This quick start guide provides system requirements and basic installation and configuration instructions for the Quantum DXi V-Series appliance. For more information, see the *Quantum DXi V-Series User's Guide (6-67612)*. You can access Quantum DXi V-Series documentation at <u>http://www.quantum.com/DXiV-SeriesDocs</u>.

Note: For DXi V1000 Standard Edition users, documentation, community support, and other resources are available through Forum V, (<u>http://www.quantum.com/forumv</u>) Quantum's online support forum for virtualization products.

About the Quantum DXi V-Series

The Quantum DXi V-Series virtual appliances* (DXi) provide an entry point for Quantum customers who want to implement a virtual infrastructure. The DXi is a flexible virtual appliance backup solution that integrates data deduplication and replication technology to connect backup and disaster recovery protection across distributed corporate environments. The DXi uses Quantum's patented data deduplication technology to increase disk capacities by 10 to 50 times and makes WAN replication a practical and effective part of disaster recovery planning. The DXi is designed for customers who need to protect up to 24 TB of deduplicated data and who do not wish to deploy a physical DXi system.

The Quantum DXi V-Series appliances are delivered as VMware virtual appliances in an OVF format that installs within a vSphere infrastructure.

* The 2-TB Quantum DXi virtual appliance, the DXi V1000, and the 4- to 24-TB Quantum DXi virtual appliance, the DXi V4000, are collectively referred to as the Quantum DXi V-Series virtual appliances. For the purposes of this guide, the two versions will be referred to as the DXi and designated by model number where appropriate.

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Included With Your DXi V-Series Appliance

The Quantum DXi appliance is configured to a standard specification. Each order comes with a media kit containing a download authorization code, a product key certificate, a Registration/Explore card, and the EULA.

Licenses

The following licenses are included with the DXi.

- NAS Enables NAS (NFS, CIFS) connectivity.
- Data Deduplication Enables data deduplication and compression.
- Replication Enables replication to other DXi systems.
- OST Enables OpenStorage backup with Symantec OST.
- **Storage Capacity** Enables the purchased storage capacity for the system. For the DXi V1000:
 - A Trial license has 256 GB of storage capacity.
 - An Enterprise Edition initial purchased license has 1 TB and can be expanded to 2 TB of storage capacity.
 - The Standard Edition of the DXi V1000 has 1 TB of storage.

For the DXi V4000:

- A Trial license has 4 TB of storage capacity.
- An Enterprise Edition initial purchased license has 4 TB and can be expanded to 24 TB of storage capacity in 1 TB increments.

If you purchase a storage capacity upgrade, you will receive an additional license certificate.

DXi Accent

Quantum's DXi Accent software accelerates backups and reduces network bandwidth requirements by distributing deduplication between the backup server and DXi appliances. With DXi Accent, backup windows are reduced and network bottlenecks are eliminated.

To use DXi Accent, you must install the Quantum OST Client Plug-in on the media server. For information about installing the OST Plug-in and using DXi Accent, see the *Symantec NetBackup OST Configuration Guide*.

Service

DXi V-Series Warranty	The DXi V-Series Trial versions include 90 day warranty. The DXi V-Series Trial versions also include 90 days of Quantum Customer Support. Support includes software downloads, Email Home, and Internet access to Quantum's online Customer Support Web site.
	The Quantum Customer Support Web site features online service request processing, Web-based event status tracking, and a comprehensive Knowledge Base. Quantum's Knowledge Base gives you 7x24 real-time electronic access to complete product and support resources and the expertise of Quantum's Global Services organization.
	The DXi V1000 Standard Edition does not include a warranty, and it does not include Customer Support. For DXi V1000 Standard Edition users, documentation, community support, and other resources are available through Forum V, (<u>http://www.quantum.com/</u> <u>forumv</u>) Quantum's online support forum for virtualization products.
	The DXi V-Series Enterprise Editions require the purchase of either a Gold or Silver Quantum Support Service Plan. A 90 day warranty runs concurrent with the start of the Support Service plan.
Service Plans	Quantum's Global Services organization is geared towards delivering the fastest possible response and root cause resolution, helping you maximize your backup investments, better manage processes, and make the best use of your resources. We ensure total customer satisfaction by providing comprehensive, responsive services on a worldwide basis.
	A variety of support options are available to you via Quantum's tiered support plans to meet a range of budget and availability requirements. Quantum's Support Plans include a Gold support contract, which includes 7x24 phone support for 1 year, and a Silver support contract, which includes 5x9 phone support for 1 year. For more information on these service plans, please visit www.quantum.com or contact your Quantum Sales Representative.
Email Home	The Email Home capability can be configured to automatically send XML-based reports to e-mail recipients.
	The report represents a snapshot of the system information at the time the report is generated. Quantum recommends generating and saving a report before performing a software upgrade or reconfiguring the system.
DXi Advanced Reporting	DXi Advanced Reporting, which is included on all DXi appliances, sets new standards for onboard intelligence by giving users a detailed view of internal appliance operations and provides them with years of backup and replication data for extended trend analysis. DXi Advanced Reporting reduces administration time, improves operations, streamlines performance tuning, and helps users maximize the value of their DXi appliances.

For systems with a larger scope, Quantum Vision[™] management software provides industry-unique capabilities, giving IT departments global management of all their Quantum disk and tape systems from a single console. Vision's centralized reporting and flexible trend analysis tools help users optimize system value by giving them automated, flexible access to the information they need to make proactive decisions concerning on-going system administration.

Pre-Installation Checklist

The DXi is distributed as a virtual appliance that can interface with your physical agents (such as backup) with multiple VMware ESX or ESXi servers.

C 1 1 1	D	
System	Require	ements

Make sure your environment meets or exceeds the following system requirements before you begin installing your DXi:

 Server system with at least an i7 quad-core Intel processor (AMD processors not supported)

DXi V1000: two virtual CPU cores required

DXi V4000: eight virtual CPU cores required

- At least one IP address available for use by the DXi (obtained from DHCP or manually assigned at boot time, if assigned manually, have your Gateway IP and Node Netmask IP available)
- VMware environment:

DXi V1000: One or more ESX4, ESXi4, ESXi5, or ESXi5.1 servers that are part of a vSphere vCenter cluster or on a VMware Workstation 9

DXi V4000: One or more ESXi5.x servers that are part of a vSphere vCenter cluster

- vSphere vCenter version 4.0 u2 or later
- A 1 GbE or 10 GbE Ethernet port for data movement on the DXi host server
- Browsers: Mozilla Firefox 6 or higher; Microsoft Internet Explorer 8 or higher (Internet Explorer 10 currently not supported)
- Adobe Flash Player plug-in 9 or higher
- Free space on the appropriate vSphere server (In general, you will need .5 TB plus your license capacity, examples follow.)

DXi V1000:

1-TB license – 1.5 TB storage, thin provisioned; 2.5 TB storage, thick provisioned 2-TB license – 2.5 TB storage for either provisioning option

DXi V4000:

4-TB license – 4.5 TB storage, thin provisioned; 24.5 TB storage, thick provisioned 24-TB license – 24.5 TB storage for either provisioning option

- **Note:** The DXi V-Series appliances do not provide a facility for shrinking virtual disks, nor does Quantum Technical Support provide guidance or instruction for implementing such an activity. However, if you feel that this task is necessary, you can find more information in the following VMware article: <u>Shrinking Virtual Disks</u>.
- RAM

DXi V1000: 4 GB

DXi V4000: 48 GB

Caution: Creating a secondary copy of the data on your DXi should be done using the DXi Replication feature rather than your backup software.

Notational Conventions

The following conventions are used in this document:

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

The following formats indicate important information:

Note: Notes emphasize important information related to the main topic.

Caution: Cautions indicate potential hazards to equipment and are included to prevent damage to equipment.

WARNING: Warnings indicate potential hazards to personal safety and are included to prevent injury.

Installing the Quantum DXi V-Series

Before installing your DXi please keep the following items in mind:

- Only Intel processors are supported. AMD processors are NOT currently supported.
- The DXi will attempt to connect to a License Server during installation. If the software cannot access the License Server (i.e. you do not have or are not allowed Internet access) you must contact Quantum Technical Support for your complete product license key. To contact Quantum Technical Support, call the appropriate number as listed in <u>Table 1</u> Quantum Technical Support on page 24.
- A default DXi deployment maps its virtual disks to a single datastore. A user can remap these virtual disks to dedicated datastores for higher performance. Such a configuration will improve overall DXi performance under heavy loads.

Any mapping of virtual disks to multiple VMware datastores should be done before initial configuration of the DXi. VMware may place limitations preventing such changes after the appliance has been run.

A DXi installation consists of the following steps:

- Deploying the DXi on an ESXi Server
- Deploying the DXi V1000 on a VMware Workstation 9
- Accessing the DXi
- DXi Configuration

Deploying the DXi on an ESXi Server

When you are ready, use the following instructions to deploy your Quantum DXi appliance:

For illustrative purposes, the deployment of a DXi V1000 is shown.

The following example represents a typical OVF deployed from a ESXi V5.0.0 server. The actual sequence of windows that you will see will depend on your system's configuration. With a basic knowledge of your system, the selections that you will need to make, such as hosts, clusters, resource pools, multiple storage destinations, networks, etc. should be intuitive. This example does attempt to depict where those windows will be displayed.

- 1 If you have not downloaded the Quantum DXi V-Series software, do so now by following the instructions on your DXi Download Authorization Key certificate.
- Extract the files from the downloaded zip file.

- **Note:** Should you see an error message indicating that you have encounter an invalid file name or one that references an *unexpected error*, disregard the error message and continue extracting the files.
- **3** Start a vSphere Client.
- 4 On the vSphere Client window (see <u>Figure 1</u>), select **Deploy OVF Template** from the **File** menu. The **Source** window displays.

🕑 v	Center5 - vSphere Client	
File	Edit View Inventory Administratio	n
	New 🕨	to
	Deploy OVF Template	
-	Export +	
	Report 🕨 p	Ph
	Browse VA Marketplace	G
	Print Maps 🕨	,
	Exit	1
L	HTT	4

- 5 On the **Source** window, do the following (see Figure 2):
 - a Select **Browse**, and then browse to the files you extracted from the Quantum DXi V-Series zip file.
 - b Choose the file DXi V1000.ovf.
 - c Click Next. The OVF Template Details window displays.

Figure 1 Deploying an OVF Template

Figure 2 Selecting the Quantum DXi V-Series OVF File



6 On the **OVF Template Details** window (see <u>Figure 3</u>), make note of any information you feel you may need. Click **Next**. The **Name and Location** window displays.

🕢 Deploy OVF Template				- • ×
OVF Template Details Verify OVF template details	5.			
Source OVF Template Details Name and Location Host / Cluster Resource Pool Dick Format Ready to Complete	Product: Version: Publisher: Download size: Size on disk: Description:	DXi V 1000 No certificate present 2.8 GB 7.1 GB (thin provisioned) 2.3 TB (thick provisioned) .3 TB (thick provisioned) www.quantum.com		
Help			< Back Next >	Cancel



7 On the Name and Location window (see Figure 4), enter a name for the new appliance; if necessary, select an Inventory Location. Click Next.





8 If your configuration has multiple hosts or clusters (see <u>Figure 5</u>), select your host or cluster. Click **Next**. This window will not display if you have only one host or a single cluster.



Figure 5 Selecting a Host or Cluster

9 If your configuration supports resource pools (see <u>Figure 6</u>), select your resource pool. Click **Next**. This window will not display if you are not using the resource pool capability.



Figure 6 Selecting a Resource Pool **10** If you have multiple storage destinations (see <u>Figure 7</u>), select your storage destination. Click **Next**. This window will not display if you have only one storage device.

Source	Select	a destination stor	age for the virtua	machine files:		
OVF Template Details	VM St	orage Profile:		<u> </u>		
Host / Cluster	Nam	e	Drive Type	Capacity Provisioned	Free Type	Thin
tesource Pool		datastore1	Non-SSD	926.50 GB 4.61 TB	335.14 GB VMF55	Supp
)isk Format		KDATASTORE	Unknown	7.16 TB 8.32 TB	5.48 TB NFS	Supp
	Nam	ie	Drive Type	Capacity Provisioned	Free Type	Thin P
	<					
	Compa	atibility:				
	Compi	atibility:				

11 On the Disk Format window (see Figure 8) you will have the follow options:

Thick Provision Lazy Zeroed - creates a virtual disk in a default thick format. Space required for the virtual disk is allocated when the virtual disk is created. Data remaining on the physical device is not erased during creation, but it will be zeroed out on demand later, on first write from the virtual machine.

Using the default flat virtual disk format does not zero out or eliminate the possibility of recovering deleted files or restoring old data that might be present on this allocated space. You cannot convert a flat disk to a thin disk.

Thick Provision Eager Zeroed - is a type of thick virtual disk that supports clustering features such as Fault Tolerance. Space required for the virtual disk is allocated at creation time. In contrast to the flat format, the data remaining on the physical device is zeroed out when the virtual disk is created. It might take much longer to create disks in this format than to create other types of disks.

Thin Provision - allows virtual disks to allocate and commit storage space on demand. Use this format to save storage space. For the thin disk, you provision as much datastore space as the disk would require based on the value that you enter for the disk size. However, the thin disk starts small and at first, uses only as much datastore space as the disk needs for its initial operations.

Thin provisioning provides for a faster deployment and uses less disk space during the initial installation. However, thin provisioning will create more i/o traffic for the



vSphere server because the server will need to increase the size of its virtual disk and update its file system (vmfs) metadata accordingly. For more information regarding thin and thick provisioning, see the following VMware KB article: <u>KB 1005418</u>.

- **a** Based on your configuration and resources, make the appropriate selection regarding disk format provisioning.
 - **Note:** Quantum recommends **Thin Provision**; however, the **Thin Provision** option will allow you to deploy the DXi in a datastore smaller than what is presented in the system requirements. You must make sure that you will be able to move the DXi to a larger datastore when it grows in size or when you add more disk capacity to the datastore. In either case, your system must meet the system requirements (see <u>Free space</u> on the appropriate vSphere server (In general, you will need .5 TB plus your license capacity, examples follow.) on page 4).

b Click Next.

Note: If you see a message stating that you have insufficient storage, you should cancel the deployment and address this issue. For free space requirements, see Free space on the appropriate vSphere server (In general, you will need .5 TB plus your license capacity, examples follow.) on page 4.

Deploy OVF Template				
Disk Format In which format do you	want to store the virtual disks?			
Source OVF Template Details Name and Location	Datastore:	qanas		
Host / Cluster Resource Pool Storage Disk Format		1 001010		
Ready to Complete	C Thick Provision Lazy Z C Thick Provision Eager	eroed Zeroed		
	 Thin Provision 			
Help			< Back Next	> Cancel

Figure 8 Selecting Thin Provision

12 The default Network Connection for the DXi is VM Network (see Figure 9). Other Network Connections can be selected after the OVF has been installed by editing the virtual machine properties. Click Next. The Ready to Complete window displays. This window will not display if you have no other network connections.

Source OVF Template Details Name and Location	Map the networks used in this OVF ter	plate to networks in your inventory
Host / Cluster	Source Networks	DestinationNetworks
Disk Format Network Mapping Ready to Complete	VM Network	VM Network
	Description: The VM Network network	
	1	

Figure 9 Selecting the Network Mapping

13 On the **Ready to Complete** window (see <u>Figure 10</u>), check the settings, if they are correct, click **Finish**.



A deployment progress dialog box displays (see Figure 11).





When the OVF deployment has completed, the **Deployment Completed Successfully** dialog box displays (see <u>Figure 12</u>). The deployment will usually take approximately 7 minutes for a DXi V1000 and approximately 10 to 12 minutes for a DXi V4000.

Select Close.

Figure 10 Completing the Deployment Task



14 On the vSphere Client window, select your appliance's name (the name you entered in <u>Step 7</u> on page 10) in the left panel (see <u>Figure 13</u>).

Figure 13 Selecting Your Appliance



15 On the vSphere Client window, click the Launch Virtual Machine Console button (see Figure 14). Your appliance's virtual machine console window displays.



Figure 14 Launching the Appliance's Virtual Machine Console

16 On your appliance's virtual machine console window, click the Power On button (see Figure 15). The power on process usually takes approximately 15 minutes for a DXi V1000 and approximately 20 to 25 minutes for a DXi V4000.



17 If your network uses DHCP to assign IP addresses, you will not see the prompts to enter your IP addresses; proceed to <u>Step 18</u>.

If your network does not use DHCP to assign IP addresses, you must enter the following IP addresses: **Node IP address, Node Netmask**, and **Gateway IP** (see Figure 16).

To input your IP addresses, do the following:

a For each IP address, enter the address at its respective prompt, and then press <Enter>.

Note: If you do not have a default Gateway IP, use IP 0.0.0.0.

- **b** If necessary, enter your **VLAN ID**. Whether you enter a VLAN ID or leave it blank, Press **<Enter>**.
- c Enter y for Apply changes (y/n)?, and then press <Enter>.

Figure 15 Powering On the Appliance

Figure 16 Entering Your IP Addresses (non-DHCP only)

	UKA ILED I
Starting auditd:	
Starting log4cplus-serverd:	
Starting system log scanner:	
Starting system logger:	
Starting kernel logger:	
Starting irgbalance:	
Starting portmap:	
Starting RPC idmapd:	
Starting acpi daemon:	
Creating and mounting ramdisk	
Starting gio: gio_log: module license 'Proprieta	ary' taints kernel.
gio_log: no version for "scst_create_proc_entry"	found: kernel tainted.
gio_log: GIO common logging, ver. 1.0.1 loaded su	uccessfully
pscsi: Pseudo SCSI, an SCST virtual device handle	er, ver. 2.0.1 loaded successfully (supports 672 LUNs)
smladapt: SCST target to SCSI ML adapter, ver. 1	.0.1 loaded successfully (supports 672 LUNs)
Starting sshd:	
Starting xinetd:	
Starting console mouse services:	
Starting xfs:	
Starting anacron:	
Starting atd:	
Starting jexec: Starting jexec services	
Starting shred:	
Starting baseos: Starting baseos	
Tuning DXi VM	
Tuning system memory usage	
Verify memory size for Blockpool	
Please enter Node IP address: 10.30.13.203	
Please enter Node Netmask: 255.255.252.0	
Please enter Gateway IP: 10.30.12.1	
Please enter VLAN ID (optional):	
IP=10.30.13.203 NETMASK=255.255.252.0 GATEWAY=1	10.30.12.1
Applu changes(u/n)? u	

18 The power on process displays a standard Linux login prompt (see <u>Figure 17</u>). No action is required. This is part of the DXi's normal power on process.

Figure 17 Displaying Linux Login Prompt

Ø DXi V1000 BLD13 MEP on 10.20.87.251				_ _ _ X
File View VM				
Number of NIC names for CoR: 4	_			
Number of Ethernet Switches found : 0				
Minimum Ethernet Switches required : 0				
Maximum Ethernet Switches supported: 0				
Number of Ethernet Switch Power Sumplies found : 0				
Minimum Ethernet Switch Power Supplies required : 0				
Maximum Ethernet Switch Power Supplies supported: 0				
Number of Ethernet Switch Power Supplies for CoR: 0				
Number of Fibre Channel Switches round : 0				
Maximum Fibre Channel Switches supported: 0				
Number of Fibre Channel Switches for CoR: 0				
Number of PCI Slots found : 0				
Minimum PCI Slots required : 0				
Number of PCI SLots for CoR: 0				
Number of Raid Controllers found : 0				
Minimum Raid Controllers required : 0				
Maximum Raid Controllers supported: U				
Generating CoB files				
Generating CoR files Done!				
Generating FoP files				
Generating FoP files Done!				
heartheat: Stomning clustermanager				
heartbeat: clustermanager stopped				
heartbeat: starting clustermanager				
Starting crond:				
Starting poie errors:				
Starting bpstats:				
Starting bpwstats:		OK	K 1	
starting up console_status				
System status: Starting				
IP Addresses: 10.20.85.20	/22	10.	0.20.85.24/22 10.20.85.26/22 10.20.85.27/22	
Starting memwatch daemon:				
Starting upgradeconf:				
System status: Starting IP Addresses: 10.20.85.20/22 10.20.85.24/22 10.20.85.26/23	21	0.20	28.85.27/22	
DXi0 - kernel: 2.6.18-164.15.1.qtm.4 x86_64 (#1 SMP Mon Oc	t 1	7 17	17:17:15 MDT 2811)	
DA1000C29FBIEA1 login:				

19 When you see the System status: Normal message (with the IP address under it), your DXi has completed its power on process (Figure 18).

Note: You can always find your IP address in the Summary tab of your vSphere Client (see Figure 19).

Figure 18 Displaying NESD	starting upgradecome.
Message, Power on Complete	System status: <mark>Starting</mark> IP Addresses: 10.20.85.6/22 10.20.85.22/22 10.20.85.28/22 10.20.85.30/22
	DX10 - kernel: 2.6.18-164.15.1.qtm.4 x86_64 (H1 SMP Mon Dct 17 17:17:15 MDT 2011) DX1000C29FBIEAI login: CUFS: allocated 512 out of 512 buffers CUFS 'vol0': buffer Cache blksize 262144, #blocks 512 dirty low/high 178/341 CUFS 'vol0': request reserved space 0%Cc0000 CxOpenOnePath: label (Cufs_default_0.1 bh 00 lun 0 state 0%O0000004 device CxOpenOnePath: label (Cufs_default_0.2 bh 00 lun 0 state 0%O000004 device CxOpenOnePath: label (Cufs_default_0.2 bh 00 lun 0 state 0%O000004 device CxOpenOnePath: label (Cufs_default_0.2 bh 00 lun 0 state 0%O000004 device CxOpenOnePath: label (Cufs_default_0.2 bh 00 lun 0 state 0%O000004 device CxOpenOnePath: label (Cufs_default_0.5 bh 00 lun 0 state 0%O000004 device CxOpenOnePath: label (Cufs_default_0.5 bh 00 lun 0 state 0%O000004 device CxOpenOnePath: label (Cufs_default_0.5 bh 00 lun 0 state 0%O000004 device CxOpenOnePath: label (Cufs_default_0.5 bh 00 lun 0 state 0%O0000004 device CxOpenOnePath: label (Cufs_default_0.5 bh 00 lun 0 state 0%O0000004 device CxOpenOnePath: label (Cufs_default_0.5 bh 00 lun 0 state 0%O0000004 device CxOpenOnePath: label (Cufs_default_0.5 bh 00 lun 0 state 0%O0000004 device CxOpenOnePath: label (Cufs_default_0.5 bh 00 lun 0 state 0%O000004 device CxOPs 'vol0': FsBlk size 65536, bits 16, mask 0%fff CyFs 'vol0': Sector size 512, bits 9, mask 0%fff Mounted filesystem vol0 to FSM on host 127.0.0.1 Using v2 readdir for 'vol0' INIT: Sending processes the TERM signal
	System status: Transient (Starting Services) IP Addresses: 10.20.85.6/22 10.20.85.22/22 10.20.85.28/22 10.20.85.30/22
	KSM DEF Proprietary build #5206X on Mon Feb 11 17:51:13 MST 2013 arch 2.6.18-194.3.1.e15 KSM bpu-10.1.12 built by builder0 with gcc gcc (GCC) 4.1.2 20080704 (Red Hat 4.1.2-46) ROOT0/tmp/ddup Trace Init: arg->mod_name=QFS, arg->spillfile=/var/tmp/qfs_spillfile, bufsz=4 Trace buf addr=ffffc200106c2000 NFSD: Using /var/lib/nfs/v4recovery as the NFSv4 state recovery directory NFSD: starting 90-second grace period
	System status: Normal IP Addresses: 10.20.85.6/22 10.20.85.22/22 10.20.85.28/22 10.20.85.30/22





Deploying the DXi V1000 on a VMware Workstation 9 The process to deploy the DXi V1000 from a VMware Workstation 9 is essentially the same as the one used to deploy it from an ESXi server.

- 1 If you have not downloaded the Quantum DXi V-Series software, do so now by following the instructions on your **DXi V1000 Download Authorization Key** certificate.
- 2 Extract the files from the downloaded zip file.
- 3 From the Workstation 9 window, select **Open** from the **File** menu.
- 4 Browse to the DXi V1000.ovf file and select Open.
- **5** Enter the name for the virtual machine.
- 6 Enter or browse to the directory for the virtual machine files, and select **Import**. A status bar indicates the progress of the import process.

After Workstation 9 has successfully completed the import process, your DXi V1000 is listed in the virtual machine library.

Accessing the DXi

When you have the IP address for your DXi, you can begin the configuration steps which will allow you to use your DXi.

For illustrative purposes, the setup of a DXi V1000 is shown.

- 1 Launch a supported Web browser on a workstation that has access to your network.
- 2 In the browser address box, type the IP address of your appliance, and then press <Enter>.

Note: If your DXi has not completed its power on process, it will display a message telling you that it has not finished.

The Login window for your DXi V1000 displays.

- 3 On the Login window of your DXi V1000 (see Figure 20), select Administrator, type password for the Password, and click Login. The DXi V1000 Getting Started Wizard displays (see Figure 22).
 - **Note:** It might be possible for you to log on before your DXi has completed its power on process. If this happens, a **Limited Mode** window displays (see <u>Figure 21</u>). When the power-on process has completed, you will have full access to your DXi; however, you might need to close the browser, start a new browser session, and log in again.

Figure 20 Displaying the DXi 1000 Log in Window

 Quantum.
 DX:V1000

 Image: Comparison of the system of the syste

Figure 21 DXi V1000 Still in Power on Process

Quantum.	DXiV1000 Normal		LIMITED MODE Admin Ticket Low Capacity
	Home		
Home	System Overview		
Alerts			
Configuration	DXiV1000	System State is Transient (Starting Services)	
Utilities	IP Address 10.30.241.138		
	Version 2.1.1 (7036-45640 Build9)		
DXi Advanced	Serial Number (Not Available)		
Reporting			

Figure 22 Displaying the DXi Getting Started Wizard 4 Please read the information presented on the **Getting Started - Welcome** page, and then click **Next**. The **Getting Started - Product Key and License Agreement** page displays.

🖉 Quantum DXiV1000 Setup	[Getting Started -] - Windows Internet Explorer		
🕞 💮 = 💽 http://10.20	3.85-207	- 🖄 49 🗙 Google	• م
File Edit View Favorite	s Tools Help		🗙 🍓 Convert 🝷 🔂 Select
👷 Favorites 🛛 🍰 🔊 Hon	se 🕌 dictionaries 🔻 🎴 News & Weather 👻 🚇 ProUlim 👻 🎴 Quantum 👻 🎴 Resources 💌 🎴 V1000 👻 🕌 Vision 👻 🏭 vmPRO 👻 🌉	DAR 👻 🎉 WAH 👻 🎉 DXIST 💌 🕌 VMware 💌 👫 Flash 🕌 Sentinel 💌	
Quantum DXiV1000 Setup	[Getting Started -]		Page 👻 Safety 👻 Tools 👻 🔞 💌
Quantum.	DX: V1000 Wednesday, February 20, 2013 - 8:33:51 AM America/Los_Angeles (PST)		gin: Administrator Logout
Getting Started	1 Welcome 2 License Agreement 3 Confirm		
Wizard	Getting Started - Welcome		
	Welcome to DXIV1000		
	Before starting DXi setup:		
	Review Quick Start and User's guides. Consult your network administrator for network settings and configuration.		
	Initial Steps required:		
	License Agreement Acceptance.		
	After completing these steps, the DXi will apply the settings.		
	Logout Next>		
-			
		Internet Protected Mode: Off	

- 5 On the **Getting Started Product Key and License Agreement** page (see <u>Figure 23</u>) do the following:
 - a Enter your **Product Key**.*
 - **b** Select I have read and accept this License Agreement.

Note: License Agreements for the DXi V1000 and the DXI V4000 are different.

c Click Next.

The Information - Confirm page displays.

Figure 23 Accepting the DXi License Agreement



* The Quantum DXi will attempt to connect to a License Server during installation. If the software cannot access the License Server (i.e. you do not have or are not allowed Internet access) you must contact Quantum Technical Support for your complete product license key. To contact Quantum Technical Support, call the appropriate number from the following list:

North America	1-800-284-5101 (toll free) +1-720-249-5700			
EMEA (Europe, Middle East and Africa)	+800-7826-8888 (toll free) +49-6131-3241-1164			
APAC (Asia Pacific)	+800-7826-8887 (toll free) +603-7953-3010			
India	000-800-001-6014 (toll free) +603-7953-3010			
Mexico	001-877-785-2465 (toll free) +1-720-249-5700			
South and Central America	+800-33441000 (toll free) +1-720-249-5700			
(Quantum Technical Support support numbers can also be found at http://www.quantum.com/ServiceandSupport/Contacts/ProductSelect/Index.aspx.)				

Note: When you have completed this procedure you will need to manually enter your license key (<u>Manually install your DXi licensed features</u> on page 27).

Table 1 Quantum Technical Support

6 On the Information - Confirm page, click OK (see Figure 24). The Configuration Wizard Home page displays.

Quantum.	DX: V1000 Tuesday, January 29, 2013 - 9:53:14 AM AmericalLos_Angeles (PST)	Login: Administrator Logout
Getting Started	1 Welcome 2 License Agreement 3 Confirm	
Wizard	Information	
	Guided setup complete.	
	OK	

Figure 24 Confirming Initial Install.

DXi Configuration

When the **Configuration Wizard Home** page displays, and the **No Space** warning (<u>Figure 25</u>) has changed to **Normal** (see <u>Figure 26</u>), you can now begin configuring your DXi.

For illustrative purposes, the configuration of a DXi V1000 is shown.

- If you have Internet access and you have entered a valid Product Key, the DXi will
 automatically retrieve its license. (After a successful installation, it will automatically
 check with the license server to retrieve any future license updates.) Proceed to
 <u>Support Wizard</u> on page 28.
 - You can verify that your licensed features have been installed by viewing the information at the top of the License Keys page (see Figure 27).

To display the License Keys page, Select Support on the Wizard menu, and then click Next until you reach the License Keys page. If the licensing information is missing, you can attempt to retrieve your licensed features from the license server by following the steps show in <u>Retrieve and install your DXI</u> <u>licensed features</u> on page 26.

• If you do not have Internet access, you must manually enter your license key. Proceed to <u>Manually install your DXi licensed features</u> on page 27.

Figure 25 No Space

Quantum.	DXi V1000	No Space	Wed Feb 20 2013 - 8:46:08 AM PST	Admin Ticket Low Ca	pacity Logout Administrator Help
VVelcome	Configuration Wizard H	Home			Help
NAS OST Replication Email Alerts Support Exit	Welcome The Configuration Wizar The license will be auto Recommended Complete the N - if using replicat Getting to and from the - You may eait the - You may return	rds will assist you in configu matically obtained for your il IAS Wizard to begin storing ion, complete the Replicatio he Configuration Wizards is configuration Wizards a to the Configuration Wizard	uring your DNI. D0 grounded Internet access has been provided. and desbplicating data on your DNI. In Waard as down as possible. Ing time by cisclang a Voltamer Bre main D09 access.		

Figure 26 Configuration Wizard Home page

Quantum.	DX <i>i</i> V1000	Normal				Admin	Ticket	Low Capacity		Help
Wizards										
Welcome	Configuration Wizard H	Home							He	elp
NAS OST	Welcome The Configuration Wizar	rds will assist you in conf	iguring your DXi.							
Replication	The license will be auto	matically obtained for you	r DXi provided Internet access has been pro	ovided.						
Email Alerts	Recommended									
Support	 Complete the N If using replication 	AS Wizard to begin storin on, complete the Replica	g and deduplicating data on your DXI. tion Wizard as soon as possible.							
Exit	Getting to and from th	ne Configuration Wizards								
	 You may exit the You may return t 	e Configuration Wizards a to the Configuration Wiza	t any time by clicking 'Exit'. Ids by clicking on 'Wizards' from the main D>	Xi screen.						

Retrieve and install your DXI licensed features

- 1 On the License Keys page (see Figure 27) select Retrieve License Key from the server.
- 2 Select **Apply**. The **Information** page displays. It presents information regarding the status of the installation of your licensed features (see Figure 29).
- 3 Select OK. The License Keys page displays.
- 4 Select Finish. The Configuration Wizard Home page displays.

Figure 27 License Keys page

Quantum.	DX <i>i</i> V1000	Normal		Admin Ticket Low Capacity	
			og 4 Licensed Features		
Welcome	License Keys				Нер
NAS OST	License Type Permenent License Key	Capacity 2048 GE	Installed on Mon Nov 12 08:13:23 2012		
Replication Email Alerts	 Retrieve License Key f Upload License Key 	rom the server			
Support Exit	* License Key Note: The License Key	to be uploaded mus	Browse		
La Alt	C License Key		*		
	* Required Field				
	< Previous Finis	h			

Manually install your DXi licensed features

- 1 Select **Support** on the **Wizard** menu, and then click **Next** until the **License Keys** page displays (see Figure 28).
- 2 On License Keys page, select License Key.
- 3 Enter the license key (that you were given when you called Quantum Technical Support) into the text area. (The license key is a long text string that ends with the equal, "=", character (see Figure 28.)
- 4 Select **Apply**. The **Information** page displays. It presents information regarding the status of the installation of your licensed features (see Figure 29).
- 5 Select Finish. The Configuration Wizard Home page displays. Continue the initial configuration of your DXi by accessing the Support wizard (see <u>Support Wizard</u> on page 28).

Figure 28 License Key Example	License Keys	Help.
	License Type Permanent Capacity 2048 GB Installed on Tue Jan 29 10:21:36 2013	
	License Key	
	Retrieve License Key from the server	
	O Upload License Key	
	* License Key Browse	
	Note: The License Key to be uploaded must be named license.crt.	
	Paaobi/WEc12RUM+se8IInGYYQbYB2110AmzeR59Ebjb0362NuK00 © License Key Rww1uF6j538XLb67jc1AlHocald1f5/g5ABP2gyIFC21k17g1T14yjq31 EGEDad1VUFzuFFzMb21Lb7dFVNDSAUJ51a70Mfb5563a-	
	* Required Field	
	Apply	
	< Previous Finish	

Figure 29 Install Licensed Features Information page

Quantum	DX: V1000	Normal	Mon Nov 12 2012 - 11:54:10 AM PST	Admin	Ticket	Low Capacity	Logout Administrator	Help
Wizards			g 4 Licensed Features					
Welcome	Information							
NAS	License Key has l	been activated.						
Replication	Ok							
Email Alerts								_
Support								
Exit								

Support Wizard

Use the Support wizard to continue with the initial configuration and registration of your DXi.

Note: At any time while using the wizard, you can click Previous to return to the previous step.

- 1 Select Support on the Wizard menu. The About page of the Support wizard displays (see Figure 30).
- 2 Read the information about the wizard.
- 3 Click Next to continue. The Support wizard Registration page displays.



4 On the Support wizard Registration page, register your DXi to receive service and support from Quantum (see Figure 31). To register your DXi, do the following:

About

- Note: The Standard Edition version of the DXi V1000 does not include any Custom Support; therefore, Standard Edition customers should not register their DXi V1000.
- a Click the link for Quantum's Product Registration site.
- **b** Follow the on screen instructions to register your system.
- c When you are finished, switch back to the **Support** wizard.
- d Click Next to continue. The Support wizard System Log page displays.



- 5 On the Support wizard System Log page, click Generate New to generate a new system diagnostics file (see Figure 32).
 - Note: This system diagnostics file contains the diagnostic logs for all of the system components. The diagnostic files are helpful when troubleshooting problems on the DXi. You should generate a system diagnostic file after setting up your DXi and save it for future reference.

The system generates a new diagnostics file. This can take several minutes.

Figure 32 Support Wizard:	Quantum.	DX; V1000 Normal Tue Jan 22 2013 - 2.55.11 PM MST Million Ticket Low Capacity Logout Administrator 300
System Log	Wizards	1 About 2 Registration 3 System Log 4 Licensed Features
	Welcome	System Log
	NAS	
	OST	Generate/Download System Diagnostics File
	Replication	Note: After a System Diagnostics File has been generated, you may download the current file to your desktop and send to Quantum as an email attachment.
	Email Alerts	No file has been generated.
	Support	Generate New Download Current
	Exit	
		< Previous Next>

Figure 31 Support Wizard: Registration

Figure 33 Download System Log 6 After the file finishes generating, select the Click to enable downloading the Diagnostics file link to enable the Download Current button (see Figure 33).

Quantum	DX: V1000 Normal Mon Mar 4 2013 - 12:33:16 PM PST	Admin Ticket Low Capad	city Logout Administrator Help
Wizards	1 About 2 Registration 3 System Log 4 Licensed Features		
Welcome	System Log		Help
NAS			
OST	Generate/Download System Diagnostics File		
Replication	Note: After a system Diagnostics File has been generated, you may download the current file to your desktop and send to Quantum as an email attachment.		
Email Alerts	A file is being generated - this may take several minutes		
Support	Diagnostics File has been generated.		
Exit	Click to enable downloading the Diagnostics File.		
	Generate New Download Current		
	<pre></pre>		

7 To download the generated diagnostics file, click **Download Current**.

A dialog box displays asking if you want to open or save the file.

- 8 Click Save or OK to download the file.
- 9 Click Next to continue. The Support wizard License Keys page displays.

If you have not installed your licenced features, or have new features to install, use the **Support** wizard **License Keys** (see <u>DXi Configuration</u> on page 25) to add your licensed features.

Next Steps

Here are the next steps you can take:

If you have Internet access, go to <u>http://www.quantum.com/DXiV-SeriesDocs</u> and watch the how-to videos available in the **Support Video Gallery**. These videos provide overviews and demonstrations on how to install a DXi V-Series virtual appliance and configure network settings, NAS shares, VTL partitions, replication, and OST features.

- How to Install and Initially Configure DXi V1000 Virtual Appliance
- How to Configure DXi V1000 Network Settings

Use the other **Configuration Wizards** on the **Wizards** menu to configure additional features of the DXi:

- NAS Wizard Helps you configure the DXi as a NAS (Network Attached Storage) appliance for use on a Windows or UNIX/Linux network.
- OST Wizard Helps you configure the DXi to present its storage as one or more OST (OpenStorage) storage servers for use with a backup application.
- Replication Wizard Helps you configure the DXi to send replicated data to or receive replicated data from another DXi system.
- Email Alerts Wizard Helps you configure the DXi to automatically send notifications and reports to selected recipients.

- Support Wizard Helps you enable licensed features on the DXi, register your system with Quantum, and perform other tasks that will aid Quantum customer support in assisting you.
- Note: To learn more about using the **Configuration Wizards**, refer to the *Quantum DXi V-Series User's Guide* (6-67612). located at http://www.quantum.com/DXiV-SeriesDocs.

Additional Notes

The following section presents various topics regarding the DXi V-Series appliances.

DXi V4000 Infrastructure and Resource Allocation

The infrastructure and resources allocated to a DXi V4000 installation will affect the application's performance and scalability. In a particular controlled environment, a DXi V4000 sustained 24 concurrent streams. This installation consisted of:

- Dedicated ESXi host
 - ESXi 5.1.0
 - 2x Intel E7540 @ 2.0 Ghz
 - 128GB RAM
 - 1x 10 GbE Network interface
 - 1x 1 GbE Network interface
 - 4x 8GbFC HBA's for datastores
 - 20 data stores, each having the following attribute
 - Capable of up to 300 MB/s read/write rates
 - RAID 6
- DXi V4000 VM
 - A single dedicated datastore
 - 1x 10GbE Network Interface (data)
 - 1x 1 GbE Network Interface (management)
 - Processor: 8 virtual CPU cores (as reported by vSphere)
 - RAM: 48 GB

Other deployments, using 14 separate datastores, one datastore for each virtual data disk, allowed the DXi V4000 to sustain 48 concurrent streams.

Note: Other testing has shown up to 50 concurrent streams

Changing the resources (storage in this case) on the back-end can and will change performance results. Any changes with respects to any of the resources, CPU speeds, type of storage, network infrastructure will be unique to your environment. Performance results will vary. It is incumbent on the Virtualization Administrators to understand their environments and how the resources are shared.



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 For assistance, contact the Quantum Customer Support Center:

 USA:
 1-800-284-5101 (toll free) or +1-720-249-5700

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 +800-7826-8887 (toll free) or +603-7953-3010

 Worldwide:
 http://www.quantum.com/ServiceandSupport



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Quantum is a proven global expert in Data Protection and Big Data management, providing specialized storage solutions for physical, virtual and cloud environments. From small businesses to major enterprises, more than 50,000 customers trust Quantum to help maximize the value of their data by protecting and preserving it over its entire lifecycle. With Quantum, customers can Be Certain they're able to adapt in a changing world—keeping more data longer, bridging from today to tomorrow, and reducing costs. See how at www.quantum.com/BeCertain.