



Release Notes

Release	DXi 2.3.0.5 Software (with DXi Advanced Reporting 2.3.1)
Supported Products	DXi4500, DXi4600, DXi6500, DXi6700, DXi6800, DXi8500, and DXi V1000
Date	January 2015

Contents

Purpose of This Release	2
Product Compatibility List	4
Supported Web Browsers	6
OST Plug-In Support	7
Replication Compatibility	9
Resolved Issues	10
Known Issues	11
Documentation	41
Supported Backup Applications	43
DXi Additional Notes	44
DXi V-Series Additional Notes	49
DXi Advanced Reporting Additional Notes	50
Contacting Quantum	51

Purpose of This Release

DXi 2.3.0.5 Software is a maintenance release for DXi4500, DXi4600, DXi6500, DXi6700, DXi6800, and DXi8500 disk backup systems, as well as the DXi V1000 virtual appliance. This release provides important bug fixes for Shellshock and the DXi blockpool. To review all bug fixes, see [Resolved Issues](#) on page 10.

In addition, DXi 2.3.0.5 Software includes all features introduced in DXi 2.3 Software (see [New Features in DXi 2.3 Software](#) on page 2).

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. 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.

For enhanced security, DXi 2.3.0.5 Software includes the updated BASH RPM to fix the Shellshock bug.

DXi Blockpool

DXi 2.3.0.5 Software includes bug fixes and enhancements to improve both blockpool reference count verification and space reclamation on the DXi disk backup systems, as well as the DXi V1000 virtual appliance.

New Features in DXi 2.3 Software

DXi 2.3 Software includes the following significant enhancements:

- **Web Browser Compatibility** - Access the DXi Remote Management Console using Google Chrome, in addition to Microsoft Internet Explorer and Mozilla Firefox.
- **Help Menu** - Quickly access documentation and learning resources on Quantum.com, as well as the built-in online help, using the **Help** drop-down menu.
- **Multiple Replication Targets** - Replicate data from a source DXi system to up to two target DXi systems. Each share or partition can be configured individually to replicate to one or both targets, and replication can be paused per target.
- **Replication Send Page** - The redesigned **Replication > Send** page lets you easily manage data replication for all shares or partitions. In addition, you can quickly enable or disable replication for one or more shares or partitions.
- **OST Status Page** - The enhanced **Status > OST** page provides statistics for recent OST optimized duplication as well as DXi Accent activity.

- **Replication Configuration Page** - The redesigned **Configuration > Replication** page allows you to manage both replication targets and sources using a single, unified interface.
- **Increased Replication Snapshots** - You can retain up to 32 snapshots for each share or partition configured for replication.
- **LTO-6 Support** - LTO-6 drives in Quantum Scalar libraries are supported for use with path to tape data movement and will display on the **Configuration > PTT > Physical Device Discovery** page.
- **Scheduler Page** - The redesigned **Configuration > Scheduler** page provides tools for quickly adding a new scheduled event, as well as for managing schedules for multiple shares or partitions.
- **Network Address Translation (NAT)** - You can specify a NAT IP address for the DXi to enable replication across a public network, when the source and target are located behind NAT-enabled routers.
- **Drive Replacement Page** - The **Drive Replacement** page provides step-by-step guidance to help you replace a single failed drive in your DXi6500, DXi6700, or DXi6800 system.
- **Software Upgrade Utility** - The **Software Upgrade Utility** can automatically check for software upgrades for your DXi system. If an upgrade is found, you can choose to download and install it to update your DXi to the latest software version.
- **Chargeback Reporting** - DXi Advanced Reporting enables per share reporting, also called chargeback reporting. Using the chargeback reports, you can see ingest, incoming replication, and outgoing replication statistics for individual CIFS/NFS shares, OST LSUs, or VTL partitions.

Note: The latest version of DXi Advanced Reporting (version 2.3.1) is included with DXi 2.3.0.5 Software. There is no need to install or update DXi Advanced Reporting after upgrading to DXi 2.3.0.5 Software.

- **Bug Fixes** - For more information, see [Resolved Issues](#) on page 10.

Product Compatibility List

The following table provides information about hardware compatibility with DXi 2.3.0.5 Software.

Component	Description
DXi4510	<ul style="list-style-type: none"> • 1 system • 1 RAID controller card • 4 x 1GbE ports • 2.2 TB usable capacity
DXi4520	<ul style="list-style-type: none"> • 1 system • 1 RAID controller card • 4 x 1GbE ports • 4.4 TB usable capacity
DXi4601	<ul style="list-style-type: none"> • 1 system • 1 RAID controller card • 4 x 1GbE ports • 4–12 TB nominal capacity (3.87–11.61 TB usable capacity)
DXi6510	<ul style="list-style-type: none"> • 1 Node • 1 RAID controller card • 2 x 1GbE ports • 8 TB usable capacity
DXi6520	<ul style="list-style-type: none"> • 1 Node • 2 RAID controller cards • 0 to 3 Expansion modules (JBODs) • 6 x 1GbE ports • 8 TB to 32 TB usable capacity
DXi6530	<ul style="list-style-type: none"> • 1 Node • 4 RAID controller cards • 2 to 9 Expansion modules (JBODs) • 6 x 1GbE ports • 24 TB to 80 TB usable capacity
DXi6540	<ul style="list-style-type: none"> • 1 Node • 4 RAID controller cards • 2 to 9 Expansion modules (JBODs) • 6 x 1GbE ports • 2 x 8Gb Fibre Channel ports (for OST path to tape only, not ingest) • 24 TB to 80 TB usable capacity

Component	Description
DXi6550	<ul style="list-style-type: none"> • 1 Node • 4 RAID controller cards • 2 to 9 Expansion modules (JBODs) • 2 x 10GbE ports plus 2 x 1GbE ports • 2 x 8Gb Fibre Channel ports (for OST path to tape only, not ingest) • 24 TB to 80 TB usable capacity
DXi6700	<ul style="list-style-type: none"> • 1 Node • 4 RAID controller cards • 2 to 6 Expansion modules (JBODs) • 2 x 1GbE Ethernet ports • 4 x 8Gb Fibre Channel ports (VTL, PTT) • 24 TB to 56 TB usable capacity
DXi6701	<ul style="list-style-type: none"> • 1 Node • 2 or 4 RAID controller cards • 0 to 9 Expansion modules (JBODs) • 6 x 1GbE Ethernet ports • 4 x 8Gb Fibre Channel ports (VTL, PTT) • 8 TB to 80 TB usable capacity
DXi6702	<ul style="list-style-type: none"> • 1 Node • 2 or 4 RAID controller cards • 0 to 9 Expansion modules (JBODs) • 2 x 1GbE Ethernet ports • 2 x 10GbE Ethernet ports • 4 x 8Gb Fibre Channel ports (VTL, PTT) • 8 TB to 80 TB usable capacity
DXi6802	<ul style="list-style-type: none"> • 1 Node • 1 to 3 Array modules (RBODs) • 0 to 3 Expansion modules (EBODs) • 3 x 1GbE Ethernet ports • 2 x 10GbE Ethernet ports • (Optional) Additional network adapter providing 2 x 10 GbE Ethernet ports or 4 x 1GbE Ethernet ports • 4 x 8Gb Fibre Channel ports (VTL) • 2 x 8Gb Fibre Channel ports (PTT or VTL) • 13 TB to 156 TB usable capacity

Component	Description
DXi8500	<ul style="list-style-type: none">• 1 System Node• 1 to 2 Metadata modules• 2 to 10 Array modules• 0 to 10 Expansion modules• 1 Fibre Channel switch (1TB and 2TB systems only)• 1 Ethernet switch• 1 redundant power system (RPS) for the Ethernet switch• 20TB to 330TB usable capacity
DXi V1000	<ul style="list-style-type: none">• 1 TB or 2 TB capacity <p>Note: For environment and system requirements, see the <i>DXi V-Series Quick Start Guide</i> (6-67611).</p>

Supported Web Browsers

Web browser software is not included with the DXi. You must obtain and install it separately. The DXi remote management console supports the following Web browsers:

- Mozilla Firefox 10 or later
- Google Chrome 21 or later
- Microsoft Internet Explorer 8, 9, or 10 (For Microsoft Internet Explorer 10, you must enable Compatibility View.)

DXi Advanced Reporting requires installation of Adobe Flash Player plug-in 10.x or higher.

Note: For correct operation of the remote management console, disable any pop-up blockers and enable JavaScript in your Web browser.

Note: DXi Advanced Reporting does not support the 64-bit version of the Flash Player plug-in on Linux. Instead, use the 32-bit Flash Player plug-in and a 32-bit browser.

OST Plug-In Support

The Quantum OST 2.9 plug-in is based on Symantec OpenStorage API specification Version 9.4.2 and 11.1. The following components are required for OST (OpenStorage) operation with the DXi-Series:

- Symantec NetBackup 7.1.x or later or Backup Exec 2010 R3 or later.
- If using the Symantec NetBackup 52xx Appliance platform, version 2.6.0.2 or later.
- Quantum OST Plug-in (downloaded separately through the remote management console or from the Quantum Service and Support Web site).
- Quantum OST storage server (included with the DXi software).

What's New

The Quantum OST 2.9 plug-in contains the following new features:

- Support for the NetBackup 52xx Appliance.
- Support for SUSE11 Linux x86 64-bit and DXi Accent on this operating system.
- Resolves several known issues, including OST backup failures not reported as failed in DXi systems with critical low space (less than 250GB). Due to this issue, it is recommended that all customers using DXi with Symantec OST upgrade to the 2.9 OST plug-in.

Supported Platforms and Software Versions

The following tables list the supported platforms and software versions for the DXi-Series:

- [Table 1](#) - Backup Exec 2010 R3, 2012, 2014
- [Table 2](#) - NetBackup 7.1.x (or later) and NetBackup 7.6

Note: For more information about OST plug-ins, see the OST Plug-in Installation Instructions (6-67074).

Table 1 Backup Exec Plug-in Compatibility List

Platform	Plug-in Version	Backup Exec 2010 R3	Backup Exec 2012	Backup Exec 2014	DXi Software Version
Windows 2003 R2 32-bit	2.9	Yes	Yes	Yes	1.4 or higher
Windows 2008 R2 32-bit	2.9	Yes	Yes	Yes	1.4 or higher
Windows 2003 R2 64-bit	2.9	Yes	Yes	Yes	1.4 or higher
Windows 2008 R2 64-bit	2.9	Yes	Yes	Yes	1.4 or higher

Platform	Plug-in Version	Backup Exec 2010 R3	Backup Exec 2012	Backup Exec 2014	DXi Software Version
Windows 2012 64-bit	2.9	Not Available	No	Yes	1.4 or higher
Windows 2012 R2 64-bit	2.9	Not Available	No	Yes	1.4 or higher

Table 2 NetBackup Plug-in Compatibility List

Platform	Plug-in Version	NetBackup 7.1+	NetBackup 7.6	DXi Software Version
RedHat Linux 5 and RedHat Linux 6 x86 64-bit	2.9	Yes	Yes	1.4 or higher
SUSE10 Linux x86 SP2 64-bit*	2.9	Yes	Yes	1.4 or higher
SUSE11 Linux x86 64-bit	2.9	Yes	Yes	1.4 or higher
Solaris 10 and Solaris 11 x86 64-bit	2.9	Yes	Yes	1.4 or higher
Solaris 10 and Solaris 11 SPARC 64-bit	2.9	Yes	Yes	1.4 or higher
HP-UX 11i v3 IA-64**	2.9	Yes	Yes	1.4 or higher
IBM AIX 6.1 and 7.1 Power 64-bit	2.9	Yes	Yes	1.4 or higher
Symantec NetBackup 52xx Appliance (2.6.0.2 or later).	2.9	Not Available	Yes	1.4 or higher
Windows 2003 R2 32-bit	2.9	Yes	Not Available	1.4 or higher
Windows 2003 R2 64-bit	2.9	Yes	Yes	1.4 or higher
Windows 2008 R2 64-bit	2.9	Yes	Yes	1.4 or higher
Windows 2012 64-bit	2.9	No	Yes	1.4 or higher
Windows 2012 R2 64-bit	2.9	No	Yes	1.4 or higher

* DXi Accent not supported.

** PA-RISC not supported.

Replication Compatibility

The following table indicates the DXi software levels that can replicate data to one another. Combinations not shown in the table are not supported.

		Replication Source				
		DXi 1.4.4 DXi 1.5	DXi 2.1.3	DXi 2.2.x	DXi 2.3.x	DXi 3.0.x
Replication Target	DXi 1.4.4 DXi 1.5	Yes	Yes	Yes	Yes	Yes
	DXi 2.1.3	Yes	Yes	Yes	Yes	Yes
	DXi 2.2.x	Yes	Yes	Yes	Yes	Yes
	DXi 2.3.x	Yes	Yes	Yes	Yes	Yes
	DXi 3.0.x	Yes	Yes	Yes	Yes	Yes

Note: The default number of allowed DXi replication sources is 10. If you need to change these default settings, contact Quantum Customer Support.

Note: If data is replicated from a DXi running DXi 2.x Software to another DXi running 2.x, that data cannot be failed back to a DXi running system software 1.x. Perform a failback to a DXi running DXi 2.x Software.

Resolved Issues

The following issues were resolved in DXi 2.3.0.5 Software.

Bug Number	SR Number	Description
40401	3306822 3362784 3380712 3415884	A tape cartridge that is mounted by two different Virtual Tape Drives (VTDs) causes backups to fail. The DXi system then becomes temporarily unavailable.
40402 40403	3356156	Network Data Management Protocol (NDMP) causes NetBackup True Image Restoration (TIR) file jobs to fail.
40404	3361594 424728	Message logging causes issues with OpenStorage (OST) data replication using Automatic Image Replication (AIR).
40405	3380110 3411278	OpenStorage (OST) I/O issues cause data replication jobs to deadlock.
40406	3352338	Network Data Management Protocol (NDMP) invalid messages causes Path-to-Tape (PTT) jobs to fail.
40407 40421 40422 40439	3384078 3403532 3418298 3421608	Untrusted reference counts cause blockpool space in the DXi system to not be reclaimed.
40408	3403532	Service alert ticket severity for untrusted blockpool reference counts modified.
40410	3419350	Communication issues on I/O socket connections during OpenStorage Technology (OST) data replication.
40412	1600768 3423982 3424044	A NULL pointer reference flaw in CentOS5 causes denial of service in a Virtual Local Area Network (VLAN).

Bug Number	SR Number	Description
40420	3363708 3367808 3366852 3373224 3383948 3392218 3392276 3396042 3416934 3417722 3430536 3437392	(DXi6700 only) DXi hangs in 3ware RAID initialization after a system reboot.
40591	3433698 3436552 3438024 3438968 3441482	(DXi6800 only) DXi system goes into diagnostic mode after a Storage Collect.
40808	3444174	The repair of a corrupted blockpool journal can significantly impact performance.
40845		Security fix to address the Shellshock vulnerability in the Bash shell (CVE-2014-6271, CVE-2014-6277, CVE-2014-6278, CVE-2014-7169, CVE-2014-7186, and CVE-2014-7187).
41025		Security fix to address the OpenSSL CCS Injection vulnerability (CVE-2014-0224)

Known Issues

DXi 2.3.0.5 Software has the following known issues:

- [Replication Known Issues](#) on page 12
- [Space Reclamation Known Issues](#) on page 17
- [Network Known Issues](#) on page 18
- [CLI Known Issues](#) on page 20
- [GUI Known Issues](#) on page 20
- [VTL Known Issues](#) on page 25
- [NAS Known Issues](#) on page 25
- [OST Known Issues](#) on page 27

- [Installation and Upgrade Known Issues](#) on page 32
- [Miscellaneous Known Issues](#) on page 35
- [Cosmetic Issues](#) on page 39
- [DXi Advanced Reporting Known Issues](#) on page 40

Note: The Scheduler command line interface (CLI) commands are deprecated in DXi 2.3.0.5 Software. These commands continue to function in DXi 2.3.0.5 Software but will be removed in a future software release. To schedule events, use the **Configuration > Scheduler** page in the remote management console instead.

Replication Known Issues

Bug Number	SR Number	Description	Workaround
7269		Replicating a filename which begins with & in a directory caused all of the files in the entire directory to replicate to the target.	Do NOT use the & character in a filename.
7915		Aborting a synchronization job when a namespace and synchronize are queued up aborts only the synchronization and leaves the namespace replication in a queued state.	Manually abort the namespace replication.
11683		If the same user exists on both source and target systems, the user should be prompted to overwrite permissions on the target system before synchronization or Directory/File Based replication occurs.	Set the same permissions on both source and target for the same user.
13617		If the replication target is changed while a namespace replication on a NAS share or VTL is in progress (such as due to a power outage), the replication may become stuck or stay queued up.	Cancel the queued job and restart the replication or wait until the next scheduled replication to take effect.
13692		No Service alert is logged for failback jobs when the failure is due to a power outage.	Re-initiate the failback after system resumes operation.
14974	1132956	A Target system will fail a failback operation if the replication target IP (source role) is not configured.	Use an IP address on the Target system to specify the network address of the Source system.

Bug Number	SR Number	Description	Workaround
18326		If Directory/File Based Replication is enabled for a share and then disabled at a later time, a replication report will not show any of the replication activity that occurred during the time that Directory/File Based Replication was enabled.	Re-enable Directory/File Based Replication for the share, then run the replication report again to see the historical replication activity.
18787		A manual or scheduled replication initiated immediately after changing the replication target may fail.	Perform the replication again.
18845		An error occurs if the same DXi is configured to be a source as well as the target for replication.	Do not include the configured target DXi in the list of source DXis.
20351		If data is replicated from a DXi running DXi 2.x Software to another DXi running 2.x, that data cannot be failed back to a DXi running system software 1.x.	Perform a failback to a DXi running DXi 2.x Software.
20674		An error is returned when attempting to delete a replication source if the source was added with an invalid (cannot be resolved) host name.	Pause replication before deleting a source with an invalid host name.
21612		When recovering or failing back an NFS share, the value of the Commit attribute (sync or async) is not preserved.	Manually reset the Commit attribute for the share after it is recovered on the target, or fail back the share to the source.
24005		A missing file error occurs during replication or space reclamation. This can occur if files were deleted while replication or space reclamation was in progress.	Retry the replication or space reclamation. To avoid this issue, do not delete files while performing replication or space reclamation.
24277		If several synchronization jobs are queued, and then while the first job is in progress the other jobs are canceled, the DXi will begin synchronizing the canceled jobs after finishing the first job in the queue.	Cancel the synchronization jobs again.
23228		When attempting to recover or synchronize a VTL partition, a capacity mismatch error occurs if the target DXi does not support the library emulation and drive type used by the original partition.	When creating the source partition, make sure to use a library emulation and drive type supported by the target.

Bug Number	SR Number	Description	Workaround
24731		If the configured replication target does not support VTL, enabling replication at the time of partition creation results in an error, and the partition is not created. If you then attempt to create the same partition again, with the same name and replication enabled, the DXi will become unresponsive and must be rebooted.	If the configured replication target does not support VTL, do not enable replication at the time of partition creation.
26167		When performing a failback from a DXi running 2.1 or 2.1.x software to a DXi running software version 2.0.x or earlier, the failback fails if a valid source IP address has not been specified on the DXi running 2.1 or 2.1.x software.	On the DXi running 2.1 or 2.1.x software, specify a valid Source IP Address on the Configuration > Replication > Send page.
29341		It is possible to configure two identical replication schedules for the same share or partition.	If this is done, one of the scheduled replication jobs will succeed and the other will fail. Ignore the failed job and delete the redundant schedule.
31605		On the Home page and the Status > Disk Usage page, the value for Data Size After Reduction is larger than the value for Data Size Before Reduction .	<p>This issue can occur when replication is enabled for a share or partition, but replication is rarely or never run. In this case, continuously replicated data accumulates on the target system, but this data is not included in the value for Data Size Before Reduction until a replication job is performed and a snapshot is saved.</p> <p>To correct the issue, manually initiate replication of the share or partition on the Replication > Send page, and allow the replication to complete.</p> <p>To avoid this issue in the future, schedule replication for the share or partition on the Configuration > Scheduler page. Alternately, you can enable Directory/File or Cartridge Based replication for the share or partition.</p>
31828		(DXi8500 only) When replication throttling is configured for a 10 GbE network interface, actual network performance is higher than the specified throttle value.	If replication throttling is required, configure network segmentation so that replication traffic uses a 1 GbE interface instead.

Bug Number	SR Number	Description	Workaround
32006		<p>An error occurs when attempting to enable replication on a VTL partition if there is an OST storage server on the system that uses the same name but with a different case.</p> <p>For example, if the VTL partition is named "Chrome" and the OST storage server is named "chrome", the error occurs. If the OST storage server is named "Chrome", the error does <i>not</i> occur.</p> <p>Note: NAS shares are not affected.</p>	<p>Use unique names for VTL partitions and OST storage servers.</p>
32098		<p>When replicating a share to a system running DXi 1.x Software while data is being written to the share, the replication service stops and a service ticket is generated</p>	<p>The replication service is automatically restarted. You can safely close the service ticket.</p> <p>To avoid this issue, upgrade the target system to DXi 2.x Software.</p>
32166		<p>The following administration alert occurs: Directory/File Based Trigger Delete FAILED. Wild cards are not allowed in path specification for replication.</p>	<p>Replication does not support asterisks [*] or ampersands [&].</p> <p>Remove or rename any affected files, then perform a synchronization to propagate the deletions to the target.</p>
36723		<p>When using the Replication Wizard to disable a share or partition to receive Directory/File or Cartridge Based Replication, the action appears to succeed, but the setting is not actually disabled for the share or partition.</p>	<p>To disable a share or partition to receive Directory/File or Cartridge Based Replication, use the Configuration > NAS, Configuration > VTL, or Replication > Send page.</p>
36725		<p>On the Replication > Actions page, clicking Enable to enable replication for all deduplicated shares and partitions results in an error message: Failed to enable continuous replication on Shares: <share_names> VTL: <vtl_names>.</p>	<p>This is expected behavior when some shares or partitions do not have a configured replication target. Make sure that all shares or partitions you want to enable for replication have a target configured.</p>
36746		<p>(DXi V-Series) Issues with replication may occur after the DHCP server database is purged: incoming and outgoing replication jobs might fail due to restart of network services, incorrect source IP address might be displayed for Directory/File or Cartridge Based replication, replication validation between source and target might fail.</p>	<p>These issues occur only if the DHCP server database has been purged (not typical), which can invalidate cached IP addresses. To restore normal operation, reboot the DXi V-Series.</p> <p>Note: This issue will not occur if a valid Source IP address (other than 0.0.0.0) is specified when adding a replication target.</p>

Bug Number	SR Number	Description	Workaround
36768		A replication source upgraded to 2.3.0.x from a prior software version does not display the latest synchronization job history information.	<p>To view synchronization job history information, generate a replication report on the Replication > Reports page.</p> <p>Note: A source running 2.3.0.x software only displays replication and synchronization status for a share/partition and target combination. If the share/partition is not configured to replicate to a target, then no replication or synchronization job status for that share/partition will be displayed.</p>
36811		Some chargeback reporting statistics are not maintained for failback operations.	<p>The Input Bytes for the failback operation can be viewed on the source for the failback operation. On the Replication > Send page, hold the cursor over the job status and note the value displayed for Original Data Size.</p> <p>Note: After the failback operation is complete, chargeback reporting on the target for the failback operation will accurately report the User Data Size of the data replicated.</p>
36907		When performing Directory/File or Cartridge Based replication, the Unpack Queue displayed in the GUI on the target is always empty, but replication is successful. This issue occurs only if the source and target share or partition have different names (but the same Sync ID).	Use the same name (as well as the same Sync ID) for both the source and target share or partition.
36991		Using the Replication Wizard to configure a share or partition to receive Directory/File or Cartridge Based Replication data results in an error if the DXi does not have a configured replication target.	Use the Replication > Receive page in the remote management console instead.
36999		Replication performance is slower than expected when replicating to a DXi running software version 1.x and encryption is set to None . (This can also cause system log files to become large.)	Select a different encryption setting for the target (128-bit) when replicating from a DXi running 2.3.0.x Software to a DXi running 1.x Software.

Bug Number	SR Number	Description	Workaround
37000		If replication is disabled and the re-enabled for a share or partition on the Replication > Send page, previously configured Directory/File or Cartridge Based Replication settings are lost.	This is expected behavior. When replication is disabled, all replication settings for the share or partition are cleared. To re-configure the share or partition for Directory/File or Cartridge Based replication, select it and click Configure . Note: You can disable or enable replication for all shares or partitions on the Replication > Actions page. This method preserves replication settings for all shares or partitions.
37001		When using the Replication Wizard to configure replication targets for shares or partitions, if multiple targets are defined on the DXi, replication is enabled to all targets even if only a single target is specified for a share or partition.	To enable replication to just a single target when multiple targets have been defined on the DXi, use the Replication > Send page.

Space Reclamation Known Issues

Bug Number	SR Number	Description	Workaround
20826		After upgrading the system software, the Space Reclaimed statistics are incorrect on the Space Reclamation > General page.	The statistics will be correct after space reclamation is run.
32702		When DXi is in critical low space mode it takes several attempts to start Space Reclamation.	Retry until Space Reclamation actually starts.
34571	1568062 1560808 1602614	After an unexpected stop and restart of the blockpool, space reclamation does not occur as expected.	Reboot the DXi.
36407		If the DXi has been joined to an Active Directory domain, and a network cable is unplugged during boot up, the DXi enters Diagnostic Mode.	Reconnect the network cable and reboot the DXi.
36913		Space Reclamation progress does not update during Stage 1: Compacting , and Total Progress appears to stop at 1%.	Wait for the Compacting stage to complete (this may take a long time). Total Progress will be updated when Stage 2 begins.

Network Known Issues

Bug Number	SR Number	Description	Workaround
8628		A replication IP address should not be required to configure the network if the user does not use replication.	Enter a "dummy" IP address. This will be fixed in a future revision.
20448		If a Domain Suffix Search List has not been specified on the Network page, and the DXi is added to an Active Directory server, the DXi is added to the domain with the suffix localdomain . After this, the DXi cannot be managed using Active Directory.	Specify the correct domain suffix in the Domain Suffix Search List before adding the DXi to an Active Directory server. (If adding multiple entries to the list, make sure the correct path is first in the list.)
20572		When using Active Directory, the DXi is not automatically added to the DNS server in the parent domain after the DXi is added to a child domain.	Cross domain joining is not supported by Samba. Instead, manually add a DNS entry to the DNS server.
20574		Unable to manage DXi Local Users and Groups from the Active Directory controller after the DXi is added to a child domain.	Log off of the Active Directory controller, then log back on. Users and groups will be listed correctly.
21603		If the DXi is assigned an IP address in the 10.17.21.0 to 10.17.21.24 range, a network connection to the DXi cannot be established.	The IP addresses in this range are reserved. Configure the DXi using a different IP address.
23808		A CIFS share cannot be mapped when using Windows 2008 R2 SP1 with the RequireSecuritySignature registry key set to 1.	Edit the Windows 2008 registry and set the following key to 0: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanWorkstation\Parameters\RequireSecuritySignature
27031		For ESXi servers, when the bonding mode is set to LACP the console and file <code>/var/log/messages</code> are filled with bonding: bond0: An illegal loopback occurred on adapter (eth0) messages.	Bonded vNICs are not supported. Bonding of virtual or physical NICs should be done using VMware utilities.*

Bug Number	SR Number	Description	Workaround
27826		GUI: Wizard should allow user to configure basic network BEFORE configuring file systems	For DHCP-based networks, this is not an issue. For non-DHCP-based networks, a valid, static IP will be requested during startup. If the customer is using DHCP, network settings are configured and GUI is fully functional. If not, admin personal will need to configure the network settings using the Configuration System Network page.
28049		NAS: Mode 0 Bonded network - yielding poor performance of outbound traffic - restores using CommVault running at 1MB/sec	Bonded vNICs are not supported. Bonding of virtual or physical NICs should be done using VMware utilities.*
30169 30805	1419732	Running the Network Analyzer on the Utilities > Analyzer > Performance page fails if NetServer is enabled on both the source (driver) DXi and the target DXi.	Only enable NetServer on the target DXi, and leave it disabled on the source (driver) DXi. To enable or disable NetServer, use the Utilities > Analyzer > Settings page.
30430		netperf -- -P 12865,12865 option does not set the src port to 12865 on a DXi V1000	Change traffic type to any or manually disable firewall on netserver.
31942		On the Configuration > System > Network page, enabling jumbo frames (MTU 9000) for a bonded 10 GbE network device causes breaks in network transmission.	Make sure to select MTU 1500 for bonded 10 GbE network devices.
34125		On the Configuration > System > Network page, editing the IP Address, Netmask, and Gateway for a network interface results in the following error: Destination Gateway: <ip_address> is not reachable by any of the current configured IP addresses.	Delete the existing network interface and add a new interface with the desired IP Address, Netmask, and Gateway .

CLI Known Issues

Bug Number	SR Number	Description	Workaround
13604		Enabling jumbo frames disrupts active network configurations.	Don't change the setting if I/O is running.
14032		By default the "syscli --getstatus jumbo" command displays only bonded network devices' jumbo frame status. If some network devices are not bonded (segmented) the "syscli --getstatus jumbo" will not display jumbo frame status for those devices when using the command without any option specified. Note: The --getstatus jumbo command has been deprecated.	To display all the network devices' jumbo frame status, use the "--all" option in the command (i.e. syscli --getstatus jumbo --all). To display a single network device jumbo frame status, specify the network device using the "--dev" option in the command. For example, "syscli --getstatus jumbo --dev eth0" command displays ETH0 device jumbo status.
35104		When using the --edit emailrecipient CLI command, the same e-mail address can be assigned to multiple recipients.	Use the Configuration > Notifications > Email > Recipients page in the remote management console to edit e-mail recipients.
32499		syscli --set datetime does not set date, time or timezone correctly.	Set the Date and Time using the DXi V1000's Web GUI.
36989		The syscli --list dedupvtl command fails if one or more deduplicated shares or partitions do not have a replication target configured.	Use the Configuration > NAS/VTL pages in the remote management console to view deduplication status for shares or partitions.

GUI Known Issues

Bug Number	SR Number	Description	Workaround
7874		Alert > Service Tickets > View Recommended Actions - Quantum Support link hyperlink missing.	Manually copy and paste the hyperlink into your browser to access the Quantum Support web page.
7935		When selecting all share administrators including default domain administrator for deleting, the GUI should display an error indicating that it can not delete the default domain administrator.	The default domain administrator can NOT be deleted.
11790 11792 11954		Username beginning with "#" or "\$" characters, or OST LSU names beginning with the "_" character are not displayed correctly.	Do not use these characters to begin usernames or OST LSU names

Bug Number	SR Number	Description	Workaround
15310		<p>When the system is running a backup and a partition is created with more than 5000 cartridges, the GUI displays:</p> <p>PLEASE WAIT . . .</p> <p>The system is either busy with a previous request or in the process of restarting the web-based interface.</p>	<p>This is normal operation. Wait until the GUI becomes responsive. Do NOT reboot the system.</p>
20673		<p>On the Email Home > On Demand page, after viewing and saving a configuration data report, the OK button is disabled.</p>	<p>Refresh the Web browser to return enable the OK button.</p>
21019		<p>Immediately after a fresh software install, the disk capacity statistics displayed in the remote management console are incorrect.</p>	<p>Wait a few minutes for the disk capacity statistics to be updated.</p>
22417		<p>When adding an SNMP community, the following error displays: The IP Address/Network Mask pair does not imply a valid network address. This error occurs even though the pair is in fact valid.</p>	<p>Leave the Network Mask field blank when creating the community.</p>
23165		<p>When deleting host access groups on the Host Mapping page, the job status indicator does not complete.</p>	<p>The host access groups were successfully deleted. To clear the job status indicator, navigate to another page in the remote management console, then navigate back.</p>
24567		<p>In the OST Wizard, on Step 3: Add LSUs, if you sort the list of LSUs by name, and then select one or more LSUs, the Delete button remains disabled.</p>	<p>Click Previous to return to the previous step, then click Next to return to Step 3. Select the LSUs to delete, and click Delete.</p>
24644		<p>On the Utilities > Diagnostics > System Diag File page, after clicking Generate New to create a new system diagnostics file, the message No file has been generated appears, and the Download Current button remains disabled.</p>	<p>Check the Admin Alerts page to see if an admin alert was generated. If the /scratch file system is out of space, the system cannot create a new diagnostics file, and an admin alert is generated.</p>
26174		<p>On the Configuration > VTL > Media > Actions, when Show All Media is selected in the Action drop-down box, an Unresponsive Script error dialog box may display if there is a very large number of media.</p>	<p>Keep clicking Continue on the error dialog box until the media displays. To avoid this error, view media for a particular partition, or apply a barcode filter.</p>

Bug Number	SR Number	Description	Workaround
26245		On the Configuration > Scheduler page, the horizontal scroll bar does not allow you to scroll to the right to see the entire view.	Navigate to a different page in the remote management console, and then navigate back to the Scheduler page.
26021		Web browser save password features (and similar third party browser add-ons) are not able to store and recall the DXi password when logging on.	To maintain proper security, enter the password manually each time you log on to the DXi.
27206		When generating a storage array diagnostics file, the operation does not appear to complete even after a long period of time elapses.	Press F5 to refresh the page. Or navigate to another page, and then navigate back to the Utilities > Diagnostics > Storage Array Diag File page.
28361		Generating a Storage Array Diagnostics File takes a long time to complete, but there is no warning about this on the Utilities > Storage Array Diag File page.	This is expected behavior. Generating a Storage Array Diagnostics File can require 60 minutes or more depending on the system configuration. Wait for the operation to complete.
29729		On the Configuration > System > Security > Data-at-Rest page, if an incorrect premium feature key (PFK) file is uploaded using Internet Explorer, an error message is not returned. Instead, a message displays stating the PFK file was successfully uploaded.	Use Firefox to upload a PFK file on the Data-at-Rest page.
29730		On the Configuration > System > Security > Data-at-Rest page, when uploading a premium feature key (PFK) file is uploaded using Internet Explorer, the border around the file name turns red.	The red border does not indicate an error. However, you should use Firefox to upload a PFK file on the Data-at-Rest page (see bug 29729 above).
29832		When a scheduled space reclamation event is deleted on the Scheduler page, the Administrative Activity Log records the deletion but does not record the type of event that was deleted.	When looking at the Administrative Activity Log , if you have questions about the type of event that was deleted, note the user and time of deletion, and then consult the appropriate person.
30735		On the Scheduler page, if a monthly or weekly event is edited and changed to a daily event, any subsequent attempts to edit a single instance of the event will fail.	Delete the recurring event and then create a new daily recurring event. You can then edit single instances of the new recurring event as needed.
30999		When creating or editing an event on the Configuration > Scheduler page, all times are relative to the workstation from which the GUI is accessed, rather than the DXi.	If the DXi is in a different time zone than the workstation used to access the GUI, make sure to account for the time zone differences when scheduling events.

Bug Number	SR Number	Description	Workaround
31164		The Status > Logs > Activity Log page is difficult to read and use if the Internet Explorer window is resized to a small size.	Use Firefox to view the page.
32101		On the Network page, it is possible to inadvertently add an empty entry to the Routing Details table for an interface. Once added, the empty route table entry cannot be deleted.	<p>The empty route table entry will not affect system operation. To remove the entry, do one of the following:</p> <ul style="list-style-type: none"> • In the IP Address table, first delete the interface associated with the empty route entry. Then add the interface again to the IP Address table, using the same settings, and click Update to store the changes. (Do <i>not</i> click Apply at the bottom of the page, as this will force a reboot of the system.) • Click Reset at the bottom of the page. This will undo all recent changes and reset the Network page to the last saved settings.
32279		If you are viewing the Utilities > Space Reclamation page while space reclamation is in progress, and then attempt to navigate to the Configuration page, the remote management console does not respond, and the Configuration page does not display.	Navigate to another page (for example, Home or Map) and then navigate to the Configuration page.
32410		An error occurs when attempting to log on to the DXi remote management console using Internet Explorer 10.	Enable Compatibility View in Internet Explorer 10, and then log on to the remote management console.
35426		On the Configuration > OST > Storage Servers page, if there are multiple pages of storage servers, the Delete button is unavailable (gray) if all storage servers on a page are selected even if all the storage servers meet the deletion criteria (no backup images or active connections).	This occurs if a storage server on another page does not meet the deletion criteria. De-select at least one storage server on the displayed page, and the Delete button will be available.
32609		On the Configuration > Scheduler > Calendar page, after you add or edit an event and specify recurrence until a date, if you hover the cursor over the event, the UNTIL date does not display in human readable format.	Open the event by double-clicking it to view the UNTIL date.

Bug Number	SR Number	Description	Workaround
32659		If you reboot or shut down the DXi using the Utilities > Reboot & Shutdown page and leave the web browser window open, after the DXi comes up again, refreshing the open web page causes the reboot or shut down command to be sent to the DXi again.	After you reboot or shut down the DXi using the Utilities > Reboot & Shutdown page, make sure to close the browser window. In general, you should not refresh the web browser (unless instructed to do so) or copy and paste URLs between tabs.
32660		After rebooting the DXi, some disk usage and data reduction statistics display a value of N/A in the remote management console.	Wait a few minutes for the statistics to update.
36799		In the Getting Started wizard, if the Previous button is clicked on Step 5: Confirm to return to Step 4: Date & Time , any changes that were previously made to the date and time settings are lost.	Reapply the correct date and time settings on Step 4: Date & Time , and then click Next to go to Step 5: Confirm .
36816		In the Replication wizard, on Step 2: System , deleting a replication target by clicking Delete is immediate and cannot be undone. Clicking Reset at the bottom of the page will clear changes to other settings, but will <i>not</i> restore a deleted target. Similarly, clicking Cancel on the wizard Step 4: Confirm will <i>not</i> restore a deleted target.	If you deleted the replication target by mistake, you can re-add it on Step 2 of the Replication wizard under Target DXIs .
36888		On the Configuration > OST > Accent page, after uploading certificate and key files and clicking Apply , a dialog box appears, but the message is truncated.	The complete dialog message is: TLS credential files were successfully installed. The system is rebooting to complete the installation. Please wait before logging in again.
36926		When adding a scheduled event on the Scheduler page, the message Saving, please wait displays, the but the save action does not complete, and the schedule is not set.	Refresh the browser window, and add the scheduled event again.

VTL Known Issues

Bug Number	SR Number	Description	Workaround
21688		The following error occurs when editing a partition to reduce the number of storage slots: Error: setting number of slots: 150. Error: -1	To remove slots, the slots at the end of the range of slots must be empty. Export cartridges from the highest numbered slots, and then edit the partition again.
22019		Media can be recycled (erased) on the Media Actions page even if it is write protected (WP).	The WP status is respected by the host but not the DXi. Do not recycle media that has data.
30808		When using the VTL Configuration Wizard , if you add a host group in step 5 but do not specify a host in the Host drop-down box, an error will occur when trying to confirm the settings in step 6.	Make sure to specify a valid host when adding a host access group.
31619		Creation of virtual tape cartridges is slow when data is being written to or read from NAS shares.	Avoid creating virtual tape cartridges during periods of NAS ingest.

NAS Known Issues

Bug Number	SR Number	Description	Workaround
19332		NFS recovery jobs performed with a supported backup application fail to complete.	Make sure the backup client system has a minimum of 8 GB of RAM.
19935		Attempting to delete a share while performing I/O on the share (for example, copying files to the share) results in an error. After this error occurs, the share cannot be deleted, and replication cannot be performed to the share.	Wait for I/O on a share to complete prior to deleting a share.
19936		A file/directory path with more than 244 characters cannot be accessed on a mapped NAS share.	Limit file/directory paths on a mapped NAS share to 244 characters or less.
21407		Empty files and directories can still be created on NFS shares when the DXi is in a low space condition.	Do not attempt to write files and directories to NFS shares on the DXi when it is in a low space condition. Run space reclamation to free up disk space before writing additional files.

Bug Number	SR Number	Description	Workaround
23218		When mounting NFS shares on Solaris clients using the noac option, performance is degraded.	Do not use the noac option when mounting shares, or use a non-Solaris client.
29705		Backup failures occur due to timeouts under heavy, concurrent VTL and NAS ingest.	Use the following CLI command to configure NFS shares for asynchronous mode: syscli --nfscommit async [--share <sharename>]
27908	1387940 1408612	Files copied to exported NFS and CIFS shares do not retain their original creation time.	To determine the creation time, examine the original file rather than the copy on the share.
28286/ 28106		Using Hotadd or SAN transport with BackupExec 2010r3 has unacceptable performance problems when using CIFS for target storage and when backing up VMs.	This is a known problem unique to BUE 2010r3. Symantec is addressing this issue. Refer to www.symantec.com/connect/backup-and-recovery for an available workaround. Using BackupExec 2010r3 with the Ethernet transport has produced acceptable results.
31755		Running a large number of concurrent backup and replication jobs may cause timeouts in the backup application, leading to random failure of NFS and CIFS backup jobs.	Reduce the number of concurrent backup jobs. Alternately, increase the timeout value in the backup application. For example, in NetBackup, increase the Client connect timeout and Client read timeout to the maximum (32767). See the online support article: http://www.symantec.com/business/support/index?page=content&id=HOWTO13869 In addition, on a Windows media server, change the SESSTIMEOUT value to 600 seconds (10 minutes). See the online support article: http://support.microsoft.com/kb/102067

OST Known Issues

Bug Number	SR Number	Description	Workaround
10041	1423609 1066048 1236048	Subsequent Optimized Duplication jobs may fail or become stuck when running jobs are canceled or stopped.	Restart the NetBackup services.
13795	1913763	Unable to delete undiscovered OST devices from Backup Exec 2010.	Reestablish connection from the Backup Exec OST device and the DXi system. The connection can be reestablished by re-starting Backup Exec services or rebooting the DXi system. Once the connection is established, the device will be discovered, and the you will be able to delete it. Alternately, upgrade to Backup Exec 2010 R2, which contains a fix for this bug.
15286		New OpenStorage Devices added to Backup Exec 2010 initially show as "Undiscovered".	Press Refresh in the Backup Exec View pull-down menu until the device show as discovered.
15322		Optimized Duplication Succeeds, but the following error is shown: V-79-8192-4881 - The count of Files and Directories processed is not available for this operation. The File and Directory count might be displayed as zero.	This is expected behavior. You are able to restore using the duplicated image with no issues.
20587		On a NetBackup media server, temporary files created during backups are not removed.	This issue is resolved. To remove any temporary files that were created by previous versions, delete all files in the / tmp/dm/shadow directory on the NetBackup media server.
23109		There is a small chance of observing a discrepancy in the aggregate statistics for DXi Accent and the statistics for individual media servers.	Navigate to another page in the remote management console, then navigate back.

Bug Number	SR Number	Description	Workaround
23253		<p>If a storage server is configured to use multiple LSUs, and if LSU spanning is configured, when one LSU gets full and NetBackup is handling a disk full condition, the following errors are logged in OST Plug-in log:</p> <pre> ERROR - 20110526 14:53:50 11818 /pgnimage.cpp:2500 Write to image failed. dm_error: - 812, STS Error: 2060031 ERROR - 20110526 14:53:50 11818 /pgnimage.cpp:2584 EXIT pgn_write_image: (out of space:2060031) ih=0x13c1ed00, bytesWritten=0 OR ERROR - 20110414 23:27:36 20648 /pgnbfst.cpp:1153 Received error(2060031) from server, OST_RESERVE_LSUSPACE for 262144 bytes failed </pre>	<p>If the NetBackup spanning worked as expected, and if the job completed successfully, these errors may be ignored.</p>
24628 26580		<p>When DXi Accent is enabled, a maximum number of jobs (backups, restores, and/or optimized duplications) can be run against the DXi. The maximum is 100 total jobs.</p> <p>When the limit is reached, the following error is logged to the OST Plug-in log:</p> <pre> VServer "hybrid-dedupe-no- encrypt" limit reached (limit 100). </pre> <p>Also, the following error is logged in the NetBackup progress log:</p> <pre> Critical bpdm (pid=12515) image open failed: error 2060020: storage server connection limit exceeded </pre>	<p>If the connection limit is reached on the DXi, the OST Plug-in retries for 300 seconds by default. If the connection cannot be established within 300 seconds, the connection times out and an error is returned.</p> <p>The default connection timeout is 300 seconds. The timeout value can be increased using the following setting in <code>/usr/Quantum/QuantumPlugin.conf</code>.</p> <pre> DATA_CONNECTION_BUSY_TIMEOUT </pre>

Bug Number	SR Number	Description	Workaround
26627		<p>When attempting to perform an optimized synthetic full backup using NetBackup running on a Windows-based media server, a normal synthetic full backup occurs instead. During a normal synthetic full backup, all data is read back to the media server, resulting in a longer backup window.</p> <p>Note: This issue usually occurs with existing storage servers and disk pools.</p>	<p>Make sure the storage server and disk pools are correctly configured for optimized synthetic full backups. To do this, run the following commands on the media server:</p> <pre>nbdevconfig -changests -stype Quantum -storage_server <ss_name> -setattribute nbdevconfig -changedp -stype Quantum -dp <dp_name> -setattribute OptimizedImage</pre> <p>To verify the configuration, run the following commands and make sure they return the flag OptimizedImage:</p> <pre>nbdevquery -liststs -U nbdevquery -listdp -U</pre> <p>For more information, see the following Symantec online support article: http://www.symantec.com/business/support/index?page=content&id=TECH77767</p>
26147		<p>When using OST with a media server configured with RedHat Linux and a Chelsio 10GbE card, restore operations take significantly longer to complete than backup operations.</p>	<p>Use the perftune.sh and ifup-local scripts (provided by Chelsio) to correctly set kernel parameters on the media server. To do this, you must copy the perftune.sh and ifup-local scripts to /sbin on the media server. For more information, refer to the Chelsio driver installation instructions (in the ReadMe file included with the driver).</p>

Bug Number	SR Number	Description	Workaround
27604		OST backup job fail with error 84; xcomm.c connection reset by peer	<p>In MS Windows, adjust the following TCP/IP setting by adding a subkey in the registry:</p> <p>Start the Registry Editor (Regedt32.exe), and then go to the following subkey: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters</p> <p>On the Edit menu, click Add Value, and then add the following information:</p> <p>Value Name: TcpMaxDataRetransmissions</p> <p>Value Type: REG_DWORD - Number</p> <p>Valid Range: 0 - 0xFFFFFFFF</p> <p>Default Value: 5 Decimal</p> <p>New Value: 10 Decimal</p> <p>Click OK, and then quit Registry Editor. Reboot after the registry change has been made.</p> <p>For more information, see http://support.microsoft.com/kb/q191143/</p>
29854		In NetBackup 7.5, when you click Refresh on the Change Disk Pool dialog box, the following error displays: The snapshot property of one or more volumes in the disk pool has changed. This property cannot be changed after initial configuration.	<p>To resolve this issue, refer to the following Symantec support article: http://www.symantec.com/docs/HOWTO67378</p>
30134		In NetBackup 7.5, when attempting to change a Replication operation to a Duplication operation on the Storage Lifecycle Policy Editing Window , the storage unit is not updated and remains blank.	<p>Make the change a second time. On the second attempt, the storage unit is correctly updated.</p>
30180		OST path to tape traffic is not routed directly from the DXi to the physical tape library, and instead is routed through the NetBackup media server, when the operation is initiated by a Storage Lifecycle Policy.	<p>To resolve this issue, refer to the following Symantec support articles: http://www.symantec.com/business/support/index?page=content&id=TECH193964 http://www.symantec.com/business/support/index?page=content&id=TECH184142</p>

Bug Number	SR Number	Description	Workaround
30429		<p>If an LSU that is enabled for Automatic Image Replication (AIR) belongs to a disk pool for which spanning is enabled, when an opportunity for spanning occurs, the LSU is not spanned, and NetBackup fails the backup with the following or similar error: Critical bptm (pid=24097) backups created for eventual duplication to remote master servers cannot span multiple volumes.</p>	<p>LSUs that are enabled for Automatic Image Replication cannot be spanned. If an LSU is configured for AIR, make sure spanning is disabled for the disk pool it belongs to.</p> <p>Note: When an LSU is configured for AIR, it can take up to five minutes for the change to be visible in NetBackup.</p>
30515		<p>Automatic Image Replication (AIR) jobs run between a UNIX media server and a Windows media server fail.</p>	<p>NetBackup does not support image replication between different operating systems. Always perform Automatic Image Replication between media servers that use the same operating system.</p>
31095		<p>NetBackup 7.5 and 7.6 may have problems recognizing or accepting the DXi replication topology configured for Automatic Image Replication (AIR).</p> <p>This occurs because Quantum's implementation of Automatic Image Replication does not correctly publish storage server names to NetBackup such that NetBackup can correctly distinguish between storage server names.</p> <p>Note: Quantum OST is unique among OST implementations in that it separates the DXi appliance from the OST storage server. In other implementations, the appliance is the storage server. On the DXi, the storage server is a logical construct which allows the DXi to have multiple storage servers.</p>	<p>When configuring AIR, use storage server names that are unique among the DXi systems involved in an AIR configuration.</p>

Bug Number	SR Number	Description	Workaround
36530		If concurrent optimized duplication is enabled, after an optimized duplication is performed, continuous replication data is not immediately cleaned up on the source or target system. This may affect the available capacity of the DXi.	Continuous replication data is not immediately deleted after an optimized duplication, but rather is aged out over time.
36868		When attempting to enable concurrent optimized duplication with the following CLI command: <pre>syscli --edit storageserver -- name <storage_server_name> -- concurrentoptdup enabled</pre> the command appears to complete successfully, but concurrent optimized duplication is not actually enabled.	Use the Configuration > OST > Storage Servers page in the remote management console to enable concurrent optimized duplication.

Installation and Upgrade Known Issues

Bug Number	SR Number	Description	Workaround
13711		If a power cycle occurs while uploading the software image, the system displays only an "Activation Error Occurred!" message.	Do not power cycle in middle of an upgrade. Begin the upgrade again.
13366		The system goes into diagnostic mode if a SAS cable is pulled during storage expansion upgrade.	Don't pull cables during storage capacity upgrade.
15362		During installation, warnings appear that the Inode Expand Min , Inode Expand Max , and Inode Expand Inc configuration variables are deprecated.	These warnings do not affect installation and can be ignored.
21270		When upgrading to DXi 2.0 Software, the 1.4.x diagnostic files are deleted.	Before upgrading to 2.0, save copies of the 1.4.x collect logs to a location that is not on the DXi.
24366	1293264	(DXi4500 only) When upgrading to 2.x Software, the following service ticket is generated: fs 'vol0':FSS on host 127.0.0.1 not currently accessible	This is expected behavior during a successful upgrade. You may safely close the service ticket.

Bug Number	SR Number	Description	Workaround
24372		<p>After upgrading from 1.4.x to 2.0.x, the following error appears in the upgrade1to2.out log.</p> <pre>*** Speedy VMC_MEDIA_TYPE_GENERIC table upload *** Error of appending row 9 Loarel: (903) duplicate value for primary or unique key Loarel: system error: 0 Loarel: (903) duplicate value for primary or unique key in adding row number 1</pre>	<p>You may safely disregard this error. The upgrade completed successfully.</p>
26455	1329228	<p>A custom setting for MI thread count in the /etc/init.d/ost file is lost when upgrading and is reset to the default value (20 threads).</p>	<p>Prior to upgrading, note the value for MI threads in the /etc/init.d/ost file, and then reset the value following the upgrade.</p> <p>Note: In general, in DXi 2.1.x Software or later, it is no longer necessary to alter the MI thread setting to optimize performance.</p>
28397	1395064	<p>If a DXi that is configured with DNS entries is disconnected from the network prior to a software upgrade, the upgrade will not succeed.</p>	<p>If the DXi must be disconnected from the network during an upgrade, remove any DNS entries on the Configuration > System > Network page prior to the upgrade.</p>
29410		<p>During a software upgrade, if the DXi is booted from the software DVD before the firmware (.fw) file is uploaded and activated, the following error occurs upon a subsequent attempt to activate the firmware image: The firmware file is not present.</p>	<p>Despite the error, the upgrade will succeed after the firmware image is activated. In the future, to avoid this issue, do not boot from the software DVD before activating the firmware image. Note that the software DVD is <i>not</i> required for 2.x to 2.x upgrades.</p>
30829		<p>After upgrading to 2.1 Software or later, the Integrity healthcheck is disabled.</p>	<p>The Integrity healthcheck is currently not supported in 2.1 or later software. Run the De-Duplication healthcheck instead.</p>
31603		<p>If an attached physical tape library is configured for Path to Tape (PTT), the configured devices may not be accessible after upgrading to DXi 2.2.1 Software or later from an earlier version.</p>	<p>DXi 2.2.1 Software or later requires a WWPN change for all Fibre Channel ports configured for PTT use. For details, see Path to Tape WWPN Change on page 45.</p>

Bug Number	SR Number	Description	Workaround
32344		Unable to configure 10G network after upgrading from 2.1.1_RR to 2.2.1_MC.	<p>The 2.1.1_RR release only provides two 1 GbE network interfaces in the GUI.</p> <p>The firmware upgrade process only updates the DXi V1000 software. It does not affect the DXi V1000 virtual machine vNICs configured.</p> <p>After a 2.1.1_RR firmware upgrade, you must clear the Web browser cache before logging on to the remote management console. This prevents Web page timeouts.</p>
36686		If the Software Upgrade Utility dialog box is open, and the session logs out due to inactivity, the Login window does not automatically display, and the Software Upgrade Utility remains open. Clicking the Check Now button results displays the following error: PollUpgradeJob not authenticated .	Close the Software Upgrade Utility , log back on to the system, and then access the Software Upgrade Utility . Clicking Check Now will now work as expected.
39578		If a software upgrade is available in the Software Upgrade Utility , the DXi system prevents a software upgrade by uploading a firmware file (.fw).	Use the Software Upgrade Utility to perform a software upgrade.

Miscellaneous Known Issues

Bug Number	SR Number	Description	Workaround
12454		If a single file is replicated using the Command Line Interface (CLI), the ACL for that file will be lost.	Use Synchronize option from the GUI. See the <i>DXi-Series User's Guide</i> for further information.
12523		Occasionally, the NTP server cannot be contacted, resulting in the following admin alert: WARNING: Unable to access NTP server/pool.	Check the NTP settings on the Configuration > System > Date & Time page and change if necessary. Before a valid NTP Server can be configured by hostname or selected from an NTP Server Pool on the Configuration > System > Date & Time page, a Primary DNS server must be configured on the Configuration > System > Network page. When updating the NTP settings through the Getting Started Wizard , configure the Primary DNS Server in the Network step prior to configuring the NTP server in the Date & Time step.
13621		NTP server error and Admin Alert are produced after changing from NTP 24-hr to 12-hr NTP format.	Verify time format has changed. If the time format has changed, ignore the alert.
15848		Backups jobs running to a DXi6550 with the optical option via a Dell 8024f switch may not complete or will complete with very slow performance.	Change the Dell 8024f settings from RSTP to Classic STP . Refer to the Dell switch documentation for more information.
17553		Long backups on a NetBackup client running on Windows 2003 can fail due to insufficient system resources.	Edit the registry settings on the client as described in the following Microsoft knowledge base article: http://support.microsoft.com/kb/304101/en-us
18370 19091 27478		Errors are received after a DSET log is generated on the Utilities > DSET page. After retrieving a DSET log, the system status can also briefly show the system board as "failed".	You may ignore these error messages, and download the DSET log as usual.
20336		When FC port 9 is pulled or down, a correct RAS ticket is generated, but Admin Alerts incorrectly reports that the wrong HBA FC port numbers (FC0, FC1, FC2, FC3, FC4, and FC5) are down.	Although the FC port numbering is incorrect, the Admin Alert is a valid alert indicating that a customer-facing FC link is down. This alert will be fixed in a future release.

Bug Number	SR Number	Description	Workaround
20707		If one of the processes in the DataPath cores, this can cause other processes in the DataPath to core as well. Process cores will results in RAS alerts. DataPath consists of the following processes: bpwd, bpwapid, qfsd, ost, ndmp, nas_control, nfslock, smb, nfs	If a core occurs, only the first core requires investigation, as it is the root cause. The subsequent cores are expected and can be disregarded.
23372		After a reboot, the DXi comes up in diagnostic mode, and attempting to retrieve a collect log does not proceed past the step Collecting -FC scst- .	Reboot the DXi again using the remote management console or the CLI.
24495		The online help content for the Utilities > Diagnostics > Healthchecks > General page does not include Contact Support in the list of possible healthcheck statuses.	If running a healthcheck results in the Contact Support status, contact Quantum Customer Support.
26066		When using Quantum Vision to view status and reporting data for a DXi, data is not collected from the DXi at the frequency specified in Vision.	Upgrade to Quantum Vision 4.1 or later.
26248		When a good drive is removed from a storage array, the resulting service ticket incorrectly states that the drive has failed.	Drive status is correctly report on the Status > Hardware > Details > Storage Arrays page.
26610	1349564	Spectra Logic T120 and greater libraries cannot be discovered on the Configuration > PTT > Physical Device Discovery page.	Before attempting to discover the Spectra Logic, place the library into STK L700 emulation mode. Data partitions must be individually configured to use the Sun/StorageTek L700 emulation mode. Only data partitions configured to use the STK L700 emulation mode are recognized by the DXi.
27883		Unable to use Firefox browser to access the iDRAC console on a DXi8500.	In Firefox, navigate to Options > Advanced > Encryption and click View Certificates . In the list, delete all Dell certificates.
28540		Backups are slow or fail when attempting to write a large number of small files (for example, 8KB files) to a NAS share.	The DXi is optimized for backup use (a small number of large files) rather than for use as primary NAS storage (a large number of small files). Do not use the DXi as primary NAS storage; instead, use the DXi with a backup application to store backup images on NAS shares.

Bug Number	SR Number	Description	Workaround
28699		When running a Retina Security scan, the following security event is reported: OpenSSH X11 Port Forwarding Session Hijack Vulnerability.	This is a false positive result and can be safely ignored. The version of OpenSSH included with DXi 2.1.x Software or later already includes the required security fixes.
28747		When running a Retina Security scan, the following security event is reported: IBM WebSphere Application Server JavaHashTable Denial of Service.	This is a false positive result and can be safely ignored. IBM WebSphere Application Server is not included with DXi Software.
28088		2 of 10 jobs failing with media write error (84) when 10 jobs run congruently backing up to multiple LSU.	Limit backups to no more than 8 at a time.
28250		NBU 7.5 fails to restore any Linux VMs.	This is a known NBU problem that Symantec is investigating. Refer to www.symantec.com/netbackup for an available workaround.
28402		No DAR activity seen on the DXi V1000. When running DXi V1000 on ESX4.0 U4, the network stats may not be reported when the ESX4.0 server is under load.	This is a limitation of the ESX4.0 hypervisor. This problem can be eliminated by upgrading the ESX server. This is not a problem with ESXi4.1 or later versions
28805		When running a Nessus Security scan, the following security event is reported: Signing is disabled on the remote SMB server.	SMB server signing is disabled by default to allow interoperability with a wide range of Windows clients. To enable SMB server signing, use the Configuration > NAS > Advanced Setting page in the remote management console.
29384		Plugging and unplugging a Fibre Channel cable on an Array module multiple times in rapid succession may cause the system to reboot.	After plugging or unplugging a Fibre Channel cable from an Array module, wait 10 minutes before plugging or unplugging it again.
29959		DXi Advanced Reporting cannot be accessed on a DXi with critically low or no free space.	Delete data and run space reclamation to free up space on the DXi.
31338		After removing a good hard drive and then reinserting it, the system does not generate a service ticket.	Do <i>not</i> remove a hard drive that has not failed. If you accidentally remove a good drive, wait 30 seconds before reinserting the drive.

Bug Number	SR Number	Description	Workaround
31887		<p>If Data-at-Rest Encryption is enabled when an Array module (RBOD) or Expansion module (EBOD) is not in an optimal state (for example, a rebuild is in progress), the GUI reports the following error: EnableHarddrivesecurity failed. In addition, the Data-at-Rest page shows Data-at-Rest Encryption as disabled.</p> <p>Attempting to enable Data-at-Rest again with the same passphrase or a new passphrase results in additional error messages stating enabling hard drive security failed or is not supported.</p> <p>Note: If you plan to use Data-at-Rest Encryption, Quantum recommends enabling it immediately after installation of the new system.</p>	<p>Wait for the RBOD or EBOD to become optimal again (check the Status > Hardware page). Then re-enable Data-at-Rest Encryption. You <i>must</i> enter the same passphrase that was used when initially attempting to enable Data-at-Rest Encryption.</p> <p>The GUI will report the following error: EnableHarddrivesecurity failed! because encryption had been enabled. User need to refresh the GUI and encryption status will change from disable to enable.</p> <p>This error message can be safely ignored. Refresh the Web browser, and the Data-at-Rest page will now correctly show Data-at-Rest Encryption as enabled.</p> <p>Note: If you use a different passphrase to re-enable encryption, the GUI will report the following error: EnableHarddrivesecurity: Hard drive security is not supported on this platform. Also, Data-at-Rest Encryption will <i>not</i> be enabled. You <i>must</i> use the same passphrase that was used the first time you tried to enable Data-at-Rest Encryption.</p>
32574		<p>On a DXi installed on VMware Workstation 9, a copy/paste of multiple directories pre-creates empty directories - then asks user if its OK to overwrite on Windows 2008.</p>	<p>Answering Yes to the prompt to overwrite allowed the client to correctly complete the copy/paste operation.</p>
35092		<p>When running a Retina Security scan, the following security event is reported: OpenSSH LoginGraceTime Denial of Service.</p>	<p>This is a false positive result and can be safely ignored. The version of OpenSSH included with DXi 2.3.0.x Software or later already includes the required security fixes.</p>

Bug Number	SR Number	Description	Workaround
36241		A service ticket is generated with the following summary: storage subsystem chassis PERC_H700_INTEGRATED_(SLOT_4) storage subsystem alarm WRITE_CACHE_0-BOOT : Component is disabled	It is expected behavior for the write cache to be disabled while a RAID controller battery backup unit (BBU) is charging. Delete the service ticket.
36777		When running a Retina Security scan, the following security event is reported: OpenSSH AllowTcpForwarding Port Bounce.	This is a false positive result and can be safely ignored. In DXi 2.3.0.x Software, OpenSSH is configured to not allow TCP port forwarding.

Cosmetic Issues

Bug Number	SR Number	Description	Workaround
11800		Although all NAS shares are deleted, if there is at least 1 OST share, the target will still have value and display grayed out.	This issue can be ignored and does not impact functionality.
11803		On the Ethernet performance page, the "average" drop-down menu reflects "all" ports and not just the "active" ports.	When viewing the Ethernet performance "average," be aware that the calculation is affected by potentially inactive ports, including one of the service ports.
12092		Service Ticket: Recommended Actions: Contains information on barcode/ cartridge when a NAS share fails.	This issue can be ignored and does not impact functionality. This will be fixed in a future release.
20505		If you have used the Configuration Wizards to configure the system, after the DXi reboots, the green check marks on the Wizards menu that indicate a wizard was completed no longer display.	This is cosmetic only. All settings made using the Configuration Wizards are retained after a reboot.
21497		The first time an NFS share is modified after a CIFS share is modified, a message appears incorrectly stating that the CIFS service was started successful.	Click OK to dismiss the message.
29034		The DXi remote management console does not display the SAS port layout for the DXi8500 3TB Node.	To see the SAS port layout on the rear of the System Node, refer to the <i>Quantum DXi8500 User's Guide</i> (6-67205-03).

DXi Advanced Reporting Known Issues

Bug Number	SR Number	Description	Workaround
30001		Exporting a graph to a JPEG or PNG graphic image in Internet Explorer 9 version 9.0.0.8112.16241 causes the browser to stop responding.	Using a newer version of Internet Explorer 9 or another supported browser.
34417		A description of the Capacity detail > Data not intended for deduplication graph is not included in the DXi Advanced Reporting online help.	The Capacity detail > Data not intended for deduplication graph displays the amount of data that will not be deduplicated (that is, data on shares or partitions that do not have deduplication enabled on the DXi).
35537		Used Disk Space may appear as unknown or NaN (not a number) if the selected time range begins before the installation date of the DXi.	Select a time range that begins after the installation of the DXi.
36736 36420		A description of the term Allocated on Disk is not included in the DXi Advanced Reporting online help.	<p>Allocated on Disk, which is shown in following graphs</p> <ul style="list-style-type: none"> • Overview > Data Volume Overview • Capacity > Disk Usage • Capacity detail > Allocated Disk Space <p>displays how much disk space has been allocated for all types data on the DXi and includes disk space that is free to be reclaimed for storing new backup data. Use this information to see the amount of allocated/used and free disk capacity on the system.</p>
36969		After the time zone is changed on the DXi, DXi Advanced Reporting does not log Ethernet or Fibre Channel I/O activity. This issue only occurs if the new time zone is west of the previous time zone. Note: This also affects ingest statistics displayed on the Home page in the remote management console	Ethernet and Fibre Channel I/O logging will resume after a number of hours equal to the difference in time zones. For example, if the new time zone is 8 hours west of the old time zone, logging will resume in 8 hours.
37007		DXi Advanced Reporting online help section Advanced Reports > About Reports and Graphs and the Capacity Detail report section do not present the information as displayed by the Capacity Detail Report graphs.	The correct information can be found in the <i>DXi Advanced Reporting User's Guide</i> .

Bug Number	SR Number	Description	Workaround
37008		DXi Advanced Reporting online help section Advanced Reports > About Reports and Graphs does not present the correct order and information displayed by the Capacity Report .	The correct information can be found in the <i>DXi Advanced Reporting User's Guide</i> .
37009		DXi Advanced Reporting online help for the Capacity delta bytes/h report does not include information regarding the Allocated Disk Space graph.	The correct information can be found in the <i>DXi Advanced Reporting User's Guide</i> .
37011		A description of the Space Reclamation > Space Reclamation/Compaction graph is not included in the DXi Advanced Reporting online help.	The Space Reclamation > Space Reclamation/Compaction graph displays the number of bytes freed by compaction. The beginning of compaction will show the total number of bytes of disk space that will be freed from the blockpool. The number of bytes will be reduced as compaction proceeds until there is no more disk space to be freed. Note: Compaction only runs under certain circumstances, including when disk space is extremely low, so there may be long periods when no data is shown on this graph.
37013		The Replication Ingest > Total per Replication report displays a blank screen.	When no replication ingest has occurred on the DXi, the database will be empty; therefore, the Replication Ingest > Total per Replication report will display a blank screen. This is normal behavior.

Documentation

The following documents are currently available for the DXi-Series:

Document Number	Document Title
6-67093	<i>DXi4000 Site Planning Guide</i>
6-67200	<i>DXi6701 and DXi6702 Site Planning Guide</i>
6-67206	<i>DXi8500 Site Planning Guide</i>
6-67128	<i>DXi4000 User Essentials</i>

Document Number	Document Title
6-67120	<i>DXi6500 User Essentials</i>
6-67193	<i>DXi6700 User Essentials</i>
6-67107	<i>DXi8500 User Essentials</i>
6-67925	<i>DXi V-Series User Essentials</i>
6-67092	<i>DXi4000 User's Guide</i>
6-67199	<i>DXi6000 User's Guide</i>
6-67205	<i>DXi8500 User's Guide</i>
6-67612	<i>DXi V-Series User's Guide</i>
6-67094	<i>DXi4000 Installation and Configuration Guide</i>
6-67196	<i>DXi6701 and DXi6702 Installation and Configuration Guide</i>
6-67090	<i>DXi6500 and DXi6700 Expansion Module Upgrade Instructions</i>
6-67203 6-67204	<i>DXi8500 Unpacking and Installation Guides</i> <ul style="list-style-type: none">• <i>Pre-Racked Configurations</i>• <i>Un-Racked Configurations</i>
6-67036	<i>DXi8500 Array and Expansion Module Upgrade Instructions</i>
6-67611	<i>DXi V-Series Quick Start Guide</i>
6-67079	<i>DXi-Series NetBackup and Backup Exec OST Configuration Guide</i>
6-67081	<i>DXi-Series Command Line Interface (CLI) Guide</i>
6-67211	<i>DXi-Series Backup Application Specific Path to Tape (PTT) Configuration Guide</i>
6-67082	<i>DXi-Series SNMP Reference Guide</i>
6-67353	<i>DXi Advanced Reporting User's Guide</i>

For the most up-to-date documentation for the DXi-Series, go to:

<http://www.quantum.com/ServiceandSupport/Index.aspx>

Note: For DXi V1000 Standard Edition users, documentation, community support, and other resources are available through Forum V (<http://www.quantum.com/forumv>, Quantum's online support forum for virtualization products.)

Supported Backup Applications

The following backup applications are supported for use with DXi 2.3.0.5 Software:

Backup Application	Revision
Symantec NetBackup	7.1.x and later
Symantec Backup Exec	2010 R3 and later
CommVault Simpana	9 and later
Veeam Backup & Replication	6.5 and later
EMC NetWorker	7.6.5 and later
IBM Tivoli Storage Manager	6.3.3 and later
HP Data Protector	7.1 and later
CA ARCserve	16 and later
Dell NetVault	9.0.x and later
Oracle Secure Backup	10.2 and later
ASG-Time Navigator	4.2 and later
Syncsort Backup Express	3.1.x and later

Note: Contact the backup application vendor for the latest software revision information.

DXi Additional Notes

For additional information about DXi 2.3.0.5 Software, refer to the following sections.

- [Email Reports](#)
- [Path to Tape WWPN Change](#)
- [Data Before Reduction Statistics](#)
- [Configuring a Constant Replication Bandwidth Throttle](#)
- [Making Multiple Changes to a Recurring Scheduled Event](#)
- [Free Space](#)
- [System Metadata](#)
- [Date & Time Configuration](#)
- [Network Hostname Restrictions](#)
- [Internet Explorer Security Level](#)
- [Changing the Number of Allowed Sources](#)
- [Quantum Vision](#)
- [StorageCare Guardian](#)
- [OST NetBackup Version](#)
- [Running Healthchecks](#)

Email Reports

Quantum recommends enabling **Email Reports** after upgrading to DXi 2.3.0.x Software (if not already enabled). When enabled, **Email Reports** periodically sends system configuration and status information to Quantum, including any software upgrades you have installed using the new **Software Upgrade Utility**. Quantum Support can use this information to provide a better support experience in the future.

To configure **Email Reports**:

- 1 Make sure a valid outgoing e-mail server is specified on the **Configuration > Notifications > Email > Server** page.
- 2 (Optional) Specify any additional recipients to receive the reports on the **Configuration > Notifications > Email > Email Reports > Recipients** page.
- 3 Make sure a weekly **Email Reports** schedule is configured on the **Configuration > Scheduler** page. Configure two weekly recurring events: one for **Status** reports and one for **Configuration** reports.

Path to Tape WWPN Change

DXi 2.2.1 Software or later requires a World Wide Port Name (WWPN) change for all Fibre Channel ports configured for path to tape (PTT) use when upgrading from an earlier software version. If the existing configured Fibre Channel path depends on switch alias zoning or host mapping on the physical library, then the Fibre Channel configuration between the DXi and the physical library needs to be reestablished using the new DXi initiator WWPN.

After upgrading, take one of the following actions depending on your PTT configuration:

PTT Configuration	WWPN Change Procedure
Physical library is directly connected to an initiator Fibre Channel port on the DXi.	Delete the old physical mapping and scan to re-discover the physical library on the Configuration > PTT > Physical Device Discovery page.
Physical library is connected to a Fibre Channel switch and uses Fibre Channel port zoning.	Delete the old physical mapping and scan to re-discover the physical library on the Configuration > PTT > Physical Device Discovery page.
Physical library is connected to a Fibre Channel switch and uses WWPN zoning.	Rezone the library using the new initiator WWPN. Then delete the old physical mapping and scan to re-discover the physical library on the Configuration > PTT > Physical Device Discovery page.

Note: You can view current WWPN information on the **Configuration > PTT > FC Initiators & Targets** page.

Note: If the host server does recognize the virtual tape library (VTL) after the upgrade, then reboot the host server.

Data Before Reduction Statistics

The categories that make up the **Data Before Reduction** value on the **Status > Disk Usage** page changed after the *User's Guide* and online help were finalized. Refer to the information below regarding **Data Before Reduction**. In addition, the amount of data in all OST storage servers appears on the **Home** page, under **Data Reduction Statistics**.

Data Before Reduction

The **Data Before Reduction** value represents the original, native size of all data that has been processed by the data deduplication and compression engines.

Data before reduction is divided into the following categories:

- **Incoming Replication** - The amount of data stored on the DXi via replication from another DXi. This does *not* include incoming data from

Directory/File or Cartridge Based Replication, or incoming data from Failback replication.

- **NFS Deduplicated Shares** - The amount of data stored in deduplicated shares configured in Network File System (NFS) format for Linux systems. This includes incoming data from Directory/File Based Replication, and incoming data from Failback replication.
- **CIFS Deduplicated Shares** - The amount of data stored in deduplicated shares configured in Common Internet File System (CIFS), also known as Server Message Block (SMB), format for Windows systems. This includes incoming data from Directory/File Based Replication, and incoming data from Failback replication.
- **Deduplicated Partitions** - The amount of data stored in deduplicated partitions. This includes incoming data from Cartridge Based Replication, and incoming data from Failback replication.
- **OST Storage Servers** - The amount of data stored in deduplicated OpenStorage (OST) storage servers. This includes incoming data for OST and DXi Accent.

Configuring a Constant Replication Bandwidth Throttle

The **Configuration > Scheduler** page can be used to create a recurring series of replication throttle events. However, if you want a replication throttle bandwidth to always be in effect at all times, you need to configure a constant replication throttle bandwidth. To configure a constant replication throttle bandwidth, do not use the **Scheduler** page to schedule the throttle event. Instead, use the following CLI command:

```
syscli --add throttle --service REP --bw <bandwidth><K|M>
```

For example, to enforce a constant replication throttle of 32KB/s at all times:

```
syscli --add throttle --service REP --bw 32K
```

Note: For more information about using CLI commands, see the *DXi-Series Command Line Interface (CLI) Guide* (6-67081).

Making Multiple Changes to a Recurring Scheduled Event

This section describes the expected result when making multiple changes to a recurring scheduled event in DXi 2.1 Software and later. This information applies only when a DXi administrator has performed *all* of the following steps in the order listed:

- 1 Create a recurring event having two or more instances in the series.
- 2 Edit one or more instances within the series, creating exception instances, using one or both of the following methods:
 - a Deleting (one or more instances within the series).
 - b Changing the start time (of one or more instances within the series).
- 3 Finally, change the base start time of the entire recurring event series.

The change in step 3 will cause the system to fill in the holes in the series that were left by the instances that were deleted or moved in step 2. This is the expected behavior.

If the instances that were moved in step 2b are no longer needed after step 3, they should be manually deleted. Similarly, if the new instances filled in by step 3 are not needed, then they should be manually deleted.

Free Space

The free space available on the DXi is the sum of free space in the file system and the free space available for ingest data in the deduplication engine. The presentation layers (OST/NFS/CIFS) looking for available free space on the DXi can only present the free space in the file system. This may make it look like the DXi is low on space. The free space in the deduplication engine is available for ingest and will be used for ingest automatically by the system.

System Metadata

The **System Metadata** statistic appears in two locations in the DXi remote management console:

- On the **Home** page, under **Disk Usage > Show More**.
- On the **Status > Disk Usage** page, under **Used**.

The **System Metadata** statistic represents all internal usage of disk space on the DXi. This statistic is calculated using the following formula:

$$\text{System Metadata} = [\text{File System Used Space}] - [\text{Reclaimable Space}] - [\text{Blockpool Reduced Data Size}] - [\text{Non-Deduplicated Data Size}]$$

The following values are used in this formula:

- **File System Used Space** - All space used by all parts of the system. This includes temporary files (such as those used by replication, space reclamation, and healthchecks), as well as cached files that have not yet been truncated.
- **Reclaimable Space** - The disk space that can be used for new deduplicated data. The DXi will automatically compact reclaimable space to create more free space as needed.
- **Blockpool Reduced Data Size** - The amount of deduplicated data in the blockpool that has non-zero reference counts (that is, data that is not a candidate for space reclamation). During space reclamation, this value will decrease as reference counts are decremented.
- **Non-Deduplicated Data Size** - The size of data stored on shares that do not have data deduplication enabled. This value increases or decreases as data is added to or removed from these shares.

Because **System Metadata** is affected by many values and represents the internal operations of the DXi, you might not always be able to easily correlate changes in this statistic to your typical usage patterns.

Date & Time Configuration

The date and time settings are configured using either the **Getting Started Wizard** at installation or the **Configuration > System > Date & Time** page in the remote management console.

Although you may specify the date and time manually for your system, we highly recommend that you configure your system to use NTP (Network Time Protocol) to maintain accurate date and time settings.

If you have configured at least one DNS (Domain Name Server) IP address during network configuration, then you should select one of the Timeserver Pools. The Timeserver Pool most appropriate for your system will depend upon your geographical location. For example, if you are located in the United States we recommend you select **us.pool.ntp.org**.

If you have not configured your system to utilize at least one DNS IP address, then you cannot use a timeserver pool and must specify an NTP timeserver IP address, directly. The **Date & Time** page will provide a recommended default timeserver address of **208.66.174.71**; however, it is possible that the default timeserver may occasionally fail to respond to an NTP query. In this case you may receive an error message attempting to apply NTP settings using the default timeserver address. If you experience an issue with the default timeserver, we recommend that you try an alternate timeserver address (such as **192.43.244.18**) or select another timeserver address from the NTP support Web site at: <http://support.ntp.org>

Network Hostname Restrictions

The network hostname must not exceed 64 characters.

Internet Explorer Security Level

The remote management console has been designed to function with Internet Explorer's default security level. If you happen to experience problems logging into the remote management console, then you can view/set your browser's security level by clicking on Internet Explorer's **Tools** menu, selecting the **Internet Options** menu item, and clicking on the **Security** tab in the new window that opens.

Changing the Number of Allowed Sources

The default number of allowed DXi replication sources is 10. If you need to change these default settings, contact Quantum Customer Support.

Quantum Vision

You must update to the latest version of Quantum Vision (4.1 or later) to operate with DXi 2.3.0.x Software.

StorageCare Guardian

You must update to the latest version of StorageCare Guardian (2.0.7 or later) to operate with DXi 2.3.0.x Software.

OST NetBackup Version

You must use NetBackup version 7.1.x or higher to resolve the following known issue in older versions of NetBackup:

- Subsequent Optimized Duplication jobs may fail or become stuck when running jobs are canceled or stopped.

Running Healthchecks

Quantum recommends running the **Healthcheck** utility (**Utilities > Diagnostics > Healthchecks**) daily to ensure data integrity.

DXi V-Series Additional Notes

For additional information about DXi V-Series with DXi 2.3.0.5 Software, refer to the following sections:

- [DXi V-Series Appliance Installation and Performance Recommendations](#)
- [Mapping Virtual Disks to Datastores](#)

DXi V-Series Appliance Installation and Performance Recommendations

The following recommendations can help your DXi V-Series appliance operate at its optimum in regards to performance and reliability.

- The DXi V-Series appliance should be installed on a host with enough available resources so that the appliance can perform at the desired service level. The more load your ESX host carries, the greater the chance the DXi V-Series guest machine will not perform up to your expectations. This is due to the resources (CPU, RAM, I/O, etc.) needed by the DXi V-Series appliance being consumed by other guest machines.
- The storage subsystem of the ESXi server contributes the most to the overall performance of the DXi V-Series systems. Storage subsystems that are over-used or that have high latencies for access can cause timeouts and errors within the DXi V-Series appliances and possibly within the VMware products. Quantum recommends that the DXi V-Series be installed with high performance storage systems such as direct attached storage, fibre channel SAN or 10GbE iSCSI and NFS storage. Maximum performance and the most reliable storage connectivity is best achieved with direct attached storage or Fibre Channel SAN. If iSCSI or NFS datastores are required, Quantum recommends configuring multiple datastores, utilizing multiple network access paths and distributing the DXi V-series virtual disks (VMDK) across the datastores.
- To support and monitor your DXi V-Series appliances, Quantum recommends that you install and use VMware's vCenter Operations Manager. This software provides automated monitoring of ESXi servers and automatically identifies issues.

Mapping Virtual Disks to Datastores

A default DXi V1000 deployment maps its virtual disks to a single datastore. A user can remap these virtual disks to dedicated datastores for higher performance. Such a configuration will improve overall DXi V1000 performance under heavy loads.

(Datastores are how ESX makes storage available to the vApp. The datastores are presented as virtual disks).

DXi Advanced Reporting Additional Notes

For additional information about DXi Advanced Reporting 2.3.0.5, refer to the following sections.

- [Historical Stats Not Always Visible After Upgrade](#)
- [Replication Reports Are Not Supported](#)
- [Logging On to DXi Advanced Reporting](#)
- [Decrease in Before Reduction Data](#)

Historical Stats Not Always Visible After Upgrade

Galaxy 2.0 changes the format of data presented by DXi Advanced Reporting. This format change makes concurrent viewing of DXi Advanced Reporting data collected before and after an upgrade to Galaxy 2.0 impossible. DXi Advanced Reporting will display data gathered before upgrade to Galaxy 2.0 ONLY when the timeframe covers dates before the DXi was upgraded to Galaxy 2.0. If the timeframe includes dates after the upgrade to Galaxy 2.0, then only the data collected after the upgrade is visible.

The historical data remains in the logging database. However, the data cannot always be displayed because of the way that the data was initially recorded. Since the older 1.x data and the newer 2.x data reside in different databases with different fields and limitations, such as Truncation start/end, some of these historical statistics do not display.

However, if you select a timeframe which is *entirely* before the 2.x upgrade (**END-Time < Upgrade-Time**), the system reverts to the old-style display. If you select a timeframe where the **END-Time > Upgrade-Time**, the display changes to the new style, eventually causing the left-hand porting of the graph, which refers to older times, to be blank.

Replication Reports Are Not Supported

The replication reports are not supported in this release.

Logging On to DXi Advanced Reporting

If you cannot access the DXi Advanced Reporting Login window, launch a supported Web browser on a workstation that has network access to the DXi system for which you want to view reports, and in the browser address box, type **http://<IP_address>/reports/index.html** where <IP_address> is the IP address of the DXi, and then press **Enter**.

Decrease in Before Reduction Data

Backup expiration by your backup application causes the Before Reduction data to decrease immediately in graphs like Data Volume Overview. In earlier versions of the software, backup expiration was not reflected in Before Reduction data until space reclamation was run. The effect of this change is an immediate drop in Before Reduction data any time you expire backups.

Contacting Quantum

More information about this product is available on the Service and Support website at <http://www.quantum.com/ServiceandSupport/Index.aspx>. The Service and Support Website contains a collection of information, including answers to frequently asked questions (FAQs). You can also access software, firmware, and drivers through this site.

For further assistance, or if training is desired, contact the Quantum Customer Support Center:

United States	1-800-284-5101 (toll free) +1-720-249-5700
EMEA	+800-7826-8888 (toll free) +49-6131-3241-1164
APAC	+800-7826-8887 (toll free) +603-7953-3010

For worldwide support:

<http://www.quantum.com/ServiceandSupport/Index.aspx>
