

Veritas™ Virtual Infrastructure Release Notes

for 64-bit x86

1.0 Service Pack 1



Veritas Virtual Infrastructure Release Notes

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Overview of this release

This chapter includes the following topics:

- [About this release](#)
- [About Veritas Virtual Infrastructure](#)
- [Key features in Veritas Virtual Infrastructure](#)

About this release

This document provides release information about the Veritas Virtual Infrastructure product.

For the latest information on updates, patches, and known issues regarding this release of VxVI, see the following Late-Breaking News TechNote on the Symantec Technical Support web site at:

<http://entsupport.symantec.com/docs/305836>

Note: Prior to using VxVI, review the Software Limitations in their entirety.

See “[Veritas Virtual Infrastructure software limitations](#)” on page 19.

About Veritas Virtual Infrastructure

Veritas Virtual Infrastructure (VxVI) integrates storage virtualization technology from Symantec with server virtualization technology from Citrix to provide solutions for Enterprise virtual server environments.

Server virtualization is a way of virtualizing or abstracting server hardware, including memory, CPU, and I/O devices. Server virtualization allows creation of multiple virtual machines (VMs), each with its own virtual hardware on a single

server. These virtual machines can run different operating systems, which in turn can have different applications running on them.

The Operating Systems (OSs) running in virtual machines are called virtual machine OSs. VxVI uses the Hypervisor to virtualize each server on which it is installed, enabling each physical server to host multiple virtual machines simultaneously.

In a typical deployment of any virtualization technology in data centers, administrators create a group, pool, or cluster of servers, connected with one of several networks, and assign SAN storage to these servers. In VxVI, this grouping is called a server pool.

A server in such a pool is referred to as a node or host. There can be several such server pools in a data center. Server pools are deployed and managed independently of each other.

The most widely-used features in a virtual environment are the following:

- **Live Migration** - provides the ability to move virtual machines to a different host within the server pool with minimal interruption
- **Storage Pooling** - Enables storage consolidation, granular storage provisioning and storage tiering in a virtual environment.

Live Migration of virtual machines requires that the hosts in the server pool share access to the same shared physical storage and are connected on the same networks.

VxVI manages storage in the form of VxVI storage repositories. VxVI storage repositories are attached to a server pool, enabling all servers in the server pool to access the same shared storage.

Key features in Veritas Virtual Infrastructure

Veritas Virtual Infrastructure is a highly scalable infrastructure, designed for Enterprise deployments. It supports multiple simultaneous VxVI Hosts with up to 128GB physical RAM and provides fast and secure open source virtualization.

Veritas Virtual Infrastructure has the following key features:

- **Unified server and storage virtualization in a single solution**
- **Thin, performance optimized server virtualization**
- **Advanced shared-access storage management technology**
- **Highly scalable**
- **Centralized visibility and control of server and storage assets through its Web-based management console**

- Integrated Virtual Network Computing (VNC) console for virtual machine access with improved security features.

Table 1-1 describes Veritas Virtual Infrastructure storage virtualization features.

Table 1-1 VxVI Storage virtualization features

Feature	Definition
Storage pooling with advance storage layout and provisioning	Provides centralized management of storage Provides dynamic change of storage layouts without performance impact Offers the ability to provision new storage and resize existing storage without downtime for virtual machines
Storage snapshots	Ability to store snapshots on different disks Provides full and space-optimized instant snapshots Provides infrastructure ready for off-host snapshot capabilities
Integrated Dynamic Multipathing (DMP)	Provides an industry leading multipathing solution which strengthens the storage connectivity beneath virtual machines
Distributed Volume Management	Provides distributed, integrated storage virtualization
Integrated Windows functionality	Offers high I/O performance with Windows optimized drivers
VSS snapshots and schedules	Offers VSS-based snapshots and schedules of applications running on virtual machines Advanced snapshot technology that provides snapshot quick recovery while application files are open

Table 1-2 describes Veritas Virtual Infrastructure server virtualization features.

Table 1-2 VxVI Server virtualization features

Feature	Definition
Live Migration	Enables live migration of virtual machines between nodes within the same server pool without having to stop or shut down the operating system
Clustering of VxVI Hosts into server pools	Provides the ability to pool up to 16 physical nodes into a single server pool

Table 1-2 VxVI Server virtualization features (*continued*)

Feature	Definition
Rapid provisioning using virtual server templates	Ability to create templates of virtual machines and use them to instantly create new virtual machines in seconds
True 64-bit hypervisor	Ability to take full advantage of 64-bit computing

System requirements

This chapter includes the following topics:

- [Virtual machine operating system requirements](#)
- [Network and firewall requirements](#)
- [Veritas Virtual Infrastructure Host requirements](#)
- [Web browser requirements](#)

Virtual machine operating system requirements

The following describes the operating system requirements for virtual machines supported in production.

Microsoft Windows

All Windows virtual machines are created by installing the operating system from either the Microsoft installation media in the VxVI Host physical CD/DVD-ROM drive or a network-accessible ISO image.

For more information on creating Windows virtual machines, see the *Veritas Virtual Infrastructure Virtual Machine Deployment Guide*.

[Table 2-1](#) describes the supported versions of Microsoft Windows for creating virtual machines.

Table 2-1 Supported versions of Microsoft Windows for creating virtual machines

Type of virtual machine	Version of Microsoft Windows
64-bit virtual machines	Windows Server 2003 Standard/Enterprise with Service Pack 2
32-bit virtual machines	Windows Server 2003 Standard/Enterprise with Service Pack 2

Network and firewall requirements

[Table 2-2](#) displays the default ports that the VxVI Host uses to transfer information.

Table 2-2 Veritas Virtual Infrastructure Host default port assignments

Port	Protocol	Initiator - Recipient	Port Connectivity	Purpose	Impact if Blocked
22	SSH	SSH/PuTTY client to Domain 0 SSH server	Open to management interface	Access Domain 0	Domain 0 is not accessible
80	HTTP	XAPI to XAPI	Open between nodes	XAPI communication	Migration fails
443	HTTPS	XE CLIs to XAPI	Open between nodes	XE commands	XE commands fail
5629	TCP	Volume Server to Volume Client	Open to management interface	Volume Server to Volume Client communication for volume sharing	Virtual machines may not be able to access volumes
5634	HTTPS	xprtld service/xprtcl client	Open between nodes	Management functions	Management functionality (discovery and operations) will not be available.

Table 2-2 Veritas Virtual Infrastructure Host default port assignments
(continued)

Port	Protocol	Initiator - Recipient	Port Connectivity	Purpose	Impact if Blocked
8181	HTTP	UI Web server/browser	Open to management interface	UI connectivity	Web UI may not be accessible
8443	HTTPS	UI Web server/browser	Open to management interface	UI connectivity	Web UI may not be accessible

Veritas Virtual Infrastructure Host requirements

Veritas Virtual Infrastructure requires at least one x86 server with Virtualization Technology (VT) enabled. The VxVI Host machine is dedicated entirely to the task of hosting virtual machines and is not used for other applications.

The VxVI Host is a 64-bit x86 server-class machine devoted to hosting multiple virtual machines.

[Table 2-3](#) describes the system requirements for the VxVI Host.

Table 2-3 System requirements for the Veritas Virtual Infrastructure Host

System requirement	Definition
CPUs	Intel VT or AMD-V x86-based system with one or more (up to 32) 64-bit x86 CPU(s), 1.5 GHz minimum, 2 GHz or faster multicore CPU recommended. Note: To run Windows virtual machines, hardware support for virtualization must be enabled on the VxVI Host. This is an option in the BIOS. It is possible that your BIOS may have virtualization support disabled. Consult your BIOS documentation for more details.
RAM	4 GB minimum, 8 GB or more recommended The amount of RAM is dependent on the number of virtual machines supported. A maximum of 128 GB is supported in each physical node.
Disk space	Locally attached storage (PATA, SATA, SCSI) with a minimum of 72 GB of disk space. Shared storage is required for live migration of disks.

Table 2-3 System requirements for the Veritas Virtual Infrastructure Host
(continued)

System requirement	Definition
Network	100 Mbit/s or faster network interface card (NIC), a gigabit NIC recommended.

Web browser requirements

The following Web browser is required to connect to Veritas Virtual Infrastructure:

- Mozilla Firefox 3.x, or higher
- Java Runtime Environment 1.5.0_15, or higher
- Microsoft Internet Explorer 6 or 7

Software limitations

This chapter includes the following topics:

- [Veritas Virtual Infrastructure software limitations](#)
- [VxVI Storage limitations](#)

Veritas Virtual Infrastructure software limitations

The following Veritas Virtual Infrastructure software limitations exist in this release.

Manual recovery after slave node failure

If the master node or a slave node in the server pool fails, you must recover it manually using the following procedure.

To manually recover a node

- ◆ If a slave node fails or is rebooted, type the following command on Dom0 of the master node:

```
# /etc/vx/bin/vxvi_recover_slave -a
```

If you reboot the master and one or more slaves, you have to run the `vxvi_recover_slave` command on the master node.

The syntax allows for either a specific slave to be recovered or all of the slaves. The command does not do anything other than output an error message, if nothing needs to be recovered for the specified slave(s).

If you reboot the master, you should not have to run the `vxvi_recover_slave` script. The slaves will be rejoined to the master automatically after the reboot.

Maximum number of virtual devices per virtual machine

The maximum number of virtual disk devices supported per virtual machine is 22 (including CD-ROM). The maximum number of virtual network interfaces supported per virtual machine is 4.

Volume Shadow Copy Services snapshots on GUID Partition Table disks not supported

This release of Veritas Virtual Infrastructure does not support Volume Shadow Copy Services (VSS) snapshots on GUID Partition Table (GPT) disks.

Support for NTFS only file system from GUI

This release of Veritas Virtual Infrastructure supports only the NTFS file system from the Veritas Virtual Infrastructure GUI.

Compress files and folders option not supported

The Compress file and folders option is not supported in this release of Veritas Virtual Infrastructure.

Virtual disk with more than one partition not supported

This release of Veritas Virtual Infrastructure does not support virtual disks with more than one partition.

Virtual disk with size greater than 2 terabytes not supported

This release of Veritas Virtual Infrastructure does not support virtual disks with a size greater than 2 terabytes (TB). You can add a virtual disk with a size less than 2 TB.

If you have already added a virtual disk with a size less than 2 TB, you cannot grow it to a size greater than 2TB.

Transportable snapshots not supported

This release of Veritas Virtual Infrastructure does not support transportable snapshots.

Sanboot not supported

This release of Veritas Virtual Infrastructure does not support sanboot. Therefore the boot disk should not be multi-pathed.

When installing VxVI, the boot disk must be the local disk in order that the local storage repository can be created on a local disk.

Language limitations

For internationalization purposes, this release of Veritas Virtual Infrastructure supports file system labels, mount paths, and database names specified in languages other than English.

This release of Veritas Virtual Infrastructure does not support virtual machine names and descriptions, storage repository names and descriptions, virtual disk image names and descriptions, console names, snapshot names and descriptions, and scheduler names and descriptions in languages other than English.

Numpad keys not supported from virtual machine console (1544183)

Numeric keypad characters do not function in the virtual machine console:

- Asterisk (*)
- Dot (.)

VxVI Storage limitations

The following Veritas Virtual Infrastructure software limitations exist in this release.

Import Storage Repository operation does not present any object for failed disk group on the node (1281341)

You may not be able to perform the Import Storage Repository operation in the Veritas Virtual Infrastructure User Interface if the storage devices used by the storage repository were not available during start up.

Veritas Virtual Infrastructure performs storage discovery during start-up. Therefore, VxVI may not discover some storage devices if they were unavailable during start-up because of SAN configuration problems or storage switch failures.

Workaround

Before performing the Import Storage Repository operation from the user interface, you must run the following command on all nodes:

```
# vxdctl enable
```

Known issues

This chapter includes the following topics:

- [Citrix XenServer known issues](#)
- [VxVI installation known issues](#)
- [Installation of virtual machines on Windows known issues](#)
- [VxVI Management Server Console known issues](#)
- [VxVI Storage known issues](#)
- [VxVI Volume Shadow Copy Service \(VSS\) snapshot known issues](#)
- [Virtual machine known issues](#)
- [Virtual machine console known issues](#)
- [VxVI error codes and messages](#)

Citrix XenServer known issues

The following known issues related to XenSource exist in this release.

Motherboard with Intel 965 chipset may fail to boot successfully (CA-8767)

Motherboards using the Intel 965 chipset with more than 2GB of memory may fail to boot successfully. This has been identified as a BIOS firmware issue, and appears to occur on any 64-bit operating systems (see [Red Hat](#) and [Microsoft](#) related bugs).

Workaround

Downgrade your BIOS to version 1669, which is available from the Intel website.

Slow response to installation prompts may affect performance of other virtual machines on the system (CA-4065)

When installing a Windows virtual machine, if you leave the installer waiting at the first few prompt screens, the CPU usage on the Veritas Virtual Infrastructure host and the virtual machine spikes to 100%. In addition, performance of other virtual machines on the system may be reduced.

Workaround

Press any key to respond to these prompts, and CPU usage will return to normal. This issue can occur during the early part of Windows installation and does not affect normal operation.

Ata_piix driver problem may cause drive detection to fail (CA-4575, CA-5311)

On servers with the ICH8 South Bridge chipset, the Veritas Virtual Infrastructure installer may not detect the drive at installation due to a problem with the `ata_piix` driver.

Workaround

The Dell SAS 5/iR Controller in Dell 490 hosts exhibits this issue. In the Advanced section of the BIOS, you can set the ATA/IDE mode of the machine to use the Advanced Host Controller Interface (AHCI). This mode is usually set to off (legacy mode) by default. You can set the mode to Native in order to access further SATA configuration options that permit you to select between AHCI, IDE, or RAID.

You can also go to Advanced->Drive Configuration->Disable Intel® RAID Technology and then select the Enable SATA AHCI mode.

For more information, you can check the Intel® support web site:

<http://www.intel.com/support/chipsets/imst/sb/cs-015988.htm>

VxVI installation known issues

The following known issues related to Veritas Virtual Infrastructure installation exist in this release.

Installer and Dom-0 Veritas Virtual Infrastructure versions do not match (1411902)

After performing an initial VxVI install, during reboot the following error message displays:

```
Error: installer and Dom-0 VxVI versions do not match
```

Workaround

There is no workaround for this issue. This error message can be safely ignored.

Installation of virtual machines on Windows known issues

The following known issues related to VxVI installation of virtual machines on Windows exist in this release.

General Windows known issues

Multiple vCPUs are exposed as CPU sockets to Windows virtual machines, and are subject to the licensing limitations present in the virtual machine. The number of CPUs present in the virtual machine can be confirmed by checking the Device Manager. The number of CPUs actually being used by Windows can be viewed in the Task Manager.

The disk enumeration order in a Windows virtual machine may differ from the order in which they were initially added. This is a behavioral artifact between the paravirtualized drivers and the Plug and Play (PnP) subsystem in Windows. For example, the first disk may show up as Disk 1, the next disk hotplugged as Disk 0, a subsequent disk as Disk 2, and then the subsequent disks are added incrementally as expected.

Windows 2003 server known issues

There are no Windows 2003 server known issues in this release.

VxVI Management Server Console known issues

The following known issues related to the VxVI Management Server Console exist in this release.

When logging in to VxVI Management Server using Firefox 3, security warnings display differently than on Firefox 2 or IE (1389078)

When logging in to the VxVI Management Server using Firefox version 3, the security certificate warning displays differently than when logging in using Firefox version 2 or Internet Explorer.

You may receive a `Secure Connection Failed` error on Firefox version 3.

Workaround

The workaround for this issue is to create a Firefox security exception.

To create a Firefox security exception

- 1 On Firefox version 3, at the bottom of the Secure Connection Failed dialog, click the **Or you can add an exception...** link.
- 2 At the Secure Connection Failed continuation screen, click the **Add Exception...** button at the bottom of the dialog.
- 3 At the Add Security Exception dialog for **Location**, enter the URL (https:) for the server you are using, check the **Permanently store this exception** checkbox, and click the **Confirm Security Exception** button.
- 4 At the Add Security Exception continuation dialog, click the **Get Certificate** button.

After creating a virtual machine using a golden template with PV drivers, and before powering on the virtual machine, attempting to add a virtual disk fails (1377542)

After creating a virtual machine using a golden template with para-virtualized (PV) drivers, and before starting the virtual machine, attempting to add a virtual disk fails if the golden template has three attached disks.

Before starting the virtual machine, the VxVI Management Server does not know there is already a PV driver installed on the virtual machine, so the VxVI Management Server limits the number of virtual disks to four, and because there was already one CD-ROM and three physical disks installed on the virtual machine, an additional virtual disk cannot be added to the virtual machine.

Workaround

Once the virtual machine is started, the VxVI Management Server recognizes the PV drivers, and the virtual disk limit is increased to 22.

Adding a server to a pool fails when the nodes are set to different times (1385007)

Attempting to add a server to a pool fails if the nodes are set to different times.

Workaround

All the nodes in the server pool need to be set to the same time. Use the same NTP server to time-synch all the nodes.

Frequently refreshing the virtual machine console or the physical server console on IE causes IE to hang (1374481)

When using Internet Explorer (IE), if you frequently refresh the virtual machine console or the physical server console, IE hangs.

Workaround

Close IE using the Windows Task Manager. This is a Java issue, not a VxVI issue.

Refreshing a virtual machine while viewing the Snapshot tab changes the view to the Subcomponents tab (1389225)

When viewing the Snapshots tab within the SQL Server tab of a virtual machine, if you refresh the virtual machine, the Subcomponents tab displays instead of the refreshed Snapshots tab.

Workaround

Click on the Snapshots tab.

Need to re-install host after removing from server pool (1410848)

When you use the VxVI Graphical User Interface to remove a node from the server pool using the Remove Server from Pool operation, you must re-install the server prior to adding the server back to the pool.

For more information on installing the VxVI host, see the *Veritas Virtual Infrastructure Installation Guide*.

Veritas Virtual Infrastructure Graphical User Interface times out with error message (1400711)

If an operation performed on the VxVI Management Server Console takes too long, the VxVI Graphical User Interface does not wait for the completion of the operation and times out. The VxVI Graphical User Interface displays the following message:

```
Operation time out:  this operation may still be in progress.  
Please do a refresh later to see if the operation is successful.
```

Workaround

Refresh the VxVI Graphical User Interface to verify if the operation was successful.

"Automatically select the most optimal server" option does not function as expected (1397672)

The "Automatically select the most optimal server and start virtual machine" option in the Create Virtual Machine wizard does not function as expected. If this option is selected, the wizard does not start the virtual machine on the most optimal server, i.e. the one with the most amount of free memory.

Workaround

There is no workaround for this issue.

Physical disk is not displayed on virtual machine Storage tab and Virtual Disk Image overview page (1398387)

If a virtual machine is installed on a system with a VxVM storage repository with Striped-mirror (RAID-1+0) layout, physical disks of the storage repository, which are allocated to individual virtual disk images, will not be discovered and displayed on the virtual machine Storage tab and the Virtual Disk Image overview page.

However, information about all physical disks in the storage repository will be available on the Physical Disks tab of the storage repository.

Workaround

There is no workaround for this issue.

Incorrect screen displays for Snapshot Storage link in the Virtual Disk Task (1413254)

When viewing a virtual disk overview page from the storage tab of a virtual machine, if you click on the Snapshot Storage link in the Virtual Disks Tasks pane, an incorrect screen displays with the following message: "You must select virtual disks from the same storage repository to ensure snapshot consistency." The Back and Finish buttons are not functional.

Workaround

To launch the Snapshot Storage operation

- 1 Click on **Managing > Storage** and select a storage repository from the server tree hierarchy.
- 2 Click on the virtual disk for which you want to launch the Snapshot Storage operation and click **Snapshot Storage**.

The Snapshot Storage link is in the Virtual Disk Tasks section of the VxVI Management Server GUI.

Incorrect output message displays on wizard, when adding cloned virtual disk to a running virtual machine (1413255)

When adding a cloned virtual disk to a running virtual machine, the Add Virtual Disk wizard will incorrectly display the following message: "Failed to add virtual disk. Success".

Workaround

The cloned virtual disk has been successfully added and the operation can be verified by checking the file system table. This message can be safely ignored.

"Create file system - Success" message is displayed even when the create file system option is not selected using the Add Virtual Disk operation (1413271)

When adding a virtual disk using the Add Virtual Disk wizard, the "Create file system - Success" message is displayed even though the "Create and mount file system" option is not selected.

Workaround

The operation is skipped and the "Create file system - Skipped" message should be displayed. This incorrect message can be safely ignored.

Creating a new virtual machine from a template fails with VxVM vxmake error message (1482033)

When using the Create Virtual Machine wizard to create a virtual machine from a template of a previously converted virtual machine, the operation fails during the create volumes task with the following error message:

```
Step 4: Create volumes - Failed
VxVM vxmake ERROR V-5-1-755 Object cache already exists
```

Where *cache* is the name of the cache object (Space Optimized Snapshot) used for the virtual machine. The cache object is created when the first virtual machine is instantiated from the template. During the Create Virtual Machine wizard, the process looks for this cache object, however instead of looking for cache object types, the process tries to match the name with any object type, causing the error.

Workaround

When converting virtual machines to templates and using Space Optimized Snapshots, use a different name for the cache to the storage repository.

VxVI Management Server shows virtual machine in "running" state after Dom-0 reboot (1500786)

After rebooting Dom-0 server, the virtual machine is in a "halted" state when Dom-0 comes back up. However, the VxVI Management Server shows the virtual machine as "running" state.

Workaround

Rediscover all nodes as described in the following procedure.

To properly show the virtual machine state

- 1 Login to master server of the server pool.
- 2 Perform a full discovery on all nodes including the master node by typing the following command:

```
/opt/VRTSxmh/bin/xmh_ctl.pl -rescan
```

- 3 Refresh the VxVI Management Server to verify the virtual machine shows "halted" state.

VxVI Storage known issues

The following known issues related to the VxVI storage exist in this release.

Resizing a virtual disk on a virtual machine that is suspended causes VxVI to hang, and subsequent operations hang due to master-level locking (1381505)

Attempting to resize a virtual disk on a virtual machine that is suspended causes VxVI to hang. Subsequently, trying to add a physical disk to a storage repository, or trying to create a new storage repository also fails due to master-level locking.

Workaround

The workaround is to use the xe CLI to find the xdce process and kill the process.

For example:

```
[root@testvm-pe2950-20 ~]# ps -ax | grep xdce
Warning: bad syntax, perhaps a bogus '-'? See /usr/share/doc/
procps-3.2.7/FAQ
18917 ?          S          0:00 /usr/bin/perl xdce.pl
20982 pts/3    R+        0:00 grep xdce
[root@testvm-pe2950-20 ~]# kill -9 18917
```

Newly added virtual disk image to existing storage repository not displayed in output

When adding a new ISO image to the path used to create an existing ISO storage repository and subsequently run the `xe vdi-list` command on the master server, the newly added ISO image is not displayed as a virtual disk image (VDI) in the resulting output. Alos, the newly added ISO image may not be displayed as a VDI

in the CD-ROM 0 drop-down list of virtual machines or listed on the Virtual Disks window of the storage repository.

Workaround

In order to view the newly added virtual disk image in the list, type the following command on the master server, Dom0:

```
# xe sr-scan uuid=UUID
```

where *UUID* is the uuid of the ISO storage repository.

In the VxVI Management Server Console GUI, perform a refresh at the server pool level to view the newly added VDI.

Import Storage Repository operation does not present any object for failed disk group on the node (1281341)

You may be not be able to perform the Import Storage Repository operation in the Veritas Virtual Infrastructure User Interface if the storage devices used by the storage repository were not available during start up.

Veritas Virtual Infrastructure performs storage discovery during start-up. Therefore, VxVI may not discover some storage devices if they were unavailable during start-up because of SAN configuration problems or storage switch failures.

Workaround

Before performing the Import Storage Repository operation from the user interface, you must run the following command on all nodes:

```
# vxdctl enable
```

Adding a virtual disk image fails on created storage repository (1406049)

When adding a virtual disk image (VDI) on a storage repository, regardless of the VDI layout, step four of the Add Virtual Disk wizard will fail due to a Virtual Disk Service (VDS) crash. The following error message displays in the wizard panel: "Step 4: Create file system - Failed". The Application Event Log of the virtual machine will record events similar to the following:

```
9/8/2008 7:28:35 PM VxVI Error None 1612 N/A VxVISESERVER-06 "Operation "
"vxvdc.exe format VolGUID={605d9ae6-1dd2-11b2-aae7-06b2b94251cb}
fstype=NTFS -f json waitforarrival quick letter=I label=Mirror" failed.
Error=0x800706be. The remote procedure call failed."
```



```
9/8/2008 7:28:35 PM DrWatson Information None 4097 N/A VXVISERVER-06 The application, C:\WINDOWS\System32\vds.exe, generated an application error. The error occurred on 09/08/2008 @ 19:28:35.620 The exception generated was c0000005 at address 60935196 (vdsbas!CVdsPtr<_VOLMGR_HIDDEN_VOLUMES>:~CVdsPtr<_VOLMGR_HIDDEN_VOLUMES>)
```

```
9/8/2008 7:28:35 PM Application Error Error (100) 1000 N/A VXVISERVER-06 Faulting application vds.exe, version 5.2.3790.3959, faulting module vdsbas.dll, version 5.2.3790.3959, fault address 0x00015196.
```

Workaround

This is a Windows VDS known issue. Perform the Create File System operation on the newly added virtual disk to create the file system.

VxVI Volume Shadow Copy Service (VSS) snapshot known issues

The following known issues related to VxVI Volume Shadow Copy Service (VSS) snapshots exist in this release.

Stale handle for the VSS Hardware Provider Service must be refreshed (1289744)

When the VxVI VSS Hardware Provider is restarted, the space-optimized snapshot may fail and the Application Event log may display the following error:

```
IVssSnapshotSnapshotProvider::AreLunsSupported failed with error 0x800706bf [hr = 0x800706bf]
```

Workaround

When the VxVI VSS Hardware Provider service is restarted, you must restart the VSS service to refresh the stale handle.

When the VxVI VSS Hardware Provider is restarted, its handle with the VSS service becomes invalid. VSS saves the handle of the VSS Hardware Provider service and uses it for further operations.

Virtual machine console time not synchronized with the VxVI Server and Dom-0 (1289761)

If the scheduled time on the virtual machine is not synchronized with the system time on the VxVI Server and Dom-0, the schedule details shown on the View Details dialog may display wrong effective date information.

VSS snapshots are scheduled according to the system time on the virtual machine console.

Workaround

You must check the system times on the virtual machine, Dom-0, and the VxVI Management Server to make sure they are synchronized.

vxsnap.exe fails to create snapshots (1394435)

When creating snapshots using the `vxsnap.exe` command in the command line, the operation will fail if "localhost" is specified as the hostname. "localhost" is not supported by `vxsnap.exe`.

Workaround

When running `vxsnap.exe`, provide the actual hostname of the system instead of "localhost".

Simultaneous scheduled snapshots may timeout (1391010)

Creating simultaneous snapshots from multiple virtual machines may fail due to a "10 seconds CommitSnapshot timeout". The following error message is recorded in the application log:

```
VXVI_ERROR_VSSPROV_HOLD_WRITES_TIMEOUT
```

```
Please refer to VxVI logs at Guest virtual machine for details.
```

Workaround

Snapshot schedules among multiple virtual machines should be staggered. Create schedules in which the snapshots will not execute simultaneously.

Snapshot operations fail if live migration is performed on a virtual machine (1402679)

If live migration of a virtual machine is attempted while any snapshot/restore operations are in progress, the snapshot/restore operations will fail.

Workaround

Do not attempt live migration of a virtual machine if any snapshot/restore operation is in progress. Also do not attempt any snapshot/restore operation while live migration is in progress.

VSS virtual machine device limit (1365333)

The VxVI Management Server supports a total of 22 virtual disks, including one boot disk and one CD-ROM, on the virtual machine OS. If a virtual machine has 22 virtual disks, creating a new snapshot will fail with following error:

```
VXVI_ERROR_SNAP_VDISK_LIMIT_EXCEEDED  
Virtual Disk exposed to the guest limit reached.
```

Workaround

Delete any old or un-used snapshots so that the virtual disk limit is not exceeded.

Snapshots fail on NFS storage repository(1403057)

When performing the Snapshot Setup operation on a virtual machine from an NFS storage repository, the operation will fail at the Snapshot Setup Progress Status panel with the following error message:

```
Failed to get the volume GUIDs for the specified component.  
SCSI Inquiry failed.
```

VSS Snapshots are not supported on NFS storage repositories.

Workaround

There is no workaround for this issue.

Scheduled snapshot times out because FillInLunInfo takes more than five minutes to complete (1411670)

If the FillInLunInfo process takes more than five minutes to complete while refreshing a snapshot, the scheduled snapshot times out and fails with the following error:

```
NO_SNAPSHOTS_IMPORTED
```

Workaround

If the refresh fails, retry the snapshot refresh.

Virtual machine known issues

The following known issues related to the VxVI virtual machine exist in this release.

Cannot start virtual machine on a different node if CD was present during shut down or export (1284239)

When you import a virtual machine on a node in the server pool and attempt to start it using the GUI, you may encounter the following error:

```
root@xxyyzz mnt]# xe vm-start vm=Windows\ Server\ 2003\ \ (2\)  
on=xxyyzz  
You attempted to run a VM on a host which doesn't have access to  
an SR needed by the VM. The VM has at least one VBD attached to a VDI  
in the SR.  
vm: 00xx0000-0000-xxyy-x00x-00xxx00xx0xx (Windows Server 2003 (2))  
sr: 00y000y-yy00-0000-00y0-0yyyy00y000y (DVD drives)
```

This error will display if a CD is left inserted in the CD drive of the virtual machine, after importing a virtual machine on a shared storage repository, starting it on one of the nodes in the server pool, and shutting down the virtual machine; and then you attempt to start the virtual machine on any other node than the node where it was shut down with the CD inserted.

Workaround

There is no workaround for this issue.

After uninstalling PV drivers on a virtual machine, the maximum number of physical disks supported is four (1381500)

After uninstalling para-virtualized (PV) drivers on a virtual machine, the maximum number of physical disks supported is four. Any additional physical disks are not supported by the virtual machine. Without the PV drivers, a virtual machine can only support four physical disks.

Workaround

There is no workaround for this issue. This is the expected behavior.

Virtual machine console known issues

The following known issues related to the VxVI virtual machine console exist in this release.

Virtual machine console requires a UI refresh after a virtual machine reboot (1294408)

If the virtual machine reboots while you are accessing the Console tab in VxVI, you need to refresh the VxVI Graphical User Interface (GUI) to access the virtual machine console for the rebooted virtual machine. If you initiate the reboot of the virtual machine using VxVI operations, the virtual machine console gets refreshed once you click the OK button on the Results page of the operation wizard.

Workaround

You must refresh the VxVI GUI. Click on the Console tab to refresh the VxVI GUI after the virtual machine reboots. The virtual machine console becomes available after the VxVI GUI is refreshed.

VxVI error codes and messages

The following known issues related to the VxVI error codes and messages exist in this release.

VxVI UMI code V-338-1-1001 displays for Citrix XenServer module errors (1369374)

All failures from the Citrix XenServer module have a single UMI code of V-338-1-1001. Refer to the error message text for more information about handling the error.

Workaround

Future versions of VxVI will have unique error codes for each Citrix XenServer (xe) operation.

Fixed issues

This chapter includes the following topics:

- [Installation fixed issues](#)
- [Virtual machine fixed issues](#)

Installation fixed issues

The following known issue related to the VxVI installation has been fixed in this release.

xprtld process hangs (1515638)

Some of the error values reported by the `vxt_send` function are not being properly handled. This causes the caller to get into an infinite loop attempting to send data over VxT. As a result, the `xprtld` process hangs.

Virtual machine fixed issues

The following known issue related to the VxVI virtual machine has been fixed in this release.

TAB key may cause the virtual machine console to switch out (1370659)

When using the virtual machine console, such as in a Windows login screen, and use the TAB key on your keyboard to transfer control from one field to another on the screen, for example, from Username to Password, the TAB key takes you out of the virtual machine console, instead of transferring you to the next control.

Using the recommended Web browser will avoid this issue.

Upgrading Veritas Virtual Infrastructure

This chapter includes the following topics:

- [Upgrading from Veritas Virtual Infrastructure Version 1.0 to Veritas Virtual Infrastructure Version 1.0 Service Pack 1](#)

Upgrading from Veritas Virtual Infrastructure Version 1.0 to Veritas Virtual Infrastructure Version 1.0 Service Pack 1

If you have installed the 1.0 version of VxVI and you plan to upgrade to the VxVI 1.0 SP1 release, you must perform the following steps:

- Prepare the server pool for upgrade by saving certain configuration information that will be required after upgrade.
- Install VxVI 1.0 SP1 on master node
- Restore the server pool configuration
- Upgrade VxVI on the slave nodes
- Upgrade VxVI Management Pack in Windows virtual machines
- Upgrade VxVI Management Pack in golden templates

Note: Some of the commands used in this document end with a backslash (\), which is used as a line-continuation character. Type these commands on a single line and do not use the backslash character.

To prepare the server pool for upgrade

- 1 Insert the VxVI 1.0SP1 DVD media in your master node's CD-ROM drive. Login into Dom-0 and mount the media using the following command:

```
# mount /dev/cdrom /mnt
```

- 2 Save virtual machine and host configuration information and prepare your server pool for upgrade by entering the following command:

```
# /mnt/upgrade/vxvi-pre-upgrade <host-configuration-file> \  
<VM-configuration-file>
```

where *<host-configuration-file>* is the name of the file in which to save host configuration information, and *<VM-configuration-file>* is the name of the file in which to save the virtual machine configuration.

For example,

```
# /mnt/upgrade/vxvi-pre-upgrade /tmp/host_config /tmp/vm_config
```

This command shuts down all running virtual machines, including the management server, and removes slave nodes from the server pool. The command creates the files */tmp/host_config* and */tmp/vm_config* as well as a log file, */tmp/pre_upgrade_cmd.log*, containing a log of the executed commands.

- 3 Using secure copy (scp), save these files on a machine that is not part of the server pool.

```
# scp <host-configuration-file> <VM-configuration-file> \  
/tmp/pre_upgrade_cmd.log <MyBkpServer>:<save-dir>
```

where *<MyBkpServer>* is a Linux or UNIX server with SSH enabled, and *<save-dir>* is the pathname of a directory on that server into which the files should be saved. If *<save-dir>* does not exist on *<MyBkpServer>*, create it on *<MyBkpServer>* before executing this command.

For example:

```
# scp /tmp/host_config /tmp/vm_config /tmp/pre_upgrade_cmd.log \  
bkhost.symantec.com:/poolbkp/
```

To install VxVI 1.0SP1 on the master node

- ◆ Install VxVI 1.0SP1 on the master node. Leave the VxVI 1.0SP1 DVD media in the CD-ROM drive and reboot the master node. Follow the "Installing the VxVI Host" procedure as described in the *Veritas Virtual Infrastructure Installation Guide*.

To restore the server pool configuration

- 1 After installation of VxVI 1.0SP1 on the master node is completed and the node has rebooted, login into Dom-0 on the master node and use scp to restore *<host-configuration-file>* and *<VM-configuration-file>* saved in [To prepare the server pool for upgrade](#), step 2, to the master node.

```
# scp <MyBkpServer>:<save-dir>/<host-configuration-file> /tmp
# scp <MyBkpServer>:<save-dir>/<VM-configuration-file> /tmp
```

For example,

```
# scp bkhost.symantec.com:/poolbkp/host_config /tmp
# scp bkhost.symantec.com:/poolbkp/vm_config /tmp
```

- 2 Perform post-upgrade configuration by typing the following command:

```
# /etc/vx/vxvi-post-upgrade -r <VM-configuration-file>
```

where *<VM-configuration-file>* is the virtual machine configuration file generated during the preparation procedure.

This command will reboot the master node.

- 3 Once the master is up again, login into Dom-0, type the following command to restore the VxVI Management Server:

```
# /etc/vx/vxvi-post-upgrade -c <host-configuration-file> \
<root-password> <pool-password>
```

where *<host-configuration-file>* is the *host_config* file generated during the preparation procedure.

- 4 Using the VxVI management console, make sure all your configuration is restored. If some of the Storage Repositories are shown as “detached”, attach them using the VxVI Management Server Console.

To upgrade VxVI on the slave nodes

- 1 Install VxVI 1.0SP1 on the slave nodes. Follow the procedure, "Installing the VxVI Host" as described in the *Veritas Virtual Infrastructure Installation Guide*.
- 2 Add slave nodes one by one to the server pool.
See the *Veritas Virtual Infrastructure Administrator's Guide* for information on adding a server to a server pool using the VxVI Management Server Console.

To upgrade the VxVI Management Pack for Windows virtual machines

Perform the following steps on each Windows virtual machine in the server pool.

- 1 Using the VxVI Management Server Console, click the **Console** tab to access the virtual machine console. Login to the virtual machine console.
- 2 Uninstall the VxVI Management Pack from the Windows virtual machines by selecting **Add or Remove Programs** from the **Start > Settings > Control Panel** menu, click on **Veritas Virtual Infrastructure Management Package**, and click **Remove**.

The virtual machine will be rebooted at the end of this step.

- 3 Install the new VxVI Management Pack on the virtual machine. See the *Veritas Virtual Infrastructure Administrator's Guide* for information on installing Veritas Virtual Infrastructure tools on a virtual machine by way of the VxVI Management Server Console.
- 4 After installing the VxVI Management Pack, reboot the virtual machine.

There is a known issue of virtual machine's file system information not getting discovered in the VxVI Management Server Console after the upgrade of the VxVI Management Pack. One additional system reboot resolves this issue.

To upgrade the VxVI Management Pack for golden templates

- 1 Convert your golden templates into virtual machines. Login into Dom-0 and type the following command:

```
# /etc/vx/vxvi-post-upgrade -t [golden-template-name]
```

where the optional argument [*golden-template-name*] is the name of the golden template. You can either convert all golden templates in a single command or convert them one by one. To convert all golden templates, do not specify the *golden-template-name* argument.

- 2 Start your golden templates as virtual machines.
See the *Veritas Virtual Infrastructure Administrator's Guide* for information on starting virtual machines using the VxVI Management Server Console.
- 3 Upgrade the VxVI Management Pack in each virtual machine started in step 2 by following the instructions in [To upgrade the VxVI Management Pack for Windows virtual machines](#).
- 4 Shut down the virtual machines upgraded in step 3.
- 5 Convert the virtual machines back to golden templates by typing the following command at the Dom-0 command prompt:

```
# /etc/vx/vxvi-post-upgrade -v [golden-template-name]
```

where the optional argument *golden-template-name* is the name of the golden template. You can either convert all golden templates in a single command or convert them one by one. To convert all golden templates, do not specify the *golden-template-name* argument.

- 6 It is important to upgrade the VxVI Management Pack of the golden templates before you create new virtual machines from it.

Documentation errata

This chapter includes the following topics:

- [Veritas Virtual Infrastructure Virtual Machine Deployment Guide errata](#)
- [Veritas Virtual Infrastructure Online Help errata](#)

Veritas Virtual Infrastructure Virtual Machine Deployment Guide errata

The following section is missing from the Veritas Virtual Infrastructure Virtual Machine Deployment Guide.

Setting up a virtual machine for PXE boot

By default, you can boot a virtual machine from a DVD or hard disk. If you want to boot a virtual machine from a network (PXE install or network boot), you must setup the virtual machine for PXE boot. Optionally you can also setup a template for PXE boot, and subsequent virtual machines created from the template will also be setup for PXE boot.

To setup a virtual machine for PXE boot

- ◆ To setup a virtual machine for PXE boot, type the following command on the master server, Dom0:

```
# vm-param-set HVM-boot-params:order=dcnorder uuid=vm-uuid
```

where *dcnorder* is a string combination of 'd', 'c', and 'n', in which d is the CD/DVD, c is the disk, and n is the network.

To setup a template for PXE boot

- ◆ To setup a template for PXE boot, type the following command on the master server, Dom0:

```
# xe template-param-set HVM-boot-params:order=dcnorder uuid=template-uuid
```

where *dcnorder* is a string combination of 'd', 'c', and 'n', in which d is the CD/DVD, c is the disk, and n is the network.

Veritas Virtual Infrastructure Online Help errata

The "About storage repository types" section of the VxVI Online Help displays a table with question marks instead of values.

Please refer to the "About storage repository types" table in the *Veritas Virtual Infrastructure Administrator's Guide*, available on the Technical Support Website:

<http://www.symantec.com/business/support/documentation.jsp?pid=55228>

Technology preview features

This chapter includes the following topics:

- [Veritas Virtual Infrastructure technology preview features](#)

Veritas Virtual Infrastructure technology preview features

The following are the Veritas Virtual Infrastructure technology preview features:

- ISCSI support
- Linux virtual machine installation
- High availability

Note: The Veritas Virtual Infrastructure technology preview features have limited functionality and are intended to be run in a non-production environment.

If you would like to participate in the Veritas Virtual Infrastructure technology preview program, send an email to the following email alias:

DL-ENG-CAP-VxVI@symantec.com

Getting help

This chapter includes the following topics:

- [Veritas Virtual Infrastructure documentation](#)
- [Displaying online help](#)

Veritas Virtual Infrastructure documentation

Product documentation is available on the software media in PDF format. Symantec recommends copying the documentation from the `/docs` directory on the software media to the `/opt/VRTSvxvi/docs` directory for reference.

The following Veritas Virtual Infrastructure documentation is available with this release:

Veritas Virtual
Infrastructure
Administrator's Guide

Describes the tasks involved in configuring a VxVI deployment -- in particular, how to set up storage, networking and server pools, and how to administer VxVI Hosts. This document is primarily aimed at system administrators who need to configure and administer VxVI deployments.

Veritas Virtual
Infrastructure Virtual
Machine Deployment Guide

This guide explains how to create virtual machines using templates.

Includes information about how to install Windows virtual machines on top of a VxVI deployment and instructions on enabling VxVI access to a Windows virtual machine, cloning a Windows virtual machine and an appendix on troubleshooting virtual machine problems. This document is primarily aimed at system administrators who need to configure and administer VxVI virtual machine deployments.

Veritas Virtual Infrastructure Installation and Configuration Guide	Provides a high level overview of VxVI, along with step-by-step instructions on installing VxVI Hosts and the VxVI Management Server management console. This document is primarily aimed at system administrators who need to install VxVI, and to configure and administer the VxVI management console.
Veritas Virtual Infrastructure Online Help	Provides context-sensitive help for the VxVI Management Server Console. Includes information about how to set up storage, networking and server pools, and how to administer VxVI Hosts using the VxVI Management Server Console. This document is primarily aimed at system administrators, who need to configure and administer VxVI deployments.
Veritas Virtual Infrastructure Release Notes	Provides a list of updates, patches, and known issues that affect this release.
Veritas Virtual Infrastructure Third-Party License Agreements	Provides the license agreement text for the third-party software applications included in VxVI.

Release notes updates

VxVI documentation does not install with the product. You should download the latest VxVI product documentation, including the *Veritas Virtual Infrastructure Release Notes*, from the Symantec Web site at:

<http://www.symantec.com/business/support/documentation.jsp?pid=55228>

Displaying online help

In the user interface, click the Help button to retrieve the online help.