this mode, the console window waits for your keystroke after running the command. It is recommended not to use this mode with scripting clients since it involves user interference.
 - ❖ Non-Verbose mode: Switch -V is not specified. In this case, command execution happens in the background. This is useful for scripting clients.
- ◆ Execution Result: SmSqlRstr updates the result of command execution to stderr. This can be used by scripting clients. If running of the command is successful, 0 (zero) is written to stderr; otherwise the error code is written to stderr.

Options not supported in SmSqlRstr: Currently, the SmSqlRstr CLI does not support the following options which are supported through the GUI:

- ◆ Changing the DBCC options.
- ◆ Changing the options in Database State after Restore.
- ◆ Specifying whether verification is required for unverified backup sets before the restore. The current behavior is that unverified backup sets are verified by default before the restore.

SmSqlRstr command syntax: `SmSqlRstr -H SqlServerHostName [-U UserName -P Password] -S Instance -B DatabaseName -Backup Backupsetname -L NumberofTransactionLogToReplay -R -V`

The parameters and their usage are described in the following table.

Parameter	Usage
-H (Required)	Use to specify the SQL Server computer on which the SQL Server instances reside. <i>-H SqlServerHostName [-U UserName -P Password]</i> <i>SqlServerHostName</i> is the host name of the computer on which the SQL Server instances are running. <i>UserName</i> is the SQL Server account name (specified if the SQL Server computer is accessed using a different account from that used to access the production SQL Server). <i>Password</i> is the SQL Server account password (specified if the SQL Server computer is accessed using a different account from that used to access the production SQL Server).
-S (Required)	Use to specify the instance that you want to restore. <i>-S Instance</i> <i>Instance</i> is the SQL Server instance that owns the databases you want to restore.

-B (Required for all except -ListBackups)	Use to specify the database name that you want to restore. <i>-B DatabaseName</i> <i>DatabaseName</i> is the original database name you want to restore. You can also specify multiple database names using this option. Multiple database names should be specified only if those databases are sharing a single LUN or multiple LUNs together (VDisk). If this is the case, you can specify those databases followed by -B in the following format: <i>-B DatabaseName1 DatabaseName2</i> Note For multiple database restore, all the databases selected should be present in the Snapshot™ copy selected. When you select multiple databases to restore, you cannot restore any one out of those databases by giving it a new name. To restore a database by giving it a new name, you need to restore it separately. Note See -L and -O options documentation for details about specifying multiple log files and point-in-time values for multiple databases. Note Use the following command to restore all databases sharing a LUN or LUNs <pre>SmSqlRstr -H my_host -S my_instance -B * -Backup <backup set></pre>
---	---

-L (Optional)	Use if you want to replay transaction logs. <i>-L NumberOfTransactionLogs</i> NumberOfTransactionLogs is the number of transaction logs that you want replayed during restore for the given database. If the -L switch is not specified then SmSqlRstr will apply all the transactions logs available. The -L switch usage in case of multiple database restore is as follows: If you do not specify the -L switch, then all the log files for the selected databases will be applied. If you want to restore a specific number of log files for individual databases, then you should specify it in the following format: <i>-L NoOfTransactionLogsforDB1 NoOfTransactionLogsforDB2</i> The number of parameter values specified after -L should match with the number of databases selected. Parameter correspondence here is one to one, first parameter value specified after -L will be applied to first database selected after -B, second parameter value to second database and so on.
-Backup (Required)	Use to specify the backup set name. Use -Backup to specify backup set information. <i>-Backup Name of backup set to restore</i>
-DBOnline (Optional)	Use to "Restore databases even if existing databases are online". <i>-DBOnline</i>

-O (Optional)	Use this switch for point-in-time restore. Format for the point-in-time string: <i>yyyy-mm-ddThh:mm:ss</i> Specify time in the 24-hour format. <i>-O yyyy-mm-ddThh:mm:ss</i> If the -L switch is not specified, then all the transaction logs are considered by default and SmSqlRstr will verify if point-in-time value is valid for the available back-up and transaction log set. SmSqlRstr will display an error if the point-in-time string cannot be applied to the available transaction log sets. If the -L switch is specified, then the point-in-time string will be applied for the number of transaction logs specified using -L. The -O switch usage in the case of a multiple database restore is as follows: In case of a multiple database restore, you should specify individual point-in-time value for each database separated by a space after the -O switch. The number of values after -O switch should match with the number of databases selected. <i>-O PointinTimeforDB1 PointinTimeforDB2</i> Parameter correspondence in this case is one-to-one. The first point-in-time parameter value specified after -O will be applied to the first database selected after -B, the second point-in-time parameter value to the second database, and so on.
-R (Optional)	Use to recover databases. When this option is used, no additional logs can be restored. -R

-T (Optional)	Use to restore a database to a new SQL Server. This option is used to specify the new SQL Server. <i>-T NewSQLServer</i> <i>NewSQLServer</i> specifies the new SQL Server to which the original database will be restored. Note_____ -M is mandatory when the -T switch is used to restore a database to an alternate location. _____
-N (Optional)	Use to restore a database with a new name. <i>-N NewDatabaseName</i> <i>NewDatabaseName</i> specifies the new database name to which the original database will be restored. Note_____ -M is mandatory when the -N switch is used to restore a database with a new name. You should not use the -N switch in case of multiple database restore, because it is not supported for multiple database restore. _____
-M (Optional)	Use to mount as new database using restore. Use this option when you need to restore a database to an alternate location. -M

-Q (Optional)	Use to specify a different SQL Server to be used to run the DBCC utility. Use this option if the operation includes database verification for unverified Snapshot copies before a restore. <pre>-Q VerificationServer [-I UserName -W Password]</pre> <i>VerificationServer</i> is the host name of the verification server. <i>UserName</i> is the SQL Server account name (specified if the verification server is to be accessed using a different account from that used to access the production SQL Server). <i>Password</i> is the SQL Server account password (specified if the verification server is to be accessed using a different account from that used to access the production SQL Server). Note_____ For cluster configurations, -Q is a <i>mandatory</i> option because the verification server needs to be explicitly specified as a remote server since local verification on a cluster setup is not supported. _____
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<code>-ListBackups</code> (Optional)	Use to view the details of all Snapshot copies for a given database or details of all Snapshot copies for the server. This option is helpful for a point-in-time restore. To list the details of all the Snapshot copies for a given database, use the following option: <code>-B DatabaseName -ListBackups</code> DatabaseName is the name of the database from where backup sets are to be listed. <code>-ListBackups</code> also lists the backed-up transaction logs that have to be applied to the full backup. To list the details of all the Snapshot copies for the Server, use the option without <code>-B</code>. <code>-ListBackups</code> Note_____ ListBackups do not support multiple database names after <code>-B</code> switch.
<code>-NV</code> (Optional)	No Verify. Specify this switch if you do not intend to perform verification on the specified backupset while restoring.
<code>-V</code> (Optional)	Verbose The execution progress will be displayed on the console window and the console window will close automatically after running the command.
<code>-WAIT</code> (Optional)	Use with the <code>-V</code> switch. The Verbose output window will wait for your keystroke before closing, when the <code>-WAIT</code> switch is used with the <code>-V</code> switch. The <code>-WAIT</code> switch can not be used without <code>-V</code>.

Usage Examples: ♦

- ♦ Restore a database on a stand-alone default instance.

```
> SmSqlRstr -H symnasqldev172 -S symnasqldev172 -B Db1 -Backup  
sqlsnap__ symnasqldev172__Recent -L 1 -R -V
```

where:

-H *Host Name* is *symnasqldev172*.

-S *Instance name* is the same as the host name if it is the default instance.

-B *Database name* is the original database name to be restored.

-Backup backupset name is *sqlsnap__ symnasqldev172__Recent*

-L *Number* is the number of transaction logs to replay.

-R is to recover the database.

-V is verbose.

- ♦ Restore a database on a stand-alone named instance.

```
> SmSqlRstr -H symnasqldev172 -S INST1 -B Db1 -Backup sqlsnap__  
symnasqldev172__Recent -L 1 -R -V
```

where:

-H *Host Name* is *symnasqldev172*.

-S *Instance name* is *INST1* (it is not preceded by the host name).

-Backup backupset name is *sqlsnap__ symnasqldev172__Recent*

- ♦ Restore a database on a default clustered instance.

```
> SmSqlRstr -H 173174Def -S 173174Def -B db1 -Backup  
sqlsnap__ 173174Def__Recent -L 1 -R -V
```

where:

-H *Host Name* is the virtual server's name (*173174Def*).

-S *Instance name* is the same as the host name if it is the default instance (*173174Def*).

-Backup backup set name is *sqlsnap__173174Def__Recent*

- ◆ Restore a database on a named clustered instance.

```
> SmSqlRstr.exe -H 173174Named1 -S Named1 -B db1 -Backup
sqlsnap__ 173174Named1__Recent -L 1 -R -V
```

where:

-H Host Name is the virtual server's name (173174Named1).

-S Instance name is Named1.

-Backup backup set name is sqlsnap__ 173174Named1__Recent

- ◆ Restore a database in a VDisk scenario.

If you have configured three databases (say *db1*, *db2*, and *db3*) in two LUNs (VDisk_F&G), you can restore any one of them with the following command:

```
> SmSqlRstr -H symnasqldev172 -S symnasqldev172 -B db1 -Backup
sqlsnap__ symnasqldev172__Recent -L 0 -R -v
```

- ◆ Restore multiple databases in a VDisk scenario.

If you have configured three databases (say *db1*, *db2*, and *db3*) in two LUNs (VDisk_F&G), you can restore them with the following command:

```
> SmSqlRstr -H symnasqldev172 -S symnasqldev172 -B db1 db2 db3 -
Backup sqlsnap__ symnasqldev172__Recent -R -v
```

- ◆ Restore multiple databases in a VDisk scenario with transaction logs.

If you have configured three databases (say *db1*, *db2*, and *db3*) in two LUNs (VDisk_F&G), each having three transaction logs, and you want to restore one transaction log for *db1*, two transaction logs for *db2*, and three transaction logs for *db3*, you can restore them with the following command:

```
> SmSqlRstr -H symnasqldev172 -S symnasqldev172 -B db1 db2 db3 -
Backup sqlsnap__ symnasqldev172__Recent -L 1 2 3 -R -v
```

Note the database names sequence and transaction logs sequence and their correspondence.

- ◆ Restore a database to an alternate location.

```
> SmSqlRstr -H symnasqldev172 -S symnasqldev172 -B db1 -Backup
sqlsnap__ symnasqldev172__Recent -L 0 -T symnasqlqa008\Named1 -
M -N new_db1 -R -v
```

where:

-B Database name is the original database name (*db1*) to be restored.

-M mounts the database as a new database.

-N New Database Name is the name of the new database.

-T Other SQL Server/Instance is where the database will be restored.

- ◆ List backup sets for a particular database.

To display the list of backups of a given database (for example, for database *db3*):

```
> SmSqlRstr.exe -H symnasqldev172 -S symnasqldev172 -B db3 -
ListBackups -V
```

where:

-B *Database name* is the database whose backup sets are to be listed.

- ◆ List backup sets for all backups in a SQL instance.

To display the list of all backups for a server (for example, the server *symnasqldev172*), use the following command:

```
> SmSqlRstr.exe -H symnasqldev172 -S symnasqldev172
ListBackups -V
```

Note the omission of -B.

- ◆ Restore databases even if existing databases are online.

To restore if a database (for example, the database *testDB*) is online, use the following command:

```
>SmSqlRstr -H symnasqldev170 -S symnasqldev170 -B testDB -
DBOnline -Backup sqlsnap__ symnasqldev170__Recent -L 1 -R -V
```

- ◆ Restore databases point-in-time.

If the back-up set is available at 04-04-07_13:12:15 with three transaction logs as 04-04-07_13:12:15, 04-04-07_13:16:15, 04-04-07_13:19:15, then you can restore point-in-time within time greater than the back-up set time and less than the last available transaction log. Use the following command to do so:

```
SmSqlRstr -H symnasqldev170 -S symnasqldev170 -B testDB -
DBOnline -backup sqlsnap__ symnasqldev170__04-04-07_13:12:15 -
0 2007-04-04T13:15:15 -R -V
```

In the preceding scenario, all the available transaction logs will be considered. You can also explicitly specify the -L switch.

- ◆ Restore multiple databases in a VDisk scenario in point-in-time.

Consider this scenario:

You have configured three databases *db1*, *db2*, and *db3*, in two LUNs (VDisk_F&G). To restore *db1* and *db2* point-in-time, use the following command:

```
> SmSqlRstr -H symnasqldev172 -S symnasqldev172 -B db1 db2 -
Backup sqlsnap__ symnasqldev172__Recent -O yyyy-mm-ddThh:mm:ss
YYYY-MM-DDTHH:MM:SS -R -V
```

In the preceding command, *yyyy-mm-ddThh:mm:ss* is the point-in-time parameter value for *db1* and *YYYY-MM-DDTHH:MM:SS* is the point-in-time parameter value for *db2*.

The following is an example:

```
> SmSqlRstr -H symnasqldev170 -S symnasqldev170 -B db1 db2 -
DBOnline -Backup sqlsnap__ symnasqldev170__Recent -O 2007-04-
04T13:15:15 2007-04-04T13:20:15 -R -V
```

where:

2007-04-04T13:15:15 is the point-in-time value for *db1* and *2007-04-04T13:20:15* is the point-in-time value for *db2*.

- ◆ Restore database using the -NV option

If the backup set you want to restore need not be verified, you have to specify the -NV switch to explicitly tell the application not to verify it. The usage is as follows:

```
>SMSQLRstr -H symnasqldev170 -S symnasqldev170 -B testDB
-B backup sqlsnap__ symnasqldev170__Recent -L 0 -R -NV -V
```

If the -NV switch is not mentioned, by default, the application will verify unverified backup sets.

Scripting guidelines: This section gives guidelines for using SmSqlRstr with scripting clients.

- ◆ Use the non-verbose mode in scripts, that is, do not specify the -V switch in the command line.
- ◆ See the restore report file (\$installdir\report\restore) for more information about the command execution result.
- ◆ Capture information from stderr to get return codes for command execution.

The following is an example:

- ❖ If an operation is successful, then 0 (zero) is written to stderr.
- ❖ If any invalid argument is specified while running the operation, SmSqlRstr will write -2147024809 (that is, E_INVALIDARG) to stderr.
- ❖ If the host name specified using -H switch is invalid, SmSqlRstr will update the error code as -2147023174 (that is, RPC_S_SERVER_UNAVAILABLE).

Similarly, SmSqlRstr will write error codes to stderr for all operations.

Script Examples: This section gives some Perl script examples. These examples are for capturing return code from stderr.

- ◆ Successful execution of the command

```
$returncode = ` "C:\\Program Files\\NetApp\\SnapManager for  
SQL Server \\SmSqlRstr.exe" -H symnasqldev170 -S symnasqldev170  
-B db1 -Backup sqlsnap symnasqldev172__Recent -L 0 -R 2>&1`;
```

```
if ($returncode == 0)
{
print "Execution successful return code : $ returncode "
}
else
{
print "Execution failed return code : $ returncode ";
}
```

In the preceding example, the -V command-line switch is not specified because we are using scripts. The restore operation is successful and 0 is the result which is captured in the return code.

Also note that the preceding script is redirecting stderr to stdout (2>&1) and then capturing the value in the return code variable (\$returncode). The return code variable is 0 in the preceding case so the output of the command is as follows:

```
Execution successful return code : 0
```

◆ Failure in execution of the command

```
$returncode = ` "C:\Program Files\NetApp\SnapManager for  
SQL Server \SmSqlRstr.exe" -H test -S -Listbackups 2>&1`;
```

```
if ($returncode == 0)  
{  
  print "Execution successful return code : $ returncode "  
}  
else  
{  
  print "Execution failed return code : $ returncode ";  
}
```

In the preceding example, switch -S is missing. -S is a mandatory switch so the above script will fail with error code -2147024809.

Also note that the preceding script is redirecting stderr to stdout (2>&1) and then capturing the value in the return code variable (\$returncode). In the above example, the output of the command is as follows:

```
Execution failed return code : -2147024809
```

Limitations of this release

Features not supported with this release

SnapManager 2.1.2 for Microsoft SQL Server has the following limitations:

- ◆ It does not support Microsoft SQL Server 6.5 or 7.0.
- ◆ It does not support SnapDrive versions prior to 4.1.
- ◆ It does not create or restore backups of Microsoft SQL Server databases stored on storage devices that are provided by companies other than NetApp.
- ◆ It does not support filegroup backups or filegroup restores of Microsoft SQL Server databases.
- ◆ It is not capable of backing up or restoring SQL Server databases that are accessed through CIFS.

Upgrade information

You can upgrade directly to SnapManager 2.1.2 for Microsoft SQL Server from SnapManager 1.5 or 2.0 or 2.1 for Microsoft SQL Server, after you have upgraded your Windows host system software to meet the SnapManager system requirements. If you upgrade the SnapDrive version on your Windows host systems, be sure that your NetApp storage system is running a compatible version of the Data ONTAP® software.

Note

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

Note

An upgrade from SnapManager for SQL Server 2.0 or 32-bit SnapManager for SQL 2.1 to SnapManager for SQL 2.1 x64 version is not supported.

Before you upgrade SnapManager

Before you upgrade from SnapManager 1.5 or 2.0 or 2.1 to SnapManager 2.1.2 for Microsoft SQL Server, do the following:

- ◆ Ensure that each of your *Windows host system* is running a compatible version of the Windows operating system and a compatible version of Microsoft SQL Server 2000 or 2005. Additional requirements depend on your configuration.
For more information, see “[Windows host system requirements](#)” on page 22.
- ◆ Ensure that your *NetApp storage system* is running a version of the Data ONTAP software that is compatible with the version of SnapDrive on each of your Windows host systems. Additional requirements depend on your configuration.
For more information, see “[NetApp storage system requirements](#)” on page 24.

Note

For the most current list of system requirements, see the SnapManager 2.1.2 for Microsoft SQL Server Description Page on the NOW™ NetApp on the Web™ (NOW) site at <http://now.netapp.com/NOW/cgi-bin/software/>.

The following information summarizes the SnapManager system requirements that are particularly relevant to upgrading from SnapManager 1.5 or 2.0 or 2.1 to SnapManager 2.1.2 for Microsoft SQL Server.

Microsoft SQL Server: SnapManager supports Microsoft SQL Server 2000 or 2005, both Standard Edition and Enterprise Edition. For either edition of SQL Server 2000, be sure that Microsoft SQL Server 2000 Service Pack 3a or 4 is installed.

SnapDrive: SnapManager 2.1.2 for Microsoft SQL Server is supported with SnapDrive 5.0. SnapManager for Microsoft SQL Server does not support SnapDrive versions prior to 4.1.

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 2.1.2 for Microsoft SQL Server Description Page on the NOW site at <http://now.netapp.com/NOW/cgi-bin/software/>.

Windows host system requirements

The following tables list the system requirements for SnapManager 2.1.2 for Microsoft SQL Server.

SnapManager for SQL Server	SnapDrive Version	Windows Version	Application Version
SnapManager for SQL Server (x86)	6.0 (x86)	Windows Server 2008 Standard Edition (x86)	SQL Server 2005 Standard Edition with SP1 or SP2 (x86)
	5.0 (x86)	Windows Server 2008 Enterprise Edition (x86)	SQL Server 2005 Enterprise Edition with SP1 or SP2 (x86)
	4.2.1 (x86)	Windows Server 2003 Standard Edition with SP1 or SP2 (x86)	SQL Server 2000 Standard Edition SP3a or SP4 (x86)
	4.2 (x86)	Windows Server 2003 Enterprise Edition with SP1 or SP2 (x86)	SQL Server 2000 Enterprise Edition SP3a or SP4 (x86)
	4.1 (x86)	Windows Server 2003 R2 Standard Edition (x86)	
		Windows Server 2003 R2 Enterprise Edition (x86)	
		Windows Server 2003 R2 Standard Edition with SP2 (x86)	
		Windows Server 2003 R2 Enterprise Edition with SP2 (x86)	
		Windows 2000 Server SP4 (x86)	
		Windows 2000 Advanced Server SP4 (x86)	

SnapManager for SQL Server	SnapDrive Version	Windows Version	Application Version
SnapManager for SQL Server (x86)	6.0 (IA-64) 5.0 (IA-64) 4.2.1 (IA-64) 4.2 (IA-64)	Windows Server 2008 Enterprise Edition (IA-64) Windows Server 2003 Enterprise Edition with SP1 or SP2 (IA-64) Windows Server 2003 R2 Enterprise Edition (IA-64) Windows Server 2003 R2 Enterprise Edition with SP2 (IA-64)	SQL Server 2005 Enterprise Edition with SP1 or SP2 (IA-64)
SnapManager for SQL Server (x64)	6.0 (x64) 5.0 (x64) 4.2.1 (x64) 4.2 (x64) 4.1 (x64)	Windows Server 2008 Standard Edition (x64) Windows Server 2008 Enterprise Edition (x64) Windows Server 2003 Standard Edition with SP1 or SP2 (x64) Windows Server 2003 Enterprise Edition with SP1 or SP2 (x64) Windows Server 2003 R2 Standard Edition (x64) Windows Server 2003 R2 Enterprise Edition (x64) Windows Server 2003 R2 Standard Edition with SP2 (x64) Windows Server 2003 R2 Enterprise Edition with SP2 (x64)	SQL Server 2005 Standard Edition with SP1 or SP2 (x64) SQL Server 2005 Enterprise Edition with SP1 or SP2 (x64) SQL Server 2005 Standard Edition with SP1 or SP2 (x64) SQL Server 2005 Enterprise Edition with SP1 or SP2 (x64)

Note

If the host system is running SQL Server 2005, Microsoft Data Access Components (MDAC) 2.8 SP1 must be installed. Windows Server 2003 SP1 and SP2 include MDAC 2.8 SP2, which is required for SQL Server 2005 on Windows Server 2003.

Windows host component	Requirements
Microsoft Windows hotfixes	See the SnapDrive software system requirements.
SQL Browser service	If the host system is running SQL Server 2005, configure the SQL Browser service to start automatically.
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

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

Storage system component	Requirements
Data ONTAP	See the SnapDrive software system requirements in the <i>SnapDrive Installation and Administration Guide</i> for your version of SnapDrive.
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 are needed: ◆ SnapRestore® feature ◆ iSCSI protocol, FCP protocols, or both ◆ SnapMirror license (if SnapMirror is used)

Bug fixes

The following table lists and describes bugs fixed in SnapManager 2.1 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
99132	SnapManager for SQL point-in-time restore fails on Japanese and German systems.
161211	After each SnapManager for SQL backup, an “Update SnapMirror” is done, even though the customer specified not to update SnapMirror.

The following table lists and describes bugs fixed in SnapManager 2.1R1 for Microsoft SQL Server.

Bug ID	Description
220201	SnapManager 2.1 for SQL Server fails to recognize a valid per-server license.

The following table lists and describes bugs fixed in SnapManager 2.1.1 for Microsoft SQL Server.

Bug ID	Description
240758	SnapManager 2.1 cannot restore a single database stored on a mountpoint.
247473	Remote backup verification fails when databases and transaction logs are stored on volume mountpoints.

Known issues

The following table lists and describes issues known to exist in SnapManager 2.1.2 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
90637	Unable to perform SQL Server database migration, transaction log backup, or restore of databases whose names contain the “[” or “]” character. 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 “]” character. Workaround: Rename the database using a name that does not contain either the “[” character or the “]” character.
92736	The SnapManager operation fails with Error Code: 0x80040154 “Class not registered”. If any of the COM components used by SnapManager is not registered correctly, SnapManager displays an error message with error code 0x80040154 “Class not registered” when you attempt to perform a SnapManager operation. The operation fails, and the error message appears in either the operational status report or a Windows message. 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 error message, 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.

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 instance name or 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 (VDISK__<i>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 or database name tree view, if the database is sharing the LUN with other databases, then SnapManager uses the copy-based method to perform the restore operation.
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 SnapManager.exe and SmSqlSrvr.exe, and then rerun the SnapManager backup operation.

Bug ID	Description and workaround
144988	An information type of event is logged for a SnapManager installation failure. If the SmSqlSrvr.exe process, the SnapManagerDebug.exe 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 SystemTimeToFileTime error might be reported when you double-click a SnapManager backup. When you double-click a SnapManager backup either in the SnapManager Restore tab or the SnapManager Restore wizard, a SystemTimeToFileTime error might be reported. SnapManager receives this error from SQL Server while reading the backup header information. If you examine the application event log, you will 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.
190932	Uninstalling SMSQL leaves stale registry entries in mscs. In a cluster environment, when SnapManager for Microsoft SQL Server is uninstalled from any node, the uninstaller leaves the registry key in the following places: HKEY_LOCAL_MACHINE\Cluster\SOFTWARE\Network Appliance\SnapManager for SQL\Server HKEY_LOCAL_MACHINE\Cluster\SOFTWARE\Network Appliance\SnapMgrService The uninstall does this because it assumes other nodes are still sharing the registry key. Workaround: If you have uninstalled SnapManager for Microsoft SQL from all nodes, you can safely delete the registry key from both of the above mentioned places by using Register Editor.

Bug ID	Description and workaround
213839	SnapManager binary files installed in the Windows system directory. ◆ When you install SnapManager, the following binary files are installed in the windows system directory: - mfc71.dll - mfc71u.dll - msvcp71.dll - msvcr71.dll When you uninstall SnapManager, these binary files are removed automatically provided no other application is using it. ◆ The following SnapManager installation binary package files are redistributed in the Windows Assembly directory WinSxS: - ATL80.dll - msvcm80.dll - msvcp80.dll - msvcr80.dll - mfc80.dll - mfc80u.dll - mfc80.dll - mfc80u.dll - vcomp.dll When you uninstall SnapManager, these files are not removed automatically because they might be in use by some other applications installed on the Windows system. ◆ The following SnapManager installation binary package files are installed in the Common Files\InstallShield\Driver\Intel 32\ directory: - IDriver.exe - IDriver2.exe - ISRT.dll - IScrCnv.dll - IUserCnv.dll _ISRES1033.dll - iGdiCnv.dll - objpsCnv.dll

Bug ID	Description and workaround
	When you uninstall SnapManager, these files are not removed automatically because they might be in use by some other applications installed on the Windows system. ◆ The following binary file is cached by SnapManager in the Windows install directory: <i>SnapManager® for Microsoft SQL.msi</i> When you uninstall SnapManager, this binary file is not removed automatically. This file can be accessed from the Add/Remove Programs panel, and is used for maintenance and repair activities.
295445	Microsoft Windows Server 2008 firewall settings can cause Remote Verification Server Access errors. The following errors can be induced by the Microsoft Windows Server 2008 Firewall. ◆ Configuring any Microsoft Windows Server 2008 as the remote verification server can result in an error when the firewall is on. ◆ Execution of remote verification job on any Microsoft Windows Server 2008 can result in an error when the firewall is on. Workaround: Please ensure that the firewall rules are set appropriately. The DCOM traffic should be able to flow through the firewall.

