SureStaQ Quick Start Guide

Introduction

This section provides the following information:

- QXS OBC Profiles and Documentation
- Servers and QXS Storage

QXS OBC Profiles and Documentation

A letter was included with your SureStaQ components that provides a URL for the QXS One Button Configuration (OBC) profiles and an OBC Installation Guide.

Caution: This document assumes that you are familiar with installing solutions similar to SureStaQ.

If you do not have this knowledge, please contact Quantum Professional Services. Refer to the Contacting Quantum section for additional information.

6-68619-01 Rev D, January 2018

QXS OBC Profiles

Refer to the following URL for the OBC profiles:

https://qsweb.quantum.com/downloads/qxs_surestaq_obc.html

Note: The QXS OBC profiles are identified as the Firmware Bundle and is the 5-01225-01_RevA_QXS_SureStaq_QSP_commvault_7.3.bin file.

Documentation

Refer to the following URL for documentation:

http://www.quantum.com/surestaqdocs

The URL contains the following QXS data:

- SureStaQ Quick Start Guide
- SureStaQ Commvault One Button Configuration QXS Profile Bundle Installation Guide
- SureStaQ Xcellis Application Director For Commvault CommServe Guide (R430 Server)
- SureStaQ Xcellis Application Director For Commvault Media Agent Guide (R730 Server)

Servers and QXS Storage

Use this SureStaQ Quick Start Guide to familiarize yourself with the type of servers and QXS storage available for SureStaQ.

Note: All server and QXS components are identified by the box labeling.

Servers available are:

- CommServe server
  - Dell PowerEdge R430
  - 1U chassis, Figure 1
- Media Agent server
  - Dell PowerEdge R730xd
  - 2U chassis, Figure 2

Figure 1 CommServe Server (R430) with Bezel

Figure 2 Media Agent Server (R730xd) with Bezel

QXS storage systems available are (Figure 3):

- QXS-312 System
  - 12-drive slots
  - 2U chassis
- QXS-456 System
  - 56-drive slots
  - **Note**: QXS-456 SureStaQ Systems use 42 drive slots.
  - 4U chassis

Figure 3 QXS Storage Systems

12-Drive Chassis

56-Drive Chassis

CommServe and Media Agent Server Configurations

This section provides information about the following CommServe and Media Agent server configurations:

- CommServe Server (R430)
- Media Agent Server (R730xd)

CommServe Server (R430)

The SureStaQ Xcellis Application Director For Commvault CommServe uses the Dell R430 server.

Figure 4 provides a front view of the 1U server without a bezel installed. The server accommodates a total of 10 drives (2.5”).

Note: This is a representative example of the R430 server; components within your server may be different.

Figure 4 R430 1U Server

Table 1 R430 Server Configurations

Table 1 provides applicable R430 server configurations.

Configuration	Enterprise	Data Center/Workgroup
Platform	R430 2.5” SSD	R430 2.5” SSD
CPU Details	2xE5-2620 v4	2xE5-2620 v4
Memory	8x8GB RDIMM, 2400MT/s, Single Rank, x8	8x8GB RDIMM, 2400MT/s, Single Rank, x8
RAID Controller	PERC H730 RAID Controller, 1GB NV Cache	PERC H730 RAID Controller, 1GB NV Cache
OS - System Drive	2x400GB SSD RAID 1	2x400GB SSD RAID 1
CommServe DB	2x400GB SSD RAID 1	2x400GB SSD RAID 1
Integrated NIC	4 x Broadcom 5720 QP 1GbE LOM	4 x Broadcom 5720 QP 1GbE LOM
OS (CAL not included)	Windows Server® 2012 R2, No CAL	Windows Server® 2012 R2, No CAL
iDRAC	Enterprise	Enterprise
Power Cords	2xC13 to C14, PDU Style, 12 AMP, 2 Feet (.6m) Power Cord, NA	2xC13 to C14, PDU Style, 12 AMP, 2 Feet (.6m) Power Cord, NA

Configuration	Enterprise	Data Center/Workgroup
Power Supply	Dual, Hot-plug, Redundant Power Supply (1+1), 495W	Dual, Hot-plug, Redundant Power Supply (1+1), 495W
Rails	ReadyRails, Sliding Rails Without Cable Management Arm	ReadyRails, Sliding Rails Without Cable Management Arm

Media Agent Server (R730xd)

The SureStaQ Xcellis Application Director For Commvault Media Agent uses the Dell R730xd server.

Figure 5 provides a front view of the 2U server without a bezel installed. The server accommodates a total of 24 drives (2.5").

Note: This is a representative example of the R730xd server; components within your server may be different.

Figure 5 R730xd 2U Server

The server's configurations are as follows:

- Medium
- Large
- Large Extended Mode
- X-Large
- X-Large Extended Mode

Table 2 R730xd Server Configurations (M, L, LEM)

Table 2 provides applicable R730xd server information for Medium, Large, and Large Extended Mode configurations.

Configuration	Medium	Large	Large Extended Mode
Platform	2U R730xd XL 24 slot	2U R730xd XL 24 slot	2U R730xd XL 24+2 slot
CPU Details	2xE5-2620 v4	2xE5-2620 v4	2xE5-2620 v4
Memory	8x4GB RDIMM, 2400MT/s, Single Rank, x8	8x8GB RDIMM, 2400MT/s, Single Rank, x8	8x16GB RDIMM, 2400MT/s, Single Rank, x8

Configuration	Medium	Large	Large Extended Mode
RAID Controller	PERC H730P RAID Controller, 2GB NV Cache	PERC H730P RAID Controller, 2GB NV Cache	PERC H730P RAID Controller, 2GB NV Cache
OS SSD RAID Config #1 3DWPD	2x400GB SSD RAID 1	2x400GB SSD RAID 1	2x400GB SSD RAID 1
Index Cache SSD RAID Config #2 3DWPD	4x400GB SSD RAID 5	6x400GB SSD RAID 5	6x400GB SSD RAID 5
DDB SSD RAID Config #3 3DWPD	4x400GB SSD RAID 5	6x400GB SSD RAID 5	6x400GB SSD RAID 5
DDB 2 SSD RAID Config #4 3DWPD	None	None	6x400GB SSD RAID 5
NDC	Intel X520 DP 10Gb SR/ SFP+, + I350 DP 1Gb Ethernet, NDC, w SR Optics	Intel X520 DP 10Gb SR/ SFP+, + I350 DP 1Gb Ethernet, NDC, w SR Optics	Intel X520 DP 10Gb SR/ SFP+, + I350 DP 1Gb Ethernet, NDC, w SR Optics
Default HBA	Qlogic 2662, Dual Port 16GB Fibre Channel HBA, LP	Qlogic 2662, Dual Port 16GB Fibre Channel HBA, LP	Qlogic 2662, Dual Port 16GB Fibre Channel HBA, LP
OS (CAL not included)	Windows Server® 2012, Standard, 16CORE, Factory Inst, No MED, NO CAL	Windows Server® 2012, Standard, 16CORE, Factory Inst, No MED, NO CAL	Windows Server® 2012, Standard, 16CORE, Factory Inst, No MED, NO CAL
iDRAC	Enterprise	Enterprise	Enterprise
Support	39mo x 4hr	39mo x 4hr	39mo x 4hr
Power Cords	2xC13 to C14, PDU Style, 12 AMP, 2 Feet (.6m) Power Cord, NA	2xC13 to C14, PDU Style, 12 AMP, 2 Feet (.6m) Power Cord, NA	2xC13 to C14, PDU Style, 12 AMP, 2 Feet (.6m) Power Cord, NA
PSU	Dual, Hot-plug, Redundant Power Supply (1+1), 750W	Dual, Hot-plug, Redundant Power Supply (1+1), 750W	Dual, Hot-plug, Redundant Power Supply (1+1), 750W
Rails	ReadyRails Sliding Rails	ReadyRails Sliding Rails	ReadyRails Sliding Rails

Table 3 R730xd Server Configurations (XL & XL Extended Mode)

Table 3 provides applicable R730xd server information for Extra Large and Extra-Large Extended Modes configurations.

Configuration	X-Large	X-Large Extended Mode
Platform	2U R730xd XL 24 slot	2U R730xd XL 24+2 slot
CPU Details	2xE5-2620 v4	2xE5-2620 v4
Memory	8x16GB RDIMM, 2400MT/s, Dual Rank, x8	8x16GB RDIMM, 2400MT/s, Dual Rank, x8

Configuration	X-Large	X-Large Extended Mode
RAID Controller	PERC H730P RAID Controller, 2GB NV Cache	PERC H730P RAID Controller, 2GB NV Cache
OS SSD RAID Config #1 3DWPD	2x400GB SSD RAID 1	2x480GB SSD RAID 1 (flex bay)
Index Cache SSD RAID Config #2 3DWPD	8x400GB SSD RAID 5	8x400GB SSD RAID 5
DDB SSD RAID Config #3 3DWPD	8x400GB SSD RAID 5	8x400GB SSD RAID 5
DDB 2 SSD RAID Config #4 3DWPD	None	8x400GB SSD RAID 5
NDC	Intel X520 DP 10Gb SR/SFP+, + I350 DP 1Gb Ethernet, NDC, w SR Optics	Intel X520 DP 10Gb SR/SFP+, + I350 DP 1Gb Ethernet, NDC, w SR Optics
Default HBA	Qlogic 2662, Dual Port 16GB Fibre Channel HBA, LP	Qlogic 2662, Dual Port 16GB Fibre Channel HBA, LP
OS (CAL not included)	Windows Server® 2012, Standard, 16CORE, Factory Inst,No MED, NO CAL	Windows Server® 2012, Standard, 16CORE, Factory Inst,No MED, NO CAL
iDRAC	Enterprise	Enterprise
Support	39mo x 4hr	39mo x 4hr
Power Cords	2xC13 to C14, PDU Style, 12 AMP, 2 Feet (.6m) Power Cord, NA	2xC13 to C14, PDU Style, 12 AMP, 2 Feet (.6m) Power Cord, NA
PSU	Dual, Hot-plug, Redundant Power Supply (1+1), 750W	Dual, Hot-plug, Redundant Power Supply (1+1), 750W
Rails	ReadyRails Sliding Rails	ReadyRails Sliding Rails

QXS System Configurations

The QXS-312 and QXS-456 storage systems are used in SureStaQ. There are four different configurations. Refer to Table 4 for the four configurations.

Figure 6 provides a front view of the QXS-312 system without a bezel installed. The system accommodates a total of 12 drives (max).

Figure 6 QXS-312 System (without bezel)

Figure 7 provides a front view of the QXS-456 system without a bezel installed. The system accommodates a total of 56 drives (max).

There are two drawers on the front of the chassis that contain up to 28 drives (max in each drawer).

Note: QXS-456 SureStaQ systems uses only 42-drive slots. Drives should be distributed equally between each drawer.

Figure 7 QXS-456 System (without bezel)

Table 4 QXS Configurations

Table 4 provides the applicable QXS storage systems small, medium, large, and X-large configurations.

Configuration	Small	Medium	Large	X-Large
Base Chassis	QXS-312	QXS-312	QXS-456	QXS-456
Height	2U	2U	4U	4U
Drive Slots	12	12	56	56
Drives Used/Size	12x4TB	12x8TB	42x4TB	42x8TB
Total Storage Capacity	48TB	96TB	168TB	336TB
RAID-6 Groups (8+2)	1	1	4	4
Hot Spares	2	2	2	2
*Functional Storage Capacity	32TB	64TB	128TB	256TB
***Note**: Functional Storage Capacity is Total Storage Capacity minus the capacity used by RAID parity drives and hot spares.				

Server and QXS Install Documentation

Caution: Many of the server and QXS system components are static-sensitive, and require ESD precautions during installation.

Comply with all safety precautions.

This section provides the following information for installation of applicable server and QXS storage systems:

- CommServe Server (R430) Documentation
- Media Agent Server (R730xd) Documentation
- QXS Storage Systems Documentation

Note: Identify which server and QXS system you purchased. There is specific documentation for each of the particular systems.

CommServe Server (R430) Documentation

The CommServe server (R430) documentation can be accessed at: www.quantum.com/surestaqdocs

Refer to the SureStaQ Xcellis Application Director For Commvault CommServe Guide (R430 Server), Doc number: 6-68617-01.

The document contains the following information:

- About your system
- Performing initial system configuration
- Pre-operating system management applications
- Installing and removing system components
- Troubleshooting your system
- Using system diagnostics
- Jumpers and connectors
- Technical specifications
- Getting help

Media Agent Server (R730xd) Documentation

The Media Agent server (R730xd) documentation can be accessed at: www.quantum.com/surestaqdocs

Refer to the SureStaQ Xcellis Application Director For Commvault Media Agent Guide (R730 Server), Doc number: 6-68618-01.

The document contains the following information:

- Dell PowerEdge R730 system overview
- Technical specifications
- Initial system setup and configuration
- Pre-operating system management applications
- Installing and removing system components
- Using system diagnostics
- Jumpers and connectors
- Troubleshooting your system
- Getting help

QXS Storage Systems Documentation

QXS storage systems documentation can be accessed at: www.quantum.com/qxshybriddocs

Refer to the following documents for installation of the QXS-312 and QXS-456 systems.

- One Button Configuration QXS Profile Bundle Installation: Doc number: 6-68599-01
- QXS Site Planning Guide: Doc number: 6-68547-01
- QX and QXS Getting Started Guide, Doc number: 6-68386-01
- QXS Gx222P0xx Release Notes, Doc number: 6-68398-01
- QX and QXS Setup Guide, Doc number: 6-68389-01
- QX and QXS 12- and 24-Drive Rackmount Bracket Kit Install Guide, Doc number: 6-68390-01
- QXS 56-Drive Rackmount Bracket Kit Install Guide, Doc number: 6-68392-01
- QX and QXS CLI Reference Guide, Doc number: 6-68385-01
- QXS Disk Management Utility User Guide V3, Doc number: 6-68388-01
- QX and QXS Bezel Installation Guide, Doc number: 6-68393-01

Server and QXS Installation Process

This section provides the installation process for the server(s) and QXS storage.

Figure 8 Rack and Stack Server(s) and QXS Storage

Rack and Stack Server(s) and QXS Storage

This section provides applicable rack and stack procedures.

Caution: Do not power on any of the server(s) or QXS storage after the units are racked and stacked. Refer to Configuring QXS Storage.

Use the following applicable documents to rack and stack the server(s) and QXS storage.

- SureStaQ Xcellis Application Director For Commvault CommServe Guide (R430 Server), Doc Number: 6-68617-01
- SureStaQ Xcellis Application Director For Commvault Media Agent Guide (R730 Server), Doc Number: 6-68618-01
- QX and QXS 12- and 24-Drive Rackmount Install Guide, Doc number: 6-68390-01
- QXS 56-Drive Rackmount Install Guide, Doc number: 6-68392-01

Configuring QXS Storage

Note: For additional information, refer to the following documentation as needed:

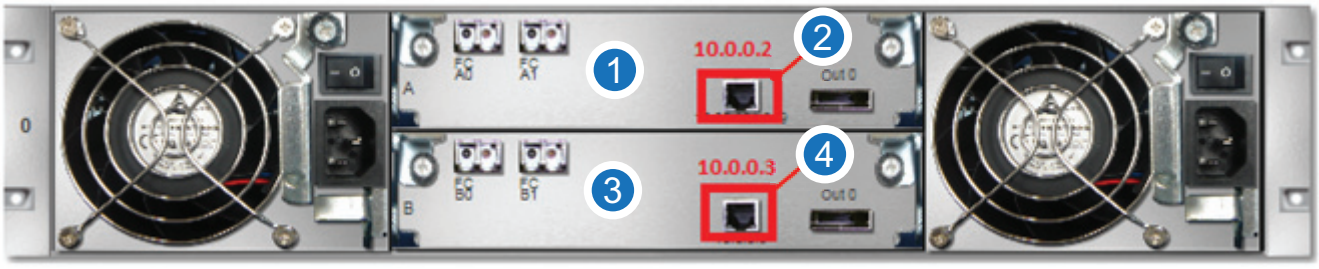
QXS Disk Management Utility User Guide V3, Doc number: 6-68388-01
QX and QXS Setup Guide, Doc number: 6-68389-01

Complete the following process:

1. Configure the QXS storage first.
   a. Change the laptop IP address to 10.0.0.x.
   b. Controller A and B default IP address is:
      - Controller A: 10.0.0.2
      - Controller B: 10.0.0.3
2. Connect a computer to the management port on the back of the QXS storage.

Figure 9 QXS-312 chassis (rear view)

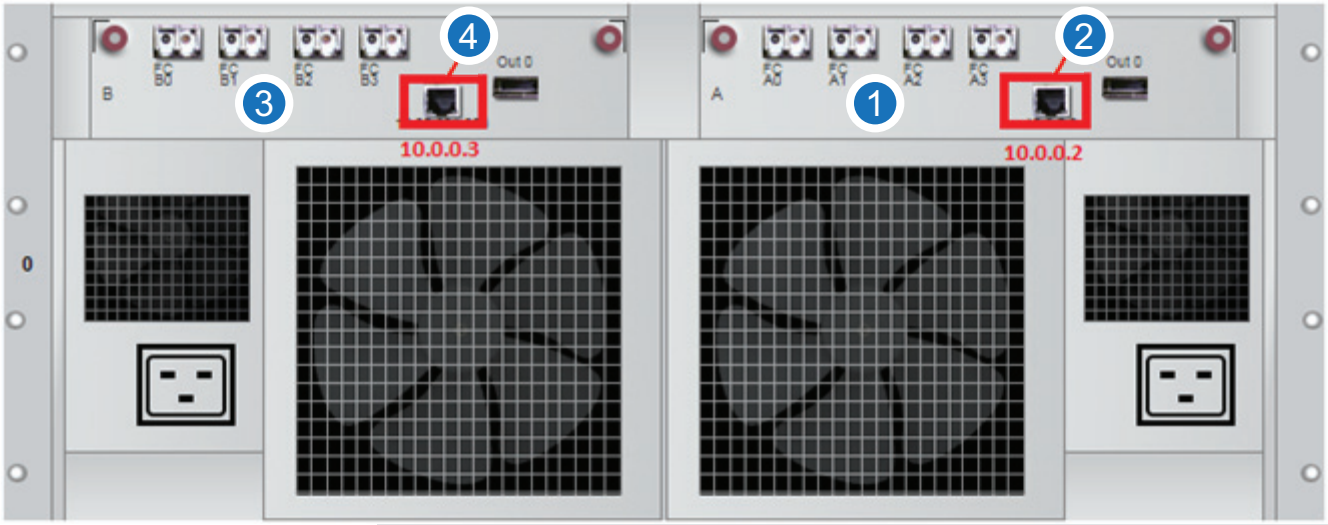
Figure 9 provides a representative example of the QXS-312 chassis (rear view showing the management port on controller A/B).



1. Controller A	2. Management Port (Controller A)
3. Controller B	4. Management Port (Controller B)

Figure 10 QXS-456 chassis (rear view)

Figure 10 provides a representative example of the QXS-456 chassis (rear view showing the management port on controller A/B).



1. Controller A	2. Management Port (Controller A)
3. Controller B	4. Management Port (Controller B)

3 Power on the QXS chassis, open a browser on your PC, and enter the IP address of the controller port you plugged into on the QXS chassis.

Note: Enter the IP address of the management port you're plugged into:
- 10.0.0.2 for the port on controller A
- 10.0.0.3 for the port on controller B.

Login into the Disk Storage Management Utility

1 Login into the Disk Storage Management Utility (Figure 11).

a Enter the default login user name: **manage**

b Enter the default login password: **!manage**

Figure 11 Disk Storage Management Utility Login Screen

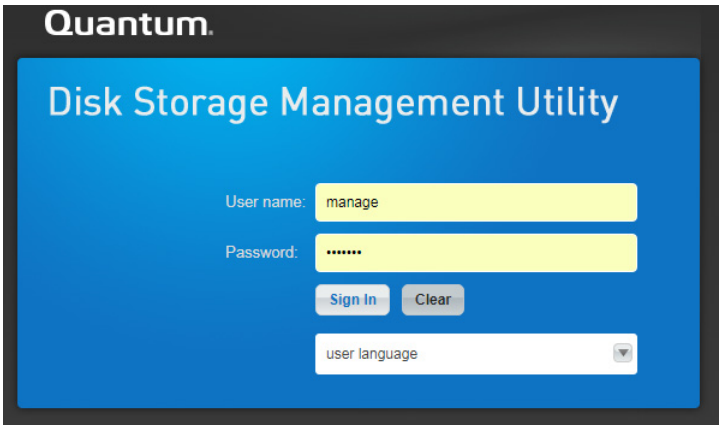
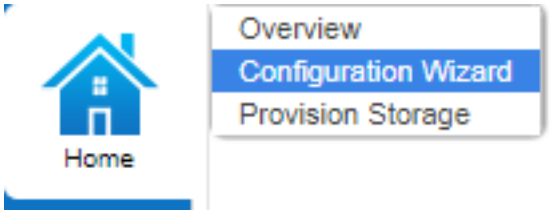


Figure 12 Home Button

2 In the QXS GUI, hover the mouse over the “Home” icon on the left pane and select “Configuration Wizard”.



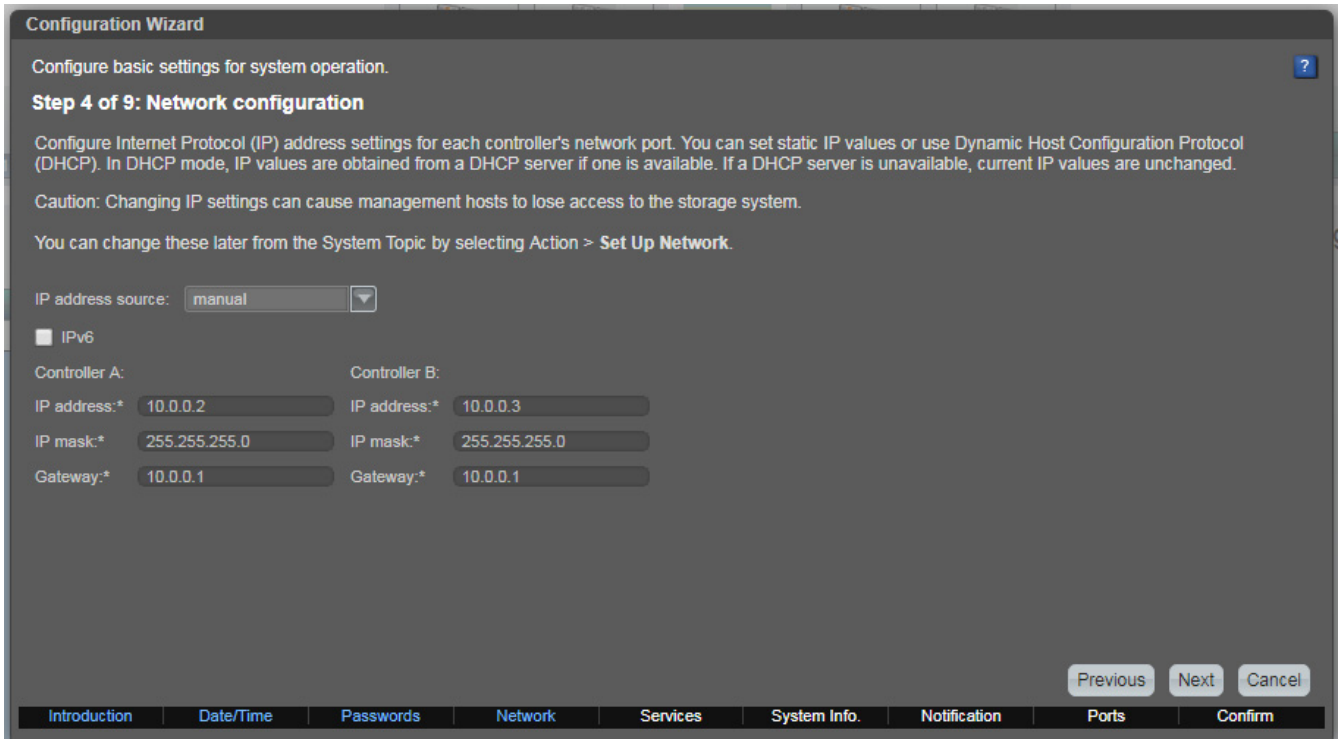
a Click **Next**.

b Set the time manually or point to the NTP server.

c Optional: If you want to change the management password, do so at this step.

Figure 13 Configure Network IPs

d Configure the Network IPs.



e Enable System Management Services (check/uncheck: normally left as default).

f Optional: Enter **System and Contact Information**.

g Configure the Notification Setting (SMTP/Enable Email Notification/ Logs).

h Set the Port Configuration (FC/iSCSI/FC & iSCSI).

i Click **Confirm** and the **Finish** buttons.

Provision QXS Storage

Complete the following to provision the QXS storage.

Note: If you are using QXS storage, complete the following steps. If you are not using QXS storage, use the vendor-provided storage documentation.

1 Refer to http://www.quantum.com/surestaqdocs for One-Button Configuration (OBC) documentation to download and install the profile bundles.

2 Refer to following URL to download the QXS OBC profiles. https://qsweb.quantum.com/downloads/qxs_surestaq_obc.html

Note: The QXS OBC profiles are identified as the Firmware Bundle and is the 5-01225-01_RevA_QXS_SureStaq_QSP_commvault_7.3.bin file.

Figure 14 Provision Storage

3 In the QXS GUI OBC, hover the mouse over the **Home** icon on the left pane and select "Provision Storage".

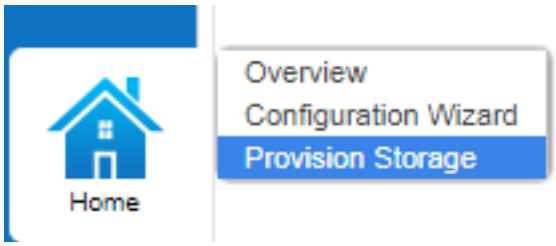
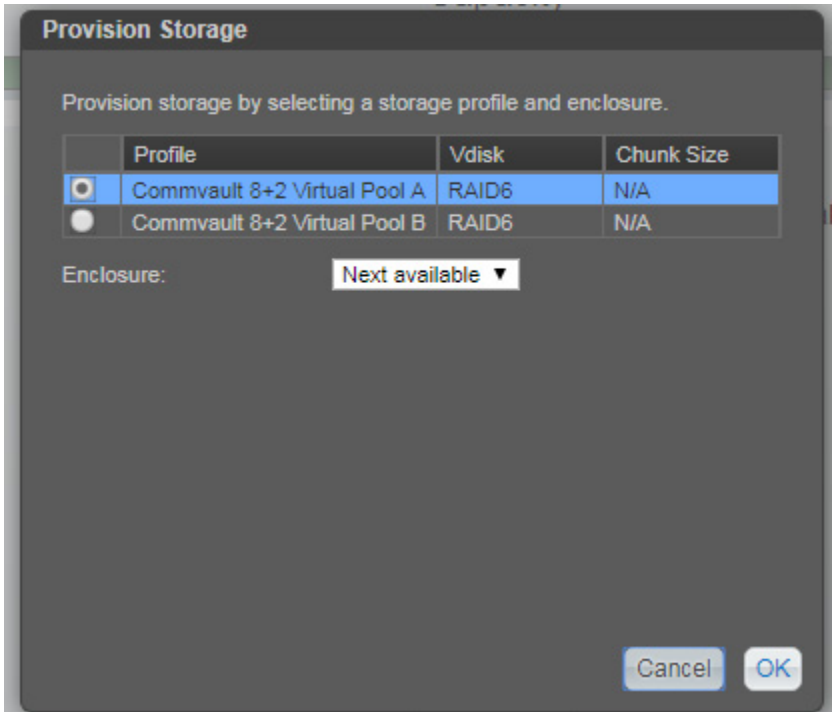


Figure 15 Select Profile

4 Select the profile for the correct pool and click **OK**.

Note: When the first pool/volume is created, two spares are also created. No further spares are generated as more pools/volumes are created.

When creating virtual pools on the QXS-456, with 42 drives installed, you must create 2 RAID-6 disk groups (8+2) for Virtual Pool A and 2 RAID-6 (8+2) disk groups for Virtual Pool B.



Note: Currently, OBC creates the disk pools and volumes and creates the mappings. It creates the volume as a size of 173.9 GB, which needs to be manually expanded using the GUI to 63.9 TB.

On a QXS-456, there may be multiple volumes and you must manually expand all volumes before proceeding.

5 Complete the following process to expand the volumes.

a Click **`Volumes`** on left side pane.

Figure 16 Expanding Volumes

b Click and highlight the volume **commvault_Uninitialized_Name_L2**, then click **`Action`** and select **`Modify Volume`** in the drop-down menu.

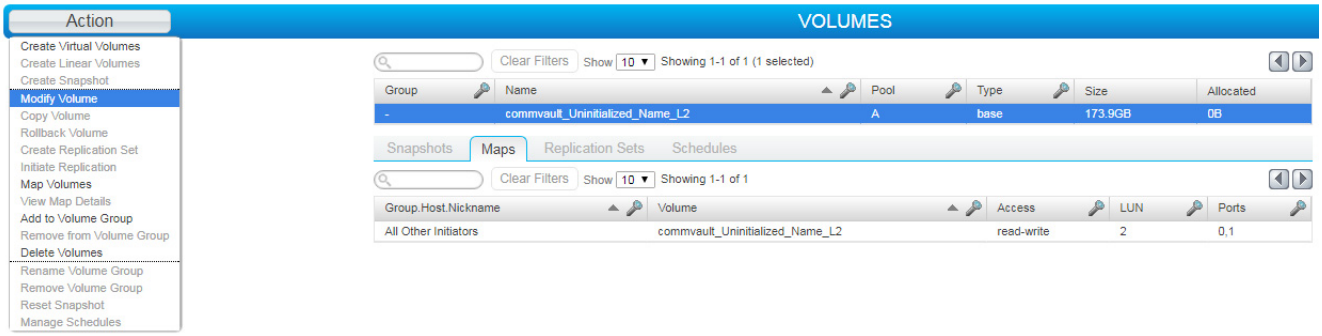


Figure 17 Expand By Box

c In the **Expand By** field enter **63.75TB**, click **`OK`**, and then the QXS is ready.

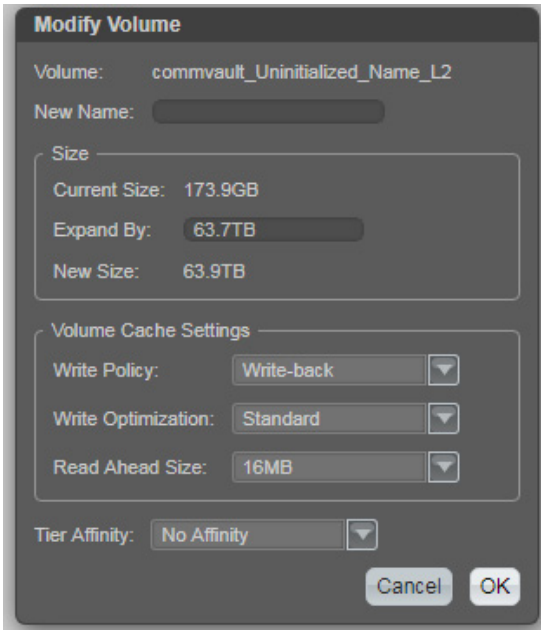
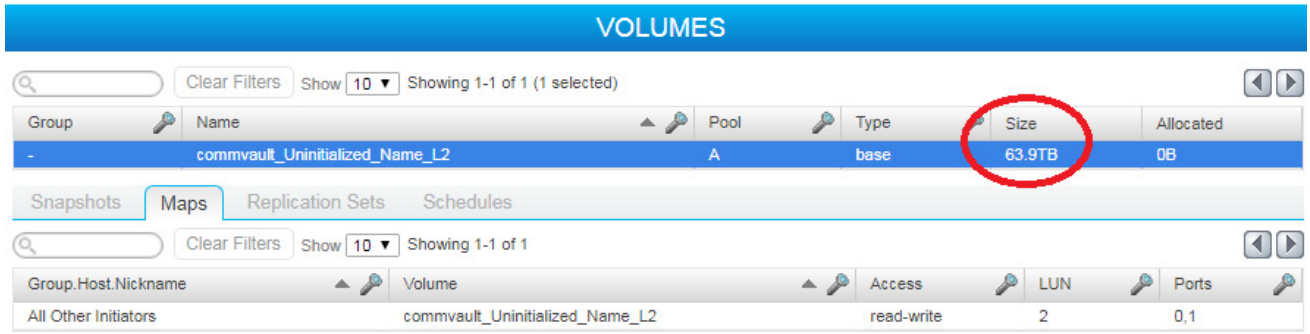


Figure 18 Volumes Screen

Refer to Figure 18, Volumes screen, to verify that the volume was expanded.



Note: Disk initialization process could take several hours. I/O performance could be impacted during initialization.

Setup XAD Server

Complete the following to set up the XAD server.

Note: For additional information, refer to the following documentation as needed:

- SureStaQ Xcellis Application Director For Commvault CommServe Guide (R430 Server), Doc Number: 6-68617-01
- SureStaQ Xcellis Application Director For Commvault Media Agent Guide (R730 Server), Doc Number: 6-68618-01
- QX and QXS Setup Guide, Doc number: 6-68389-01

1 Cable the XAD server to the network and to the QXS controllers.

2 Power on the XAD server and follow the wizard.

3 Enter the country or region, applicable language, and keyboard layout.

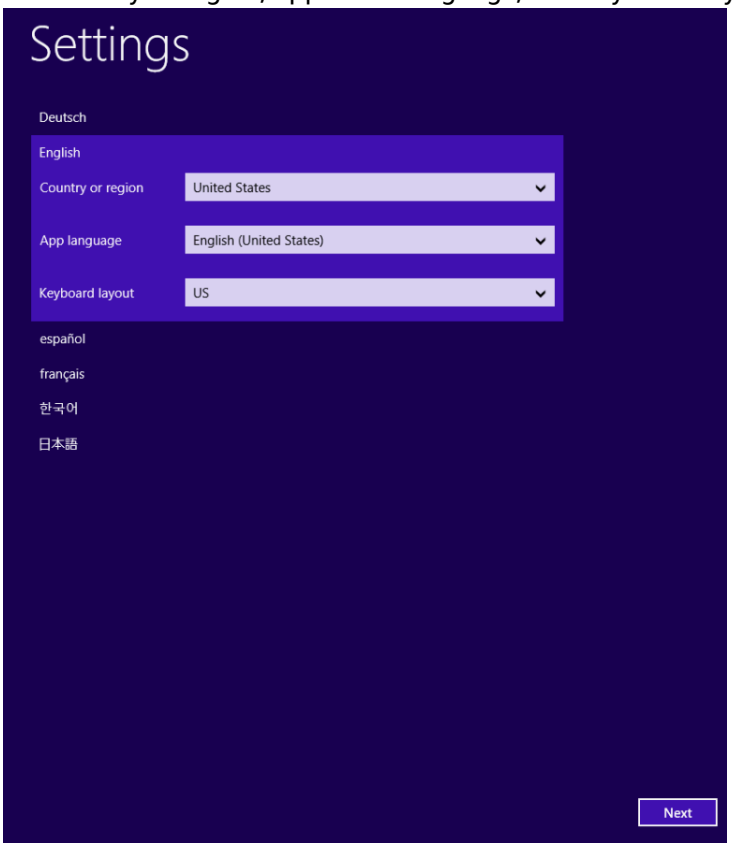


Figure 19 Settings Screen

Figure 20 Accept Terms Screen

4 Click **I Accept** to accept the terms and conditions.

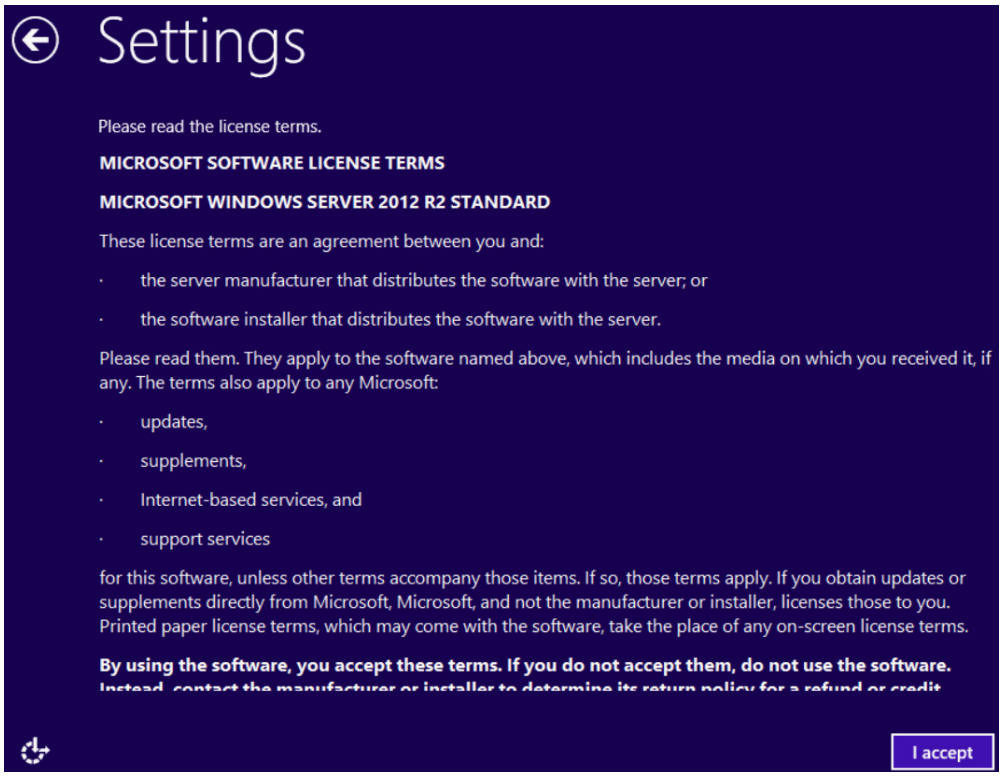
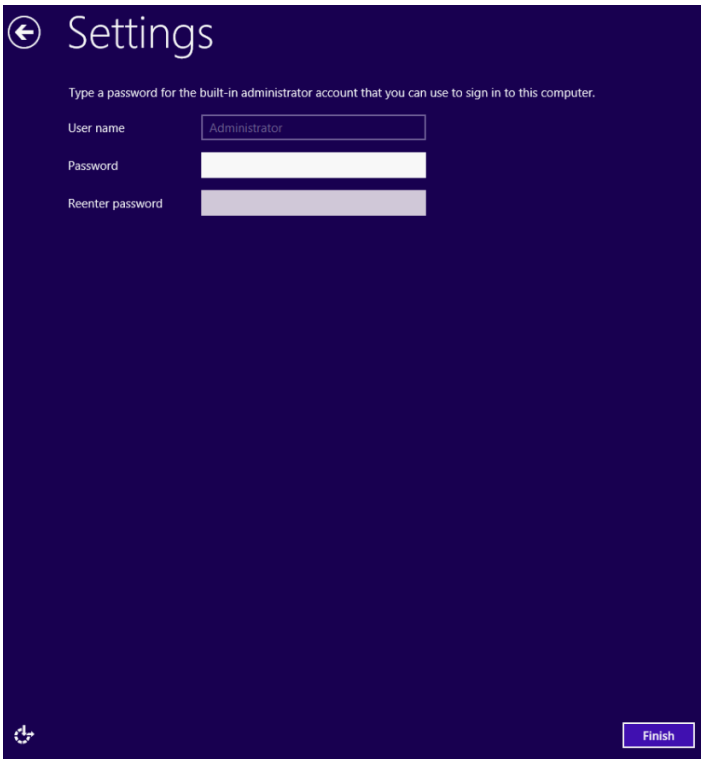


Figure 21 Set Password Screen

5 Set the administrator password, and click **`Finish`**.



6 The server reboots and comes back up, log in with the Administrator password and configure networking by going into network connections and configuring the IPv4 properties.

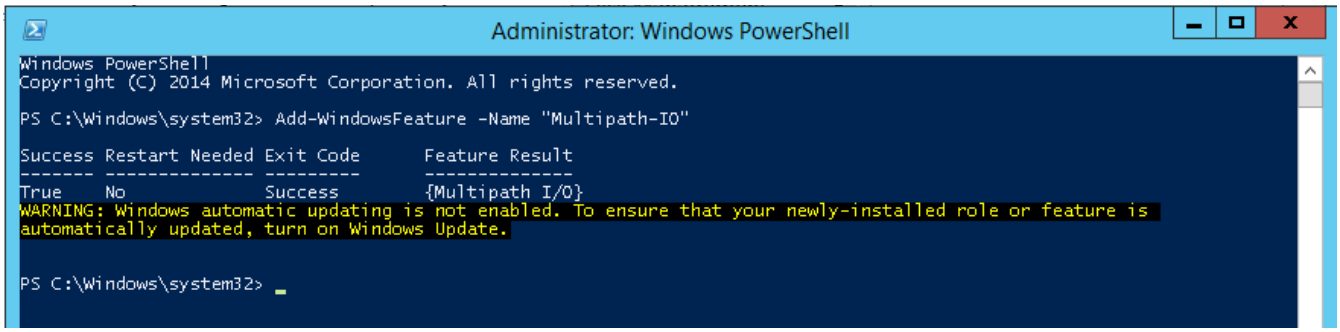
Install/Enable Multipath I/O

Complete the following to install/enable multipath I/O on the XAD server (MPIO features within Windows).

1 Open a Windows PowerShell session as an Administrator and run the following command to install Multipath I/O feature:

`Add-WindowsFeature -Name “Multipath-IO”`

Figure 22 Windows PowerShell Session



2 Open a Control Panel/MPIO session (Figure 23) through the Start menu or from the **Run** window, type **`mpiocpl`** as shown in Figure 24.

Figure 23 Control Panel/MPIO Session

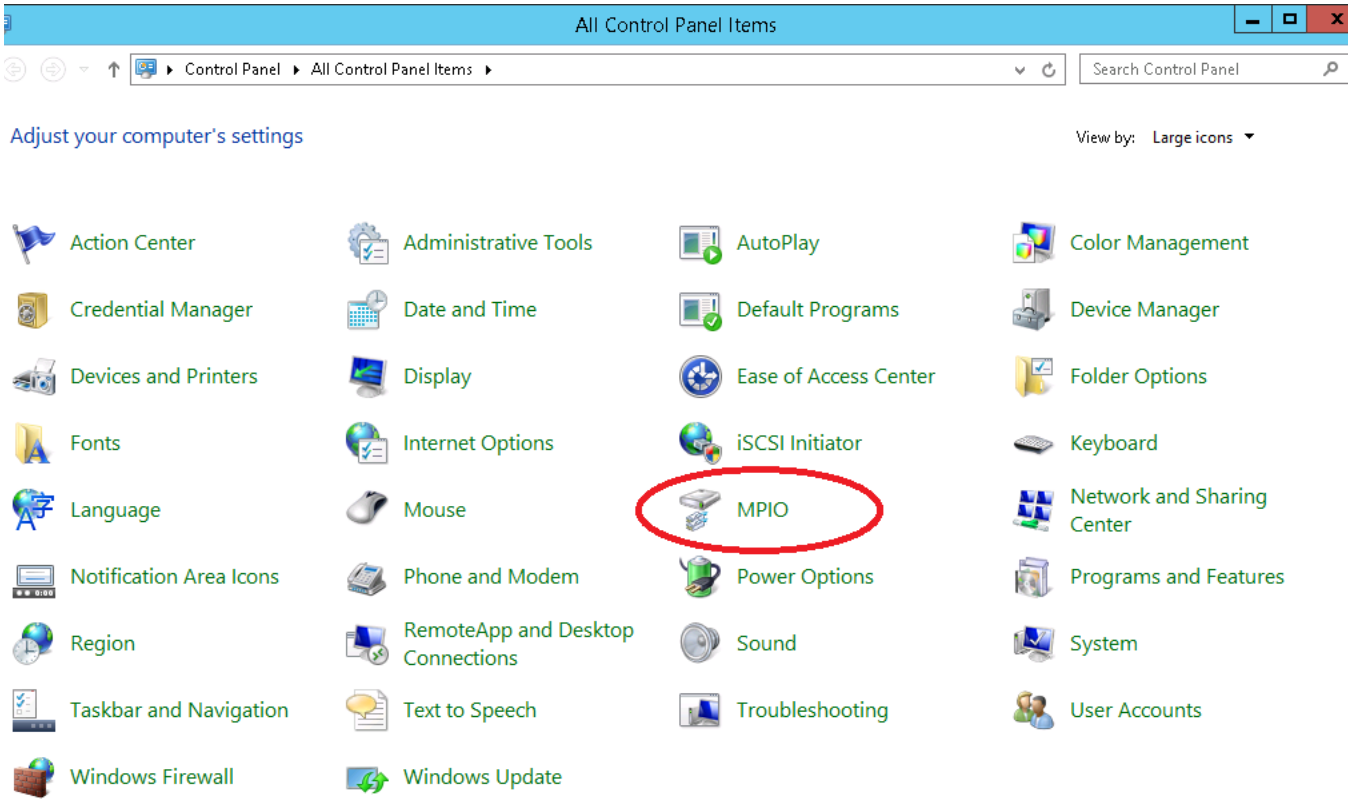


Figure 24 Run Window: **`mpiocpl`** Command

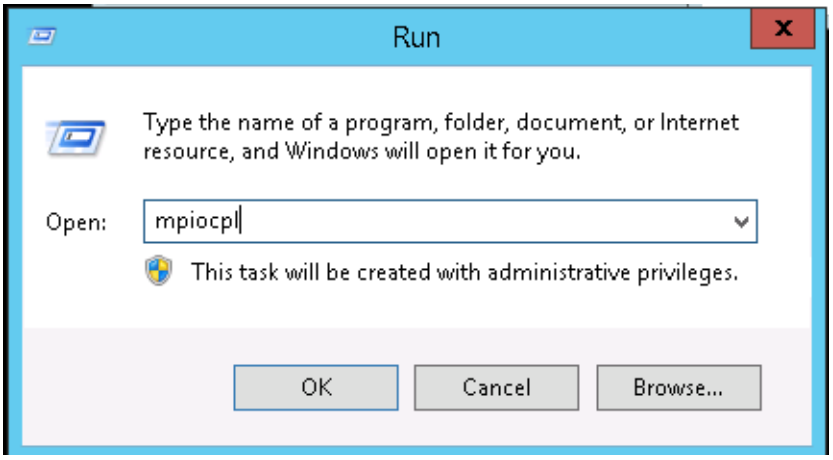
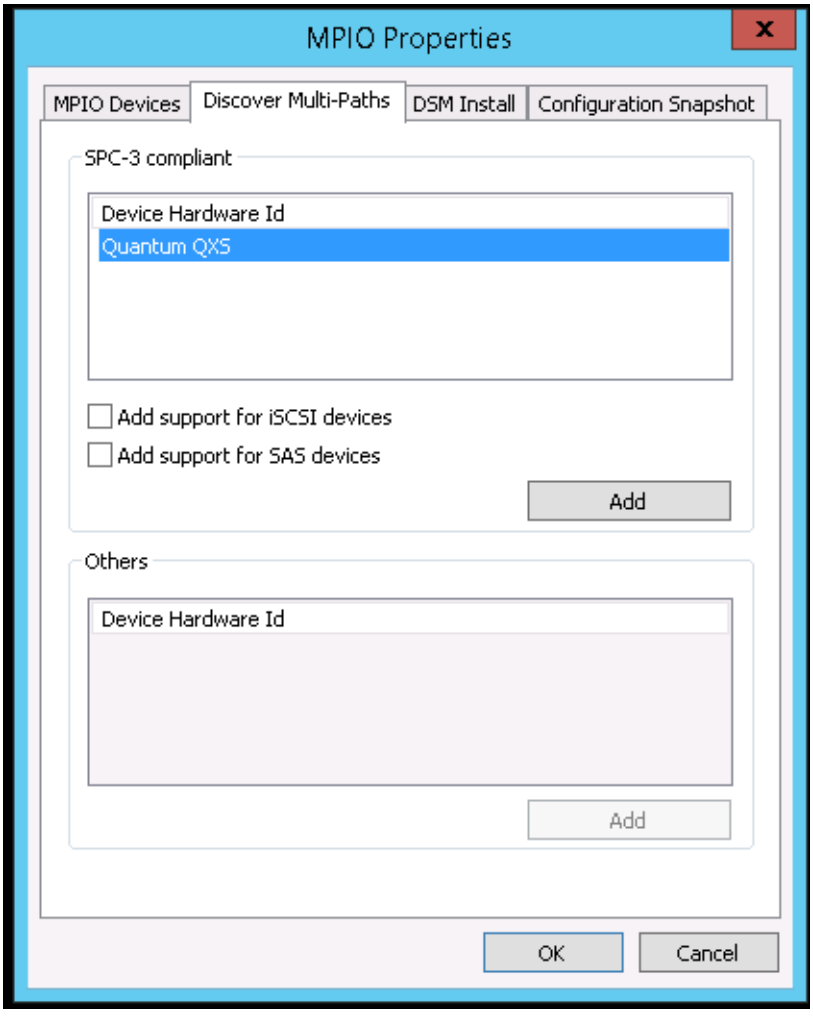


Figure 25 Discover Multi-Paths Tab

3 Navigate to the Discover Multipaths tab and click **`Quantum QXS`**, and click **`Add`**.



Note: System software will prompt you to reboot the server.

Figure 26 Reboot Required Window

4 Click **Yes** on the Reboot Required window.

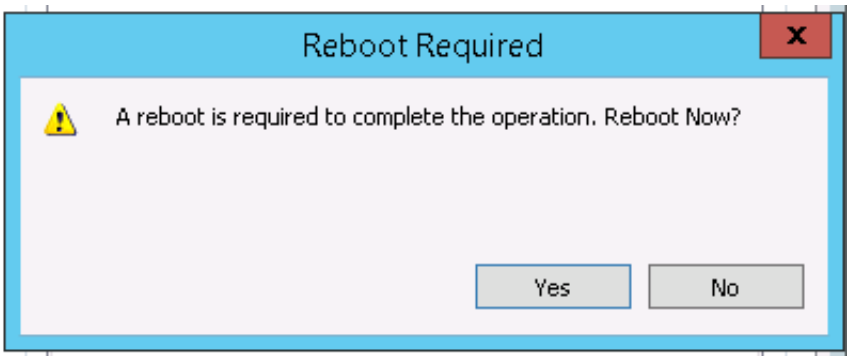


Figure 27 Disk Management for Windows

5 Open the **Disk Management** for Windows screen.

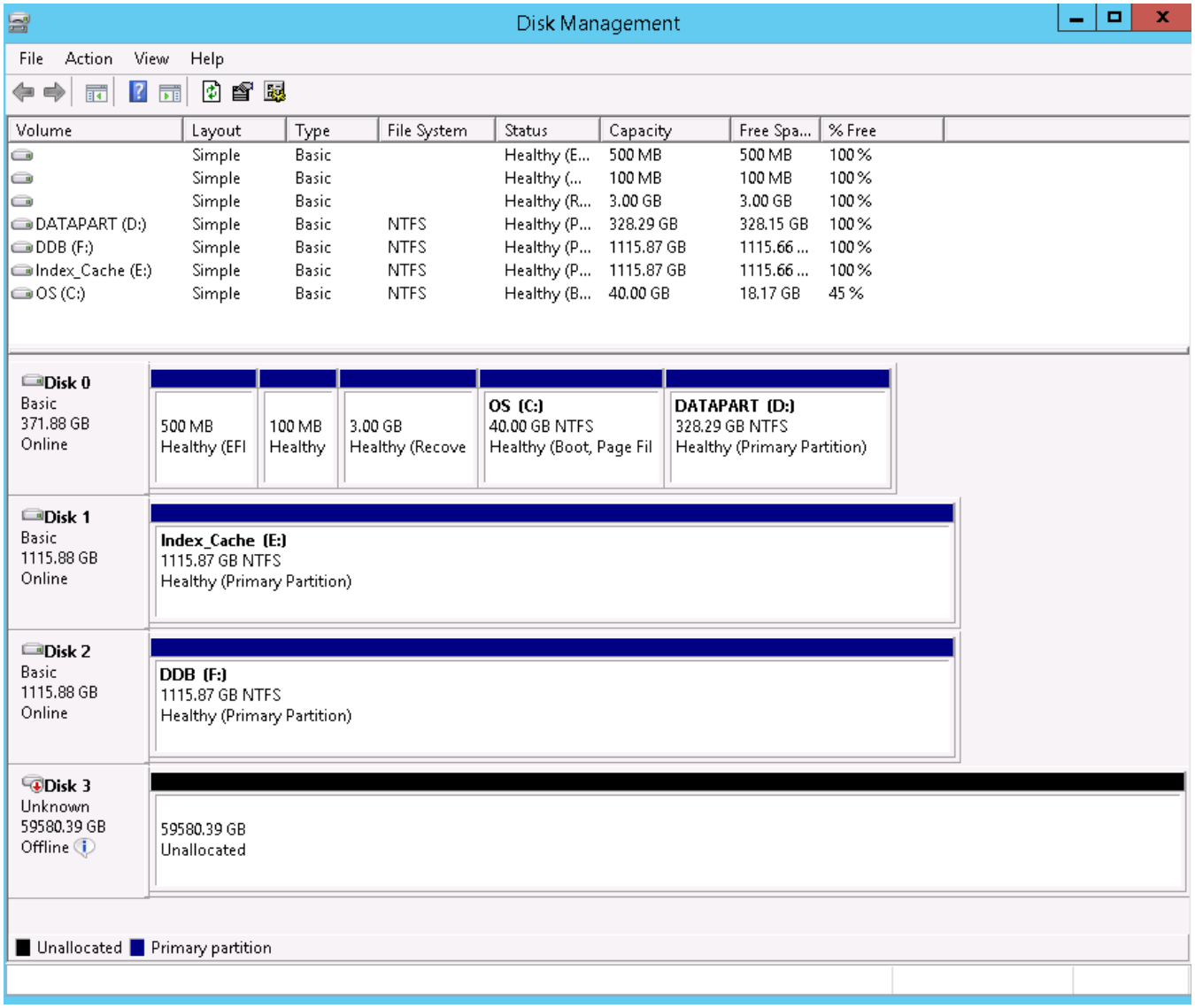


Figure 28 Disk 3 Pane: Online

a Right click **Disk 3** on the left pane and select **Online**.

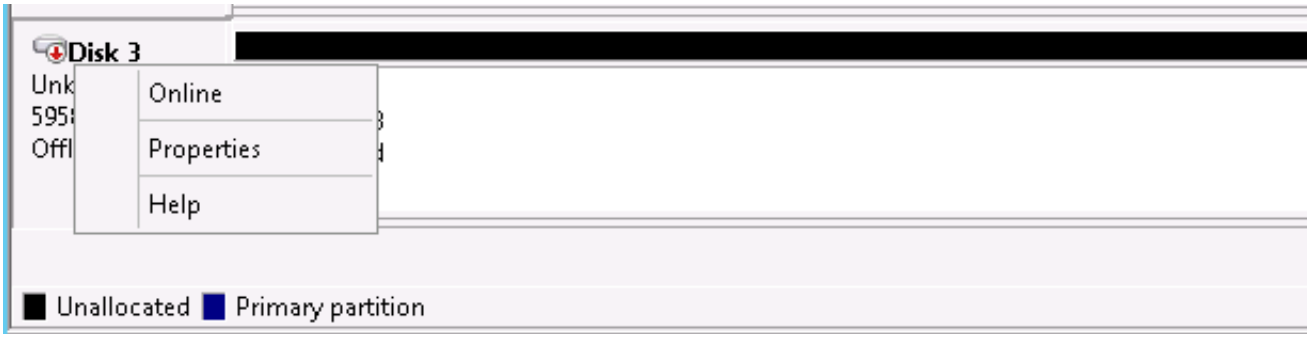


Figure 29 Disk 3 Pane: Initialize Disk

b Right click **Disk 3** on the left pane and select **Initialize Disk**.

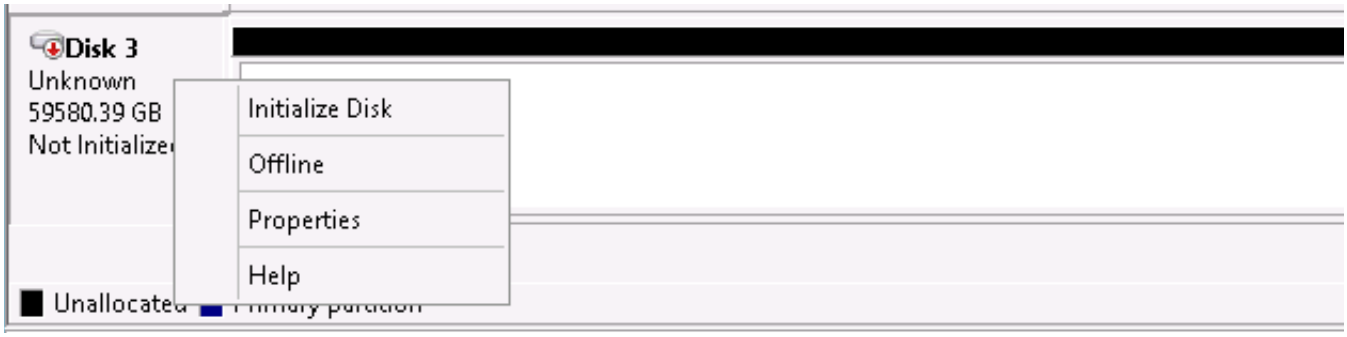


Figure 30 GPT (GUID Partition Table)

c Click **GPT** (GUID Partition Table) and click **OK**.

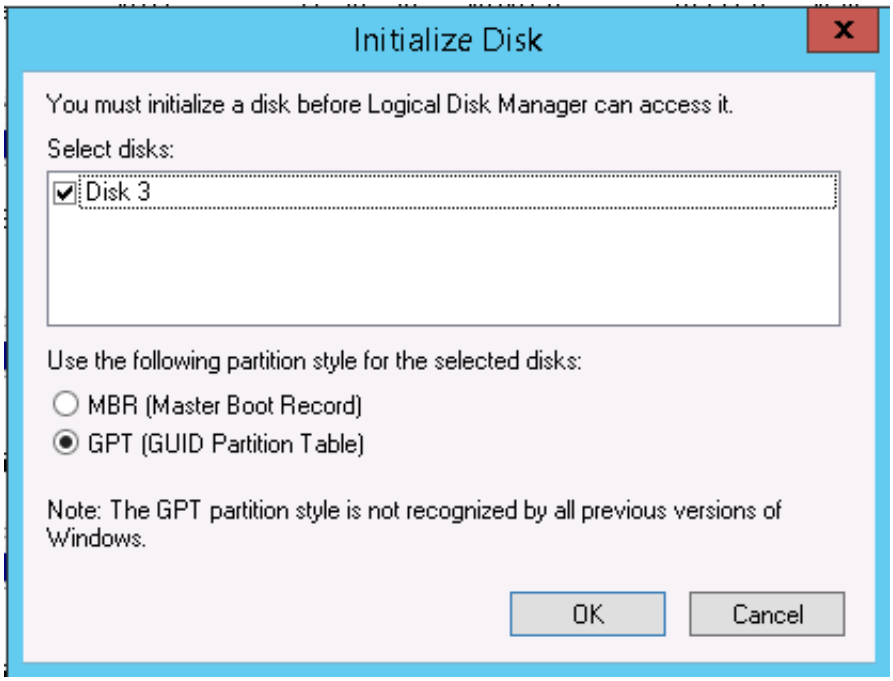


Figure 31 Unallocated Space

d Right click in the unallocated space and click **`New Simple Volume`**.

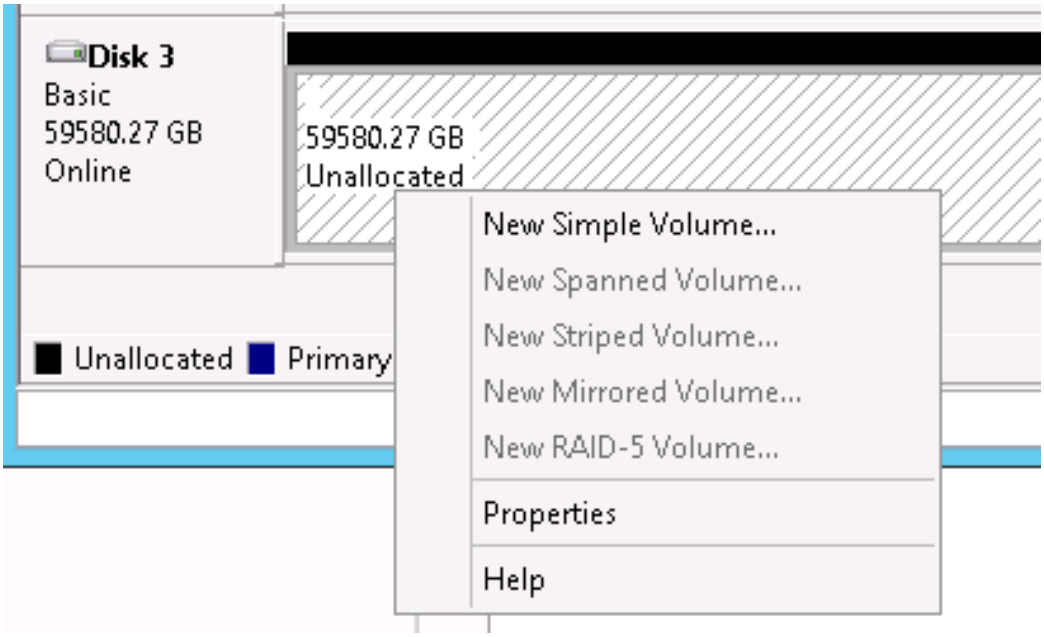


Figure 32 Simple Volume Size in MB

e Specify the size in the **`Simple volume size in MB`** field. Use max available space.

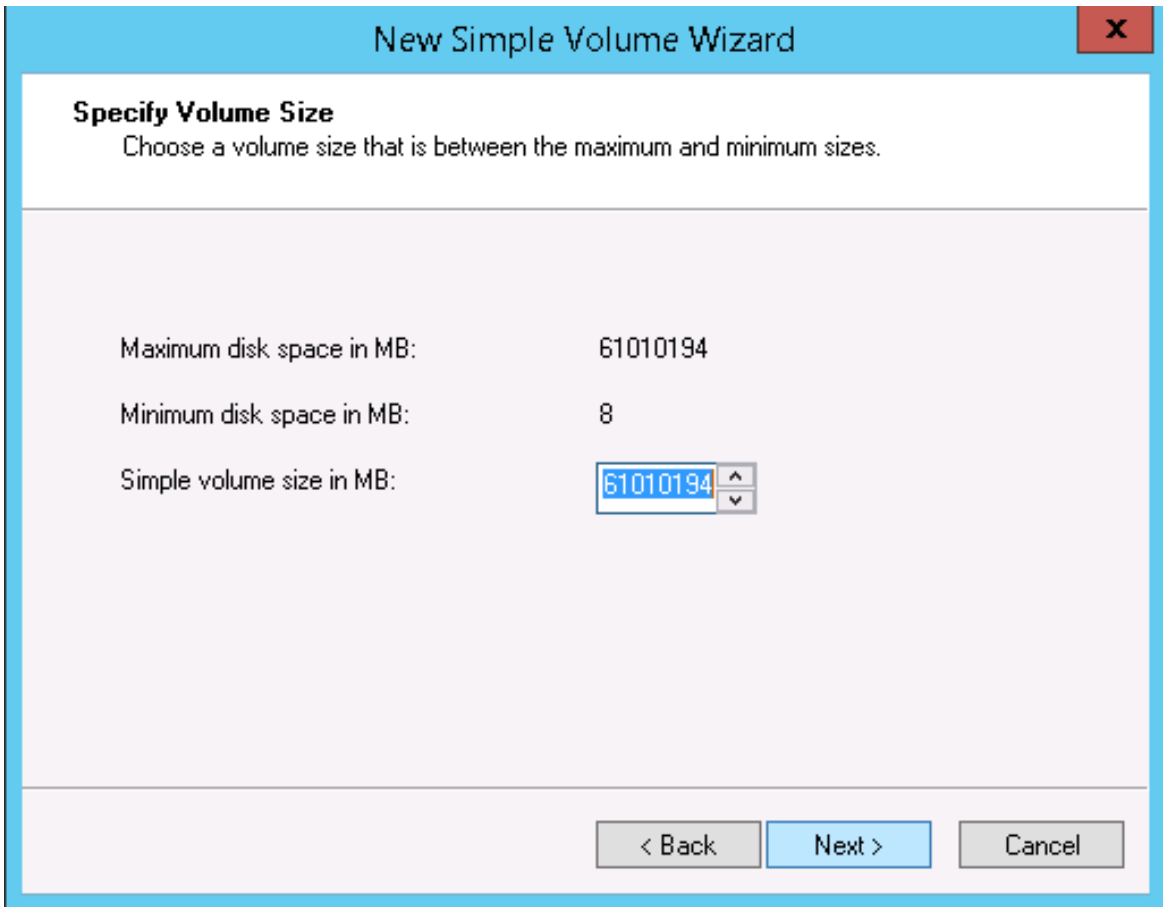


Figure 33 Assign Drive Letter

f Assign a drive letter.

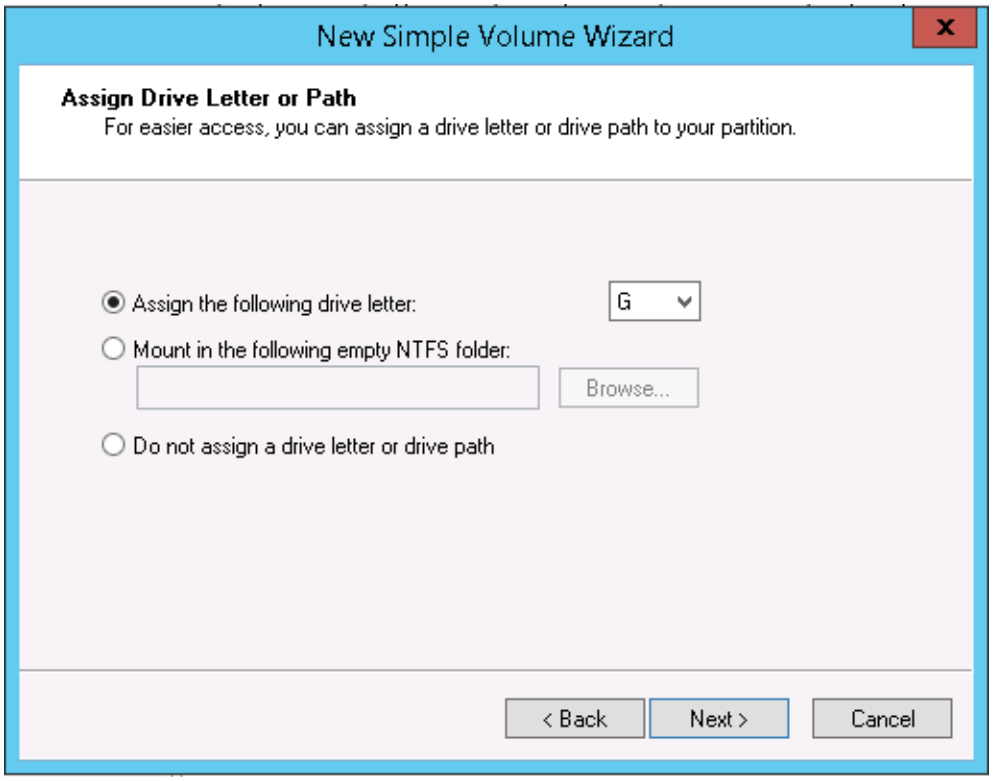


Figure 34 Format Partition

g Provide a volume label, select Format this volume with the following settings to format the volume, and click Finish.

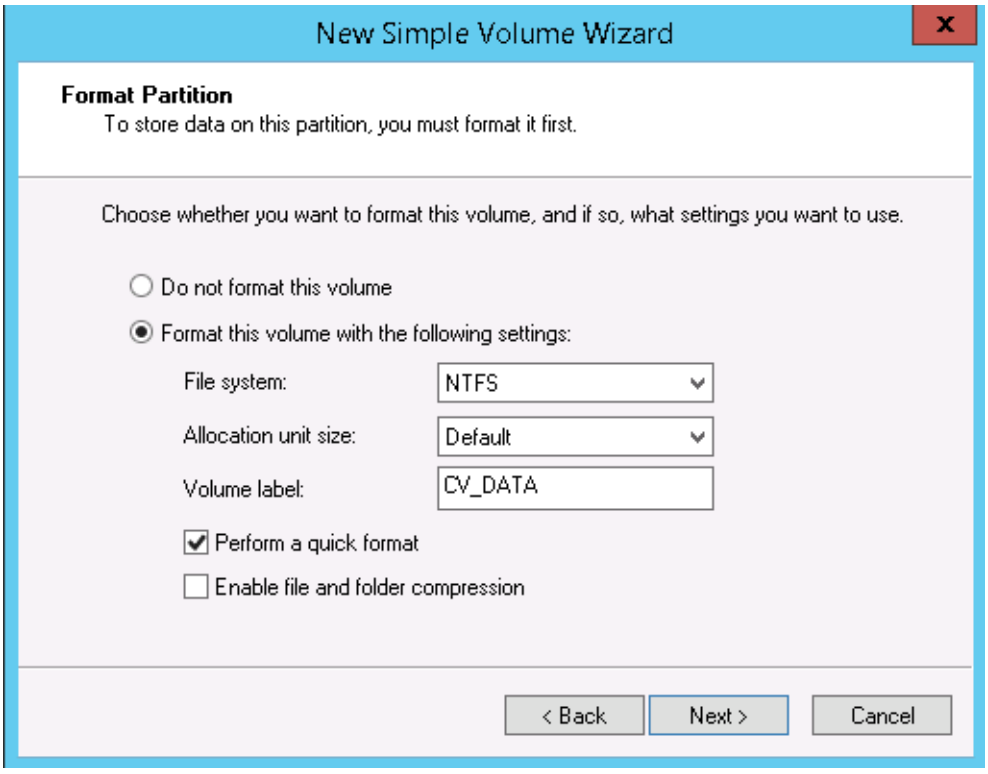
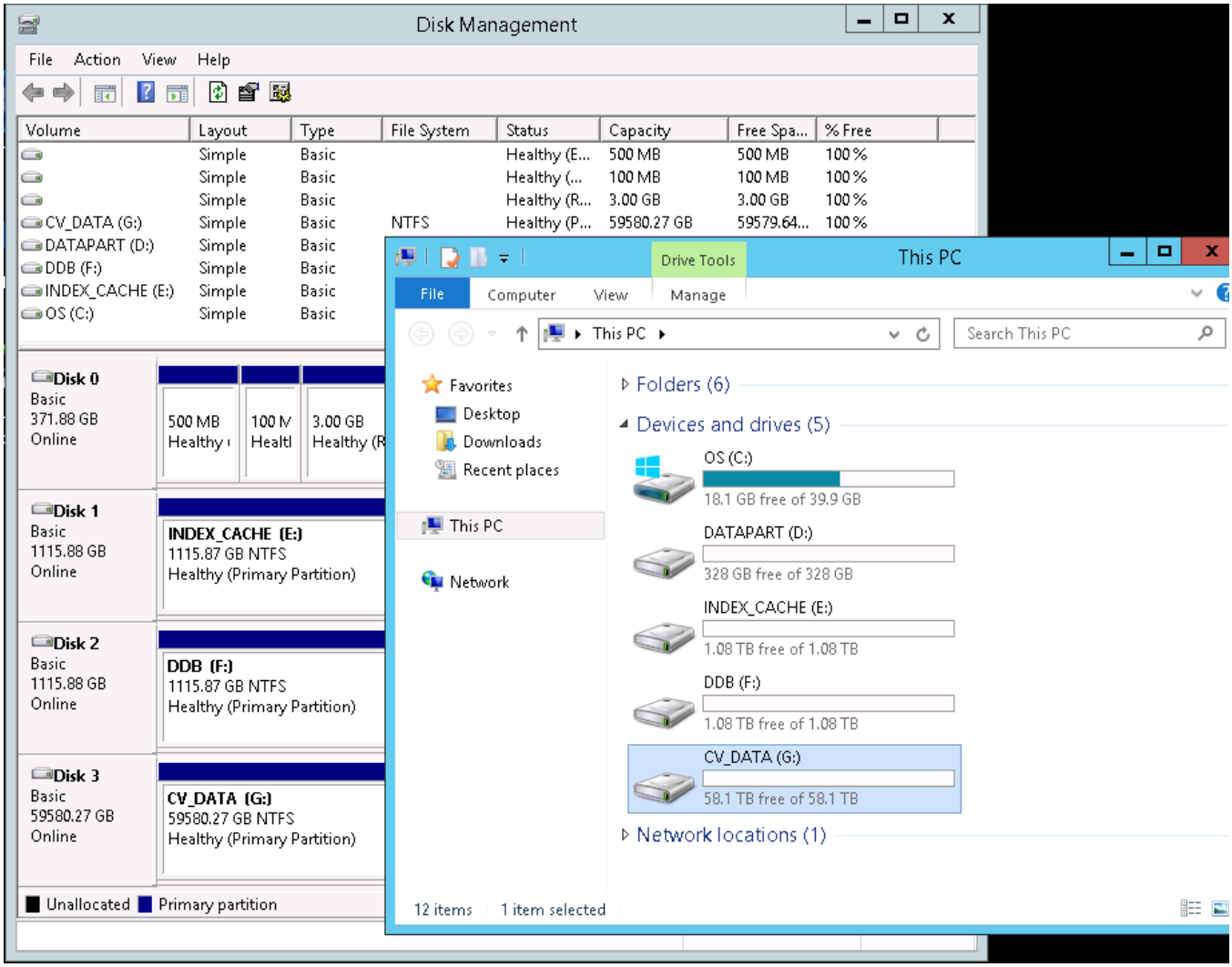


Figure 35 Explorer and Disk Management

6 When the partition completes formatting, the disk displays in explorer and disk management as online and one single drive.



Contacting Quantum

More information about this product is available on the Service and Support website at http://www.quantum.com/ServiceandSupport/Index.aspx. The Service and Support Website contains a collection of information, including answers to frequently asked questions (FAQs). You can also access software, firmware, and drivers through this site.

For further assistance, or if training is desired, contact the Quantum Customer Support Center:

United States	1-800-284-5101 (toll free) +1-720-249-5700
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APAC	+800-7826-8887 (toll free) +603-7953-3010
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