



Release Notes

Release	DXi 2.3.4 Software
Supported Product	DXi4701, DXi6701, DXi6702, DXi V-Series.
Date	January 2018

Contents

Purpose of This Release	2
Product Compatibility List	4
Supported Web Browsers	6
OST Plug-In Support	7
Replication Compatibility	8
Resolved Issues	9
Known Issues	13
Documentation	23
Supported Backup Applications	24

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DXi Additional Notes	25
DXi V-Series Additional Notes	29
DXi Advanced Reporting Additional Notes	30
Contacting Quantum	32

Purpose of This Release

DXi 2.3.4 Software supports the DXi4701, DXi6701, DXi6702, and DXi V-Series disk backup systems and contains important fixes and enhancements.

What's New in DXi 2.3.4 Software

This release provides important enhancements and bug fixes. To review all fixes, see [Resolved Issues on page 9](#)

Security Updates

The following security issues have been addressed:

- Samba vulnerability (CVE-2015-0240).
- Kernel vulnerability (CVE-2016-5195).
- OpenSSL security update (CVE-2016-2108).
- CentOS 5 NSS security update (CESA-2016:2779).
- Samba security updates (CVE-2017-7494).
- OpenSSH vulnerability (CVE-2016-3115).
- Man in the middle vulnerability (CVE-2017-11103).

System Enhancements

- Blockpool fixes.
 - Samba 4.5.3 with SMB3 support.
 - Service ticket enhancements allows quick dispatch of Dell drive FRU without customer logs.
 - To help Quality and Service provide customer support, Quantum collects system serial number, model, and software version when checking for software upgrades and after successful software downloads and upgrades. The information collected does not contain any customer data stored on the system.
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Spectre and Meltdown Vulnerability

Quantum is aware of the Spectre and Meltdown vulnerability (CVE-2017-5753, CVE-2017-5715, CVE-2017-5754). For additional information on this issue, please refer to:

<http://www.quantum.com/serviceandsupport/spectre-and-meltdown-vulnerability/index.aspx>

Product Compatibility List

The following table provides information about hardware compatibility with DXi 2.3.4 Software.

Component	Description
DXi4701 - NAS	<ul style="list-style-type: none"> • 1 Node • 1 or 2 RAID controller cards • 0 to 3 Expansion modules (JBODs) • 3 x 1 GbE ports • (Optional) 2 x 10 GbE Ethernet ports • 5 TB–135 TB usable capacity
DXi4701 - VTL	<ul style="list-style-type: none"> • 1 Node • 1 or 2 RAID controller cards • 0 to 3 Expansion modules (JBODs) • 3 x 1 GbE ports • (Optional) 2 x 10 GbE Ethernet ports • 2 x 8Gb Fibre Channel ports (VTL) • 5 TB–135 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

Component	Description
DXi V1000	<ul style="list-style-type: none"><li data-bbox="548 264 824 296">• 1 TB or 2 TB capacity <p data-bbox="537 306 1398 369">i Note: For environment and system requirements, see the <i>DXi V-Series Quick Start Guide</i> (6-67611).</p>
DXi V2000	<ul style="list-style-type: none"><li data-bbox="548 407 769 438">• 1 - 8 TB capacity <p data-bbox="537 449 1398 512">i Note: For environment and system requirements, see the <i>DXi V-Series Quick Start Guide</i> (6-67611).</p>
DXi V4000	<ul style="list-style-type: none"><li data-bbox="548 550 786 581">• 4 - 24 TB capacity <p data-bbox="537 592 1398 655">i Note: For environment and system requirements, see the <i>DXi V-Series Quick Start Guide</i> (6-67611).</p>

Supported Web Browsers

- Mozilla Firefox 36 or later.
- Google Chrome 40 or later.
- Microsoft Internet Explorer 11.

Additional Information

- For correct operation of the remote management console, disable any pop-up blockers and enable JavaScript in your Web browser.
- DXi Advanced Reporting requires installation of Adobe Flash Player plug-in 10.x or higher.
- 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.
- If you experience Web browser issues, update to the latest version of your web browser.

OST Plug-In Support

The Quantum OST plug-ins are based on Veritas OpenStorage API specification Version 9.4.2 and 11.1.

Required Components

- Veritas NetBackup 7.6.x or later or Backup Exec 2014 or later.
- If using the Veritas 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).

Supported Platforms and Software Versions

OST Plug-in support is available for the DXi4700, DXi6900, and DXi6900-S operating systems:

- Windows 32-bit
- Windows 64-bit
- RedHat Linux
- SUSE
- Solaris
- HP-UX
- AIX

OST Plug-in support is also available for the Veritas NetBackup 52xx/53xx Appliances.

The latest versions of all OST Plug-ins are available for download at:

<http://www.quantum.com/serviceandsupport/softwareanddocumentationdownloads/ostclientplugin/index.aspx>

For more information on OST Plug-in installation, see the *OST Plug-in Installation Instructions*.

Replication Compatibility

The following DXi software releases can replicate data to the DXi appliance. DXi software releases not shown in the list are not recommended.

		DXi 2.1.3	DXi 2.2.x	DXi 2.3.x	DXi 3.0.x	DXi 3.1.x	DXi 3.2.x	DXi 3.4.x
Replication Target	DXi 2.1.3	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	DXi 2.2.x	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	DXi 2.3.x	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	DXi 3.0.x	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	DXi 3.1.x	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	DXi 3.2.x	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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

i 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 2.3.4 Software.

Bug Number	SR Number	Description
30942	1620242 3441576	Blockpool Binary Large Object (BLOB) issue resolved.
31966	1480594 3656424	Blockpool bug fix to improve journal recovery performance after unclean shutdown.
39051	304831	Invalid opcode by IBM LTO-4/LTO-5 emulation resolved.
40823	3414326	ng-logger not turned on in samba virtual file system (VFS) module by default.
41080	3522012 629620	Clickjacking security enhancements.
41743	361018	Issues after shutdown during I/O resolved.
41802	3648112	Blockpool segmentation issue fixed.
42088	3722210	Browsable web directory security alerts resolved.
42811	3534182 311986	Virtual tape drive (VTD) write errors fixed.
43486	3517874	Ingest performance improvement for rare blockpool condition
44973	3646274 299782 313129	Blockpool start delay resolved.
45253	3656016	Isigetlinux.sh utility added for manual diagnostic use.
45309	3678478	Healthcheck and space reclamation unable to run.

Resolved Issues

Bug Number	SR Number	Description
45343	303319	Storage expansion failure fixed.
	348274	
	3749300	
45346	299416	Slow background close operation resolved.
	319600	
	373462	
	3715568	
	3725020	
	3734622	
45425	3692006	Blockpool performance issues.
45605	291645	Buffer cache size issue.
	293583	
	293578	
	294446	
	295525	
	295528	
	295532	
	304391	
	308800	
	3647638	
	3700266	
	3702460	
	3710034	
	3720776	
	3732452	
3734622		
3735230		
3737910		
3747250		
45917	322429	Binary large object (BLOB) issue resolved.

Resolved Issues

Bug Number	SR Number	Description
46114	293999	OpenStorage (OST) configuration lost after firmware upgrade.
46255	326200 328548 741714	Unaccounted disk space consumed after media unpack.
46341	296598 303244 309447 311986 320515 324919 342173	StorNext file system (SNFS) I/O error resolved.
46389	338656	Service Menu serial number date check issue fixed.

Resolved Issues

Bug Number	SR Number	Description
46681	77831	Enhancements made to hard disk drive (HDD) failure service tickets.
	99794	
	122409	
	143715	
	155745	
	161344	
	168386	
	167409	
	180911	
	193270	
	207983	
	215183	
	222987	
	236632	
	240470	
	244654	
	288221	
299295		
302320		
316439		
322040		
324094		
326036		
46988	78942	Service ticket indicates encryption drives not SED/FDE.
47249	329677	Domain controller prevents SMB share access and domain join issue resolved.
	346558	
	346830	
	348378	
47345	349333	OpenSSH Xauth Command Injection Vulnerability fix (CVE-2016-3115).

Bug Number	SR Number	Description
47422	356823	Blockpool issue resolved.
47457 47527		Dell Open Manage dsm_sa_datamgrd segv which caused DXi to SMITH
47596	356823	Safe replace used for cartridge metadata creates multiple Binary Large Objects (BLOBs).
47604	360205	Virtual Medium Changer (VMC) memory leak resolved.
47685	359422	Dell Open Manage omreport core which caused DXi to SMITH.

Known Issues

DXi 2.3.4 Software has the following known issues:

- [Replication Known Issues](#)
- [Network Known Issues](#)
- [CLI Known Issues](#)
- [GUI Known Issues](#)
- [NAS Known Issues](#)
- [RMAN Known Issues](#)
- [Installation and Upgrade Known Issues](#)
- [Miscellaneous Known Issues](#)
- [DXi Advanced Reporting Known Issues](#)

i Note: The Scheduler command line interface (CLI) commands are deprecated in DXi 2.3.4 Software. These commands continue to function in DXi 2.3.4 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
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.
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>
36725		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> .	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.

Bug Number	SR Number	Description	Workaround
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>i 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>
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.	<p>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.</p> <p>i 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.</p>

Network Known Issues

Bug Number	SR Number	Description	Workaround
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.

Bug Number	SR Number	Description	Workaround
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.
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.
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.
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
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.

Bug Number	SR Number	Description	Workaround
32499		(DXi V-Series) syscli --set datetime does not set date, time or timezone correctly.	Set the Date and Time using the DXi V1000's Web GUI.
36964		(DXi4701) The following command line interface (CLI) commands are available on DXi4701: <ul style="list-style-type: none"> • --install hdsecuritypfk • --install turbopfk • --list premiumstorageinfo 	These commands are not applicable to DXi4701. Using them has no effect.

GUI Known Issues

Bug Number	SR Number	Description	Workaround
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.
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.
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 <i>Saving, please wait</i> displays, but the save action does not complete, and the schedule is not set.	Refresh the browser window, and add the scheduled event again.
37698		(DXi4701) If the Expansion modules (JBODs) are disconnected and then reconnected, after the DXi is rebooted, the web GUI is not responsive.	Shut down the system, and then turn the system on again.
42575		Error message occurs on the Configuration > System > Security > Data-at-Rest page when attempting to enable Data-at-Rest encryption after a drive replacement.	After a drive replacement, wait until RAID rebuilding is complete before enabling Data-at-Rest encryption.

NAS Known Issues

Bug Number	SR Number	Description	Workaround
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.

Installation and Upgrade Known Issues

Bug Number	SR Number	Description	Workaround
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.

Miscellaneous Known Issues

Bug Number	SR Number	Description	Workaround
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.

Bug Number	SR Number	Description	Workaround
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.
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.

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>i 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>i 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>
43084		<p>(DXi6500/6700) A "software - Operational Failure" service ticket appears several hours after a hard disk drive (HDD) is removed from the system.</p>	<p>Disregard the service ticket.</p>

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.
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.
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 system:

Document Number	Document Title
6-67093	DXi4000 Site Planning Guide
6-67200	DXi6701 and DXi6702 Site Planning Guide
6-67128	DXi4000 User Essentials
6-67193	DXi6700 User Essentials
6-67925	DXi V-Series User Essentials
6-67092	DXi4000 User's Guide
6-68106	DXi4701 User's Guide
6-67612	DXi V-Series User's Guide
6-67196	DXi6701 and DXi6702 Installation and Configuration Guide
6-67611	DXi V-Series Quick Start Guide
6-67079	DXi-Series NetBackup and Backup Exec OST Configuration Guide
6-67081	DXi-Series Command Line Interface (CLI) Guide
6-67211	DXi-Series Backup Application Specific Path to Tape (PTT) Configuration Guide
6-67082	DXi-Series SNMP Reference Guide
6-67353	DXi Advanced Reporting User's Guide

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

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

i 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 2.3.4 Software:

Backup Application	Revision
Veritas NetBackup	7.6.x and later
Veritas Backup Exec	2014 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	16.5 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 2.3.4 Software, refer to the following sections.

- [Email Reports](#)
- [Path to Tape WWPN Change](#)
- [Data Before Reduction Statistics](#)
- [System Metadata](#)
- [Date & Time Configuration](#)
- [Network Hostname Restrictions](#)
- [Internet Explorer Security Level](#)
- [Changing the Number of Allowed Sources](#)
- [Quantum Vision](#)
- [StorageCare Guardian](#)
- [Running Healthchecks](#)

Email Reports

Quantum recommends enabling **Email Reports** after upgrading to DXi 2.3.4 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.

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

i 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 Accent.

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 system, 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 (4.3.3 or later) to operate with DXi 2.3.4 Software.

StorageCare Guardian

You must update to the latest version of StorageCare Guardian (2.0.7 or later) to operate with DXi 2.3.4 Software.

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 DXi 2.3.4 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, refer to the following sections.

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

Historical Stats Not Always Visible After Upgrade

Galaxy 2.0 Software 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.

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 system, 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/get-help/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:

Region	Support Contact
North America	1-800-284-5101 (toll free) +1-720-249-5700
EMEA	+800-7826-8888 (toll free) +49 6131 324 185
Asia Pacific	+800-7826-8887 (toll free) +603-7953-3010

For worldwide support:

<http://www.quantum.com/serviceandsupport/get-help/index.aspx#contact-support>
