



RELEASE NOTES

EMC RepliStor for Microsoft Windows

Version 6.2

Release Notes

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These release notes contain information about features, system requirements, known problems, and limitations in EMC RepliStor for Microsoft Windows version 6.2. The release notes supplement the *EMC RepliStor for Microsoft Windows Version 6.2 Administrator's Guide* and the *EMC RepliStor for Microsoft Windows Version 6.2 Installation Guide*.

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Product description

EMC® RepliStor® software provides real-time data replication, and increases the availability and reliability of Windows servers without the use of proprietary or specialized hardware. RepliStor software operates over both local area network (LAN) and wide area network (WAN) connections, and allows remote administration and installation. RepliStor software also operates across Windows domains; you can administer RepliStor software across domains from any RepliStor client in the network.

RepliStor software replicates files, directories, shares, and registry keys from a source system, the computer where the data that needs to be protected is located, to a target system, the computer to which the data is replicated. After an initial synchronization of the data, RepliStor software replicates any changes made to the files (or keys), transfers those changes to the target system, and updates the files on the target system.

New features and changes

This section describes the new features and changes for RepliStor 6.2, RepliStor 6.1 and RepliStor 6.1.x.

New features in RepliStor 6.2

Several features are new or enhanced for the RepliStor 6.2 release.

Enhanced Multithreaded mirroring

The Performance tab of the Options dialog contains the Target Connections slider button. This setting is now utilized for mirroring as well as synchronizations. You can set the number of connections the source server will connect to each target server. This setting can increase the performance of real-time replication by better utilizing available bandwidth.

Improved Incremental sync

The incremental synchronization is now more reliable than in previous versions of RepliStor. Previously, for very large files, RepliStor may have erroneously reported a file was in sync when it was not. RepliStor 6.2 effectively eliminates the upper limit on file sizes it can synchronize. In addition, for very large files, RepliStor 6.2 now reports progress as the synchronization is occurring.

Security features

RepliStor 6.2 has a new audit log feature available from the RepliStor Options dialog. The checks in the audit log group in this dialog determine which types of operations will go into the audit log:

- ◆ **Configuration changes** — If checked, any configuration changes you perform will be put into the Audit log. This is checked by default.
- ◆ **Successful Connections** — If checked, all successful connections will be logged in the Audit log. This is unchecked by default.
- ◆ **Failed Connections** — If checked, all failed connections are logged. This is useful to determine if someone is attempting to connect to a RepliStor server but they do not have the required permissions. This is checked by default.

The Audit log is part of the Windows Event log. It is a separate log that is created during installation of RepliStor. Each Audit Log message contains the user that performed the action, the IP address of the user's server along with the host name if it is available.

Automatic virus scanner configuration

On the **Process** tab of the **Options** dialog, RepliStor will automatically populate the list with any installed Anti-virus software unless the **Disable Anti-virus Auto-Configuration** checkbox is selected.

New features and changes in RepliStor 6.1.2

RepliStor version 6.1.2 contains fixes for software defects found in RepliStor 6.1.1 and RepliStor 6.1.

If you perform replication operations across mount points, RepliStor does not replicate the data to the intended location. This service pack will provide the fix for these defects and additional fixes to maintain RepliStor quality. For a list of all fixes in this release, refer to [“Fixed problems” on page 6](#).

New features and changes in RepliStor 6.1.1

RepliStor version 6.1.1 contains fixes for software defects found in RepliStor 6.1. Refer to [“Fixed problems” on page 6](#) for more information.

The major new features and/or enhancements in RepliStor version 6.1.1 are:

- ◆ **Enhanced Exchange installer** — The Exchange installer can now be managed from within the RepliStor client. Once installed you now have the option of modifying your configuration. Refer to the *EMC RepliStor for Microsoft Windows Version 6.1.1 Installation Guide* for more information.

Note: The Exchange installer works with both Exchange 2000 and Exchange 2003.

- ◆ **New SQL Server 2005 installer** — In RepliStor 6.1.1, there is now support for the SQL Server 2005 module. This utility should be installed if you are planning to take VSS-compliant shadow copies of SQL 2005 Server 2003 databases. The SQL installer can be managed from within the RepliStor client. Once installed, you have the option of making additional modifications to your configuration. Refer to the *EMC RepliStor for Microsoft Windows Version 6.1.1 Installation Guide* for more information.

Note: The SQL installer works with SQL Server 2005 only.

New features and changes in RepliStor 6.1

The major new features in RepliStor version 6.1 are:

- ◆ The ability to take VSS-compliant shadow copies of Exchange Server 2003 databases; shadow copies serve as data recovery backups on the target system.
- ◆ The addition of a simulation/reporting feature. Refer to [“Fixed problems” on page 6](#).
- ◆ The addition of mount point support on the source system. Refer to [“Fixed problems” on page 6](#).

These new features are described in the following sections.

Mount points supported on source

RepliStor version 6.1 now supports mount points on the source system. RepliStor can replicate data in specifications that span mount points. It will also automatically take shadow copies of all mounted volumes within a specification.

Fixed problems

Table 1 on page 6 displays problems reported in earlier versions of RepliStor that have been fixed in RepliStor version 6.2.

Table 1 Fixed Problems (1 of 2)

Bug ID	Description	Found In RepliStor Version
LGTpa66817	Errors occur before setting credentials when setting disallow system account.	5.3
LGTpa75301	After doing an administrative install, the msi file that was created needs to be renamed.	6.0
LGTpa75494	Change text of warning message.	6.0.1
LGTpa76992	File select on browse windows corrected.	6.1
LGTpa77332	The Sync Status window does not clear out entries that have completed.	6.1
LGTpa81676	When using the GUI to mount a snapshot to a drive letter, an error is reported yet the mount succeeds.	6.1
LGTpa82539	The Exchange installer does not provide a way to discover new Exchange Storage groups on the system.	6.1
LGTpa86186	Do not allow an alias to be activated if the IP address is already on the network.	6.1
LGTpa86210	Scheduled Shadow Copies are disabled with MSCS failover.	6.1.1
LGTpa86315	The Exchange Wizard skips panels after selecting the Back button from the target selection panel.	6.1.1
LGTpa86445	In DiskXtender [®] 2000 configurations, offline files should be ignored.	6.1
LGTpa86790	Users with restricted rights can not create specifications when selecting the target as "Same As Source". Errors result when attempting to do so.	6.1
LGTpa87082	In the Process Exclude option you can add an executable if the service is not running. You then type in the executable name. As an enhancement, a browse button should be added to avoid introducing typos in the executable name.	6.1
LGTpa87180	The "Don't Perform Permissions Check" option on the Users tab is not working for an Administrator.	6.1
LGTpa87196	If a script name is typed in, but RepliStor can not find it, the <code>Scriptoutput.xxx.txt</code> file is created in the data directory and not deleted.	6.1
LGTpa87754	In the Performance monitor, the "Operations sent to Target (Ops/Sec)" are not correct.	6.1

Table 1 Fixed Problems (2 of 2)

Bug ID	Description	Found In RepliStor Version
LGTpa88036	When a service with a dependent service are both put in the alias list, each with different names to start under, the dependent service does not start with the assigned name.	6.1
LGTpa88135	The msg log fills up rapidly with information about connection.	6.1
LGTpa88136	Misleading error messages occur when attempting a kerberos connection.	6.1
LGTpa88214	The Maximum Shadow Copy value is not preserved when configuring specifications.	6.1.1
LGTpa88384	Configuring RepliStor to work with Anti-Virus and Backup Software should be more apparent to the user.	6.1.1
LGTpa88390	The mirroring engine should be enabled to use multiple com ports, similar to the synchronization process.	6.1.1
LGTpa89398	Deleting multiple snapshots has a verification prompt for each one rather than one confirmation asking if the user would like to delete them all.	6.1
LGTpa89457	Importing specifications or importing the full configuration should reset the "failover" or "cluster" resource flags.	6.1.1
LGTpa88987	The 'Short File Name Translation' setting is being ignored on an Operating System with the minifilter.	6.1
LGTpa89552	Snapshot errors and "validation failed" errors may occur with mount points.	6.1
LGTpa89641	Uninstalling the Exchange wizard results in the Replistor server shutdown.	6.1.1
LGTpa89705	Separate credentials are needed for script execution.	6.1.1
LGTpa89706	Some services (e.g., SQL, Oracle) will not start when DNS updates are done last. DNS updates should be done before starting services.	6.1.1
LGTpa89722	Setting more than 20 process includes causes bug check. The process exclude list does not handle overflow correctly.	6.1.1
LGTpa89807	The message rate limit on the Email tab is 0 after an upgrade rather than 60 as it should be.	6.1
LGTpa89853	Error messages are produced and the site blocks after turning off simulation.	6.1

Environment and system requirements

This section discusses the system requirements the source and target servers must meet in order to run RepliStor software.

Before installing RepliStor software, you must have administrative privileges on the system where you are installing the product. If you are installing in a domain, the account must be in the Domain Admins group. You can install RepliStor software over a network if you have administrative privileges on both the source and target machines.

Operating system and server requirements

Before installing RepliStor software, you must meet the following operating system and server requirements:

- ◆ Operating systems:
 - Windows 2000 (Service Pack 4 is recommended)
 - Windows Server 2003 x86 (Service Pack 1 is recommended)
 - Windows Server 2003 64-bit x64 Edition (Service Pack 1 is recommended)
 - Windows Server 2003 R2 x86
 - Windows Server 2003 R2 64-bit x64 Edition
 - Windows Small Business Server 2003 (Service Pack 1 is recommended)
 - Windows Powered Network-Attached Storage (NAS) 2000
 - Windows Server 2003 64-bit Itanium Edition (Service Pack 1 is recommended)
 - Windows Storage Server 2003 (Service Pack 1 is recommended)
 - Windows Storage Server 2003 R2
 - Windows XP Service Pack 2

Note: The VSS-compliant shadow copy functionality is only supported on Windows 2003 and Windows 2003 R2 systems.

- ◆ Server hardware certified by Microsoft for the version of Windows that you are running

For a list of servers certified by Microsoft, refer to the Windows 2000 Hardware Compatibility List on the Microsoft web site at <http://www.microsoft.com/windows/compatible/>, or contact an EMC Customer Support Representative.

Software requirements

RepliStor — Windows Installer 2.0 or later is required. If your system has an earlier version, you must obtain Windows Installer 2.0 or later from the Microsoft web site. Windows 2000 Service Pack 4 and later includes the Windows Installer 2.0 standard.

DiskXtender 2000 — If you want to use DX 2000 with RepliStor, version 5.60.049 patch 4 or later is required.

Communication requirements

RepliStor software supports the TCP/IP protocol. The Windows systems you use must be able to communicate with each other.

The following ports are used by default:

TCP: 7144, 7145

UDP: 7145

Note: These default values can be changed.

Disk space requirements

The information in this section should be considered as guidelines only. These recommendations depend on several variables. For example, the amount of storage on the source and target may be significantly greater if you are replicating data that changes quickly or if the links are relatively slow. In addition, if you are using scheduled forwarding or throttling you may actually need more space than the original amount replicated. This scenario could occur if you accumulate changes all day, and then turn forwarding back on at night. Take your data storage needs into consideration before choosing a reserve size.

EMC recommends the following disk space for program, documentation, and log files:

- ◆ **Program files** — The following platforms require the disk space shown for program files:
 - Intel 32-bit version: 18 MB
 - Itanium (ia64): 36 MB
 - Opteron (x64): 27 MB
- ◆ **Log files** — Allocate space for the following types of log files:
 - **Kernel cache** — The kernel cache is a fixed amount of shared memory used for queuing data going from the source to the target. When you install the RepliStor software, it looks at the physical memory and preconfigures an appropriate setting for the system. The kernel cache size defaults to 5 percent of physical memory. However, you can modify this parameter, if needed, in the RepliStor **Options** dialog box (on the **Advanced** tab).

It is important to size this memory segment correctly. If it is too small, output from memory operations may overflow to disk (that is, OC\$nnnnn files in the RepliStor data directory), hurting performance. If the memory segment is too large, it reduces the amount of memory available to other applications.

Note: For information on how to size the kernel cache appropriately, refer to "Sizing the Kernel Cache" in Chapter 6 "Administering RepliStor Software" in the *EMC RepliStor for Microsoft Windows Version 6.2 Administrator's Guide*.

- **Message log** — The message log holds 1,000 messages by default; it typically requires approximately 3 MB.
- **Blocked files (target only)** — The blocked files log holds all the file operations that are queued to all blocked files. This file can grow to any size depending on what is in queue.
- **OC\$nnnnn files (source only)** — The OC\$nnnnn log holds all the file operations that are queued to be sent to the target if the kernel cache overflows. The most common reason the kernel cache overflows is when a target site is blocked and the file operations cannot be forwarded.

RepliStor software use of Windows Active Directory

When installing RepliStor software, you can optionally register it in Active Directory. This has the following benefits:

- ◆ There is a common site list for all RepliStor installations in the domain. If any server makes a change to the site list, *all* servers see that change immediately.
- ◆ There is a common users list for all installations in the domain (on the **Users** tab in the **Options** dialog box).
- ◆ The site list is available immediately. Manually adding a site is only necessary if the site is outside the domain.

Note: In order to register RepliStor software in Active Directory, the user performing the installation must be in the Domain Admins group. Once RepliStor software is installed, a domain administrator can assign administrative rights to any other user or group.

RepliStor software uses the base Active Directory schema and does not extend the schema. The only portion of Active Directory that RepliStor software modifies is:

```
DC=domain
  CN=System
    CN=EMC
      CN=RepliStor
```

Under the RepliStor entry is an entry for each installed RepliStor server, as well as entries for each external RepliStor server (as added into the Site List). Use the following information to determine the additional disk space the system requires to replicate RepliStor Active Directory updates:

- ◆ Each RepliStor installation typically requires less than 1 KB of additional space in Active Directory, although this depends on the number of characters entered in the text fields in the **Site Properties** dialog box (for example, **Description**, **Site Name**, **Account**, **Password**).
- ◆ All attributes that RepliStor software uses in Active Directory are sent during both full and partial Active Directory replications.
- ◆ RepliStor Active Directory updates are confined to user-initiated events, such as installing and removing RepliStor software, and modifying site properties.

Compatibility with other releases of RepliStor software

RepliStor version 6.2 is compatible with versions 5.0, 5.1, 5.2, 5.3, 6.0, 6.1, and 6.1.1 and 6.1.2; however, you won't be able to modify information under the **Users** tab of the **Options** dialog box in earlier versions. In addition, if you are running version 5.0 or later with aliases defined for Super Automatic Switchover (Super ASO), all systems must be running RepliStor Version 5.0 or higher.

Known problems and limitations

This section contains the known problems and limitations in RepliStor version 6.2.

Known problems

[Table 2 on page 13](#) displays known problems in RepliStor 6.2.

Table 2 Known problems (1 of 2)

Bug ID	Description	Workaround
LGTpa95178	Shadow copies should automatically abort if the specification is disabled. Instead, the shadow copies remain pending.	Verify that no shadow copies are in progress before taking the resource offline, or manually abort the shadow copy before taking the resource offline.
LGTpa95697	When using a share specification, hidden shares continue to be replicated after the option is disabled.	Use share replication within a file specification.
LGTpa95862	Auto detect for McAfee does not include <code>scan32.exe</code> for a manual scan.	Manually add <code>scan32.exe</code> to the Process Exclude list.
LGTpa95887	Errors may occur when synchronizing specifications with encrypted folders if the target is a mount point.	Do not use encrypted files on mount points.
LGTpa96309	Running Configimport from RepliStor 6.1.2 results in improperly restored email settings.	Inspect the email settings and correct if necessary.
LGTpa96324	Settings in the Account tab of the Options dialog are not maintained when upgrading RepliStor from version 6.1.x to version 6.2. When you have an account specified and you upgrade it does not fill any of the following fields: script execution, Active Directory modification, and DNS.	Re-populate the Account tab information: If you had values set before you will have to go back into the Options dialog after upgrading and configure one or all three parameters to specify the proper credentials.
LGTpa96528	The User tab limits the amount of users that can be in the list and displays an error is that limit is exceeded.	Instead of listing individual users, assign the users to a group (e.g., the "RepliStor Administration" group) and add only that group to the list.
LGTpa96625	When you add or delete a user or a user group, the audit message is not as detailed as it should be.	The audit message is present, it's just not as detailed as it could be. A system administrator will still know from looking at the audit log, that the user list has been modified.

Table 2 Known problems (2 of 2)

Bug ID	Description	Workaround
LGTpa96661	Simulation reporting is not updating the audit log.	Simulations do not impact the functionality or use of RepliStor's data replication. It is unlikely that an administrator would need to know when or if a simulation happened. In addition, this information is already in the message log.
LGTpa96705	Enabling or disabling a schedule does not provide any audit log messages.	The information is in the message log.
LGTsc00029	When running a remote install on Windows 2000, you can not remote install to a local machine.	If you need to install on the local machine, just do a normal install.
LGTsc00030	Logging mechanism on remote install gives an error.	Specifying a log command (/l) without specifying <i>what</i> to log gives an error. You need to always specify something to log, such as "/l*" or "/log". If "/l" is specified without any modifier, a future version will just assume the user meant "/l*".
LGTsc00043	When using the <code>reinstall</code> command for remote installations, you must specify the absolute path to <code>reinstall.exe</code> or change directory (<code>cd</code>) to the Program Files\EMC Replistor directory and issue the command from there.	Specify the absolute path or <code>cd</code> to the Program Files\EMC Replistor directory.
LGTsc00118	Active Directory errors that occur when the machine is shutting down should be suppressed.	AD errors that display during a shutdown do not indicate any actual problems. These errors will be suppressed in future releases.
LGTsc00125	If you modify an alias that is currently activated by adding the IP address (when it had none), or removing all IP addresses, it does not properly update DNS.	If you need to remove all IP addresses from an alias, or add an IP address to an alias that has none, you must do it while the alias is deactivated.
LGTsc00130	When creating a group specification, the GUI does not accept multiple source paths being typed in.	Creating a group specification can be easily done by checking the appropriate checkboxes in the tree window.

Limitations

The following limitations exist in RepliStor version 6.2.

RepliStor and ActiveSync

Replistor's current Exchange failover configuration does not support ActiveSync environments.

RepliStor and MSCS clusters

Consult the note below before installing RepliStor or upgrading RepliStor in Microsoft clusters.



CAUTION

When installing RepliStor into a Microsoft cluster, it must be installed in the same directory path on each node. If all nodes are not installed on the same path, Cluster Server may not be able to use RepliStor resources on all nodes.

In addition, when upgrading RepliStor installations that are in a Microsoft cluster to RepliStor version 6.2, all nodes must be upgraded to version 6.2; otherwise the RepliStor resources may not be functional on one or more nodes.

Using VSS with RepliStor and MSCS clusters

When performing a VSS revert operation with RepliStor 6.1, 6.1.x, or RepliStor 6.2 in an MSCS cluster environment, you may receive the following error Windows-text: 2147754764 - VSS_E_VOLUME_NOT_SUPPORTED

This problem is an MSCS limitation with the Microsoft software provider. There is an EMC Knowledgebase solution (ID: emc136079) that explains this scenario further. However, the text for the workaround has also been reproduced in these release notes as follows:

Until a permanent resolution is provided, the following workaround is recommended:

1. Take the cluster physical disk resource for the volume to be restored and its associated shadow storage device offline. For example, if you are restoring the Information Store device, you will take the corresponding physical disk resource offline.

Note: You must also take the associated shadow storage device resource offline. This is the resource that was allocated to store the shadow copies.

2. Modify any other cluster resources that have a dependency on the physical disk resource that you are reverting and remove the dependency. For example, if you are reverting an Exchange data device, you would also modify the Exchange System Attendant resource to remove the dependency on that disk.

Note: It is assumed that since a recovery is being performed all the other application specific cluster resources are already offline, i.e., Exchange system attendant or SQL Server.

3. Once all dependencies have been removed, delete both the data physical disk resource and the shadow storage disk resource. If you have missed any dependencies, you will be prompted to also delete the dependent resources, select NO and go back and remove any missed dependencies.

Once the resources have been deleted they will become available to the OS and will be present with their original disk letters. From within RepliStor you will see the list of shadow copies that are available to revert under a <Unknown Source Site> heading. Choose the appropriate shadow copy and select **Revert**. Check the **force unmount** checkbox at the confirmation pop-up.

4. Once all revert operations are complete, you must re-create the cluster resources to bring the application back online. They must be created in the proper order or all knowledge of any remaining shadow copies will be lost:
 - a. First, re-create the physical disk resource for the application data disk. Assign the same parameters as originally created. Do not bring online yet.
 - b. Re-create the physical disk resource for the shadow storage disk. Assign the same parameters as originally created. Do not bring online.
 - c. Modify the first resource created, the application data disk resource, and add the shadow storage disk as a dependency. Bring the application disk resource online, it will bring the shadow copy storage disk online with it.
 - d. Modify the application resources that were dependent on the physical disk resources, i.e. Exchange system attendant or SQL Server, to recreate the dependencies.
 - e. Bring the rest of the resources online to complete the recovery as documented in the Disaster Recovery documents.

5. The remaining shadow copies will still be seen as <unknown source site>, but will still be available for recovery if needed.

Kernel stack space considerations

On Windows 2000 systems, a blue screen may occur due to stack overflow errors in the kernel space. This may happen if many kernel drivers are loaded. While a single driver alone may not overflow the stack, all of them together may result in an overflow error message similar to the following:

```
STOP 0x0000007F (0x00000008, 0x00000000, 0x00000000,
0x00000000)
(UNEXPECTED_KERNEL_MODE_TRAP)
```

Microsoft has released a hot fix for Windows 2000 that addresses this problem by allowing drivers to conserve stack space. Until now, only Windows XP and Windows 2003 platforms had this functionality.

RepliStor version 6.1.x will detect whether this hot fix has been installed on Windows 2000. If it has been installed, RepliStor version 6.1.x will utilize this new functionality to conserve stack space and blue screens should not occur.

Note: This hot fix will be included in Windows 2000 Service Pack 5. If you are receiving blue screen errors now, download the hot fix according to Microsoft Knowledge Base Article 835281 available at:

<http://support.microsoft.com/?kbid=835281>

Technical notes

This section discusses reboot scenarios and DiskXtender requirements for RepliStor.

Rebooting issues when installing, upgrading, or uninstalling RepliStor

Microsoft has introduced a new framework for filter drivers called Filter Manager. For more information, refer to the section, "Reboot requirements" in Chapter 1, "Installing RepliStor" in the *EMC RepliStor for Microsoft Windows Version 6.2 Installation Guide*.

Upgrading/uninstalling RepliStor 6.x on Windows Server 2003 SP1 or later systems

An upgrade or uninstall of a RepliStor 6.0.x build on a Windows Server 2003 SP1 or later system will not require a reboot.

Installing RepliStor 6.x on Windows XP SP2 or 2000 SP4 with Update Rollup 1 systems

If installing RepliStor *for the first time* on either a Windows XP SP2 system, or a Windows 2000 SP4 with Update Rollup 1 system, RepliStor will take advantage of the Filter Manager that exists on these operating systems.

However, in order to minimize any potential Filter Manager impacts, Microsoft has set the Filter Manager to be inactive unless it is used. When RepliStor attaches to it, the Filter Manager is activated, but since it was not activated at boot time, there are two potential problems:

- ◆ The RepliStor driver may not be layered correctly with other drivers.
- ◆ There may be an intermittent problem with the Filter Manager that causes it to not attach to certain volumes.

Configuring the Filter Manager to start at boot time fixes both of these problems, but requires a reboot. Therefore, after installing RepliStor for the first time on Windows XP SP2 or Windows 2000 SP4 with Update Rollup 1 systems you must reboot. After this initial reboot, you can upgrade, install, or uninstall RepliStor without any further reboots.

Note: This issue does not exist with Windows Server 2003 or later versions of the operating system, since the Filter Manager is active by default.

Installing RepliStor 6.x on Windows 2000 SP4 (without Update Rollup 1) or earlier systems with SNMP functionality

If you are installing RepliStor and require SNMP functionality and you are installing on a Windows 2000 SP4 or earlier system (without Update Rollup 1), you must manually reboot so that the SNMP service can attach to the RepliStor SNMP extension agent. If you do not reboot after installing RepliStor, you will notice an error in the Event Viewer similar to the following example:

```
Event Type: Warning
Event Source: SNMP
Event Category: None
Event ID: 1102
Date: 8/31/2005
Time: 9:32:28 AM
User: N/A
Computer: VPC1
Description:
The SNMP Service is ignoring extension agent dll
C:\Program Files\EMC RepliStor\SNMPAGNT.DLL
because it is missing or misconfigured.
Data:
0000: 7e 00 00 00 ~...
```

A reboot will resolve the above error.

Note: If running Windows 2000 SP4 with Update Rollup 1, or any later operating system version (Windows XP, 2003, and so on), a reboot is not necessary.

Documentation

The following documents, available on the EMC website, <http://Powerlink.EMC.com> provide additional information about the RepliStor software:

- ◆ *EMC RepliStor for Microsoft Windows Version 6.2 Administrator's Guide*
- ◆ *EMC RepliStor for Microsoft Windows Version 6.2 Installation Guide*

Note: In addition, you may find the EMC RepliStor online help system provided with the software helpful for answering any questions you may have about RepliStor.

If your environment includes other vendors' storage systems, refer to the appropriate documentation from your vendor.

Software media, organization, and files

This section describes the software packaging, placement, and availability of the documentation.

The RepliStor setup package is a single .msi file, `rep<v.v.v.v>.msi`, that contains everything needed for installing the product. Refer to [Table 3](#) for specifics for your platform.

All documentation for RepliStor 6.2, 6.1, and 6.1.x is found at:

<http://Powerlink.EMC.com>

Filenames by operating system and module

The filenames in [Table 3](#) correspond to your operating system and any modules you may be running.

Table 3 Filenames by operating system and module

Filename	Operating system or module
rep.6.2.0.465.msi	x86
rep.6.2.0.465_Itanium.msi	Itanium
rep.6.2.0.465_x64.msi	x64
RepliStorSQL.1.0.2.3.msi	SQL 2005 module on Windows x86 operating systems
RepliStorSQL.1.0.2.3_Itanium.msi	SQL 2005 module on Windows Itanium operating systems
RepliStorSQL.1.0.2.3_x64.msi	SQL 2005 module on Windows x64 operating systems

Installation

This section describes how to install, upgrade, and remove RepliStor version 6.2 software.

Before you install

Be aware that RepliStor software must be installed as a service that runs under the System account or an authenticated account in the Administrators group (or Domain Admins, if installed in a domain). It cannot run under a user's account because of Windows operating system limitations. Specifically, RepliStor software needs to communicate with the RepliStor kernel mode driver. Only System or Administrator users are allowed to perform this function.

Note: For information on securing remote servers, refer to *Setting Up Secure Access to Remote Servers* in the *EMC RepliStor for Microsoft Windows Installation Guide*.

During installation, RepliStor software prompts you for the following information:

- ◆ The pathname to install RepliStor programs. The recommended path is:

```
%SystemDrive%\Program Files\EMC RepliStor
```

- ◆ The pathname to store RepliStor data and script files. The default paths to data and script files are:

```
%SystemDrive%\Documents and Settings\  
All Users\Application Data\EMC RepliStor Data
```

and

```
%SystemDrive%\Documents and Settings\  
All Users\Application Data\EMC RepliStor Scripts
```

Note: To change the program directories after installing RepliStor software, you must reinstall it. To change the location of the data directory after installing RepliStor software, you must change it on the **Directories** tab in the **Options** dialog box (select **Options** from the Maintenance menu).

Obtaining a license key

When you first install RepliStor software, you have the option of selecting **Request Evaluation License** for a trial version. However, before installing RepliStor using a permanent license key, you must obtain this license key from EMC for each computer on which the product will run. When you obtain a license key, you automatically register the software and activate support for RepliStor software.

If you are installing RepliStor from a CD-ROM, you must contact EMC and give them the serial number listed on the software package to obtain a license key.

Note: For additional information, refer to *Obtaining a License Key* on page 1-7 in the *EMC RepliStor for Microsoft Windows Version 6.1 Installation Guide*.

Microsoft Windows Storage Server support

RepliStor version 6.1.x (and later versions) support Microsoft Windows Powered Network-Attached Storage (NAS), including Windows Storage Server 2003. Built on the Windows Server 2003 operating system, Windows Storage Server 2003 is a dedicated file and print server that supports heterogeneous file serving, as well as backup and replication of stored data.

Note: For information about obtaining a license key to run RepliStor, refer to *Obtaining a License Key* above.

To install RepliStor software on a system running Windows Powered NAS, you must use Terminal Services or Remote Desktop. For information about these features, refer to the Microsoft Windows documentation.

Installing RepliStor software

This section provides instructions for installing RepliStor software from a CD-ROM, a single file web distribution, and from the `msiexec` command.

How to install RepliStor software from a CD-ROM

To install RepliStor software from a CD-ROM:

1. Start Windows.

The user ID to log on to Windows must have administrative privileges, or Domain Admins if you are installing in a domain.

2. Insert the RepliStor CD-ROM into the CD-ROM drive. If the RepliStor Setup Wizard doesn't start automatically, click the `rep<v.v.v.v>.msi` file.
3. Follow the prompts in the Windows Installer program to install the program.

How to install RepliStor software from a single file web distribution

You can install RepliStor software from a single file obtained from the web. If you obtain RepliStor software over the Internet, it is packaged as a single, compressed file named `rep<v.v.v.v>.msi` where `v.v.v.v` is the version and build number. To install the RepliStor software, you execute the file and follow the RepliStor Setup Wizard prompts.

How to install RepliStor software using the `msiexec` command

Use the `msiexec` command with the `replistor<v.v.v.v>.msi` installer database to specify non-standard options, uninstall the RepliStor software, or perform an administrative install.

Example: Using the `msiexec` command

The following example shows the command and parameters to enter for an unattended installation that allows you to view the installation's progress, and cancel and override the default installation and data directories. (Note that the command wraps in the example, but should be entered on a single line.) Once you are in the folder that contains the `rep<v.v.v.v>.msi` file, type:

```
msiexec /i rep<v.v.v.v>.msi /qb INSTALLDIR="f:\EMC  
RepliStor" DATADIR="f:\RepliStor Data"
```

The following example shows how to specify an administrative installation:

```
msiexec /a replistor<v.v.v.v.>.msi TARGETDIR="C:\RepliStorFiles"
```

Note: For more information on using the `msiexec` command to install RepliStor software, refer to *How to Install RepliStor Software Using the msiexec Command* on page 1-8 in the *EMC RepliStor for Microsoft Windows Version 6.1 Installation Guide*.

Windows XP considerations

RepliStor version 6.1 and later support Microsoft Windows XP SP2. When you are installing RepliStor on a system running Windows XP, RepliStor is automatically registered as an application for the firewall.

Note: If the firewall is active you may wish to register RepliStor with the firewall so that other servers can connect to the RepliStor service through the firewall.

When you use the RepliStor Setup Wizard to install RepliStor on a Windows XP system, there is a **Register RepliStor with the Windows Firewall** checkbox that is checked by default at the bottom of the **Replistor Parameters** dialog box. If you leave this box checked, the RepliStor service and the RepliStor control service are automatically registered with the firewall.

Verifying RepliStor software installation

Select **Start > Programs > RepliStor** from the Windows desktop to start the product and verify that it has installed correctly.

Upgrading RepliStor software

This section describes how to upgrade EMC RepliStor, versions 5.0, 5.1, 5.2, 5.3, 6.0, 6.1, 6.1.1, and 6.1.2 for Microsoft Windows.

Note: You must uninstall the Exchange and SQL modules before upgrading. RepliStor will not allow you to uninstall or upgrade the software without first uninstalling the module.

The RepliStor version 6.2 installation program determines if versions 5.0, 5.1, 5.2, or 5.3 reside on the system before installing. If any of these versions are running, the setup program may prompt you to reboot the system during installation. Installation will resume after the system reboots. Refer to the following section, [“Rebooting scenarios”](#) for more information.

Rebooting scenarios

Your system will require rebooting if:

- ◆ You are upgrading from a RepliStor version prior to version 6.0 and RepliStor was run since the last time the system was rebooted.

Your system will *not* require rebooting if:

- ◆ You are upgrading from a RepliStor version 6.0 or later and the operating system when RepliStor *was first installed* was one of the following:
 - Windows 2000 SP4 Rollup Update 1
 - Windows 2003 SP1
 - Windows XP SP2

License Key requirements

You need a new license key if your upgrade changes either the major or minor version number. Three examples follow:

- ◆ RepliStor version 5.3 upgrading to RepliStor version 6.2 — You must obtain a new license key.
- ◆ RepliStor version 6.0.x upgrading to RepliStor version 6.2 — You must obtain a new license key.
- ◆ RepliStor version 6.1.x upgrading to RepliStor version 6.2 — You do not need a new license key.

Removing RepliStor software

To completely remove all RepliStor executables, data files, and Windows Registry entries from a target or source system:

1. From the **Windows Control Panel**, double-click **Add/Remove Programs**.
2. From the list of programs, select RepliStor, and then click **Remove**.
3. Follow the **Uninstall** dialog prompts.
4. If RepliStor software was run since the last system boot, you are prompted to reboot to complete the uninstall.

Note: The RepliStor Scripts directory is not removed if it is not empty. Any files added to the data directory after installation are not removed (for example, log files).

Troubleshooting and getting help

This section provides specific and non-specific troubleshooting information.

Troubleshooting shadow copy creation

Exchange shadow copy creation failures are logged in both the RepliStor message logs and the Application Event Log. Microsoft logs all application specific information in the Event Log which consists of the Application Event log and the System log. Thus, any given message may be logged in either the Application Event log or the System log.

When troubleshooting shadow copy creation, consider the following:

- ◆ Check the RepliStor messages log. To see RepliStor messages in the message pane, right-click and enable Info, optionally Debug messages can be enabled.
- ◆ To enable debug messages edit the following registry key and set the value to 1:

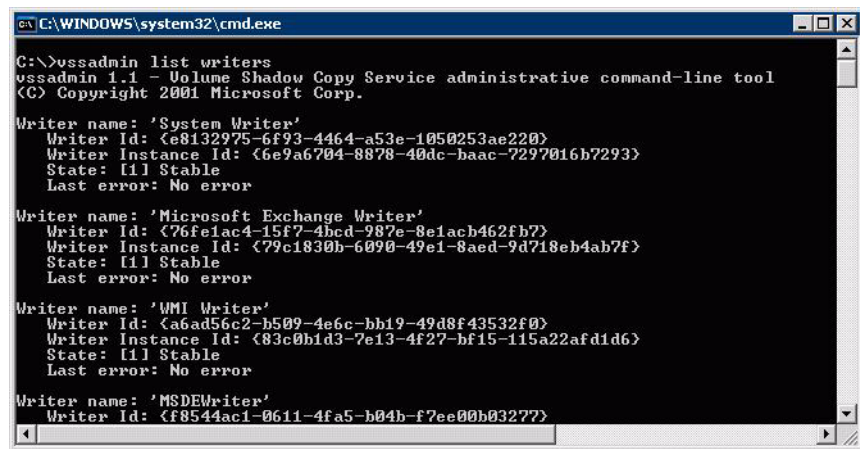
```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\  
RepliStorControl\Parameters\Enable Debug Log
```

- ◆ After setting the key, restart the RepliStor server and control services.

In addition to the logs, querying the status of the writer can also determine its current state. For example the writer may not have been properly started or a backup may have been in progress. If the event log is backed up, the VSS admin commands can give better results.

- ◆ Issue the following command from a DOS window to view the state (refer to [Figure 1 on page 29](#)):

```
Vssadmin list writers
```



```
C:\WINDOWS\system32\cmd.exe
C:\>vssadmin list writers
vssadmin 1.1 - Volume Shadow Copy Service administrative command-line tool
(C) Copyright 2001 Microsoft Corp.

Writer name: 'System Writer'
  Writer Id: {e8132975-6f93-4464-a53e-1050253ae220}
  Writer Instance Id: {6e9a6704-8878-40dc-baac-7297016b7293}
  State: [1] Stable
  Last error: No error

Writer name: 'Microsoft Exchange Writer'
  Writer Id: {76fe1ac4-15f7-4bcd-987e-8e1ach462fb7}
  Writer Instance Id: {79c1830b-6090-49e1-8aed-9d718eb4ab7f}
  State: [1] Stable
  Last error: No error

Writer name: 'WMI Writer'
  Writer Id: {a6ad56c2-b509-4e6c-bb19-49d8f43532f0}
  Writer Instance Id: {83c0bd3-7e13-4f27-bf15-115a22afdd16}
  State: [1] Stable
  Last error: No error

Writer name: 'MSDEWriter'
  Writer Id: {f8544ac1-0611-4fa5-b04b-f7ee00b03277}
```

Figure 1 Vssadmin list writers command

If any error is returned, restart the Volume Shadow Copy Service and the Exchange Information Store Service from the Services Applet to reset the writer state.

General help

For information about software patches, technical documentation, support programs, sales, and licensing, go to:

<http://Powerlink.EMC.com>

Updated web page links

Refer to “[Software media, organization, and files](#)” on page 21 for the correct site to obtain licensing information.

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