

VFM® (Virtual File Manager™) 5.8.3

Release Notes

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VFM 5.8x Revision History

Changes for VFM 5.8.3

Changes implemented in VFM 5.8.3 are the elimination of limitations encountered when upgrading from earlier versions to VFM 5.8 or later.

Changes for VFM 5.8.2

Changes implemented in VFM 5.8.2 include the following resolutions to known operating issues:

- ◆ Under certain conditions, files locked on the destination can be deleted if VFM replicates the data from the source while the destination files are locked.
- ◆ The multiprotocol namespace policy has been updated to accommodate NFS exports whose names contain spaces. Note that patches to Red Hat® automounter are required for it to successfully mount exports whose names contain spaces.
- ◆ The namespace creation policy Target Search Ignore List can now be edited to include subfolders in the VFM UI.
- ◆ Replication problems involving configurations with short, non-ASCII-named files have been corrected.
- ◆ Files will no longer be deleted during a sync operation in cases where the StorageX service account is incorrectly configured and lacks administrator privileges on a destination NetApp storage system.
- ◆ The namespace availability policy has been revised to work more reliably when writing widelink namespaces on NetApp storage systems.

New features for VFM 5.8 or later

VFM 5.8.3 also includes the following features that were implemented for VFM 5.8 or later:

- ◆ More flexible namespace creation policies.
You can populate your namespace with links that target shares that are subdirectories of shares. When searching for shares that match a string and folders within shares that match a path you specify, you can optionally select to create links that directly target shared subdirectories. The Namespace Creation wizard also enables you to create a customized template that you can use to arrange search results in the namespace.
- ◆ Report enhancements

The Replication Status Report shows additional information about a replication task. This information also appears in the Replication Tasks view for a replication policy.

- ❖ Files in Sync—The number of files that were not transferred because the source and destination were identical.
 - ❖ Bytes in Sync—The number of bytes contained in synchronized files.
 - ❖ Files Copied—The number of files copied to the destination.
 - ❖ Bytes Copied—The number of bytes copied to the destination.
 - ❖ Files Failed—The number of files that were not copied to the destination because of an error.
- ◆ Replication performance
 - Data transfer speed has improved by 30%.
 - ◆ Improved scalability and responsiveness in large configurations.

Requirements

Installation requirements

Before installing VFM, check that the systems where the VFM components are installed meet the following requirements:

- ◆ Microsoft® Windows® 2000 SP 2 or later or Windows XP Professional, to manage roots on Windows 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, to install the VFM database and monitoring agents you will install
- ◆ Microsoft .NET Framework 1.1
- ◆ Internet Explorer™ 5.5 or later
- ◆ Windows Script Host 5.6 or later
- ◆ Disk space:
 - ❖ VFM self-extracting file—175 MB required.
 - ❖ Typical installation (client and server are installed on the same machine) when you are using an existing SQL instance—175 MB
 - ❖ Client only installation—130 MB
 - ❖ Server only installation when you are using an existing SQL instance—160 MB
 - ❖ Monitor only installation—160 MB

Note

As you use VFM, you'll require additional disk space to store items such as published reports and namespace backups.

Note

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.
- ◆ 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 machines because other products providing

remote desktop access, such as VNC, have exhibited screen rendering problems when used with VFM.

Note

In situations where the number of connections used between VFM components and the connections used by other processes on the system might exceed the limits on inbound connections imposed by Windows 2000 Professional or Windows XP Professional, install the StorageXserver on a Windows 2000 server or Windows Server 2003. These limits are documented in Microsoft Knowledge Base Articles 122920 and 314882. If these limits are exceeded, VFM components experience communication problems. Use the Computer Management MMC snap-in (compmgmt.msc) to review the number of connections in use.

Note

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.

Important Operational Notes

Before you begin

This section lists information that you should consider before you use VFM 5.8.3. See the product online Help for full details.

Account permissions and privileges for installing and running VFM

- ◆ The account installing VFM from media must have administrator privileges on the local system.
- ◆ The account used for the StorageXserver, which is specified during installation, must have the following permissions and privileges:
 - ❖ Appropriate permissions to administer the DFS roots that are managed

Account	Permission requirements
Standalone roots	The account must be a member of local administrators on the system hosting the root and must have permissions to write to the root share on that system.
Domain-based roots	Microsoft Active Directory must already be operational. The account used for VFM must have administrator permissions for both the domain and the server on which you create the DFS root. See the Microsoft DFS FAQ http://www.microsoft.com/windowsserver2003/community/centers/fileservices/dfsfaq.mspx?pf=true

- ❖ Administrator privileges on any machines hosting either source or destination of data replications
 - ❖ “Run as service” permission
- ◆ The account running the VFM client must have permissions to write to the All Users\Application Data\ directory tree. Users whose accounts lack write permissions to these directories experience errors when attempting to run VFM reports or set VFM system options.
- ◆ When administering SnapMirror information, the account running VFM must have administrator privileges on any managed NetApp® storage

system to access the \\filer\C\$ share and read and write files in the /etc directory of the storage system. VFM also uses RSH to communicate with NetApp storage systems when managing SnapMirror copies and qtrees. The RSH user name and password for VFM to use when communicating with storage systems is configured through the machine properties dialog box for the storage system.

- ◆ The account used by the StorageXserver, a replication agent, or a VFM monitoring agent must have the following 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

RSH on Linux and Solaris machines

VFM normally uses RSH to execute shell commands to configure and obtain data from NetApp storage systems and other non-Windows systems, such as Solaris® and Linux™ systems.

- ◆ On Solaris and Linux systems, RSH must be enabled as root. See 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 NetApp storage systems. See the online Help for requirements and instructions.

Windows replication agent requirements

VFM deploys a replication agent to machines running Windows 2000, Windows Server 2003, or Windows XP file systems.

- ◆ The account used by VFM to deploy a Windows replication agent must have administrator privileges on the machine that receives the replication agent. The account must be able to perform the following actions:
 - ❖ Access remote registry
 - ❖ Write to Admin\$ share
 - ❖ Install and run a service
- ◆ If the machine to which you want to deploy a replication agent is running Windows XP SP 2, you must perform the following actions.

Step	Action
1	Disable the firewall on the machine on which you want to deploy the replication agent.
2	Restart the machine.

UNIX replication agent requirements

General requirements: The UNIX® machine to which you deploy a replication agent must be running Red Hat Enterprise 3 or Solaris 8 operating system.

- ◆ The account used by VFM to deploy a UNIX agent must have root privileges on the machine 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 with read-write access. 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
```

Solaris 8: The following packages must be installed on the machine on which the replication agent will be deployed:

- ◆ SUNWcsl
- ◆ SUNWlibms
- ◆ SUNWcsu
- ◆ SUNWloc
- ◆ SUNWgzip

Red Hat Enterprise 3: The following packages must be installed on the machine to which the replication agent will be deployed:

- ◆ glibc-2.3.2-95.20

- ◆ glibc-common-2.3.2-95.20
- ◆ bash-2.05b-29
- ◆ coreutils-4.5.3-26
- ◆ gzip-1.3.3-9
- ◆ grep-2.5.1-16
 - ❖ procps-2.0.13-9.2E
 - ❖ redhat package manager version 4 or later

Note

The version of the packages can be later than those listed here.

VFM 5.8.3 Known Operating Issues

VFM 5.8.3 operating issues

This section describes issues found in this version of VFM.

- ◆ Large namespaces, such as those with thousands of links, cause VFM to start up more slowly than do smaller configurations. Startup times increase along with the size of the configuration.
- ◆ Cascaded domain-based roots appear as machines in the physical view if any of their links are themselves targets of links in a managed namespace.
- ◆ Clock skew between the VFM console system and systems to which the VFM replication agent is deployed affects the order in which events are displayed in the VFM console.
- ◆ 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.
- ◆ NT4 DFS roots are typically created when DFS is installed on the server and cannot be created or deleted through VFM.
- ◆ If the server hosting the new target is online, then the directory being targeted by the link must exist or VFM reports a “network resource was not found” message.

Workaround: When modifying link targets, if the server hosting the new link target is offline, you can still retarget the link to the offline server. This implementation enables you to configure your namespace while servers are offline, but it provides additional validation of the configuration if the targeted server is online.

- ◆ 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.
- ◆ 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 succeeds.

- ◆ Limitations present in IE6 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 to the desired default setting after you print the report. This limitation is not present in IE 5.5.

- ◆ 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.
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.
- ◆ Antivirus software not configured to enable scripts to run will interfere with both the scripts used in VFM as part of the application snapshot feature and the customized scripts configured for use with VFM storage policies.
- ◆ 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 machine console and not through terminal services.
- ◆ 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.
- ◆ 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 about how to diagnose and correct DNS name resolution problems.
- ◆ When installing from the CD-ROM media, the UNIX Replication Agent (URA) packages (rpm and gz) are not copied to the local disk. When installing from the Web self-extracting media, the URA packages are copied to the local disk. This design conserves disk space when installing from the VFM CD-ROM.
- ◆ If you initiate a manual scan for a Namespace Creation policy and no items are found, you must close the resulting instruction dialog box by clicking Cancel.
- ◆ When copying files from mixed-security mode locations on NetApp storage systems, you must have permissions must set so that VFM can read security information from the system. UNIX permissions are not transferred. Errors occur if VFM cannot read the security settings from the source data.

VFM 5.8.3 Resolved Issues

Resolved issues

This section describes issues that were resolved since the last release.

- ◆ Problems with large NFS data transfers.
- ◆ Problems with pipe and socket files during NFS data transfers.
- ◆ Excessive UI load times when working with configurations with namespace and replication agents that were separated through a WAN from the StorageXserver.
- ◆ Inaccurate replication times shown in status dialogs.
- ◆ Problems replicating very large numbers of local security groups during migrations.
- ◆ Problems making changes in the machine properties dialog when the VFM client and the StorageXserver are running on different machines.
- ◆ The replication agent no longer experiences a security buffer overrun and terminates when processing files with long alternate data stream names.
- ◆ A problem that caused data throughput to be much lower than the configured throttling value was corrected.
- ◆ Differences between the NETBIOS domain name and the DNS domain name no longer cause display problems in the VFM console and policies.
- ◆ Reliability of the upgrade process from 5.6 to 5.8 was improved in VFM 5.8.3.
- ◆ Under certain conditions, files that are locked on the destination might be deleted if VFM replicates the data from the source while the destination files are locked.
- ◆ The multiprotocol namespace policy was updated to accommodate NFS exports whose names contain spaces. Note that patches to Red Hat automounter are required for it to successfully mount exports whose names contain spaces.
- ◆ The namespace creation policy “Target Search Ignore List” can now be edited to include subfolders in the VFM UI.
- ◆ Replication problems involving configurations with short, non-ASCII-named files were corrected.
- ◆ Files are no longer deleted during a sync operation in cases in which the VFM service account is incorrectly configured and lacks administrator privileges on a destination NetApp storage system.

- ◆ The namespace availability policy was revised to work more reliably when writing widelink namespaces on NetApp storage systems.

Installation Instructions

VFM provides flexibility in how components are deployed in your environment.

Installation options

The following list describes 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.

- ◆ Client

You are prompted to enter the location of the remote StorageXserver. This choice is useful if you installed the StorageXserver on an infrastructure machine and want access to the VFM console from your desktop machine.

Note

Although you are prompted to enter the location of the remote StorageXserver, a client-only installation of VFM 5.8.3 is always made to the default location, not to a location you might specify.

- ◆ Server

This choice is useful if you want to install the StorageXserver on a highly available machine in your server room and manage VFM from your administrative desktop machine.

- ◆ Monitoring agent

You are prompted to enter the location of the remote StorageXserver. This choice is useful if you want to distribute VFM policy monitoring chores across multiple machines. If the hostname of the remote StorageXserver is not entered accurately, the monitoring agent cannot communicate with the server.

Limitations: Beginning with VFM 5.7, you cannot install a VFM component on a machine that already has a VFM component installed.

For example, if you installed the VFM client on ServerA and now you now want to install the StorageXserver also on ServerA, you must perform the following actions:

Step	Action
1	Uninstall the VFM client on ServerA.
2	Install the VFM client and StorageXserver during the installation process on ServerA.

Cautions: During installation of VFM components, observe the following precautions:

- ◆ Never rename a machine while the StorageXserver, replication agent, or monitoring agent is installed on it. This can cause problems managing agents.
- ◆ To rename the machine on which the StorageXserver or monitoring agent is installed, complete the following steps.

Step	Action
1	Export your VFM configuration files.
2	Uninstall VFM.
3	Rename the machine.
4	Reinstall VFM.

See “Export configuration files” in the VFM online Help for detailed instructions.

To install VFM

VFM is available from the Web. After downloading the zip file to the target machine, complete the following steps.

Step	Action
1	Close all programs.
2	Double-click the executable or zip file you downloaded from the web.

Upgrading to VFM 5.8.3

Read Before Upgrading

Installing additional VFM components on a machine: Beginning with VFM 5.8, you cannot install a VFM component on a machine that already has a different VFM component installed. For example, if you have already installed the VFM client on ServerA and now you want to also install the VFM server on ServerA, you must perform the following actions.

Step	Action
1	Uninstall the VFM client on ServerA.
2	Install the VFM client and server during the installation process on ServerA.

Renaming VFM components: Never rename a machine while the StorageXserver, replication agent, or monitoring agent is installed on it. This can cause problems managing agents. To rename the machine on which the StorageXserver or monitoring agent is installed, complete the following steps.

Step	Action
1	Export your VFM configuration files.
2	Uninstall VFM.
3	Rename the machine.
4	Reinstall VFM.
5	Import the configuration files from Step 1.

See “Export configuration files” in the VFM online Help for detailed instructions.