Release Notes

Release	DXi 2.3.3.1 Software
Supported Product	DXi4500, DXi4600, DXi4701, DXi6500, DXi6700, DXi6800, DXi8500, DXi V1000, DXi V2000, DXi V4000
Date	August 2016

Contents

Purpose of This Release

DXi 2.3.3.1 Software is a maintenance release for DXi4500, DXi4600, DXi4701, DXi6500, DXi6700, DXi6800, and DXi8500 disk backup systems, as well as the DXi V1000, V2000, and V4000 virtual applicances..

What's New in DXi 2.3.3.1 Software

This release provides important enhancements and bug fixes. To review all fixes, see Resolved Issues .

Security Updates	The following security issues have been addressed: • Updates to Network Security Service (NSS) and OpenSSL to address SSL security issues (CVE-2015-4000). • Network Security Service (NSS) and Netscape Portable Runtime (NSPR) critical security update (CVE-2015-7181, CVE-2015-7182, CVE-2015-7183). • Addresses memory leak vulnerability in OpenSSL (CVE-2015-3195). • OpenSSL updated to address DROWN vulnerability (CVE-2015-3197, CVE-2016-0797, CVE-2016-0800). • Network Security Service (NSS) critical security update (CVE-2016-1950). • Blockpool OpenSSL update to address DROWN vulnerability (CVE-2016-0800).
DXi System Enhancements	• Blockpool enhancements. • OpenStorage (OST) enhancements. • Noise ingest performance improvements. • Catridge Based Replication improvements.

Product Compatibility List

The following table provides information about hardware compatibility with DXi 2.3.3.1 Software.

Component	Description
DXi4510	• 1 system • 1 RAID controller card • 4 x 1 GbE ports • 2.2 TB usable capacity
DXi4520	• 1 system • 1 RAID controller card • 4 x 1 GbE ports • 4.4 TB usable capacity
DXi4601	• 1 system • 1 RAID controller card • 4 x 1 GbE ports • 4–12 TB nominal capacity (3.87–11.61 TB usable capacity)
DXi4701 - NAS	• 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	• 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

Component	Description
DXi6510	• 1 Node • 1 RAID controller card • 2 x 1GbE ports • 8 TB usable capacity
DXi6520	• 1 Node • 2 RAID controller cards • 0 to 3 Expansion modules (JBODs) • 6 x 1GbE ports • 8 TB to 32 TB usable capacity
DXi6530	• 1 Node • 4 RAID controller cards • 2 to 9 Expansion modules (JBODs) • 6 x 1GbE ports • 24 TB to 80 TB usable capacity
DXi6540	• 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
DXi6550	• 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	• 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

Component	Description
DXi6701	• 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	• 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	• 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
DXi8500	• 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	• 1 TB or 2 TB capacity ℹ **Note:** For environment and system requirements, see the *DXi V-Series Quick Start Guide* (6-67611).

Component	Description
DXi V2000	• 1 - 8 TB capacity ℹ **Note:** For environment and system requirements, see the *DXi V-Series Quick Start Guide* (6-67611).
DXi V4000	• 4 - 24 TB capacity ℹ **Note:** For environment and system requirements, see the *DXi V-Series Quick Start Guide* (6-67611).

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 36 or later
- Google Chrome 21 or later
- Microsoft Internet Explorer 9, 10, or 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.

OST Plug-In Support

The Quantum OST 2.9 and 3.x plug-ins are based on Veritas OpenStorage API specification Version 9.4.2 and 11.1.

Required Compoents

The following components are required for OST (OpenStorage) operation with the DXi-Series :

- Veritas NetBackup 7.1.x or later or Backup Exec 2010 R3 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-ins are available for the following operating systems:

- Windows 32-bit

- Windows 64-bit

- Linux

- Solaris

- AIX

- HPUX

OST Plug-in support is also available for the Veritas NetBackup 52xx Appliance.

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* (6-67074)

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.

		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**	**DXi 3.1.x**	**DXi 3.2.x**
Replication Target	DXi 1.4.4 DXi 1.5	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	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	No	Yes	Yes	Yes	Yes	Yes	Yes
	DXi 3.2.x	No	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 2.3.3.1 Software.

Bug Number	SR Number	Description
45580		Secure Shred fixed.

In addition to the resolved issues above, DXi 2.3.3.1 Software includes all the issues that were resolved in DXi 2.3.3 Software.

Bug Number	SR Number	Description
29866	1444198 1469930 1608938	(DXi4500) Service ticket appears after fresh software install.
32437	1496534 1560736 3504410 3523998	Low swap space generates service tickets.
34934	1585130 3628446	Delays when using syscli via SSH to do remote system monitoring.

Bug Number	SR Number	Description
36289	1616776	StorNext file system (SNFS) ENOENT (no such file or directory) issue.
	1618298	
	1267280	
	1296192	
	1346162	
	1346518	
	1296192	
	1317742	
	1346162	
	1345618	
	1421786	
	3379600	
	3380362	
	3385386	
	3402946	
	3415792	
	3425578	
	3608612	
	3637452	

Bug Number	SR Number	Description
37435	3355236	Replication target system produces blockpool error.
	3369708	
	3363614	
	3408694	
	3410772	
	3440746	
	3464026	
	3479800	
	3487908	
	3490944	
	3500344	
	3507156	
	3550184	
	3597298	
	3609674	
	3617722	
	3627744	
	3671944	
39100	3392750	Hardware monitor cores and restarts.
39355	3593468	Memory leak issue.
43715		
39436	3567302	Software upgrade causes SQL error message.
	3568584	
	3632910	
39576	3650266	Multiple service tickets generated when HDD removed from node.
39631	3407048	Default maximum bandwidth throttle set too low.
40012	3616518	Possible replication or heathcheck core during reboot.
	3610880	

Bug Number	SR Number	Description
40013	3418876	Blockpool cluster body size issue.
	3571842	
	3594604	
40432	3434714	Cartridge based replication lock file cleanup.
40558	3423900	Enable consistency check on RAID controllers.
41335	3452754	Residual HoldLink files remain, causing fewer Binary Large Objects (BLOBs) to be deleted.
	3458230	
	3458340	
	3494292	
	3454806	
	3496712	
	3414804	
	3519592	
	3531964	
	3499284	
	3563316	
	3584066	
	3579522	
	3585152	
	3580166	
	3615518	
	3643702	
41357	3446668	GUI log contains high volume of debug information.
	3573512	
41757	3428338	Replication stream issues.
	3632980	
42052	3477650	Collect additional trigger request queue information.

Bug Number	SR Number	Description
42193	3508844	(DXi6700) Firmware check power reset issue.
	3488384	
	3635092	
42603	3670682	(DXi4701) Memory issue during fresh software install.
42875	3606152	Drive removal during system reboot causes backup jobs to fail.
	3610998	
	3626726	
	3647620	
	3668834	
	3671474	
42885	3537862	GUI issue due to UTF-8 encoding.
42920	3531348	Software issue causes Virtual Tape Library (VTL) to become unresponsive.
	3546098	
	3567302	
	3586560	
42978	3542674	Blockpool defragmentation issue.
43061	3521868	Simple Network Management Protocol (SNMP) script issues.
	3508592	
43160	3658950	StorNext File System (SNFS) bulk create file issue.
43292	3559976	(DXi6800) Capacity expansion issue with non-encrypted systems.
43412	3557252	OpenStorage (OST) issues when virtual file descriptor table is full.
43424	3560756	
	3597718	
43532	3558796	snapMD.pl fails if zipped content exceeds 4 GB.
43704	3577070	A NULL pointer reference flaw in CentOS5 causes denial of service in a Virtual Local Area Network (VLAN).
43713	3578766	OpenStorage (OST) recovery leaves residual locked files on target storage server.
	3586888	

Bug Number	SR Number	Description
43752	3577070	Network Interface Controller (NIC) Transmission Control Protocol (TCP) performance issues.
	3568538	
43808	3583604	Postgres improvements.
	3677770	
43860	3575374	Postgres sleep issue.
43869	3583190	Network File System (NFS) ingest performance improvements.
	3586424	
44032	A0606481	Transport Layer Security (TLS) connection vulnerability (CVE-2015-4000) addressed.
44149	3590546	Baseboard management controller (BMC) reset when installing firmware.
	3610838	
44427	1568062	Space reclamation issue after blockpool process recovery.
	1560808	
	1602614	
	3592462	
	3650252	
44466	3617004	Command line interface (syscli) enhancements to display DXi version information.
44507	3623028	Administrator Web GUI password in tsunami log.
44622	3610794	Virtual tape drive (VTD) check condition error path changed from 3/0/0 to 3/0C/0.
44641	3616018	(DXi8500) Configuration parameters set to default after system reboot.
44771	3646290	Blockpool commit log exceeds maximum allowed size.
44860	3649998	Collect file cleanup.
44877	3626270	Cartridge based replication
45019	3650660	

Bug Number	SR Number	Description
45033	3633294	IPMI and iDRAC not responsive.
	3644918	
	3619676	
	3639484	
45260	3677508	System status issue cause Vision to display error.
	3643928	
45287	3682342	Software upgrade issue due to blockpool settings.

Known Issues

DXi 2.3.3.1 Software has the following known issues:

- Replication Known Issues

- Space Reclamation Known Issues

- Network Known Issues

- CLI Known Issues

- GUI Known Issues

- NAS Known Issues

- OST Known Issues

- Installation and Upgrade Known Issues

- Miscellaneous Known Issues

- DXi Advanced Reporting Known Issues

Note: The Scheduler command line interface (CLI) commands are deprecated in DXi 2.3.3.1 Software. These commands continue to function in DXi 2.3.3.1 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.

Bug Number	SR Number	Description	Workaround
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**.	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. To correct the issue, manually initiate replication of the share or partition on the **Replication > Send** page, and allow the replication to complete. 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.
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.
36811		Some chargeback reporting statistics are not maintained for failback operations.	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**. 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.
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**. 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.

Space Reclamation Known Issues

Bug Number	SR Number	Description	Workaround
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.

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.)

Bug Number	SR Number	Description	Workaround
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.
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.
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.
36868		The CLI command to enable and disable Concurrent Optimized Duplication (**syscli --concurrentopdup**) is not working correctly.	Enable and disable Concurrent Optimized Duplication using the DXi Web GUI.
36964		(DXi4701) The following command line interface (CLI) commands are available on DXi4701: • **--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.

Bug Number	SR Number	Description	Workaround
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.
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 `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.
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.

Bug Number	SR Number	Description	Workaround
45187		Context sensitive help links all open to the **About Remote Management** page in Firefox browser versions 41 and above.	Use the Table of Contents (TOC) window to navigate the online help. Context sensitive help links work in other browsers.

NAS Known Issues

Bug Number	SR Number	Description	Workaround
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.

OST Known Issues

Bug Number	SR Number	Description	Workaround
36868		When attempting to enable concurrent optimized duplication with the following CLI command: `syscli --edit storageserver --name <storage_server_name> --concurrentopdup enabled` 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
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.
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.

Bug Number	SR Number	Description	Workaround
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.
31887		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._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._**Note:** If you plan to use Data-at-Rest Encryption, Quantum recommends enabling it immediately after installation of the new system.	Wait for the RBOD or EBOD to become optimal again (check the **Status > Hardware** page). Then re-enable Data-at-Rest Encryption. You *must* enter the same passphrase that was used when initially attempting to enable Data-at-Rest Encryption._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.`_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._**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 *not* be enabled. You *must* use the same passphrase that was used the first time you tried to enable Data-at-Rest Encryption.
32574		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.	Answering **Yes** to the prompt to overwrite allowed the client to correctly complete the copy/paste operation.

Bug Number	SR Number	Description	Workaround
37163		The LCD front panel and the system banner display Attention, and a service ticket is generated referring to a problem with omcliproxy.	This issue can be ignored and does not impact functionality. Delete the unneeded RAS ticket.
43084		(DXi6500/6700) A "software - Operational Failure" service ticket appears several hours after a hard disk drive (HDD) is removed from the system.	Disregard the service ticket.

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-Series:

Document Number	Document Title
6-67093	DXi4000 Site Planning Guide
6-67200	DXi6701 and DXi6702 Site Planning Guide
6-67206	DXi8500 Site Planning Guide
6-67128	DXi4000 User Essentials
6-67120	DXi6500 User Essentials
6-67193	DXi6700 User Essentials
6-67107	DXi8500 User Essentials
6-67925	DXi V-Series User Essentials
6-67092	DXi4000 User's Guide
6-67199	DXi6000 User's Guide
6-67205	DXi8500 User's Guide
6-67612	DXi V-Series User's Guide
6-67094	DXi4000 Installation and Configuration Guide
6-67196	DXi6701 and DXi6702 Installation and Configuration Guide
6-67090	DXi6500 and DXi6700 Expansion Module Upgrade Instructions
6-67203 6-67204	DXi8500 Unpacking and Installation Guides Pre-Racked Configurations Un-Racked Configurations
6-67036	DXi8500 Array and Expansion Module Upgrade Instructions
6-67611	DXi V-Series Quick Start Guide
6-67079	DXi-Series NetBackup and Backup Exec OST Configuration Guide

Document Number	Document Title
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

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 2.3.3.1 Software:

Backup Application	Revision
Veritas NetBackup	7.1.x and later
Veritas 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	16.5 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 2.3.3.1 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 2.3.3.1 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 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:

System Metadata = [File System Used Space] - [Reclaimable Space] -
[Blockpool Reduced Data Size] - [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 (4.3.3 or later) to operate with DXi 2.3.3.1 Software.

StorageCare Guardian

You must update to the latest version of StorageCare Guardian (2.0.7 or later) to operate with DXi 2.3.3 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 2.3.3.1 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 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:

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/index.aspx