



vmPRO 3.2.1 Release Notes

Product	Quantum vmPRO 3.2.1 (Build 7030-310)
Date	6-67534-11 Rev A

Contents

Purpose of This Release	1
System Requirements	2
Resolved Issues	3
Known Issues	4
Documentation	13
Contacting Quantum	13

Purpose of This Release

vmPRO 3.2.1 is a maintenance release to provide an important security fix for the Shellshock Bug. For more information, see [About the Shellshock Bug](#) on page 2 and [Resolved Issues](#) on page 3.

In addition, vmPRO 3.2.1 provides a fix for a SmartRead issue in which read avoidance is occasionally skipped. For more information, see [Resolved Issues](#) on page 3.

About the Shellshock Bug

Like many other companies, Quantum has been affected by the Shellshock bug, a serious vulnerability in GNU Bourne Again Shell (BASH), the common command-line shell utility. The Shellshock bug may allow an attacker to remotely execute arbitrary commands resulting in disclosure of information, modification of data, and/or service disruption. For more information about the Shellshock bug, see <https://www.us-cert.gov/ncas/alerts/TA14-268A>.

A number of Quantum products are built upon operating environments that incorporate BASH and may be exposed to this vulnerability. Quantum is committed to providing timely product updates to correct the Shellshock bug.

Although vmPRO versions 3.2 and earlier incorporate the version of BASH that is vulnerable to the Shellshock bug, these vmPRO versions are only indirectly affected. Attackers would need to be able to first log into BASH as **root** before exploiting the Shellshock bug. For enhanced security, however, vmPRO 3.2.1 includes the updated BASH RPM to fix the Shellshock bug.

System Requirements

[Table 1](#) provides information about hardware and software requirements for the Quantum vmPRO 3.2.1.

Table 1 Quantum vmPRO Requirements

Component	Requirement
Virtual Server	<p>One or more VMware ESX or ESXi servers, versions 4.0 update 2 or later; or a VMware vCenter server, version 4.0 update 2 or later.</p> <hr/> <p>Note: Only paid versions of VMware ESX or ESXi servers should be used. Free versions have various API limitations that prohibit vmPRO from functioning as designed.</p> <hr/> <p>Note: In environments with numerous ESX or ESXi servers and many virtual machines, multiple Quantum vmPRO appliances should be deployed on more than one ESX or ESXi servers.</p>
Hardware (Host Server)	<p>12 GB of free disk space 1280 MB of free RAM Gigabit NIC port for data movement on the vmPRO host server</p>

Component	Requirement
Network (Host Server)	Quantum recommends configuring a static IP address during configuration. The Quantum vmPRO network should be configured on the VLAN that has access to the vCenter, ESX or ESXi servers to be protected. This VLAN must be accessible by the backup software client that connects to Quantum vmPRO.
Web Browser (Client)	Any modern Web browser that supports the Adobe Flash Player plug-in 9.x or higher.
Flash Player plug-in (Client)	Adobe Flash Player plug-in 9.x or higher
Microsoft Exchange Servers	Quantum vmPRO supports the following versions of Microsoft Exchange for Mailbox-Level Recovery: <ul style="list-style-type: none">• Windows 2008R2/Exchange 2010• Windows 2008R2/Exchange 2013• Windows 2012R2/Exchange 2013 The Windows Management Framework 3.0 must be installed when using Exchange servers running Windows 2008R2 and Exchange 2010.

Upgrade Notes

Refer to the following information when upgrading to Quantum vmPRO 3.2.1 and newer:

- All Quantum vmPRO appliances (nodes) in a group must be upgraded together.
- When upgrading to 2.3 and newer, from 2.1.4 or prior, Quantum recommends increasing the memory allocation on the vmPRO appliance to 1280 MB, by editing the Quantum vmPRO VM settings in the VI Client.

Resolved Issues

[Table 2](#) lists issues that are resolved in Quantum vmPRO 3.2.1.

Table 2 Quantum vmPRO 3.2.1
Resolved Issues

ID	SR Number	Description
6312		BASH is vulnerable to the Shellshock bug, which allows attackers to remotely execute arbitrary commands resulting in disclosure of information, modification of data, and/or service disruption To resolve the BASH vulnerability to the Shellshock bug, upgrade to vmPRO 3.2.1. This version of vmPRO includes the updated BASH RPM (bash-4.1.2-15.el6_5.2.x86_64.rpm) that fixes the BASH vulnerability.
6303		The read avoidance feature in SmartRead is occasionally overlooked, which can cause longer backups to occur. To resolve the SmartRead issue, upgrade to vmPRO 3.2.1.

Known Issues

This section presents the following categories of known issues:

- [SmartMotion](#)
- [VM Configurations](#)
- [vCenter Plugin](#)
- [Special Character](#)
- [Miscellaneous](#)

SmartMotion

[Table 3](#) lists SmartMotion known issues for vmPRO 3.2.1.

Table 3 SmartMotion Known
Issues

ID	Description	Workaround/Resolution
6123	SmartMotion backups can fail when using an NFS share with a DXi appliance as a vmPRO storage target. Under heavy traffic loads, the DXi appliance can return ENOENT (no such file or directory) errors. These errors can then cause SmartMotion backups to fail.	Upgrading to DXi firmware version 2.3.0.3 or newer can potentially reduce the occurrence of this issue. You can also use a DXi CIFS share as a storage target for SmartMotion backups.

ID	Description	Workaround/Resolution
6033	SmartMotion backups can fail when using an NFS share with the Scalar LTFs appliance as a storage target.	<p>In order for SmartMotion to correctly back up VMs to the Scalar LTFs appliance with an NFS share, you must define the correct NFS mount options when configuring vmPRO storage. See the "NFS Mount Options" section in the <i>Scalar LTFs Appliance User's Guide</i>.</p> <p>As of version 2.3 for the Scalar LTFs appliance, the following mount options should be added to the vmPRO Mount Options field of the Configure Storage dialog box:</p> <p>rsize=1048576, wsize=1048576, timeo=12000</p>
6219	Infrequently, after recovering a mailbox, the Exchange Server's Windows Event Viewer displays a Hung IO error messages when vmPRO dismounts the Exchange Server's database.	<p>The mailbox recovery and database dismount are successful. You can disregard the message. You can stop the message from displaying by increasing the value of the Exchange Server's Windows disk timeoutvalue registry key:</p> <p>HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\Disk\TimeoutValue</p>
5462	When a partial SmartMotion backup of a VM is started within one minute of the previous backup of that VM, the % complete and % saved values displayed on the GUI for that VM may be incorrect. Information in the e-mail report regarding the % saved for that VM may also be incorrect.	SmartMotion backups should be at least one minute apart.
4327	SmartMotion backup failed and issued an error referencing a file named: <name>-s001.vmdk .	The vmPRO is trying to back up a twoGbMaxExtentSparse disk. This disk is not supported by ESX servers. vmPRO does not support this older virtual disk format, which was migrated from a VMware Workstation to an ESX server.
3798	Time for SmartMotion is not correct when running from the shell.	When configuring your SmartMotion schedule, use the vmPRO GUI. Do not use the panshell command <code>smartmotion set schedule</code> .
3749	SmartMotion stuck in "running" status when the DXi V-Series (such as DXi V1000 or DXi V4000) target ran out of space.	DXi V-Series should not be backed up by the vmPRO, i.e. when a DXi V-Series appliance is managed by a vmPRO appliance, the DXi V-Series appliance should be disabled from being exported on the vmPRO. If you want to backup your DXi V-Series appliance, it should be replicated to another DXi appliance.

VM Configurations

[Table 4](#) lists VM Configurations known issues for vmPRO 3.2.1.

Table 4 VM Configurations
 Known Issues

ID	Description	Workaround/Resolution
4702	Removing a server when it was selected as a vCenter subset, and then adding it back in, prevents the server from being re-exported.	From the vmPRO's GUI select Configure > Config Wizard > Servers , and then re-select the server.
3869	CBT enable/reset operations for VMs with duplicate UUID on direct ESX configurations causes snapshot spamming.	Disable CBT for the VM with duplicate UUID on the vmPRO GUI, and reboot the vmPRO appliance.
3665	DNS lookup port numbers need to be opened in the firewall.	To ensure correct DNS name resolution, the firewall must have port 53 open.
1644	The following configurations of virtual machines are not currently supported: <ul style="list-style-type: none"> VMs with missing BIOS UUIDs (e.g. if the datastore that hosts the VM goes down) will not be exported. VMs configured with SCSI bus sharing cannot be snapshotted. These VMs are detected and excluded from /export. 	Information regarding non-supported VM configurations is now displayed to the user through the vmPRO GUI. The error message "Snapshots not supported by VMs configured with SCSI bus sharing" is shown in the vmPRO GUI for these VMs.
	Multiple applications using the VMware Changed Block Tracking feature on the same VM will interfere with each other.	When using the Changed Block Tracking feature on a VM, the vmPRO appliance must be the only Changed Block Tracking-enabled application managing the VM.

vCenter Plugin

[Table 5](#) lists vCenter Plugin known issues for vmPRO 3.2.1.

Table 5 vCenter Plugin Known
 Issues

ID	Description	Workaround/Resolution
1508	Once a vCenter plugin is registered with an appliance it currently cannot be removed easily if the appliance no longer exists or if the IP address/hostname is changed.	

Special Character

There are multibyte and wide character limitations for various VMware objects and strings, such as VM names, datacenter names, datastore names, folder names, usernames, and passwords.

[Table 6](#) lists the known issues in regards to the use of special character for vmPRO 3.2.1.

Table 6 Special Character in Filenames Known Issues

ID	Description	Workaround/Resolution
5877	The following error message has been seen with various failed backups: No such file or directory on special characters There are restrictions on the characters allowed in a file name when using a target storage mounted over the CIFS protocol. This can result in backup failures if any of these invalid characters are present in a VM file.	According to the CIFS protocol the following characters are not allowed in filenames: "\", "/", "[", "]", ":", "+", " ", "<", ">", "=", ",", "?", " ", "*" If a VM includes any files that contain any of these characters there may be a backup failure when copying this VM to a CIFS target, and the VM files should be renamed. The following VMware knowledge base article contains instructions for renaming a virtual machine and its files: http://kb.vmware.com/kb/1003743
5309	Special character directories names are not displayed the same as previous versions.	When accessing the vmPRO import share from CIFS clients, make sure that the directories and the file names do not contain the following special characters: "\", "/", ":", "*", "?", "<", ">", " " and the quotation mark ' ' '.
5094	Character limitations of Scalar LTFS that can result in SmartMotion error: No such file or directory.	When using Scalar LTFS for storage, do not use the colon, ":", in any file names.
3464	This is the list of characters that should not be used in VM names for VM hosted on ESX 5 or 5.1: # Number sign @ At symbol { Opening brace } Closing brace VM names for VM hosted on ESX 5 or 5.1 containing any of these characters are not supported. The limitation is imposed by VMware.	Be aware of character and naming limitations and adhere to them. The limitations that are seen most often are listed in this section of the Release Notes.
3416 3419 3498 3495	Currently you can specify a wide character directory name in the cfg file, or in the recover wizard, but if the import target datastore is on an ESX 4.X host, this wide character directory name will cause problems.	

ID	Description	Workaround/Resolution
3283	<p>For file level access in /files and /recover/files, files that contain an illegal multi-byte sequence in the file name will not be listed. If a file name that contains an illegal multi-byte sequence is encountered when listing a directory, the directory listing will appear empty. An error such as the following will appear in the log file:</p> <p>XYZ.volume/1: Invalid or incomplete multibyte or wide character.</p>	<p>Even though the directory listing appears empty, it is still possible to access individual files within the directory by accessing them explicitly by name.</p>
3254	<p>Datastore names containing '[', ']', or '@' are not supported. The restriction is imposed by VMware interface.</p> <p>Note: In a 5.5+ vSphere environment, the @ character, '@', is supported.</p>	<p>Be aware of character and naming limitations and adhere to them. The limitations that are seen most often are listed in this section of the Release Notes.</p>
3216	<p>VMs starting with "." (dot) are not exported.</p>	<p>Be aware of character and naming limitations and adhere to them. The limitations that are seen most often are listed in this section of the Release Notes.</p>

Miscellaneous

[Table 7](#) lists Miscellaneous known issues for vmPRO 3.2.1.

Table 7 Miscellaneous Known Issues

ID	Description	Workaround/Resolution
6316	<p>The VMware Essentials license for vSphere 5.1 does not support the vStorage APIs for Data Protection feature required by vmPRO and other backup applications. Without this API feature, vmPRO backups fail.</p>	<p>Upgrade either to a VMware Essentials Plus license for vSphere 5.1 or to vSphere 5.5, both of which include the required API feature.</p>
6298	<p>VM disks that reside on Virtual SAN (VSAN) datastores are not backed up.</p>	<p>vmPRO does not back up VM disks that reside on VSAN datastores.</p>
6280	<p>If User Account Control (UAC) is enabled on the Windows guest VM, vmPRO fails to configure both the Log Truncation Enable and Exchange Mailbox Restore operations on the guest VM. This issue is a limitation of VMware VIX API.</p>	<p>On the guest VM, change the User Access Control setting to Never notify; follow the steps as presented in the Resolution section of VMware KB article 2002995.</p>

ID	Description	Workaround/Resolution
6274	<p>Restarting the VMware Tools service on a guest VM during an Exchange Recovery may cause the recovery to stall.</p> <hr/> <p>Note: VMware Tools services can be restarted automatically when the VMware Tool application is updated or re-installed, or when a user manually restarts the VMware Tools services.</p> <hr/>	<p>If the Exchange Recovery stalls, do the following:</p> <ol style="list-style-type: none"> 1 Cancel the Exchange Recovery. 2 Manually clean up the Exchange server. See the "Manual Exchange Server Cleanup" section in the <i>vmPRO User Guide</i>. 3 Check that the VMware Tools service is running on the guest VM. 4 Re-initiate the Exchange Recovery.
5882	<p>Internal file systems within vmPRO can become read-only when the host vmPRO VM encounters busy I/O errors.</p>	<p>See the solution and workaround presented in the Solution section of the VMware KB article 51306.</p>
5518	<p>When a Windows user with Domain Administrator privilege uses the automatic install option (Install or upgrade Quantum VSS agent) to install VSS, the install will fail when UAC is enabled. If the user in a Windows environment is not the built-in Administrator user, then the following error might be encountered:</p> <p>Installing Quantum VSS agent failed (VSS agent installation failed: QuantumVSS.exe not found on virtual machine (Q-1056))</p>	<p>On the guest VM, change the User Access Control setting to Never notify; follow the steps as presented in the Resolution section of VMware KB article 2002995.</p>
5481	<p>Backups that are run after the system time has been changed will fail.</p>	<p>When the system time on an appliance is changed, the appliance must be rebooted before a SmartMotion backup will run.</p>
5273	<p>When Commvault restores the pancvt.vmdk file to the staging area it changes the file's size. This causes the vmPRO Recovery Wizard to fail.</p>	<p>If Commvault is used with vmPRO, the CBT feature should not be enabled for any VMs.</p>
5250	<p>Despite a successful HP Data Protector restore to the DXi NFS share, vmPRO cannot recover the VM.</p>	<p>If HP Data Protector is used with vmPRO, the CBT feature should not be enabled for any VMs.</p>
5238	<p>Linked clones are untested and unsupported.</p>	<p>Linked clones are a special feature of VMware hypervisors. Currently, this feature is not supported. The user should not use this VMware option.</p>
4903	<p>Hotadd disks remain attached to the appliance after the vCenter server goes down.</p>	<p>The hotadd disks will be removed when the connection is restored.</p>
4401	<p>If you use the vSphere client to delete a VM while it is being backed up by vmPRO, the flat and ascii vmdk for the disk which is open in /export will not be deleted on the datastore.</p>	<p>The user must manually delete the files from the datastore if a VM is deleted while it is being backed up by vmPRO.</p>

ID	Description	Workaround/Resolution
4338	Cannot backup vmPRO share with Symantec BE2012 - Communication failure.	Several changes have been made to BE (2012) as compared to BE (2010 R3). To accommodate these changes, configuration changes to BE release (2012) are required. See Communication Failure Between Backup Exec 2012 and vmPRO to perform the required configuration changes.
3828	Deleting a node from the master while the master is powered off does not remove the node, and it does not update the master. If you try to remove a node from the Master VM while the Master VM is powered off, you may receive a message indicating that the removal was successful. This message is incorrect.	To remove a node from the Master VM, the Master must be powered on.
3809	I/O error on CBT enabled VM. If you remove or add a datacenter while copying a VM that is CBT enabled, an I/O error will be generated when the pancbt file is to be copied. The backup will fail and halt at this I/O error.	Do not remove or add a datacenter during a backup.
3801	Error when copying pancbt file into /import .	see Single step recovery
3755	Alert on free ESXi restrictions: There were messages in the log which stated that the ESXi version does not support the operation.	Only the paid version of ESXi is fully supported.
3751 3748	File-level recovery not supported for volumes spanned across multiple disks.	File-level recovery for dynamic volumes that span multiple disks is currently not supported.
3709	Enabling CBT requires the creation and removal of a snapshot if CBT is not already enabled on the hypervisor. When a user configures a VM to be CBT enabled and CBT is disabled on the hypervisor, a script, which enables CBT for that VM, is executed (regardless of whether or not that VM is export enabled). This operation includes the creation and removal of the snapshot. This action is necessary to fully enable CBT.	CBT should only be enabled for VMs that are intended for backup.

ID	Description	Workaround/Resolution
3678	Netbackup fails to back up the .vmdk flat files. Attempts to back up the <DXi>/backup/pancetera-sync folder with Netbackup are only partially successful. All files transfer except for the .vmdk flat files. The snapshot backups also fail.	<p>This is a known Netbackup problem that can be resolved by disabling NTIO.</p> <p>To recover from this event, perform the following:</p> <p>To disable NTIO (which is enabled by default), a registry key and value must be created on the Windows machine that is running Netbackup. You can create the registry key and value by doing the following:</p> <ol style="list-style-type: none"> 1. Run regedit 2. Create the following key: HKEY_LOCAL_MACHINE\Software\VERITAS\NetBackup\CurrentVersion\Config\NTIO 3. Under this key, create a DWORD value named UseNTIO 4. Give DWORD a value of 0. A value of 0 disables NTIO.
3577	Reboot of ESX server during backup results in partial backup with successful status.	Do not restart an ESX server while doing a backup; the backup and restore could fail.
3194	NetBackup ignores CBT changes when CBT is enabled on a VM. During the backup of a CBT enabled VM, only the default 4 KB file is backed up and the actual changes to the pancbt.vmdk file are ignored.	<ol style="list-style-type: none"> 1) Enable BUSY_FILE_ACTION on the NetBackup client and set the repeat (retry) count to 8 (this could also be set to 4 or some other number). 2) Create a User Backup schedule with active execution window in the backup policy for the NetBackup client 3) Copy bpend_notify_busy script from the Master server (/opt/openv/netbackup/bin/goodies) to the NetBackup client (/usr/openv/netbackup/bin) as bpend_notify 4) Delete the stale actions file in /usr/openv/netbackup/busy_files/actions directory to allow a new actions file to be created. The actions file should contain the action that is expected of the BUSY_FILE_ACTION setting.
3009	CBT Error: Changed Block Tracking is only available on virtual machines starting with HW 7. This error message is used to show that the VM property capability.changeTrackingSupported is not present or set to false.	If a user sees this error message and the affected VM is at Hardware Version 7 (HW 7), the user may need to restart the vCenter or ESX server hosting the VM to clear this message.
2653 2654 3058 2762	Beginning with 2.2.0, the vmPRO appliance and the vCenter or ESX server(s) must be set to the same time zone.	

ID	Description	Workaround/Resolution
2356	vCenter versions below vCenter 4.0 update 2 are not supported. A vCenter bug that causes an internal server error during backup is resolved as of vCenter 4.0 update 2. (vCenter 4.1 also works great.)	See the online support article: vCenter Server Error
2239, 2460, 2473	When copying a VM from a CIFS-mounted vmPRO directory, or when copying a VMDK into /import mounted over CIFS, the copy operation may time out with the message such as The specified network name is no longer available, or No such file or directory, or File exists.	To resolve this issue, the Windows LANManager Workstation setting called SessTimeout must be set to a higher number of seconds. See the online support article: Copying a VM Times Out
1909	vmPRO does not work with VMware ESX configured with a HTTPS port number.	vmPRO does not work with VMware ESX configured with an HTTPS port number other than 443. VMware vCenter with alternate port number works fine.
1427	If a vmPRO appliance is added to a group (i.e., joins a master) while backups or copies are in progress, the data operations may be interrupted and may have to be restarted after the ESX servers have been reassigned to the node. This occurs so that the master can be configured to manage the ESX servers centrally and be able to assign them to nodes as needed.	Do not add VMs to a group when a backup is in progress.
1316	Snapshot out of space.	Before using vmPRO for a backup, ensure that your datastores have enough space for the snapshots that will be triggered by your vmPRO.
1258	Internal appliances that share the same UUID failed. These appliances were cloned.	Do not clone a vmPRO appliance; clones are not supported.
	Unix/Linux file systems may contain symbolic links that are absolute paths to directories that are outside of the mounted volume directory structure. These "absolute" symbolic links will not be backed up properly when accessing the file-level view over CIFS. Attempts to access these absolute symbolic links through the file-level view exported by our appliance (over CIFS) will result in a "permission denied" error. This means that if a backup program, such as TSM, does a file-level backup of a Linux file system, the "absolute path" type symbolic links will not be backed up, and will not be restored on recovery. This applies only to backing up Unix/Linux file systems.	

ID	Description	Workaround/Resolution
	A maximum of 4 streams per SmartMotion policy is recommended per vmPRO appliance.	

Documentation

The following documents are currently available for Quantum vmPRO.

Document Number	Document Title
6-67535	<i>Quantum vmPRO User's Guide</i>
	Quantum vmPRO Installation Guide

Contacting Quantum

More information about this product is available on the Service and Support website at www.quantum.com/support. The Service and Support Website contains a collection of information, including answers to frequently asked questions (FAQs).

For further assistance, or if training is desired, contact Quantum:

United States	Toll Free: 1-800-284-5101 Toll: +1-720-249-5700
EMEA	Toll Free: +800-7826-8888 Toll: +49-6131-3241-1164
APAC	Toll Free: +800-7826-8887 Toll: +603-7953-3010
For additional contact information:	www.quantum.com/support
To open a Service Request:	www.quantum.com/osr

For the most updated information on Quantum Global Services, please visit: www.quantum.com/support

