Quantum vmPRO Release Notes

Release	3.2.2
Build Number	7145-310
Supported Product	Quantum vmPRO
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Contents

Purpose of This Release

vmPRO 3.2.2 is a maintenance release that provides an important fix for a SmartRead issue in which virtual raw device map (vRDM) disks are not being properly backed up without an existing virtual machine (VM) snapshot. For more information, see Resolved Issues.

Quantum vmPRO Requirements

Before installing your vmPRO appliance, make sure that your environment meets or exceeds the following system requirements.

Component	Requirements
Virtual Server	At least one ESX/ESXi server, versions 4.0 update 2 or later, to host the vmPRO appliance and virtual machines (VMs) being backed-up. **Keep the following items in mind when configuring your ESX/ESXi servers:** • In environments with numerous ESX/ ESXi servers hosting multiple VMs, we recommend deploying a vmPRO appliance onto each ESX/ESXi server. • We recommend using paid versions of VMware ESX or ESXi servers. Free versions have various API limitations that prohibit vmPRO from functioning as designed. • You can manage your ESX/ESXi server(s) directly or through VMware vCenter. If you have the option of using a vCenter server, we recommend that you do so.
Hardware (Host Server)	• 12 GB of free disk space • 1280 MB of free RAM • Gigabit NIC port for data movement on the vmPRO host server
Network (Host Server)	We recommend you perform the following tasks in configuring your network: • Configure a static IP address. • Configure your network on the VLAN that has access to the vCenter or ESX/ ESXi servers to be protected. If you use third-party backup software, its client that connects to the vmPRO network must be able to access the VLAN, as well.

Component	Requirements
Web Browser (Client)	Any modern Web browser that supports 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	One of the following versions of Microsoft Exchange for mailbox recovery: • Windows 2008R2/Exchange 2010 • Windows 2008R2/Exchange 2013 • Windows 2012R2/Exchange 2013 For systems that use Microsoft Exchange servers running Windows 2008R2 and Exchange 2010, the Window Management Framework 3.0 must be installed.

Installing vmPRO 3.2.2 Offline

If your vmPRO appliance does not have Internet access, you can install vmPRO 3.2.2 offline.

Requirements

Before performing an offline upgrade, make sure of the following:

Read and Write Access

The system to which you download the upgrade RPM has read and write access to **\\\<vmpro-host>\quantum-upgrade**.

> **Note:** At this time, you must use CIFS shares for exporting **\quantum-upgrade**.

RPMs

Download the upgrade RPM using the following link:

https://mosaic.quantum.com/downloads/pancetera-unite-3-7145.x86_64.rpm

Install vmPRO 3.2.2 software updates offline

1. Download the upgrade RPM, and place it in the vmPRO appliance's **\quantum-upgrade** folder.

2. Access the vmPRO appliance's VMware vSphere client console.

3. At the command line, enter `system upgrade local`.

4. Confirm the upgrade, which starts automatically after confirmation.

5. Start a new instance of the vmPRO appliance's GUI to see the updates.

Resolved Issues

The following table lists the resolved issue for the Quantum vmPRO 3.2.2 release.

ID	Description	Resolution
6408	If a virtual machine (VM) does not have a snapshot of its virtual raw device map (vRDM) disks at the time of a SmartMotion backup, then the backup of the vRDM is invalid.	vmPRO 3.2.2 includes updated SmartRead logic resolving this issue. A snapshot of the VM no longer needs to exist for a valid SmartMotion backup of a vRDM disk to occur.

Known Issues

This topic presents known issues within the following vmPRO categories.

SmartMotion

The following table lists known issues for the SmartMotion™ feature within vmPRO version 3.2.2.

ID	Description	Workaround/Resolution
6123	SmartMotion backups can fail if you use a DXi appliance as your NAS target *with* an NFS share. Under heavy traffic loads, the DXi appliance can return **ENOENT** (no such file or directory) errors, potentially causing SmartMotion backups to fail.	Upgrading to DXi firmware version 2.3.0.3 or newer can potentially reduce the occurrence of this issue. **OR** You can use a DXi appliance with a CIFS share for SmartMotion backups.

ID	Description	Workaround/Resolution
6033	SmartMotion backups can fail when using with the Scalar LTFS appliance as a NAS target NFS share.	In order for SmartMotion to correctly back up virtual machines (VMs) to the Scalar LTFS appliance's NFS share, you must define the correct NFS mount options when configuring vmPRO storage. See the "NFS Mount Options" section in the *Scalar LTFS Appliance User's Guide*. As of version 2.3 for the Scalar LTFS appliance, the following mount options should be added to the vmPRO appliance's **Mount Options** field of the **Configure Storage** dialog box: `rsize=1048576,wsize=1048576,timeo=12000` See the vmPRO User's Guide.
6219	Infrequently, after recovering a mailbox, the Exchange Server's Windows Event Viewer displays a **Hung IO** error message when vmPRO dismounts the Exchange Server's database.	Disregard the message as the mailbox recovery and database dismount are successful. You can stop the message from displaying by increasing the value of the Exchange Server's Windows disk timeoutvalue registry key to the following: `HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\Disk\TimeOutValue`
5462	When a partial SmartMotion backup of a VM is started within one minute of the previous backup of that same 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.	Run SmartMotion backups at least one minute apart.
4327	SmartMotion backups can fail and issue an error referencing **<name>-s001.vmdk**.	The vmPRO appliance is trying to back up a **twoGbMaxExtentSparse** disk, which was migrated from a VMware Workstation to an ESX server. Neither ESX servers nor the vmPRO appliance support this type of older virtual disk format.

ID	Description	Workaround/Resolution
3798	Time for SmartMotion is not correct when running from the panshell.	When configuring your SmartMotion schedule, use the vmPRO GUI. Do not use the panshell command **smartmotion set schedule**.
3749	SmartMotion backups can freeze in the **running** status when the DXi V-Series (such as DXi V1000 or DXi V4000) target runs out of space.	Do not back up DXi V-Series appliances with the vmPRO appliance. If you manage a DXi V-Series appliance with your vmPRO appliance, make sure to disable the DXi V-Series appliance from being exported on the vmPRO appliance. If you want to backup your DXi V-Series appliance, replicate it to another DXi appliance.

VM Configurations

The following table lists known issues for VM configurations within vmPRO version 3.2.2.

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. See the vmPRO User's Guide.
3869	Changed Block Tracking (CBT) enable/reset operations for VMs with duplicate UUID on direct ESX configurations causes snapshot spamming.	Disable CBT for any VMs with duplicate UUID on the vmPRO GUI, and reboot the vmPRO appliance.
3665	DNS lookup port numbers do not open correctly in the firewall.	To ensure correct DNS name resolution, make sure that port 53 is open for the firewall.
1644	Quantum vmPRO does not currently support the following: • VMs with missing BIOS UUIDs[1]. The vmPRO appliance cannot export such VMs. • VMs configured with SCSI bus sharing cannot be snapshotted. The vmPRO appliance detects and excludes such VMs from the **/export** directory.	the vmPRO appliance's GUI now displays **Snapshots not supported by VMs configured with SCSI bus sharing** for non-supported VMs.
N/A	Multiple applications using the CBT feature on the same VM will interfere with each other.	When using the CGT feature on a VM, the vmPRO appliance must be the only CBT-enabled application managing the VM.

[1]For example, if the datastore hosting the VM goes down.

vCenter Plugin

The following table lists known issues for the vCenter plugin for vmPRO version 3.2.2.

ID	Description	Workaround/Resolution
1508	If a vCenter plugin is registered with a vmPRO appliance, you cannot easily remove it if you permanently disable the vmPRO appliance or if you change the appliance's IP address/hostname.	Remove the vCenter plugin before disabling the vmPRO appliance or changing the appliance's IP address/hostname.

Special Characters

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.

The following table lists the known issues in using special characters for vmPRO 3.2.2.

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 regarding the characters allowed in a file name when using a NAS target using a CIFS share. If restricted characters exist in a VM file, backup failures can occur.	According to the CIFS protocol, the following characters are not allowed in file names: "\", "/", "[", "]", ":", "+", "|", "<", ">", "=", ";", "?", ",", "*" If a VM includes files that contain any of these characters, there may be a backup failure when exporting the VM to a NAS target using a CIFS share. To avoid the backup failure, rename the VM files. 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 directory names do not display the same as they did in 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	Scalar LTFS character limitations can result in the following SmartMotion error: **No such file or directory**.	When using Scalar LTFS for storage, do not use a colon, ":", in file names.

ID	Description	Workaround/Resolution
3464	VMs that contain any of the following characters in their names and that are hosted on ESX 5 or 5.1 servers are not supported by VMware. • **#**– Number sign • **@**– At symbol • **{**– Opening brace • **}**– Closing brace	Be aware of the character and naming limitations listed in this table, and adhere to them.
3416 3419 3498 3495	You can specify a wide character directory name in the configuration file and the Recovery Wizard; however, if the import target datastore is on an ESX 4.X server, this wide character directory name causes problems.	Be aware of the character and naming limitations listed in this table, and adhere to them.
3283	Files that contain an illegal multi-byte sequence in the file name are not listed in the **/files** and **/recover/files** directories. 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: `XYZ.volume/1: Invalid or incomplete multibyte or wide character`.	Even though the directory listing appears empty, you can still access individual files within the directory by searching explicitly by file name.
3254	VMware does not support datastore names containing '[', ']', or '@' . In a 5.5+ vSphere environment, the at character '@' is supported.	Be aware of the character and naming limitations listed in this table, and adhere to them.
3216	The vmPRO appliance does not export VMs with names beginning with a dot "." .	Be aware of the character and naming limitations listed in this table, and adhere to them.

Miscellaneous

The following table lists miscellaneous known issues for vmPRO 3.2.2.

ID	Description	Workaround/Resolution
6316	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.	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.

ID	Description	Workaround/Resolution
6280	If User Account Control (UAC) is enabled on the Windows guest VM, vmPRO cannot configure either the Log Truncation Enable or the Exchange Mailbox Restore operations on the VM. This issue is a limitation of VMware VIX API.	On the guest VM, change the UAC setting to **Never notify**. See the steps to do so in the **Resolution** section of VMware KB article 2002995.
6274	Restarting the VMware Tools service on a guest VM during an Exchange Recovery may cause the recovery to stall. VMware Tools services restart automatically when the VMware Tool application is updated or re-installed, or when a user manually restarts the VMware Tools services.	**If the Exchange Recovery stalls** a. Cancel the Exchange Recovery. b. Manually clean up the Exchange server. c. Check that the VMware Tools service is running on the guest VM. d. Re-initiate the Exchange Recovery.
5882	Internal file systems within vmPRO can become read-only when the host vmPRO VM encounters busy I/O errors.	See the solution and workaround presented in the Solution section of the VMware KB article 51306.
5518	When a Windows user with Domain Administrator privilege uses the automatic install option **Install or upgrade Quantum VSS agent** to install VSS, the install fails if UAC is enabled. In a Windows environment, if the user is not the built-in admin user, then the following error might be encountered: `Installing Quantum VSS agent failed (VSS agent installation failed: QuantumVSS.exe not found on virtual machine (Q-1056))`	On the guest VM, change the User Access Control setting to **Never notify**. See the steps in the Resolution section of VMware KB article 2002995.
5481	SmartMotion backups fail if they are run after the appliance's system time has been changed and the vmPRO appliance has not been rebooted.	When the system time on an vmPRO appliance is changed, you must reboot the appliance before running a SmartMotion backup.
5273	When Commvault restores the **pancbt.vmdk** file to the staging area, it changes the file's size. This file resizing causes the vmPRO Recovery Wizard to fail.	If you use Commvault with your vmPRO appliance, the CBT feature should not be enabled for any VMs.

ID	Description	Workaround/Resolution
5250	Although you can accomplish a successful HP Data Protector restore to a DXi NFS share, vmPRO appliances cannot recover VMs.	If you use HP Data Protector with your vmPRO appliance, the CBT feature should not be enabled for any VMs.
5238	Linked clones are untested and unsupported.	Linked clones, which are a special feature of VMware hypervisors, are not supported. Do not use this VMware option.
4903	Hotadd disks remain attached to the vmPRO appliance after the vCenter server goes down.	The vmPRO applaince removes hotadd disks when the connection is restored.
4401	If you use the vSphere client to delete a VM while it is being backed up by the vmPRO appliance, the flat and ascii vmdk for the disk that is open in the **/export** directory will not be deleted on the datastore.	You must manually delete the files from the datastore if a VM is deleted while it is being backed up by vmPRO appliance.
4338	You cannot backup a vmPRO share with Symantec BE2012i. A communication failure occurs.	Several changes have been made to BE (2012) from BE (2010 R3). To accommodate these changes, you must make configuration changes to the BE release (2012). See Communication Failure Between Backup Exec 2012 and vmPRO to perform the required configuration changes.
3828	Deleting a node from the master vmPRO appliance while the master appliance is powered off does not remove the node. In addition, the master appliance is not updated. You may receive a message indicating that the removal was successful. This message is incorrect.	To remove a node from the master vmPRO appliance, the master appliance must be powered on.
3809	If you remove or add a datacenter while copying a CBT-enabled VM, an I/O error is generated when the pancbt file is copied. The backup fails at this I/O error.	Do not remove or add a datacenter during a backup.
3801	An error occurs when a pancbt file is copied into the **/import** directory.	See Single Step Recovery.

ID	Description	Workaround/Resolution
3755	Free ESXi servers generate messages in the log stating that the ESXi version does not support the operation.	Quantum vmPRO only fully supports the paid version of ESXi.
3751 3748	The vmPRO appliance does not support file-level recovery for volumes spanned across multiple disks.	You cannot currently perform file-level recovery for dynamic volumes that span across multiple disks.
3709	Enabling CBT requires the creation and removal of a snapshot if CBT is not already enabled on the hypervisor. When you enable CBT for a VM and CBT is *disabled* on the hypervisor, a script that 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, which is necessary to fully enable CBT.	We recommend enabling CBT only for VMs that are intended for backup.

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.	This is a known Netbackup problem that can be resolved by disabling **NTIO**.
		To recover from this event, disable **NTIO** (which is enabled by default) by creating a registry key and value on the Windows machine that is running Netbackup.
		Create the registry key and value
		  a. Run `regedit`
		  b. Create the following key:
		  a. `HKEY_LOCAL_MACHINE\Software\VERITAS\NetBackup\CurrentVersion\Config\NTIO`
		  c. Under this key, create a **DWORD** value named **UseNTIO**.
		  d. Give **DWORD** a value of **0** to disable **NTIO**.

3577	Rebooting an ESX server during a backup results in a partial backups with a successful status.	Do not restart an ESX server while performing a backup as the backup and restore could fail.

ID	Description	Workaround/Resolution
3194	NetBackup ignores CBT changes on CBT-enabled VMs. During the backup of a CBT-enabled VM, the vmPRO appliance only backs up the default 4 KB file, and ignores the actual changes to the **pancbt.vmdk** file.	**Resolve the issue** a. Enable **BUSY_FILE_ACTION** on the NetBackup client, and set the repeat (retry) count to 8[1]. b. Create a User Backup schedule with **active execution window** in the backup policy for the NetBackup client. c. 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**. d. Delete the stale actions file in the **/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	The following CBT error occurs: **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 is set to **false**.	If a user sees this error message and the affected VM is at Hardware Version 7 (**HW 7**), you may need to restart the vCenter or ESX server hosting the VM to clear this message.
2653 2654 3058 2762	Beginning with vmPRO version 2.2.0, the vmPRO appliance and the vCenter or ESX server(s) must be set to the same time zone.	Set the vmPRO appliance and the vCenter or ESX server(s) to the same time zone for vmPRO versions 2.2 and greater.
2356	Quantum vmPRO does not support vCenter versions below vCenter 4.0 update 2. A vCenter bug that causes an internal server error during backup is resolved as of vCenter 4.0 update 2.	See the online support article: vCenter Server Error.

[1]You can also set the retry count to 4 or some other number.

ID	Description	Workaround/Resolution
2239 2460 2473	When copying a VM from a CIFS-mounted vmPRO directory, or when copying a VMDK into the **/import** directory mounted over a CIFS share, the copy operation may time out with the following messages: **The specified network name is no longer available** **OR** **No such file or directoryexists**	To resolve this issue, you must set the Windows LANManager Workstation setting **SessTimeout** to a higher number of seconds. See the online support article: Copying a VM Times Out.
1909	The vmPRO appliance does not support VMware ESX servers configured with an HTTPS port number other than **443**.	Configure the VMware ESX server with HTTPS port number **443**. VMware vCenter servers can use alternate port numbers.
1427	If a vmPRO appliance is added to a group 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 interruption occurs so that the master can be configured to manage the ESX servers centrally, as well as be able to assign the servers to the nodes, as needed.	Do not add VMs to a group when a backup is in progress.
1316	Snapshots can run out of space.	Before using a vmPRO appliance for a backup, ensure that your datastores have enough space for the snapshots triggered during the backup.
1258	Cloned internal appliances that share the same UUID fail.	Do not clone a vmPRO appliance. Quantum vmPRO does notsupport cloned appliances.

ID	Description	Workaround/Resolution
	Unix/Linux file systems may contain symbolic links that are absolute paths to directories outside of the mounted volume directory structure. These absolute symbolic links are not backed up properly when accessing the file-level view over CIFS shares. Attempts to access these absolute symbolic links through the file-level view exported by the vmPRO appliance (over CIFS shares) result in a **permission denied** error. If a backup program, such as TSM, does a file-level backup of a Linux file system, the absolute path type symbolic links are not backed up, nor are they restored on recovery. This issue applies only to Unix/Linux file systems.	
	We recommend a maximum of 4 streams per SmartMotion policy per vmPRO appliance.	