



# Release Notes

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<b>Release</b>	DXi 2.3.2.2 Software
<b>Supported Product</b>	DXi V1000, DXi V2000, DXi V4000
<b>Date</b>	October 2015

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## Purpose of This Release

DXi 2.3.2.2 Software is a maintenance release for the DXi V1000, DXi V2000, and DXi V4000 virtual appliances.

## What's New

This release provides important enhancements and bug fixes. To review all bug fixes, see [Resolved Issues on page 6](#).

### DXi V-Series Certificate Expiration

DXi V-Series products use SHA-1 SSL certificates generated by Mosaic license server. Due to security concerns, the SHA-1 certificate expired on September 17th, 2015 and was replaced with the SHA-2 certificate.

The DXi 2.3.2.2 software upgrade addresses this certificate expiration in all DXi V-Series products.

## New Features in DXi 2.3 Software

In addition, DXi 2.3.2.2 Software includes all features introduced in DXi 2.3 Software:

- **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.
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- i Note:** The latest version of DXi Advanced Reporting (version 2.3.2) is included with DXi 2.3.2.2 Software. There is no need to install or update DXi Advanced Reporting after upgrading to DXi 2.3.2.2 Software.
- **Bug Fixes** - For more information, see [Resolved Issues on page 6](#).

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## Product Compatibility List

The following table provides information about hardware compatibility with DXi 2.3.2.2 Software.

Component	Description
DXi V1000	<ul style="list-style-type: none"> <li>• 1 TB or 2 TB capacity</li> </ul> <p><b>i Note:</b> 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>• 1 - 8 TB capacity</li> </ul> <p><b>i Note:</b> For environment and system requirements, see the <i>DXi V-Series Quick Start Guide</i> (6-67611).</p>

Component	Description
DXi V4000	<ul style="list-style-type: none"> <li>4 - 24 TB capacity</li> </ul> <p><b>i Note:</b> 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 17 or later
- Google Chrome 21 or later
- Microsoft Internet Explorer 9, 10, or 11

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

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

**i 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 and 3.0 plug-ins are 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).

## Supported Platforms and Software Versions

OST Plug-in support is available for the DXi2500-D, DXi4000, DXi4700-NAS, DXi4700 Multi-Protocol, DXi6000, DXi7500, and DXi8500

OST Plug-in support is available for the DXi2500-D, DXi4000, DXi4700-NAS, DXi4700 Multi-Protocol, DXi6000, DXi7500, and DXi8500

OST Plug-ins are available for the following operating systems:

- Windows 32-bit
- Windows 64-bit
- Linux

OST Plug-in support is also available for the Symantec 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)*

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## 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 3.1.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
	DXi 3.1.x	No	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 fallback to a DXi running DXi 2.x Software.

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## Resolved Issues

The following issues were resolved in DXi 2.3.2.2 Software.

Bug Number	SR Number	Description
43892		Mosaic SHA-1 certificates have expired.

In addition to the resolved issues above, DXi 2.3.2.2 Software includes all the issues that were resolved in DXi 2.3.2.1 Software.

Bug Number	SR Number	Description
42473	3520710	File system manager generates service ticket.
42609	3553510 3559654	
42772	3533484 3534182 3537132 3537514	StorNext file system (SNFS) allocation fails with no space when one or more stripe groups are nearly full.
40799	3535778 3541204	Segmentation faults occur during software installations and upgrades.
42480	3509406 3535590	DXi GUI network page lists ethernet ports 4 and 5 when a 10GbE HBA is not installed.
42968	3515120	Postgres error during system upgrade.

## Resolved Issues

Bug Number	SR Number	Description
42990	3535862 3537064 3539728 3540390 3541062	TLER setting on some drives may cause ECC-ERROR drive status and, rarely, failure to start.
43056	3547022	Replication compatibility with DXi7500.

In addition to the resolved issues above, DXi 2.3.2.2 Software includes all the issues that were resolved in DXi Software.

Bug Number	SR Number	Description
37109 41973	1639480 3491680	DXi8500 kdump kernel memory issues.
37226	1648572 3401776	DXi6500/6700 capacity upgrade deletes cluster files.
37483	1646990	Updates to <i>DXi8500 Array and Expansion Upgrade Guide</i> .
37924	3361366	Garbage collector command causes kernel kdump.
38113	3352852	DXi6700 StorNext File System (SNFS) fails to start after software upgrade.

Bug Number	SR Number	Description
38122	1563878	DXi system metadata appears high.
	1571296	
	1489518	
	1537072	
	1632642	
	1632692	
	1644128	
	3395272	
	3406736	
	3398942	
	3416586	
	3440176	
	3457010	
3456288		
38206	3369286	3ware RAID controller fails after producing a large amount of minicollects.
38261	3364808	DXi8500 PERC 700/800 RAID controllers write cache incorrectly reported as degraded after battery learning cycle.
38411	3379978	DXi6700 RAID CD auto rebuild for 3ware RAID controllers.
	3383606	
38416	1636858	Low Space Management does not manage free space at a level below critical low space.
	1615914	
	1638608	
	1645478	
	1641474	
	1648848	
	3300626	
	3329400	
	3376324	
3396332		



Bug Number	SR Number	Description
38631	3386116	StorNext File Systems (SNFS) incorrect log message.
	3396930	
	3407676	
	3454900	
	3473136	
	3503932	
38897	1604296	Full page flush tracking causes poor DXi system performance.
	1391758	
	1418090	
	1571878	
	1508064	
	1488784	
	1615240	
	1648096	
	3361942	
	3363004	
3352676		
38980	3306822	A tape cartridge that is mounted by two different Virtual Tape Drives (VTDs) causes backups to fail. The DXi system then becomes temporarily unavailable.
	3362784	
38981	3356156	Network Data Management Protocol (NDMP) causes NetBackup True Image Restoration (TIR) file jobs to fail.
38982	3361594	Automatic Image Replication (AIR) does not replicate data.
	3394362	
39122	3395230	<b>cvupdatefs -F</b> causes storage expansion issues.
39240	1579930	Independent Logical Unit Numbers (LUNs) labeling.
39242	3395230	<b>/var/log/DXi/SNFS-labels-history.txt</b> is not part of the collect file.
39267	3388982	Updates to <i>DXi8500 Array Expansion Upgrade Guide</i> .

Bug Number	SR Number	Description
39383	3401776	Updates to <i>DXi6500/DXi6700 Expansion Upgrade Guide</i> .
39562	3365012 3353030	Large File/Cartridge Based Replication queue uses large amount of CPU performance.
39674	3408752	Dell utilities .rpm file missing from DXi 2.3.0.5 Software upgrade firmware (.fw) file.
39763	3367808 3366852 3373224 3363708 3383948 3392276 3392218 3396042 3416934 3417722 3430536 3437392 3462286	DXi6700 hangs in 3ware RAID initialization after a system reboot.
39786	3379978	Sends STANDBY_IMMEDIATE command to solid state drives (SDD) during reboots and power down of DXi system.
39805	3352338	Network Data Management Protocol (NDMP) invalid messages causes Path-to-Tape (PTT) jobs to fail.
39875 41576	3388982 3429810	Storage Collect performance issues.
39887	3403532	Blockpool reference count verify performance issues.
39888	3403532	Blockpool untrusted reference count verify monitoring.
39889	3403532	Untrusted reference counts cause blockpool space in the DXi system to not be reclaimed.
39890	3403532	Untrusted blockpool reference counts service ticket severity set too high.
39891 39900	3396930 3379228	General improvements to upgrade script.
39892	3385550 3420174	Delete propagation from target VTL to source VTL causes media deletion on both systems.
39893	3395924 3391666	I/O communication to blockpool stops during blockpool verify after unclean shutdown.

Bug Number	SR Number	Description
39894	3399810	Incorrect replication host route on DXi source system does not allow external communication.
39895	3389372	Simple Network Management Protocol (SNMP) memory leak.
39896	3383618	DXi online help updates regarding VTL operations during blockpool verify operation.
39903	3306822 3362784	Blockpool issue when Virtual Tape Drives (VTD) request parallel file access.
39904	3398654	Blockpool issue when invalid arguments specified.
39905	1611984	Blockpool issue when attempt to pre-allocate for max clusters.
39906	1349928 1354978 1358756	Service ticket does not generate when blockpool runs out of filehandles.
39962	3419350	Communication issues on I/O socket connections during OpenStorage Technology (OST) data replication.
39963	3307792	Security issue fixed in collect log generation with Dell System E-Support Tool (DSET).
39964	1623554	Dell System E-Support Tool (DSET) RAW System Event Log (SEL) information deletes after DXi system reboot.
39965	1602488	"Synchronizing a Share or Partition" updates in DXi User's Guides.
39967	1449056 1454092	Backup Battery Unit (BBU) stuck in learning mode does not generate a service ticket.
39968	1234368	Hardware monitor script returns OK status when monitor start fails.
39969	1554790 3421948	Reference tags removed and recovered by Healthcheck.
39970	1555680	DXi system components log times not in sync.

Bug Number	SR Number	Description
39971	2200378 3311420 3354868 3356170 3357306 3357808	If the DXi system has been joined to an Active Directory domain, and a network cable is unplugged during boot up, the DXi system enters Diagnostic Mode.
39974	3365976	Invalid Network File System (NFS) administrative alerts.
39975	3369508 3418900	Improvements to exception handling in Replication processes.
39976	1559990 1565032 1619050 1623472 1628066 1627366 1644316 3304140 3375692	Replication issues occur in the following scenarios: <ul style="list-style-type: none"> <li>• Source DXi replicates to a target DXi. The target DXi is then removed as a replication target.</li> <li>• Allowed DXi source list on a target DXi has a DXi source where the DNS is not correctly configured or the host name/domain name changes</li> </ul>
39977	1648892	Storage expansion on a DXi system with critical low space causes segmentation fault.
39978	1568062 160222 1622540	Virtual Tape Drives (VTD) <b>cmd2</b> file not a failsafe recovery mechanism if <b>cmd1</b> file fails.
39979	1618024 3373344	<b>Generatessystemc</b> generates service ticket.
40016	1629318 3417864	Improved dedupe filter for NetWorker 8.1.0.1 software.

Bug Number	SR Number	Description
40072	1565588 1610486 1613246 1642356 3488754	DXi8500 NetApp Array drive with SMART error does not immediately fail over to a spare drive.
40116	3410276 3446032 3453396 3455002	Latest Apache update addresses known security issues (CVE-2014-0118, CVE-2014-0231, CVE-2014-0226, CVE-2014-5704).
40130	3392162 3407152	Space Reclamation Status progress indicators inaccurate.
40141	3356156	Network Data Management Protocol (NDMP) causes NetBackup True Image Restoration (TIR) file jobs to fail.
40144	3380110 3411278 3441326	OpenStorage (OST) I/O issues cause data replication jobs to deadlock.
40177	3426644	Added Virtual Tape Drives (VTD) fail to create and start in a Virtual Tape Library (VTL).
40227	3379978 3402620 3415624	DXi6700 solid state drive (SSD) firmware upgrade fails.
40274	3394090 3394996 3426842 3426902	DXi4701 memory expansion causes blockpool issues.
40279	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
40288	3395230	For some DXi6802 configurations, performing a capacity upgrade may cause the system to become unusable. If this occurs, restoring system function will wipe all data from the system.
		<b>i Note:</b> Note: Quantum recommends installing this update on all DXi6802 systems. To avoid data loss, you must install this update prior to performing a capacity upgrade on a DXi6802.
40438	3384078 3403532 3418298 3421608	Untrusted reference counts cause blockpool space in the DXi system to not be reclaimed.
40451 41392	3300230	Failed replication causes blockpool issues on target DXi system.
40590	3433698 3436552 3438024 3438968 3441482	Storage Collect causes the DXi6800 system to go into diagnostic mode.
40608	3431330	Replacing the System Node Chassis documentation updates in the DXi8500 Field Service Manual.
40686	3424336	Blockpool restoration issues when performing a failback.
40806	3444174	Journal file impacts system performance.
41108	3413196	DXi6700 statistics not recording and logged.
41373	3459440 3462382 3468984	Blockpool times out during binary large object (BLOB) verification.
41391	3431752 3438770	Systems management command line interface (SMcli) encounters excessive execution times due to network configurations.
41538	3456826	Kernel causes high CPU usage with Network File System (NFS) shares.

Bug Number	SR Number	Description
41685	3458836	Virtual Tape Library (VTL) becomes unresponsive when exporting or importing media from one partition to another.
41861	3475138	DXi6500 OpenStorage Technology (OST) optimized duplication (replication) jobs fail.
41862	3492602	DXi6500/6700 Expansion Upgrade Guide references wrong step.
41888	3405540 3468224 3493016	9690-9750 RAID conversion script commit prompt.
41911	3486230	DXi system timeout occurs during blockpool index loading.
41916	1618298 3368012 3379600 3380362 3385386 3394716 3404402 3407676 3427906 3444064 3458752 3461818 3470856	Blockpool upgrade generates a "General Software: Operation Failure" service ticket.
41932	3488698	Blockpool settings re-apply during a DXi system boot, causing long start up times.
41933	3488698	<b>/var/log/DXi/baseos.log</b> file is not collected.
41936	3487372	Nexpose security scanner detects OpenSSH CBC Mode Information Disclose Vulnerability.
41971	3477650	Cartridge Based Replication does not show pending cartridges in <b>/var/log/DXi/TBRstats_short_log.csv</b>

Bug Number	SR Number	Description
42020	3500316	File system error message not relevant.
42024	1461600	File/Cartridge Based Replication causes DXi6700 system to go into diagnostic mode.
42025	3441920	File/Cartridge Based Replication stops processing replication requests.
42026	3442700	Blockpool reference count check slow performance issues.
42085	3504014	DXi Advanced Reporting (DAR) does not correctly display Ethernet activity in Ethernet I/O Report.
42225	3499354	Virtual Tape Drives (VTD) fail to start, causing the DXi system to go into diagnostic mode.
42258	3482162	Virtual Tape Library (VTL) Remote Hosted Access causes slow GUI performance.
42263	3501692 3510076	Emails containing administrative alert information cannot be sent.
42259		Security fix to address delegation handling denial of service (CVE-2014-8500)

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## Known Issues

DXi 2.3.2.2 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](#)



- i Note:** The Scheduler command line interface (CLI) commands are deprecated in DXi 2.3.2.2 Software. These commands continue to function in DXi 2.3.2.2 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
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.
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 <b>Source IP Address</b> on the <b>Configuration &gt; Replication &gt; Send</b> page.
31605		On the <b>Home</b> page and the <b>Status &gt; Disk Usage</b> page, the value for <b>Data Size After Reduction</b> is larger than the value for <b>Data Size Before Reduction</b> .	<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 <b>Data Size Before Reduction</b> 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 <b>Replication &gt; Send</b> 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 <b>Configuration &gt; Scheduler</b> page. Alternately, you can enable Directory/File or Cartridge Based replication for the share or partition.</p>

Bug Number	SR Number	Description	Workaround
36725		On the <b>Replication &gt; Actions</b> page, clicking <b>Enable</b> 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 <b>Replication &gt; Send</b> page, hold the cursor over the job status and note the value displayed for <b>Original Data Size</b> . <b>i Note:</b> 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 <b>None</b> . (This can also cause system log files to become large.)	Select a different encryption setting for the target ( <b>128-bit</b> ) when replicating from a DXi running 2.3.0.x Software to a DXi running 1.x Software.
37000		If replication is disabled and the re-enabled for a share or partition on the <b>Replication &gt; Send</b> 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 <b>Configure</b> . <b>i Note:</b> You can disable or enable replication for all shares or partitions on the <b>Replication &gt; Actions</b> 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 <b>Domain Suffix Search List</b> has not been specified on the <b>Network</b> 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 <b>Domain Suffix Search List</b> 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.

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.
30169 30805	1419732	Running the Network Analyzer on the <b>Utilities &gt; Analyzer &gt; Performance</b> 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 <b>Utilities &gt; Analyzer &gt; Settings</b> page.
34125		On the <b>Configuration &gt; System &gt; Network</b> page, editing the <b>IP Address</b> , <b>Netmask</b> , and <b>Gateway</b> for a network interface results in the following error: <b>Destination Gateway: &lt;ip_address&gt; is not reachable by any of the current configured IP addresses.</b>	Delete the existing network interface and add a new interface with the desired <b>IP Address</b> , <b>Netmask</b> , and <b>Gateway</b> .

## CLI Known Issues

Bug Number	SR Number	Description	Workaround
35104		When using the <b>--edit emailrecipient</b> CLI command, the same e-mail address can be assigned to multiple recipients.	Use the <b>Configuration &gt; Notifications &gt; Email &gt; Recipients</b> page in the remote management console to edit e-mail recipients.
32499		(DXi V-Series) <b>syscli --set datetime</b> 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"> <li><b>--install hdsecuritypfk</b></li> <li><b>--install turbopfk</b></li> <li><b>--list premiumstorageinfo</b></li> </ul>	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 <b>Configuration &gt; Scheduler</b> 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 <b>Configuration &gt; OST &gt; Storage Servers</b> page, if there are multiple pages of storage servers, the <b>Delete</b> 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 <b>Delete</b> button will be available.
32609		On the <b>Configuration &gt; Scheduler &gt; Calendar</b> page, after you add or edit an event and specify recurrence <b>until</b> a date, if you hover the cursor over the event, the <b>UNTIL</b> date does not display in human readable format.	Open the event by double-clicking it to view the <b>UNTIL</b> date.
32659		If you reboot or shut down the DXi using the <b>Utilities &gt; Reboot &amp; Shutdown</b> 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 <b>Utilities &gt; Reboot &amp; Shutdown</b> 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 <b>Configuration &gt; OST &gt; Accent</b> page, after uploading certificate and key files and clicking <b>Apply</b> , 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 <b>Scheduler</b> page, the message Saving, please wait 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.

## 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: <b>syscli --nfscommit async [--share &lt;sharename&gt;]</b>
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: <b>syscli --edit storageserver - -name &lt;storage_server_name&gt; - -concurrenttopdup enabled</b> the command appears to complete successfully, but concurrent optimized duplication is not actually enabled.	Use the <b>Configuration &gt; OST &gt; Storage Servers</b> 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 <b>Software Upgrade Utility</b> dialog box is open, and the session logs out due to inactivity, the <b>Login</b> window does not automatically display, and the <b>Software Upgrade Utility</b> remains open. Clicking the <b>Check Now</b> button results displays the following error: <b>PollUpgradeJob not authenticated</b> .	Close the <b>Software Upgrade Utility</b> , log back on to the system, and then access the <b>Software Upgrade Utility</b> . Clicking the <b>Check Now</b> 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 <b>Configuration &gt; PTT &gt; Physical Device Discovery</b> 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 <b>Configuration &gt; NAS &gt; Advanced Setting</b> 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.

Bug Number	SR Number	Description	Workaround
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		<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 <b>Data-at-Rest</b> 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><b>i Note:</b> 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 <b>Status &gt; Hardware</b> 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 <b>Data-at-Rest</b> page will now correctly show Data-at-Rest Encryption as enabled.</p> <p><b>i Note:</b> 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		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 <b>Yes</b> to the prompt to overwrite allowed the client to correctly complete the copy/paste operation.
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.



## 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		<b>Used Disk Space</b> 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 <b>Replication Ingest &gt; Total per Replication</b> report displays a blank screen.	When no replication ingest has occurred on the DXi, the database will be empty; therefore, the <b>Replication Ingest &gt; Total per Replication report</b> will display a blank screen. This is normal behavior.

## Documentation

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

Document Number	Document Title
6-67925	DXi V-Series User Essentials
6-67612	<i>DXi V-Series User's Guide</i>
6-67611	<i>DXi V-Series Quick Start Guide</i>

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.)

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# Supported Backup Applications

The following backup applications are supported for use with DXi 2.3.2.2 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	16.5 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.

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## DXi Additional Notes

For additional information about DXi 2.3.2.2 Software, refer to the following sections.

- [Email Reports](#)
- [Path to Tape WWPN Change](#)
- [Data Before Reduction Statistics](#)
- [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 2.3.2.2 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 <b>Configuration &gt; PTT &gt; Physical Device Discovery</b> page.

PTT Configuration	WWPN Change Procedure
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 <b>Configuration &gt; PTT &gt; Physical Device Discovery</b> 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 <b>Configuration &gt; PTT &gt; Physical Device Discovery</b> page.

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

**i Note:** If the host server does not 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.

## 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 (4.3.3 or later) to operate with DXi 2.3.2.2 Software.

## StorageCare Guardian

You must update to the latest version of StorageCare Guardian (2.0.7 or later) to operate with DXi 2.3.2.2 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.

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## DXi V-Series Additional Notes

For additional information about DXi V-Series DXi 2.3.2.2 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).

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## 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.

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## 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>