

# Quantum® DXi6902 User Essentials



Review this document after your DXi6902 system has been installed. It will help you become familiar with your system. However, this document is not a substitute for the *DXi6902 User's Guide* or for Quantum training.

## Documentation and Training

For information on configuring, operating, and maintaining your DXi6902, open a Web browser and go to [www.quantum.com/dxi6900docs](http://www.quantum.com/dxi6900docs). You will find product documentation, best practice guides, how-to videos, and other product resources.

For information about available training courses, go to [www.quantum.com/ServiceandSupport/StorageCareLearning/index.aspx](http://www.quantum.com/ServiceandSupport/StorageCareLearning/index.aspx).

## Licensed Features

On the DXi GUI, go to **Utilities > License Keys** and review the licensed features:

### Pre-installed features:

- **Network Attached Storage (NAS):** One of the options for presenting the DXi6902 to the host.
- **OpenStorage Technology (OST):** One of the options for presenting the DXi6902 to the host. Specific versions of NetBackup and Backup Exec are required. For more details, refer to the *DXi-Series OST Configuration Guide* ([www.quantum.com/DXi6900docs](http://www.quantum.com/DXi6900docs)).
- **Virtual Tape Library (VTL):** One of the options for presenting the DXi6902 to the host. A license for 160 virtual tape drives is installed.
- **Backup Application Specific Path-to-Tape:** Provides the ability to move data to physical tape cartridges in an attached tape library, using a Fibre Channel connection.
- **Deduplication:** Enables data deduplication.
- **Replication:** Enables replication to other DXi systems.
- **Data-in-Flight Encryption:** Enables use of AES encryption (128-bit or 256-bit) when sending data to another system. (Not available in all regions.)

### Licensed features included as a license certificate (these features require enabling for use):

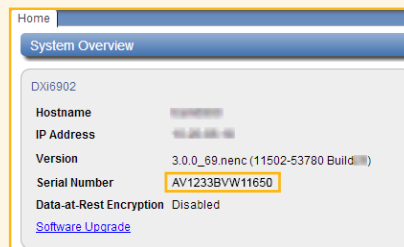
- **Data-at-Rest Encryption:** For systems with SED-capable drives, the Data-at-Rest encryption license may be installed. (Not available in all regions.)
- **Storage Capacity:** The default storage capacity of 17 TB is a pre-installed feature. Increased storage capacity (in 17-TB increments) can be installed through a combination of additional storage modules and storage license certificates.

## System Serial Number

If you contact Quantum Support, you will need your system serial number. To locate the system serial number from the GUI, look at the Home page of the Remote Management Console. It is also located on the information tab that pulls out from the node front panel.

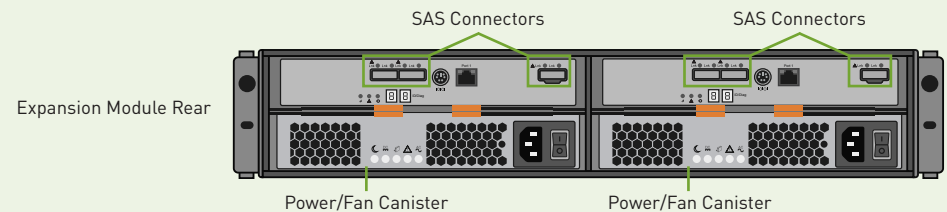
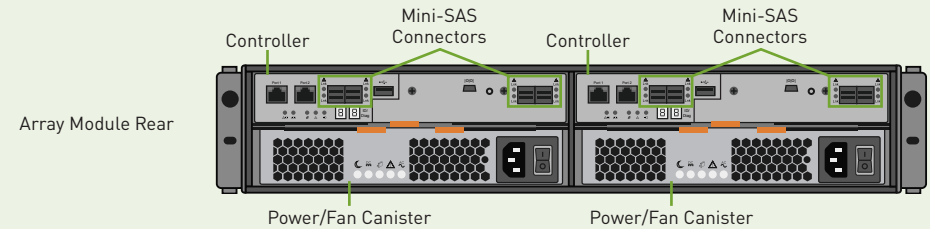
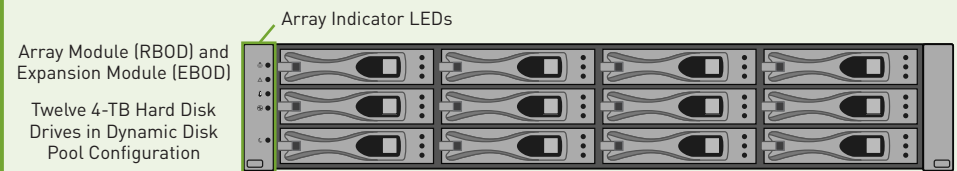
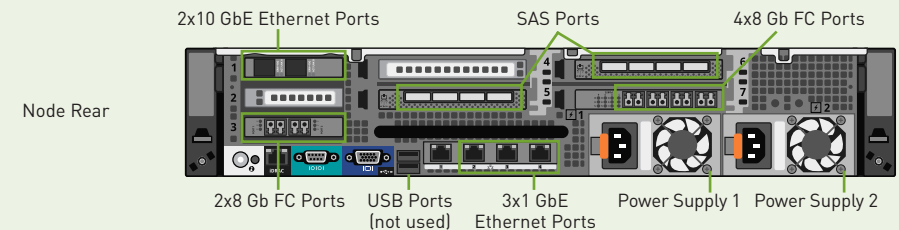
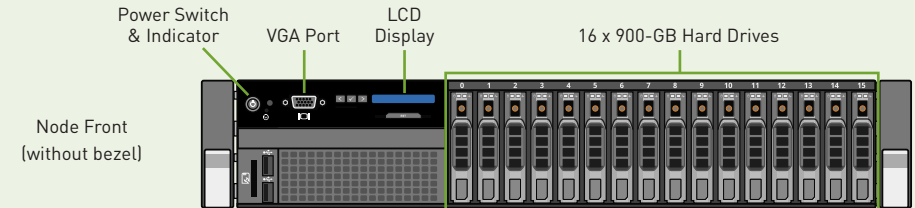
The system serial number includes the letters BW. An example system serial number is **AV1414BVW0123**.

To enable some licensed features, you will need a license certificate and the system serial number (*DXi6902 User's Guide*, "License Keys" section).



## Hardware

- Additional storage is provided through expansion modules (EBODs) associated with array modules (RBODs). All DXi6902 systems have at least one array module.
- Identify the ports on the node (these may vary depending upon selected options), array modules, and expansion modules.
- Identify the LEDs on the node, array modules, and expansion modules.
- Identify the disk drives. DXi6902 systems use hard disk drives (HDDs) in the node for the operating system, system software, and metadata. The HDDs in the storage arrays are used for bulk data storage. All drives are hot swappable, provided they're replaced one at a time, and RAID is allowed to rebuild after each replacement.



## Basic Operations

1. DXi6902 components (node and expansion modules) must be turned on and off in the order described in the *DXi6902 User's Guide* (refer to the "Turning On and Shutting Down the System" section).
2. The default password for the Administrator user is **password**. Log in to the Remote Management Console (**Configuration > System > Security**) to change this to the password of your choice (refer to the *DXi6902 Installation and Configuration Guide*, "Performing Initial Configuration").

## Basic Configuration (Network, NAS, OST, Replication)

The **Configuration Wizards** launch during the initial configuration, but you can use them at any time by clicking the **Wizards** button from the DXi Main menu. The **Configuration Wizards** provide step-by-step instructions for setting up VTL, NAS, OST, replication, e-mail alerts, and technical support features such as registering your product.

You can find detailed descriptions of configuration processes in the *DXi6902 User's Guide*, "DXi6902 Configuration" chapter.

In addition to using the **Wizards** menu, you can configure network, VTL, NAS, OST, replication, and space management settings from the DXi main menu by doing any of the following:

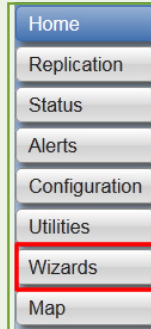
- **Edit Network Configuration.** Go to **Configuration > System > Network**. Consult your network administrator prior to changing any of this information.
- **Configure VTL.** Go to **Configuration > VTL**. Cartridge creation can vary, depending on the backup application and settings used. However, as a general rule, make sure that there is sufficient media to hold the amount of backup data for the required retention period, and use smaller-sized media (*DXi6902 User's Guide*, "Best Practices" section).
- **Configure NAS.** Go to **Configuration > NAS**.
- **Configure OST.** Go to **Configuration > OST**.
- **Set up replication.** Go to **Configuration > Replication**. Note: OST replication (optimized duplication) does not require the same setup as replication for NAS shares and VTL partitions (*DXi-Series OST Configuration Guide*).

During replication, data is sent from one system (the source) to another system (the target), usually in another location. Sources send replicated data, consisting of unique blocks not already present at the target, to the target, as well as the metadata for the entire backup set.

Quantum recommends that you schedule replication to run after backups are complete (*DXi6902 User's Guide*, "Adding or Editing a Scheduled Event" section). In addition, always replicate a new share or partition immediately after creating it. This establishes the initial data structure on the target system and greatly increases the speed of the first replication.

- **Configure space reclamation.** Go to **Utilities > Space Reclamation** to start, stop, or monitor space reclamation activities (*DXi6902 User's Guide*, "Utilities" chapter). Go to **Configuration > Scheduler** to configure a space reclamation schedule (*DXi6902 User's Guide*, "Adding or Editing a Scheduled Event" section).

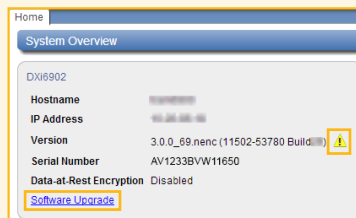
Space reclamation is the process used to delete blocks that are no longer referenced by metadata, returning capacity to the free space pool for future reuse. It's a best practice to run/schedule space reclamation on a daily basis. The operation can use a significant amount of CPU processing and disk I/O. Avoid running or scheduling space reclamation during known backup periods.



## Software Upgrades

On the **Home** page of the GUI, in the field **DXi6902**, clicking on the link for **Software Upgrade** will open the **Software Upgrade Utility** window. Software upgrades can include new features, as well as bug fixes.

Configure the system to automatically check for software upgrades on a daily basis (*DXi6902 User's Guide*, "Software Upgrades" section). If a software upgrade is available, you will be notified by an admin alert, as well as by a Quick Tip icon on the **Home** page.



## Status and Notifications / Alert Options

- Set up Email notifications. Go to **Configuration > Notifications > Email > Recipients** (*DXi6902 User's Guide*, "Notifications" section).
- Set up SNMP. Go to **Configuration > Notifications > SNMP** (*DXi6902 User's Guide*, "Notifications" section).
- Install and configure StorageCare Guardian. Product documentation and white papers are located at [www.quantum.com/ServiceandSupport/Services/GuardianInformation/Index.aspx](http://www.quantum.com/ServiceandSupport/Services/GuardianInformation/Index.aspx). StorageCare Guardian securely links Quantum hardware and the diagnostic data from the surrounding storage ecosystem to Quantum's Global Services Team for faster, more precise root cause diagnosis.
- Check the system status on the **Home** page (*DXi6902 User's Guide*, "DXi6902 Home Page" chapter).
- Check **Status** from the main menu. Go to **Status > Hardware**. Storage array failures are critical and must be addressed immediately to minimize the chances of data loss (*DXi6902 User's Guide*, "DXi6902 Status" chapter).
- Review the Service Tickets. Click the **Tickets** button on the DXi banner in the remote management console, or go to **Alerts > Service Tickets**. Follow the suggested actions (*DXi6902 User's Guide*, "DXi6902 Alerts" chapter).

## Troubleshooting and Help

Before calling Quantum Support, review these FAQs:

**Question:** How can I free up disk space on my DXi?

**Answer:** There are multiple ways you can remove data from your DXi:

- Delete data from your NAS share or VTL partition.
- Erase or re-label tapes from your backup application.
- Delete the virtual media altogether.
- If the DXi is a target system, delete replicated snapshots.

After you take one or more of the previous actions, run space reclamation.

**Question:** When should I schedule replication and space reclamation for best performance?

**Answer:** Optimize your performance by scheduling your backups, replication, and space reclamation to run at different times throughout the day.

**Question:** How can I increase my deduplication ratio?

**Answer:** Optimize your deduplication ratio by disabling software compression, encryption, and multiplexing in the backup application.

**Question:** What should I do when my backups fail?

**Answer:** Backup jobs may fail for some of these reasons:

- The DXi ran out of space during the backup window.
- Your backup host lost network connectivity to the DXi.
- Your backup application may have crashed. Try re-running the backup.

Here are some tips you may find helpful for troubleshooting:

1. Review the "Troubleshooting" chapter in the *DXi6902 User's Guide*.
2. Search for solutions in the Knowledge Base at <http://qsupport.quantum.com/kb/>
3. Download log files. Technical Support will need these for troubleshooting.
  - **Utilities > Diagnostics > System Diag File > Generate New/Download Current**
  - **Utilities > Diagnostics > Storage Array Diag File > Generate New/Download Current**
4. Access eSupport by opening an Online Service Request at [https://onlineservice.quantum.com/OA\\_HTML/xxibu/jtlogin.jsp](https://onlineservice.quantum.com/OA_HTML/xxibu/jtlogin.jsp)
5. Contact Quantum Support. In the U.S., call 800-284-5101 toll free. In Europe, call toll free +800-7826-8888 or direct +49 6131 3241 1164. For additional contact information, go to [www.quantum.com/ServiceandSupport/Contacts/Index.aspx](http://www.quantum.com/ServiceandSupport/Contacts/Index.aspx)