

release notes

hp OpenView storage virtual replicator

Product Version: 4.0

Eighth Edition (July 2003)

Part Number: AA-RNBKJ-TE

This document summarizes the features of the 4.0 release of Virtual Replicator.

For the latest version of these Release Notes and other Virtual Replicator documentation, access the HP storage website at: <http://www.hp.com/country/us/eng/prodserv/storage.html>. Select storage software and then select HP OpenView Storage Virtual Replicator under replication software.



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OpenView Storage Virtual Replicator Release Notes
Eighth Edition (July 2003)
Part Number: AA-RNBKJ-TE

About this Document

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Release Notes Information

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- [Mount Point Considerations](#), page 8
- [Known VR 4.0 Issues and Problems](#), page 9
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Intended Audience

This document is intended for customers who purchased the HP OpenView Storage Virtual Replicator product.

Other Virtual Replicator Documentation

The Virtual Replicator kit also includes:

- Online Help/User Guide (accessible via the Web browser interface)
- Installation Card
- System Administrator's Guide
- Command Reference Card
- Planning Chart

Additional documentation, including white papers and best practices documents, are available via the HP website at: <http://www.hp.com>.

Product Features

HP OpenView Storage Virtual Replicator provides advanced, centralized storage management capabilities in Microsoft Windows 2000 computing environments. Version 4.0 offers the following capabilities:

- **Day One** support for operation of the existing Storage Virtual Replicator feature set on the Microsoft Windows Server 2003 operating system platform.
- Full interoperability with the Microsoft Windows Server 2003 Volume Shadow Copy Service (VSS) to use the built-in I/O freeze-thaw mechanism when creating SVR snapshots.

Read the Application Notes for more information about VSS support. To access this document, open the directory in which you downloaded the Virtual Replicator software. Locate the **Documents** folder and open the **AA-RU5AA.pdf** file. Or, perform a search from Windows Explorer for filename AA-RU5AA.pdf.

- WHQL-certification (Windows Hardware Qualification List) with a signed driver, enabling remote management and cluster failover without being logged into the other node.
- Consolidation of significant operability and performance improvements from several point releases and service packs since the Storage Virtual Replicator V3.0 release.
- Support for mount points when creating virtual disks and snapshots with the Storage Virtual Replicator management interfaces.
- Automated upgrade from V3.0B

Installation and Upgrade Notes

This section describes issues concerning installation, uninstallation, or upgrades.

Prerequisites

The following items are required to successfully install Virtual Replicator:

- Either of the following operating systems:
 - Microsoft Windows 2000 Server or Advanced Server with Service Pack 2 (Microsoft Windows Installer V2.0 required) or Service Pack 3
 - Microsoft Windows Server 2003, Standard Edition or Enterprise Edition (two node cluster)

To successfully install Virtual Replicator on a configuration with an MSA1000 running Windows 2000 with Service Pack 3, you can do either of the following:

- Upgrade Secure Path to version 4 (Windows Workgroup Edition) and upgrade the MSA1000 firmware to version 2.38.
- Upgrade the MSA1000 firmware to version 1.18 without upgrading Secure Path.
- Clustering environment, which is supported in any valid Microsoft Cluster Server Configuration.
- Internet Explorer V5.01 or higher
- For License Manager to accept a username and password, the Java Runtime Environment plugins (**j2re-1_3_1_02-win.exe** and **plugin-1_1_3_005-win.exe**) are required. The plugins can be obtained from <http://java.sun.com/products/>.

Upgrading Virtual Replicator from Version 3.0B and Higher to 4.0

Follow the procedure below to upgrade to version 4.0.

1. Download the upgrade kit from web into a folder.
2. Open the kit from the appropriate folder. Select all the files within the kit and extract them to the folder (the same folder to which the kit was copied).
3. Run **setup.exe**.
4. On the Start screen, click **install virtual replicator** and follow the steps to complete the installation.

Upgrading Virtual Replicator from Version 2.0 to 4.0

If you are upgrading from version 2.0, you must uninstall version 2.0 and install version 4.0. You will need the full 4.0 license kit to upgrade.

Additional Windows Prompt for Reboot after 4.0 Upgrade

After upgrading to Version 4.0 and rebooting the system, Windows may prompt you to reboot a second time. This is due to the fact the Virtual Replicator now uses a signed driver and Windows recognizes the virtual disks as newly added devices. Complete the second reboot. You will not be prompted again to reboot.

Rollback During 4.0 Installation

Installation of VR could either rollback or display an error if multiple instances of msixexec.exe are already running. This problem is seen with installations that use MSI and run in the background such as Norton AntiVirus Corporate Edition 7.0.

Before the installation of VR, ensure that multiple instances of msixexec.exe are not running. This can be verified in Task Manager on the Process tab.

Installing 4.0 on a Windows 2000 or 2003 Cluster with VR Resources

To ensure that the 4.0 upgrade is installed successfully on a Windows 2000 or Windows Server 2003 cluster with VR resources, follow the steps below.

1. It is mandatory that the node on which you are installing the upgrade kit does not own the cluster and the VR resources.
2. Install 4.0 on the node as described in [Upgrading Virtual Replicator from Version 3.0B and Higher to 4.0](#).
3. When the installation is complete and the node has been rebooted, move the cluster and VR resources to this node.
4. Perform step 1 and 2 on the other node.

Uninstalling or Modifying Virtual Replicator

Use the Add/Remove Programs feature (**Start > Settings > Control Panel**) to uninstall or modify Virtual Replicator. If Virtual Replicator is not included in the list of currently installed programs, use the Virtual Replicator installation CD. Start the installation process, and choose **Modify**, **Repair** or **Remove**.

Reinstalling Virtual Replicator

If you uninstall and then reinstall Virtual Replicator, you could encounter Windows Registry namespace errors. To prevent such errors, run the Namespace Recovery utility after the reinstallation using either the MMC or CLI interface. This utility updates the registry based on pools that are present and online. It is available on both clusters and standalone systems. See the online help files for complete instructions.

You may also find that previously mapped virtual disks and snapshots no longer have the same drive letters after uninstalling and reinstalling Virtual Replicator. To restore the original mappings, run the Restore Drives utility. Depending on where Virtual Replicator is installed on your system, this command looks like the following:

```
C:\>PROGRAM FILES\HP\OPENVIEW VIRTUAL REPLICATOR 4.0\
RESTOREDROVES.EXE
```

After running the utility, refresh the view in the Replication Manager MMC window (**Action > Refresh**). All drive letters should be correctly mapped.

Uninstalling and Reinstalling Previous Versions on a Windows 2000 Cluster or Standalone System

On a Windows 2000 cluster or standalone system, the properties of the VR resources in Device Manager will display the Microsoft signed driver instead of “Not Digitally Signed” if you attempt to uninstall and reinstall version 3.0B SP1 or earlier after completing the upgrade to version 4.0.

Uninstalling and Reinstalling a Cluster

Follow these steps to ensure that Virtual Replicator functions properly when you unistall and then reinstall a cluster on a system running VR.

1. Uninstall the cluster.
2. Downgrade to a standalone environment by selecting **Start > Programs > hp OpenView storage virtual replicator > Configure Virtual Replicator**.
3. Select **Downgrade to Standalone**.
4. Install the Microsoft Cluster Service.
5. Upgrade to a cluster environment by selecting **Start > Programs > hp OpenView storage virtual replicator > Configure Virtual Replicator**.
6. Select **Upgrade to Cluster**.

Upgrading to a Cluster in Windows 2003

To upgrade VR to a clustered environment in Windows Server 2003 using Quorum on a cluster aware disk, follow these steps:

1. Configure the cluster on the first node (N1) using either **Local Quorum** or **Majority Node Set** as the quorum.
2. Perform the cluster upgrade of VR on N1.
3. Take all the pools offline.
4. Create a cluster aware disk, which will be used as the Quorum resource.
5. In the console tree of the cluster administrator, right click on the cluster name and select **File Properties**.
6. On the **Quorum** tab, select the Quorum resource, and then select the Quorum disk created.
7. In the **Partition** field, if the disk has more than one partition, select the partition where the cluster-specific data will be kept.
8. In the **Root path** field, enter the path to the folder on the partition (for example: **\\MSCS**).
9. Move the Quorum resource into the Cluster Group.
10. Create a dependency between the Quorum resource, the Cluster IP, and the Cluster Name.
11. Bring all the pools online
12. Join the second node (N2).
13. Perform the cluster upgrade of VR on N2.

Mount Point Considerations

Mount point information is stored in the registry, not on disk. If the mount point registry is lost, existing mount points will be lost.

The following is a list of situations in which you could lose existing mount points:

- Migrating from Windows 2000 to Windows Server 2003
- Uninstalling Virtual Replicator
- Upgrading to a cluster or downgrading to a standalone
- Repairing the operating system
- Editing the Virtual Replicator keys manually
- Corruption of the Virtual Replicator registry keys

Recovery of lost mount points is not possible. You must manually recreate mount points to Virtual Replicator volumes after any of the above situations has occurred.

Mount points are only supported for volumes that are within a pool. Scheduled tasks involving mount point assignments on volumes not in a pool will fail to mount the volumes. However, the volumes will be created as scheduled. If logging is enabled, the failure to mount the volume will be logged for your reference.

Nested mount points are not supported. For example, if `V:\temp` is a mount point, then another mount point within this mount point, such as `V:\temp\xyz`, is not supported.

Known VR 4.0 Issues and Problems

This section describes known issues, problems, and recommendations for using Version 4.0 of Virtual Replicator.

Importing a Cluster Aware Disk

When running VR on a Windows 2000 cluster, if you import a cluster aware disk and the MaxVirtualPerPool policy is violated, an error message displays as expected. The standard procedure is to change the cluster aware disk owner. However, you may not be allowed to make changes to the owner. When this occurs, change the MaxVirtualPerPool policy value to 0. Then, move the pool that the cluster aware disk owned and import.

Managing Virtual Replicator Remotely

It has been observed that Windows Explorer does not display virtual disks and snapshots when remotely managing Virtual Replicator using the Terminal Services client. However, the drives are visible on the local system. Also, when a unit is imported into a pool, the imported virtual disk is not accessible when using the Terminal Services client. It is believed that this is a Microsoft issue. Testing with other remote management software such as Netmeeting did not cause these problems.

Creating Snapshots During Extreme I/O Operations

Under extreme I/O stress on a virtual disk, creating snapshots could take longer than usual.

Deleting Partitions from Storage Units

If you want to add a physical disk to a pool, and the disk has unformatted partitions, delete the partitions before adding the disk to the pool. Failure to do this can result in data corruption.

UNITS Command Erroneously Showing Local Disks As SHARED

When adding storage units to a pool in a cluster, you must use disks that are on a shared storage bus, not local disks. Be aware that the VR `UNITS` command erroneously lists all storage units, even local disks, as **Shared** in the **Type** column. Do not add this type of local storage unit to a pool, otherwise, the pool will not fail over in the cluster. The Virtual Replicator documentation for the `UNITS` command does not accurately represent this error.

"Delayed Write Failed" Errors

After importing storage units in a cluster, you might occasionally see error messages stating that Windows was unable to save all the data for a file and that data has been lost. You can safely ignore these messages.

These messages occur when Windows erroneously attempts to write system information for the node that does not own the pool group to the imported disk. Since only one node can own and access a cluster resource at any given time, the "Delayed Write Failed" error is spurious. Click **OK** to close the message box.

Replication Manager Refresh Issue During Cluster Move Group

Performing cluster administrative tasks when Replication Manager is open causes inconsistencies in Replication Manager. When a cluster group is moved from one node to the other and Replication Manager is open, the VR resources displayed in Replication Manager become inaccessible. Relaunching Replication Manager solves this problem. However, it is recommended that you perform all cluster administrative tasks when Replication Manager is closed.

Plug-n-Play Manager Warning When Importing a Partition

When you import a partition into a pool on a Windows Server 2003 system, the Plug-n-Play manager adds the following warning to the Event Log:

```
Timed out sending notification of target device change to window of LDM Service.
```

This warning is benign and can be safely ignored.

Online Restore from Snapshot Fails

The Online Restore from Snapshot function fails to complete on a Windows Server 2003 system. The schedule restores the data to a new virtual disk with the temporary drive letter. You must *manually* unmap and assign the original drive letter to the newly created virtual disk.

If you select the **Delete Snapshot and Original Virtual Disk When Done** option, the schedule restores the data to a new virtual disk. However, you must *manually* delete the original virtual disk/snapshot and assign the original drive to the newly created virtual disk.

Assigning Mapped Network Drive Letters to VR Volumes

When you assign a drive letter to a virtual disk or snapshot on a Windows Server 2003 system, mapped network drive letters are shown as available free drives.

This behavior is different from Windows 2000 in which mapped network drives were not listed. HP recommends that you not select mapped network drives when assigning a drive letter to a virtual disk or snapshot.

Known Issues with VR Volume Shadow Copy Service Snapshots

From a Microsoft VSS perspective, the VR VSS Provider is categorized as a Hardware Provider because the VR driver presents LUNs to the Windows Volume Manager. However, Virtual Replicator is designed as a hardware-independent product. The contradiction in design principles causes certain incompatibilities that show up as errors reported by the VSS framework. For the current implementation of VSS support within VR, HP recommends that you ignore these errors while VR Engineering works with Microsoft to resolve these contradictions.

VR VSS Provider Is Not Listed As a VSS Provider

The VR VSS Provider is not listed as a provider under the VSS framework. However, the provider will be called during the VSS-assisted snapshot creation process.

To view the list of providers, enter the following command at the Windows command prompt:

```
vssadmin list providers
```

VDS Event Seen in Event Log

When you create a VR resource on Windows Server 2003 and either refresh or launch LDM, the following Virtual Disk Service (VDS) log entries display in the Event Log:

```
VDS fails to claim a disk  
Failed to open device
```

You can ignore these events; they do not affect Virtual Replicator.

VSS Event for Clusters Seen in Event Log

The Windows Cluster Service does not support hardware shadow copies because the service cannot accommodate LUNs with duplicate signatures and partition layout. VSS snapshots in VR are supported on clusters because VR LUNs do not have duplicate signatures and partition layout. However, when you create a VSS snapshot in VR, VSS does log errors on the cluster. You can ignore these errors; they do not affect the creation of snapshots in VR.

Creating VSS Snapshots in smartsnap Is Not Supported

In Windows Server 2003, creating VSS snapshots in smartsnap is not supported. This feature will be provided in a future release.

Provider Receives Veto Error When Creating VSS Snapshots

When creating a VSS snapshot, the following error may display:

```
The provider has been vetoed.
```

This is an internal error that the VSS framework returns and means the snapshot was not created.

Reboot Prompt Seen When Creating VSS Snapshots

When creating a VSS snapshot, you may be prompted occasionally to reboot your system. However, a reboot is not required to create a VSS snapshot. When prompted to reboot, click **No**.

Windows Shadow Copy Information Lost When Importing a Disk

The Volume Shadow Copy Service may lose contextual information about shadow copies after the volumes on which they reside are imported into a pool. The Shadow Copy file itself is still available after the import operation on the newly created virtual disk is completed.

VolSnap Error When Creating VSS Snapshots

When creating a VSS snapshot of an imported volume that includes a Shadow Copy, the following VolSnap error is entered in the Event Log:

```
A control item for shadow copies of volume was lost during detection.
```

You can ignore this event; they do not affect Virtual Replicator.

FTdisk Warning When Creating VSS Snapshots

When creating a VSS snapshot, the following warning message may be entered in the Event Log:

```
The system failed to flush data to the transaction log. Corruption may occur.
```

This warning message has been seen intermittently during testing. This warning message is benign and can be safely ignored; your data is intact.

Documentation Issues

Incorrect Version Listed

On pages 44–46 of the *System Administrator's Guide*, there are references to upgrading VR from version 2.5 to version 4.0. You cannot upgrade to 4.0 from 2.5. You can only upgrade to 4.0 from version 3.0B and above.

Removal of Snapshot Planner

Snapshot Planner is no longer an installable component of Virtual Replicator as currently noted on page 36 of the *System Administrator's Guide*. This reference, along with the instructions to install and use Snapshot Planner (pages 37 and 58, respectively) will be removed in the next update of the *System Administrator's Guide*.

Incorrect Syntax for Mount Points in SnapMgr Commands

The syntax for mount points in the SNAPSHOT and VIRTUALDISK SnapMgr commands is displayed incorrectly in the *System Administrator's Guide* and in the *Commands at a Glance* card.

When using either the SNAPSHOT OR VIRTUALDISK SnapMgr commands to specify a mount point, always include quotation marks, as shown in the following examples:

```
SNAPSHOT snapshot /MOUNT:"mount path"
```

```
VIRTUALDISK virtualdisk /UNMOUNT:"mount path"
```

Also in Appendix C of the *System Administrator's Guide*, the example shown for removing a mount point from a snapshot displays the MOUNT command instead of the UNMOUNT command.

Corrections to Mount Point Topics

The following notes address revisions to text in the *System Administrator's Guide*:

- On page 26, disregard the note at the bottom of the page that states volume mount points are not supported in cluster systems.
- On page 87, disregard the procedure to create a mount point for a virtual disk. Also, disregard the best practices recommended for cluster systems that are included on this page. Refer to [Revised Procedures for Mount Points](#) for the correct procedure.
- On page 93, disregard the procedure to create a mount point for a snapshot. Refer to [Revised Procedures for Mount Points](#) for the correct procedure.

Revised Procedures for Mount Points

Creating a Mount Point on a Virtual Disk

To create a mount point on a virtual disk, follow these steps:

1. Select **Mount this volume at an empty folder that supports drive paths**.
2. Click **Browse**.
3. Mount points are only supported on volumes that are within a pool. Select an empty folder on an NTFS formatted virtual disk within the same pool. For example, select the HQData folder on V:\ (an NTFS formatted virtual disk) and click **OK**.

The mount point path displays as V:\HQData.

4. Click **Next**.

Creating a Mount Point on a Snapshot

To create a mount point on a snapshot, follow these steps:

1. Click **Mount this volume at an empty folder that supports drive paths**.
2. Click **Browse**.
3. Mount points are supported only for volumes that are within a pool. Select an empty folder on an NTFS formatted virtual disk within the same pool. For example, select the HQData folder on V:\ (an NTFS formatted virtual disk) and click **OK**.

The mount point path displays as V:\HQData.

4. Click **Next**.

Creating Virtual Disks and Snapshots with Special Characters

If you attempt to create a name for either a virtual disk or a snapshot using a special character (**Alt+255** or **Alt+789**, for example), the following error message will display:

H/w ID not valid, Windows cannot find a driver.

After this error displays, you will not be able to do any Virtual Replicator operation. If you try to move the resource to another node, the status of the pool displays Online Pending, but the pool never will come online. Therefore, HP recommends that you never use special characters in virtual disk or snapshot names.