

# User's Guide



6-68534-01

Vision User's Guide, 6-68534-01, December 2016, Product of USA.

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# Preface

This manual introduces Vision and discusses:

- Installation and Upgrades
- Configuration
- System operations

## **Document Organization**

The following chapters are included in this manual:

- Quantum Vision on page 1
- Installations and Upgrades on page 21
- Setup and Configuration on page 48
- Device Consoles on page 97
- <u>Topology Console on page 163</u>
- Media Console on page 170
- Analytics on page 178
- Reporting on page 200
- Advanced Reporting in Vision on page 215
- Appendix A on page 225

## **Notational Conventions**

This manual uses the following conventions:

Convention	Example
User input is shown in bold monospace font.	./DARTinstall
Computer output and command line examples are shown in monospace font.	./DARTinstall
User input variables are enclosed in angle brackets.	http:// <ip_address>/cgi-bin/stats</ip_address>
For UNIX and Linux commands, the command prompt is implied.	./DARTinstall
	is the same as
	<pre># ./DARTinstall</pre>
File and directory names, menu commands, button names, and window names are shown in bold font.	/data/upload
Menu names separated by arrows indicate a sequence of menus to be navigated.	Utilities > Firmware

The following formats indicate important information:

**1** Note: Note emphasizes important information related to the main topic.

**Caution:** Caution indicates potential hazards to equipment or data.

WARNING: Warning indicates potential hazards to personal safety.

- Right side of the system Refers to the right side as you face the component being described.
- Left side of the system Refers to the left side as you face the component being described.
- Data sizes are reported in base 1000 rather than base 1024. For example:
  - 1 MB = 1,000,000 bytes
  - 1 GB = 1,000,000,000 bytes
  - 1 TB = 1,000,000,000,000 bytes

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## **Related Documents**

The following Quantum documents are also available for Vision:

Document NumberDocument Title66900Vision Release Notes

For the most up to date information on Vision, see:

http://www.quantum.com/serviceandsupport/get-help/index.aspx#contact-support

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



This chapter contains the following topics:

Quantum Vision	1
The Vision Window	2
Vision Requirements	3
Vision Virtual Appliance Console Command Line	6
Access Vision	12
Navigate Vision	14

# **Quantum Vision**

Quantum Vision is a data protection solution that allows you to monitor, analyze, and report on your Quantum backup environment. You can view the status and track the performance of the following using a single flexible interface:

- Multiple DXi® disk backup systems
- Q-Cloud Protect
- Scalar<sup>®</sup> libraries
- Scalar LTFS
- vmPRO 4000 and vmPRO software

Quantum Vision Features and Benefits		
Identify and initiate software updates for one or more vmPRO appliances from Vision.	Receive notification of and initiate a Vision software update using the Vision GUI (virtual appliance only).	Provide a chargeback report, based on individual shares, partitions, or OST LSU system usage, in both print and e-mail versions.
Monitor the status and health of DXi devices, Q-Cloud Protect appliances, Scalar libraries, Scalar LTFS, and vmPRO.	Visualize data on demand to track capacity usage, analyze performance, and identify trends.	Access a Topology map to view the devices and their relationships.
Automatically generate reports and graphs, and send them to multiple recipients.	Define alert rules to monitor thresholds and manage alert notifications.	Access the native management interface of any monitored Quantum device.
View and compare DXi Advanced Reporting graphs for one or more DXi disk backup or Q-Cloud Protect systems.	Generate a Capacity Upgrade Estimate for DXi devices Q-Cloud Protect appliances.	Monitor the usage and health of media in Scalar libraries (including Extended Data Life Management [EDLM] status), change media location, and delete media.

# The Vision Window

Vision provides a flexible Web-based graphic user interface (GUI) from which to monitor, analyze, and report on your backup environment. The information displayed in the Vision GUI depends on your user role, your user group, and the devices assigned to your user group. See <u>Manage Groups in Vision on page 68</u>.

To access Vision, you must first log in with the user name and password assigned to you by your Vision administrator.

#### Figure 1: Vision Window

Quantum. Vision																	
Management Configuration Help																	
Devices Topology Analytics Reporting DXi AR Media									🖍 admin 🔻								
All Devices	• •																
Devices (5	50)					Group Fi	Iter: All I	Devices	- o X 🗈								
Status 🔺	Device	Address	Serial Number		Product	Software	Last Gat	her	Protocol								
8	irvine-vmpro	10.40.164.97	CX1244CAC00170	C	Quantum vmPRO	3.1.2	3-9-2015	5 12:56:56 PM	https 🔺								
•	dendxi7500a	10.20.33.212	N/A	I	N/A	N/A	3-9-2015	5 12:22:09 PM	http								
•	aries	10.20.163.106	273410009	s	Scalar i6000	700Q.TS149	3-9-2015 12:57:11 PM		3-9-2015 12:57:11 PM		http						
63	echidna	10.20.163.184	4GWPQJ1	C	Quantum DXi2500-D	1.5.0	11-21-20	)14 12:56:39 F	PM http								
63	gambit	10.20.174.10	SV1347BVE16092	0	Quantum DXi6702	2.3.0	9-5-2014	12:32:39 PM	https								
63	minotaur	10.20.163.202	SV0940BVA25827	C	Quantum DXi7500	1.5.0	11-21-20	)14 12:55:42 P	PM http								
63	OceanBlue	10.40.164.128	SV1446BVT03788	0	Quantum DXi4700	3.0.3_47.ne	12-1-201	L4 11:06:32 AM	M https								
•	50304	10 50 154 5			=		0.5.004										
Vision Ale	erts (57)							Unackn	owledged 🔻 🗙 📋								
Rule Name	Description	Device	Туре	Priority	/ Date	Ack Date		Ack User	Action								
TestDXI -II	[143] Status	red boston	Device Status	Medium	2-17-2015 08:43:09	N/A			Acknowledge								
testRule2	[4] Status: y	ellow atlantic regio	n Device Status	Medium	a 3-6-2015 10:13:22 A	N/A							N/A		N/A		Acknowledge
testRule2	[2] Status: y	ellow denver	Device Status	Medium	a 3-6-2015 10:47:00 A	N/A	N/A				Acknowledge						
testRule2	[2] Status: y	ellow boston	Device Status	Medium	a 3-9-2015 04:56:57 A	N/A			Acknowledge								
testRule2	[2] Status: y	ellow central office	Device Status	Medium	a 3-7-2015 12:10:46 A	N/A	N/A		Acknowledge								
testRule2	[1] Status: y	ellow dallas	Device Status	Medium	3-6-2015 12:30:24 A	N/A	A		Acknowledge								
albert-alert	[53] Status:	green albert	Device Status	Medium	10-23-2014 06:33:1	N/A			Acknowledge								
	freed on a			10.15	0.47.0045.40.05.05	a./ a											

# **Vision Requirements**

Vision supports installation and operation on both physical servers and virtual machines (VMs) functioning as servers. To properly install and use Vision on a physical or VM server, ensure the following requirements are met.

### Server Requirements

Make sure that the Vision server, which hosts Vision software, meets the requirements outlined below.

Server Component	System Requirement
Processor	Intel or AMD server class processor     2 CPL is for up to 50 devices
	<ul> <li>4 CPUs for more than 50 devices</li> </ul>
Momony	. A GR for monitoring up to 50 devices
Memory	<ul> <li>4 GB for monitoring up to 50 devices</li> <li>8 GB for monitoring more than 50 devices</li> </ul>
Available Disk Space	200 GB for monitoring up to 50 devices
	400 GB for monitoring more than 50 devices
Operating System	One of the following operating systems:
	Windows Server 2003 32-bit
	Windows Server 2003 R2 64-bit
	Windows Server 2008 32-bit
	Windows Server 2008 R2 64-bit
	Windows Server 2012 Standard 64-bit
	Windows Server 2016 Standard 64-bit
	Red Hat Enterprise Linux 5 32-bit
	Red Hat Enterprise Linux 5 64-bit
	Red Hat Enterprise Linux 6 64-bit
	Red Hat Enterprise Linus 7 64-bit
	SUSE Linux Enterprise 11 Service Pack 3
	SUSE Linux Enterprise 11 Service Pack 4
Virtual Appliance	<ul> <li>Server system with at least an i7 quad-core Intel processor (or AMD equivalent)</li> </ul>
	2 virtual CPUs for up to 50 devices
	4 virtual CPUs for more than 50 devices
	At least one IP address available for use by the Vision appliance
	One or more ESX4, ESXi4, ESXi5, or ESXi 6 servers
	Same memory requirements as that of a physical server installation
Additional Software	(Windows only) Microsoft .NET Framework 2.0 or higher

### Server Port Requirements

Before using Vision, you need to open and enable specific firewall ports on the Vision server.

For Vision to operate correctly, open the following firewall ports:

- Port 80 Web server (http)
- Port 443 Web server (https)
- Port 162 SNMP

To enable monitoring of storage devices, open the following firewall ports to outgoing traffic:

- Port 80 Web server (http)
- Port 443 Web server (https)
- Port 22 SSH

**i** Note: Ports 80 and 443 are the default web server ports. If you specified different web server ports when installing Vision software, open those ports in the firewall instead.

### **Browser Requirements**

Before running Vision software on your system, review following browser requirements:

- Vision 4 is designed to run in any modern Web browser that supports the Adobe Flash Player plug-in.
- Vision 4.3.5 and later requires Adobe Flash Player version 11.4 or higher. Web browser software is not
  included with Vision. You must obtain and install it separately. To download and install Flash Player, go to
  <a href="http://www.adobe.com">http://www.adobe.com</a>.
- Vision 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. For 64-bit Linux, the Chrome browser and its built in pepper flash player are compatible with Vision.

### Supported Storage Device Requirements

To discover and monitor a Quantum backup system in Vision, the system must be a Quantum-supported device. Vision supports the following devices:

DXi Devices	Scalar Devices	Virtual Devices
<ul> <li>DXi8500 disk backup system</li> <li>DXi7500 disk backup system</li> <li>DXi6000 series (DXi6500, DXi6700, DXi6800, DXi6900, and DXi6900-S) disk backup systems</li> <li>DXi4000 series (DXi4500, DXi4600, DXi4700) disk backup systems</li> </ul>	<ul> <li>Scalar i6000 library</li> <li>Scalar i2000 library</li> <li>Scalar i500 library</li> <li>Scalar i80 library</li> <li>Scalar i40 library</li> <li>Scalar LTFS</li> <li>Scalar i3 library</li> <li>Scalar i6 library</li> </ul>	<ul> <li>Q-Cloud Protect</li> <li>DXi V-Series (DXi V1000, DXi V2000, and DXi V4000) virtual backup systems</li> <li>vmPRO 4000 (software/hardware backup solution)</li> <li>vmPRO virtual backup system</li> </ul>

### **Q-Cloud Protect and DXi Requirements**

Review the following special requirements for Q-Cloud Protect and DXi 6900.

#### **VPC-Private Network Connection for Q-Cloud Protect**

If you are using Vision to monitor Q-Cloud Protect, you *must* configure the network connection between your Q-Cloud Protect instances, your on-site DXi appliances, and your Vision server within the same VPC-private network.

#### **Access Control**

For Vision to gather replication data for Q-Cloud Protect appliances or DXi devices running software versions 3.2 or later, it needs to identify itself through an SSH key pair.

Vision generates this key pair. The private key is Vision's secure identifier. The public key is shared with the Q-Cloud Protect appliance or DXi device. Vision has authorization to gather replication data only when the private and public keys match.

# Vision Virtual Appliance Console Command Line

A limited number of functions are available from Vision's virtual appliance console command line. Access the console command line from your vSphere client. You will need the Vision user name and password to log in to the command line interface.

### Command Parameters and Syntax

### Parameters

You can use the following parameters when issuing Vision commands:

#### **Command (required)**

The main command being issued or the main category of the command, such as **exit**, **system**, or **admin**.

#### Subcommand (optional)

The action to perform, such as upgrade, reboot, or config.

### **Option (optional)**

The object on which the action is being performed, such as **service**, **password**, or **ports**.

### Syntax

Use the following syntax when issuing Vision commands: command subcommand option

#### Example

To reset the system password, enter the following:

- command:system
- subcommand: reset
- option: password

Enter the whole command on the command line, as follows:

system reset password

### **Topics**

Access the Console Command Line below

Issue General Commands on the next page

Issue System Commands on page 9

Issue Network Commands on page 10

Issue Admin Commands on page 11

## Access the Console Command Line

Use the following task to access your Vision VM's console command line.

### Access the console command line

- 1. Open your vSphere client.
- 2. In the left pane, select your Vision virtual appliance.

3. Select the **Console** tab to display the **Console** window with the **login** command.

Figure 2: Console Window with Login Command

Quantum Vision4.2 mep
Getting Started Summary Resource Allocation Performance Tasks & Events Alarms Console Permissions Maps Storage Vie
CentOS release 6.2 (Final) Kernel 2.6.32-220.4.2.el6.x86_64 on an x86_64
localhost login: _

- 4. At the login command, enter the Vision appliance user name.
- 5. At the **password** command, enter the Vision appliance password.

If this is your first time accessing the console command line, log on with the default user name (**sysadmin**) and password (**QuantumVision**).

6. Enter commands, as needed.

## **Issue General Commands**

Use the following commands to perform general functions from your Vision VM's console command line.

### Display a list of available commands

- 1. Access the Console Command Line on the previous page.
- 2. At the prompt, enter the following: help

### Display help for the specific command

- 1. Access the Console Command Line on the previous page.
- 2. At the command line prompt, enter the following: help <command>

### Log off the command line

- 1. Access the Console Command Line on page 7.
- 2. At the command line prompt, enter the following: exit

### Free the cursor from the console

• Type the <ctrl + alt> keys on your keyboard.

Click anywhere inside the console to return to the command line.

# **Issue System Commands**

Use the following commands to perform system functions from your Vision VM's console command line.

### Reboot the system

- 1. Access the Console Command Line on page 7.
- 2. At the prompt, enter the following: system reboot

### Restart the service

- 1. Access the Console Command Line on page 7.
- 2. At the prompt, enter the following: system restart service

### Shut down the system

- 1. Access the Console Command Line on page 7.
- 2. At the prompt, enter the following: system shutdown

### Upgrade the system

- 1. Access the Console Command Line on page 7.
- 2. At the prompt, enter the following: system upgrade

#### **Additional Information**

- For Vision 4.3 or newer, the **system upgrade** command upgrades the Vision appliance from the Quantum repository by locating and downloading the upgrade RPM.
- If you are currently running Vision 4.2 or 4.2.1, you cannot access the Quantum repository. Instead, use system upgrade scp or system upgrade http to upgrade to Vision 4.3.2 or newer.

## **Issue Network Commands**

Use the following commands to assign IP addresses and ports from your Vision VM's console command line.

### Instruct DHCP to assign IP addresses

- 1. <u>Access the Console Command Line on page 7</u>.
- At the prompt, enter the following: net config dhcp

### Manually assign an IP address to the Vision appliance

- 1. Access the Console Command Line on page 7.
- 2. At the prompt, enter the following: **net config static**
- 3. At the subsequent prompts, enter the following for the Vision appliance:
  - IP address
  - NetMask
  - Gateway IP address

### Enter ports for the Vision appliance

- 1. <u>Access the Console Command Line on page 7</u>.
- At the prompt, enter the following: net ports
- 3. At the subsequent prompts, enter the names of the Vision appliance's http and https ports.

### Set the IP addresses for the Vision appliance's DNS servers

1. <u>Access the Console Command Line on page 7</u>.

- 2. At the prompt, enter the following: **net dns**
- 3. At the subsequent prompts, enter each DNS server IP address to assign to the Vision appliance, in order of priority.
- 4. After entering all DNS IP addresses, leave the last prompt blank, and press <enter>.

## **Issue Admin Commands**

Use the following commands to perform administrator functions from your Vision VM's console command line.

### Change the system password

- 1. Access the Console Command Line on page 7.
- 2. At the prompt, enter the following: admin password
- 3. At the prompt, enter the new password.

### Reset the system password to the default password

- 1. Access the Console Command Line on page 7.
- 2. At the prompt, enter the following: admin password reset

### Assign a time zone to your Vision appliance

- 1. <u>Access the Console Command Line on page 7</u>.
- 2. At the prompt, enter the following: admin timezone
- 3. At the prompt, enter one of the following to display a list of appropriate time zones:
  - US timezones
  - non-US timezones
  - cancel
- 4. Select and enter the time zone to apply to your Vision appliance.

### Back up the Vision appliance database

1. Access the Console Command Line on page 7.

Chapter 1: Quantum Vision Access Vision

- 2. At the prompt, enter the following: admin backup
- 3. At the subsequent prompts, enter the following:
  - Name of the server on which the Vision appliance resides
  - User name and password for the Vision appliance
  - · Location to which to back up the database

### Restore an archived copy of the Vision appliance database

- 1. Access the Console Command Line on page 7.
- 2. At the prompt, enter the following: admin restore
- 3. At the subsequent prompts, enter the following:
  - Name of the server on which the Vision appliance resides
  - User name and password for the Vision appliance
  - Location from which to retrieve the archived database

#### Result

- a. The archived database is copied to and unpacked on the Vision appliance.
- b. The Vision server is restarted.

# Access Vision

When you log on to Vision, make sure that you are using a supported Web browser on a workstation that has network access to the Vision server. In addition, before logging on to Vision, you will need a user name and password defined for you by your network administrator.

### Tips

Keep the following tips in mind when you are logged on to Vision:

### **Refresh Button**

After you have logged on to Vision, do not use the browser's **Refresh** button. This will terminate your session and you will be logged out of Vision.

#### **Browser Sessions**

When accessing Vision, use only one browser and tab per session. Logging out using Vision's **Log Off** button ends your session. If you use multiple browsers or tabs during the same session, even as a different user, each session uses the same user credentials.

#### **Session Termination**

After you have finished using Vision, make sure to log off from the application. Otherwise messages continue to be queued on the Vision server. If this happens, the server will slowly become unresponsive and will eventually restart.

### Log on and off Vision

- 1. Launch a supported Web browser on a workstation that has network access to the Vision server.
- 2. In the browser address box, enter the IP address of the Vision server to display the Vision Login window.

Figure 3: Vision Login Window

Quantum. Vision	
Management Configuration Help	
	Login
	Username:
	Password:
	Remember Me Login

#### What if the Login window does not display?

- Verify that the IP address is correct and that the network path to the Vision server is valid.
- Verify that you are using a supported Web browser and that the correct version of Adobe Flash Player is installed.
- If you are still unable to access the Login window, contact your Vision administrator.
- 3. Populate the following fields:

#### Username

Enter your user name. The default is admin.

#### Password

Enter your password. The default is password.

4. Select the **Remember Me** check box to have Vision remember your user name and password the next time you log in, as applicable.

The system encrypts the user name and password when it stores them on the client workstation. As a best practice, we recommend using the **Remember Me** option only on a workstation that is in a physically-secured location.

- 5. Click Login to display the Devices Console.
- 6. When you are finished working in Vision, click **Log Off** on the upper right corner of the Vision window to end your session.

# Navigate Vision

The Vision GUI provides a rich interface from which to access and manage information.

### Vision Menu

The Management, Configuration, and Help menus are located at the top of the Vision GUI.

For information about the **Management** and **Configuration** menus, see <u>Vision Setup and Configuration</u>. For information about the Help menu, see <u>Help Menu on the next page</u>. Chapter 1: Quantum Vision Navigate Vision

#### Figure 4: Vision Menu

Quantum. Vision	<b>?</b> .	og Off
Management Configuration Help		
Devices Topplagy Applytics Reporting DXIAR Media	🛔 admin	•
	Log Off Change Password	
All Devices	Setup User Accounts	

#### Help Menu

Use the Help menu to access the following features:

Feature	Description
About Vision	Displays the version of Vision that you are running and the Vision End-User License Agreement (EULA).
Send Us Feedback	Displays a feedback form in which you can evaluate various Vision features and provide comments that can be sent to the Vision development team.
Training and Documentation	Displays the Vision Documentation Center.

### Toolbar

The Vision Toolbar displays below the Vision Menu. Use the toolbar to access the **Devices**, **Topology**, **Analytics**, **Reporting**, **DXi AR**, and **Media** consoles.

Figure 5: Vision Toolbar



#### **Devices Console**

Use the Devices console to view the status of all monitored devices and software, and to work with notifications. The status badge, located in the **Status** column of the console, changes appearance depending on the status of monitored devices. Hold the cursor over the status badge to see a status summary.

- Vindicates that all devices are operating correctly.
- A Indicates that there is a problem with one or more devices.
- 🕴 Indicates that there is a major problem with one of more devices.

- 😫 Indicates that Vision's connection with the device has failed.
- O Indicates that the device is discovered but no data has been collected yet, or the status is unknown.

See Vision Device Consoles on page 97.

#### **Topology Console**

The Topology console is composed of topology maps that you can use to quickly view the following information:

- DXi and Q-Cloud Protect replication relationships
- PTT, vmPRO-DXi, and Scalar LTFS-scalar relationships
- Capacity usage
- Deduplication percentages

See Vision Topology Console on page 163.

#### **Analytics Console**

The Analytics console is composed of interactive graphs that you can use to quickly visualize and compare key statistics for DXi devices, Q-Cloud Protect appliances, Scalar libraries, and vmPRO.

See Vision Analytics on page 178.

#### **Reporting Console**

Use the Reporting console to generate and view reports, set up recurring schedules for automatically generating reports, and send reports to specified recipients.

See Vision Reporting on page 200.

#### DXi AR Console

Use the DXi AR console to view and compare Advanced Reporting graphs for one or more DXi devices or Q-Cloud Protect appliances.

#### Media Console

The Media console displays information for tape media within Scalar libraries. Use this console to monitor Scalar libraries, update media locations, and delete obsolete media.

See Vision Media Console on page 170.

### User Menu

The User menu displays the name of the user who is currently logged on, such as admin.

Chapter 1: Quantum Vision Navigate Vision

#### Figure 6: User Menu



Click the User menu icon to display the following options:

Use to log the current user off Vision.

#### **Change Password**

Use to display the Change Password dialog box.

#### Change your password

- a. Enter your original password.
- b. Enter the new password.
- c. Enter the new password again to confirm it.
- d. Click Save.

#### **Setup User Accounts**

Use to display the User Management dialog box. See Manage Users in Vision on page 71.

### Navigation Bar and Console

The navigation bar above the console shows your current location within the Vision application. Click on any of the navigation bar's tabs to view the associated information in the Vision console. The main area of the Vision GUI displays the currently selected console. The Devices console acts as the Vision home page.

#### Figure 7: Vision Navigation Bar and Console

uua	ntum. 🛛 Visi	ion										2	Log Off
Manag	ement Configurat	tion Help				_	_	_	_			_	
Device	s Topology And	alytics Reporting DXi A	AR Media								- (	🖍 adr	nin ▼
All Devi	ces 👻 DXi Dev	vices											
🔁 DX	i Devices Conso	lidated Console: Criti	cal (2), Connection	Failed (7), Warning	(2)	_	_	_	_				
Device	s (31)							Gro	up Fi	Iter: All	Device	es	🖃 🗅
Device: St ▲	s (31) Device	Address	Serial Number	Product	т	U		Gro	up Fi R	Soft	Device	es U	🔻 🙆 Last Gat
Device St ▲ Ø	s (31) Device dendxi7500a	Address	Serial Number	Product N/A	<b>T</b> N/A	<b>U</b> N/A	 N/A	Gro  N/A	up Fi R N/A	Soft	Devic  01.0	es U N/A	Last Gat
Device St ▲ 🔇	s (31) Device dendxi7500a dendxi8500a	Address 10.20.33.212 10.20.33.81	Serial Number N/A CX1111BVF00102	Product N/A Quantum DXi8500	T N/A 89,5	U N/A 71,5	 N/A 79.5	Gro  N/A 18,4	up Fi R N/A 32.5	Soft           N/A           2.3.0	Devic  01.0 02.0	es U N/A 48d	▼
St A	s (31) Device dendxi7500a dendxi8500a empousa	Address 10.20.33.212 10.20.33.81 10.20.163.197	Serial Number           N/A           CX1111BVF00102           SV1106BVA17331	Product N/A Quantum DXi8500 Quantum DXi7500	T N/A 89,9 21,7	U N/A 71,5 3,05	 N/A 79.5 14.2	Gro N/A 18,4 18,6	<b>R</b> N/A 32.5 14.0	Soft           N/A           2.3.0           1.5.0	Devic 01.0 02.0 01.0	es U N/A 48d 49d	Last Gat
St A	s (31) Device dendxi7500a dendxi8500a empousa minotaur	Address 10.20.33.212 10.20.33.81 10.20.163.197 10.20.163.202	Serial Number           N/A           CX1111BVF00102           SV1106BVA17331           SV0940BVA25827	Product N/A Quantum DXi8500 Quantum DXi7500 Quantum DXi7500	T N/A 89,9 21,7 21,7	U N/A 71,5 3,05	 N/A 79.5 14.2 0.45	Gro N/A 18,4 18,6 21,6	<b>R</b> N/A 32.5 14.0 0.00	Soft           N/A           2.3.0           1.5.0	01.0 02.0 01.0 01.0	es U N/A 48d 49d 53d	Last Gat 1-7-201: 1-7-201: 11-21-20 11-21-20
St A	s (31) Device dendxi7500a dendxi8500a empousa minotaur echidna	Address 10.20.33.212 10.20.33.81 10.20.163.197 10.20.163.202 10.20.163.184	Serial Number           N/A           CX1111BVF00102           SV1106BVA17331           SV0940BVA25827           4GWPQJ1	Product N/A Quantum DXi8500 Quantum DXi7500 Quantum DXi7500 Quantum DXi2500-D	T N/A 89,5 21,7 21,7 1,90	U N/A 71,5 3,05 106	 N/A 79.5 14.2 0.45 91.4	Gro N/A 18,4 18,6 21,6 160	up Fi R N/A 32.5 14.0 0.00 129	Iter:         All           Soft         N/A           2.3.0         1.5.0           1.5.0         1.5.0	Devic 01.0 02.0 01.0 01.0 01.0	es U N/A 48d 49d 53d 49d	Last Gat
St A	s (31) Device dendxi7500a dendxi8500a empousa minotaur echidna ppodxi7500a	Address 10.20.33.212 10.20.33.81 10.20.163.197 10.20.163.202 10.20.163.184 10.55.32.50	Serial Number           N/A           CX1111BVF00102           SV1106BVA17331           SV0940BVA25827           4GWPQJ1           CX0924BVA00363	Product N/A Quantum DXi8500 Quantum DXi7500 Quantum DXi7500 Quantum DXi2500-D Quantum DXi2500-D	T           N/A           89,5           21,7           21,7           1,90           87,0	U N/A 71,5 3,05 106 1,74 38,7	 N/A 79.5 14.2 0.45 91.4 44.4	Gro N/A 18,4 18,6 21,6 160 48,3	<b>R</b> N/A 32.5 14.0 0.00 129 8.26	All           Soft           N/A           2.3.0           1.5.0           1.5.0           1.5.0	Devic 01.0 02.0 01.0 01.0 01.0 01.0	es U N/A 48d 49d 53d 49d 52d	Last Gat     1-7-201:     1-7-201:     11-21-20     11-21-20     11-21-20     12-1-20:
St A St A S S S S S S S S S S S S S S S S S S S	s (31) Device dendxi7500a dendxi8500a empousa minotaur echidna ppodxi7500a gambit	Address           10.20.33.212           10.20.33.81           10.20.163.197           10.20.163.202           10.20.163.184           10.55.32.50           10.20.174.10	Serial Number           N/A           CX1111BVF00102           SV1106BVA17331           SV0940BVA25827           4GWPQJ1           CX0924BVA00363           SV1347BVE16092	Product N/A Quantum DXi8500 Quantum DXi7500 Quantum DXi7500 Quantum DXi2500-D Quantum DXi7500 Quantum DXi7500	T           N/A           89,5           21,7           1,90           87,0           16,0	U N/A 71,5 3,05 106 1,74 38,7 2,65	 N/A 79.5 14.2 0.45 91.4 44.4 16.8	Gro N/A 18,4 18,6 21,6 160 48,3 13,3	<b>R</b> N/A 32.5 14.0 0.00 129 8.28 25.0	Soft           N/A           2.3.0           1.5.0           1.5.0           1.5.0           2.3.0	Devic 01.0 02.0 01.0 01.0 01.0 01.0 01.0 02.0	es V N/A 48d 49d 53d 49d 52d 16d	Last Gat     1-7-201     1-7-201     1-7-201     11-21-20     11-21-20     11-21-20     12-1-20     9-5-201

You can use the navigation bar to display the Consolidated console, which is a list of all the devices for a specific device family.

#### **Display the Consolidated console**

• Click on the family name tab.

OR

• Select the family name from the All Devices drop-down list.

### Home, Help, and Log Off

The Home icon, Help icon, and Log Off button appear at the top right of the Vision GUI.

Figure 8: Home Icon, Help Icon, and Log Off Button



Use these as follows:

Icon/Button	Description
	Click to return to the <b>Devices</b> console.
?	Click to open help topics associated with the displayed console.
Log Off	Click to end your Vision session.

### **Tooltips**

Tooltips are small pop-up windows that appear when you hold the cursor over certain objects in the Vision GUI. They provide further information about the object over which the cursor is hovering.

### Examples

- · Hold the cursor over a field or button to learn more about using it.
- Hold the cursor over a line or bar on a chart to see details about the underlying data.

### **Tables**

You can sort tabular data based on any of the available column headings.

#### Example

On the **Devices** console, click the **Status** column heading to sort all storage devices according to status, or click the **Product** column heading to sort all storage devices according to product family.

### Select the columns to display

For most tables that display information, you can choose the columns of data that you want to display.

- 1. Click  $\times$  on the upper right of the table to display the **Configure Columns** menu.
- 2. Select the columns to display.
- 3. Click Save.

#### Export the information in a table to a file

You can export most information in tables to a file. You can then import the information into other applications.

- 1. Click 🗐 on the upper right of the table to display a list of file formats.
- 2. Select a file format (CSV, Text, or XML).
- 3. Select a location to save the file, type a name for the file, and click Save.

### System Messages

If there are communication problems between the browser and the Vision server, Vision displays a **Service Error Message**.

#### Example

A timeout error can result when the browser makes a request to the server, and the server does not respond in time.

#### Figure 9: Service Error Message

Service Error!	X
We are sorry! Communication with the Vision server has been interrupted. The Vision server may no longer be running, or your session may no longer be valid. Please check the status of the Vision server and log off, log back on, and try again.	
Details OK	

### **Quantum Device Names**

In some cases, Vision refers to Quantum storage devices by their product family name. Use the following information to understand how the product family name relates to specific device models:

Product Family	Device Models
DXi	DXi V-Series appliances (virtual backup systems), DXi4500, DXi4701, DXi6500, DXi6700 (including DXi6701 and DXi6702), DXi6802, DXi 6900, DXi 6900-S, DXi7500, and DXi8500 disk backup systems Q-Cloud Protect appliances
Scalar	i40, i80, i3, i6, i500, i2000, and i6000 libraries
Scalar LTFS	Scalar linear tape file system
vmPRO	vmPRO virtual backup system



This chapter contains the following topics:

Vision Installations and Upgrades	21
Install Vision onto a Windows-Based Server	
Install Vision onto a Linux-Based Server	
Upgrade Vision with the Standard Software Package	30
Install Vision as a Virtual Appliance	32
Upgrade to a Vision Virtual Appliance	41
Uninstall Vision Software from a Vision Server	46

# Vision Installations and Upgrades

Vision is available as either a standard software package or as a virtual appliance.

### Standard Software Package

Vision software packages are available to install and upgrade for both Windows and Linux operating systems. Before installing Vision software, make sure the operating system on the Vision server is accessible on the network. For best results, we recommend configuring the Vision server with a static IP

address.

Note: Installing Vision 4 does not upgrade an existing Vision 3 installation. We recommend uninstalling any version of Vision 3 before upgrading to Vision 4. Although it is possible to run both Vision 3 and 4 simultaneously on your Vision server, we do not recommend it. See <u>Uninstall Vision Software from a Vision Server on page 46</u>.

### Virtual Appliance

Vision 4.3.2 and newer are available as a VMware appliance in a format that installs within a vSphere infrastructure. This Vision appliance may be installed either on a physical server or as a virtual machine (VM) by OVF or other means to allow you to comply with your company's IT standards and policies. There is no technical advantage to installing Vision on a physical server or VM.

In addition, if you have Vision 4.2 to 4.3.1, you can upgrade to a Vision 4.3.2 and newer appliance by using one of the following methods:

#### Vision 4.2.0 and Vision 4.2.1

Use Red Hat Package Managers (RPMs) to upgrade to the Vision 4.3.2 or newer appliance.

#### Vision 4.3.0 and Newer

Use the Software Update feature on the Vision window to upgrade to the Vision 4.3.2 or newer appliance.

The Vision Software Update feature also allows you to choose whether you want the Vision server to automatically check for and notify you of available updates.

**Note:** See <u>Vision Virtual Appliance Console Command Line on page 6</u> for information about using your Vision virtual appliance's console command line.

# Install Vision onto a Windows-Based Server

Use the Vision standard installation software package for Windows-based servers. After you have completed the installation wizard, set up and configure your Vision software.

### Install Vision software onto a Windows-based server

- 1. Download the Vision installer file **vision-<x>-windows-installer.exe**, or insert the media with the installer file into the appropriate drive of your Vision server.
- 2. Browse to the location of the installer file.

3. Double-click the file to display the Quantum Vision Setup Wizard.

Figure 10: Quantum Vision Setup Wizard

📑 Setup		_ 🗆 X
Quantum Vision*	Setup - Quantum Vision	
	Welcome to the Quantum Vision Setup Wizard.	
Preserving the World's Most Important Data. Wours."		
	< Back Next > C	ancel

4. Click Next to display the License Agreement window.

Figure 11: License Agreement Window

License Agreement		
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.		
Quantum Vision End-User License Agreement This End-User License Agreement ("License" and/or "Agreement") defines the terms and conditions of the license between Quantum Corporation, a Delaware corporation with corporate headquarters located at 1650 Technology Drive, San Jose, CA 95110 ("Quantum") and you, the End-User (also "Licensee" herein) for use of Quantum's Software (defined below) and documentation. Any Softwar or documentation provided to Licensee by Quantum will be subject	•	
Do you accept this license?    I accept the agreement  I do not accept the agreement		
BitRock Installer   Kext > Canc	el	

Chapter 2: Installations and Upgrades Install Vision onto a Windows-Based Server

5. Select I accept the agreement and click Next to display the Installation Directory window.

Figure 12: Installation Directory Window

Installation Directory	$\sim$	
Please specify the directory where Quantum Vision will be installed.		
Installation Directory CAProgram Files (v86)\Quantum		
BitRock Installer		
Sack Next >	Cancel	

6. In the **Installation Directory** field, edit the location in which to install the Vision software as needed, and click **Next** to display the **Product Serial Number** window.

Figure 13: Product Serial Number Window

1	🗣 Setup
	Product Serial Number
	Please enter your Quantum Vision product serial number. If you are installing Quantum Vision for evaluation, you may leave this field blank. You can always enter the serial number later, through the Quantum Vision application.
	Serial Number (optional)
1	
	BitRock Installer
	< Back Next > Cancel

7. In the **Serial Number** field, enter your Vision serial number as needed, and click **Next** to display the **Vision Ports** window.
Figure 14: Vision Ports Window

Vision Ports	$\sim$
Please provide the ports you w	ant Vision to use for serving web pages.
Non-Secure (HTTP) Port	80
Secure (HTTPS) Port	443
Vision Database Server Port	5432
BitRock Installer	< Back Next > Cancel

- 8. In the **Port** fields, edit the ports that Vision will use as needed, and click **Next** to display the **Ready to Install** window.
  - **Note:** You can change your network ports using Vision's Security feature. When using this feature to change ports, check your existing firewall configuration to ensure that the appropriate firewall ports are open.

Figure 15: Ready To Install Window

Ready to Install	$\sim$
Setup is now ready to begin installing Quantu	um Vision on your computer.
BitRock Installer	< Back Next > Cancel

9. Click Next to start the installation.

The setup wizard installs the software, initializes the database, and starts Vision. When the setup wizard is finished, the **Completing the Quantum Vision Setup Wizard** window displays.

Figure 16: Completing the Quantum Vision Setup Wizard Window

🔄 Setup	
Quantum Vision*	Completing the Quantum Vision Setup Wizard
	Setup has finished installing Quantum Vision on your computer.
Quantum	installation?
Preserving the World's Most Important Data. Yourn, "	
	< Back Finish Cancel

- 10. Select the **Vision is a web based application, open the application after installation?** check box to launch Vision after the setup wizard is closed.
- 11. Click Finish to close the setup wizard.
- 12. Continue with the Vision setup.

# Install Vision onto a Linux-Based Server

Use the Vision standard installation software package for Linux-based servers. After you have completed the installation wizard, set up and configure your Vision software.

### Install Vision software on a Linux-based server

1. Use one of the following options to display the Quantum Vision Setup Wizard.

#### If you are accessing the Vision Linux installer from removable media

- a. Insert the media into the appropriate drive of your Vision server.
- b. In a terminal window, execute the following commands as the root user:

umount /media/<device>
mkdir /tmp/VISION
mount /dev/<device> /tmp/VISION/
cd /tmp/VISION/

./setup-linux.bin

# If you have downloaded the Vision Linux installer vision-<x>-linux-installer.run from the Internet

a. In a terminal window, execute the following command as the root user:

#### chmod +x /root/Desktop/vision-<x>-linux-installer.run

- b. Do one of the following:
  - If you are in a desktop environment, double-click the installer file.
  - If you are in a command line environment, type ./vision-<x>-linux-installer.run and press <Enter>.

Figure 17: Quantum Vision Setup Wizard

	Setup _ 🗆 🗙
Quantum Vision"	Setup - Quantum Vision
THE STATE OF	Welcome to the Quantum Vision Setup Wizard.
Quantum.	
Preserving the World's Most Important Data. Yours."	
	A Back

2. Click Forward to display the License Agreement window.

Figure 18: License Agreement Window



3. Select I accept the agreement, and click Forward to display the Installation Directory window.

Figure 19: Installation Directory Window

Setup	
Installation Directory	$\sim$
Please specify the directory where Quantum Vision will be installed.	
Installation Directory /opt/quantum-vision	
RitBock Installer	
Back	<u>C</u> ancel

4. In the **Installation Directory** field, edit the location in which to install the Vision software as needed, and click **Forward** to display the **Product Serial Number** window.

Figure 20: Product Serial Number Window

🗣 Setup
Product Serial Number
Please enter your Quantum Vision product serial number. If you are installing Quantum Vision for evaluation, you may leave this field blank. You can always enter the serial number later, through the Quantum Vision application.
Serial Number (optional)
BitRock Installer   Kext > Cancel

5. In the **Serial Number** field, enter your Vision serial number as needed, and click **Forward** to display the **Vision Ports** window.

#### Figure 21: Vision Ports Window

Setup _ ×
Vision Ports
Please provide the ports you want Vision to use for serving web pages.
Non-Secure (HTTP) Port 80
Secure (HTTPS) Port 443
Vision Database Server Port 5432
BitRock Installer
<u>Back</u> <u>Forward</u> <u>Cancel</u>

- 6. In the **Ports** fields, edit the ports that Vision will use as needed, and click **Forward** to display the **Ready to Install** window.
  - **Note:** You can change your network ports using Vision's Security feature. When using this feature to change ports, check your existing firewall configuration to ensure that the appropriate firewall ports are open.

Figure 22: Ready to Install Window

	Setup	
Ready to Install		$\sim$
Setup is now ready to begin ins	talling Quantum Vision on your con	nputer.
BitBock Installer		
	◆ Back	<u>C</u> ancel

7. Click **Forward** to start the installation.

The setup wizard installs the software, initializes the database, and starts Vision. When the setup wizard is finished, the **Completing the Quantum Vision Setup Wizard** window displays.

Figure 23: Completing the Quantum Vision Setup Wizard Window

2	Setup 📃 🗆 🗙
Quantum Vision*	Completing the Quantum Vision Setup Wizard
	Setup has finished installing Quantum Vision on your computer.
	Vision is a web based application, open the application after installation?
Quantum.	
Preserving the World's Most Important Data. Years."	
	Finish Cancel

- 8. Select the **Vision is a web based application, open the application after installation?** check box to launch Vision after the setup wizard is closed.
- 9. Click **Finish** to close the setup wizard.

#### Additional Steps for Removable Media Installations

 a. If you installed the Vision software with removable media, execute the following commands to safely remove the media:
 cd/

umount/tmp/VISION

- b. Remove the media from the drive.
- 10. Continue with the Vision setup.

# Upgrade Vision with the Standard Software Package

Use the Vision standard update software package to upgrade an existing installation of Vision to the latest version for either a Windows or Linux operating system (OS).

#### Important

After you run the software updater, Vision must update and convert the database for optimum performance. This process can take two hours for large configurations. The Vision Web-based interface is not available during this time.

# Upgrade Vision with the standard software package

- 1. Access the Quantum Web site at <a href="http://www.quantum.com/vision">http://www.quantum.com/vision</a>.
- 2. Click Vision Software Download.
- 3. Click Vision 4.4.0 Software Upgrade.
- 4. Locate and download the correct update software for the OS on which the Vision server is running, either Windows or Linux.

If the Vision server is unable to access the Internet, download the update software onto another computer, and then copy it to the Vision server using a USB flash drive or other removable storage.

5. On the Vision server, stop the Vision service by doing one of the following:

#### Windows OS

Use the **Services** control panel to stop the Vision service.

#### Linux OS

At a terminal prompt, enter service vision stop.

6. On the Vision server, run the Vision update software by doing one of the following:

#### Windows OS

Double-click the downloaded updater software file.

#### Linux OS

From a terminal window as the root user, execute the following command in the directory storing the update software file:

#### ./<vision\_updater\_filename>

- 7. At the prompt, click **OK** to display the Quantum Vision Setup Wizard.
- 8. Click Next or Forward to display the License Agreement window.
- 9. Select I accept the agreement, and click Next or Forward to display the Installation Directory window.
- 10. In the **Installation Directory** field, edit the location in which to install the Vision software as needed, and click **Next** or **Forward** to display the **Ready to Install** window.

#### Windows (32-bit)

The default location is: \Program Files\Quantum Vision\.

#### Windows (64-bit)

The default location is: \Program Files (x86)\Quantum Vision\.

#### Linux

The default location is: /opt/quantum-vision/.

11. Click Next or Forward to initiate the upgrade.

When the setup wizard has completed the upgrade, the **Completing the Quantum Vision Setup Wizard** window displays.

12. Click Finish to close the setup wizard.

Your Vision software is updated to the latest version.

13. Close your browser to clear its cache before accessing the updated version of Vision.

# Install Vision as a Virtual Appliance

You can install Vision 4.3.2 and newer as a VMware appliance within a vSphere infrastructure.

Use the following task to walk through a typical OVF deployment. Keep in mind that the actual sequence of deployment windows depends on your system's configuration and may not appear exactly as shown here. With a basic knowledge of your system, the selections that you need to make, such as hosts or clusters, should be intuitive.

**i** Note: If you have downloaded a Vision OVA file from Quantum.com, simply use it as you would an OVF file.

### Install Vision as a virtual appliance

- 1. Download the Vision OVA or OVF file, or insert the media with the installer file into the appropriate drive of your Vision server.
- 2. Display the **vSphere Client** window.

3. On the File menu, select Deploy OVF Template to display the Source window.

#### Figure 24: Source Window

🚱 Deploy OVF Template	
Select the source location.	
Source OVF Template Details End User License Agreement Name and Location Deployment Configuration Disk Format IP Address Allocation Ready to Complete	Deploy from a file or URL          D:\Vision OVF\QuantumVision.ovf <ul> <li>Browse</li> <li>Enter a URL to download and install the OVF package from the Internet, or specify a location accessible from your computer, such as a local hard drive, a network share, or a CD/DVD drive.</li> </ul>
Help	< Back Next > Cancel

4. Click **Browse** to locate and select the **QuantumVision.ovf** file, and click **Next** to display the **OVF Template Details** window.



Deploy OVF Template			
OVF Template Details Verify OVF template details.			
Source OVF Template Details End User License Agreement Name and Location I Host / Cluster Resource Pool Disk Format Ready to Complete	Product: Version: Vendor: Publisher: Download size: Size on disk: Description:	Quantum Vision No certificate present 758.4 MB 1.8 GB (thin provisioned) 200.0 GB (thick provisioned) CentOS 6 virtual machine for Quantum Vision appliance	
Help		< Back Next	> Cancel

5. Make note of any information you need, and click **Next** to display the **End User License Agreement** window.

#### Figure 26: End User License Agreement Window

Deploy OVF Template	
End User License Agreemer Accept the end user license	it agreements.
Source <u>OVF Template Details</u> End User License Agreems Name and Location I Host / Cluster Resource Pool Disk Format Ready to Complete	Quantum Vision End-User License Agreement This End-User License Agreement ('License" and/or "Agreement") defines the terms and conditions of the license between Quantum Corporation, a Delaware corporation with corporate headquarters located at 1650 Technology Drive, San Jose, CA 95110 ('Quantum') and you, the End-User (also "Licensee" herein) for use of Quantum's Software (defined below) and documentation. Any Software or documentation provided to Licensee by Quantum will be subject to the terms and conditions of this License, and by downloading, installing, or using the Software or documentation, Licensee, then Licensee must not download, install, or use the Software or documentation and promptly return the entire media package to the place of purchase within five days of the date of purchase for a full refund. 1. Software. "Software" means the current version of Quantum Vision proprietary software program(s) accompanying this license, in object code form only, and any Updates thereto. Software does not include Open Source Software (defined below). 'Lipdates' means maintenance releases and error corrections to the Software, Open Source Software and/or documentation which are generally provided by Quantum to customers receiving maintenance at no additional charge. Updates do not include releases, improvements, and enhancements for which Quantum charges separately or extra as determined by Quantum in its sole discretion. 2. Software, All software and related documentation ('Software') and other intellectual property (including without limitation, know how, trade secrets, architectures, and systems and methods for producing Software functionality) is owned by and toprights therein. You are receiving a limited license to use the Software stirtly in accordance with the terms and conditions of this Agreement and only in connection with the operation of the Software. You may not reproduce the Software in any form, except as provided for in the license grant in Sections 3 and 4 below. You may no
< III >	Accept
Help	< Back Next > Cancel

6. Click **Accept** to accept the license agreement, and click **Next** to display the **Name and Location** window.

#### Figure 27: Name and Location Window

Name	and	Location	

Source	Name:
OVF Template Details	Ouantum Vision 4.2 mep
End User License Agreement	The name can contain up to 80 characters and it must be unique within the inventory folder.
Resource Pool	,
Storage	Terreshaw I and Fee
Disk Format	Inventory Location:
Ready to Complete	Discovered virtual machine
Help	< Back Next > Cancel

- 7. In the **Name** field, enter a name for the appliance, and in the **Inventory Location** field, select a location, as needed.
- 8. Click **Next** to make any of the following selections that apply to your vSphere configuration:

#### If your configuration has multiple hosts or clusters

Select your host or cluster and click **Next**. This option is not available if you have only one host or a single cluster.

#### If you configuration supports resource pools

Select your resource pool and click **Next**. This option is not available if you are not using the resource pool capability.

#### If you have multiple storage destinations

Select your storage destination and click **Next**. This option is not available if you have only one storage device.

#### The **Disk Format** window displays.



Deploy OVF Template				_ 0 <u>_ X</u>
<b>Disk Format</b> In which format do you wa	int to store the virtual disks?			
Source OVF Template Details End User License Agreement Name and Location Host / Cluster Resource Pool <b>Disk Format</b> Ready to Complete	Datastore: Available space (GB): C Thick Provision Lazy Zero C Thick Provision Eager Zer Thin Provision	VMStorage (1) 6586.8 ed oed		
Help			< Back Next >	Cancel

9. Make sure that **Thin Provision** is selected and click **Next** to display the **Ready to Complete** window.

If you have multiple vSwitches configured in your environment, select the appropriate network and click **Next** to display the **Ready to Complete** window. This option is not available if you have a single vSwitch configuration.

#### Figure 29: Ready to Complete Window

Deploy OVF Template		→ - <b>□</b> ×
Ready to Complete Are these the options you	want to use?	
Source OVF Template Details End User License Agreement Name and Location Resource Pool Storage Disk Format Ready to Complete	When you dick Finish, the deployment Deployment settings: OVF file: Download size: Size on disk: Name: Folder: Host/Cluster: Datastore: Disk provisioning: Network Mapping:	nt task will be started. C:\Documents and Settings\mpavalus\Desktop\Vision OV 599.5 MB 1.6 GB Quantum Vision4.2 mep PhyvSphere5 10.30.241.9 qanas Thin Provision "VM Network" to "VM Network"
	Power on after deployment	
Help		< Back Finish Cancel

10. On the **Ready to Complete** window, verify that the settings are correct and click **Finish** to initiate the deployment process.

When the Vision appliance has been deployed, the **Deployment Completed Successfully** dialog box displays.

- 11. Click **Close** to return to the **vSphere Client** window.
- 12. In the left panel, select the new Vision appliance's name and click the **Launch Virtual Machine Console** icon to display the appliance's virtual machine console window.

Figure 30: Launching your Virtual Machine Console



13. On the appliance's virtual machine console window, click the **Power On** icon.



Figure 31: Console Window with Power On Icon

The Power On process takes several minutes. When it is complete, the appliance's console command line window displays.

Figure 32: Console Window with Command Line



14. Log on with your appliance's user name and password, as needed. See <u>Access the Console Command</u> Line on page 7.

The system will establish an IP address for the Vision appliance and display it on the **vSphere Client Summary** tab's right panel. Figure 33: vSphere Client Summary Tab



For enhanced stability, it is recommended that you replace your DHCP assigned IP address with a static IP address. See <u>Issue Network Commands on page 10</u>.

15. Continue with the Vision setup.

# Upgrade to a Vision Virtual Appliance

If you have Vision 4.2 to 4.3.1, you can upgrade to a Vision 4.4.0 virtual appliance by using one of the following methods.

#### Important

As a precautionary measure, we recommend that you use your vSphere client or other ESXi management client to take a snapshot of your Vision server before beginning any update.

## Vision 4.2.0 and Vision 4.2.1

Use Red Hat Package Managers (RPMs) to upgrade to the Vision 4.4.0.

#### Upgrade Vision 4.2.0 to Vision 4.4.0

- 1. Access the Quantum Web site at http://www.quantum.com/vision.
- 2. Click Vision Software Download.
- 3. Click Vision 4.4.0 Software Upgrade to access the RPMs.
- 4. Locate the following 3 PostgreSQL 8.4 RPMs and the Vision-install RPM:
  - postgresql-libs-8.4.13-1.el6\_3.x86\_64.rpm
  - postgresql-8.4.13-1.el6\_3.x86\_64.rpm
  - postgresql-server-8.4.13-1.el6\_3.x86\_64.rpm
  - vision-install-4.4.0-<build\_number>.x86\_64.rpm

**Note:** The Vision and PostgresSQL version numbers will change when the software is updated. You should use the most recent versions.

5. Download the RPMs to a server that is both on your network and that can be accessed from the appliance by either HTTP or SCP/SSH, as follows:

#### **HTTP servers**

Place the RPMs anywhere within the Web server's directory structure, for example:

#### http://<server>/directory/path/vision-install-4.4.0-<build\_number>.x86\_64.rpm

For this example, you would use the http command in step 8.

#### Servers other than HTTP servers

Place the RPMs anywhere on the server, for example:

#### /tmp/vision/updates/vision-install-4.4.0-<br/>build\_number>.x86\_64.rpm

For this example, you would use the SCP command in step 8.

- 6. Make note of the location in which you place the RPMs.
- 7. Log in to one of the following Vision appliances as a sysadmin user, as appropriate:

#### Linux/Unix/Mac systems

Use SSH or a comparable application.

#### Windows systems

Use PuTTY or a comparable application.

#### VMware vSphere client

Use the appliance's VM console.

8. Depending on how you are transferring the PostgrSQL RPMs from the server to your appliance (see step 5), run one of the following upgrade commands to upgrade RPMs:

#### HTTP

At the appliance's admin command line prompt, enter system upgrade http.

#### SCP

At the appliance's admin command line prompt, enter system upgrade scp.

- 9. Respond as appropriate to each upgrade command. The following occurs:
  - The upgrade command retrieves and installs the PostgreSQL RPMs onto the appliance.
  - After the RPMs are installed, a message displays notifying you that the Vision service is being restarted.
  - When the Vision service has restarted, the updated PostgreSQL is installed.
- 10. At the **admin** prompt, repeat steps 7 and 8 for the Vision-install RPM.

The upgrade command retrieves and installs the Vision-install RPM onto the appliance. This installation configures and starts the PostgreSQL service.

11. At the admin prompt, enter exit.

Vision has been upgraded.

#### Upgrade Vision 4.2.1 to Vision 4.4.0

- 1. Access the Quantum Web site at http://www.quantum.com/vision.
- 2. Click Vision Software Download.
- 3. Click Vision 4.4.0 Software Upgrade to access the RPM.
- 4. Locate the vision-install-4.4.0-<br/>build\_number>.x86\_64.rpm RPM.

**Note:** The Vision and PostgresSQL version numbers will change when the software is updated. You should use the most recent versions.

5. Download the above RPM to a server that is both on your network and that can be accessed from the appliance by either SCP/SSH or HTTP, as follows:

#### **HTTP servers**

Place the RPM anywhere within the Web server's directory structure, for example:

#### http://<server>/directory/path/vision-install-4.4.0-<build\_number>.x86\_64.rpm

For this example, you would use the http command in Step 8.

#### Servers other than an HTTP server

Place the RPM anywhere on the server, for example:

#### /tmp/vision/updates/vision-install-4.4.0-<br/>build\_number>.x86\_64.rpm

For this example, you would use the SCPcommand in Step 8.

- 6. Make note of the location in which you place the RPM.
- 7. Log in to one of the following Vision appliances as a sysadmin user, as appropriate:

#### Linux/Unix/Mac systems

Use SSH or a comparable application.

#### Windows systems

Use PuTTY or a comparable application.

#### VMware vSphere client

Use the appliance's VM console.

8. Depending on how you are transferring the PostgrSQL RPMs from the server to your appliance (see step 5), run one of the following upgrade commands to upgrade RPMs:

#### HTTP

At the appliance's admin command line prompt, enter system upgrade http.

#### SCP

At the appliance's admin command line prompt, enter **system upgrade scp**.

- 9. Respond as appropriate to each upgrade command. The following occurs:
  - The upgrade command retrieves and installs the RPM onto the appliance.
  - After the RPM is installed, a message displays notifying you that the Vision service is being restarted.
  - When the Vision service has restarted, the admin application displays a prompt.
- 10. At the **admin** prompt, enter **system upgrade** to run the system upgrade command.
- 11. At the admin prompt, enter exit.

Vision has been upgraded.

### Vision 4.3.0 and Newer

Use the Software Update feature on the Vision window to upgrade to the Vision 4.4.0.

#### Upgrade Vision 4.3 or newer to Vision 4.4.0

- 1. Log on to Vision as a **sysadmin** user to display the Vision window.
- 2. On the **Configuration** menu, select **Software Update** to display the **Software Update** dialog box with the **Update Now** button activated.

Figure 34: Software Update Dialog Box - Update Now



3. Click Update Now to upgrade your Vision software.

#### What if software updates are not available?

When you display the **Software Update** dialog box, the **Update Now** button does not appear. Instead a **Vision server should check for software updates** check box and an **OK** button display.

Figure 35: Software Update Dialog Box – Configure Settings

Software Update	X
Current software version is 4.3.1 build 2838	
Vision server should check for software updates	
OK	

Select this check box and click **OK** to check for software updates. If software updates are available, a notification banner displays to the right of the toolbar. You can install the software updates by clicking **Update Now**.

Figure 36: Software Update Notification

Quant	t <b>um</b> .   Visio	n				😭 🛛 Log Of
Managem	ent Configuration	n Help				
Devices	Topology Analy	tics Reporting DX	AR Media			🖁 admin 🔻
All Devices	(6)		An update to version	4.4.0-2868 is available	Aroup Filter: All De	wices 🔹 🖸 🗙 🕄
Status 🔺	Device	Address	Serial Number	Product	Software Version	Last Gather
Â	vision-3500	10.50.152.101	CX0752AKR01452	DXi3500	04.03.214	8-15-2014 01:37:24 PM
<u> </u>	vision-vmpro	10.50.152.233	50C88A4BA2F1C	Quantum vmPRO	3.1.2	8-15-2014 01:36:37 PM
0	vision-7500	10.50.152.108	CX09088VB00093	Quantum DXi7500	1.5.0.2_75	8-15-2014 01:34:26 PM
•	Indea um pro	10 40 164 97	CX1244CAC00170	0	2.1.2	8-15-2014 01-25-01 PM
_	invine-vinpro	10.40.104.27	CX1244CA000170	Quantum VMPRO	STATE.	0-10-2014 01130101 PM
0	vision-1500	10.50.152.106	A0C0206220	Scalar 1500	570G.GS005	8-15-2014 01:34:30 PM

By leaving the **Vision server should check for software updates**check box selected, your Vision server automatically checks for software updates.

If you do not want your Vision server to automatically check for updates, clear the **Vision server should check for software updates** check box. By deselecting this check box, you can control when your Vision server checks for updates.

# Uninstall Vision Software from a Vision Server

Use the following procedures to uninstall Vision software from a Vision server running on either a Windows or Linux operating system.

When you uninstall Vision software, you have the opportunity to save the Vision database. The database contains configuration and status information for the Vision server.

# Uninstall Vision software from a Vision server running on Windows:

- 1. In Windows, navigate to the Control Panel, and then to Uninstall or change a program.
- 2. In the list of currently installed programs, select Quantum Vision.
- 3. Click Uninstall to display a message asking if you want to uninstall Vision.
- 4. Click **Yes** to run the uninstall wizard.
- 5. At the message asking if you want to save the Vision database, click **Yes** to save the database or **No** to delete the database.
- 6. At the message indicating that the uninstall process is complete, click OK.
- 7. Depending on the version of Windows that you are running, a message stating that you must restart Windows to complete the uninstall process might display. if it does, click **Yes** to restart Windows and complete the uninstall process.

# Uninstall Vision software from a Vision server running on Linux

1. In a terminal window, execute the following commands as root:

cd/opt/quantum-vision

./unistall

- 2. At the message asking if you want to uninstall Vision, click Yes to run the uninstall wizard.
- 3. At the message asking if you want to save the Vision database, click **Yes** to save the database or **No** to delete the database.
- 4. At the message indicating that the uninstall process is complete, click OK.



# Chapter 3: Setup and Configuration

This chapter contains the following topics:

Vision Setup and Configuration	49
Manage Alert Rules in Vision	59
Manage Devices in Vision	64
Manage Groups in Vision	68
Manage Users in Vision	71
Vision Authentication Configuration	76
Configure Data Collection in Vision	80
Configure Data Expiration Settings in Vision	82
Configure Email Server Settings in Vision	83
Add a New Vision License	84
Configure Storage Policies in Vision	91
Configure Security Settings for Vision	95

# Vision Setup and Configuration

Before using Vision, you need to set up and configure your system to define how it interacts with users, devices, and other servers.

#### Example

Use the management capabilities in Vision to define when users are notified about changes in device status, or to define which devices are monitored by Vision.

#### OR

Define configuration settings for email, licenses, and authentication, in addition to other parts of the Vision system.

### **Alert Management**

With alerts, Vision can automatically notify users and administrators by e-mail about important changes in device status. You define alert rules to specify both the conditions for when Vision generates an alert and the recipients to whom Vision sends the alert. In addition, Vision sends an e-mail in response to SNMP traps generated by devices.

Use the **Alert Management** dialog box to view all current rules, and to add, edit, or delete rules. See Manage Alert Rules in Vision on page 59.

Figure 37: Alert Management Dialog Box

Edit Test Add		
al - Torra		
ule Type		
eplication Status from green to red		
Device Status from green to red		
Device Status from green to red		
isk Threshold - Above 0.0%		

#### Prerequisite

Before Vision can send alert notifications to recipients, you must configure e-mail server settings.

# **Device Management**

In Vision, a device is the backup system being monitored, such as a Scalar tape library, DXi disk backup system, Q-Cloud Protect, or Scalar LTFS. Before you can use Vision to monitor your devices, you must first run a process in which Vision discovers the devices within your network. After devices are discovered, use the **Device Management** dialog box to view, edit, and delete devices. See <u>Manage Devices in Vision on page 64</u>.

Figure 38: Device Management Dialog Box

Device Management			Σ
Add / Discover Devices			
Monitored Devices Authorized 43 of 503	Delete	Edit	Add
atlantic region			
denver			
southern region			
SLTFS 107			
western region			
eusebio			
co tape library			
dienst			
draper			
dendxi6530a			
los angeles			
rossi			
seattle			
charlton			
beckenbauer			•
L			
Discovery Timeout			
Timeout: 90 s			Save
L			

## **Groups Management**

In Vision, a group is a named collection of users. Vision uses groups to manage device access. When you run the device-discovery process, you can assign one or more groups to the device. Only users who belong to the assigned groups can access the device. Keep in mind that a user can belong to more than one group.

Use the **Groups Management** dialog box to add, edit, and delete groups. See <u>Manage Groups in Vision on</u> page 68.

Figure 39: Groups Management Dialog Box

Groups Managen	nent			X
	Delete	Edit	Add	
user				

## User Management

Vision supports three user roles: administrators, users, and monitors. Each role determines the type of access a user has to devices within Vision, and the functions a user can perform in Vision.

#### Admin

Administrators have access to all devices. They can schedule reports, configure Vision, and manage users, groups, and devices. Multiple administrators can log on to Vision at the same time.

#### User

Users have access to devices to which their groups have been assigned. Users can view information in Vision but cannot make changes.

#### Monitor

Monitors can view information in Vision but cannot make changes. Multiple users can log on as monitor at the same time. However, there is only one Monitor user account. To enable the Monitor user account, see Enable Vision Monitor Access on page 74.

Use the **User Management** dialog box to add users, specify their roles, and assign them to groups. From this dialog box, you can also edit and delete users. See <u>Manage Users in Vision on page 71</u>.

Figure 40: User Management Dialog Box

in managem			
	Delete	Edit	Add
user			
admin			

# Authentication Configuration

You can use Vision along with Lightweight Directory Access Protocol (LDAP) or Microsoft Active Directory (AD) to authenticate and authorize users. From the **Vision Authentication Configuration** dialog box, you can configure Vision to access the information stored in LDAP or AD, assign authorization levels to groups and users, and enable Monitor account access in Vision. See <u>Configure LDAP Directory Services for Vision</u> on page 76.

Figure 41: Vision Authentication Configuration Dialog Box

ision Auther	ntication Configura	tion	
onitoring			
Enabled M	Ionitor Account Access:		
LDAP Config	Vision Role to LDAP Gr	oup	
Enabled L	DAP Authentication:		
LDAP Ser	ver URL:		*
LDAP Ser	ver Manager DN:		*
LDAP Ser	ver Manager Password:		*
LDAP Gro	up Role Attribute:		*
LDAP Gro	up Search Base:		*
LDAP Sea	irch Patterns:		÷
LDAP Gro	up Search Filter:		*
LDAP Sea	irch Subtree:	<ul> <li>✓</li> </ul>	
LDAP Der	reference Flag:		
	(1) Save		

# **Data Collection Configuration**

Use Data Collection Configuration to define the frequency at which Vision collects status and reporting data from monitored devices, and to configure maintenance settings for your Vision database, as needed.

Use the Vision **Data Collection Configuration** dialog box to configure Vision data collection and database maintenance settings. See <u>Configure Data Collection in Vision on page 80</u>.

Figure 42: Vision Data Collection Configuration Dialog Box

Vision Data Collection Configuration
Status
Alert Gather Retry Count: 3
Replication
Replication Summary Gather Frequency: 1 days
Performance
Specify the day of the week and hour of the day to execute performance tuning
Day of Week Sunday   Hour of Day 2   (0-23)
(†) Save

# Data Expiration Configuration

Use Data Expiration Configuration to define the amount of time that Vision retains data collected from monitored devices. Any data that is older than a specified age is expired and removed from the Vision database, and this information is no longer available for reporting. When configuring data-retention time periods, keep in mind that aggregated values are retained in the Vision database for a predefined time:

- 15 minute values are retained for 6 months
- 1 hour values are retained for 12 months
- 1 day values are retained for 18 months

Use the **Vision Data Expiration Configuration** dialog box to configure data-retention settings. See Configure Data Expiration Settings in Vision on page 82.

Figure 43: Vision Data Expiration Configuration Dialog Box

Vision Data Expiration Config	uration		X
Replication Summary Lifetime	90	days	
Scalar Data Lifetime:	90	days	
vmPRO Data Lifetime:	90	days	
(1) Save			

# **Email Configuration**

You must configure your outgoing email server for Vision to send email notifications and reports. Use the **Vision Email Configuration** dialog box to configure these outgoing email server settings. See <u>Configure</u> Email Server Settings in Vision on page 83.

Figure 44: Vision Email Configuration Dialog Box

ion	_		E
localhost	*		
25	*		
		This field is required	
		nnis nela is required.	
I Save			
	localhost 25	ion  localhost  *  25  *	Iocalhost * 25 * This field is required.

# **Licensing Configuration**

The temporary license installed with Vision authorizes you to monitor up to 3 devices for up to 60 days. To monitor more devices, or to use Vision for more than 60 days, you must add a permanent license. To add a license to Vision, contact your Quantum Sales representative for information about purchasing a license. After you receive the license certificate, you can obtain a license key and add it to Vision.

Use the **Vision License Configuration** dialog box to configure new licenses on your vision server, to view information about your installed licenses, and to delete evaluation licenses. See <u>Add a New Vision License</u> on page 84.

Figure 45: Vision License Configuration Dialog Box

3					
Display Name			Nan	ne Mac	
eth 0			eth	00-0C-29	-23-B5-AE
tored Devices Authorized 3 of 23         isplay Name         th0         g         DE2-EB7C-0A28-171C-0911-AABF-67FD-71B0         454-046D-8421-1264-9AC1-E15B-44E7-098E         ::er New License:         ::er New License:         ::er New License:         :et if you are replacing your evaluation license with a pore devices than the number authorized by your permanent license. (To nagement menu.)					
5					1
(ey		Devices	Date Ad	Date Expires	Remove
DE2-EB7C-0A28-	171C-0911-AABF-67FD-71B0	3	9/16/2016	11/15/2016	
454-046D-8421-	thorized 3 of 23 71C-0911-AABF-67FD-71B0 264-9AC1-E15B-44E7-098E acing your evaluation license with a permanent li e number authorized by your permanent license tum Vision cannot collect data until the number rized by the permanent license. (To delete device	20	9/22/2016		
ter New License:		Add N	ew License	Remove Select	ed Licenses
te: If you are rep ore devices than nger monitor. Qua the number auth	placing your evaluation license with a perr the number authorized by your permaner antum Vision cannot collect data until the orized by the permanent license. (To del	manent license an nt license, you mu number of monit lete devices, selec	d Vision is cu st delete the ored devices i t Device Mana	rrently monitoring devices you will s less than or ec gement on the	g no jual

# **Storage Policies**

Use Vision's Storage Policy Configuration to improve performance and increase scalability by reducing the amount of data stored in the Vision database. With this application, you can define the type of data to include in Vision reporting and analytic results for devices and their specified data groups.

Use the **Storage Policy Configuration** dialog box to configure group storage. See <u>Configure Storage</u> Policies in Vision on page 91.

#### Figure 46: Storage Policy Configuration Dialog Box

tore Histo	rical Data or Store Late	est Data Only	
Devices	Data	Store Historical Data	Store Latest Data Only
All	Vision Performance	0	۲
DXi	CPU Usage	0	۲
DXi	Storage Metrics	۲	0
DXi	Replication Metrics	۲	0
DXi	Space Reclamation	۲	0
DXi	Memory	0	۲
DXi	Network	۲	0
DXi	Sensors	0	۲
DXi	Accent	۲	0
	(1) 5	Restore Defaults	]

# Security

Use the Vision's Security Configuration to define the following:

HTTP and HTTPS ports for Windows and Linux installed Vision servers.

For a Vision appliance, log on to the Vision Console Command Line and run the **net ports** command to configure ports. See <u>Issue Network Commands on page 10</u>.

 A public key required for Vision to access certain devices from which it is collecting data, such as DXi or Q-Cloud Protect.

Vision generates a public key that you can add to a device requiring this level of authorization. For more information, see the documentation of the product from which your Vision server is accessing data

Use the **Security Configuration** dialog box to configure security settings. See <u>Configure Security Settings</u> for Vision on page 95.

Figure 47: Security Configuration Dialog Box

Secu	urity Configuration	X
Netv	vork Ports	_
	HTTP: 80	
	HTTPS: 443	
Publ	lic Key	
	ssh-rsa	
	AAA.	
	Generate New Key	
	(1) Save	

# Software Update

Use the Vision **Software Update** dialog box to update your Vision virtual appliance when software updates are available. Through this application, you can also choose whether you want the Vision server to automatically check for and notify you of updates that are available. See <u>Vision Installations and Upgrades</u>.

**Note:** The Software Update feature supports only the Vision virtual appliance (installations from an OVF). The Software Update feature does not update Vision when it has been installed using the standard software installer.

Figure 48: Software Update Dialog Box

Software Update	X
Current software version is 4.3.2 build 2842	
Vision server should check for software updates	
An update to version 4.3.2-2843 is now available. The update may take a few minutes and will restart Vision.	
Update Now	

# Manage Alert Rules in Vision

Use Alert Management to manage alert rules, as follows:

- Specify the conditions for when Vision generates an alert, and define the recipients who receive the alert.
- Change the properties or actions for the rule.
- Remove an alert rule from the list of active rules. After you delete a rule, Vision no longer uses it to generate notifications.

Both administrators and users can manage alert rules, although, users can manage rules only for the devices to which they have access.

# Add an alert rule

1. On the Management menu, click Alert Management to display the Alert Management dialog box.

Figure 49: Alert Management Dialog Box

ıt
Edit Test Add
Rule Type
Replication Status from green to red
Device Status from green to red
Device Status from green to red
Disk Threshold - Above 0.0%

2. Click Add to display the Add New Rule dialog box.

Figure 50: Add New Rule Dialog Box

Rule Name:     t <ul> <li>charon</li> <li>client 2 V1000</li> <li>dendxi6530a</li> </ul> Priority:     Medium <ul> <li>dendxi6530a</li> <li>dendxi6530a</li> <li>dendxi6530a</li> <li>dendxi6530a</li> <li>dendxi6530a</li> <li>dendxi8500a</li> </ul> Rule Type:     Device Status <ul> <li>ppodxi6530a</li> </ul>			
From: Any  Any  poodxi7500a poodxi8500a vision-7500 Custom Message Text:	<ul> <li>clant 2 V1000 st</li> <li>dendxi6530a</li> <li>dendxi6530a</li> <li>dendxi8500a</li> <li>dendxi8500a</li> <li>denver</li> <li>eshidna</li> <li>ppodxi6530a</li> <li>ppodxi6530a</li> <li>ppodxi8500a</li> <li>vision-7500</li> <li>vision-DXiZero</li> </ul>	e: t equency: 60 Medium All DXi e: Device Stat Any Any Custom Mes	ale Name: etry Frequency iority: evice Type: ale Type: om:

3. In the **Rule Name** field, enter a name to use in identifying the rule.

You can enter a rule name that is up to 64 characters in length.

- 4. In the **Retry Frequency** field, enter the number of minutes in between alert notifications. If an alert notification is not acknowledged after this amount of time, Vision resends the alert notification.
- 5. In the **Priority** field, click on the drop-down list and select whether the alert should be **Low**, **Medium**, or **High** priority.
- 6. In the **Device Type** field, select an option from the drop-down list to indicate to which devices the rule applies.

#### All <device type>

The rule applies to all discovered sources of the selected device type.

#### Custom <device type>

The rule applies to selected devices within the selected device type.

To select devices, select the check box next to each device in the **Select Devices** pane to which to apply the rule.

 In the Rule Type field, select an alert rule type from the drop-down list, and then define parameters for the rule. See <u>Types of Vision Alert Rules on page 62</u>.
- 8. In the **From** and **To** fields, select a color status from each drop-down list to trigger an alert if a device's status changes from one to another.
- 9. In the Custom Message Text box, enter a message to send with the alert, as needed.
- 10. Click **Next** to display the **Configure Rule Action** dialog box.

Figure 51: Configure Rule Action Dialog Box

Alert Management		X
Configure Rule Action		_
Send email notification(s) System Users	Custom Emails Delete Add	
Bac	ck Save	

11. Set up email notifications, as needed.

#### Send email notifications when the alert is generated

- a. Select the Send email notification(s) check box.
- b. In the System Users box, select each predefined system user to whom to send email notifications.
- c. To add custom recipients, click **Add** and in the **New Email** field, enter the email address of the recipient.

To delete a custom recipient, select the recipient and click Delete.

- 12. Click Save to add the rule to the Alert Management dialog box.
- 13. Select the rule and click **Test** to verify that the rule is working correctly.
- 14. The rule now appears in the list of alert rules and is used to send notifications.

## Edit an alert rule

1. On the Management menu, click Alert Management to display the Alert Management dialog box.

2. Select the rule to edit, and click Edit to display the Edit Existing Rule dialog box.

Figure 52: Edit Existing Rule Dialog Box

		Select Devices
Rule Name:	device status gree *	charon
Retry Frequency:	60 minutes *	cilent 2 V1000 storage
Priority:	Medium 💌 *	dendxi7500a
		dendxi8500a
Device Type:	All DXi 💌	denver
Rule Type:	Device Status	echidna
From:	Any	ppodxi7500a ppodxi8500a
To:	Any 💌	vision-7500
	Custom Message Text:	vision-DXIZero

3. Edit the alert rules settings, as needed. See Add an alert rule on page 59.

When editing a rule, you cannot change the **Device Type** or **Rule Type** settings. To make changes to these settings, first delete the rule, and then create a new rule with the correct settings.

4. When you have finished editing the rule, click **Save** and close the **Alert Management** dialog box to apply all updates to the alert rule.

### Delete an alert rule

- 1. On the Management menu, click Alert Management to display the Alert Management dialog box.
- 2. Select the rule to delete, and click **Delete**.
- 3. Click Yes to confirm the deletion.

The rule is removed from the Alert Management dialog box.

## Types of Vision Alert Rules

When you define alert rules in Vision, you must select the type of rule to define. When you select the type of rule, you need to set up specific parameters to apply to the rule.

Rule types vary depending on the device.

Rule Type	Alert Trigger	Parameters
Device Status	An alert is sent when the device status changes, for example, from green to red.	Use the <b>From</b> and <b>To</b> lists to specify the change in status that triggers the alert.
Replication Status	(DXi devices only) An alert is sent when the replication status of the device changes, for example, from success to failure.	Use the <b>From</b> and <b>To</b> lists to specify the change in status that triggers the alert.
Disk Threshold	(DXi devices only) An alert is sent when used disk capacity rises above or falls below the specified percentage.	In the <b>Threshold</b> list, select <b>Above</b> or <b>Below</b> , and then enter a threshold percentage in the box.
		Example
		To send an alert when the used disk capacity level rises above 80%, select <b>Above</b> in the list and enter <b>80</b> in the box.
After Reduction	(DXi devices only) An alert is sent when the size of all deduplicated, compressed data stored on the DXi rises above the specified threshold value.	In the <b>Above</b> box, specify the threshold value in GB.
Total Reduction Ratio	(DXi devices only) An alert is sent when the total reduction ratio on the DXi falls below the specified threshold value.	In the <b>Below</b> box, specify the threshold value as a multiple.
Space Reclamation Duration	(DXi devices only) An alert is sent when the duration of space reclamation activity on the DXi exceeds the specified threshold value.	In the <b>Above</b> box, specify the threshold value in <b>Minutes</b> , <b>Hours</b> , or <b>Days</b> .
SNMP Trap	An alert is sent when an SNMP trap is received from the device.	(Optional) In the <b>OID</b> box, enter the object identifier (OID) for the trap. Enter an OID to filter traps for a specific component.
		(Optional) In the <b>Trap Value</b> box, enter a value to filter traps for a specific trap value.

# Manage Devices in Vision

Use Vision's Device Management to do the following:

- View a list of all monitored devices, the current number of monitored devices, and the maximum number of monitored devices authorized by the installed licenses.
- Edit a device to change its properties, or to define user-access to the device.
- Remove a device from the list of monitored devices. After you delete a device, Vision no longer monitors it.

### Prerequisites

- You must be an administrator to edit or delete a device.
- Your Vision system must discover devices before they appear in your Vision GUI. See <u>Discover a</u> <u>Device in Vision on page 66</u>.

## View information about monitored devices

1. On the **Management** menu, click **Device Management** to display the **Device Management** dialog box.

evice Management			
dd / Discover Devices			
Monitored Devices Authorized 43 of 503	Delete	Edit	Add
atlantic region			4
denver			
southern region			
SLTFS 107			
western region			
eusebio			
co tape library			
dienst			
draper			
dendxi6530a			
los angeles			
rossi			
seattle			
charlton			
beckenbauer			
iscovery limeout			
Timeout: 90 s			Save

Figure 53: Device Management Dialog Box

2. Review the following information.

Field	Description			
Monitored Devices Authorized x of x	<ul> <li>The first number indicates the number of devices that Vision is currently monitoring, and the second number indicates the maximum number of monitored devices authorized by your installed licenses.</li> <li>A scrolling list of the devices currently being monitored by Vision.</li> </ul>			
Discovery Timeout	The amount of time in seconds that a discovery process stops after a device is not discovered.			
	Change this amount of time			
	a. Highlight the number in the <b>Timeout</b> field.			
	b. Enter a new time in seconds.			
	c. Click <b>Save</b> .			

## Edit a device

- 1. On the **Management** menu, click **Device Management** to display the **Device Management** dialog box.
- 2. Select the device to which to make changes and click Edit to display the Edit Device dialog box.

Figure 54: Edit Device Dialog Box

		Relation Common	
		Select Device Groups	
XR0481YEC55372		1	-
⊙ HTTP ○ HTTPS *		deleteme 8	
atlantic region	*	deleteme10	=
10.50.152.244:2103	*	│ deleteme2 ✓ deleteme3	
admin	*	deleteme5	
*****	*	deleteme6	- 1
		deleteme9	
		Incaler	Save
	XR0481YEC55372 • HTTP • HTTPS * atlantic region 10.50.152.244:2103 admin ********	XR0481YEC55372 • HTTP • HTTPS * atlantic region * 10.50.152.244:2103 * admin * ******** *	XR0481YEC55372 1   HTTP HTTPS * deleteme1   atlantic region deleteme10   deleteme2 deleteme3   admin deleteme5   deleteme7 deleteme9   iScaler

- 3. In the Protocol field, edit whether the data collection path to the device is encrypted, as needed:
  - HTTP Data collection path is not encrypted.
  - HTTPS Data collection path is encrypted.

**1** Note: vmPRO appliances always use an encrypted protocol.

- 4. Edit additional information about the device, as needed. See <u>Discover a Device in Vision below</u> for more information.
- 5. Select the **Gather Enabled** check box to enable the gathering of status and configuration data from the device, as needed.
- 6. Click Save to save changes to the device, and to return to the Device Management dialog box.

## Delete a device

- 1. On the **Management** menu, click **Device Management** to display the **Device Management** dialog box.
- 2. Select the device and click **Delete**.
- 3. Click **Yes** to confirm the deletion.
- 4. Click **OK** to remove the device from the **Device Management** dialog box.

## Discover a Device in Vision

Before you can use Vision to monitor your devices, you must first run a process in which Vision discovers your supported Quantum devices: DXi devices, Q-Cloud Protect appliances, Scalar libraries, Scalar LTFS, and vmPRO. After the discovery process is complete, Vision begins to monitor the discovered devices.

## Requirements

Make sure that the following requirements are met before discovering devices in Vision.

- Vision must be able to access devices over the network. Make sure to properly configure devices for Vision's access.
- Vision cannot discover devices if you are running Internet Explorer 8 on the same server where the Vision software is installed.

## Discover a device

1. On the **Management** menu, click **Device Management** to display the **Device Management** dialog box.

2. Click Add to display the Discover New Device dialog box.

Figure 55: Discover New Device Dialog Box

			Select Device Groups	
Device Name:		*	user	
Device Address:		*		
Device Username:		*		
Device Password:		*		
Gather Enabled:	~			
				Discover

3. In the **Device Name** field, enter a name with which to identify the device. This name displays on all status and report consoles.

You can enter a device name that is up to 64 characters in length.

4. In the **Device Address** field, enter the device's IP address in IPv4 or IPv6 format.

### Important

We strongly recommend using the device's IP address rather than its hostname. If you are entering a hostname, the Vision server must be running a name service that will resolve the hostname to an IP address.

5. In the **Device Username** and **Device Password** fields, enter the device's admin user name and password.

### Important

When discovering Scalar tape libraries, you *must* enter **admin** as the Scalar library's admin user name.

6. Select the **Gather Enabled** check box to enable gathering of status and configuration data from the device.

The Gather Enabled check box cannot be cleared during the discovery process.

7. In the **Select Device Groups** box, select the check box for each user group to which to assign the device.

Users have access to devices to which their groups have been assigned. If the list is empty, user groups have not been defined. You can define user groups in Group Management, and then assign devices to groups. To define a user group, see Manage Groups in Vision below.

8. Click **Discover**, and then click **OK**.

When the device is discovered, Vision adds it to the **Device Management** dialog box. It may take a few minutes for information about the new device to display in the **Devices** console.

# Manage Groups in Vision

Use Vision Groups Management to define the devices that users can access. When you add a new group to Vision, you assign users and devices to that group. Users who are assigned to the group can access all devices that are also assigned to the group.

You must be an administrator to add, edit, or delete a group.

## Add a group

1. On the **Management** menu, click **Groups Management** to display the **Groups Management** dialog box.

Figure 56: Groups Management Dialog Box

Groups Manageme	nt			X
				_
	Delete	Edit	Add	
user				

2. Click Add to display the Add New Group dialog box.

Figure 57: Add New Group Dialog Box

dd New Grou	agement				
Select Users	Group Name:		Select Devices	*	
user admin			atlantic region denver southern region LTFS 107 western region eusebio co tape library		
	[	Cancel	Save		

3. In the **Group Name** field, enter a unique name to give the group.

You can enter a group name that is up to 64 characters in length. Name the group carefully. After you create a group, you cannot change its name.

- 4. In the Select Users box, select the check box for each user to assign to the group, as needed.
- 5. In the **Select Devices** box, select the check box for each device to assign to the group, as needed.
- 6. Click **Save** to add the group to the **Groups Management** dialog box.

### **Edit Groups**

Edit existing groups to change user and device assignments.

When editing a group, keep in mind that you cannot change the group's name. If you need to change the group's name, you must first delete the group, and then re-add the group with the correct name.

### Edit a group

- 1. On the **Management** menu, select **Groups Management** to display the **Groups Management** dialog box.
- 2. Select the group to edit, and click Edit to display the Edit Group dialog box.

Figure 58: Edit Group Dialog Box

in aroup					
	Group Name:	Denver Metro	>	*	
Select Users		:	Select Devices		
🗸 user			atlantic region		<b>A</b>
admin			✓ denver		
			southern region		
			SLTFS 107		
			western region		
			eusebio		
			📃 co tape library		-

- 3. In the **Select Users** box, edit the users assigned to the group, as needed.
- 4. In the Select Devices box, edit the devices assigned to the group, as needed.
- 5. Click Save to save changes to the group, and to return to the Groups Management dialog box.

### **Delete Groups**

Delete a group to remove it from the Groups Management dialog box.

When you delete a group, users are no longer able to access the devices assigned to that group. Deleting a group does not delete the users or devices assigned to the group.

### Delete a group

1. On the Management menu, click Groups Management to display the Groups Management dialog

box.

- 2. Select the group to edit, and click **Edit** to display the **Edit Group** dialog box.
- 3. Remove all users from the group, and click **Save** to save changes to the group.
- 4. Back on the Groups Management dialog box, select the group to delete and click Delete.
- 5. Click Yes to confirm the deletion and remove the group from the Groups Management dialog box.

# Manage Users in Vision

To log on to Vision, a user enters their user name and password. The devices and features that are available to a user depend on the user's assigned Vision role.

## Vision User Roles

The following user roles can be used in Vision:

### Admin

Administrators have access to all devices. They can schedule reports, configure Vision, and manage users, groups, and devices. Multiple administrators can log on to Vision at the same time.

You must be an administrator to add, edit, or delete users.

### User

Users have access to devices to which their groups have been assigned. Users can view information in Vision but cannot make changes.

### Monitor

Monitors can view information in Vision but cannot make changes. Multiple users can log on as monitor at the same time. However, there is only one Monitor user account. To enable the Monitor user account, see Enable Vision Monitor Access on page 74.

### Add Users

When you add users, you can specify the user role and assign the user to one or more groups. After you add the user, the user can log on to Vision with their user name and password.

### Add a user

1. On the Management menu, click User Management to display the User Management dialog box.

Figure 59: User Management Dialog Box

Jser Management				X
	Delete	Edit	Add	
user				
admin				

2. Click **Add** to display the **Add User** dialog box.

### Figure 60: Add User Dialog Box

lser Management			
Add User			
			Select User Groups
Username:		*	user
Password			Denver Metro
- assirerat		] <b>*</b>	
Confirm Password:		*	
Email:		*	
First Name:		1	
instrume.		]	
Last Name:			
Login Enabled:	$\checkmark$		
Role: 🔵 Administra	tor		
💽 User			
	Cancel	Save	1

3. Enter information about the user in the following fields:

Field	Description
Username	Enter a unique user name. The user enters this user name to log on to Vision. You can enter a user name that is up to 64 characters in length.
Password	Enter a password for the user name. The user enters this password to log on to Vision.
Confirm Password	Re-enter the password to confirm that you have entered it correctly.
Email	Enter the user's email address. Vision uses this email address to send alerts to the user.
First Name	Enter the user's first name, as needed.
Last Name	Enter the user's last name, as needed.

- 4. Make sure that the **Login Enabled** check box is selected so enable the user to log on to Vision.
- 5. In the **Role** field, select the role to assign to the user. See <u>Vision User Roles on page 71</u>.
- 6. In the **Select User Groups** field, select the check box next to each group to which to assign the user, as needed.
- 7. Click Save to save the new user. The user is added to the User Management dialog box.

## **Edit Users**

Edit an existing user to change the user's user name, e-mail, name, roles, or groups. You can also enable or disable login access and change the user's password.

### Edit a user

1. On the Management menu, click User Management to display the User Management dialog box.

2. Select the user to edit, and click Edit to display the Edit User dialog box.

Figure 61: Edit User Dialog Box

			Select User Groups
Username:	manthony	\$	vser
Password:	*****	*	🗹 Denver Metro
Confirm Password:		÷	
Email:	mark.anthony@qu	*	
First Name:	Mark		
Last Name:	Anthony		
Login Enabled:			
Role: 🔘 Administra	itor		
💿 User			

3. Edit the user's information, as needed. See Add a user on page 71.

You cannot change the user name when you edit a user. If you need to change the user name, first delete the user and then add a new user with the correct name.

4. Click Save to save the updates and return to the User Management dialog box.

## **Delete Users**

Remove a user so that they can no longer log on to Vision.

### Delete a user

- 1. On the Management menu, click User Management to display the User Management dialog box.
- 2. Select the user to delete, and click Delete.
- 3. Click Yes to confirm the deletion and remove the user from the User Management dialog box.

## **Enable Vision Monitor Access**

Enable Monitor Account Access to allow users to log on to Vision as a monitor. A monitor can view information but cannot make changes. Monitor access is enabled by default.



## Enable Monitor account access

- 1. On the **Vision Configuration** menu, click **Authentication** to display the **Vision Authentication Configuration** dialog box.
- 2. In the **Monitoring** pane, select the **Enabled Monitor Account Access** check box to enable monitor access to Vision.
- 3. Click Save.

## Associate Users with Devices

You can associate users with devices through Groups Management or LDAP authentication services.

## Associate users and devices with Groups Management

- 1. In Groups Management, create a group to use in associating users and devices. See <u>Manage Groups</u> in Vision on page 68.
- 2. Assign the users and devices to associate with each other to the new group.

## Associate users with devices using LDAP

- 1. Define the LDAP group to which a user belongs.
  - a. In User Management, assign a Vision role to the user. See Manage Users in Vision on page 71.
  - b. in Vision Authentication Configuration, assign the same Vision role to the LDAP group. See <u>Configure LDAP Directory Services for Vision on the next page</u>.

Because the user belongs to the Vision role assigned to the LDAP group, the user now has all authorizations associated with the LDAP group.

- 2. Associate devices with the LDAP group to which the user is assigned.
  - a. In Groups Management, create a group that uses the same name as the LDAP group, but use all upper-case characters. See Manage Groups in Vision on page 68.

### Example

If LDAP assigns a group name of **SysAdmin**, you need to create a group in Group Maintenance with a name of **SYSADMIN**.

b. Assign devices to the new group. See Manage Groups in Vision on page 68.

The user and devices are now associated because the devices and user are assigned to the same LDAP group.

# Vision Authentication Configuration

You can configure Vision to authenticate users with a Lightweight Directory Access Protocol (LDAP) directory service, such as Microsoft Active Directory (AD) or OpenLDAP.

By configuring Vision authentication, you accomplish the following:

• Authenticate user access to Vision.

When users log into Vision, user authentication validates the login credentials with LDAP directory services.

• Assign Vision roles to users.

Vision roles determine both the applications that users can access and the actions that users can perform within the applications. You can assign either Administrator or User roles. See <u>Vision User Roles on</u> page 71.

For help with configuring Vision authentication, see Configure LDAP Directory Services for Vision below

### Vision Limitations with AD

Due to implementation limitations, an AD user's Primary Group as specified by the user's PrimaryGroupID is NOT consulted for Vision privileges.

## **Configure LDAP Directory Services for Vision**

To configure LDAP directory services for Vision, do the following:

- Enable Vision to access the LDAP server.
- Define attributes with which to authenticate users.
- Associate LDAP groups with Vision user roles.

You can remove these associations, as needed.

## Enable LDAP authentication

1. On the Vision Configuration menu, select Authentication to display the Vision Authentication Configuration dialog box.

Figure 62: Vision Authentication Configuration Dialog Box

onitoring					
Enabled Monitor Account Access: 🗹					
DAP Config	Vision Role to LDAP G	oup			
Enabled L	DAP Authentication:				
LDAP Ser	ver URL:		*		
LDAP Ser	ver Manager DN:		*		
LDAP Ser	ver Manager Password:		÷		
LDAP Gro	up Role Attribute:		*		
LDAP Gro	up Search Base:		*		
LDAP Sea	rch Patterns:		*		
LDAP Gro	up Search Filter:		*		
LDAP Sea	rch Subtree:	$\checkmark$			
LDAP Der	eference Flag:				
	(1) Save				

- 2. On the LDAP Configuration tab, select the Enabled LDAP Authentication check box to enable LDAP authentication.
- 3. Populate the following fields:

Field	Description
LDAP Server URL	Enter the URL of the LDAP server in the following format: Idap:// <server_ip hostname=""  ="">:<port></port></server_ip>
	Example Idap://10.10.10:389

Field	Description
LDAP Server Manager DN	Enter the distinguished name (DN) of a user with LDAP read access, such as your LDAP server administrator.
	Example cn=manager,dc=vision,dc=com
LDAP Server Manager Password	Enter the password that the LDAP server manager uses to access the LDAP authentication services.
LDAP Group Role Attribute	Enter the group role attribute of the LDAP server manager, typically <b>cn</b> .
LDAP Group Search Base	Enter the DN in the LDAP directory that contains the Vision group records with which to authenticate users.
	Example ou=groups,dc=vision,dc=com
LDAP Search Patterns	Enter the DN in the LDAP directory that contains the Vision user records with which to authenticate users.
	Example
	uid={0}, ou=user,dc=vision,dc=com
LDAP Group Search Filter	Enter the group organizational unit (OU) attribute that defines the groups of which the user is a member.
	Example memberUid={0}

4. Leave the **LDAP Search Subtree** check box selected to search for groups in all subtrees under the OU specified by the **LDAP Group Search Base** value.

**1** Note: The LDAP DereferenceFlag is not used at this time.

5. Click **Save** to save the authentication settings.

## Associate an LDAP group with a Vision user role

1. On the **Vision Authentication Configuration** dialog box, select the **Vision Role to LDAP Group** tab.

Figure 63: Vision Role to LDAP Group Tab

Vision Authenticat	ion Configuration			X
Monitoring				
Enabled Monitor	Account Access: 🗹			
LDAP Configuration	Vision Role to LDAP Group			
Vision Roles	LDAP	Groups	Delete	Add
Administrator				
User				
L				
	(1) Save			

2. In the **Vision Roles** pane, select the appropriate role, either **Administrator** or **User**, to associate with the LDAP group.

3. In the LDAP Groups pane, select Add to display a text box in which to enter the LDAP group.

Figure 64: LDAP Groups Pane

Vision Authenticat	ion Configuration			X
Monitoring				
Enabled Monitor	Account Access: 🗹			
LDAP Configuration	Vision Role to LDAP Grou	p		
Vision Roles	LD/	AP Groups	Delete	Add
Administrator				
✔ User	LDA	9 group nar	me	
<u>.</u>				
	(1) Save			
		-		

- 4. In the **LDAP Group Name** text box, enter the name of the LDAP group to associate with the selected Vision role.
- 5. Click Save to save the settings and return to the LDAP Configuration tab of the dialog box.

## Delete an LDAP group association

- 1. In the **Vision Authentication Configuration** dialog box, select the **Vision Role to LDAP Group** tab.
- 2. In the **LDAP Groups** pane, select the LDAP group association to delete.
- 3. Click Delete and then click Yes to delete the association.

# **Configure Data Collection in Vision**

Use Data Collection Configuration to define the frequency at which Vision collects status and reporting data from monitored devices, and to configure maintenance settings for your Vision database, as needed.

**1** Note: You must be an administrator to configure data collection settings.

## Default Vision Database Maintenance Settings

Default Vision database maintenance runs each day at 2:00 a.m. server time. This default maintenance typically takes less than 5 minutes to run.

If you have upgraded to Vision 4.2 and have old data in your database, it can take up to 4 hours for the database maintenance to complete. When the old data expires, the database maintenance will take 5 minutes or less each week.

## Configure data collection settings

1. On the Vision Configuration menu, select Data Collection to display the Vision Data Collection Configuration dialog box.

ision Data Collection Configuration	- 6
Status	
Alert Gather Retry Count: 3	
Replication	
Replication Summary Gather Frequency: 1 days	
Performance	
Specify the day of the week and hour of the day to execute performance tuning	
Day of Week Sunday   Hour of Day 2   (0-23)	
(1) Save	

Figure 65: Vision Data Collection Configuration dialog box

- 2. In the **Alert Gather Retry Count** field, enter the number of consecutive connection failures before Vision determines a device to be in *connection failed* status.
- 3. In the **Replication Summary Gather Frequency** field, enter the frequency at which you want Vision to collect DXi replication data:
  - a. In the box, enter the number of hours or days to define the frequency that collection occurs.
  - b. From the drop-down list, select either hours or days.

- 4. In the Performance pane, define performance tuning (database maintenance) settings:
  - a. In the Day of Week field, enter the day of the week on which to perform database maintenance.
  - b. Hour of Day, enter the time of day to begin database maintenance based on a 24-hour configuration.

Note: Replication data includes statistics for namespace, source, and target replication. Access this information in replication reports. See <u>Replication and Chargeback Usage</u> <u>Reports on page 128</u>.

### Example

To begin database maintenance at 12:00 AM, enter **0**. To begin database maintenance at 11:00 PM, enter **23**.

**Caution:** During this time frame, all Vision features will be unavailable. We recommend setting your Performance Tuning schedule to be during off-hours to avoid negatively impacting work schedules.

5. Click **Save** to save your settings.

# Configure Data Expiration Settings in Vision

Use Data Expiration Configuration to define the amount of time that Vision retains data collected from monitored devices. Any data that is older than a specified age is expired and removed from the Vision database, and this information is no longer available for reporting.

When configuring data-retention time periods, keep in mind that aggregated values are retained in the Vision database for a predefined time:

- 15 minute values are retained for 6 months
- 1 hour values are retained for 12 months
- 1 day values are retained for 18 months

**i** Note: You must be an administrator to configure data expiration settings.

## Configure data expiration settings

1. On the Vision Configuration menu, click Data Expiration to display the Vision Data Expiration Configuration dialog box.

Figure 66: Vision Data Expiration Configuration Dialog Box

Vision Data Expiration Configuration				
Replication Summary Lifetime:	90	days		
Scalar Data Lifetime:	90	days		
vmPRO Data Lifetime:	90	days		
(1) Save				

- 2. Define data expiration values for the following, as needed:
  - In the **Replication Summary Lifetime** field, enter the number of days to retain replication summary values.
  - In the Scalar Data Lifetime field, enter the number of days to retain Scalar library data.
  - In the vmPRO Value Lifetime field, enter the number of days to retain vmPRO values.
- 3. Click Save to save the settings.

# Configure Email Server Settings in Vision

For the Vision server to send email notifications and reports, you must first configure the following settings:

- Email server IP address or hostname
- Email server TCP port numbers
- Email server user name and password
- Vision server email address

**i** Note: You must be an administrator to configure email server settings.

## Configure email server settings

1. On the **Vision Configuration** menu, click **Email** to display the **Vision Email Configuration** dialog box.

Figure 67: Vision Email Configuration Dialog Box

on Email Configurat	ion	_	
Email Server Host/IP:	localhost	*	
Server Port:	25	*	
		] * ] .	
Email From:		Δ	This field is required.
Username:		]	
Password:		1	
	(1) Save		

- 2. In the **Email Server Host/IP** field, enter the hostname or IP address of the email server.
- 3. In the Server Port field, enter the TCP port number of the email server. The default value is 25.
- 4. In the **Email From** field, enter the email address that appears in the **From** field of emails sent by Vision.
- 5. In the Username field, enter the server user name if the email server uses authentication.
- 6. In the **Password** field, enter the server password if the email server uses authentication.
- 7. Click Save to save settings.

# Add a New Vision License

The temporary license installed with Vision authorizes you to monitor up to 3 devices for up to 60 days. To monitor more devices, or to use Vision for more than 60 days, you must add a permanent license.

To add a license to Vision, contact your Quantum Sales representative for information about purchasing a license. After you receive the License Certificate, perform the following tasks to obtain a license key — required to monitor additional devices — and add it to Vision.

## Prerequisites

Before obtaining a license key, make sure you have the following items:

- Vision serial number
- Vision authorization code
- Vision Media Access Control (MAC) address

## Gather required information

1. Locate your Vision software serial number and authorization code by doing one of the following:

#### If you download your Vision software

A copy of your *License Key Certificate & Download Document* is emailed to you. Your Vision software serial number and authorization code are located in this document.

Figure 68: License Key Certificate and Download Document



### If you requested a Vision Media Kit

The serial number is located on the back of the Vision installation disk sleeve. The authorization code is located on the License Key Certificate that is included in your media kit.

Figure 69: Vision Installation Disk Sleeve



Figure 70: License Key Certificate



**()** Note: Be sure to record/keep your serial number for future use and upgrades.

2. Locate the MAC address of the Vision server.

#### Steps

a. On the Vision Configuration menu, click Licensing to display the Vision License

#### Configuration dialog box.

The MAC address appears in the Mac field.

- b. Click 🗐 (located at the upper left of the table), and then click **Text** to export the MAC address to a text file.
- c. Select a location to save the file, enter a name for the file, and click Save.

When you perform the following task, you can copy and paste the MAC address from this text file instead of typing it.

## Obtain a license key

1. From a Web browser with Internet access, navigate to <u>http://www.quantum.com/licensekeys</u> to display the License Key Management page.

Figure 71: License Key Management Page

	Quantı	JW'						🗩 Chat Live   Abou
	Products	Solutions	Applications	Support	Partners	Customers		Search Q
Home	Service and Suppor	t					S	UPPORT
				I I				
Lice	ense Kev	Manage	ement					
	<b>,</b>	J				CONTACT US		
Upgra	de Licenses		Serial Number:			Request More Request Information	re Information rmation	
Search enterin	n for your upgradeable g the Serial Number.	Quantum product by	Submit			))) Contact Qua (800) 677-626	ntum Sales 8 (US / CAN)	
						))) Contact Qua (800) 284-510	ntum Support 1 (US / CAN)	
						LICENSE KEY HELP		-

- 2. In the **Serial Number** field, enter your Vision software serial number and click **Submit** to display the **Enter MAC Address** page.
- 3. Enter the MAC address of the Vision server and click **Submit** to display the **Licensed Feature** page.

The serial number is now associated with the MAC address of your Vision server. In the future, you will only need to enter the serial number when adding additional licenses.

- 4. Enter the authorization code and click **Get License Key**. The **License Feature** page returns a license key.
- 5. Record or save the license key to a text file.
- 6. If you are adding multiple licenses, repeat steps 4-5 for each license certificate.

## Enter the license key in Vision

1. On the Vision GUI's **Configuration** menu, click **Licensing** to display the **Vision License Configuration** dialog box.

Figure 72: Vision License Configuration Dialog Box

Display Name		Nar	ne	Mac 00.00	22 DE 45
etnu		eth	0	00-0C-29-	-23-85-AE
•					
Key	Devices	Date Ad	Dat	e Expires	Remove
8DE2-EB7C-0A28-171C-0911-AABF-67FD-71B0	3	9/16/2016	11/1	15/2016	
F454-046D-8421-1264-9AC1-E15B-44E7-098E	20	9/22/2016			
Enter New License:	Add N	ew License	Rem	ove Select	ed Licenses
ote: If you are replacing your evaluation license wi nore devices than the number authorized by your p	th a permanent license an ermanent license, you mu	d Vision is cu st delete the	rrently device	monitoring s you will r	) 10
nore devices than the number authorized by your p onger monitor. Quantum Vision cannot collect data	ermanent license, you mu until the number of monit	st delete the ored devices	device is less	s you will r than or eq	, no jual
o the number authorized by the nermanent license	. (To delete devices, selec	t Device Man	ageme	nt on the	

- 2. In the (optional) Serial Number field, enter your Vision serial number for future reference.
- 3. In the Enter New License field, enter the license key.
- 4. Click Add New License to add the license to your Vision server.
- 5. Repeat steps 2-3 if you are adding multiple licenses.

## View Licenses Already Installed in Your Vision Server

Use the **Vision License Configuration** dialog box to view information about your licenses installed on the Vision server.

## View installed Vision licenses

1. On the **Vision Configuration** menu, click **Licensing** to display the **Vision License Configuration** dialog box.

Figure 73: Vision License Configuration Dialog Box

Display Name		Nai	ne	Mac	
eth0		eth	0	00-0C-29-	23-B5-AE
•					
Кеу	Devices	Date Ad	Dat	te Expires	Remove
3DE2-EB7C-0A28-171C-0911-AABF-67FD-71B0	3	9/16/2016	11/	15/2016	
F454-046D-8421-1264-9AC1-E15B-44E7-098E	20	9/22/2016			
					1
iter New License:	Add Ne	ew License	Remove Selected Lice		ed Licenses

2. Review the following information:

Field	Description
Monitored Devices Authorized X of Y	The current and maximum amount of monitored devices. The maximum number of devices Vision can monitor is based on all currently added licenses. If the current number of monitored devices equals the maximum number of devices, delete an existing device before adding a new device.

Field	Description
Display Name	The display name of the network interface card (NIC) on the Vision Enterprise Server.
Name	The name of the NIC on the Vision Enterprise Server.
Мас	The Media Access Control (MAC) address of the NIC on the Vision Enterprise Server.
Key	The license key.
Devices	The number of monitored devices allowed by the license.
Date Added	The date the license was added to the Vision server.
Date Expires	The date the license expires.
Remove	If selected, the license will be removed from the Vision server when the <b>Remove Selected Licenses</b> button is clicked. Only administrators can remove licenses from the Vision server.

## Delete a License from the Vision Server

If you purchase a permanent license, you can delete the evaluation license to stop the server from warning you that the evaluation license will expire.

### Important

If you delete an evaluation license, you cannot re-enter it. Make sure that you have a permanent license for your Vision server before deleting an evaluation license.

If you inadvertently delete a permanent license, you can re-enter it in the **Vision License Configuration** dialog box.

### Delete a license from the Vision server

1. On the **Vision Configuration** menu, click **Licensing** to display the **Vision License Configuration** dialog box.

Figure 74: Vision License Configuration Dialog Box

Ð					
Display Name			Nan	ie Mac	
eth0			eth0	00-0C-29-	23-B5-AE
Cey		Devices	Date Ad	Date Expires	Remove
3DE2-EB7C-0A28-	171C-0911-AABF-67FD-71B0	3	9/16/2016	11/15/2016	
F454-046D-8421-	1264-9AC1-E15B-44E7-098E	20	9/22/2016		
ter New License:		Add N	dd New License Remove Selected Lice		ed Licenses
ote: If you are rep ore devices than nger monitor. Qu the number auth	placing your evaluation license with a pe the number authorized by your perman antum Vision cannot collect data until th iorized by the permanent license. (To d	rmanent license an ent license, you mu ne number of monit elete devices, selec	d Vision is cur st delete the ored devices i t Device Mana	rently monitoring devices you will r s less than or eq gement on the	) 10 ual

- 2. Select the **Remove** check box next to each license to delete.
- 3. Click the **Remove Selected Licenses** button to delete the selected licenses from the Vision server.

## **Configure Storage Policies in Vision**

Use Vision's Storage Policy Configuration to improve performance and increase scalability by reducing the amount of data stored in the Vision database. With this application, you can define the type of data to include in Vision reporting and analytic results for devices and their specified data groups. The type of data can be either current and historical data, or current data only.

## **Configure Storage Policies**

1. On the **Vision Configuration** menu, click **Storage Policy** to display the **Storage Policy Configuration** dialog box with Vision's default configuration.

#### Figure 75: Storage Policy Dialog Box

tore Historical Data or Store Latest Data Only				
Devices	Data	Store Historical Data	Store Latest Data Only	
All	Vision Performance	0	۲	
DXi	CPU Usage	0	۲	
DXi	Storage Metrics	۲	0	
DXi	Replication Metrics	۲	0	
DXi	Space Reclamation	۲	0	
DXi	Memory	0	۲	
DXi	Network	۲	0	
DXi	Sensors	0	۲	
DXi	Accent	۲	0	
		Restore Defaults	3	

2. For each device and its associated data group, select one of the following data types to use in generating Vision reporting and analytic results:

### **Store Historical Data**

Vision stores the latest data value with history for the device's specified data group.

### **Store Latest Data Only**

Vision stores the latest data value only (without history) for the device's specified data group.

Analytic results cannot be generated from the Store Latest Data Only selection.

3. Click **Save** to store the new configuration.

#### **Additional Actions**

- To return to the previous configuration, click Cancel.
- To return to Vision's default configuration, click Restore Defaults.

## Storage Types for Data Groups

Vision's historical reports show changes in values over time. You can use this data to gain insight into trends or events, which in turn helps with capacity planning and overall troubleshooting.

### Examples

• The DXi Percent Full history shows that the rate of disk usage on the DXi has increased, indicating the need to more closely monitor the amount of data being sent to the DXi.

• The Ethernet or Fibre Channel history shows a regular backup period when no data was coming into the DXi, indicating potential problems with the network or with the source of the expected data stream.

## Data Types

Using Vision's Storage Policy Configuration, you can specify the type of data to store for a device's specified data groups, which in turn defines the types of reports that can be run for the device's data group.

### **Historical Data**

Vision stores the latest data value with history for the device's specified data group, and runs historical reports for the data group.

Vision saves historical data in 15 minute, 1 hour, and 1 day aggregations for 6, 12, and 18 months, respectively.

**(i)** Note: Aggregations contain minimum, maximum, and average values for the aggregation period.

Historical data is also used in the graphs in Vision's Analytics view.

### Important

Historical reports require that the data group providing the report information is configured to **Store Historical Data**. If a data group is set to **Store Latest Data Only**, and a user attempts to generate a historical report on the data, Vision informs the user that it does not have sufficient data to generate the report.

### Latest-only Data

Vision stores the latest data value only (without history) for the device's specified data group, and runs Latest-only Data reports for the data group.

## Vision's Default Storage Configuration

The following default data storage policies should be optimal for most users. They provide improved performance and increased scalability by reducing the amount of data stored in the Vision database.

Storage Type	Data Type
Historical	Disk Usage (storage)
	Network Usage
	Replication
	Accent Deduplication

Storage Type	Data Type
Latest (Snapshot)	CPU Usage Memory Usage Internal sensors

## **Vision Historical Reports**

The following table lists Vision Historical reports or Analytics graphs, and their data groups.

Historical Report/Analytics Graph	Data Group
All Percent Full History	DXi Storage Metrics for DXi 25/55 Storage Metrics
DXi Capacity Growth History	DXi Storage Metrics
DXi Ethernet Received History	DXi Network
DXi Ethernet Transmitted History	DXi Network
DXi Fibre Channel Transmitted History	DXi Network
DXi Space Reclamation History	DXi Space Reclamation
DXi CPU Usage History	DXi CPU Usage
DXi Deduplication History	DXi Storage Metrics
DXi Disk Usage History	DXi Storage Metrics
DXi Percent Full History	DXi Storage Metrics
DXi 35/55 Usage History	DXi 35/55 Storage Metrics
DXi 35/55 Replication History	DXi 35/55 Replication Metrics
DXi 35/55 Fans History	DXi 35/55 Sensors
DXi 35/55 Sensors History	DXi 35/55 Sensors
DXi 35/55 Percent Full History	DXi 35/55 Storage Metrics
Space Reclamation	DXi Space Reclamation
Disk Used by Reduced Data	DXi Storage Metrics

# **Configure Security Settings for Vision**

Use the Vision's Security Configuration to define security and access settings for your Vision server.

## Security Settings

### **HTTP and HTTPS Ports**

Define HTTP and HTTPS ports for Windows and Linux installed Vision servers.

### Important

- Do not configure ports for a Vision appliance on the **Network Ports** dialog box. Instead, log on to the Vision Console Command Line and run the **net ports** command. The **net ports** command opens the firewall and updates the ports. See <u>Issue Network Commands</u> on page 10.
- When changing your network ports, be sure to check your existing firewall configuration and make sure the appropriate firewall ports are open.

### **Access Control**

For Vision to gather replication data for Q-Cloud Protect appliances or DXi devices running software versions 3.2 or later, it needs to identify itself through an SSH key pair.

Vision generates this key pair. The private key is Vision's secure identifier. The public key is shared with the Q-Cloud Protect appliance or DXi device. Vision has authorization to gather replication data only when the private and public keys match.

For more information about SSH key pair authentication, see one of the following:

- The Security topic in the DXi 6900 Documentation Center
- The Configuring Access Control topic in the Q-Cloud Protect Documentation Center

#### Important

If the private key is ever exposed, you can generate a new key pair from Vision. Keep in mind, though, that you must then distribute the new public key to all devices that currently use the old public key.

## **Configure Security Settings**

1. On the Vision Configuration menu, click Security to display the Security Configuration dialog box.

Figure 76: Security Configuration Dialog Box

Security Configuration	X
Network Ports	
HTTP: 80	
HTTPS: 443	
Public Key	
ssh-rsa AAA ==	
Generate New Key	
1 Save	

2. In the HTTP and HTTPS fields, enter the appropriate port numbers.

The default ports are 80 for HTTP and 443 for HTTPS.

3. In the **Public Key** area, copy the text and paste it into the UI of the device from which Vision will gather replication data.

For detailed instructions on pasting the public key in the device's UI, see the <u>Security</u> topic in the DXi 6900 Documentation Center or the <u>Configuring Access Control</u> topic in the Q-Cloud Protect Documentation Center.

#### Important

You can generate a new key pair by clicking **Generate New Key**, but you must then distribute the new public key to all devices that currently use the old public key.

- 4. Click Save to save your settings.
- 5. Restart the Vision service to apply the security settings.


This chapter contains the following topics:

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Manage Vision Alert Notifications	
Schedule a Devices Inventory Report	103
Device Configuration Files	
DXi Device Consoles	108
Scalar Device Consoles	
Scalar LTFS Device Consoles	148
vmPRO Device Consoles	

# **Vision Device Consoles**

Use the following Vision device console components to monitor your devices.

## **Devices Console**

The Devices console displays all monitored Quantum devices. Use this console to do the following:

### View the overall health and status of all monitored Quantum devices

The following color-coded icons display the status of a device:

- Indicates that all devices are operating correctly.
- A Indicates that there is a problem with one or more devices.
- 🕴 Indicates that there is a major problem with one of more devices.
- General Action of the second sec
- O Indicates that the device is discovered but no data has been collected yet, or the status is unknown.

### View and acknowledge alert notifications for devices

Alerts are notifications regarding the status of a device. Vision generates alert notifications based on alert rules defined in Alert Management. See Manage Alert Rules in Vision on page 59.

### **Schedule a Devices Inventory Report**

The Devices Inventory report shows the information displayed on the Devices console and the Consolidated console. You can schedule this report to be generated and emailed to designated recipients.

### **Consolidated Consoles**

The Consolidated consoles display all monitored Quantum devices organized by device families, along with information specific to the device family.

### Example

The **DXi Devices Consolidated** console displays capacity usage data for the DXi devices and Q-Cloud Protect appliances.

### **Console Device Families**

- · DXi devices and Q-Cloud Protect appliances
- DXi 35/55 devices
- Scalar libraries
- vmPRO
- Scalar LTFS

## Individual Device Consoles

Individual Device consoles display information for an individual device.

### Example

The **DXi 6900 Device**console calculates and displays information about when the next capacity upgrade is required for the DXi device.

**1** Note: To change the size of a pane on individual device consoles, drag the resize handle on the edge or the pane. When you log off and back onto Vision, the panes are reset to their default sizes.

# Navigate the Vision Devices Console

Use the Devices Console to monitor Quantum devices, manage alert notifications, and schedule a Devices Inventory report.

### Navigate the Devices Console

- 1. Display the **Devices** console by doing one of the following:
  - On the Vision toolbar, click **Devices**.
  - At the top of the Vision window, click 🕥 .

### Figure 77: Devices Console

Quant	um.   Visio	n								C ? Log Of	f
Managem	ent Configuratio	n Help									
Devices	Image: Constraint of the second se										
All Devices	• •										
Devices (5	50)						Group Fi	ter: All C	)evices	- 🗠 🗙 🗊	
Status 🔺	Device	Address	Serial Nu	mber	Pro	oduct	Software	Last Gath	ie <b>r</b>	Protocol	
8	irvine-vmpro	10.40.164.97	CX1244C	AC00170	Qu	antum vmPRO	3.1.2	3-9-2015	12:56:56 PM	https	
8	dendxi7500a	10.20.33.212	N/A		N/A	A	N/A	3-9-2015	12:22:09 PM	http	
8	aries	10.20.163.106	2734100	09	Sca	lar i6000	700Q.TS149	3-9-2015	12:57:11 PM	http	
	echidna	10.20.163.184	4GWPQJ	1	Qu	antum DXi2500-D	1.5.0	11-21-20	14 12:56:39 P	M http	
	gambit	10.20.174.10	SV1347B	VE16092	Qu	antum DXi6702	2.3.0	9-5-2014	12:32:39 PM	https	
63	minotaur	10.20.163.202	SV0940B	VA25827	Qu	antum DXi7500	1.5.0	11-21-20	14 12:55:42 P	M http	
63	OceanBlue	10.40.164.128	SV1446B	VT03788	Qu	antum DXi4700	3.0.3_47.ne	12-1-201	4 11:06:32 AM	1 https	
•	50304	10 50 154 5				= 000	2.4	0.5.0044		N/A V	i I
Vision Ale	e <b>rts (57)</b>								Unackn	owledged 🔻 🗙 🗊	
Rule Name	Description	Device	Туре		Priority	Date	Ack Date		Ack User	Action	
TestDXI -II	[143] Status	red boston	Device	Status I	Medium	2-17-2015 08:43:09	N/A			Acknowledge	
testRule2	[4] Status: y	ellow atlantic r	egion Device	Status	Medium	3-6-2015 10:13:22 A	N/A			Acknowledge	
testRule2	[2] Status: y	ellow denver	Device	Status	Medium	3-6-2015 10:47:00 A	N/A			Acknowledge	
testRule2	[2] Status: y	ellow boston	Device	Status	Medium	3-9-2015 04:56:57 A	N/A			Acknowledge	
testRule2	[2] Status: y	ellow central o	ffice Device	Status	Medium	3-7-2015 12:10:46 A	N/A			Acknowledge	
testRule2	[1] Status: y	ellow dallas	Device	Status	Medium	3-6-2015 12:30:24 A	N/A			Acknowledge	
albert-alert	[53] Status:	green albert	Device	Status	Medium	10-23-2014 06:33:13	N/A			Acknowledge	
- 10/1 11		1 11 10			0 B	0 47 0045 40 05 05				· · · · · · · · · · · · · · · · · · ·	

- 2. In the **Group Filter** list, select a group for which to view information in the **Device Status** pane, as needed. The default is **All Devices**.
- 3. View the following information for each displayed device:

Column	Description
Status	The <u>color-coded icon</u> indicating the device's status.
Device	The name assigned to the device when it was discovered in Vision.
Address	The device's IP address or host name.
	Click the IP address or host name to launch the native management interface for the device.
Serial Number	The device's serial number.
Product	The Quantum product model name for the device.

Column	Description
Software Version	The current software version of the device.
Last Gather	The last time Vision communicated with the device.
Protocol	The device's encryption protocol
	<ul> <li>http – The data collection path to the device uses an unencrypted connection.</li> </ul>
	<ul> <li>https – The data collection path to the device uses an encrypted connection.</li> </ul>
	Note: The data collection path to vmPRO appliances is always encrypted.

# **Manage Vision Alert Notifications**

Use the Alerts pane on Vision's Device and Consolidated consoles to view and acknowledge alert notifications. Vision generates alert notifications based on alert rules defined in Alert Management. See Manage Alert Rules in Vision on page 59.

#### Figure 78: Alert Pane on the Devices Console

Vision Alerts	(24)						Unacknow	ledged 🔻 🗙 🗊
Rule Name	Description	Device	Туре	Priority	Date	Ack Date	Ack User	Action
rep status	[13] Status: unknown	echidna	Replication Stat	Medium	1-9-2013 03:08:30 P	N/A		Acknowledge
rep status	[14] Status: unknown	charon	Replication Stat	Medium	1-9-2013 03:08:30 P	N/A		Acknowledge
device status gr	[80] Status: green	dendxi8500a	Device Status	Medium	1-9-2013 03:46:01 P	N/A		Acknowledge
device status gr	[5] Status: connection	cilent 2 V1000 s	Device Status	Medium	1-9-2013 04:02:21 P	N/A		Acknowledge
device status ye	[80] Status: green	dendxi8500a	Device Status	Medium	1-9-2013 03:46:01 P	N/A		Acknowledge
rep status	[11] Status: unknown	cilent 2 V1000 s	Replication Stat	Medium	1-9-2013 04:02:21 P	N/A		Acknowledge
rep status	[11] Status: unknown	vision-7500	Replication Stat	Medium	1-9-2013 03:08:30 P	N/A		Acknowledge
•				•				· · · · · · · · · · · · · · · · · · ·

### View alert notifications for devices

1. On the **Device** or **Consolidated** console, review the following information in the **Vision Alerts** pane:

Column	Description
Rule Name	The alert rule defined in Alert Management for which the alert was generated. See Manage Alert Rules in Vision on page 59.
Description	The description of the alert rule.
Device	The device to which the alert notification applies.
Туре	The type of alert rule.
Priority	The priority assigned to the alert rule.
Date	The date on which the alert notification was issued.
Ack Date	The date on which the alert was acknowledged. If the alert notification has not been acknowledged, <b>N/A</b> displays.
Ack User	The ID of the user who acknowledged the alert notification. If the alert notification has not been acknowledged, this column is left blank.
Action	The action taken to address the alert. If the alert notification has not been addressed, this column is left blank.

2. Perform the following actions, as needed:

### Select the type of notifications to display

From the drop-down list to the right of the **Vision Alerts** heading, select **Acknowledged**, **Unacknowledged**, or**ALL**.

### **Display the Notification Details dialog box**

Double-click an alert to display information about the alert in the **Notification Details** dialog box.

Figure 79: Notification Details Dialog Box

Notification Details	X
Notification Date: 8-11-2014 04:47:36 PM Device: tjq vmPro3 Type: Device Status	
Priority: MEDIUM [1] Status: connection_failed	
Acknowledge Close	

## Acknowledge alert notifications for devices

- 1. Select the alert notification to acknowledge.
- 2. Do one of the following:
  - Click Acknowledge in the Action column.
  - Double-click the alert notification to display the **Notification Details** dialog box, and then click **Acknowledge**.

Vision marks the alert notification as acknowledged.

# Schedule a Devices Inventory Report

The Devices Inventory report depicts the information displayed on the Device and Consolidated consoles. You can schedule this report to be generated and emailed to designated recipients.

## Schedule a Devices Inventory Report

1. From the **Devices** or **Consolidated** console, click <sup>(2)</sup> to display the **Schedule** <**x**> **Inventory Report** dialog box.

Figure 80: Schedule <x> Inventory Report Dialog Box

Schedule All Devices Inventory Report	×
O Never	
● Every 1 Days ▼	
Starting 04/26/2013 16 + 3 +	
Output CSV 👻	
Send to Email Recipients +ADD	
Email Address	
brian.szoszorek@quantum.com	
Save Cancel	

- 2. Select the radio button next to the **Every** field.
- 3. In the Every field, enter the frequency for which to generate and email a report.
- 4. From the drop-down list, select the time interval to for which to generate and email the report: **Minutes**, **Hours**, **Days**, or **Months**.

### Example

- a. In the **Every** field, enter **3**.
- b. From the drop-down list, select Days.

Vision generates and emails the report every three days.

- 5. In the **Starting** field, do the following:
  - a. Click I to select the date on which to generate and email the report.
  - b. in the 9 + 56 + 6 + fields, enter the time on which to generate and email the report.
- 6. In the **Output** field, enter the format in which to generate the report, either **XML**, **CSV**, or **Text**.
- 7. In the **Send to Email Recipients** field, click **Add** to display a **New Email** field in the **Email Address** box.

- 8. In the New Email field, enter the email address for the recipient to whom to email the report.
- 9. Repeat steps 7-8 for each email recipient.
- 10. Click Save to save the report schedule and exit the dialog box.

# **Device Configuration Files**

You can access a device's current configuration files from the device console.

Use these files to capture snapshots of a device's configuration settings at a specific point in time. You can then use these snapshots to compare the device's current configuration settings with past configuration settings to potentially troubleshoot issues with a device.

## Access a device's configuration settings

- 1. From a device's individual console, click the **Configuration** tab to display the **<Device> Configuration** console.
- 2. In the **Snapshots** pane, double-click a snapshot for which to view configuration settings.
  - To see the device's current configuration settings, double-click the snapshot at the top of the list.
  - To view the most up-to-date version of the configuration settings, click **Refresh**.

3. Review the configuration settings in the right pane of the console.

#### Figure 81: <Device> Configuration Console

Quantum. Vision		🔂 🖓 Log Of
Management Configuration Help		
Devices Topology Analytics Reporting DX	AR Media	🖁 admin 🔻
All Devices		Console Configuration Replication
ppodxi8500a Configuration : Normal		
Snapshots Delete Edit Add	Compare Copy to Clipboard Select All Save As XML Refresh Report Email Recipient:	Send Report
Current ppodxi8500a at 1010 AM ppodxi8500a Snapshot 1 Nonchry open by general-at recommen	<pre><nr></nr></pre> <pre> </pre> <pre>  <pre>     <pre>  <pre>    <pre>    <pre>    <pre>    <pre>  <pre>   <pre>   <pre>    <pre>  <pre>   <pre>   <pre>    <pre>  <pre>   <pre>  <pre>   <pre>   <pre>  <pre>    <pre>  <pre>   <pre>  <!--</td--><td></td></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre>	

### Create a snapshot of a device's current configuration

- 1. In the **Snapshots** pane, select the current configuration snapshot.
- 2. Click Add to display the Confirm Add Snapshot dialog box.

Figure 82: Confirm Add Snapshot Dialog Box

Confirm Add Snapshot	X
Are you sure you the current config	would like to store guration as a snapshot?
Snapshot Name:	dendxi7500a Snap
Yes	No

- 3. In the **Snapshot Name** field, edit the name of the snapshot, as needed.
- 4. Click **Yes** to create the snapshot. The newly created snapshot displays in the **Snapshot** pane.

## Compare snapshots

- 1. In the **Snapshot** pane, click the first snapshot to use in the comparison.
- 2. While holding down the **<Ctrl>** key (Windows or Linux) or the **<Command>** key (Mac), click a second snapshot to compare with the first snapshot.
- 3. Click **Compare** to display the comparison in the right pane.

If there are not any differences between the two snapshots, the following message displays in the right pane:

```
There are no differences between these snapshots
```

4. Expand the **Add**, **Changes**, and **Removes** folders in the displayed folder tree to view the differences between the snapshots.

## Additional Functionality

The following table provides information about additional functionality available on the **<Device>** Configuration Console:

Button	Procedure
Delete	Delete a snapshot
	1. Click the snapshot to delete.
	2. Click Delete.
	3. Click <b>Yes</b> to confirm the deletion of the snapshot.
Edit	Edit the name of a snapshot
	1. Click the snapshot to edit.
	2. Click Edit to display the Confirm Edit Snapshot dialog box.
	3. In the <b>Snapshot Name</b> field, edit the name of the snapshot, as needed.
	4. Click <b>Yes</b> to update the snapshot.
Copy to Clipboard	Copy the configuration settings to another location
	1. Click the snapshot to copy.
	2. Click Select All to select the configuration settings text.
	3. Click Copy to Clipboard to copy the configuration settings text.
	4. Paste the copied text into another document.

Button	Procedure
Save As XML	Save the configuration XML as an XML-formatted file
	1. Click the snapshot to save.
	2. Click Save As XML to display the Save As window.
	<ol> <li>In the Save As window, browse to the location in which to save the XML- formatted file.</li> </ol>
	4. In the File name field, enter a name for the XML-formatted file.
	5. Click <b>Save</b> to save the XML-formatted file.
Send Report	Send a copy of the configuration settings in an email
	1. Click the snapshot to email.
	<ol> <li>In the Report Email Recipient field, enter the email address of the recipient of the email.</li> </ol>
	3. Click Send Report.

# DXi Device Consoles

To monitor DXi devices or Q-Cloud Protect appliances in Vision, you can use the following consoles in addition to the main Vision Device console. From these consoles, you can view information, manage alerts, and calculate capacity upgrade estimates for your DXi devices and Q-Cloud Protect appliances. You can also view replication reports and chargeback data.

## DXi Devices Consolidated Console

Use to monitor devices with the DXi Devices group, which includes Q-Cloud Protect appliances. See Navigate the DXi Devices Consolidated Console on page 111.

### Figure 83: DXi Devices Consolidated Console

Qua	Quantum. Vision											
Manag	Management Configuration Help											
Devices	Image: Constraint of the second s											
All Devi	ces 🔹 🗸 DX	(i Devic	es									
📿 DXi	Devices Co	nsolid	ated Cor	isole								
Devices	5 (3)								Group Filter:	All De	evices	💽 🖕 🖇
St ▲	Device	Add	ress	Serial Number	Product	Total Capa	Used Ca	% U	Available	R	Soft	DARt Ve
<b>Ø</b>	dxi-70	10.40	.161.70	SV1539BVE24854	Quantum DXi6700	32,380.00 GB	471.58 GB	1.46 %	31,910.00 GB	0.00	2.3.2.1	02.03.02
0	q-cloudproted	t <u>54.19</u>	7.133.203	AW8427CAH99884	Quantum Q-Cloud Protec	20,000.00 GB	0.00 GB	0.00 %	20,000.00 GB	0.00	3.3.2	3.2.0-54
0	DXi0	10.40	.166.122	SV1638BVA13293	Quantum DXi0	85.89 GB	10.70 GB	12.45 %	75.19 GB	0.00	3.2.4.1	3.2.0-55
Total Car	aacity: 52.466	GR	Shown	5360 man								
iotai ca	Jacky: 52,400	0.0	21101111	99	9%							
Used:	Uradi 483 GB Available: 51 985 GB											
DXi Tici	DXi Tickets(45) Vision Alerts (0)											
	*											
Ticke	Device I	Priority	Open Da	te	Summary					Last	Update	
10	dxi-70	-70 high 1-10-2016 10:21:03 PM storage subsystem chassis CONTROLLER_C0 controller C0ALARM5 : Hardware fault 1-11-2016 12:21:37 AM			21:37 AM							
35	35 dxi-70 high 2-7-2016 01:49:48 PM storage subsystem chassis CONTROLLER_C0 controller C0ALARM48 : Hardware faul 2-7-2016 10:15:37 PM											
	I											

## DXi Device Console

Use to monitor and manage an individual DXi device or Q-Cloud Protect appliance. From this console you can also calculate capacity upgrade estimates, and view replication reports and chargeback data. See Navigate an Individual DXi Device Console on page 114.

### Figure 84: DXi Device Console – DXi



Figure 85: DXi Device Console - Q-Cloud Protect

Quantum. Vision						
Management Configuration Help						
Image: Constraint of the second se						
All Devices						
🥝 q-cloudprotect Device Console : Norm	1					
Device v	Space Usage					
Name: q-cloudprotect Address: 54.197.133.203 Model: Q-Cloud Protect Vendor: Quantum Serial Number: AW8427CAH99884 Uptime: 5h 21m 55s Revision: 3.3.2.57339 Build9 Software Version: 3.3.2 Last Gather: 10-5-2016 08:36:51 PM Access Protocol: https Total Capacity: 20,000 GB 100% Available: 20,000 GB Total Reduction Ratio: 0x	0					
Accent -	Dxi Tickets (0) Vision Alerts (0)					
	× 🗈					
	Ticke         Device         Priority         Open Date         Summary         Last Up         Open         Reques					

## Navigate the DXi Devices Consolidated Console

Use the DXi Devices Consolidated console to monitor DXi devices and Q-Cloud Protect appliances.

## Navigate the DXi Devices Consolidated Console

1. From the All Devices drop-down list on the Device console, select DXi Devices to display the DXi Devices Consolidated console.

### Figure 86: DXi Devices Consolidated Console

Quar	Quantum.   Vision											
Manag	Management Configuration Help											
Devices	Devices Topology Analytics Reporting DXi AR Media											
All Devie	ces 🔹	DXi Devi	ces									
📿 DXi	Devices (	tonsolid	ated Con	sole								
Devices	5 (3)								Group Filter:	All D	evices	💽 💩 🖇
St ▲	Device	Add	ress	Serial Number	Product	Total Capa	Used Ca	% U	Available	R	Soft	DARt Ve
<b>Ø</b>	dxi-70	10.40	.161.70	SV1539BVE24854	Quantum DXi6700	32,380.00 GB	471.58 GB	1.46 %	31,910.00 GB	0.00	2.3.2.1	02.03.02
0	q-cloudprot	tect 54.19	7.133.203	AW8427CAH99884	Quantum Q-Cloud Protec	20,000.00 GB	0.00 GB	0.00 %	20,000.00 GB	0.00	3.3.2	3.2.0-548
0	DXi0	10.40	.166.122	SV1638BVA13293	Quantum DXi0	85.89 GB	10.70 GB	12.45 %	75.19 GB	0.00	3.2.4.1	3.2.0-553
			<b>c</b> 1									
lotal Cap	pacity: 52,4	66 GB	Showu	sage map	006							
Useda	99%											
osea:	Used: 463 GB Available: 51,765 GB											
DXi Tick	DXi Tickets(45) Vision Alerts (0)											
*												
Ticke	Device	Priority	Open Da	te	Summary Last Update							
10	) dxi-70	high	1-10-201	6 10:21:03 PM	storage subsystem chassis CONTROLLER_CO controller COALARM5 : Hardware fault 1-11-2016 12:21:37 AM			21:37 AM				
35	35 dxi-70 high 2-7-2016 01:49:48 PM storage subsystem chassis CONTROLLER_C0 controller COALARM48 : Hardware faul 2-7-2016 10:15:37 PM				5:37 PM							
•												

2. In the **Devices** pane, view the following information:

Column	Definition
Status	The color-coded icon indicating the device's status.
Device	The name assigned to the device when it was discovered in Vision.
Address	The device's IP address or host name.
	Click the IP address or host name to launch the native management interface for the device.
Serial Number	The device's serial number.
Product	The Quantum product model name for the device.
Total Capacity	The device's total storage capacity

Column	Definition
Used Capacity	The amount of storage being used on the device.
% Used	The percentage of storage being used on the device.
Available	The amount of storage that is available on the device.
Reduction Ratio	The amount of data on the device that has been deduplicated and compressed.
Software Version	The current software version of the device.
DARt Version	The current Advanced Reporting version attached to the device.
Uptime	The amount of time that the device has been communicating with the Vision server.
Last Gather	The last time status data was received from the device.
Protocol	The device's encryption protocol
	<ul> <li>http – The data collection path to the device uses an unencrypted connection.</li> </ul>
	<ul> <li>https – The data collection path to the device uses an encrypted connection.</li> </ul>

3. In the Total Capacitypane, view the following information:

### **Total Capacity**

Total disk space of the DXi devices and Q-Cloud Protect appliances.

### Usage Bar

**Used** (blue) and **Available** (light gray) disk space for the DXi devices and Q-Cloud Protect appliances, shown in percentages in the bar graph and numbers in the legend under the bar graph.

- Click Show usage map to view the capacity information in a larger bar graph.
- Click Show capacity information to return to the Total Capacity pane.
- 4. In the **Device Alerts** pane, view the following information on the **DXi Tickets** tab:

Column	Description
Ticket #	The service ticket number for a DXi device or Q-Cloud Protect appliances.

Column	Description
Priority	The priority assigned to the service ticket.
Open Date	The date on which the service ticket was opened.
Summary	A summary of the issue on the service ticket.
Last Update	The date and time on which the last update to the ticket was made.
Open	The open status for the ticket.
RequestId	The ID of the request from which the ticket was generated.

5. In the **Device Alerts** pane, view and acknowledge alert notifications, as needed. See <u>Manage Vision</u> Alert Notifications on page 101.

## Navigate an Individual DXi Device Console

Use the **DXi Device** console to view information about an individual DXi device, including device component status, disk space usage, and tickets and alerts.

For information about tickets and alerts, see Navigate the DXi Devices Consolidated Console on page 111.

## Navigate the Device Status pane

1. From the **Devices** console, double-click the DXi device for which to display the **DXi Device** console.

### Figure 87: DXi Device Console – DXi



- 2. In the **Device Status** pane, view the following status information about the components within a DXi system:
  - **Note:** Not all components display for each DXi device. The displayed components depend upon the DXi device's configuration. Click the arrow next to a component to show or hide a list of sub-components.

Component	Description
Device	Overall DXi system status, indicated by a status color.
	Device-specific data
	• Name – The device's name.
	<ul> <li>Address – The device's IP address/hostname. Click to launch the native management interface for the DXi system.</li> </ul>
	Model – The device's model.
	<ul> <li>Vendor – The vendor from whom the device was purchased.</li> </ul>
	Serial Number – The device's serial number.
	<ul> <li>Uptime – The amount of time that the device has been communicating with the Vision server.</li> </ul>
	<ul> <li>Revision – The revision number of the DXi software.</li> </ul>
	<ul> <li>Software Version – The version number of the DXi software.</li> </ul>
	Last Gather – The last time status data was received from the device.
	Access Protocol – The device's encryption protocol.
Total Capacity	<ul> <li>Capacity data</li> <li>Total Capacity – Total disk space of the DXi device.</li> <li>Usage Bar – Used (blue) and Available (light gray) disk space for the DXi devices, shown in percentages in the bar graph and numbers in the fields under the bar graph.</li> <li>Dedupe – The amount of disk space that contains deduplicated data.</li> <li>Non Dedupe – The amount of disk space that contains non-deduplicated data.</li> <li>System Metadata – The amount of disk space that contains system metadata.</li> <li>Total Reduction Ratio – The amount of data that has been deduplicated and compressed.</li> </ul>
	Additional Information On DXi systems that predate version 2.3, <b>Used + Available</b> disk space might be greater than <b>Total Capacity</b> . This mismatch in calculations is caused by reclaimable space being counted in both the <b>Used</b> and <b>Available</b> categories. As of version 2.3, reclaimable space is only being included in <b>Available</b> disk space. All reported numbers and sums are now correct.
Accent	Total bandwidth savings achieved for the device when Accent is enabled.

Component	Description
Drives	<ul> <li>Disk drive data</li> <li>Name of the drive.</li> <li>Status of the drive, such as Normal.</li> <li>Location of the drive.</li> <li>Total storage capacity of the drive.</li> </ul>
	Double-click a row to view this same information, along with the drive's enable property, index, model, and alert severity in a table format on the <b>Drive Details</b> dialog box.
Ports	Fibre Channel and Ethernet ports data
	Name of the port.
	Type of port.
	Double-click a row to view this same information, along with the port's index, alert severity, status, value, WWPN assignment, and received and transmitted values in a table format on the <b>Port Details</b> dialog box.
Sensors	Sensor data
	Name of the sensor.
	<ul> <li>Type of sensor, either Voltage, Temperature, or IPMI.</li> </ul>
	Double-click a row to view this same information, along with the sensor's index, alert severity, status, and observation values in a table format on the <b>Sensor Details</b> dialog box.
Switches	Fibre Channel and Ethernet switch data
	Name of the switch.
	<ul> <li>Vendor from whom you purchased the switch.</li> </ul>
	Type of switch, either Ethernet or FiberChannel.
	Double-click a row to view this same information, along with the switch's index, alert severity, and status in a table format on the <b>Switch Details</b> dialog box.

Component	Description
VTL Partitions	<ul> <li>Virtual tape library (VTL) partition data</li> <li>Name of the partition.</li> <li>Whether deduplication is enabled for the partition, either true or false.</li> <li>Whether replication is enabled for the partition, either true or false.</li> <li>Average throughput for the partition.</li> <li>Double-click a row to view this same information, along with the partition's backup window values, index, mode, and number of tape cartridges and drives in a table format on the VTL Details dialog box.</li> </ul>
PTT Devices	<ul> <li>Path-to-tape (PTT) library and drive data</li> <li>Serial number for the device.</li> <li>Vendor from whom you purchased the device.</li> <li>Product type of the device.</li> <li>Double-click a row to view this same information, along with the device's alias, revision number, and type in a table format on the PTT Details dialog box.</li> </ul>
NAS Shares	<ul> <li>NAS share data</li> <li>Name of the NAS share.</li> <li>Type of share, either NFS or CIFS.</li> <li>Whether deduplication is enabled for the partition, either true or false.</li> <li>Whether replication is enabled for the partition, either true or false.</li> <li>Double-click a row to view this same information, along with the NAS share's node, backup window values, description, hidden or displayed status, permission value, and signature value in a table format on the NAS Share Details dialog box.</li> </ul>
Adapters	<ul> <li>Installed hardware adapter data</li> <li>Name of the adapter.</li> <li>Type of adapter, either a compression card, Fibre Channel controller, or network interface cards (NICs).</li> <li>Double-click a row to view this same information, along with the adapter's model revision value and vendor name in a table format on the HBA Details dialog box.</li> </ul>

Component	Description
Fans	Device's cooling fans. Double-click a row to view the Fan Details dialog box.
	<ul> <li>Fan Details</li> <li>Index for the fan.</li> <li>Alert severity assigned to the fan, such as Normal.</li> <li>Status of the fan, such as Normal.</li> <li>Observed values for the fan.</li> </ul>
Batteries	RAID controller backup battery data
	Name of the battery.
	Location of the battery.
	Double-click a row to view this same information, along with the battery's enabled value, index, alert severity, and status in a table format on the <b>Battery Details</b> dialog box.
Power Supplies	Device's power supplies. Double-click a row to view information about the power supplies in the <b>Power Supply Details</b> dialog box.
	Power Supply Details
	Index for the power supply.
	Alert severity assigned to the power supply, such as Normal.
	Status of the power supply, such as <b>Normal</b> .
Licenses	Installed feature license data
	Name of the license.
	Current number of the license being used.     Maximum number of allocated licenses
	• Waximum number of allocated licenses.
	Double-CIICK a row to view this same information, along with the license's description, product to which the license applies, and that product's vendor in a table format on the <b>License Details</b> dialog box.

## Navigate the Space Usage pane

- 1. From the **Devices** console, double-click the DXi device for which to display the **DXi Device** console.
- 2. Using the line graph and legend, view the following space usage information for the device:

Line	Description
Total Capacity (green)	Total amount of disk space on the device, in terabytes (TBs).
Data Protected (light blue)	Amount of protected data on the device, in TBs.
Disk Usage (dark blue)	Amount of disk space currently being used on the device, in TBs.

3. Use the **Time Estimate for Capacity Upgrade** field to calculate the capacity upgrade estimate. See <u>Capacity Upgrade Estimate in Vision on page 124</u>.

### Additional Information

- Maximum values are used for the before and after reduction rates
- A maximum of 12 months of data can be displayed.

## Navigate an Individual Q-Cloud Protect Appliance Console

Use the **Q-Cloud Protect Appliance** console to view information about an individual Q-Cloud Protect appliance, including the cloud appliance's component status, disk space usage, and tickets and alerts.

For information about tickets and alerts, see Navigate the DXi Devices Consolidated Console on page 111.

## Navigate the Device Status pane

1. From the **Devices** console, double-click the Q-Cloud Protect appliance for which to display the **Q-Cloud Protect Device** console.

### Figure 88: DXi Device Console - Q-Cloud Protect

Quantum. Vision	🔂 🖓 Log Off
Management Configuration Help	
Devices Topology Analytics Reporting DX	À IIII AR Media Å admin ▼
All Devices	Console Configuration Replication Chargeback
🥝 q-cloudprotect Device Console : Norma	
Device v	Space Usage
Status: green Name: q-cloudprotect Address: 54.197.133.203 Model: Q-Cloud Protect Vendor: Quantum Serial Number: AW8427CAH99884 Uptime: 5h 21m 55s Revision: 3.3.2.57339 Build9 Software Version: 3.3.2 Last Gather: 10-5-2016 08:36:51 PM Access Protocol: https Total Capacity: 20,000 GB 100% Available: 20,000 GB	0 12/31/1969 Total Capacity (TB) Data Protected (TB) Disk Usage (TB) Time Estimate for Capacity Upgrade: Learn more Clear Estimate: Error retrieving capacity upgrade estimate data
Accent	Dxi Tickets (0) Vision Alerts (0)
	× 5
	Ticke Device Priority Open Date Summary Last Up Open Reques

- 2. In the **Device Status** pane, view the following status information about the cloud appliance's components:
  - **Note:** Not all components display for each DXi device. The displayed components depend upon the DXi device's configuration. Click the arrow next to a component to show or hide a list of sub-components.

Component	Description			
Device	Overall Q-Cloud Protect system status, indicated by a status color.			
	<ul> <li>Device-specific data</li> <li>Name – The cloud appliance's name.</li> <li>Address – The cloud appliance's IP address/hostname. Click to launch the native management interface for the Q-Cloud Protect appliance.</li> <li>Model – The cloud appliance's model.</li> <li>Vendor – The vendor from whom the cloud appliance was purchased.</li> </ul>			
	<ul> <li>Serial Number – The cloud appliance's serial number.</li> <li>Uptime – The amount of time that the cloud appliance has been communicating with the Vision server.</li> <li>Revision – The build number of the Q-Cloud Protect software.</li> <li>Software Version – The version number of the Q-Cloud Protect software.</li> <li>Last Gather – The last time status data was received from the cloud appliance.</li> <li>Access Protocol – The cloud appliance's encryption protocol.</li> </ul>			
Total Capacity	<ul> <li>Capacity data</li> <li>Total Capacity – Total disk space of the cloud appliance.</li> <li>Usage Bar – Used (blue) and Available (light gray) disk space for the cloud appliance, shown in percentages in the bar graph and numbers in the fields under the bar graph.</li> <li>Dedupe – The amount of disk space that contains deduplicated data.</li> <li>Non Dedupe – The amount of disk space that contains non-deduplicated data.</li> <li>System Metadata – The amount of disk space that contains system metadata.</li> <li>Total Reduction Ratio – The amount of data that has been deduplicated and compressed.</li> </ul>			
Accent	Total bandwidth savings achieved for the cloud appliance when Accent is enabled.			

Component	Description
VTL Partitions	Virtual tape library (VTL) partition data
	To present the storage capacity of the Q-Cloud Protect appliance as a VTL partition that is compatible with standard backup applications, you must add partitions.
	When you add a partition, you must specify the type of physical library to emulate, as well as configure virtual tape drives and storage slots.
	<ul> <li>Name of the partition.</li> <li>Whether deduplication is enabled for the partition, either true or false.</li> <li>Whether replication is enabled for the partition, either true or false.</li> <li>Average throughput for the partition.</li> </ul>
	Double-click a row to view this same information, along with the partition's backup window values, index, mode, and number of tape cartridges and drives in a table format on the <b>VTL Details</b> dialog box.
NAS Shares	NAS share data
	To present the storage capacity of the Q-Cloud Protect appliance as a NAS share that is compatible with standard backup applications, you must first add shares. When you add a share, you must specify whether it uses the NFS protocol (for Linux networks) or the CIFS protocol (for Windows networks).
	<ul> <li>Name of the NAS share.</li> <li>Type of share, either NFS or CIFS.</li> <li>Whether deduplication is enabled for the partition, either true or false.</li> <li>Whether replication is enabled for the partition, either true or false.</li> <li>Double-click a row to view this same information, along with the NAS share's node, backup window values, description, hidden or displayed status, permission value, and signature value in a table format on the NAS Share Details dialog box.</li> </ul>

Component	Description
Licenses	Installed feature license data
	Name of the license.
	Current number of the license being used.
	Maximum number of allocated licenses.
	Double-click a row to view this same information, along with the license's description, product to which the license applies, and that product's vendor in a table format on the <b>License Details</b> dialog box.

## Navigate the Space Usage pane

- 1. From the **Devices** console, double-click the Q-Cloud Protect appliance for which to display the **Q-Cloud Protect Device** console.
- 2. Using the line graph and legend, view the following space usage information for the cloud appliance:

Line	Description
Total Capacity (green)	Total amount of disk space on the cloud appliance, in terabytes (TBs).
Data Protected (light blue)	Amount of protected data on the cloud appliance, in TBs.
Disk Usage (dark blue)	Amount of disk space currently being used on the cloud appliance, in TBs.

3. Use the **Time Estimate for Capacity Upgrade** field to calculate the capacity upgrade estimate. See Capacity Upgrade Estimate in Vision below.

### **Additional Information**

- · Maximum values are used for the before and after reduction rates
- A maximum of 12 months of data can be displayed.

## Capacity Upgrade Estimate in Vision

Use the capacity upgrade estimate to determine when capacity might be completely consumed on a DXi device or Q-Cloud Protect appliance.

The capacity upgrade estimate is calculated as compound growth between a beginning and ending point in time. The result displays the number of weeks until a capacity upgrade is mostly likely required.

See <u>Navigate an Individual DXi Device Console on page 114</u> and <u>Navigate an Individual Q-Cloud Protect</u> Appliance Console on page 120.

## Tips for Calculating a Capacity Upgrade Estimate

Review the following tips to obtain the most reliable capacity upgrade estimate by identifying a period of time that reflects regular growth:

### **Steady-State Period**

We recommend using a period of time that represents stable growth. Such a steady-state period occurs after the initial loading of data onto your DXi device or cloud appliance, when you have a backup expiring for each new backup stored, and when the increase in capacity reflects annual growth of data.

Do not include time periods when you first populate your DXi or cloud appliance or add a new data source. If you include such time periods, the reported compound growth will be much higher than normal growth, and your capacity upgrade estimate will be lower than it should be.

### Examples

- Initial backups are retained for 30 days. So for the first month of use, data appears to be growing rapidly. That apparent rapid growth is due to data not being deleted, rather than actual data growth.
- A new email group's data is sent to the DXi device for backup. Much like with your initial backup operations, data growth appears more rapid than normal. This apparent rapid growth continues until the new data backups begin to expire and the new email group's data reaches a steady state.

### **Data Points**

We recommend that you use more than 5 data points to calculate the compound growth rate for capacity. Data points reflect the amount of data backed up after reduction. Vision uses the highest data point from each week to calculate the compound growth rate for a period of x weeks, as shown in the following equation:

### sum of highest data points from each week / number of weeks = compound growth rate

Using the compound growth rate, Vision estimates the number of weeks before a capacity upgrade is required. You need more than 5 data points – or 5 weeks of backups to the DXi or cloud appliance – for a reliable compound growth rate.

Vision cannot calculate the capacity upgrade estimate if the data point value is beyond the point for which the capacity is already considered full. If the DXi or cloud appliance is already at maximum capacity, it requires a capacity upgrade.

### **Incline vs. Decline Periods**

We recommend running the capacity upgrade estimate during an **incline period**, which is a period of time when the amount of data at the beginning point is lower than the amount of data at the ending point.

If you run the capacity upgrade estimate during a **decline period** — when the amount of data at the beginning point is higher than the amount of data at the ending point — Vision cannot accurately estimate when a capacity upgrade is needed because the length of the decline period is unknown.

If you run a capacity upgrade estimate during a decline period, Vision displays the capacity upgrade estimate as a broken red line.

## **Recommended Actions for Low Capacity**

When the capacity upgrade estimate shows that a DXi device or cloud appliance is approaching capacity, use the following recommendations to extend the time before upgrading capacity on the device.

• Run reclamation more often.

We recommend running reclamation weekly or after a known network disruption has occurred.

• Reduce the number of excess scratch tapes.

The percentage of scratch tapes should not be much greater than the anticipated year-over-year growth rate.

- Re-label scratch tapes using your backup application, and run DXi reclamation to free up space.
- Reduce the number of Name Space snapshot versions that are retained, if applicable.
- Shorten retention policies, if appropriate.
- · Make sure that compressed, encrypted, and multiplexed jobs are not being sent.
- Verify that the size of your cartridges is not too large.

The cartridge size should be the same size as your average backup job.

- If your DXi's software version predates 2.2 and you are running Trigger Based Replication, run synchronizations weekly or after a known network disruption.
- Request a HealthCheck assessment through your Quantum account team.

## Understanding the Capacity Upgrade Estimate

Review the following information to understand how the capacity upgrade estimate is displayed on the **Space Usage** graph.



Line Slope	Indication
Positive (sloping up from left to right)	The current capacity upgrade estimate is greater than the previous estimate.
	Positive slopes usually indicate that a DXi device or cloud appliance currently has both low amounts of stored data and a slow growth rate.
Flat or Negative (level or sloping down from left to right)	The current estimate is the same as or lower than the previous estimate, showing that the DXi device or cloud appliance is in a steady state.
	Any net increase in data is the result of natural data growth, rather than growth caused by adding new backup sources where reclamation policies have not yet reached their maximum retention period.
Mix of Positive and Negative	Any of the following:
	<ul> <li>New data sources have been added, where reclamation policies have not yet reached their maximum retention period.</li> </ul>
	<ul> <li>Interruptions to retention policies or introductions of new replications into a target have occurred.</li> </ul>
	<ul> <li>Changes in retention policies have occurred, such as an indefinite legal hold or reduction in the number of required backups.</li> </ul>

## Calculate the Capacity Upgrade Estimate

Use the capacity upgrade estimate to determine when current capacity for a DXi device or Q-Cloud Protect appliance will be consumed.

For detailed information regarding how to obtain the most accurate estimate, how to handle low capacity, and how to read the information presented in the **Space Usage** graph, see<u>Capacity Upgrade Estimate in</u> <u>Vision on page 124</u>.

## Calculate the capacity upgrade estimate

- 1. From the **Devices** console, double-click the DXi device or cloud appliance for which to display the **<Individual> Device** console.
- 2. In the **Space Usage** pane, select the **Total Capacity** or **Data Protected** check box to display that information on the graph, as needed.
- 3. Under the **Time Estimate for Capacity Upgrade** field, click the calendar button to select a date on which to begin the calculation for the upgrade estimate.

**()** Note: Vision can take up to 1 week to collect 12 months' worth of data for existing DXi installations.

Vision plots the capacity upgrade estimate in the **Space Usage** graph and displays the **Estimate** field with the estimated capacity upgrade date.



#### Figure 89: DXi Device Console – Capacity Upgrade Estimate

4. Move the cursor to various points in time on the graph to see the estimated number of weeks until a capacity upgrade is needed.

## **Replication and Chargeback Usage Reports**

From DXi or Q-Cloud Protect Device consoles, you can access the Device Replication report and the Chargeback Usage report.

### Important

Vision uses the DXi and Q-Cloud Protect IP addresses — rather than hostnames — to determine replication relationships. It does not recognize replication relationships if the DXi or Q-Cloud Protect IP address is not supplied.

### **Device Replication Report**

Use the Device Replication report to view both detailed and summary information for namespace file replication, source replication, and target replication.

Replication reports are accessible for the following: DXi V-Series virtual appliances, DXi4500, DXi4700, DXi6500, DXi6700, DXi6800, DXi6900, DXi6900-S, DXi7500, DXi8500, and Q-Cloud Protect.

See <u>View Replication Reports on the next page</u>.

### Figure 90: Device Replication Report

Quantu	<b>ım</b> . Visio	on			🔒 🤉 Log Off	
Management Configuration Help						
Devices	Image: Constraint of the second se					
All Devices	▼ DXi Devi	ices dendxi8500a		Co	nsole Configuration Replication	
📿 dendxia	8500a Replica	ation				
Device Rep	plication Repor	rt Last Generated: Wednesday, January 23, 20	013 3:01:33 PM [	Update Replication Namespa	ce Detail 🔻 🄋	
Node T	Partition or	Cartridge barcode or User File Name	Status	Start Time	End Time	
Share	dennas01	pancetera-sync/smartmotion.mysqldump	Replicated	Wed Jan 23 11:00:32 2013	Wed Jan 23 11:00:36 2013	
Share	dennas01	NA	Replicated	Wed Jan 23 11:00:32 2013	Wed Jan 23 11:00:36 2013	
Share	dennas01	pancetera-sync/smartmotion.mysqldump	Replicated	Tue Jan 22 11:00:33 2013	Tue Jan 22 11:00:45 2013	
Share	dennas01	NA	Replicated	Tue Jan 22 11:00:33 2013	Tue Jan 22 11:00:45 2013	
Share	dennas01	pancetera-sync/smartmotion.mysqldump	Replicated	Mon Jan 21 11:00:03 2013	Mon Jan 21 11:00:17 2013	
Share	dennas01	NA	Replicated	Mon Jan 21 11:00:03 2013	Mon Jan 21 11:00:17 2013	
Share	dennas02	pancetera-sync/smartmotion.mysqldump	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-18-1800/Df	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-18-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-18-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-18-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-18-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-18-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-18-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-19-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-19-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Page Size:	1000 Pa	age 1 of 9 Refresh		Page	s: << 123456789 >>	

### **Access Control**

For Vision to gather replication data for Q-Cloud Protect appliances or DXi devices running software versions 3.2 or later, it needs to identify itself through an SSH key pair.

Vision generates this key pair. The private key is Vision's secure identifier. The public key is shared with the Q-Cloud Protect appliance or DXi device. Vision has authorization to gather replication data only when the private and public keys match. For more information, see <u>Configure Security Settings for Vision</u> on page 95.

## Chargeback Usage Report

Use the Chargeback Usage report to view ingest and capacity information for both shares and partitions

configured on a DXi device or Q-Cloud Protect appliance.

You can view Chargeback Usage reports for DXi devices with a software version of 2.3 or newer and Q-Cloud Protect appliances.

See View Chargeback Usage Reports on page 134.

### Figure 91: Chargeback Usage Report

Quantum. Vision								
Management Configuration Help								
Image: Constraint of the second s								
All Devices 👻 DXi Devices	dendxi8500a	3			Console	Configuration	Replication	Chargeback
🥝 dendxi8500a Chargebao	:k : Normal							
Time Zone: N/A	F	Period Last we	ek 🔻	Start 01/01/	2015 📰 23 🔹	: 12 <b>*</b> 47 <b>*</b>	End 01/	08/2015 🔢 23
Chargeback Usage Report st	nare 🔻	(I) 🗙 🗊						
Name	UserDataSi	UserDataSi	UserDataSize	InputBytes	UniqueByte	UniqueByte	ReductionR	DedupRatio
P_denvtl08	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00
P_denvtl09	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00
P_UnassignedDedup	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00
P_UnassignedNonDedup	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00
S_den_test1	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00
S_dennas01	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00
S_dennas02	31.47TB	36.04TB	30.15TB	1.42TB	127.92GB	102.00GB	13.95	11.13
S_dennas03	63.64TB	70.33TB	62.73TB	5.44TB	84.09GB	64.32GB	84.53	64.66
S_denost02	102.33TB	107.40TB	95.05TB	23.18TB	2.07TB	1.68TB	13.77	11.18
S_denost03	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00
S_denost04ppo	441.37TB	454.96TB	449.75TB	95.35TB	7.71TB	4.07TB	23.42	12.37
S_denoststs01	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00
S_pponas01	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00

## **View Replication Reports**

Use the Device Replication report to view both detailed and summary information for namespace file replication, source replication, and target replication.

Replication reports are accessible for Q-Cloud Protect appliances and the following DXi devices: DXi V-Series virtual appliances, DXi4500, DXi4700, DXi6500, DXi6700, DXi6800, DXi6900, DXi6900-S, DXi7500, and DXi8500.

### **Access Control**

For Vision to gather replication data for Q-Cloud Protect appliances or DXi devices running software versions 3.2 or later, it needs to identify itself through an SSH key pair.

Vision generates this key pair. The private key is Vision's secure identifier. The public key is shared with the Q-Cloud Protect appliance or DXi device. Vision has authorization to gather replication data only when the private and public keys match. For more information, see <u>Configure Security Settings for Vision</u> on page 95.

## View replication reports

1. From the **<individual> Device** console, click the **Replication** tab to display the **Replication** console.

Figure 92: Replication Console

Quantu	J <b>m</b> .   Visio	on			🔒 🤉 Log Off	
Management Configuration Help						
Devices	Image: Construction of the second					
All Devices	▼ DXi Devi	ices dendxi8500a		Con	nsole Configuration Replication	
🕝 dendxit	8500a Replica	ation				
Device Re	plication Repor	t Last Generated: Wednesday, January 23, 20	)13 3:01:33 PM [	Update Replication Namespa	ice Detail 🔻 📋	
Node T	Partition or	Cartridge barcode or User File Name	Status	Start Time	End Time	
Share	dennas01	pancetera-sync/smartmotion.mysqldump	Replicated	Wed Jan 23 11:00:32 2013	Wed Jan 23 11:00:36 2013	
Share	dennas01	NA	Replicated	Wed Jan 23 11:00:32 2013	Wed Jan 23 11:00:36 2013	
Share	dennas01	pancetera-sync/smartmotion.mysqldump	Replicated	Tue Jan 22 11:00:33 2013	Tue Jan 22 11:00:45 2013	
Share	dennas01	NA	Replicated	Tue Jan 22 11:00:33 2013	Tue Jan 22 11:00:45 2013	
Share	dennas01	pancetera-sync/smartmotion.mysqldump	Replicated	Mon Jan 21 11:00:03 2013	Mon Jan 21 11:00:17 2013	
Share	dennas01	NA	Replicated	Mon Jan 21 11:00:03 2013	Mon Jan 21 11:00:17 2013	
Share	dennas02	pancetera-sync/smartmotion.mysqldump	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-18-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-18-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-18-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-18-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-18-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-18-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-18-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-19-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Share	dennas02	pancetera-sync/2012-12/2012-12-19-1800/DE	Replicated	Wed Jan 23 11:00:38 2013	Wed Jan 23 11:01:29 2013	
Page Size:	1000 Pa	ige 1 of 9 Refresh		Page	s: << 123456789 >>	

2. In the report type drop-down list (next to the **Updated Replication** button), select the type of report to display:

Report	Description			
Namespace Detail	<ul> <li>Detailed namespace file replication data</li> <li>The type of node from which data was replicated, such as Share.</li> <li>The name of the partition or share from which the data was replicated.</li> <li>The name of the cartridge or user file from which data was replicated.</li> <li>The status of the replication, such as Success.</li> <li>The time at which the replicated bundle.</li> <li>The ID assigned to the replicated bundle.</li> <li>The IP address or hostname of the target system.</li> </ul>			
Namespace Summary	<ul> <li>Summary namespace file replication data</li> <li>The type of node from which data was replicated, such as Share.</li> <li>The name of the partition or share from which the data was replicated.</li> <li>The status of the replication, such as Success.</li> <li>The time at which the replication began and completed.</li> <li>The total number of data bytes replicated.</li> <li>The amount of time it took for the replication to complete in MB/second.</li> <li>The ID assigned to the replicated bundle.</li> <li>The IP address or hostname of the target system.</li> </ul>			
Source Detail	<ul> <li>Detailed source system data</li> <li>The type of node from which data was replicated, such as Share.</li> <li>The name of the partition or share from which the data was replicated.</li> <li>The target system to which the data was replicated.</li> <li>The barcode or path of the target system.</li> <li>The status of the replication, such as Success, and any other information associated with the replication status.</li> <li>The time at which the replication began and completed.</li> <li>The rate at which the replication completed.</li> <li>If the replication has not completed, the estimated time until completion.</li> <li>The trigger ID assigned to the replication.</li> </ul>			
Report	Description			
-------------------	--			
Source Summary	<ul> <li>Summary source system data</li> <li>The type of node from which data was replicated, such as Share.</li> <li>The name of the partition or share from which the data was replicated.</li> <li>The target system to which the data was replicated.</li> <li>The number of replication tasks currently in the queue.</li> <li>The number of replication tasks currently running.</li> <li>The number of successful replication tasks.</li> <li>The number of failed replication tasks.</li> </ul>			
Target Detail	<ul> <li>Detailed target system data</li> <li>The type of node from which data was replicated, such as Share.</li> <li>The name of the partition or share from which the data was replicated.</li> <li>The source system from which the data was replicated.</li> <li>The barcode or path of the source system.</li> <li>The status of the replication, such as Success, and any other information associated with the replication status.</li> <li>The time at which the replication completed.</li> <li>If the replication has not completed, the estimated time until completion.</li> <li>The AUD ID assigned to the replication.</li> </ul>			
Target Summary	<ul> <li>Summary target system data</li> <li>The type of node from which data was replicated, such as Share.</li> <li>The name of the partition or share from which the data was replicated.</li> <li>The source system from which the data was replicated.</li> <li>The most severe status allowed before an alert is triggered.</li> <li>The last time at which a replication began and completed.</li> <li>The AUD ID assigned to the replication.</li> </ul>			

3. Manage the displayed information by doing any of the following:

## Update the displayed data

Click **Update Replication** and select the type of report to display from the report type drop-down list. Updating the displayed data can take up to 30 minutes.

## Specify the number of rows displayed on a page

Enter a value in the Page Size field and click Refresh.

## Navigate between pages of the report

- Use the controls in the lower right of the report.
- To navigate to a specific page, enter the page number in the **Page** box and click **Refresh**.

## View Chargeback Usage Reports

Use the Chargeback Usage report to view ingest and capacity information for both shares and partitions configured on a DXi device or Q-Cloud Protect appliance.

You can only view Chargeback Usage reports for DXi devices with a software version of 2.3 or newer.

## Tips for Using the Chargeback Usage Report

Keep the following tips in mind when using the Chargeback Usage report:

## **Reported Intervals**

The DXi device or Q-Cloud Protect appliance reports chargeback in 1 or 5 minute intervals, so the display always lags by at least 1 to 5 minutes. In addition, if a replication starts and completes in a single reporting interval, ingest data is not displayed on the graph or legend.

### **Rounding and Granularity**

Changes in rounding and granularity can cause small differences in the values displayed in the GUI, graph summaries, and file outputs. There may also be small differences in graph summary values when the time granularity is changed.

## **Time Frame**

Because of the way the statistics are estimated, chargeback yields the best results when the selected time frame is greater than 7 days.

#### **File Name**

When you download a Chargeback Usage report using the **Download Chargeback** icon, Vision provides the report with a file name that is an aggregate of the report type, the system's serial number, and the start and end times of the selected time frame.



## View a Chargeback Usage Report

- 1. From the < individual> Device console, click the Chargeback tab to display the Chargeback console.
- 2. Select the time period on which to report by doing one of the following:

## Select a pre-defined time period

In the **Period** drop-down list, select **Last Week**, **Last Month**, or **Last Quarter** to report on the corresponding time period.

## Define a custom time period

- a. In the **Period** drop-down list, select **Custom** to define a custom time period on which to report.
- b. In the Start and End fields, define the custom time period.
- 3. In the **Chargeback Usage Report** drop-down list, select one of the following to define the type of report to generate:

#### share

Generates data for all shares configured on the DXi device or cloud appliance.

## replication

Generates data for all shares or partitions replicated to the target system.

#### partition

Generates data for all partitions configured on the DXi device or cloud appliance.

Vision displays the Chargeback Usage report for the defined criteria. See <u>Chargeback Report Results</u> on the next page for a description of each column in the report.

#### Figure 93: Chargeback Usage Report

Quantum.   Vision							۲.	Cog Off			
Management Configuration Help											
Image: Constraint of the second s											
All Devices   DXi Devices dendxi8500a Console Configuration Replication Chargeback											
🖌 dendxi8500a Chargeback: Normal											
Time Zone: N/A	1	Period Last we	ek 🔻	Start 01/01/	/2015 📰 23 🔹	12 <b>*</b> 47 <b>*</b>	End 01/	08/2015 🔢 23			
Chargeback Usage Report	hare 🔻	<b>a</b> × a									
Name	UserDataSi	UserDataSi	UserDataSize	InputBytes	UniqueByte	UniqueByte	ReductionR	DedupRatio			
P_denvtl08	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00			
P_denvtl09	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00			
P_UnassignedDedup	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00			
P_UnassignedNonDedup	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00			
S_den_test1	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00			
S_dennas01	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00			
S_dennas02	31.47TB	36.04TB	30.15TB	1.42TB	127.92GB	102.00GB	13.95	11.13			
S_dennas03	63.64TB	70.33TB	62.73TB	5.44TB	84.09GB	64.32GB	84.53	64.66			
S_denost02	102.33TB	107.40TB	95.05TB	23.18TB	2.07TB	1.68TB	13.77	11.18			
S_denost03	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00			
S_denost04ppo	441.37TB	454.96TB	449.75TB	95.35TB	7.71TB	4.07TB	23.42	12.37			
S_denoststs01	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00			
S_pponas01	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00bytes	0.00	0.00			

4. Click on a row in the report to display both the **Ingest** and **Capacity** graphs for the selected share or partition. See <u>Chargeback Report Results below</u> for a description of each graph.

## **Chargeback Report Results**

This topic provides detailed information about Chargeback Usage report results.

## **Chargeback Usage Report Content**

The following table defines each column within the Chargeback Usage report, whether being viewed from the **Chargeback** console or from a downloaded Chargeback Usage report file.

Column	Description
Hostname*	The system's IP address or host name for the device.
SystemSerialNumber*	The system's serial number for the device.
Start*	The beginning date and time for which the data is being reported.

Column	Description
End*	The ending data and time for which the data is being reported.
Name	For either the source or target system, the name of the partition ( $\mathbf{P}$ ) or share ( $\mathbf{S}$ ), as configured on the DXi or cloud appliance and as shown in the DXi or cloud appliance GUI for the ingest CSV.
UserDataSize	One of the following:
	<ul> <li>For backup, the amount of user data stored in the partition or share at the end of the selected time period. This value represents the sum of the file sizes in the partition or share prior to data reduction.</li> </ul>
	<ul> <li>For replication, the size of the replicated partitions or shares sent to the DXi or cloud appliance at the end of the selected time period. This value includes the size of the ingested replication copies.</li> </ul>
UserDataSizeAvg	The sum of all observed values in the <b>UserDataSize</b> column, divided by the number of observations for the selected period of time.
UserDataSizeMax	The maximum UserDataSize value observed for the selected period of time.
InputBytes	The total size of data as it arrives at the DXi or cloud appliance during the selected time frame. This value represents only ingested data — it does not include deleted data.
UniqueBytesPreCompression	The total amount of ingested data after deduplication for the selected time frame. This value represents only ingested data — it does not include deleted data.
UniqueBytesPostCompression	The total amount of ingested data after total reduction (both compression and deduplication) for the selected time range. This value represents only ingested data — it does not include deleted data.
ReductionRatio	The sum of all observed values in the <b>UserDataSize</b> column, divided by the sum of all values in the <b>UniqueBytesPostCompression</b> column.
DedupRatio	The sum of all observed values in the <b>UserDataSize</b> column, divided by the sum of all values in the <b>UniqueBytesPreCompression</b> column.
CompressionRatio	The value in the <b>ReductionRatio</b> column, divided by the value in the <b>DedupRatio</b> column.
OnDisk	The effective disk usage for the DXi or cloud appliance's share or partition at the end of the selected period of time.

Column	Description					
OnDiskAvg	The sum of all observed values in the <b>OnDiskAvg</b> column, divided by the number of observations for the selected period of time.					
PercentOfTotalCapacity	The percent of the total capacity of disk space being used for the selected time period.					
* These values display only in the downloaded Chargeback Usage Report file.						

## **Ingest and Capacity Graphs**

The **Ingest** and **Capacity** graphs display information about the selected share or partition within the Chargeback Usage report.

## Ingest Graph Data

The Ingest Graph displays the following data:

#### Figure 94: Ingest Graph



Inputbytes
UniqueBytesPreCompression
UniqueBytesPostCompression

The data ingested prior to reduction or compression. The data ingested after deduplication.

The data ingested after compression and deduplication.

## **Capacity Graph Data**

The Capacity Graph displays the following data. When reviewing the data, keep in mind that the last minute of the graph corresponds to the value in the **UserDataSize** column of the **Chargeback Usage Report**.

#### Figure 95: Capacity Graph



User Data Size	The amount of data coming into a single partition or share for backup for each minute during the selected time period.
first	The first data point of the User Data Size.
last	The last data point of the User Data Size.
delta	The difference between the first and last data points of the User Data Size.

# **Scalar Device Consoles**

To monitor Scalar devices in Vision, you can use the following two consoles in addition to the main Vision Device console. From these consoles, you can view information about tape library components, storage slot usage, partition components, and device alerts.

## Scalar Consolidated Console

Use the Scalar Consolidated console to monitor tape libraries within the Scalar Devices Group. From this console, you can also access tickets and alerts for Scalar tape libraries. See <u>Navigate the Scalar</u> Consolidated Console on page 141.

#### Figure 96: Scalar Consolidated Console

Quantum.   Vision																
Management Configuration Help																
Image: Constraint of the second se																
All Devi	ces 🔹 👻 Se	calar Dev	ices													
👩 Sca	alar Consoli	dated C	onsole: (	Critical (1),	Connection	n Failed	(2)									
Device	5 (8)						(-)						Group Filter:	All Devices 🔻	oxe	7
C+ V	Dovico	Addre		Sovial Nu	Droduct	Roh		C+	<b>CO</b>				Untimo	Last Cathor	Brotocol	
	SE lab i2000	10.20.2	219.26	203101568	Scalar i6000	MIX	FD	264	1000	12	1.04	5	210d 6h 2m 22s	3-9-2015 02:53:3	http	
	prod-i2000	10.50.4	4.122	203101824	Scalar i6000	MIX	ED	543	1500	12	125	4	88d 3h 45m 6s	3-9-2015 02:52:0	http	
	rossi	10.20.	163.102	273190018	Scalar i6000	MIX	ED	696	600	6	1	1	3d 5h 4m 47s	3-9-2015 02:52:2	http	
	phuona i8.3	10.20.	170.33	A0C021610	Scalar i500	Mod	el2	125	409	6	13	4	5d 3h 58m 0s	3-9-2015 02:53:1	http	
	vision-i500	10.50.	152.106	A0C0206220	Scalar i500	Mod	el1	30	36	2	20	1	4v 161d 4h 49m	3-9-2015 02:50:4	http	
<b>Q</b>	Scalar i500 II	10.20.1	170.58	A0C011690:	Scalar i500	Mod	el2	219	225	10	14	2	3d 7h 13m 0s	2-13-2015 04:21:	http	
	co tape librar	v <u>10.50.</u>	152.244:	AC9877HII9	Scalar i2000	MIX	ED	145	862	8	12	1	5d 12h 9m 47s	7-28-2014 10:21:	http	•
Scalar	Tickets(6)	(ision Alert	- (22)			=										
Scalar		ISION AIEIG	6 (22)													
															× E	1
Status	Ticket #	Device	Date			Description								Ticket	•	
<u> </u>	24	Scalar i5	10-Feb-20	15 9:00:43		An assigr	ned t	tape dr	ive has	been	repla	aced	with a tape drive o	of a different type.	T135	<b></b>
Â	26	Scalar i5	10-Feb-20	015 9:02:17		The libra	ry is	unable	to calib	rate	the p	ositi	ion of a drive.		T019	
<u> </u>	23	Scalar i5	10-Feb-20	15 9:00:36		An assigned tape drive has been replaced with a tape drive of a different type.								of a different type.	T135	
<u> </u>	27	Scalar i5	10-Feb-20	15 9:07:44	The library is unable to calibrate the position of a tape cartridge magazine.								T020			
<u> </u>	25	Scalar i5	10-Feb-20	15 9:01:10		The libra	ry de	etected	an Ethe	rnet	Expa	nsio	n Blade connection	or communication p	T177	-
<u> </u>	293	arias	Sun Mar 0	8 00-20-11 M	T 2015	TEX Com	muni	ication	Drohlen						RAS Ti	<u>•</u>

## Scalar Device Console

Use the Scalar Device console to view information about an individual Scalar tape library, including device component status, storage slot usage, partition component status, and tickets and alerts. See <u>Navigate an</u> Individual Scalar Device Console on page 143.

#### Figure 97: Scalar Device Console

Quantum. Vision									[		?	Log Off
Management Configuration	Help											
Image: Constraint of the second s												
All Devices 🔹 🗸 Scalar Devic	es pro	d-i2000						Conso	le	Con	figura	ation
🥝 prod-i2000 Device Cons	ole : Noi	rmal										
Device 🔻	Storage S	lots Usage										
Name: prod-i20	Total Slo	ts(543) + Clea	aning Slo	t Cou	nt(11) + IE Slot Count(95): 649							
Address: <u>10.50.4.</u> Model: Scalar i6	127			522			851					
Vendor: Quantun Serial Number: 2031018	Used	Available a	nd Licen	sed	Licensed and not Available							
Uptime: 88d 3h 4 Software Version: 607A.GS	Partition	ns (4)									*	:
Last Gather: 3-9-201 Access Protocol: http	Status	Device N	Na	т	Encryption	Auto Clean	Serial Number	s				
	•	prod-i2000	LTO4	N/A	Not Supported	Disabled	203101824_LI	.1 210	4	36	30	N/A
Overview 🔻	٩	prod-i2000	LTO4_	N/A	Not Supported	Disabled	203101824_L	.2 210	4	36	68	N/A
Drives 🔹	•	prod-i2000	LTO5	N/A	Not Supported	Disabled	203101824_L	.3 48	2	18	19	N/A
TO Blades	•	prod-i2000	SDLTE	N/A	Not Supported	Disabled	203101824_L	.0 40	2	5	10	N/A
	•											
Ports v	Scalar Ti	ckets (0) V	ision Ale	rts (3)	)							
Licenses 🔻											×	:
RAS Status 👻	Status Ticket # Device Date Description Ticket Name											

## Navigate the Scalar Consolidated Console

Use the Scalar Consolidated console to monitor tape libraries within the Scalar Devices Group.

## Navigate the Scalar Consolidated Console

1. From the **All Devices** drop-down list on the **Device** console, select **Scalar Devices** to display the **Scalar Consolidated** console.

Figure 98: Scalar Co	onsolidated Console
----------------------	---------------------

Quantum. Vision														
Management Configuration Help														
Image: Constraint of the second se										admin 🔻				
All Devi	ces 🔹 🔻 So	alar Dev	ices											
🔞 Sca	alar Consoli	dated Co	onsole: (	Critical (1),	Connection	n Failed (2	)							
Device	s (8)											Group Filter:	All Devices 🔻	ox≘
St ▼	Device	Addre	ss	Serial Nu	Product	Rob	St	со				Uptime	Last Gather	Protocol
<b>Ø</b>	SE lab i2000	10.20.2	19.26	203101568	Scalar i6000	MIXED	264	1000	12	104	5	210d 6h 2m 22s	3-9-2015 02:53:3	http 🔺
<b>Ø</b>	prod-i2000	10.50.4	.122	.122 203101824 Scalar i600			543	1500	12	125	4	88d 3h 45m 6s	3-9-2015 02:52:0	http
<b>Ø</b>	rossi	10.20.1	63.102	273190018	Scalar i6000	MIXED	696	600	6	1	1	3d 5h 4m 47s	3-9-2015 02:52:2	http
<b>Ø</b>	phuong i8.3	10.20.1	70.33	A0C021610	Scalar i500	Model2	125	409	6	13	4	5d 3h 58m 0s	3-9-2015 02:53:1	http
<b>Ø</b>	vision-i500	10.50.1	52.106	A0C0206220	Scalar i500	Model1	30	36	2	20	1	4y 161d 4h 49m	3-9-2015 02:50:4	http
	Scalar i500 II	10.20.1	70.58	A0C011690:	Scalar i500	Model2	219	225	10	14	2	3d 7h 13m 0s	2-13-2015 04:21:	http
<u>_</u>	co tape librar	v 10.50.1	52.244:	AC9877HII9	Scalar i2000	MIXED	145	862	8	12	1	5d 12h 9m 47s	7-28-2014 10:21:	http 🔻
Scalar	Tickets(6) V	ision Alerts	:(22)											
														* 🗈
Status	Ticket #	Device	Date			Description								Ticket
<u>^</u>	24	Scalar i5	10-Feb-20	15 9:00:43		An assigned	tape di	ive has	been	repla	ced	with a tape drive o	of a different type.	T135
<u> </u>	26	Scalar i5	10-Feb-20	15 9:02:17		The library is	unable	to calib	rate	the p	ositi	on of a drive.		T019
<u>^</u>	23	Scalar i5	10-Feb-20	15 9:00:36		An assigned tape drive has been replaced with a tape drive of a different type.								T135
<u>^</u>	27	Scalar i5	10-Feb-20	15 9:07:44		The library is unable to calibrate the position of a tape cartridge magazine.								т020
<u>^</u>	25	Scalar i5	10-Feb-20	15 9:01:10		The library d	etected	an Ethe	rnet	Expar	nsio	n Blade connection	or communication p	T177
<b>n</b>	293	ariac	Sun Mar 0	8.00+20+11 M	ST 2015	TEX Commun	ication	Drohlen						RAS Ti

2. In the **Devices** pane, view the following information:

Column	Definition
Status	The color-coded icon indicating the tape library's status.
Device	The name assigned to the tape library when it was discovered in Vision.
Address	The tape library's IP address or host name.
	Click the IP address or host name to launch the native management interface for the tape library.
Serial Number	The tape library's serial number.
Product	The Quantum product name for the tape library.
Robotics Model	The type of robotics model used for the tape library.

Column	Definition
Storage Slots	The number of storage slots within the tape library.
COD Licensed Slots	The number of COD licensed slots within the tape library.
Drives	The number of tape drives installed in the tape library.
Media	The number of media drives installed in the tape library.
Partitions	The number of configured partitions within the tape library.
Uptime	The amount of time that the tape library has been communicating with the Vision server.
Last Gather	The last time status data was received from the tape library.
Protocol	The device's encryption protocol
	<ul> <li>http – The data collection path to the device uses an unencrypted connection.</li> </ul>
	<ul> <li>https – The data collection path to the device uses an encrypted connection.</li> </ul>

3. In the **Device Alerts** pane, view the following information on the **Scalar Tickets** tab:

Column	Description
Status	The color-coded icon indicating the tape library's status.
Ticket #	The service ticket number for the tape library.
Device	The tape library for which the ticket has been generated.
Date	The date on which the service ticket was opened.
Description	A brief description of the issue on the service ticket.
Ticket Name	The type of ticket, such as <b>RAS Ticket</b> .

4. In the **Device Alerts** pane, view and acknowledge alert notifications, as needed. See <u>Manage Vision</u> Alert Notifications on page 101.

## Navigate an Individual Scalar Device Console

Use the Scalar Device console to view information about an individual Scalar tape library, including device component status, storage slot usage, partition component status, and tickets and alerts.

For information about Scalar tickets and alerts, see Navigate the Scalar Consolidated Console on page 141.

## Navigate through the Device pane on the Scalar Device Console

1. From the **Devices** console, double-click the Scalar tape library for which to display the **Scalar Device** console.

#### Figure 99: Scalar Device Console

Quantum. Vision									•		? เ	Log Off
Management Configuration Help												
Image: Constraint of the second se												
All Devices												
prod-i2000 Device Console : Normal												
Device v Storage Slots Usage												
Name: prod-i20	Name: prod-i20 Total Slots(543) + Cleaning Slot Count(11) + IE Slot Count(95): 649											
Address: <u>10.50.4</u>	127			522			851					
Vendor: Quantun Serial Number: 2031018	Used	Available a	and Licen	sed	Licensed and not Available							
Uptime: 88d 3h 4 Software Version: 607A.GS	Partition	ns (4)									*	:
Last Gather: 3-9-201	Status	Device N	Na	т	Encryption	Auto Clean	Serial Number	s				
Access Protocoli Intep	•	prod-i2000	LTO4	N/A	Not Supported	Disabled	203101824_LL	.1 210	4	36	30	N/A
Overview •	٩	prod-i2000	LTO4_	N/A	Not Supported	Disabled	203101824_LL	2 210	4	36	68	N/A
Drives 🔻	•	prod-i2000	LTO 5	N/A	Not Supported	Disabled	203101824_LL	.3 48	2	18	19	N/A
TO Blader	•	prod-i2000	SDLTE	N/A	Not Supported	Disabled	203101824_LL	.0 40	2	5	10	N/A
TO blades	•											►
Ports .	Scalar Ti	ckets (0) V	ision Ale	rts (3)	)							
Licenses 👻											×	: 🗈
RAS Status 👻	Status	Ticket #	Device	Da	te	Description		Ticket N	ame			

2. In the **Device** pane, view the following information about the components within the Scalar tape library.

**Note:** Not all components display for each Scalar tape library. The displayed components depend upon the tape library's configuration. Click the arrow next to a component to show or hide a list of sub-components.

Component	Description
Device	Device-specific information
	Name – The tape library's name.
	<ul> <li>Address – The tape library's IP address/hostname. Click to launch the native management interface for the Scalar tape library.</li> </ul>
	Model – The tape library's model.
	<ul> <li>Vendor – The vendor from whom the tape library was purchased.</li> </ul>
	<ul> <li>Serial Number – The tape library's serial number.</li> </ul>
	• <b>Uptime</b> – The amount of time that the tape library has been communicating with the Vision server.
	<ul> <li>Software Version – The current software version of the tape library.</li> </ul>
	<ul> <li>Last Gather – The last time status data was received from the tape library.</li> </ul>
	<ul> <li>Access Protocol – The device's encryption protocol.</li> </ul>
Overview	Total number of each type of component within the tape library.
Drives	Tape drive information
	<ul> <li>Status of the drive, whether Varied On or Varied Off.</li> </ul>
	Partition in which the drive exists.
	The type of drive, such as LT06.
	The number assigned to the drive.
	The drive's reported serial number.
	The drive's interface type, such as <b>FIBRE</b> .
	<ul> <li>The drive's encryption status, such as Application Managed.</li> </ul>
	The drive's mount status, such as <b>Empty</b> .
	Double-click a row to view this same information in a table format on the <b>Drives Details</b> dialog box.
IO Blades	I/O Blade information
	<ul> <li>The type of I/O Blade, such as Quantum FC IOB/7404.</li> </ul>
	The HPF, such as <b>Disabled</b> .
	The I/O Blade's serial number.
	Double-click a row to view this same information, along with the I/O Blade's location, software version, and status in a table format on the <b>IO Blade Details</b> dialog box.

Component	Description
LTFS Blades	LTFS Blade information
	The type of LTFS Blade, such as LTFS-1.
	The LTFS Blade's IP address.
	The LTFS Blade's serial number.
	Double-click a row to view this same information, along with the LTFS Blade's location, offline or online status (mode), partition, software version, and status in a table format on the <b>LTFS Blade Details</b> dialog box.
Ports	Fibre Channel port information
	• The type of I/O blade, such as <b>Quantum FC IOB/7404</b> .
	The port's number.
	The WWPN assigned to the port.
	The type of port, such as Initiator or Target.
	Double-click a row to view this same information, along with the port's connection speed and type, index number, loop ID, and status in a table format on the <b>Port Details</b> dialog box.
Licenses	Tape library licensing information
	Tape library's licensed features.
	The number of licenses for each feature.
	Double-click a license to view this same information in a table format on the <b>License Details</b> dialog box.
RAS Status	Tape library's subsystem components.
	Double-click a component to view its status on the <b>RAS Status Details</b> dialog box.

## Navigate the Storage Slots Usage pane

- 1. From the **Devices** console, double-click the Scalar tape library for which to display the **Scalar Device** console.
- 2. In the **Storage Slot Usage** pane above the bar graph, view the number of available, cleaning, IE, and total slots for the tape library.

3. In the bar graph, view the following information:

Bar Graph Block	Description
Used (blue)	The number of slots within the tape library that are currently being used.
Available and Licensed (gray)	The number of slots within the tape library that are currently available and licensed.
Available and not Licensed (light gray)	The number of slots within the tape library that are currently not licensed but would be available.
Licensed and not Available (dark gray)	The number of slots within the tape library that are currently licensed but not available.

### **Additional Information**

- If the number of available slots equals the number of licensed slots, neither Licensed and not Available nor Available and not Licensed displays.
- If the number of available slots is less than the number of license slots, Licensed and not Available displays.
- If the number of available slots is greater than the number of licensed slots, **Available and not** Licensed displays.

## Navigate the Partitions pane

- 1. From the **Devices** console, double-click the Scalar tape library for which to display the **Scalar Device** console.
- 2. In the **Partitions** pane, view the following information:

Column	Description
Status	The <u>color-coded icon</u> indicating the status of the partition.
Device Name	The name of the device within the partition.
Name	The name of the partition.
Туре	The type of partition, such as <b>Standard</b> .
Encryption	The partition's encryption status, such as <b>Application Managed</b> .
Auto Clean	The partition's auto clean status, such as <b>Disabled</b> .

#### Chapter 4: Device Consoles Scalar LTFS Device Consoles

Column	Description
Serial Number	The partition's serial number.
Storage Slots	The number of storage slots within the partition.
Drives	The number of drives within the partition.
IE Slots	The number of IE slots within the partition.
Media	The number of media drives within the partition.
Protocol	The device's encryption protocol
	<ul> <li>http – The data collection path to the device uses an unencrypted connection.</li> </ul>
	https – The data collection path to the device uses an encrypted connection.

# Scalar LTFS Device Consoles

To monitor Scalar LTFS devices in Vision, you can use the following two consoles, in addition to the main Vision Device console. From these consoles, you can view information about Scalar LTFS device components, partition components, and device alerts.

## Scalar LTFS Consolidated Console

Use the Scalar LTFS Consolidated console to monitor systems within the Scalar LTFS Devices Group. From this console, you can also access tickets and alerts for Scalar LTFS systems. See <u>Navigate the Scalar</u> LTFS Consolidated Console on page 150. Figure 100: Scalar LTFS Consolidated Console

Quan	tum.   Visi	ion											<b>?</b> .	og Off
Manage	ment Configurat	tion Help												
Devices		alytics Re	eporting DXi AR	Media									🛔 admin	• •
All Device	s 🔹 Scalar	LTFS Devi	ces											
😫 Sca	ar LTFS Consol	idated Co	onsole: Connec	tion Fa	iled (3)									
Devices	(7)								Group F	ilte	r: All D	)e vice	s 🔻 💁 🗙	٢
Sta▲	Device		Address	Serial N	lumber	Slots	Drives	5	Media		Partitio	ons	Protocol	
	Eric Hawkins SLTF	FS	10.1.1.1	CX1332	BVK00002	30		2	2	22		1	https	
8	charlton		10.50.152.245	c35e63	ac-d68c-4ce0-9a1b-(	9		з	1	11		10	http	
	bug 38678 zzz		10.20.169.82	CX1211	BVK00011	75	3		1	14		2	https	
<b>Ø</b>	beckenbauer		10.50.152.244	1cOdfb9	3-0940-46ec-88dc-9	8		2	1	16		10	http	
<b>Ø</b>	eusebio		10.50.152.244	e82199	0d-b47b-46ea-9759	5	3		6		5		http	
<b>Ø</b>	dienst		10.50.152.244	b3dc37	ed-de0f-4751-8c65-:	6		9	9 7		7 8		http	
	albert		10.50.152.244	5e9168	c6-56c7-48ad-a46b-	10		7		16		10	http	
Scalar L	TFS Tickets (8)	vision Alerts	(9)											
													*	٢
Ticke	Device	Priority	Date		Summary				Request Id		St	Text	:	
1	beckenbauer	0	3-9-2015 02:29:0	5 AM	DT051 - Unlabeled (	Cartridge Detec	ted lo	w	109988393	1	open	Tape	Library Partition:	<u>^</u>
1	charlton	0	8-1-2014 02:57:22	7 AM	DT051 - Unlabeled	Cartridge Detec	ted lo	w	109988393	1	open	Таре	Library Partition:	4
2	bug 38678 zzz	<u>^</u>	10-22-2014 11:08	46 AM	DT058 - Tape Drive	Offline tape dr	ive I S	ev	122950018:	1	open	Таре	Drive: ELEMENT_	2:
1	bug 38678 zzz	Â	10-22-2014 11:08	:45 AM	DT058 - Tape Drive	Offline tape dr	ive I S	ev	122950018:	1	open	Таре	Drive: ELEMENT_	25
15	Eric Hawkins SL	<u>^</u>	10-2-2014 01:38:0	09 PM	DT057 - Tape Librar	y Partition Offli	ine f n	nid	1227568046	1	open	Таре	Library Partition:	•
													Þ	

## Scalar LTFS Devices Console

Use the Scalar LTFS Devices console to view information about an individual Scalar LTFS system, including component status, partition component status, and tickets and alerts. See <u>Navigate an Individual</u> Scalar LTFS Device Console on page 152.

Figure 101: Scalar LTFS Devices Console

Quantum. Vision													
Management Configuration He	Management Configuration Help												
Image: Constraint of the second se													
All Devices   Scalar LTFS Devices dienst Console Configuration													
✓ dienst Device Console : Normal													
Device Partitions X 🕄													
Name: dienst	Status	Name		Li	Serial Number	Vendor ID	Product ID	Slots	D	I/E			
Model: SLTFS		Partition-sim-pa	artition-7		sim-serial-no-7	1774546264	-843534549	14	1	1			
Vendor: Quantum Serial Number: b3dc37ed-det	$\bigcirc$	Partition-sim-pa	artition-5		sim-serial-no-5	2143523415	-285029744	23	7	3			
Software Version: 1.0		artition-1		sim-serial-no-1	-928338825	-40425606 26 930194061		3	1				
Access Protocol: http	$\bigcirc$	Partition-sim-partition-6			sim-serial-no-6			83665226	0	6			
	$\bigcirc$	Partition-sim-pa	artition-4		sim-serial-no-4	977999581	-1810910867	77	6	9			
Overview 👻	ଟ	Partition-sim-pa	artition-2		sim-serial-no-2	-267823996 -204	-2048236136	87	1	4			
Total Slots: 811 Drive Count: 9	<u> </u>	Partition-sim-pa	artition-3		sim-serial-no-3	346007722	1314709929	107	10	0			
Media Count: 7	Scalar IT	TS Tickets (1)	Vision Alert	c (0)									
	Scalar Li	rs lickets (1)	VISION AIER	s (0)						20.00			
										* 🗉			
	Ticke	Device	Priority	Date		Summary			R	equest Id			
	1	dienst	0	3-9-2	015 02:28:57 AM	DT051 - Unlab	eled Cartridge Det	ected l	ow 1	09988393			
	•									►			

## Navigate the Scalar LTFS Consolidated Console

Use the Scalar LTFS Consolidated console to monitor systems within the Scalar LTFS Group.

## Navigate the Scalar LTFS Consolidated Console

1. From the **All Devices** drop-down list on the **Device** console, select **Scalar LTFS Devices** to display the **Scalar LTFS Consolidated** console.

Figure	102:	Scalar	LTFS	Consolidated	Console
--------	------	--------	------	--------------	---------

Qua	ant	t <b>um.</b>   Visi	on											<b>?</b>	og Of
Mana	agem	nent Configurat	tion Help												
Devi	s ces	Topology Ana	alytics R	eporting DXi AR	Media									🛔 admin	•
All De	vices	s 🔹 👻 Scalar I	LTFS Devi	ces											
🙆 s	cala	r LTFS Consol	idated C	onsole: Connec	tion Fa	ailed (3)									
- GD															
Devid	:es (7	7)								Group F	ilte	r: All D	evice	s 🔻 🖍	٢
Sta		Device		Address	Serial N	lumber	Slots	Driv	es	Media		Partitio	ons	Protocol	
62	,	Eric Hawkins SLTF	FS	10.1.1.1	CX1332	BVK00002	30		2	2	22		1	https	
6	5	charlton		10.50.152.245	c35e63	ac-d68c-4ce0-9a1b-(	9		3	3	11		10	http	
6	5	bug 38678 zzz		10.20.169.82	CX1211	BVK00011	75	75 :		3 14		2		https	
		beckenbauer		10.50.152.244	1c0dfb9	3-0940-46ec-88dc-9	8		2	2 16		10		http	
		eusebio		10.50.152.244	e82199	0d-b47b-46ea-9759	5	5 3		3 6			5	http	
		dienst		10.50.152.244	b3dc37	ed-de0f-4751-8c65-:	6		9	7		7 8		http	
		albert		10.50.152.244	5e9168	c6-56c7-48ad-a46b-	10		-	,	16		10	http	Ŧ
Scal	ar LT	FS Tickets (8)	/ision Alerts	(9)											
														*	٢
Ticke	·	Device	Priority	Date		Summary				Request Id		St	Text		
	1	beckenbauer	0	3-9-2015 02:29:0	5 AM	DT051 - Unlabeled (	Cartridge Deteo	ted	low	109988393	1	open	Таре	Library Partition:	<u>/</u>
	1	charlton	0	8-1-2014 02:57:22	7 AM	DT051 - Unlabeled	Cartridge Deteo	ted	low	109988393	1	open	Таре	Library Partition:	A
	2	bug 38678 zzz	Â	10-22-2014 11:08	:46 AM	DT058 - Tape Drive	Offline tape dr	ive I	Sev	122950018:	1	open	Таре	Drive: ELEMENT_2	25
	1	bug 38678 zzz	Â	10-22-2014 11:08	:45 AM	DT058 - Tape Drive	Offline tape dr	ive I	Sev	1229500182	1	open	Таре	Drive: ELEMENT_2	25
	15	Eric Hawkins SL	Â	10-2-2014 01:38:0	09 PM	DT057 - Tape Librar	y Partition Offli	ine f	mid	1227568046	1	open	Таре	Library Partition:	•
														•	

2. In the **Devices** pane, view the following information:

Column	Definition
Status	The color-coded icon indicating the device's status.
Device	The name assigned to the device when it was discovered in Vision.
Address	The device's IP address or host name.
	Click the IP address or host name to launch the native management interface for the device.
Serial Number	The device's serial number.
Slots	The number of slots within the device.
Drives	The number of tape drives installed in the device.

Column	Definition
Media	The number of media drives installed in the device.
Partitions	The number of configured partitions within the device.
Protocol	The device's encryption protocol
	<ul> <li>http – The data collection path to the device uses an unencrypted connection.</li> </ul>
	<ul> <li>https – The data collection path to the device uses an encrypted connection.</li> </ul>

3. In the **Device Alerts** pane, view the following information on the **Scalar LTFS Tickets** tab:

Column	Description
Ticket	The service ticket number for the device.
Device	The Scalar LTFS device for which the ticket has been generated.
Priority	The color-coded icon indicating the priority of the service ticket.
Date	The date on which the service ticket was opened.
Summary	A brief summary of the issue on the service ticket.
Alert Text	The alert status associated with the service ticket, such as <b>Severity 2</b> .
Request Id	The ID of the request from which the ticket was generated.
Status Type	A numeric value indicating the status of the service ticket, such as <b>1</b> for an open- status ticket.
Status Text	The status of the service ticket, such as <b>open</b> .
Text	A description of the issue being addressed by the service ticket.
Time	The time at which the service ticket was opened.

4. Click the **Vision Alerts** tab to view and acknowledge alert notifications, as needed. See <u>Manage Vision</u> <u>Alert Notifications on page 101</u>.

## Navigate an Individual Scalar LTFS Device Console

Use the Scalar LTFS Device console to view information about an individual Scalar LTFS device, including device component status, partition component status, and tickets and alerts.

For information about the Device Alert pane, see <u>Navigate the Scalar LTFS Consolidated Console on</u> page 150.

## Navigate the Scalar LTFS Device Console

1. From the **Devices** console, double-click the Scalar LTFS device for which to display the **Scalar LTFS Device** console.

Figure 103: Scalar LTFS Device Console

Quantum. Vision									<u>ति</u>	? Log Off
Management Configuration He	lp			_				_	_	
Devices	Devices Topology Analytics Reporting DXi AR Media									
All Devices 👻 Scalar LTFS Dev	vices die	nst					- 0	Console	Con	figuration
dienst Device Console : No	rmal									
Device -	Partitions	;								* 🗈
Name: dienst	Status	Name		Li	Serial Number	Vendor ID	Product ID	Slots	D	I/E
Address: 10.50.152.24 Model: SLTFS		Partition-sim-p	artition-7		sim-serial-no-7	1774546264	-843534549	14	1	1
Vendor: Quantum Serial Number: b3dc37ed-det		Partition-sim-p	artition-5		sim-serial-no-5	2143523415	-285029744	23	7	3
Software Version: 1.0		Partition-sim-partition-1			sim-serial-no-1	-928338825	-40425606	167	3	1
Access Protocol: http	$\bigcirc$	Partition-sim-p	artition-6		sim-serial-no-6	83665226	930194061	165	0	6
		Partition-sim-p	artition-4		sim-serial-no-4	977999581	-1810910867	77	6	9
Overview 👻	ଟି	Partition-sim-p	artition-2		sim-serial-no-2	-267823996	-2048236136	87	1	4
Total Slots: 811 Drive Count: 9	Ŭ,	Partition-sim-p	artition-3		sim-serial-no-3	346007722	1314709929	107	10	•
Media Count: 7	Scalar 11	FS Tickets (1)	Vision Alert	s (0)						
	Scalar E	is lickets (1)	VISION Alere	5 (0)						34 6
		1								∼ ⊑
	Ticke	Device	Priority	Date		Summary			R	equest Id
	1	dienst	0	3-9-2	015 02:28:57 AM	DT051 - Unlab	eled Cartridge Det	ected lo	ow 1	09988393
L	•									

2. In the **Device** pane, view the following information about the components within the Scalar LTFS device:

**1** Note: Click the arrow next to a component to show or hide a list of sub-components.

Component	Description
Device	Device-specific information
	Name – The device's name.
	<ul> <li>Address – The device's IP address/hostname. Click to launch the native management interface for the device.</li> </ul>
	Model – The device's model.
	<ul> <li>Vendor – The vendor from whom the device was purchased.</li> </ul>
	Serial Number – The device's serial number.
	Software Version – The current software version of the device.
	Last Gather – The last time status data was received from the device.
	<ul> <li>Access Protocol – The device's encryption protocol.</li> </ul>
Overview	Total number of slots, drives, and media within the Scalar LTFS device.

3. In the **Partitions** pane, view the following information about the partitions within the Scalar LTFS device:

Column	Description
Status	The color-coded icon indicating the status of the partition.
Name	The name of the partition.
Library	The library with which the partition is associated, if any.
Serial Number	The partition's serial number.
Vendor ID	The ID of the vendor from whom you purchased the product.
Product ID	The ID of the product associated with the partition.
Slots	The number of storage slots within the partition.
I/E	The number of IE slots within the partition.

# vmPRO Device Consoles

To monitor vmPRO appliances in Vision, you can use the following two consoles, in addition to the main Vision Device console. From these consoles, you can view information about vmPRO appliance components, virtual machines (VMs), and appliance alerts.

## vmPRO Consolidated Console

Use the vmPRO Consolidated console to monitor vmPRO appliances within the vmPRO Devices Group. From this console, you can also access vmPRO-specific alerts and Vision alerts for vmPRO appliances. See Navigate the vmPRO Consolidated Console on page 158.

In addition, if a vmPRO software update is available for an appliance, you can update the software directly from this console. See Update vmPRO Software from Vision on the next page.

#### Figure 104: vmPRO Consolidated Console

Quan	Quantum. Vision										
Manager	Management Configuration Help										
Devices	Devices Topology Analytics Reporting DXi AR Media										
All Device	s vmP	RO Devices									
👩 vmP	RO Consolid	ated Cons	, ole: Criti	cal (1),	<b>Connection Fai</b>	ed (	2), Wa	arning (1)			
Devices (	(4)								Group Filt	er: All Dev	vices 🔻 🕥 💥 🗒
Sta▲	Device	Address	Serial Nur	nber	Product		So	Uptime	Last Gather	Protocol	Software Update
8	irvine-vm pro	10.40.164	CX1244C/	AC00170	Quantum vmPRO	20	3.1.2	110d 3h 28m 50s	3-9-2015 03:0!	https	Upgrade Available
	tjq vmPro3	10.50.154			Quantum vmPRO	0	3.1.	4d 4h 10m 6s	8-11-2014 04:	null	Upgrade Available
	vm 50704	10.50.154.5			Quantum vmPRO	0	3.1.	4d 22h 49m 38s	8-5-2014 02:40	N/A	Upgrade Available
	vision-vmPro	10.50.152	50C8BA4E	BA2F1C	Quantum vmPRO	21	3.2.1	125d 7h 21m 41s	3-9-2015 03:00	N/A	
vmPRO	Alerts (7) Vi	sion Alerts (5)									
											Ē
Seve	a Device Type Message										
warning	irvine-vmpro	hypervisor_t	hypervisor time skew. The time skew between server '10.40.161.80' and the appliance is greater than one hour. Issues may occur due t								
warning	irvine-vmpro	export_errors Export warnings for server '10.40.164.55': 1 VM has an export warning									
error	irvine-vmpro	tomato_copy_error SmartMotion backup of folder '10.40.164.55' (Policy: 'repositories') finished with 1 failure.									
warning	tjq vmPro3	socket_licen	socket_license_1 The evaluation period will expire in 26 days.								
warning	vm 50704	socket_licen	se_1	The eval	uation period will ex	pire in	n 25 day	·s.			•
•		1									Þ

## vmPRO Device Console

Use the vmPRO Device console to view information about an individual vmPRO appliance, including device component status, VM data, and alert notifications. See <u>Navigate an Individual vmPRO Device Console on page 160</u>.

#### Figure 105: vmPRO Device Console

Management       Configuration       Help         Devices       Topology       Analytics       Reporting       DXI AR       Media         All Devices       • vmPRO Devices       Irvine-vmpro       Console       Configuration         All Devices       • vmPRO Devices       Irvine-vmpro       Console       Configuration         Image:       • vmPRO Devices       • Virtual Machine       Server       Node         Pointe:       10.40.161.80       • • • • • • • • • • • • • • • • • • •	Quantum. Vision			🔂 🖸	Log Off				
Image: Serie	Management Configuration Help	_							
All Devices       irvine-vmpro         Console       Configuration         Prince       Console       Configuration         Device       Virtual Machine       Server       Node         Address:       10.40.161.80       Intervention       Server       Node         Address:       10.40.161.80       Intervention       Server       Node         Address:       10.40.161.80       Intervention       Server       Node         Virtual Machines       Virtual Machine       Server       Node         Virtual Machines       Virtual Machine       Server       Node         SmartRead Last 24 Hrs       Vision Alerts (2)       Vision Alerts (2)       Vision Alerts (2)         Virtual Machine:       See.       Type       Message       Hui         error       tomato_copy_error       SmartMotion backup of folder '10.40.164.55' i Policy: 'repositories') finished with 1 failure.       V/4         Virtual Machine:       Sec.       Type       Message       Hui         wire:       Node       Sec.       Type       Message       Hui         Virtual Machine:       Sec.       Type       Message       Hui         Wirtual Machine:       Sec.       Type       Message <th< th=""><th>Devices Topology Analytics Re</th><th colspan="8">Image: Second secon</th></th<>	Devices Topology Analytics Re	Image: Second secon							
Invine-vmpro Device Console : Critical         Device       Virtual Machine       Server       Node         Name: irvine-vmpro Address: 10:40.166.57 Uptime: 110d 3h 280 f: Last Gather: 3>-2015 03:0 Access Protocol: https       Image: 10.40.164.55       Image: 10.40.164.55         Virtual Machines       Image: 10.40.164.55       Image: 10.40.164.55       Image: 10.40.164.55         Virtual Machines       Image: 10.40.164.55       Image: 10.40.164.55       Image: 10.40.164.55         SmartRead Last 24 Hrs       Image: 10.40.164.55       Image: 10.40.164.55       Image: 10.40.164.55       Image: 10.40.164.55         SmartRead Last 24 Hrs       Image: 10.40.164.55       Image: 10.40.16	All Devices 👻 vmPRO Devices	irvine	-vmpro	Console Configur	ration				
Device       virtual Machine       Server       Node         Name: invine-wmpro Address: 10.40.164.80       10.40.161.80       10.40.161.80       10.40.161.80         Last Gather: 3-9-2015 03:0       Access Protocol: https       10.40.164.55       10.40.164.55         Virtual Machines       v       SmartRead Last 24 Hrs       v       Vision Alerts (3)       Vision Alerts (2)         SmartRead Last 24 Hrs       v       Second Comparison of the second comparison comparison comparison comparison comparison comparis	💫 irvine-ympro Device Console	a : Cri	tical						
Device     virtual Machine     server     Node       Name: invine-wpror     Address: 10.40.164.80     Image: 10.40.164.80       Uptime: 110d 3h 28m;     Image: 10.40.164.55     Image: 10.40.164.55       Virtual Machines     Image: 10.40.164.55     Image: 10.40.164.55       SmartRead Last 24 Hrs     Image: 10.40.164.55     Image: 10.40.164.55       Data Moved: 494.0 GB     Image: 10.40.164.55     Image: 10.40.164.55       I/O Reduction: 92.1%     Image: 10.40.164.55     Image: 10.40.164.55       Se     Type     Message     Image: 10.40.164.55       Image: 10.40.164.55     Image: 10.40.164.55     Image: 10.40.164.55       Virial Machines     Image: 10.40.164.55     Image: 10.40.164.55       I/O Reduction: 92.1%     Image: 10.40.164.55     Image: 10.40.164.55       Se     Type     Message: 10.40.164.55     Image: 10.40.164.55       Image: 10.40			Minture Marchine	Comune Node					
Name: irvine-wnpro         Address: 10.40.164.927         Uptime: 110d 3h 28m t         Last Gather: 3-9-2015 03:0         Access Protocol: https         Virtual Machines         v         Total: 20         Exported: 2         Needs Attention: 1         SmartRead Last 24 Hrs         v         Data Moved: 494.0 GB         I/O Reduction: 92.1%         Xervices         Xistion Alerts (3)         Vision Alerts (2)             YmPRO Alerts (3)             Yision Alerts (2)	Device		virtual Machine	Server Node					
Uptime: 110d 3h 28m t   Last Gather: 3-9-2015 03:0   Access Protocil: https     Virtual Machines   Total:   20   Exported:   2   Needs Attention:   1     SmartRead Last 24 Hrs   Data Moved:   494.0 GB   I/O Reduction:   92.1%     Se   Type   Message   error   tomato_copy_error   SmartMotion backup of folder '10.40.164.55' (Policy: 'repositories') finished with 1 failure.   N/A   varni   hypervisor_time_sk   The time skew between server '10.40.161.80' and the appliance is greater than one hour.	Name: irvine-vmpro	10	.40.161.80						
Last Gather: 3-9-2015 03:0   Access Protocol: https     Virtual Machines   Total: 20   Exported: 2   Needs Attention: 1     SmartRead Last 24 Hrs   Data Moved: 494.0 GB   I/O Reduction: 92.1%     Virtual Machines     Virtual Moved: 494.0 GB   I/O Reduction: 92.1%     Se   Type   Message   error   to mato_copy_error   SmartMotion backup of folder '10.40.164.55' (Policy: 'repositories') finished with 1 failure.   N/A   warni   export_errors   Export warnings for server '10.40.164.55': 1 VM has an export warning   N/A   warni   hypervisor_time_sk   The time skew between server '10.40.164.50' and the appliance is greater than one hour.	Uptime: 110d 3h 28m 5	10	.40.164.55						
Virtual Machines       Image: Construction in the second sec	Last Gather: 3-9-2015 03:0 Access Protocol: https								
Virtual Machines       V         Total: 20 Exported: 2 Needs Attention: 1       V         SmartRead Last 24 Hrs       V         Data Moved: 494.0 GB I/O Reduction: 92.1%       Vision Alerts (2)         Se       Type         Message       H         error       tomato_copy_error       SmartMotion backup of folder '10.40.164.55' (Policy: 'repositories') finished with 1 failure.       N/A         warni       export_errors       Export warnings for server '10.40.164.55': 1 VM has an export warning       N/A         warni       hypervisor_time_sk       The time skew between server '10.40.161.80' and the appliance is greater than one hour.       N/A									
Total: 20   Exported: 2   Needs Attention: 1     SmartRead Last 24 Hrs   Data Moved: 494.0 GB   I/O Reduction: 92.1%     Image: Search Type   Message   error   tomato_copy_error   SmartMotion backup of folder '10.40.164.55' (Policy: 'repositories') finished with 1 failure. N/A   warni   export_errors   Export warnings for server '10.40.164.55': 1 VM has an export warning     N/A   warni   hypervisor_time_sk   The time skew between server '10.40.161.80' and the appliance is greater than one hour. N/A	Virtual Machines 👻								
SmartRead Last 24 Hrs <ul> <li>Data Moved: 494.0 GB I/O Reduction: 92.1%</li> <li>VmPRO Alerts (3) Vision Alerts (2)</li> </ul> <ul> <li>vmPRO Alerts (3) Vision Alerts (2)</li> <li></li></ul>	Total: 20 Exported: 2 Needs Attention: 1								
Data Moved: 494.0 GB         I/O Reduction: 92.1%         Se       Type         Message       H         error       tomato_copy_error       SmartMotion backup of folder '10.40.164.55' (Policy: 'repositories') finished with 1 failure.       N/A         varni       export_errors       Export warnings for server '10.40.164.55': 1 VM has an export warning       N/A         warni       hypervisor_time_sk       The time skew between server '10.40.161.80' and the appliance is greater than one hour.       N/A	SmartRead Last 24 Hrs								
I/O Reduction: 92.1%         Se       Type         Message       H         error       tomato_copy_error         SmartMotion backup of folder '10.40.164.55' (Policy: 'repositories') finished with 1 failure.       N/A         warni       export_errors       Export warnings for server '10.40.164.55': 1 VM has an export warning       N/A         warni       hypervisor_time_sk       The time skew between server '10.40.161.80' and the appliance is greater than one hour.       N/A	Data Mayadi 484.0 GB	vmPR	Alerts (3) Vision	Alerts (2)					
Se       Type       Message       H         error       tomato_copy_error       SmartMotion backup of folder '10.40.164.55' (Policy: 'repositories') finished with 1 failure.       N/A         warni       export_errors       Export warnings for server '10.40.164.55'; 1 VM has an export warning       N/A         warni       hypervisor_time_sk       The time skew between server '10.40.161.80' and the appliance is greater than one hour.       N/A	I/O Reduction: 92.1%			<u>لا</u>	e l				
Se         Type         Message         H           error         tomato_copy_error         SmartMotion backup of folder '10.40.164.55' (Policy: 'repositories') finished with 1 failure.         N/A           warni         export_errors         Export warnings for server '10.40.164.55': 1 VM has an export warning         N/A           warni         hypervisor_time_sk         The time skew between server '10.40.161.80' and the appliance is greater than one hour.         N/A				~					
error       tomato_copy_error       SmartMotion backup of folder '10.40.164.55' (Policy: 'repositories') finished with 1 failure.       N/A         varni       export_errors       Export warnings for server '10.40.164.55': 1 VM has an export warning       N/A         varni       hypervisor_time_sk       The time skew between server '10.40.161.80' and the appliance is greater than one hour.       N/A		Se	Туре	Message	н				
warni       export_errors       Export warnings for server '10.40.164.55': 1 VM has an export warning       N/A         warni       hypervisor_time_sk       The time skew between server '10.40.161.80' and the appliance is greater than one hour.       N/A		error	tomato_copy_error	SmartMotion backup of folder '10.40.164.55' (Policy: 'repositories') finished with 1 failure.	N/A				
varni hypervisor_time_sk The time skew between server '10.40.161.80' and the appliance is greater than one hour. N/A		warni	export_errors	Export warnings for server '10.40.164.55': 1 VM has an export warning	N/A				
		warni	hypervisor_time_sk	The time skew between server '10.40.161.80' and the appliance is greater than one hour.	N/A				
		•							

## Update vmPRO Software from Vision

Use the vmPRO Consolidated console to see if a newer version of Quantum vmPRO is available for the appliance. If an update is available, you can access that update right from the vmPRO Consolidated console.

The vmPRO Software Update feature is only available for vmPRO versions 3.1 and newer.

## Update vmPRO software from Vision

1. From the **All Devices** drop-down list on the **Device** console, select **vmPRO Devices** to display the **vmPRO Consolidated** console.

#### Figure 106: vmPRO Consolidated Console

Quant	Quantum. Vision										
Managen	Management Configuration Help										
Devices	Image: Constraint of the second se										
All Device	s 🔹 vmP	RO Devices									
👩 vmP	RO Consolid	ated Conse	, ole: Critic	cal (1).	Connection Fai	led (	2). Wa	ming (1)			
				un (±1)	Comection run	ica (	- <i>]</i> /				
Devices (	4)								Group Filt	er: All De	vices 🔻 🔿 🗙 🗐
Sta▲	Device	Address	Serial Num	ıber	Product		So	Uptime	Last Gather	Protocol	Software Update
8	irvine-vmpro	10.40.164	CX1244CA	C00170	Quantum vmPRO	20	3.1.2	110d 3h 28m 50s	3-9-2015 03:0!	https	Upgrade Available
	tjq vmPro3	10.50.154			Quantum vmPRO	0	3.1.	4d 4h 10m 6s	8-11-2014 04::	null	Upgrade Available
	vm 50704	10.50.154.5			Quantum vmPRO	0	3.1.	4d 22h 49m 38s	8-5-2014 02:4	N/A	Upgrade Available
<u> </u>	vision-vmPro	10.50.152	0.50.152 50C8BA4BA2F1C		Quantum vmPRO	21	3.2.1	125d 7h 21m 41s	3-9-2015 03:00	N/A	
						_					
vmPRO /	Alerts (7) Vi	sion Alerts (5)									
											Ê
Seve	Device	Type Message									
warning	irvine-vmpro	hypervisor_time_skew The time skew between server '10.40.161.80' and the appliance is greater than one hour. Issues may occur due t									
warning	irvine-vmpro	mpro export_errors Export warnings for server '10.40.164.55': 1 VM has an export warning									
error	irvine-vmpro	pro tomato_copy_error SmartMotion backup of folder '10.40.164.55' (Policy: 'repositories') finished with 1 failure.									
warning	tjq vmPro3	socket_licen	cket_license_1 The evaluation period will expire in 26 days.								
warning	vm 50704	socket_licen	se_1	The eval	uation period will ex	pire ir	n 25 day	5.			<b>V</b>

- 2. View the **Software Update** column of the **Devices** pane. If an **Upgrade Available** link is in the column, a newer version of Quantum vmPRO exists for the appliance.
- 3. Click the Upgrade Available link to display the Soft Update dialog box.

Figure 107: vmPRO Software Update Dialog Box

Soi	ftware Update	×
	Update device tjq vmPro3 The update may take a few minutes and will restart the VMPro.	
	Update Now	J

4. In the **Software Update** dialog box, click **Update Now** to begin the software update.

After the software update has finished, **Upgrade has finished** displays in the **Software Update** column.

## Navigate the vmPRO Consolidated Console

Use the vmPRO Consolidated console to monitor appliances within the vmPRO device group, and to access both vmPRO-specific alerts and Vision alerts for vmPRO appliances.

## Navigate the vmPRO Consolidated Console

1. From the **All Devices** drop-down list on the **Device** console, select **vmPRO Devices** to display the **vmPRO Consolidated** console.

Qua	Quantum. Vision Ci 🖓 Log Off										
Manag	Management Configuration Help										
Device	Image: Second										
All Dev	ces 🔹 vmF	RO Devices									
	PRO Consolid	lated Cons	, ole: Criti	cal (1)	Connection Eai	led (	2) W	aming (1)			
	I KO COIISOIR		ole. end	cai (±),	Connection I un	ica (	2 <b>)</b> , m				
Device	s (4)								Group Filt	er: All Dev	vices 🔻 🖸 🗙 🕄
Sta	Device	Address	Serial Nur	nber	Product		So	Uptime	Last Gather	Protocol	Software Update
8	irvine-vm pro	10.40.164	CX1244CA	AC00170	Quantum vmPRO	20	3.1.2	110d 3h 28m 50s	3-9-2015 03:0!	https	Upgrade Available
	tją vm Pro 3	10.50.154			Quantum vmPRO	0	3.1.	4d 4h 10m 6s	8-11-2014 04:	null	Upgrade Available
	vm 50704	10.50.154.5			Quantum vmPRO	0	3.1.	4d 22h 49m 38s	8-5-2014 02:4	N/A	Upgrade Available
<u> </u>	vision-vmPro	10.50.152	50C8BA4E	A2F1C	Quantum vmPRO	21	3.2.1	125d 7h 21m 41s	3-9-2015 03:00	N/A	
vmPR	0 Alerts (7) Vi	ision Alerts (5)									
Seve.	Device	Туре		Message	2						
warnin	g irvine-vmpro	hypervisor_t	ime_skew	The time	e skew between serve	er '10	.40.161	.80' and the appliand	e is greater than	one hour. I	ssues may occur due t 🔺
warnin	g irvine-vmpro	pro export_errors Export warnings for server '10.40.164.55': 1 VM has an export warning									
error	irvine-vm pro	ppro tomato_copy_error SmartMotion backup of folder '10.40.164.55' (Policy: 'repositories') finished with 1 failure.									
warnin	g tjq vmPro3	o3 socket_license_1 The evaluation period vill expire in 26 days.									
warnin	ym 50704	socket_licen	se_1	The eva	luation period will ex	pire i	n 25 day	/5.			▼
•											•

Figure 108: vmPRO Consolidated Console

2. In the **Devices** pane, view the following information:

Column	Definition
Status	The <u>color-coded icon</u> indicating the appliance's status.
Device	The name assigned to the appliance when it was discovered in Vision.

Column	Definition
Address	The appliance's IP address or host name.
	Click the IP address or host name to launch the native management interface for the appliance.
Serial Number	The appliance's serial number.
Product	The Quantum product name for the appliance.
VMs	The number of virtual machines (VMs) that are being backed up by the appliance.
Software Version	The current software version for the appliance.
Uptime	The amount of time that the appliance has been communicating with the Vision server.
Last Gather	The last time status data was received from the appliance.
Protocol	The device's encryption protocol
	<ul> <li>http – The data collection path to the device uses an unencrypted connection.</li> </ul>
	<ul> <li>https – The data collection path to the device uses an encrypted connection.</li> </ul>
	Note: The data collection path to vmPRO appliances is always encrypted.
Software Update	Displays <b>Upgrade Available</b> when a newer version of Quantum vmPRO software is available for the appliance. See <u>Update vmPRO</u> Software from Vision on page 156.

3. In the **Device Alerts**pane, view the following vmPRO-specific alert information on the **vmPRO Alerts** tab:

Column	Description
Severity	The severity of the alert, such as <b>warning</b> .
Device	The appliance to which the alert applies.
Туре	The type of alert, such as <b>socket_license_1</b> .
Message	An explanation of the alert, such as <b>The evaluation period will expire in <x> days</x></b> .

4. In the **Device Alerts** pane, view and acknowledge alert notifications on the **Vision Alerts** tab, as needed. See <u>Manage Vision Alert Notifications on page 101</u>.

## Navigate an Individual vmPRO Device Console

Use the vmPRO Device console to view information about an individual vmPRO appliance, including appliance component status, virtual machine (VM) data, and alert notifications.

## Navigate an individual vmPRO Device Console

1. From the **Devices** console, double-click the vmPRO appliance for which to display the **vmPRO Device** console.

#### Figure 109: vmPRO Device Console

Quantum. Vision						
Management Configuration Help	Management Configuration Help					
Devices Topology Analytics Reporting DXi AR Media					in ▼	
All Devices vmPRO Devices	All Devices vmPRO Devices irvine-vmpro				ation	
😢 irvine-vmpro Device Consol	e : Cri	tical				
Device 🔻		Virtual Machine		Server	Node	
Name: irvine-vmpro	▶ 🗀 10	.40.161.80				
Address: <u>10.40.164.97</u>	► <mark>1</mark> 0	.40.164.55				
Last Gather: 3-9-2015 03:0						
Access Protocol: https						
Virtual Machines 🔹						
Total: 20 Exported: 2 Needs Attention: 1						
SmartRead Last 24 Hrs 🔍						
Data Moved: 494.0 GB	ta Moved: 494.0 GB Vision Alerts (3) Vision Alerts (2)					
I/O Reduction: 92.1%			٢			
	Se	Туре	Message			н
	error	tomato_copy_error	SmartMotio	n backup of folder '10.40.164.55' (Policy:	'repositories') finished with 1 failure.	N/A
	warni	export_errors	Export warn	ings for server '10.40.164.55': 1 VM has a	an export warning	N/A
	warni	hypervisor_time_sk	The time sk	ew between server '10.40.161.80' and the	e appliance is greater than one hour.	N/A
	•					

2. In the **Device** pane, view the following information:

**1** Note: Click the arrow next to a component to show or hide a list of sub-components.

Component	Description		
Device	vmPRO appliance-specific information		
	Name – The appliance's name.		
	<ul> <li>Address – The appliance's IP address/hostname. Click to launch the native management interface for the vmPRO appliance.</li> </ul>		
	<ul> <li>Uptime – The amount of time that the appliance has been communicating with the Vision server.</li> </ul>		
	<ul> <li>Last Gather – The last time status data was received from the appliance.</li> </ul>		
	<ul> <li>Access Protocol – The device's encryption protocol, which is always encrypted for vmPRO appliances.</li> </ul>		
Virtual Machines	Summary information about the VMs being backed up by the vmPRO appliance		
	<ul> <li>Total number of VMs backed up to the appliance.</li> </ul>		
	<ul> <li>Number of VMs that have been exported from the appliance.</li> </ul>		
	Number of VMs requiring attention.		
SmartRead Last 24 Hrs	SmartRead information collected for the past 24 hours		
	<ul> <li>Amount of data moved on the appliance.</li> </ul>		
	<ul> <li>Amount of I/O reduction for the appliance.</li> </ul>		
	<b>Note:</b> SmartRead applies to vmPRO versions 3.0 and later.		

3. In the Virtual Machine pane, view the following information:

Column	Description
Virtual Machine	Displays the appliance's hypervisors, and the VMs within each hypervisor. Hypervisors are host systems for the VMs being backed up by vmPRO.
	Click the arrow next to a hypervisor to view the VMs that have been configured on the hypervisor.
Server	For each VM within a hypervisor, displays the server for the VM.
Node	For each VM within a hypervisor, displays the node for the VM.

4. In the **Device Alerts** pane, view the following vmPRO-specific alert information for an appliance on the **vmPRO Alerts** tab:

<u></u>
cpire in
ing.

**()** Note: See <u>Manage Vision Alert Notifications on page 101</u> for information about the Vision Alerts tab.

Chapter 5: Topology Console

This chapter contains the following topics:

Vision Topology Console	163
Navigate the Vision Topology Console	164
Topology Console Icon and Mapping Keys	167

# Vision Topology Console

The Vision Topology console displays a topology map for all monitored DXi devices, Q-Cloud Protect appliances, Scalar libraries, Scalar LTFS, and vmPRO.

## **Presented Topology**

The following information is presented on the topology map.

## **Replication Relationships**

Source-to-target replication relationships between DXi devices and Q-Cloud Protect appliances.

## Important

Vision uses the DXi and Q-Cloud Protect IP addresses — rather than hostnames — to determine replication relationships. It does not recognize replication relationships if the DXi or Q-Cloud Protect IP address is not supplied.

## **PTT Connections**

Path to tape (PTT) connections between DXi devices and Scalar libraries.

## **Scalar Connections**

Scalar LTFS interface connections with Scalar libraries.

## vmPRO Export Connections

vmPRO data export connections with DXi devices.

## **Unbound Devices**

Devices that are not bound to other devices.

# Navigate the Vision Topology Console

Use the Vision Topology console to view a map of connections between all monitored DXi devices, Q-Cloud Protect appliances, Scalar libraries, Scalar LTFS, and vmPRO.

## Navigate the Topology Console

1. On the Vision toolbar, click **Topology** to display the **Topology** console.

#### Figure 110: Topology Console



2. Filter the display as needed:

#### Group drop-down list

Select the group of devices to display. See <u>Manage Groups in Vision on page 68</u> for information about creating groups.

#### **Connections area**

Select one or more types of connections to display: **Replication**, **vmPRO**, **PTT**, **Scalar LTFS**, and **Unbounded**.

**Note:** The type of **Connections** check boxes that display depend on the actual connections that exist.

#### **Replication Status area**

Select one or more replication statuses to display: Success, Unknown, or Failure.

**Note:** The type of **Replication Status** check boxes that display depend on the actual replication statuses that exist.

The Topology console displays the connections between devices, along with additional information about connection status and unbound devices. For further information about reading the map, see Topology Console Icon and Mapping Keys.

3. View further details about connections, statuses, and devices by doing any of the following:

#### Click a device icon

A tooltip displays the device's product model, serial number, and amount of available disk space, as well as a link to the device's console.

### **Additional Information**

For DXi devices and Q-Cloud Protect appliances, keep the following in mind:

- Free disk space is unallocated space.
- Reclaimable disk space is space that is allocated, but that can be reclaimed after Space Reclamation is run.
- Available disk space is free + reclaimable space.

#### Click a DXi device or Q-Cloud Protect appliance icon

A tooltip displays additional replication information for the DXi device or Q-Cloud Protect appliance.

#### Important

Vision uses the DXi and Q-Cloud Protect IP addresses — rather than hostnames — to determine replication relationships. It does not recognize replication relationships if the DXi or Q-Cloud Protect IP address is not supplied.

#### Click a Scalar library icon

A tooltip displays the number of slots, drives, media, and partitions within the library.

#### **Click a Scalar LTFS icon**

A tooltip displays information about the slot fill rate for the device.

#### Click the color-coded status icon

Select **Go To Replication Report** to view the most recent replication report for a DXi device or Q-Cloud Protect appliance.

### Click the color-coded status mark

A tooltip displays additional PTT information.

## Export the topology map as a graphic file

- 1. In the **Export As** area, click either **JPG** or **PNG** to export the topology as either a .jpg or .png file.
- 2. In the **Save As** dialog box, browse to the location to save the file.
- 3. In the **File name** field, enter a file name for the topology map.
- 4. Click Save.

# **Topology Console Icon and Mapping Keys**

Use the following keys to interpret the Topology console.

## **Icon Key**

The **Topology Console** represents devices using different icons:

lcon	Description
	DXi Q-Cloud Protect
Î.	Scalar Library
LTFS]	Scalar LTFS
Q	vmPRO

## Mapping Key

The **Topology Console** maps relationships between devices using color-coded lines and symbols:

Topology Mapping Symbols	Description
q-cloudprotect	Source-To-Target Replication Source-to-target replication allows source systems to replicate backed-up data to a target system
	<b>Example</b> A DXi6900 system can replicate its data to a Q-Cloud Protect appliance to provide enhanced data security and disaster protection.
	<ul> <li>A blue line connecting two systems indicates that they are configured for source-to-target replication. The arrow indicates the direction of replication from source to target system.</li> <li>The color-coded icon on the line indicates the status of the most recent replication: green (success), red (failure), or gray (unknown).</li> </ul>
	Important Vision uses the DXi and Q-Cloud Protect IP addresses — rather than hostnames — to determine replication relationships. It does not recognize replication relationships if the DXi or Q-Cloud Protect IP address is not supplied.
Scalar Pred13	<b>PTT</b> Path to tape (PTT) allows you to move data from a DXi system to physical tape cartridges in an attached physical tape library using a Network Data Management Protocol (NDMP) connection. A magenta line connecting two systems indicates that the corresponding systems are configured for PTT.
Scalar i500 - tom SLTFS - tom	Scalar LTFS Interface A dark blue line connecting a Scalar LTFS server to a Scalar library indicates that the Scalar LTFS server provides an LTFS interface for

the Scalar library.
Topology Mapping Symbols	Description
DXi_vmP1	vmPRO Data Export An orange line connecting a vmPRO system (versions 3.0 and newer) to a DXi system indicates that data is being exported from the vmPRO system to the DXi device.
Unbound Devices DXi Telch vmPRO_02 Scalar ari	<b>Unbound Devices</b> Icons in the <b>Unbound Devices</b> pane represent DXi devices, Q-Cloud Protect appliances, Scalar libraries, Scalar LTFS servers, and vmPRO systems that do not have any relationships with discovered devices.



This chapter contains the following topics:

Vision Media Console	
Navigate the Vision Media Console	171
Update Media Locations from Vision	
Delete Media from Vision	

## Vision Media Console

The Vision Media console displays information for tape media within Scalar libraries. Use this console to monitor Scalar libraries, update media locations, and delete obsolete media.

#### Figure 111: Media Console

Quantum.	Vision										2 Log Off
Management Config	guration H	lelp									
Devices Topology	Analytics	L Reporting	DXI AR	edia							idmin ▼
Filters	Update L	ocation [	Delete								* 🗈
Barcode	Barcode	Last Scalar	Таре Туре	Location	Thread Count	Serial Number	Manufacturer	Manufacture Date	Tape Alerts	MBs Read	MBs Wri
Last Scalar	001073L6	rossi	LTO6		41	JC54BTT005	трк	June 19, 2012	0	103,305 MB	1,265
All 🔻	003290L4	prod-i2000	LTO4	library	10	105J301827	FUJIFILM	May 28, 2010	0	13,818 MB	1,090
Tape Type	001686L6	aries	LTO6		293	AD7TRTCF39	IBM	August 21, 201	0	635,793 MB	4,711
All	001117L6	aries	LTO6		232	AD7TRTCGJH	IBM	August 21, 201	0	508,443 MB	1,738
	001284L6	aries	LTO6		28	PQIN615033	SONY	May 29, 2012	0	617,160 MB	3,435
Location	CLN090L2	aries	LTO1		15	095B403064	FUJIFILM	May 13, 2009	0	0 MB	0 MB
	002396L4	prod-i2000	LTO4	library	108	1067305312	FUJIFILM	June 10, 2010	0	462,890 MB	1,158
Health	002397L4	prod-i2000	LTO4	library	25	1067303864	FUJIFILM	June 10, 2010	0	382,868 MB	1,060
All 👻	003346L4	prod-i2000	LTO4	library	5	101K303223	FUJIFILM	January 21, 20	0	11,500 MB	1,103
	003345L4	prod-i2000	LTO4	library	6	101K302652	FUJIFILM	January 21, 20	0	11,584 MB	1,098
Total: 3078	003349L4	prod-i2000	LTO4	library	6	102R301230	FUJIFILM	March 20, 2010	0	12,032 MB	1,103
	001682L6	aries	LTO6		1297	AD7TRTCG17	IBM	August 21, 201	0	706,995 MB	28,89
Healthy 3(	001751L6	aries	LTO6		323	AD7TRTCEPX	IBM	August 21, 201	0	233,763 MB	10,21
🗧 🛿 Warning:	001439L6	aries	LTO6		452	JC54A4S008	трк	June 18, 2012	0	439,149 MB	3,876
Critical:	001700L6	aries	LTO6		95	AD8GT1H3JL	FUJIFILM	September 11,	0	17,715 MB	116,4
Reset Filters	001286L6	aries	LTO6		14	PHEN515162	SONY	May 08, 2012	0	40,059 MB	3,298
	<b>A</b>		1700				2010			504 CC0 MD	•
	Page Size:	100 Page	of :	31			Pages: <<	22 23 2	24 25 26	27 28 29 30	31 >>

## Navigate the Vision Media Console

Use the Vision Media console to monitor information for tape media within Scalar libraries.

### Select information to display in the Media table

1. On the Vision toolbar, click Media to display the Media console.

#### Figure 112: Media Console

Quantum.   V	/ision	_	_	_	_	_	_	_			Log O
Management Config	uration H	lelp									
Devices Topology	Analytics	Reporting	DXI AR	edia						🏚 a	dmin ▼
Filters	Update Lo	ocation [	Delete								× 🗈
Barcode	Barcode	Last Scalar	Таре Туре	Location	Thread Count	Serial Number	Manufacturer	Manufacture Date	Tape Alerts	MBs Read	MBs W
Last Scalar	001073L6	rossi	LTO6		41	JC54BTT005	ток	June 19, 2012	0	103,305 MB	1,265
All	003290L4	prod-i2000	LTO4	library	10	105J301827	FUJIFILM	May 28, 2010	0	13,818 MB	1,090
Tape Type	001686L6	aries	LTO6		293	AD7TRTCF39	IBM	August 21, 201	0	635,793 MB	4,711
All	001117L6	aries	LTO6		232	AD7TRTCGJH	IBM	August 21, 201	0	508,443 MB	1,738
	001284L6	aries	LTO6		28	PQIN615033	SONY	May 29, 2012	0	617,160 MB	3,435
Location	CLN090L2	aries	LTO1		15	095B403064	FUJIFILM	May 13, 2009	0	0 MB	0 MB
	002396L4	prod-i2000	LTO4	library	108	1067305312	FUJIFILM	June 10, 2010	0	462,890 MB	1,158
lealth	002397L4	prod-i2000	LTO4	library	25	1067303864	FUJIFILM	June 10, 2010	0	382,868 MB	1,060
All	003346L4	prod-i2000	LTO4	library	5	101K303223	FUJIFILM	January 21, 20	0	11,500 MB	1,103
	003345L4	prod-i2000	LTO4	library	6	101K302652	FUJIFILM	January 21, 20	0	11,584 MB	1,098
Total: 3078	003349L4	prod-i2000	LTO4	library	6	102R301230	FUJIFILM	March 20, 2010	0	12,032 MB	1,103
	001682L6	aries	LTO6		1297	AD7TRTCG17	IBM	August 21, 201	0	706,995 MB	28,89
Healthy 3(	001751L6	aries	LTO6		323	AD7TRTCEPX	IBM	August 21, 201	0	233,763 MB	10,21
Warning:	001439L6	aries	LTO6		452	JC54A4S008	трк	June 18, 2012	0	439,149 MB	3,876
X Critical:	001700L6	aries	LTO6		95	AD8GT1H3JL	FUJIFILM	September 11,	0	17,715 MB	116,4
Reset Filters	001286L6	aries	LTO6		14	PHEN515162	SONY	May 08, 2012	0	40,059 MB	3,298
	an an an an a		1700				00107				1944

2. In the **Filters** pane, filter the information that displays in the **Media** table, as needed:

Filter	Description
Barcode	Use to display only the media with the defined barcode.
	Enter the barcode of the media for which to view information. You can use wild card searches in this field by entering either the percent sign (%) or an asterisk (*).
Last Scalar	Use to display the last physical device from which Vision received media status.
	From the drop-down list, select one or more Scalar libraries for which to view information.
Таре Туре	Use to display only the selected tape types.
	From the drop-down list, select one or more types of tapes for which to view information.
Location	Use to display only media residing in the selected location.
	Enter a specific Scalar library location for which to view information.

Filter	Description				
Health	Use to display only Scalar libraries with the selected health status. From the drop-down list, select one or more health statuses for which to view information				
	Additional Information				
	The health status is a roll up of a Scalar library's thread count, tape alert, and Extended Data Life Management (EDLM) status.				
	The total number of Scalar libraries and the total number of libraries for each health status are displayed underneath the <b>Health</b> field.				
	Hold the cursor over the status bar to see a tooltip with the health status, number and percentage of libraries with the associated health status, and total number of libraries.				

Click **Reset Filters** to clear the selection criteria and reset the **Media** table to its default state, as needed.

### Media Table Columns

The following provides descriptions of the Media table's columns.

Column	Description
Barcode	The barcode of the media. Double-click a row to display the <b>Barcode Details</b> dialog box.
	Figure 113: Barcode Details Dialog Box
	Barcode LNE917L3 Details
Last Scalar	The last physical device from which Vision received status for the media.
	Click the device to display the <b>Scalar Device Console</b> for that device. See <u>Navigate an Individual Scalar Device Console on page 143</u> .
Таре Туре	The type of tape for the media.

Column	Description
Location	The current location of the media, either <b>library</b> , <b>exported</b> , or a custom location. The location value can be configured on the Scalar library or manually set through Vision. See <u>Update Media Locations from Vision on page 176</u> .
	<ul> <li>Additional Information</li> <li>The location for media can display as unknown in the following scenarios: <ul> <li>The Last Scalar is listed and the media is located in the library I/E station or in a drive.</li> <li>The Last Scalar is N/A and the media has been removed from the library.</li> </ul> </li> <li>Track Exported Media <ul> <li>To track exported media, you must enable Media Security Notifications on the Scalar i2000/i6000 library.</li> </ul> </li> <li>a. Access the LMC client for the library and select Setup &gt; Notifications &gt; Media Security.</li> <li>b. Select the notifications to track in Vision, and then click OK.</li> </ul>
Thread Count	<ul> <li>The number of times the media has been threaded onto a tape drive.</li> <li>Use the thread count to help determine the health of the media (media health is also determined by tape alerts and EDLM status).</li> <li>Different thread counts indicate the following: <ul> <li>&lt;8000 – The media's status is Healthy.</li> <li>8,000 – 10,000 – The media's status is Warning.</li> <li>&gt;10,000 – The media's status is Critical.</li> </ul> </li> </ul>
Serial Number	The Media's serial number.
Manufacturer	The manufacturer of the media.
Manufacture Date	The date on which the media was manufactured.

Column	Description
Tape Alerts	The number and type of alerts associated with the tape. The following icons indicate the type of alert:
	Warning

×-Critical

Double-click a row to display the **Barcode Details Tape Alert** dialog box.

Figure 114: Barcode Details Tape Alert Dialog Box

		Bar	code: 003882L	4	*
		Last S	calar: prod-i200	0	
		Tape	Type: LTO4		
		Loca	ation: library		
		Thread C	ount: 17		
		1	Tape Alerts		Ē
_		1			
	ID	Date	Scalar	Drive	Count
8	16	10-27-2014 10:11:01 PM	prod-i2000	Drive-1310159161	1
	21	10-27-2014 04:14:05 PM	prod-i2000	Drive-1320003510	1

For additional information about tape alerts, see <a href="http://www.tapealert.org/specifications">http://www.tapealert.org/specifications</a>.

MBs Read	The amount of data in megabytes (MBs) read from the media.
MBs Written	The amount of data in MBs written to the media.
Last Scalar LTFS	The last Scalar LTFS device that was using the media as an LTFS. Click the link to launch the native management interface for the device.
EDLM Type	The type of EDLM scan that was performed.
EDLM Status	The EDLM status for the device's media. A status of <b>N/A</b> indicates that Vision could not determine the device's status.
EDLM Date	The date that the last EDLM scan was completed.
Encryption	The encryption type for the media.
Attribute	<ul> <li>The media's attribute:</li> <li>Write Once Read Many (WORM)</li> <li>Write Many Read Many (WMRM)</li> <li>Cleaning</li> </ul>

Column	Description
Recovered Read Errors	The number of recovered read errors for the media.
Unrecovered Read Errors	The number of unrecovered read errors for the media.
Recovered Write Errors	The number of recovered write errors for the media.
Unrecovered Write Errors	The number of unrecovered write errors for the media.

### Navigate Through Multiple Pages on the Media Table

The Media table displays information for the selected tape media. If there are more than 100 rows of information, Vision displays the information on multiple pages.

### Navigate between pages on the Media table

- In the **Page** field, enter the page to navigate to and press **Enter** to view another page of information.
- Click << or >> to move backward or forward through pages.

## Update Media Locations from Vision

By default, the Media console displays media's location as one of the following:

- **library** if the media is located in a library (all Scalar libraries)
- exported if the media has been exported from the library (Scalar i2000/i6000 libraries only).

You can enter a custom location for media from the Media console, such as when media is exported to a remote location.

### Update the location for media from Vision

1. On the **Media** console, select the media in the table and click **Update Location** to display the **Update Media Location** dialog box.

Figure 115: Update Media Location Dialog Box

Update Media Location 🛛 🔀
Please enter the new location for the selected media:
New Location:
Submit Cancel

- 2. In the **New Location** field, enter the new location for the media.
- 3. Click **Submit** to update the media's location.

## **Delete Media from Vision**

If media is no longer used, you can delete it from the Vision Media console.

### Delete media from the Media Console

1. On the **Media** console, select the media in the table and click **Delete** to display the **Delete Media** dialog box.

Figure 116: Delete Media Dialog Box

Delete	Media	×
	Are you sure you would like to delete the selected media?	
	Yes No	

2. Click **Yes** to confirm the deletion.



## **Chapter 7: Analytics**

This chapter contains the following topics:

Vision Analytics	178
Interactive Graphs in Vision Analytics	179
DXi and Q-Cloud Protect Analytics	183
Scalar Analytics	189
vmPRO Analytics	196

## **Vision Analytics**

Vision includes a set of interactive graphs that allow you to quickly visualize and compare key statistics for DXi devices, Q-Cloud Protect appliances, Scalar libraries, and vmPRO virtual appliances. You can access these graphs at any time from the Vision Analytics Console.

### What Kind of Information is Displayed?

Each interactive graph displays information about core device functionality, such as the following:

- Replication status on DXi devices or Q-Cloud Protect appliances
- SmartMotion status for vmPRO virtual appliances

### • Tape alerts on Scalar libraries

### DXi and Q-Cloud Protect Graphs

Space Reclamation Interactive Graph on page 185 Replication Status Interactive Graph on page 186 Disk Used by Reduced Data Interactive Graph on page 187 Accent Interactive Graph on page 188 DXi or Q-Cloud Protect Alert History Interactive Graph on page 188

### Scalar Library Graphs

Tape Alert By Drive and Media Interactive Graph on page 191Tape Alert to Drive Interactive Graph on page 192Tape Alert to Media Interactive Graph on page 193Mount Count Interactive Graph on page 194Scalar Alert History Interactive Graph on page 195

### vmPRO Virtual Appliance Graphs

SmartRead I/O Reduction Interactive Graph on page 197 SmartRead Data Move Interactive Graph on page 198 SmartMotion Status Interactive Graph on page 199 vmPRO Alert History Interactive Graph on page 199

## Interactive Graphs in Vision Analytics

Use the Analytics console and Analytics Device Set console to view interactive graphs for DXi, Q-Cloud Protect, Scalar, and vmPRO.

Keep in mind that analytics cannot be generated for newly discovered devices until one data collection cycle has been completed.

### Select devices for which to display interactive graphs

1. On the Vision toolbar, click Analytics to display the Analytics console.

#### Figure 117: Analytics Console

Quantum. Vision		C P Log Off				
Management Configuration Help						
Devices Topology	AR Media	👸 admin 🔻				
Analytics DXi Devices View Reports						
Please select the set of devices upon which you would I	ike to report:					
DXi Devices	Device Set	charon				
	Device Group	dendxi6530a				
Scalar Devices	😢 Red Status	dendxi7500a				
VmPRO Devices	Yellow Status	dendxi8500a				
		echidna				
		empousa				
		minotaur				
		ppodxi6530a				
		ppodxi7500a				
		ppodxi8500a				
		vision-7500				
		vision-DXiZero				

2. Select the devices for which to display the interactive graphs by doing one of the following:

#### Select by device family

- a. In the left pane, select the device family for which to display the graphs:
  - DXi Devices
  - Scalar Devices
  - vmPRO Devices

**1** Note: Interactive graphs are not available for DXi 35/55 devices.

- b. In the center pane, select **Device Group** to view graphs for all devices within a group.
- c. In the right pane, select each device within the family to include in the graphs.

### Select by device group

- a. In the left pane, select the device family for which to display the graphs:
  - DXi Devices
  - Scalar Devices
  - vmPRO Devices

**1** Note: Interactive graphs are not available for DXi 35/55 devices.

- b. In the center pane, select **Device Group** to view graphs for all devices within a group.
- c. In the right pane, select one or more Vision groups to include in the graphs.

#### Select by alert status

- a. In the left pane, select the device family for which to display the graphs:
  - DXi Devices
  - Scalar Devices
  - vmPRO Devices

**1** Note: Interactive graphs are not available for DXi 35/55 devices.

- b. In the center pane, select one of the following:
  - Red Status
  - Yellow Status
- c. In the right pane, select each device with the associated alert status to include in the graphs.
- 3. Click **View Reports** to display the interactive graphs for the selected devices in the **Analytics Device Set** console.





### Navigate within an interactive graph

- 1. Display the Analytics Device Set console for the selected devices.
- 2. Perform the following tasks from the Analytics Toolbar as needed:

Task	Steps
View reports for a specific device.	From the <b>Set All Reports to Device</b> drop-down list, select the device for which to view reports.
Change the time range displayed in the graph.	a. In the <b>Last Days</b> field, enter the number of days for which to view information.
	b. Click <b>Go</b> to update the generated information.

Task	Steps
Display or hide data points with a value of zero on the graphs.	<ul> <li>Select the Show Zero Counts check box to display data points with a value of zero</li> </ul>
	<ul> <li>Clear the Show Zero Counts check box to hide data points with a value of zero.</li> </ul>
Select different devices to include in the graphs.	Click <b>Select Sources</b> to return to the <b>Analytics</b> console and select different devices to include in the graphs.

3. Use the following icons included on each graph, as needed:

lcon	Function
?	Click to display a description of the graph.
	<ul> <li>Click to both maximize the graph and to stack graphs vertically or horizontally.</li> <li>Use the horizontal-stacked view to access statistics for one device at a time. Click the arrows on the sides of the graph to navigate between devices.</li> <li>Use the vertical-stacked view to compare statistics between multiple devices at once.</li> </ul>
	Click to maximize or minimize the graph.
	<ul> <li>Click to export the graph.</li> <li>a. Select to Export As JPEG or Export As PNG to display the Save As dialog box.</li> <li>b. In the File name field, enter a name for the graph.</li> <li>c. Click Save.</li> </ul>

## DXi and Q-Cloud Protect Analytics

The Analytics DXi Device Set console displays current DXi device or Q-Cloud Protect appliance status. You can use the graphs to identify potential issues with DXi devices or Q-Cloud Protect appliances. With each graph, you can hold the cursor over the graph or click within the graph to access additional information.

### **Space Reclamation**

Displays the progress of space reclamation over time. See Space Reclamation Interactive Graph on

page 185.

### **Replication Status**

Displays a summary of replication statuses over time. See <u>Replication Status Interactive Graph on</u> page 186.

### Disk Used by Reduced Data

Displays the amount of unique, compressed data stored over time. Disk Used by Reduced Data Interactive Graph on page 187.

### Accent

Displays the amount of data both before and after deduplication with Accent enabled over time. See <u>Accent</u> <u>Interactive Graph on page 188</u>.

### **Alert History**

Displays a summary of alerts over time. See <u>DXi or Q-Cloud Protect Alert History Interactive Graph on</u> page 188.





## Space Reclamation Interactive Graph

During space reclamation, the DXi or Q-Cloud Protect system searches the blockpool for data tags that are no longer referenced and then deletes the unneeded data tags to free up space. The Space Reclamation interactive graph displays the progress of such space reclamation over time.

Use the information on the graph to determine if space reclamation is performing at optimum levels.

### Example

If space reclamation continues to run for long periods of time without completing (reaching 100%), it may indicate that other activities are contending for resources.

#### Figure 120: Space Reclamation Graph



## **Replication Status Interactive Graph**

The **Replication Status** interactive graph displays a summary of replication statuses for DXi devices or Q-Cloud Protect appliances over time. Use the Replication Status graph to see when replication is occurring and to identify potential problems.

### **Replication Data**

Use this graph to see the following:

### **Replication status**

- Failure (Red) The replication was not completed.
- Partial (Yellow) The replication was only partially completed.
- In Progress (Dark Blue) The replication is in progress.
- Queued (Light Blue) The replication is queued and will continue when the system is ready.
- Success (Green) The replication was completed successfully.

#### **Replication count**

- Counts display for each status type that occurred on the corresponding date.
- Counts for each type of replication are stacked into one bar for a single day.

#### **Tooltips**

• Status counts are reported for both namespace and target (trigger) replication.

**Note:** Target replications are also referred to as trigger, directory/file, or cartridge-based replications.

- Date on which the replication occurred is listed.
- Link to a status report for the associated replication.

#### Figure 121: Replication Status Graph



## Disk Used by Reduced Data Interactive Graph

The Disk Used by Reduced Data interactive graph displays the amount of unique, compressed data (deduplicated data) stored on a DXi device or Q-Cloud Protect appliance.

### **Deduplication Data**

Use this graph to see the following:

### **Deduplication Percentage**

The percentage of deduplicated data out of the total disk capacity for specific points in time. This information is displayed as a tooltip when you hold the cursor over a point on the graph.

### **Deduplication Growth**

The growth of deduplicated data over time.

Figure 122: Disk Used by Reduced Data Graph



## Accent Interactive Graph

The Accent interactive graph displays the amount of data both before and after deduplication on Accentenabled DXi devices or Q-Cloud Protect appliances.

Note: This graph displays only for systems that are Accent-enabled and configured.

### Accent Data

Use this graph to see the following:

### **Data Amounts**

The amount of data in gigabytes on the DXi device or Q-Cloud Protect appliance both before and after deduplication.

### **Data Reduction**

The percentage of data reduction achieved using Accent.

#### Tooltip

A tooltip with the date and time on which the information was recorded, along with the exact numbers depicted by the graph, when you hold your cursor over a point on the **Before Reduction**, **After Reduction**, or **Bandwidth Reduction** lines.

#### Figure 123: Accent Graph



## DXi or Q-Cloud Protect Alert History Interactive Graph

Alerts are notifications that Vision sends when conditions defined in Alert Rules have been met. See Manage Alert Rules in Vision on page 59.

The DXi or Q-Cloud Protect Alert History interactive graph displays a summary of alerts over time for DXi devices and Q-Cloud Protect appliances. Use this interactive graph to see when alerts are occurring and to identify potential problems.

### DXi Alerts

Use this graph to see the following alerts:

### **Device Status**

Vision sends an alert when the device or appliance status changes, such as from green to red.

### **Replication Status**

Vision sends an alert when the replication status changes, such as from green to red.

### **Disk Threshold**

Vision sends an alert when used disk capacity rises above or falls below the specified percentage.

### **SNMP** Trap

Vision sends an alert when a Simple Network Management Protocol (SNMP) trap is received from the device or appliance.

#### Figure 124: DXi or Q-Cloud Protect Alert History Graph



## **Scalar Analytics**

The Analytics Scalar Device Set console displays interactive graphs that you can use to identify potential issues with Scalar libraries. With each graph, you can hold the cursor over the graph or click within the graph

to access additional information.

### Tape Alert By Drive and Media

Displays a summary of tape alerts generated by disk or media within a Scalar library. See <u>Tape Alert By</u> Drive and Media Interactive Graph on the next page.

### Tape Alert to Drive

Displays a summary of tape alerts generated by disks within a Scalar library. You can also use this graph to view partitions within Scalar libraries. See <u>Tape Alert to Drive Interactive Graph on page 192</u>.

### **Tape Alert to Media**

Displays a summary of tape alerts generated by media within a Scalar library. See <u>Tape Alert to Media</u> Interactive Graph on page 193.

### Mount Count

Displays the number of mounted tape cartridges for each drive within a scalar library. You can also use this graph to view partitions within Scalar libraries. . See <u>Mount Count Interactive Graph on page 194</u>.

### **Scalar Alert History**

Displays a summary of alerts for a Scalar library over time. See <u>Scalar Alert History Interactive Graph on</u> page 195.

#### Figure 125: Scalar Device Set Console



## Tape Alert By Drive and Media Interactive Graph

Whenever a problem occurs within a drive or related media (tape cartridges) of a Scalar library, Vision reports the library-generated tape alert. The Tape Alert By Drive and Media interactive graph displays a summary of such tape alerts using a heat map. This heat map indicates the number and severity of tape alerts that have occurred for a specific combination of a tape cartridge and drive.

Color	Severity	Alert Type	Criteria
	1–3	Good (G) or Informational (I)	Any number of good or informational tape alerts
	4	Warning (W)	One warning tape alert
	5	Warning (W)	Two warning tape alerts
	6	Warning (W)	Three or more warning tape alerts

Color	Severity	Alert Type	Criteria
	7	Critical (C)	One critical tape alert
	8	Critical (C)	Two critical tape alerts
	9	Critical (C)	Three critical tape alerts
	10	Critical (C)	Four or more critical tape alerts

Cross-reference the tape alert to a specific tape cartridge and drive combination during the time that the alert was generated. By comparing alerts to specific cartridge and drive combinations, you can better determine where the problem exists.

### **Typical Alerts**

- If a single drive exhibits tape alerts against multiple tape cartridges, the problem exists within the drive.
- If a single tape cartridge exhibits tape alerts against multiple drives, the problem exists within the tape cartridge.

Figure 126: Tape Alert By Drive and Media Interactive Graph



## Tape Alert to Drive Interactive Graph

Whenever a problem occurs within a drive or related media (tape cartridges) of a Scalar library, Vision reports the library-generated tape alert. The Tape Alert to Drive interactive graph displays the cumulative number for each type of tape alert generated per tape drive in a Scalar library.

Use this interactive graph to pinpoint problematic drives by identifying the drives generating the most tape alerts. In addition, you can select the **Show Partitions** check box at the top of the console to display the Scalar library's partitions in this graph.

### **Typical Alert**

If a single drive exhibits tape alerts against multiple tape cartridges, a problem exists within the drive.





## Tape Alert to Media Interactive Graph

Whenever a problem occurs within a drive or related media (tape cartridges) of a Scalar library, Vision reports the library-generated tape alert. The Tape Alert to Media interactive graph displays the cumulative number for each type of tape alert generated per tape cartridge in a Scalar library.

Use this interactive graph to pinpoint problematic tape cartridges by identifying the cartridges generating the most tape alerts.

### **Typical Alert**

If a single tape cartridge exhibits tape alerts against multiple drives, a problem exists within the tape cartridge.

Figure 128: Tape Alert To Drive Interactive Graph



#### Figure 129: Barcode Details Dialog Box

_			Tape Alerts		?
	ID	Date	Scalar	Drive	Count
9	22	1-23-2013 09:17:00 AM	140	Drive-HU1237R7TW	1
8	22	11-8-2012 03:05:53 PM	rossi	Drive-HU1231PJUU	1
8	22	10-30-2012 02:39:23 PM	centaur	Drive-HU1232PM43	1
8	22	10-30-2012 02:37:03 PM	centaur	Drive-HU1232PM43	1



## Mount Count Interactive Graph

The Mount Count interactive graph displays the number of times that a tape cartridge is mounted to a drive within a Scalar library. Each time that a tape cartridge is mounted to a drive, the count increases by one.

Use this graph to see how often tape drives are used within the Scalar library over a specified period of time. In addition, you can select the **Show Partitions** check box at the top of the console to display the Scalar library's partitions in this graph.

#### Figure 130: Mount Count Interactive Graph



## Scalar Alert History Interactive Graph

Alerts are notifications that Vision sends when conditions defined in Alert Rules have been met. See Manage Alert Rules in Vision on page 59.

The Scalar Alert History interactive graph displays a summary of alerts over time for Scalar libraries. Use this interactive graph to see when alerts are occurring and to identify potential problems.

### Scalar Alerts

The Scalar Alert History Interactive graph displays the following alerts:

#### **Device Status**

Vision sends an alert when the device status changes, such as from green to red.

#### **SNMP** Trap

Vision sends an alert when a Simple Network Management Protocol (SNMP) trap is received from the device.

Figure 131: Scalar Alert History Interactive Graph



## vmPRO Analytics

The Analytics vmPRO Device Set console displays the following interactive graphs for vmPRO 3.0 and newer. Use these interactive graphs to view current vmPRO device and SmartMotion<sup>™</sup> backup status, as well as to identify potential issues with vmPRO devices. With each graph, you can hold the cursor over the graph or click within the graph to access additional information.

### SmartRead<sup>™</sup> I/O Reduction

Displays the percentage of I/O data reduction over time due to vmPRO's SmartRead feature. See SmartRead I/O Reduction Interactive Graph on the next page.

### SmartRead<sup>™</sup> Data Move

Displays the amount of changed data versus the amount of unchanged data on a vmPRO device. See <u>SmartRead Data Move Interactive Graph on page 198</u>.

### SmartMotion<sup>™</sup> Status

Displays the number of successful and failed SmartMotion backups. See <u>SmartMotion Status Interactive</u> Graph on page 199.

### **Alert History**

Displays a summary of alerts for a vmPRO device over time. See vmPRO Alert History Interactive Graph on

Chapter 7: Analytics vmPRO Analytics

#### page 199.

#### Figure 132: vmPRO Device Set Console



## SmartRead I/O Reduction Interactive Graph

The SmartRead<sup>™</sup> feature in vmPRO identifies that data that has changed since the last SmartMotion backup. This utility reduces the total network I/O and accelerates backups because only the changed data is backed up.

The SmartRead I/O Reduction interactive graph displays the percentage of I/O data reduction over time due to vmPRO's SmartRead feature.

#### Figure 133: SmartRead I/O Reduction Interactive Graph



## SmartRead Data Move Interactive Graph

The SmartRead<sup>™</sup> feature in vmPRO identifies that data that has changed since the last SmartMotion backup. This utility reduces the total network I/O and accelerates backups because only the changed data is backed up.

### SmartRead Data

The SmartRead Data Move interactive graph displays the amount of changed data (**Read**) versus the amount of unchanged data (**Skipped**) on the VMs over time:

### **Read Data**

The data that SmartMotion backed up for the current data move.

### **Skipped Data**

The data that was previously backed up, and therefore, skipped during the current data move.



#### Figure 134: SmartRead Data Move Interactive Graph

## SmartMotion Status Interactive Graph

The SmartMotion<sup>™</sup> feature in vmPRO provides backup services by initiating a scheduled backup of specified VMs. The SmartMotion Status interactive graph displays the number of successful SmartMotion backups (**Complete**) and the number of failed SmartMotion backups (**Error**).

Use this graph to troubleshoot issues with SmartMotion backups for vmPRO devices.



Figure 135: SmartMotion Status Interactive Graph

## vmPRO Alert History Interactive Graph

Alerts are notifications that Vision sends when conditions defined in Alert Rules have been met. See Manage Alert Rules in Vision on page 59.

The vmPRO Alert History interactive graph displays a summary of Device Status alerts over time for vmPRO devices.

Vision sends a Device Status alert when the vmPRO device status changes, such as from green to red. Use this interactive graph to see when alerts are occurring and to identify potential problems.



Figure 136: vmPRO Alert History Interactive Graph



## **Chapter 8: Reporting**

This chapter contains the following topics:

Vision Reporting	200
Generate Standard Vision Reports	202
Schedule Standard Vision Reports	205
Standard Vision Reports	207

## Vision Reporting

Vision includes a set of standard reports that present configuration, performance, and capacity information for DXi, Q-Cloud Protect, DXi 35/55, and Scalar. Using the Reporting console, you can generate and view reports, set up recurring schedules for automatically generating reports, and send reports to specified recipients.

Standard Vision Reports

# Vision provides three types of standard reports in either a chart or table format:

**Properties/Status Report** 

Displays a table of device configuration properties and statuses, such as the type and number of licenses for a Scalar library.

#### **Observable History Report**

Displays a chart showing historical performance or capacity data for applicable devices, such as deduplication statistics over time for a DXi device.

### **Observable Snapshot Report**

Displays a chart showing current performance or capacity data for applicable devices, such as a snapshot of current capacity usage for a Q-Cloud Protect appliance.

### **Unique Vision Reports**

The **Alert Acknowledgement History** report and the **DXi Replication** reports are unique and do not report on properties or data series.

#### Alert Acknowledgement History Report

Displays a history of acknowledged alerts.

#### **DXi Replication Reports**

Display status counts and summary statistics for replication activity.

#### **Additional Information**

For DXi devices and Q-Cloud Protect appliances, you can access the Advanced Reporting cosnole in Vision. Use this console to view a wide variety of detailed performance information for your DXi devices and Q-Cloud Protect appliances. See Advanced Reporting in Vision on page 215.





## **Generate Standard Vision Reports**

Use the Vision Reporting console to generate, view, and modify standard Vision reports.

### Generate a report

1. On the Vision toolbar, click **Reporting** to display the **Reporting** console.

#### Figure 138: Reporting Console



- 2. In the **Reports** pane, select the report to view from the appropriate folder.
- 3. In the **Settings** pane, select the following settings:

#### Modify the appearance of a chart

- **Note:** Chart settings are available only for **Observable History** and **Observable Snapshot** reports.
- a. Click Chart, and select the Show Legend check box to display the chart legend.
- b. In the Chart Type drop-down list, select a type of chart to apply to the report.
  - For Observable History reports, you can select from Line, Area, or Plot charts.
  - For Observable Snapshot reports, you can select from Bar or Column charts.
- c. In the Group Axes By field, click one of the following to select how to group data on the Y-axis:
  - Observations Group data by data series.
  - Unit Group data by data unit type.

- d. In the **Value Type** drop-down list (for **Observable History** reports only), select a value to indicate how minutely to plot data points:
  - Minutes Summary Plot data points by minutes.
  - Hours Summary Plot data points by hours.
  - Days Summary Plot data points by days.

#### Select the sources (devices) and data series for which to generate the report

- Note: Data series settings are available only for Observable History and Observable Snapshot reports.
- a. Click Series.
- b. In the left column, select each device to include in the report.
- c. In the right column, select each data series to include in the report.
- d. Click All Data to include all data series in the report.

The available data series are determined by the selected report.

#### Modify the time frame for which to generate the report

- i Note: Time frame settings are available only for Alert Acknowledgment History, Observable History, and Replication reports.
- a. Click Time Frame, and do one of the following:
  - In the Last field, enter a numeric value, and in the drop-down list, select Minutes, Hours, Days, or Monthsto indicate the time frame for the report.

or

- In the drop-down list, select **Custom**. In the **Start** and **End** fields, enter the beginning and ending date and time of the time frame.
- b. Click **Update** at the top of the chart to modify the report's time frame.

The report displays with all applicable settings.

### Additional Standard Report Options

Use the following options to access additional information from a standard Vision report, or to perform additional functions.

#### Access tooltips with further details about the data

Move the cursor over an object on the graph.

#### Update the data to the current point in time or to apply newly defined settings

Click Update.
## View data points in a table

1. Click **Data** to display the charted data in a table format.

This button is not available for Properties reports.

2. In the Data Series drop-down list, select a different data series for which to display data, as needed.

A data value reported as **NaN** (not a number) indicates that a value could not be collected for that data point. These values appear as gaps in a chart.

#### Return to a chart view

Click Chart to display data in a chart.

#### Schedule a report to be generated and emailed

Click **Schedule** to display the **Report Schedule** pane.

See <u>Schedule Standard Vision Reports below</u> for steps on how to schedule a report and define a list of recipients to whom to send the report.

## **Schedule Standard Vision Reports**

You can set up a recurring standard Vision reports schedule from the Reporting console. Within the recurring report schedule, you can designate recipients to whom to send the report, along with the information to include in the report.

## Important

You must configure email server settings in Vision before sending reports. See <u>Configure Email Server</u> <u>Settings in Vision on page 83</u>.

## Set up a recurring report schedule

- 1. On the Vision toolbar, click **Reporting** to display the **Reporting** console.
- Generate the report for which to set up a recurring schedule. See <u>Generate Standard Vision Reports</u> on page 202.

3. Click Schedule to display the Report Schedule pane.

#### Figure 139: Report Schedule Pane

Xi Capacity Growth Snapshot - DEPRECATED] Update Chart Sch DXi Capacity Growth Snapshot Never Every 3 Days Starting: 01/12/2015 16 \$\$; 45 \$\$ 59 \$ Output: XML Send Results TO Address Address Storage Metrics: capacity Storage Metrics: used Storage Metrics: used Storage Metrics: total Reduction Ratio				acity Growth Snapshot
DXi Capacity Growth Snapshot   Never   Every   Image: I	chedul	Chart	Update	pacity Growth Snapshot - DEPRECATED]
<ul> <li>Never</li> <li>Every 3 Days</li> <li>Starting: 01/12/2015 16 ÷ 45 ÷ 59 ÷</li> <li>Output: XML ▼</li> </ul> Send Results To           address                   b         Vame         Storage Metrics: capacity         Storage Metrics: used   Storage Metrics: total Reduction Ratio			ot	DXi Capacity Growth Snaps
Every 3 Days   Starting: 01/12/2015   0utput: XML     Send Results To     address     address     StorageMetrics:capacity   StorageMetrics:used   StorageMetrics:used   StorageMetrics:used				Never
Starting: 01/12/2015 16 + 45 + 59 + Output: XML + Send Results To +ADD address Name Storage Metrics: capacity Storage Metrics: used Storage Metrics: totalReductionRatio				● Every 3 Days ▼
Output:     XML     address     address     address     StorageMetrics:capacity     StorageMetrics:used   StorageMetrics:totalReductionRatio				Starting: 01/12/2015 16 4: 45 59
Send Results To				Output:
Send Results To  address  Mame StorageMetrics:capacity StorageMetrics:used StorageMetrics:totalReductionRatio				XML
address         Image: StorageMetrics:capacity         StorageMetrics:used         StorageMetrics:totalReductionRatio		+ ADD		Send Results To
Name         StorageMetrics:capacity         StorageMetrics:used         StorageMetrics:totalReductionRatio				
Name         StorageMetrics:capacity         StorageMetrics:used         StorageMetrics:totalReductionRatio	1			address
Name         StorageMetrics:capacity         StorageMetrics:used         StorageMetrics:totalReductionRatio				address
Name         StorageMetrics:capacity         StorageMetrics:used         StorageMetrics:totalReductionRatio				address
Name         StorageMetrics:capacity         StorageMetrics:used         StorageMetrics:totalReductionRatio				address
Name         StorageMetrics:capacity         StorageMetrics:used         StorageMetrics:totalReductionRatio				address
StorageMetrics:capacity         StorageMetrics:used         StorageMetrics:totalReductionRatio				address
StorageMetrics:used StorageMetrics:totalReductionRatio				address Name
StorageMetrics:totalReductionRatio				address Name StorageMetrics:capacity
StorageMetrics:totalReductionRatio				address          Address         Name         StorageMetrics:capacity         StorageMetrics:used
				address          Name         StorageMetrics:capacity         StorageMetrics:used
Cancel Save				address Addres
				address Address Name StorageMetrics:capacity StorageMetrics:used StorageMetrics:totalReductionRatio Cancel Save

4. Select the radio button next to the Every field to enable a recurring schedule.

To disable a recurring schedule or to send the current report only, select **Never**.

- 5. In the **Every** field, enter a numeric value, and then select **Minutes**, **Hours**, **Days**, or **Months** in the drop-down list to specify the frequency of recurrence.
- 6. Configure the following additional report settings, as needed:

Field	Description
Starting	Select the date and time on which to begin the recurring schedule.
Report Time Frame	<ul> <li>Enter a numeric value, and then select Minutes, Hours, Days, or Months in the drop-down list to specify the time frame from which to select data for the report.</li> <li>Note: This setting is available only for Alert Acknowledgment History and Observable History reports.</li> </ul>

Field	Description
Report Values	<ul> <li>Select a value to indicate how minutely to plot data points.</li> <li>Minutes Summary – Plot data points by minutes.</li> <li>Hours Summary – Plot data points by hours.</li> <li>Days Summary – Plot data points by days.</li> <li>Note: This setting is available only for Observable History reports.</li> </ul>
Output	Select the output format for the report, either XML, CSV, Text, or Graph. Note: The Graph option is available only for Observable History reports.

- 7. In the Send Results To area, click Add to display the New Email field.
- 8. In the New Email field, enter the recipient's email address.
- 9. Repeat steps 7–8 for each recipient to whom to send the report.

To delete a recipient, select the recipient in the list and click **Delete**.

- 10. In the **Name** box, select the name to assign to the emailed report.
- 11. Click Save.

Vision generates and sends the report at the specified frequency.

## **Standard Vision Reports**

The following table lists the standard Vision reports, along with the report type and data series included in each report.

When viewing this table, keep in mind that the available data series vary depending on the device for which the report is being generated. In addition, remember that you cannot add or remove data series from the standard Vision reports.

## **Standard Reports**

Report Name	Report Type	Included Data Series/Displayed Information
Alert Ack History	Alert Acknowledgement	(none)
All Percent Full History	Observable History	Storage Metrics – Percent Full

## DXi and Q-Cloud Protect Standard Reports

Report Name	Report Type	Included Data Series/Displayed Information
DXi Capacity Growth History	Observable History	Storage Metrics - Capacity
		Storage Metrics - Total Reduction Ratio
		Storage Metrics - Used
DXi Deduplication History	Observable History	Storage Metrics - Compression Ratio
		Disk Usage Detail - After Reduction
		Storage Metrics - Deduplication Ratio
		Storage Metrics - Percent Full
		Storage Metrics - Total Reduction Ratio
DXi Disk Status	Properties	Source DXi
		Disk index
		Disk name
		Disk Status, such as Online
		Disk Location
DXi Disk Usage History	Observable History	Disk Usage Detail - After Reduction
		Disk Usage Detail - Available <sup>a</sup>
		Disk Usage Detail - Used
DXi Disk Usage Snapshot	Observable	Disk Usage Detail - After Reduction
	Snapshot	Disk Usage Detail - Available <sup>a</sup>
		Disk Usage Detail - Used
DXi Ethernet Received History	Observable History	Port Group - Port - Received
DXi Ethernet Transmitted History	Observable History	Port Group - Port - Transmitted
DXi FibreChannel Received History	Observable History	Port Group - Port - Received
DXi FibreChannel Transmitted History	Observable History	Port Group - Port - Transmitted

Report Name	Report Type	Included Data Series/Displayed
DXi NAS Status	Properties	Source DXi
		NAS share name
		NAS share type, such as nfs
		NAS share replication enabled status, either true or false
		NAS share deduplication enabled status, either true or false
DXi Port Status	Properties	Source DXi
		Port name
		Port type, such as Fibre Channel
		Port Status
DXi Replication Namespace Status Counts	Observable History	Namespace - Success
		Namespace - Partial
		Namespace - Failure
DXi Replication Namespace Summary	Replication	Source DXi
		Replication date
		Replication name
		Replication node type, such as share or partition
		Replication status
		Replication start time
		Replication end time
		Total bytes replicated
		mb replicated per second

Report Name	Report Type	Included Data Series/Displayed Information
DXi Replication Namespace Summary Unsuccessful	Replication	Source DXi Replication date Replicationname Replication node type, such as share or partition Replication status Replication start time Replication end time Total bytes replicated mb replicated per second
DXi Replication Source Summary	Replication	Source DXi Replication date Replication name Replication node type, such as share or partition Target's IP address Most severe status Replication last start time Replication last end time
DXi Replication Source Summary Unsuccessful	Replication	Source DXi Replication date Replication name Replication node type, such as share or partition Target's IP address Most severe status Replication last start time Replication last end time

Report Name	Report Type	Included Data Series/Displayed Information
DXi Replication Target Summary	Replication	Target DXi
		Replication date
		Replication name
		Replication node type, such as share or partition
		Source's IP address
		Most severe status
		Replication last start time
		Replication last end time
DXi Replication Target Summary Unsuccessful	Replication	(none)
DXi Space Reclamation History	Observable History	Data Scanned
		Space Reclaimed
DXi Virtual Tape Library (VTL) Status	Properties	Source DXi
		VTL Name
		VTL Index
		VTL Status, such as online
		Deduplication Enabled, either true or false
		Replication Enabled, either true or false

## DXi 35/55 Standard Reports

Report Name	Report Type	Included Data Series/Displayed Information
DXi 35/55 Fans History	Observable History	Fan Groups - Fans - Value
DXi 35/55 Percent Full History	Observable History	Storage metrics - Percent Full

Report Name	Report Type	Included Data Series/Displayed Information
DXi 35/55 Replication History	Observable History	Replication - Source - Average Received
		Replication - Source - Average Sent
		Replication - Source - Replications Received
		Replication - Target - Replications Sent
		Replication - Target - Total Received
		Replication - Target - Total Sent
DXi 35/55 Sensors History	Observable History	Sensor Group - Sensor - Value
DXi 35/55 Usage History	Observable History	Library - Capacity
		Library - Free
		Library - Throughput
		Library - Used
DXi 35/55 Usage Snapshot	Observable	Library - Capacity
	Snapshot	Library - Free
		Library - Throughput
		Library - Used

## Scalar Standard Reports

Report Name	Report Type	Included Data Series/Displayed Information
Scalar Drive Status	Properties	Scalar library Drive serial number Drive status, such as Online or Varied On Drive type, such as LTO-6 Drive interface type, such as Fibre Channel Drive mount status, such as Empty Drive encryption, such as Disabled Drive owner
Scalar IO Blade Ports	Properties	Scalar library IO Blade serial number IO Blade port index IO Blade port status, such as Ready
Scalar IO Blade Status	Properties	Scalar library IO Blade serial number IO Blade status, such as Ready

Report Name	Report Type	Included Data Series/Displayed Information
Scalar LTFS Blade Status	Properties	Scalar library LTFS Blade name
		LTFS Blade serial number
		LTFS Blade IP address
		LTFS Blade location
		LTFS Blade mode, such as online
		LTFS Blade state, such as Ready
		LTFS Blade status, such as Good
Scalar Library Status	Properties	Scalar Library
		Rollup Status, such as red
Scalar Licensing	Properties	Scalar Library
		License name
		License quantity
Scalar Partitions	Properties	Scalar Library
		Partition name
		Partition mode, such as online
Scalar RAS Status	Properties	Scalar Library Sub system, such as Library or Media RAS status, such as Degraded



This chapter contains the following topics:

Advanced Reporting in Vision	215
Advanced Reporting Graphs in Vision	216
Define Time Ranges in Advanced Reporting	

# Advanced Reporting in Vision

Advanced Reporting is a powerful visual reporting and analysis tool integrated with DXi and Q-Cloud Protect systems. You can access Advanced Reporting reports from within Vision so you can compare graphs for multiple DXi devices and Q-Cloud Protect appliances.

The reports and graphs that are available on the Advanced Reporting Console differ depending on themodel and the version of software installed on the DXi device or Q-Cloud Protect appliance. For detailed information about each of the available reports and graphs, see the <u>Advanced Reporting Documentation</u> <u>Center</u>.

**(i)** Note: DXI Advanced Reporting graphs are not available for DXi 35/55 devices.

Figure 140: Advanced Reporting - Graph View



# Advanced Reporting Graphs in Vision

Use the DXi Advanced Reporting Console and Graph Console to view advanced reporting graphs for DXi devices and Q-Cloud Protect appliances.

## Select the devices for which to display Advanced Report graphs

1. On the Vision toolbar, click DXi AR to display the DXi AR console.

Figure 141: DXi Advanced Reporting Console - Select Devices

Quantum. Vision		C ? Log Off
Management Configuration Help		
Devices Topology Analytics Reporting DXi	AR Media	🖁 admin 🔻
DXi AR DXi Devices Device Set Please select the set of devices upon which you would I	ike to report:	View Reports
DXi Devices	Device Set	V DXi8500
	Device Group	✓ q-cloud protect
	🔇 Red Status	
	🚹 Yellow Status	

2. Select the devices for which to display data by doing one of the following:

#### Select by device set

- a. In the left pane, select DXi Devices.
- b. In the center pane, select **Device Set** to view graphs for one or more selected DXi devices or Q-Cloud Protect appliances.
- c. In the right pane, select each DXi device or Q-Cloud Protect appliance to include in the graphs.

#### Select by device group

- a. In the left pane, select DXi Devices.
- b. In the center pane, select **Device Group** to view graphs for all DXi devices or Q-Cloud Protect appliances within a group.

c. In the right pane, select one or more Vision groups to include in the graphs.

## Select by alert status

- a. In the left pane, select **DXi Devices**.
- b. In the center pane, select one of the following:
  - Red Status View graphs for systems with a red status.
  - Yellow Status View graphs for systems with a yellow status.
- c. In the right pane, select each DXi device or Q-Cloud appliance with the associated alert status to include in the graphs.

3. ClickView Reports to display the Advanced Reporting graphs for the selected devices.





## Navigate within an Advanced Reporting graph

1. Display the Advanced Reporting graphs for the selected devices.

2. Use the following options on the toolbar, as needed:

Option	Function
Last Days field / Go button	<ul> <li>Change the time range displayed in the graph.</li> <li>a. In the Last Days field, enter the number of days for which to view information.</li> <li>b. Click Go to update the generated information.</li> </ul>
Advanced check box	Display a button bar with additional tools for controlling the time range in the graph. See <u>Define Time Ranges in Advanced Reporting on the next</u> page.
Devices drop-down list	Select a different DXi device or Q-Cloud appliance for which to view the generated graphs, or to view graphs for all devices selected on the <b>DXi Advanced Reporting</b> console.
Reports drop-down list	Select a different graph to view. The options from which to select differ depending on the model and the version of software installed on the DXi device or Q-Cloud Protect appliance, as well as on whether you are viewing a single device or all selected devices.
	<ul> <li>If you are viewing a single device, the standard Advanced Reporting reports are displayed with at least two graphs.</li> </ul>
	<ul> <li>If you are viewing multiple devices, only one type of graph is displayed at a time with one instance of the graph for each device.</li> </ul>
	For detailed information about each of the available reports and graphs, see the <u>Advanced Reporting Documentation Center</u> .
Select Sources button	Return to the <b>DXi Advanced Reporting</b> console and select different devices to include in the graphs.

Figure 143: Graph Toolbar



3. Use the following icons included with each graph, as needed:

lcon	Function
Q	Click to hide the graph's legend and title. Click again to display the graph's legend and title.
	<ul> <li>Click to export the graph.</li> <li>a. Select to Export As JPEG or Export As PNG to display the Save As dialog box.</li> <li>b. In the File name field, enter a name for the graph.</li> <li>c. Click Save.</li> </ul>
-	Click to minimize the graph.
	<ul> <li>Click the upward-pointing arrow to scroll the graph order up by one graph.</li> <li>Click the plus sign to show all legends and titles for all displayed graphs.</li> <li>Click the minus sign to hide all legends and titles for all displayed graphs.</li> <li>Click the downward-pointing arrow to scroll the graph order down by one graph.</li> </ul>

## Define Time Ranges in Advanced Reporting

To define time ranges for displayed data, use the Advanced Time Range bar or the Dynamic Zoom feature on the Advanced Reporting console.

## **Viewing Tips**

Review the following tips to understand how time-range changes effect your view.

## Resolution

When you change the time range, Advanced Reporting automatically adjust the resolution of performance data.

- The resolution is finer more granular for shorter time ranges.
- The resolution is coarser less granular for longer time ranges.

## **Preset Ranges**

When you apply a preset time range, Advanced Reporting resizes the time range while maintaining the center of the time range.

## Example

if you are currently viewing a one-week time range that goes from Sunday to Saturday, applying the **1d** preset displays data for Wednesday.

## Scale

No matter how long of a time range that you span, Advanced Reporting scales all logged data to use the entire width of each graph.

## Define time ranges

- 1. Display the Advanced Reporting graphs for the selected devices.
- 2. Select the Advanced check box to display the Advanced Time Range button bar.

#### Figure 144: Advanced Time Range Button Bar





3. In the Base drop-down list, select the numeric base for the data on which to report:

## 1000 Bytes/KBs

Tape drives, tape cartridges, and disk drives report capacities in units of 1000 bytes per kilobyte.

## 1024 Bytes/KBs

Backup applications typically report summaries in units of 1024 bytes per kilobyte.

4. Adjust the time range by doing any of the following:

## Adjust start and end times

a. In the **Start** and **End** fields, enter a starting and ending date and time to define the time range to display.

b. Click **reload** to redisplay the graphs with the new time range.

## Assign a preset time range

Click any of the following **Preset Time Range** buttons to quickly display data for a different time range:

- **1h** 1 hour
- 4h-4 hours
- 12h 12 hours
- 1d 1 day
- **1w**-1 week
- **1m** 1 month
- 1y-1 year

#### Assign a preset zoom-factor

Click any of the following to zoom in or out on the graphs by a fixed factor:

- **x0.25** Zooms in by a quarter of the currently displayed time range.
- **x0.5** Zooms in by half of the currently displayed time range.
- **x2.0** Zooms out by 2 times the currently displayed time range.
- **x4.0** Zooms out by 4 times the currently displayed time range.

#### Adjust the time range forward or backward

Click Backward or Forward Navigation to move the time range by any of the following amounts:

- <<< or >>> Moves the time range backward or forward an amount equal to the current time range.
- << or >> Moves the time range backward or forward an amount equal to one half of the current time range.
- < or > Moves the time range backward or forward an amount equal to one quarter of the current time range.

## Reset the time range

Click reset range to adjust the time range to display the most recent seven days of logging.

## Use the dynamic zoom feature

- 1. Display the Advanced Reporting graphs for the selected devices.
- 2. Click the part of the graph to zoom to display selection handles.
- 3. Drag the selection handles to adjust the area of the graph to zoom.

4. Double-click the selected area to zoom.





5. Click **Clear** to reset the graph to its original time range.



# Appendix 10: Appendix A

This Appendix addresses how to backup, restore, and migrate your Vision database.

This appendix contains the following topics:

Vision Database Backup, Restore, and Migration	225
Back Up Your Vision Database	226
Restore Your Vision Database	228
Migrate Vision to a Different Server	230

# Vision Database Backup, Restore, and Migration

Vision's database consists of two separate storage systems: Relational Database Management System (RDBMS) and Round-Robin Database (RRD).

You should regularly back up your Vision databases to protect against data loss. Back up the RDBMS and the RRD databases together to preserve consistency between the databases in the backup. You can then restore lost Vision data from the backed-up databases.

**Note:** For Vision 4.2.1 and earlier, the RDBMS is Apache Derby. For Vision 4.3 and newer, the RDBMS is PostgreSQL. This version of help only applies to Vision 4.3 and newer.

## Vision Software Migration

In addition to backing up and restoring your Vision database, you might need to move your Vision software from one Vision server to another. To perform a Vision software migration, you will need to back up the Vision database on the current server, restore the database on the new server, and update your Vision licenses on the new server.

For more information, see Migrate Vision to a Different Server on page 230.

# Back Up Your Vision Database

You should regularly back up your Vision databases to protect against data loss. Use the following tasks to back up your Vision database running on Windows or Linux, and for both non-appliance and appliance versions of your Vision database.

## **Additional Information**

We recommend that you back up the PostgreSQL RDBM and the RRD together to preserve consistency between the databases in the backup.

# Back up your Vision (non-appliance) database on a Windows operating system

- 1. Stop the Vision services.
  - a. Log on to the Vision server as administrator.
  - b. From the Services panel, stop the Quantum Vision service.
- 2. Copy both of your Vision databases.

## RRD

- a. Change your directory location to c:\Program Files (x86)\Quantum Vision\database.
- b. In the database folder, select the **rrd** folder.
- c. Right-click on the **rrd** folder, and select **Copy** from the menu.
- d. Paste the **rrd** folder and all of its contents onto another server.

## PostgreSQL RDBMS

a. Open a command window and run the following command:

"C:\Program Files (x86)\Quantum Vision\database\PostgreSQL\8.4\bin\pg\_dump"
-U postgres -Fc visiondb > visiondb.pgdump

This command creates **visiondb.pgdump**, which is the backup file of the PostgreSQL RDBMS database.

- b. Copy and paste visiondb.pgdump to the same location to which you copied your rrd folder.
- 3. Restart the Vision services.
  - a. Log on to the Vision server as administrator.
  - b. From the Services panel, start the Quantum Vision service.

# Back up your Vision (non-appliance) database on a Linux operating system

- 1. Stop the Vision services.
  - a. Log on to the Vision server as **root**.
  - b. Run the command **service vision stop**.
- 2. Copy both of your Vision databases.

#### RRD

- a. Change your directory location to /opt/quantum-vision/database.
- b. In the database directory, select the **rrd** subdirectory.
- c. Copy the **rrd** subdirectory and all of its contents.
- d. Paste the **rrd** subdirectory and all of its contents onto another server.

## PostgreSQL RDBMS

 a. Open a terminal window and run the following command: /opt/quantum-vision/database/PostgreSQL/8.4/bin/pg\_dump -U postgres -Fc visiondb > visiondb.pgdump

This command creates **visiondb.pgdump**, which is the backup file of the PostgreSQL RDBMS database.

- b. Copy and paste **visiondb.pgdump** to the same location to which you copied your **rrd** subdirectory.
- 3. Restart the Vision services.
  - a. Log on to the Vision server as **root**.
  - b. Run the command service vision start.

## Back up your Vision (appliance) database

- 1. Log on to the appliance as the sysadmin user.
- 2. At the prompt, run the command admin backup.
- 3. Enter the following information at the appropriate prompts:
  - The IP address of the remote server on which to place the backed-up database.
  - The user name and password for the remote server.
  - The destination directory on the remote server.
  - The SSH port number (default: 22) for the remote server.

#### Results

12.34.567.890

- The Vision appliance creates a backup archive and copies the archive to the remote server, using secure copy with the provided credentials.
- The backup process generates a file name for the database backup. You will see a message similar to the following:
   Database archive successfully saved at /tmp/vision\_database.tar on server

You can rename the backup file after it is exported if you want to save multiple backups.

## **Restore Your Vision Database**

Use the following tasks to restore your Vision database running on both Windows and Linux, and for both non-appliance and appliance versions of your Vision database.

# Restore a backed-up Vision (non-appliance) database on a Windows operating system

- 1. Stop the Vision services.
  - a. Log on to the Vision server as administrator.
  - b. From the Services panel, stop the Quantum Vision service.
- 2. Restore the Vision database.
  - a. Change your directory location to c:\Program Files (x86)\Quantum Vision\database.
  - b. In the database folder, select and delete the existing rrd folder.
  - c. Replace the deleted **rrd** folder with a backed-up **rrd** folder.

Appendix 10: Appendix A Restore Your Vision Database

3. Open a command window and run the following commands:

```
"C:\Program Files (x86)\Quantum Vision\database\PostgreSQL\8.4\bin\dropdb" -U
postgres visiondb
"C:\Program Files (x86)\Quantum Vision\database\PostgreSQL\8.4\bin\createdb" -U
postgres visiondb
"C:\Program Files (x86)\Quantum Vision\database\PostgreSQL\8.4\bin\pg_restore" -
U postgres -d visiondb visiondb.pgdump
```

#### **Error Message**

```
When restoring the database, you might encounter the following error message. If so, disregard it.
# /opt/quantum-vision/database/PostgreSQL/8.4/bin/pg_restore - U postgres -d
visiondb visiondb.pgdump
pg_reste: [archiver (db)] Error while PROCESSING TOC:
pg_restore: [archiver (db)] Error from TOC entry 578; 2612 16386 PROCEDURAL
LANGUAGE plpgsql postgres
pg_restore: [archiver (db)] could not execute query: ERROR: language
"plpgsql" already exists
Command was: CREATE PROCEDURAL LANGUAGE plpgsql;
WARNING: errors ignored on restore: 1
```

- 4. Restart the Vision services.
  - a. Log on to the Vision server as administrator.
  - b. From the Services panel, start the Quantum Vision service.

# Restore a backed-up Vision (non-appliance) database on a Linux operating system

- 1. Stop the Vision services.
  - a. Log on to the Vision server as **root**.
  - b. Run the command **service vision stop**.
- 2. Restore the Vision database.
  - a. Change your directory location to **opt/quantum-vision/database**.
  - b. In the database directory, select and delete the existing **rrd** subdirectory.
  - c. Replace the deleted **rrd** subdirectory with a backed-up **rrd** subdirectory.
- 3. Open a terminal window and run the following commands: /opt/quantum-vision/database/PostgreSQL/8.4/bin/dropdb -U postgres visiondb /opt/quantum-vision/database/PostgreSQL/8.4/bin/createdb -U postgres visiondb /opt/quantum-vision/database/PostgreSQL/8.4/bin/pg\_restore -U postgres -d visiondb visiondb.pgdump

#### **Error Message**

When restoring the database, you might encounter the following error message. If so, disregard it.
# /opt/quantum-vision/database/PostgreSQL/8.4/bin/pg\_restore - U postgres -d
visiondb visiondb.pgdump
pg\_reste: [archiver (db)] Error while PROCESSING TOC:
pg\_restore: [archiver (db)] Error from TOC entry 578; 2612 16386 PROCEDURAL
LANGUAGE plpgsql postgres
pg\_restore: [archiver (db)] could not execute query: ERROR: language
"plpgsql" already exists
Command was: CREATE PROCEDURAL LANGUAGE plpgsql;
WARNING: errors ignored on restore: 1

- 4. Start the Vision services.
  - a. Log on to the Vision server as root.
  - b. Run the command service vision start.

## Restore your Vision (appliance) database

- 1. Log on to the appliance as the sysadmin user.
- 2. At the prompt, run the command **admin restore**.
- 3. Enter the following information at the appropriate prompts:
  - The IP address of the remote server on which the backed-up database is stored.
  - The user name and password for the remote server.
  - The file name of the database backup that you want to restore.
  - The SSH port number (default: 22) for the remote server.

#### Result

The Vision appliance retrieves the backup archive using secure copy with the provided credentials, and then restores the database on the appliance.

## Migrate Vision to a Different Server

To perform a Vision software migration from one server to another, do the following:



## Important

When migrating Vision from one server to another, you must install the same version of Vision on the new server.

## Migrate your Vision software to a different server

- 1. Install the Vision software on the new server.
- 2. Back up the Vision database on the current server. See Back Up Your Vision Database on page 226.
- 3. Copy the Vision .properties file from the current server to the new server.

#### Windows operating systems

Copy and paste to and from this directory: C:\Program Files (x86)\Quantum Vision\config\vision.properties.

#### Linux operating systems

Copy and paste to and from this directory: /opt/quantum-vision/config/vision.properties.

4. Restore the Vision database on the new server. See Restore Your Vision Database on page 228.

## Update your Vision license for the new server

1. Open a Web browser on a computer with Internet access, and navigate to http://www.quantum.com/licensekeys to display the License Key Management page. Figure 146: License Key Management Page

Quantun	n.					喿 Chat Live   Abor
Products S	Solutions	Applications	Support	Partners	Customers	Search Q
Home > Service and Support						SUPPORT
License Key N	lanager	ment	<b>S</b>		CONTACT US	
Upgrade Licenses Search for your upgradeable Quan entering the Serial Number.	ntum product by	Serial Number:			Request Mor Request Infor ))) Contact Qua (800) 677-6268 ))) Contact Qua (800) 284-510	re Information mation  Intum Sales 8 (US / CAN)  Intum Support 1 (US / CAN)  Intum Support

2. In the **Serial Number** field, enter your Vision software serial number and click **Submit** to display your current license configuration.





3. Click on the Transfer MAC Address link to display the Enter MAC Address field.

Figure 148: License Key Management Page - Enter MAC Address Field

Vision - License Key Management			CONTACT US	
Quantum	Current Configuration DEVICE 1 Serial Number: CX1047CAA0013 Choose Another MAC Address: 00-07-E9-31-AE-A Transfer MAC Address	1 ))) 132 AA	Request More Information Request Information Contact Quantum Sales (800) 677-6268 US / CAN) Contact Quantum Support (800) 284-5101 (US / CAN)	
Enter MAC Address: 00 07 Activated Feature	E9 31 AE AB Transfer MAC Authorization Code Date	How of Learn	SE KEY HELP do I find my serial number? how	
1 DEVICE	TCY5-QKJ2-BT9J-MJNW 11-23-2010 de	details		

4. In the **Enter MAC Address** field, enter the MAC address of the new server. See <u>Add a New Vision</u> License on page 84 for information about locating a server's MAC address.

## 5. Click Transfer MAC to display the License Key Details box.

Figure 149: License Key Management Page - License Key Details Box

Vision - License Key Management		CONTACT US	
Guantum.	Vision The details for this license key are displayed below.	Request More Information         Request Information         W       Contact Quantum Sales         (800) 677-6268 US / CAN)         W       Contact Quantum Support         (800) 284-5101 (US / CAN)         LICENSE KEY HELP         How do I find my serial number?         Learn how	
License Key Details Serial Number: CX1047CAA00132 MAC Address: 00.07.F9.31.4F.AB License Key: 45D2-8239-77DA-87F	6-D01F-DF96-6EFF-63EE		

- 6. Enter the new license key in the **Vision License Configuration** dialog box. See <u>Add a New Vision</u> <u>License on page 84</u>.
- 7. Repeat steps 1-6 for all current licenses.