# Quantum® User Essentials

## DXi V-Series

After installing your DXi V-Series virtual appliance, use this document as a quick reference to keep the system up and running.

## Documentation and Training

For information on configuring, operating, and maintaining your DXi V-Series virtual appliance, open a Web browser and go to www.quantum.com/DXiV-SeriesDocs for product documentation, how-to videos, and other product resources.

**Note:** DXi V1000 Standard Edition customers must go to Forum V (http://www.quantum.com/forumv) for documentation, community support, and other resources. Forum V is Quantum's online support forum for virtualization products.

## Licensed Features

The following licensed features are enabled during the installation process:

- **Network Attached Storage (NAS)**: Enables NAS (NFS and CIFS) connectivity to the host.
- **Data Deduplication**: Enables the process of creating and managing duplicate versions of your data, reducing storage requirements by up to 90% when saving duplicated data.
- **Replication**: Enables replication of your data to other DXi systems.
- **OpenStorage Technology (OST)**: Enables OpenStorage backup with Symantec OST. Specific versions of NetBackup and Backup Exec are required. For more details, refer to the *DXi-Series OST Configuration Guide*.
- **Storage Capacity**: Enables the licensed storage capacity for the system. This feature determines the capacity available for data deduplication and replication. Supported capacity and upgrade options include:
    - **DXi V1000 Trial Edition**: 256 GB of storage capacity
    - **DXi V1000 Standard Edition**: 1 TB
    - **DXi V1000 Enterprise Edition**: 1 TB, expandable to 2 TB
    - **DXi V4000 Enterprise Edition**: 4 TB, expandable to 24 TB in 1 TB increments

For more information on license keys and licensed features, refer to the *DXi V-Series User's Guide*, "License Keys" section.

## Adding Capacity or Extending a Time-Based License

To view the current license type and capacity, and the days before expiration (if applicable) of your system, select **Utilities > License Keys**. You will see a display like the one shown below.



| Diagnostics | Analyzer | Space Reclamation | License Keys | Security | Software Upgrade | Reboot & Shutdown | |
|---|---|---|---|---|---|---|---|
| License Keys | | | | | | | Help |
| License Type  Time | Expires on  Mon Mar 4 12:51:45 2013 | Capacity  1024 GB | Installed on  Mon Jan 7 12:06:01 2013 | Days before expires  47 | | | |

To increase capacity or extend a time-based license, contact your sales representative. You will receive information about how to obtain a license key. For license key installation instructions, refer to the *DXi V-Series User's Guide*, "License Keys" section.

You will need your product serial number to complete the upgrade process. The system serial number is available on the Home Page. As shown below, it begins with **CX**, using the pattern **CXYYWWCADXXXXX**.

## Adding Capacity or Extending a Time-Based License (cont.)

Your System Serial Number: _____
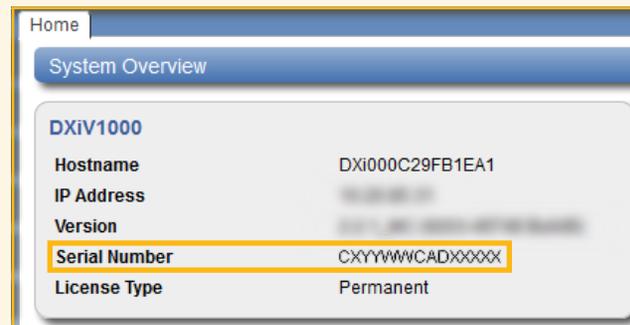


## Initial Basic Operation

Log on to the user interface and change the default password ("password") for the Administrator user by selecting **Configuration > System > Security**.

- Monitor user: Can view the user interface pages, but not change them.
- Administrator user: Can view and edit the user interface pages.

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

1. Select **Configuration > Network** and edit the network configuration. Consult your network administrator before changing any of the information (see the *DXi V-Series User's Guide*, "DXi V-Series Configuration" chapter).
2. Select **Configuration > NAS** and configure NAS (see the *DXi V-Series User's Guide*, "DXi V-Series Configuration" chapter).
3. Select **Configuration > OST** and configure OST (see the *DXi V-Series User's Guide*, "DXi V-Series Configuration" chapter or the *DXi-Series OST Configuration Guide*).
4. Select **Configuration > Replication** and set up replication (see the *DXi V-Series User's Guide*, "DXi V-Series Configuration" chapter).

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

Replication can occur at the NAS share and directory/file levels.

- **Share-level replication** treats the entire NAS share as a single entity. The replicated data (entire share) is secured at the target and requires that a recovery process be run to make the data accessible.
- **Directory/file-level replication** sends the data in a specific NAS directory/file to the target.

Proper system configuration allows replicated data to be immediately accessible at the target. Quantum recommends that you schedule replication to run after backups are complete. (see the *DXi V-Series User's Guide*, "Adding or Editing a Scheduled Event" section). Quantum recommends that you always replicate a new share immediately after creating it. This establishes the initial data structure on the target system and greatly increases the speed of the first replication.

## Space Management

**Space Reclamation** is the system's space management process. It is used to delete blocks that are no longer referenced by metadata, which returns capacity to the free space pool for reuse. It can use a significant amount of CPU processing and can cause a large number of disk reads/writes.

To run space Reclamation, select **Utilities > Space Reclamation** (see the *DXi V-Series User's Guide*, "Space Reclamation" section).

It's a best practice to schedule space reclamation to run on a daily basis. Quantum recommends that you schedule space reclamation during periods when other operations (such as ingest and replication) are not being performed. When other operations are scheduled concurrently with space reclamation, system performance will be negatively impacted.

To schedule space reclamation, select **Configuration > Scheduler** (see the *DXi V-Series User's Guide*, "Scheduler" section).



## Status and Notifications / Alert Options

1. Select **Configuration > Notifications > Email > Recipients** and set up e-mail notifications (see the *DXi V-Series User's Guide*, "Notifications" section).
2. Select **Configuration > Notifications > SNMP** and set up SNMP (see the *DXi V-Series User's Guide*, "Notifications" section).
3. Select **Status > Performance** and **Status > Disk Usage** and check performance and disk usage status. You can also select **Status > Logs** to view the Activity Log, which contains a record of all activities performed by administrative and service users in the past 90 days (see the *DXi V-Series User's Guide*, "DXi V-Series Status" chapter).
4. Check the system **State** indicator on the system banner at the top of the user interface. If the status is yellow or red, click it to see detailed status information (see the *DXi V-Series User's Guide*, "DXi V-Series Remote Management" chapter).
5. Review the **Ticket** button. If it is yellow, click it to view the suggested actions (see the *DXi V-Series User's Guide*, "Service Tickets" section).



## Troubleshooting and Help

Before contacting Quantum Support, please do the following:

1. Review these FAQs:

   **Question:** Why is my deduplication rate so low?
   **Answer:** Three things that will hurt your deduplication ratio are software compression, encryption, and multiplexing. Most backup applications have options that can be enabled or disabled for these functions, and which are often enabled by default. To optimize your dedupe speed, disable these options.

   **Question:** My backup jobs are failing. Why might this be?
   **Answer:** Backup jobs may have failed for some of the following reasons:
   - The DXi V-Series system ran out of space during the backup window.
   - Your backup host lost network connectivity to the system.
   - Your backup application may have crashed. Try re-running the backup before contacting Quantum support.

   **Question:** How can I free up disk space on my system?
   **Answer:** Here are some ways you can remove data from your system:
   - Delete data from your NAS share.
   - If the DXi is a target system, delete any replicated snapshots.

   After you have taken one or more of these actions, you must run Space Reclamation to free up the space.

   **Question:** When should I schedule replication and space reclamation for best performance?
   **Answer:** If possible, try to schedule your backups, replication, and space reclamation to run at different times throughout the day. By keeping those processes separate, your overall blockpool performance will be better.

2. Review the "Troubleshooting" section in the *DXi V-Series User's Guide*.

3. Visit Forum V at http://www.quantum.com/forumv, Quantum's support forum for virtualization products.

4. If you purchased the Enterprise version of your DXi V-Series product, do the following:

   a. Download log files for Technical Support. These will help troubleshoot problems. To do this, select **Utilities > Diagnostics > System > Generate New/Download Current**.

   b. Access eSupport by opening an Online Service Request at https://onlineservice.quantum.com/OA_HTML/xxibu/jtflogin.jsp.

   c. Contact Quantum Technical Support at 800-284-5101. You will need your system serial number. For contact information, go to www.quantum.com/ServiceandSupport/Contacts/Index.aspx.