# Release Notes

| Release | DXi 2.3.2.1 Software |
|---|---|
| Supported Product | DXi4500, DXi4600, DXi4701, DXi6500, DXi6700, DXi6800, DXi8500, DXi V1000, DXi V4000 |
| Date | July 2015 |

# Contents

# Purpose of This Release

DXi 2.3.2.1 Software is a maintenance release for DXi4500, DXi4600, DXi4701, DXi6500, DXi6700, DXi6800, and DXi8500 disk backup systems, as well as the DXi V1000 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 9.

- Latest Apache update addresses known security issues (CVE-2014-0118, CVE-2014-0231, CVE-2014-0226, CVE-2014-5704).

- Samba 3.6.12-7082 release to address known security issue.

- Security fix to address delegation handling denial of service (CVE-2014-8500).

- DXi firmware updates.

- Enhancements and bug fixes to the DXi blockpool.

- DXi space management bug fixes.

## New Features in DXi 2.3 Software

In addition, DXi 2.3.2.1 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.

  > **Note:** The latest version of DXi Advanced Reporting (version 2.3.2) is included with DXi 2.3.2.1 Software. There is no need to install or update DXi Advanced Reporting after upgrading to DXi 2.3.2.1 Software.

- **Bug Fixes** - For more information, see .

# Product Compatibility List

The following table provides information about hardware compatibility with DXi 2.3.2.1 Software.

| Component | Description |
|---|---|
| DXi4510 | <ul><li>1 system</li><li>1 RAID controller card</li><li>4 x 1GbE ports</li><li>2.2 TB usable capacity</li></ul> |
| DXi4520 | <ul><li>1 system</li><li>1 RAID controller card</li><li>4 x 1GbE ports</li><li>4.4 TB usable capacity</li></ul> |
| DXi4601 | <ul><li>1 system</li><li>1 RAID controller card</li><li>4 x 1GbE ports</li><li>4–12 TB nominal capacity (3.87–11.61 TB usable capacity)</li></ul> |
| DXi4701 - NAS | <ul><li>1 Node</li><li>1 or 2 RAID controller cards</li><li>0 to 3 Expansion modules (JBODs)</li><li>3 x 1 GbE ports</li><li>(Optional) 2 x 10 GbE Ethernet ports</li><li>5 TB–135 TB usable capacity</li></ul> |
| DXi4701 - VTL | <ul><li>1 Node</li><li>1 or 2 RAID controller cards</li><li>0 to 3 Expansion modules (JBODs)</li><li>3 x 1 GbE ports</li><li>(Optional) 2 x 10 GbE Ethernet ports</li><li>2 x 8Gb Fibre Channel ports (VTL)</li><li>5 TB–135 TB usable capacity</li></ul> |

| Component | Description |
|---|---|
| DXi6510 | • 1 Node<br>• 1 RAID controller card<br>• 2 x 1GbE ports<br>• 8 TB usable capacity |
| DXi6520 | • 1 Node<br>• 2 RAID controller cards<br>• 0 to 3 Expansion modules (JBODs)<br>• 6 x 1GbE ports<br>• 8 TB to 32 TB usable capacity |
| DXi6530 | • 1 Node<br>• 4 RAID controller cards<br>• 2 to 9 Expansion modules (JBODs)<br>• 6 x 1GbE ports<br>• 24 TB to 80 TB usable capacity |
| DXi6540 | • 1 Node<br>• 4 RAID controller cards<br>• 2 to 9 Expansion modules (JBODs)<br>• 6 x 1GbE ports<br>• 2 x 8Gb Fibre Channel ports (for OST path to tape only, not ingest)<br>• 24 TB to 80 TB usable capacity |
| DXi6550 | • 1 Node<br>• 4 RAID controller cards<br>• 2 to 9 Expansion modules (JBODs)<br>• 2 x 10GbE ports plus 2 x 1GbE ports<br>• 2 x 8Gb Fibre Channel ports (for OST path to tape only, not ingest)<br>• 24 TB to 80 TB usable capacity |
| DXi6700 | • 1 Node<br>• 4 RAID controller cards<br>• 2 to 6 Expansion modules (JBODs)<br>• 2 x 1GbE Ethernet ports<br>• 4 x 8Gb Fibre Channel ports (VTL, PTT)<br>• 24 TB to 56 TB usable capacity |

| Component | Description |
|---|---|
| DXi6701 | • 1 Node<br>• 2 or 4 RAID controller cards<br>• 0 to 9 Expansion modules (JBODs)<br>• 6 x 1GbE Ethernet ports<br>• 4 x 8Gb Fibre Channel ports (VTL, PTT)<br>• 8 TB to 80 TB usable capacity |
| DXi6702 | • 1 Node<br>• 2 or 4 RAID controller cards<br>• 0 to 9 Expansion modules (JBODs)<br>• 2 x 1GbE Ethernet ports<br>• 2 x 10GbE Ethernet ports<br>• 4 x 8Gb Fibre Channel ports (VTL, PTT)<br>• 8 TB to 80 TB usable capacity |
| DXi6802 | • 1 Node<br>• 1 to 3 Array modules (RBODs)<br>• 0 to 3 Expansion modules (EBODs)<br>• 3 x 1GbE Ethernet ports<br>• 2 x 10GbE Ethernet ports<br>• (Optional) Additional network adapter providing 2 x 10 GbE Ethernet ports or 4 x 1GbE Ethernet ports<br>• 4 x 8Gb Fibre Channel ports (VTL)<br>• 2 x 8Gb Fibre Channel ports (PTT or VTL)<br>• 13 TB to 156 TB usable capacity |
| DXi8500 | • 1 System Node<br>• 1 to 2 Metadata modules<br>• 2 to 10 Array modules<br>• 0 to 10 Expansion modules<br>• 1 Fibre Channel switch (1TB and 2TB systems only)<br>• 1 Ethernet switch<br>• 1 redundant power system (RPS) for the Ethernet switch<br>• 20TB to 330TB usable capacity |
| DXi V1000 | • 1 TB or 2 TB capacity<br>ℹ **Note:** For environment and system requirements, see the *DXi V-Series Quick Start Guide* (6-67611). |
| DXi V4000 | • 4 - 24 TB capacity<br>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 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.

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

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

# OST Plug-In Support

The Quantum OST 2.9 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-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)

# 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 |

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

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

# Resolved Issues

The following issues were resolved in DXi 2.3.2.1 Software.

| Bug Number | SR Number | Description |
|---|---|---|
| 42473 | 3520710 | File system manager generates service ticket. |
| 42609 | 3553510 | |
| | 3559654 | |
| 42772 | 3533484 | StorNext file system (SNFS) allocation fails with no space when one or more stripe groups are nearly full. |
| | 3534182 | |
| | 3537132 | |
| | 3537514 | |
| 40799 | 3535778 | Segmentation faults occur during software installations and upgrades. |
| | 3541204 | |
| 42480 | 3509406 | DXi GUI network page lists ethernet ports 4 and 5 when a 10GbE HBA is not installed. |
| | 3535590 | |
| 42968 | 3515120 | Posgres error during system upgrade. |
| 42990 | 3535862 | TLER setting on some drives may cause ECC-ERROR drive status and, rarely, failure to start. |
| | 3537064 | |
| | 3539728 | |
| | 3540390 | |
| | 3541062 | |
| 43056 | 3547022 | Replication compatibility with DXi7500. |

In addition to the resolved issues above, DXi 2.3.2.1 Software includes all the issues that were resolved in DXi 2.3.2 Software.

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

| Bug Number | SR Number | Description |
|---|---|---|
| 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 | |
| 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 | |

Resolved Issues

| Bug Number | SR Number | Description |
|---|---|---|
| 38981 | 3356156 | Network Data Management Protocol (NDMP) causes NetBackup True Image Restoration (TIR) file jobs to fail. |
| 38982 | 3361594<br>3394362 | Automatic Image Replication (AIR) does not replicate data. |
| 39122 | 3395230 | **cvupdatefs -F** causes storage expansion issues. |
| 39240 | 1579930 | Independent Logical Unit Numbers (LUNs) labeling. |
| 39242 | 3395230 | **/var/log/DXi/SNFS-labels-history.txt** is not part of the collect file. |
| 39267 | 3388982 | Updates to *DXi8500 Array Expansion Upgrade Guide*. |
| 39383 | 3401776 | Updates to *DXi6500/DXi6700 Expansion Upgrade Guide*. |
| 39562 | 3365012<br>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<br>3373224 3363708<br>3383948 3392276<br>3392218 3396042<br>3416934 3417722<br>3430536 3437392<br>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<br>41576 | 3388982<br>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. |

| Bug Number | SR Number | Description |
|---|---|---|
| 39890 | 3403532 | Untrusted blockpool reference counts service ticket severity set too high. |
| 39891<br>39900 | 3396930<br>3379228 | General improvements to upgrade script. |
| 39892 | 3385550<br>3420174 | Delete propagation from target VTL to source VTL causes media deletion on both systems. |
| 39893 | 3395924<br>3391666 | I/O communication to blockpool stops during blockpool verify after unclean shutdown. |
| 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<br>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<br>1354978<br>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<br>1454092 | Backup Battery Unit (BBU) stuck in learning mode does not generate a service ticket. |

| Bug Number | SR Number | Description |
|---|---|---|
| 39968 | 1234368 | Hardware monitor script returns OK status when monitor start fails. |
| 39969 | 1554790 | Reference tags removed and recovered by Healthcheck. |
|  | 3421948 |  |
| 39970 | 1555680 | DXi system components log times not in sync. |
| 39971 | 2200378 | 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. |
|  | 3311420 |  |
|  | 3354868 |  |
|  | 3356170 |  |
|  | 3357306 |  |
|  | 3357808 |  |
| 39974 | 3365976 | Invalid Network File System (NFS) administrative alerts. |
| 39975 | 3369508 | Improvements to exception handling in Replication processes. |
|  | 3418900 |  |
| 39976 | 1559990 | Replication issues occur in the following scenarios:<br><br>• Source DXi replicates to a target DXi. The target DXi is then removed as a replication target.<br><br>• 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 |
|  | 1565032 |  |
|  | 1619050 |  |
|  | 1623472 |  |
|  | 1628066 |  |
|  | 1627366 |  |
|  | 1644316 |  |
|  | 3304140 |  |
|  | 3375692 |  |
| 39977 | 1648892 | Storage expansion on a DXi system with critical low space causes segmentation fault. |
| 39978 | 1568062 | Viurtual Tape Drives (VTD) **cmd2** file not a failsafe recovery mechanism if **cmd1** file fails. |
|  | 160222 |  |
|  | 1622540 |  |

| Bug Number | SR Number | Description |
|---|---|---|
| 39979 | 1618024 | **Generatessystemc** generates service ticket. |
| | 3373344 | |
| 40016 | 1629318 | Improved dedupe filter for NetWorker 8.1.0.1 software. |
| | 3417864 | |
| 40072 | 1565588 | DXi8500 NetApp Array drive with SMART error does not immediately fail over to a spare drive. |
| | 1610486 | |
| | 1613246 | |
| | 1642356 | |
| | 3488754 | |
| 40116 | 3410276 | Latest Apache update addresses known security issues (CVE-2014-0118, CVE-2014-0231, CVE-2014-0226, CVE-2014-5704). |
| | 3446032 | |
| | 3453396 | |
| | 3455002 | |
| 40130 | 3392162 | Space Reclamation Status progress indicators inaccurate. |
| | 3407152 | |
| 40141 | 3356156 | Network Data Management Protocol (NDMP) causes NetBackup True Image Restoration (TIR) file jobs to fail. |
| 40144 | 3380110 | OpenStorage (OST) I/O issues cause data replication jobs to deadlock. |
| | 3411278 | |
| | 3441326 | |
| 40177 | 3426644 | Added Virtual Tape Drives (VTD) fail to create and start in a Virtual Tape Library (VTL). |
| 40227 | 3379978 | DXi6700 solid state drive (SSD) firmware upgrade fails. |
| | 3402620 | |
| | 3415624 | |
| 40274 | 3394090 | DXi4701 memory expansion causes blockpool issues. |
| | 3394996 | |
| | 3426842 | |
| | 3426902 | |

| Bug Number | SR Number | Description |
|---|---|---|
| 40279 | 1600768 | A NULL pointer reference flaw in CentOS5 causes denial of service in a Virtual Local Area Network (VLAN). |
| | 3423982 | |
| | 3424044 | |
| 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. |
| | | **Note:** 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 | Untrusted reference counts cause blockpool space in the DXi system to not be reclaimed. |
| | 3403532 | |
| | 3418298 | |
| | 3421608 | |
| 40451 | 3300230 | Failed replication causes blockpool issues on target DXi system. |
| 41392 | | |
| 40590 | 3433698 | Storage Collect causes the DXi6800 system to go into diagnostic mode. |
| | 3436552 | |
| | 3438024 | |
| | 3438968 | |
| | 3441482 | |
| 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 | Blockpool times out during binary large object (BLOB) verification. |
| | 3462382 | |
| | 3468984 | |

| Bug Number | SR Number | Description |
|---|---|---|
| 41391 | 3431752 | Systems management command line interface (SMcli) encounters excessive execution times due to network configurations. |
| | 3438770 | |
| 41538 | 3456826 | Kernel causes high CPU usage with Network File System (NFS) shares. |
| 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 | 9690-9750 RAID conversion script commit prompt. |
| | 3468224 | |
| | 3493016 | |
| 41911 | 3486230 | DXi system timeout occurs during blockpool index loading. |
| 41916 | 1618298 | Blockpool upgrade generates a "General Software: Operation Failure" service ticket. |
| | 3368012 | |
| | 3379600 | |
| | 3380362 | |
| | 3385386 | |
| | 3394716 | |
| | 3404402 | |
| | 3407676 | |
| | 3427906 | |
| | 3444064 | |
| | 3458752 | |
| | 3461818 | |
| | 3470856 | |
| 41932 | 3488698 | Blockpool settings re-apply during a DXi system boot, causing long start up times. |
| 41933 | 3488698 | **/var/log/DXi/baseos.log** file is not collected. |

| Bug Number | SR Number | Description |
|---|---|---|
| 41936 | 3487372 | Nexpose security scanner detects OpenSSH CBC Mode Information Disclose Vulnerability. |
| 41971 | 3477650 | Cartridge Based Replication does not show pending cartridges in **/var/log/DXi/TBRstats_short_log.csv** |
| 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) |

# Known Issues

DXi 2.3.2.1 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 2.3.2.1 Software. These commands continue to function in DXi 2.3.2.1 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 |
|---|---|---|---|
| 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 **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**. **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**. ⓘ **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. |
| 36964 | | (DXi4701) The following command line interface (CLI) commands are available on DXi4701:<br><br>• **--install hdsecuritypfk**<br><br>• **--install turbopfk**<br><br>• **--list premiumstorageinfo** | These commands are not applicable to DXi4701. Using them has no effect. |

# GUI Known Issues

| Bug Number | SR Number | Description | Workaround |
|---|---|---|---|
| 30999 | | When creating or editing an event on the **Configuration > Scheduler** page, all times are relative to the workstation from which the GUI is accessed, rather than the DXi. | If the DXi is in a different time zone than the workstation used to access the GUI, make sure to account for the time zone differences when scheduling events. |
| 35426 | | On the **Configuration > OST > Storage Servers** page, if there are multiple pages of storage servers, the **Delete** button is unavailable (gray) if all storage servers on a page are selected even if all the storage servers meet the deletion criteria (no backup images or active connections). | This occurs if a storage server on another page does not meet the deletion criteria. De-select at least one storage server on the displayed page, and the **Delete** button will be available. |

| Bug Number | SR Number | Description | Workaround |
|---|---|---|---|
| 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. |

# 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:<br>**syscli --nfscommit async {--share <sharename>}** |
| 27908 | 1387940<br>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:<br>`syscli --edit storageserver --name <storage_server_name> --concurrentopdup enabled`<br>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. |

# 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* <br> *Pre-Racked Configurations* <br> *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 2.3.2.1 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.

# DXi Additional Notes

For additional information about DXi 2.3.2.1 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 2.3.2.1 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.

# 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:

```
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 2.3.2.1 Software.

# StorageCare Guardian

You must update to the latest version of StorageCare Guardian (2.0.7 or later) to operate with DXi 2.3.2.1 Software.

# OST NetBackup Version

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

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

# Running Healthchecks

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

# DXi V-Series Additional Notes

For additional information about DXi V-Series DXi 2.3.2.1 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 |
| Asian Pacific | +800-7826-8887 (toll free) |
| | +603-7953-3010 |

For worldwide support:

http://www.quantum.com/serviceandsupport/index.aspx