



# VFM (Virtual File Manager) v6.0

## Release Notes v1.0 (patch 1)

September 20, 2007

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## Glossary

The following table provides a list of terms used in Network Appliance® VFM® and this document.

**Table 1 Glossary**

| <b>Term</b>                   | <b>Meaning</b>                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ACE</b>                    | Access Control Entry, an entry in an Access Control List.                                                                                                                                                                                                                                                                                                                                                            |
| <b>ACL</b>                    | Access Control List, a list associated with a file that contains information about which users or groups have permission to access or modify the file                                                                                                                                                                                                                                                                |
| <b>CIFS</b>                   | Common Internet File System. A file-sharing protocol based on the Microsoft Server Message Block (SMB). It enables you to share file systems over the network. The CIFS protocol is used primarily for file sharing by Windows platforms.                                                                                                                                                                            |
| <b>Client</b>                 | The user interface component of the application.                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Consolidation DFS root</b> | A special stand-alone DFS root that has its configuration information stored locally on a member server. The root must be hosted on Windows Server 2003. It allows one server to take over the name of another server.                                                                                                                                                                                               |
| <b>Dependencies</b>           | The servers, drives, and shared folders that together contain the data published through the DFS namespace                                                                                                                                                                                                                                                                                                           |
| <b>DFS</b>                    | Microsoft Distributed File System consists of software residing on network servers and clients that transparently links shared folders on different file servers into a single namespace for improved load balancing and data availability. NOTE: This should not be confused with Transarc's DFS product, which is a separate distributed file system product that is not interoperable with the Microsoft product. |
| <b>DFS link</b>               | Located under the namespace root. Forms a connection to one or more shared folders, links or to another root.                                                                                                                                                                                                                                                                                                        |
| <b>DFS namespace</b>          | The logical view of shared file resources seen by users.                                                                                                                                                                                                                                                                                                                                                             |
| <b>DFS path</b>               | A UNC path starting at a DFS root.                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>DFS root</b>               | The share at the top of the namespace topology. The starting point for the links and shared folders that make up the namespace.                                                                                                                                                                                                                                                                                      |
| <b>DFS topology</b>           | Overall logical hierarchy of a namespace, including elements such as roots, links, shared folders, and replica sets.                                                                                                                                                                                                                                                                                                 |
| <b>DFS tree</b>               | The consolidated DFS view provided by the application, which includes the Admin View, Logical View, Physical View, and Reports.                                                                                                                                                                                                                                                                                      |
| <b>Domain-based DFS root</b>  | A DFS root that has its configuration information stored in Active Directory. The root can have multiple root targets, which offers fault tolerance and load sharing at the root level.                                                                                                                                                                                                                              |
| <b>Export</b>                 | SEE NFS export                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Fault-tolerant DFS</b>     | SEE Domain-based DFS root                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>FQDN</b>                   | Fully-qualified Domain Name. A host, domain name, and a top-level domain. For example, www.brocade.com is a fully-qualified domain name where www is the host, .brocade is the second-level domain, and .com is the top-level domain.                                                                                                                                                                                |
| <b>FRS</b>                    | Microsoft File Replication Service. A data replication services used in Windows 2000 and later.                                                                                                                                                                                                                                                                                                                      |

| <b>Term</b>                  | <b>Meaning</b>                                                                                                                                                                                                                                                                                                  |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GID</b>                   | Group Identification Number. A unique number assigned to identify a group of users in UNIX environments.                                                                                                                                                                                                        |
| <b>Key-pair</b>              | Consists of a public key and a corresponding private key. It is safe to distribute a public key, but a private key must be kept secret.                                                                                                                                                                         |
| <b>Link target</b>           | A DFS link can have as targets: 1 to N shared folders, OR 1 to N stand-alone DFS paths, OR only 1 domain-based DFS path.                                                                                                                                                                                        |
| <b>Migration candidates</b>  | Items that match migration criteria in an archival migration policy. You can select which items you want to migrate. Items not selected for migration are automatically added to the exclusion list of the archival migration policy.                                                                           |
| <b>Migration task</b>        | Identifies the source and destination of policies that migrate data.                                                                                                                                                                                                                                            |
| <b>Monitoring agent</b>      | The component that can be installed to evaluate storage policies from a different computer than the one where the application server is installed.                                                                                                                                                              |
| <b>NFS</b>                   | Network File System developed by Sun Microsystems. A file-sharing protocol that enables you to share file systems over the network. NFS is used with both UNIX and non-UNIX computers.                                                                                                                          |
| <b>NFS export</b>            | A directory that is published for access by NFS clients. The export specifies a directory to be exported and which computers have access to the directory. NFS exports are similar to CIFS shares in that they provide access to directories.                                                                   |
| <b>Pool</b>                  | A group of storage locations.                                                                                                                                                                                                                                                                                   |
| <b>Primary server</b>        | An active application server or monitoring agent.                                                                                                                                                                                                                                                               |
| <b>Primary target</b>        | In a disaster recovery policy, this is the active target to which users are referred by the root or link.                                                                                                                                                                                                       |
| <b>qtree</b>                 | A special directory of the root of a filer volume that behaves like a virtual subvolume with special attributes.                                                                                                                                                                                                |
| <b>Quiesce</b>               | Wait for all existing SnapMirror transfers to both filer volumes and qtrees to complete and then block any further updates.                                                                                                                                                                                     |
| <b>RAID</b>                  | Redundant Array of Independent Disks enables file access even when a disk in a RAID group is damaged.                                                                                                                                                                                                           |
| <b>Rebase</b>                | To change the destination path proposed by the application to the actual path to where the data is to be migrated.                                                                                                                                                                                              |
| <b>References</b>            | The DFS link targeting the selected physical item. For example, when you click a server under the Physical View tree, properties and associated DFS links appear.                                                                                                                                               |
| <b>Replica</b>               | A DFS root or DFS shared folder that provides an alternate path for a DFS link. NOTE: In Windows NT 4 terminology, this is referred to as an alternate volume.                                                                                                                                                  |
| <b>Replica set</b>           | Two or more DFS roots or DFS shared folders that provide alternate paths for a DFS link.                                                                                                                                                                                                                        |
| <b>Replication agent</b>     | The component deployed by the application server or monitoring agent during the configuration of storage policies that transfer CIFS and NFS data, or when you run a file differencing report.                                                                                                                  |
| <b>Report schedule group</b> | Enables you to set a schedule to automatically gather information. A report schedule group can be configured to start during off hours to offload network and computing resources during business hours. You can produce multiple reports from the data gathered without generating additional network traffic. |

| <b>Term</b>                  | <b>Meaning</b>                                                                                                                                                                                                                                                                                                            |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Report source group</b>   | Specifies the location where you want to gather information. It is assigned to a report schedule group. A report source group also enables you to specify batch files to run before and/or after the information is gathered.                                                                                             |
| <b>Report type</b>           | Determines what information is gathered. Report types are assigned to report source groups.                                                                                                                                                                                                                               |
| <b>Secondary target</b>      | SEE Standby target.                                                                                                                                                                                                                                                                                                       |
| <b>Server</b>                | The component that responds to requests from the client component, monitors the DFS namespace, and processes storage policies.                                                                                                                                                                                            |
| <b>Shared folder</b>         | Folder in the DFS namespace that can be accessed by users who have proper permissions. NOTE: In Windows NT 4, this is referred to as a DFS volume, leaf, or branch.                                                                                                                                                       |
| <b>SID</b>                   | Security identifier that uniquely identifies a Windows user or group.                                                                                                                                                                                                                                                     |
| <b>Stand-alone DFS root</b>  | A DFS root that has its configuration information stored locally on the host server. The root has a single root target. When the root target is unavailable, the data referenced by links under the root is inaccessible.                                                                                                 |
| <b>Standby target</b>        | A target in a disaster recovery policy that is offline. During a failover, a standby target can become the active target.                                                                                                                                                                                                 |
| <b>Storage location</b>      | A combination of a server UNC path and the local path pointing to a directory in the file system. For example, \\rama\C\$ is a storage location representing the C drive on computer "rama" and secure.npb.com:/vol/vol0/myqtree is a storage location representing the qtree "myqtree" on volume vol0 on secure.npb.com. |
| <b>Target</b>                | LINK TARGET: A shared folder, a DFS link, or a DFS root that is referenced by a DFS link. ROOT TARGET: A shared folder that is referenced by a DFS root. SEE ALSO Link target.                                                                                                                                            |
| <b>Trustee</b>               | The user account, group, or logon session to which an Access Control Entry (ACE) applies.                                                                                                                                                                                                                                 |
| <b>UID</b>                   | User Identification Number. A unique number assigned to identify a user in UNIX environments.                                                                                                                                                                                                                             |
| <b>UNIX file permissions</b> | Control access to files and directories. Permissions can be applied to the owner of a file, a group, or everyone on the UNIX network.                                                                                                                                                                                     |
| <b>Widelink namespace</b>    | A logical namespace hosted on a filer CIFS share that provides the benefits of a namespace without requiring additional Windows servers.                                                                                                                                                                                  |

## Overview

Network Appliance is pleased to announce its new version of VFM. This new version is a major release. The salient features and benefits of this release are shown in the following table.

**Table 2 New features and benefits**

| <b>Feature</b>                                                   | <b>Benefit</b>                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Phased migration</b>                                          | The feature enables you to stage the data migration operation. You can run automatically repeated data copy operations before running the final copy and cutover. You control when the migration operation moves from one phase to another. The feature is available for the archival migration, migration, and storage load balancing policies. |
| <b>Quickly add multiple targets to a link</b>                    | The feature enables you to clone an existing link target to add multiple targets to a link at one time. A typical use of this feature is to quickly add multiple link targets pointing to WAFS edge devices that are based on an existing link target pointing to a WAFS core device.                                                            |
| <b>Agent Management</b>                                          | The feature enhances the management of replication and monitoring agents and the VFM server including deployment credentials.                                                                                                                                                                                                                    |
| <b>Replication Agent groups</b>                                  | The feature enables you to add multiple replication agents to an agent group and assign the group to a policy to distribute the data migration workload. This improves flexibility and throughput in many-to-one replication scenarios.                                                                                                          |
| <b>Namespace back up and restore supports new DFS attributes</b> | This enables you to use the DFS attributes introduced in Windows Server 2003 release 2.                                                                                                                                                                                                                                                          |

# Installation Requirements

Before installing VFM, check that the system where the VFM components are installed meets the following list of requirements.

- Microsoft Windows® 2000 SP 2 or later or Windows XP Professional to manage roots on NT® 4 or Windows 2000 servers.
- Microsoft Windows XP Professional or Windows Server™ 2003 to manage multiple roots on a single Windows Server 2003.
- Microsoft SQL Server 2000 Desktop Engine (MSDE) Service Pack 3 or later or SQL Server 2000 Standard or Enterprise Edition Service Pack 3 or later or Microsoft SQL Server 2005 Express, Standard or Enterprise Edition to install the VFM database and monitoring agents you will install.
- Microsoft .NET Framework 2.0
- Internet Explorer™ 5.5 or later.
- Windows Script Host 5.6 or later.
- At least 2 GBytes of RAM.
- 2 GHz or faster processor.
- Disk space: 500 MB

**Notes:** Add 75 MB to disk space requirements for a typical or server only installation when you install MSDE.

- VFM components must be installed on local fixed NTFS disks.
- VFM does not support 64-bit operating systems.
- Minimum video display of 1,024 by 768 and 256 colors. For the best display, it is strongly recommended that you use more than 256 colors.
- It is strongly recommended that you use the Remote Desktop protocol (RDP) to connect to remote computers because other products providing remote desktop access, such as VNC, have exhibited screen rendering problems when used with VFM.

## Notes:

- To generate reports when VFM uses the remote SQL database, make sure that OSQL is installed on the computer hosting the VFM server.
- If the number of connections used between VFM components and the connections used by other processes on the system could exceed the limits on inbound connections imposed by Windows 2000 Professional or Windows XP Professional, install the VFM server on a Windows 2000 server or Windows Server 2003. These limits are documented in the Microsoft Knowledge Base Articles 122920 and 314882. If these limits are exceeded, VFM components experience communication problems. Use the Computer Management MMC snapin (compmgmt . msc) to review the number of connections in use.
- The evaluation license of VFM places a 60-minute limit on the amount of data you can transfer. This limit is for each run of a policy.
- **Application Data directory:** As part of the installation process, you are asked where to install the Application Data directory. To avoid problems with future upgrades, do not install this component under the directory in which you are installing VFM. Instead, browse to another location. This location must be on a local NTFS file system to which you have write privileges. It is recommended that the folder be empty.

## Installation Options

The following list explains the different VFM configurations that you can set up.

- **Client and server.** This is the typical configuration. The VFM components are installed on a single system.

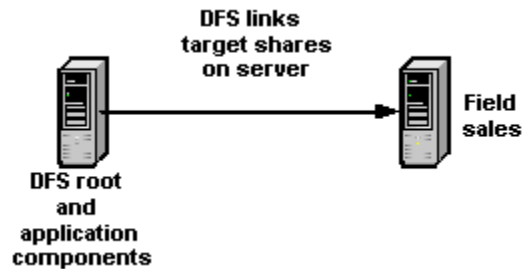


Figure 1 Typical configuration

- **Client.** You are prompted to enter the location of the remote VFM server. This choice is useful if you installed the VFM server on an infrastructure computer and want access to the VFM client from your desktop computer.
- **Server.** This choice is useful if you want to install the VFM server on a highly available computer in your server room and manage VFM from your administrative desktop computer.
- **Monitoring agent.** You are prompted to enter the location of the remote VFM server. This choice is useful if you want to distribute VFM policy monitoring chores across multiple computers. If the information (hostname) of the remote VFM server is not entered accurately, the monitoring agent cannot communicate with the server.
- **Client and monitoring agent.** The VFM components are installed on a single system.

## Upgrading

VFM 6.0 supports upgrades from versions 5.5, 5.6, and 5.8. This section provides instructions about how to upgrade application components and includes a list of known upgrade issues.

### Instructions for upgrading to VFM 6.0

This section lists the various installation options available in VFM and the steps required to upgrade different components.

#### Server only

1. Stop the VFM server service.
2. Follow the instructions in "To upgrade the server or the client and server."

#### Client and server

1. Stop the VFM server service.
2. Follow the instructions in "To upgrade the server or the client and server."

#### Client only

Close the VFM client and perform the upgrade.

### Monitoring agent only

1. Stop the VFM server service.
2. Perform the upgrade.

### Monitoring agent and client

1. Close the VFM client.
2. Stop the VFM server service.
3. Perform the upgrade.

### Replication agents

Follow the instructions in "To upgrade replication agents."

### To upgrade the server or the client and server

1. Have the VFM serial number and license key information available and saved on a remote location prior to the upgrade.
2. Cancel all policies currently running or let them finish running. If you are upgrading a server only, cancel all policies from a client connected to the server.
3. In the policy properties for each policy, uncheck the "Use...schedule" check box to ensure that no scheduled policies will attempt to run during the upgrade.
4. Back up the namespace. Right-click the **Logical View** and click **Backup**. Select all the roots that are used in your environment.
5. Take an application snapshot to back up the current configuration. On the **Tools** menu, click **Take Application Snapshot Now**. Save the existing configuration locally on the VFM server computer. You can use a replication policy or Windows Explorer to manually copy the application snapshot to a remote location to have a second copy of the configuration.
6. Close the VFM client.
7. Perform the upgrade.

### To upgrade replication agents

Replication agents used by VFM are upgraded automatically by the server during normal status checks. You can perform the following steps for agents that are not upgraded.

1. Close the VFM client.
2. Restart the VFM server service using the Windows service control manager.
3. Reopen the VFM client.
4. On the **Tools** menu, click **Agent Management**.
5. Click a replication agent to view its properties.
6. Check the current version of the replication agent.
7. If the replication agent was not updated, right-click the agent and click **Upgrade**.
8. Click **Alerts** to view any errors that might have occurred.
9. If the upgrade fails using the Agent Management tool, try to uninstall the replication agent and redeploy it.
10. If attempts at uninstalling the replication agent fail using the Agent Management tool, complete the appropriate steps:

### Windows replication agent

- a. Log on to the server running the replication agent.
- b. Using the command prompt, browse to:  
`c:\Windows\system32\Brocade\Tapestry  
StorageX\ReplicationAgent`
- c. Run the command: `net stop storagexreplicationagent`
- d. Run the command: `replicationagent.exe -uninstall`
- e. Delete the contents of this directory and exit out of the command prompt.
- f. Using the service control manager, verify that the *storageXreplicationagent* service no longer exists.
- g. Verify that the following registry key does not exist. If it exists, delete it.  
`HKEY_LOCAL_MACHINE\SOFTWARE\Brocade\Brocade  
StorageX\ReplicationAgent`
- h. Reboot the computer and then deploy the new replication agent using the Agent Management dialog box.

### UNIX replication agent

- a. Uninstall the older version of the replication agent using the instructions provided in the online help for the Agent Management tool. Makes sure that you delete the application directory.
- b. Open the VFM client.
- c. On the **Tools** menu, click **Agent Management**.
- d. Click **Deploy**.
- e. Type the name of the computer that will host the replication agent and specify the account that will run the replication agent.
- f. Click **OK**.
- g. When the replication agent appears in the list, click the agent to verify the version.

## Known Upgrading Issues

This section describes VFM 6.0 upgrade issues. Following is a list of upgrades that are allowed and known issues for each.

### Version 5.5

*Client issues:* none

*Monitoring agent issues:* 1

*Server issues:* none

*Client/server:* none

*Client/Monitoring issues:* none

## Version 5.6

*Client issues:* none

*Monitoring agent issues:* 1

*Server issues:* none

*Client/server issues:* none

*Client/Monitoring issues:* none

## Version 5.8

*Client issues:*

*Monitoring agent issues:*

*Server issues:* 2

*Client/server issues:*

*Client/Monitoring issues:*

## Issues List

For other VFM known issues, refer to "Known Issues" at the end of this document.

1. When you try to upgrade a monitoring agent installed on a computer that is hosting a replication agent, the upgrade fails and you see the error message "Destination key already exists."

**Workaround:** Perform the following steps:

- a. Delete the replication agent. For instructions about how to delete replication agents, refer to the online help.
  - b. Delete the registry key HKEY\_LOCAL\_MACHINE\SOFTWARE\Brocade.
  - c. Upgrade the monitoring agent.
  - d. Deploy a replication agent on the same computer that you installed the monitoring agent.
2. You get the following error message when you try to upgrade the Tapestry StorageX server on a computer where an instance of MSDE is already installed:  
Error 27502 Could not connect to Microsoft SQL Server... does not exist or access denied.  
Call support for assistance.

## Important Notes

Read the following list of notes before you install and use VFM.

- The account installing VFM from media must be a member of the local administrators group on the local machine.
- The account used for the VFM server, which is specified during installation, must have the following list of permissions:
  - The following list specifies the appropriate permissions needed to administer the DFS roots that are managed.
    - **Standalone roots** - The account must be a member of local administrators group on the computer hosting the root and must have permissions to write to the root share on that computer.
    - **Domain-based roots** - Microsoft Active Directory must already be operational. The account used for VFM must be a member of the local administrators group for both the domain and the server where you create the DFS root. Refer to the Microsoft DFS FAQ

<http://www.microsoft.com/windowsserver2003/community/centers/fileservices/dfsfaq.aspx?pf=true>

- A member of the local administrators group on any computers hosting either source or destination of data replications.
- "Run as service" permission.
- A member of the local administrators group on the computer hosting the SQL database used by Tapestry StorageX.
- The account running the VFM client and server must have permissions to write to these directories:

*\Documents and Settings\All Users\Application Data\Logs\  
\Documents and Settings\All Users\Application Data\NetApp\*

Users whose accounts lack write permissions to these directories will experience errors when attempting to run VFM reports or to set VFM system options.

- When administering SnapMirror information, the account running VFM must be a member of the local administrators group on any managed filers to access the *\\filer\c\$* share and read and write files in the */etc* directory of the filer.

VFM uses RSH to communicate with filers when managing SnapMirrors and qtrees. You must provide the RSH username and password for filers known to VFM. You can configure this information through the properties dialog box for the filer.

To enable VFM to manage SnapMirrors, source filers running Data ONTAP 7.2 or later must have the option *snapmirror.access* set to *legacy*.

- The account used by the VFM server, a replication agent, or a VFM monitoring agent must have the following list of permissions:
  - **SeBackupPrivilege** ("Back up files and directories") - required to open source directories/files with backup semantics
  - **SeRestorePrivilege** ("Restore files and directories") - required to open destination directories/files with backup semantics
  - **SeSecurityPrivilege** ("Manage auditing and security log") - required to access SACLs (System Access Control Lists)
  - **SeTakeOwnershipPrivilege** ("Take ownership of files or other objects") - required to delete directories/files

Some NAS systems might require that the account used by a replication agent be a member of local administrators group and backup operators.

## VFM compatibility matrix

To review a compatibility matrix for VFM, refer to the following NetApp Web site:

<http://now.netapp.com/NOW/products/interoperability/>

## RSH on Linux and Solaris computers

VFM normally uses RSH to execute shell commands to configure and obtain data from filers and other non-Windows systems, such as Solaris and Linux systems. On Solaris and Linux systems, RSH must be enabled as root. Refer to the online help for instructions about how to enable RSH as root on Solaris and Linux systems. Where the environment does not support the use of RSH, you can configure VFM to use SSH to communicate with filers in place of RSH.

## Windows replication agent requirements

This section provides a list of Windows replication agent requirements.

- VFM deploys a replication agent to computers running Windows 2000, Windows Server 2003, or Windows XP file systems.
- The account used by VFM to deploy a Windows replication agent must be a member of the local administrators group on the computer that receives the replication agent. The account must be able to perform the following actions:
  1. Access remote registry
  2. Write to Admin\$ share
  3. Install and run a service
- If the computer to which you want to deploy a replication agent is running Windows XP SP 2, you must perform the following actions:
  1. Disable the firewall on the computer you want to deploy the replication agent.
  2. Restart the computer.
- If a computer you want to deploy a replication agent is running Microsoft VSS, the computer must be running Microsoft .NET Framework 2.0.

## UNIX replication agent requirements

This section provides a list of general UNIX replication agent requirements and installation requirements that are specific to UNIX replication agents installed in Red Hat Enterprise 4 and Solaris 10 systems.

### General requirements

The following list provides information

- The UNIX computer where you deploy a replication agent must be running Red Hat Enterprise 4 or Solaris 10 operating system.
- The account used by VFM to deploy a UNIX agent must have root privileges on the computer where you deploy the replication agent.
- NFS 3 or later must be installed on the source or destination if a UNIX replication agent is not installed. You do not have to install NFS on the source or destination that is hosting a UNIX replication agent because the replication agent reads the files directly.
- The file system where the replication agent will be installed must be mounted read-write. If you attempt to install the replication agent on a read-only file system, the following error message appears:

#### On Solaris:

pkgadd: ERROR: Unable to make directory </opt/URA>

#### On Linux:

error: unpacking of archive failed on file /opt/ura/bin:

cpio: mkdir failed - No such file or directory

## Installation requirements

The following table lists the packages that must be installed on the computer where the replication agent will be deployed. The version of the packages can be later than the ones listed.

**Table 3 UNIX installation packages**

| Operating system     | Packages                                                                                                                                                                         |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Solaris 10           | SUNWcsl<br>SUNWlibms<br>SUNWcsu<br>SUNWloc<br>SUNWgzip                                                                                                                           |
| Red Hat Enterprise 4 | glibc-2.3.4-2<br>glibc-common-2.3.4-2<br>bash-3.0-19.2<br>coreutils-5.2.1-31<br>gzip-1.3.3-9<br>grep-2.5.1-16<br>procps-3.2.3-7<br>Red Hat package manager version 4 or greater. |

## Known Issues for VFM v6.0

This section describes issues found in this version of VFM. For upgrading issues, refer to "Known Upgrading Issues."

1. In certain configurations, the user and effective user fields in events generated by the server display as N/A by the client. For example, when the VFM client and server reside in separate domains with a one way forest trust by the server domain of the client domain and the client and server are running under different accounts in the two domains.
2. Large namespaces such as those with thousands of links will cause VFM to start up more slowly than will smaller configurations. Startup times increase along with the size of the configuration.
3. Cascaded domain-based roots appear as computers in the physical view if any of their links are themselves targets of links in a managed namespace.
4. Clock skew between the VFM console system and systems where the VFM replication agent has been deployed affects the order in which events are displayed in the VFM console.
5. Changes made to domain-based roots can take time to appear in the VFM display. This is due to the time needed for the changes to propagate through the Active Directory domain controllers.
6. NT4 DFS roots are typically created when DFS is installed on the server and cannot be created or deleted through VFM.
7. If the server hosting the new target is on-line, then the directory being targeted by the link must exist or VFM will report a "network resource was not found" message.

**Workaround:** When modifying link targets, if the server hosting the new link target is off line, you can still re-target the link to the offline server. This implementation allows you to configure your

namespace while servers are offline, but provides additional validation of the configuration if the targeted server is on-line.

8. Share names containing apostrophes might prevent VFM from accessing data on the share. The symptom is an "access-denied" error when attempting to migrate data to or from the share.
9. Certain combinations of file permissions can cause VFM to report access-denied errors during the evaluation phase of a data transfer.

**Workaround:** If you allow the evaluation to continue, it will succeed.

10. Internet Explorer 6 limitations cause changes to print orientation to be applied to the printer specified for the item being printed rather than to just the print item itself.

**Workaround:** Restore the orientation for the selected printer back to the desired default setting after the report has been printed. This limitation is not present in Internet Explorer 5.5.

11. Limitations present in Windows 2000 prevent management of DFS roots on Windows Server 2003 systems when VFM is installed on a Windows 2000 system and a Windows Server 2003 system hosts more than one DFS root.

12. **Workaround:** To manage roots hosted on a Windows Server 2003 system containing more than one DFS root, you must install VFM on Windows XP or Windows Server 2003.

13. Antivirus software configured to prevent scripts from running will interfere with scripts used in VFM as part of the product installation as well as the application snapshot feature and customized scripts configured for use with VFM storage policies.

**Workaround:** To avoid this problem, configure virus scanning software correctly so that VFM can install and the scripts associated with the product can function.

14. If you upgrade VFM using terminal services, you might encounter problems printing from VFM to PDF files.

**Workaround:** To avoid this problem, upgrade from the computer console and not through terminal services.

15. Microsoft changed the implementation of DFS roots in Windows Server 2003. Because of these changes, BLOB size is reported as zero for roots hosted on Windows Server 2003 in the VFM "Namespace Properties" report.

16. Incorrect name resolution configurations in DNS can cause problems when managing or referencing domain-based DFS roots. The troubleshooting section of the VFM documentation provides details on how to diagnose and correct DNS name resolution problems.

17. If a manual scan is initiated for a Namespace Creation policy and no items are found, the resulting instruction dialog must be closed by clicking **Cancel**.

18. When copying files from mixed-security mode locations on filers, permissions must be set so that VFM can read security information from the system. UNIX permissions are not transferred. Errors will occur if VFM cannot read the security settings from the source data.

19. Under the following circumstances, VFM does not show users without home folders during home folder policy creation:

- a. During home folder policy creation, you select the option **Show users without a home folder**.
- b. You select user without home folders.
- c. You click **Next** and then click **Back**. The users without home folders you selected do not appear in the list.

**Workaround:** To fix the problem, perform the following steps:

- a. After you click **Back**, clear and select the option **Show users without a home folder**.
- b. Click **Next**.

- c. Click **Finish**.
20. When the target monitoring schedule runs, server disaster recovery policies incorrectly run associated policies instead of running associated policies only when a failover is required. This problem causes extra namespace update activity.
21. Application-wide default credentials for SSH that you specify do not take effect properly.
- Workaround:** Set SSH credentials on individual computers in the Physical View rather than in the **Options** dialog box. In the Physical View, right-click the computer and click **Properties**. Click the **Shell** tab. Refer to the online help for instructions.
22. You cannot drag a link (links with two targets, one each on the primary and secondary servers) to the Active Link list of a server disaster recovery policy.
- Workaround:** Right-click a link in the Nonactive Links list and click **Move to Active Links List**.
23. UNIX replication agents cannot be deployed by Tapestry StorageX monitoring agents. This can result in an unexpected replication agent performing the data transfer.
- Workaround:** Use Agent Management to manually deploy the UNIX replication agent to the source or destination computers before starting the policy. On the **Tools** menu, click **Agent Management** and follow the online help instructions to deploy a UNIX replication agent.
24. You see the following error message when you try to uninstall a Tapestry StorageX component, such as the client or server, using **Add or Remove Programs** of the Windows Control Panel: "A fatal error has occurred. This process will now abort. Reason: Installation of VC runtime library failed."
- Workaround:** Run the installation package again instead of using **Add or Remove Programs** to uninstall the product.
25. If the namespace is unavailable when a policy attempts to perform a namespace update during the final phase of a migration, the policy results will report that no links were updated.
- Workaround:** Set the **Pause after this step** to "always." This allows you to verify the results of the namespace update before progressing on with other final phase actions.
26. The event history message that appears when a UNIX replication agent tries to access an NFS export on a Celerra machine contains text and hexadecimal code. The hex error code matches the text displayed in the message.
27. The VFM Browse dialog box incorrectly shows two copies of the same root when the NETBIOS domain name differs from the host name portion of the fully qualified domain name.
28. NFS file inclusions and exclusions in VFM policies may not function correctly.
29. VFM performs a final copy during the final phase of data migration if data is copied during the initial or incremental phases.
30. The time it takes to open the VFM client increases with the number of migration tasks appearing in the History tab.
- Workaround:** Delete the migration tasks and add the tasks again to reduce the amount of history displayed in the History tab.
31. The use of a single asterisk (\*) in wild card expressions is not supported. The wild card expression \*. \* matches files with an extension. It does not match files whose names do not contain an extension.

## Resolved Issues for VFM 6.0 patch 1

This section provides a list of issues fixed in patch 1.

1. Unformatted error message reported during UNIX replication agent deployment has been corrected.
2. In some cases where NETBIOS domain name differed from fully qualified domain name in DNS, the root could be displayed twice in the VFM user interface. This has been corrected.
3. Replication failed in response to the error message "RPC failed." A replication agent now retries the operation when a replication source or destination returns the error message.
4. Upgrades of VFM no longer leave extra entries in the **Add and Remove Programs** list or the **Start** menu.
5. Snapshot replication correctly copies data from the link target rather than from the share containing the link target.
6. The VFM Logical View correctly shows the roots that appear in the view.
7. Event history now shows the most recent events at the top of the list to facilitate viewing event details of recent events.
8. VFM user interface now prevents you from selecting mutually exclusive options to use cached hash sets with snapshot replication.
9. An error message is no longer reported when you use differential replication and snapshots together in a policy.
10. Filer recovery policy alternate schedule handling has been corrected.
11. VFM now copies the Brocade File Lifecycle Manager (FLM) alternate data streams when they are present on files.
12. The following statement was added to this document:  

If a computer you want to deploy a replication agent is running Microsoft VSS, the computer must be running Microsoft .NET Framework 2.0.
13. Folder exclusions specified in a policy using Snapshot replication now exclude the folders.