

Overview

Brocade VDX Switches

High Performance, low-latency switches for Data Center Ethernet Connectivity

To remain competitive, IT organizations must keep pace with the ever-increasing growth of Virtual Machines (VMs), distributed applications and data while ensuring that their budgetary or resource requirements do not skyrocket. While virtualization has provided the benefits of faster deployment and consolidation, it also tends to put additional stress on data center networks. In addition, the move towards cloud computing, which promises greater efficiency and more of a service-oriented business model, creates the need for flexible and responsive datacenter infrastructure.

Data centers need networks that are operationally efficient, automated and elastic in addition to being capable of delivering high performance. The Brocade VDX Switches enable the deployment of easy to manage datacenters with the ability to scale, in order to meet future requirements.

The Brocade VDX 6740 (Figure 1) offers 48 10 Gigabit Ethernet (GbE) SFP+ ports and four 40 GbE QSFP+ ports. Each 40 GbE port can be broken out into four independent 10 GbE SFP+ ports, providing an additional 16 10 GbE SFP+ ports. In addition, the switch features low power consumption, consuming 2 watts per 10 GbE port. It is available in the following models

- Brocade VDX 6740-24-F with Port Side Exhaust Airflow E7Y24A
48 10 Gigabit Ethernet (GbE) SFP+ ports and four 40 GbE QSFP+ ports (24 active 10GbE ports, 1U form factor)
- Brocade VDX 6740-24-F with Non Port Side Exhaust Airflow E7Y25A
48 10 Gigabit Ethernet (GbE) SFP+ ports and four 40 GbE QSFP+ ports (24 active 10GbE ports, 1U form factor)



Figure1. Brocade VDX 6740 Switch

Key Features and Benefits

Brocade VDX 6740

- Supports Data Center Bridging (DCB), which enables the reliable exchange of storage traffic over the LAN network
- The 40 GbE SFP+ ports offer the flexibility to expand and interconnect the network infrastructure intelligently and efficiently while reducing bottlenecks.
- Improves capacity by allowing datacenter administrators to create an 80 GbE trunk by utilizing two 40 GbE ports, or a 160 GbE trunk with 16 10 GbE ports
- Delivers high performance and reduces network congestion with 10 GbE ports, low latency, and 24 MB deep buffers
- Delivers very low latency through wire-speed ports with 850 ns any-port-to-any port latency

Overview

- With a choice of front-to-back or back-to-front airflow, these switches are ideal for ToR deployments connecting servers, storage, and other switches, as well as for providing compatibility for either hot aisle or cold aisle data center designs.

Product Highlights

Brocade VDX 6740

- Supports Data Center Bridging (DCB), which enables the reliable exchange of storage traffic over the LAN network
- Delivers 24, 32, 40, 48, 56, or 64 10GbE ports in a 1U enclosure
- Features low power consumption, consuming less than 5 watts per 10 GbE port
- Delivers high performance and reduces network congestion with 10 Gigabit Ethernet (GbE) ports, low latency, and 24 MB deep buffers

High-availability features

- Two redundant, hot swappable power supplies with integrated cooling fans

Advanced Fabric Services

- Brocade® Network Advisor for IP networks is an enterprise-level, full lifecycle network management solution that helps organizations simplify daily network operations and focus on strategic IT initiatives. With its feature-rich, easy-to-use interface, Brocade Network Advisor automates repetitive tasks while enabling organizations to proactively manage their networks.

Cabinet Support

- HPE (22U, 36U and 42U) 9000 and 10000 G1 Series, (25U, 33U and 41U) HPE System/e, and the 22U, 36U, and [42U HPE 10000 G2 Series](#).

Supports 2 post Telco racks

Software Components, Optional

Brocade Network Advisor for IP

Brocade® Network Advisor for IP networks is an enterprise-level, full lifecycle network management solution that helps organizations simplify daily network operations and focus on strategic IT initiatives. With its feature-rich, easy-to-use interface, Brocade Network Advisor automates repetitive tasks while enabling organizations to proactively manage their networks.

Brocade Network Advisor for IP Base license

Brocade Network Advisor Management Software Kit supporting up to 50 Devices

Brocade Network Advisor for IP Advanced license

Brocade Network Advisor Management Software Kit supporting up to 100 Devices

Brocade VDX 6740

The Brocade VDX 6740 offers 48 10 Gigabit Ethernet SFP+ ports (24 active) and four 40 GbE QSFP+ ports. Each 40 GbE port can be broken out into four independent 10 GbE SFP+ ports, providing an

Product Highlights

additional 16 10 GbE SFP+ ports.

**Brocade VDX6740
10GbE 8-port Port
Upgrade LTU**

This 8-port 10GbE Port Upgrade License enables additional 10GbE capacity when needed on the VDX 6740

**Brocade VDX6740
40GbE 2-port Port
Upgrade LTU**

This 2-port 40 GbE Port Upgrade License enables two 40GbE ports

**Brocade VDX6740 FCoE
LTU**

The VDX 6740 supports Data Center Bridging (DCB), which enables the exchange of storage traffic over the LAN network. This license enables FCoE for Brocade VDX 6740 and does not include optics.

Family Information

Warranty

Product warranty is offered by Brocade.
Warranty terms are 13 months for the hardware and 90 days on the software.

Service and Support

Hewlett Packard Enterprise and Brocade help organizations build cloud-optimized networking architectures that significantly reduce costs and increase operational flexibility. Leveraging best-practice methodologies and more than 15 years of networking, virtualization, and storage expertise, Hewlett Packard Enterprise and Brocade offer Professional Services that help organizations solve their most difficult business challenges in the most efficient manner.

For the complete list of Support/Service options associated with this product, refer to the Brocade Services SKU list in the Configuration Information section

Features	Brocade VDX 6740-24
Form factor	1U
1/10 GbE SFP+ ports	48
40GbE QSFP+ ports	4
Fibre Channel ports	-
Switching LAN bandwidth (data rate, full duplex)	1.28Tbps
10GbE Ports on Demand (PoD) increments	24(Base),32,40,48,56,64
Port-to-port latency	850ns
Power supplies	Two hot-swappable, load-sharing
Cooling fans	N+1 redundant, integrated into power supplies
Airflow	Front to back Back to front

Configuration Information

Step 1 - Base Configuration

Select one:

Model	Model Description	Part Number
Brocade VDX6740-24-F Non-port Side Exhaust Airflow Switch	<p>The VDX 6740 offers 48 10GbE SFP+ ports (24 active) and four 40 GbE QSFP+ ports.</p> <p>This model is a Non-port Side Exhaust Airflow model.</p> <p>Ships with 6 ft. power cord, serial cable, USB drive 2G, adapter/cable kit, EULA/Read Me, RoHS Hazardous substance Content chart, web pointer card for documentation and rubber feet.</p> <p>NOTE: Requires optical transceivers listed below.</p>	E7Y24A
Brocade VDX6740-24-R Port Side Exhaust Airflow Switch	<p>The VDX 6740 offers 48 10GbE SFP+ ports (24 active) and four 40 GbE QSFP+ ports.</p> <p>This model is a Port Side Exhaust Airflow model.</p> <p>Ships with 6 ft. power cord, serial cable, USB drive 2G, adapter/cable kit, EULA/Read Me, RoHS Hazardous substance Content chart, web pointer card for documentation and rubber feet.</p> <p>NOTE: Requires optical transceivers listed below.</p>	E7Y25A

Step 2 – Options

	Model Description	Part Number
1GbE Transceivers	Brocade XBR-000190 1GbE-SFP 1-pack 1GbE SFP Transceiver	E7Y43A
10GbE SFP+ Transceivers	Brocade 10G-SFPP-SR-8 8-pack 10Gb Short Range SFP Transceiver	E7Y28A
	Brocade 10G-SFPP-LR-8 8-pack 10Gb Long Range SFP Transceiver	E7Y29A
1000Base Transceivers	Brocade E1MG-SX-OM-8 8-pack 1000Base-SX SFP Transceiver	E7Y26A
	Brocade E1MG-LX-OM-8 8-pack 1000Base-LX SFP Transceiver	E7Y27A
40GbE QSFP+ Transceivers	Brocade 40G-QSFP-SR4 40Gb QSFP Transceiver	E7Y33A
	Brocade 40G-QSFP-SR4-INT 40Gb Break Out Capable QSFP Transceiver	E7Y34A
Fibre Channel Transceivers	Brocade XBR-000164 8-pack 8Gb Fibre Channel Short Wave Length SFP+ Transceiver	E7Y41A
	Brocade XBR-000172 8-pack 8Gb 10km Fibre Channel Long Wave Length SFP+ Transceiver	E7Y42A
	Brocade XBR-000193 8-pack Short Wave Length 16G SFP+ Transceiver	E7Y35A
	Brocade XBR-000199 8-pack Long Wave Length 10km 16G SFP+ Transceiver	E7Y36A

Configuration Information

Cables	Brocade 10G-SFPP-TWX-0108 8-pack 1m Twinax Copper Cable	E7Y30A
	Brocade 10G-SFPP-TWX-0308 8-pack 3m Twinax Copper Cable	E7Y31A
	Brocade 10G-SFPP-TWX-0508 8-pack 5m Twinax Copper Cable	E7Y32A
Accessories	Brocade XBR-R000291 VDX6740 4 Post 67-77cm(27-31in) Deep Rack-mount Kit	E7Y47A
	Brocade XBR-R000292 VDX6740 2 Post Middle Rack-mount Kit	E7Y48A
	Brocade XBR-R000293 VDX6740 2 Post Flush Rack-mount Kit	E7Y49A

Step 3 - Optional Software

	Model Description	Part Number
Software	Brocade BR-VDX6740-8X10G-POD 10GbE 8-port LTU NOTE: The VDX 6740 offers 48 10GbE SFP+ ports (24 active) and four 40 GbE QSFP+ ports. This 8-port 10GbE Port Upgrade License enables additional 10GbE capacity when needed on the VDX 6740	D4U18A
	Brocade BR-VDX6740-2x40G-POD 40GbE 2-port LTU NOTE: The VDX 6740 offers 48 10 GbE SFP+ ports (24 active) and four 40 GbE QSFP+ ports. The 2-port 40 GbE Port Upgrade License enables two additional 40GbE ports	D4U19A
	Brocade BR-VDX6740-FCoE LTU NOTE: The VDX 6740 supports Data Center Bridging (DCB), which enables the reliable exchange of storage traffic over the LAN network. This license enables FCoE for Brocade VDX 6740	D4U20A
Additional Software	Brocade® Network Advisor for IP networks is an enterprise-level, full lifecycle network management solution that helps organizations simplify daily network operations and focus on strategic IT Initiatives. With its feature-rich, easy-to-use interface, Brocade Network Advisor automates repetitive tasks while enabling organizations to proactively manage their networks	
	Brocade BR-NTWADV-IP-BASE IP Management Software Kit 50-device LTU NOTE: Brocade Network Advisor Management Software Kit supporting up to 50 Devices	D4U25A
	Brocade BR-NTWADV-IP-100 IP Management Software Kit 100-device LTU NOTE: Brocade Network Advisor Management Software Kit supporting up to 100 Devices	D4U26A

Step 4 – Optional Support and Services

Configuration Information

The following Brocade VDX service and support SKUs are listed as part of HPE Complete Brocade VDX offering, and will be provided directly by Brocade. Please note that customer should contact the regional Brocade support to confirm whether a service or support SKU of interest is available in their region.

The Brocade services described in this section will result in the customized generation of the following deliverables:

- Review and validation of initial scope
Involves the familiarization and validation of the services scope by all working parties.
- Implementation Plan (as required)
Covers the list of tasks and associated timelines for the implementation activities.
- Configuration Plan (as required)
Delivery of the configuration specific details necessary for completion of implementation activities
- Implementation and Execution
Delivery of the configuration, installation, validation, and implementation documentation for the in-scope device(s).
- Transfer of Information (TOI)
Delivery of a transfer of information session on the proper care and maintenance of the newly installed device(s). Includes information sharing of Brocade best practices pertaining to operation. Provides services engagement review, completed documentation for activities accomplished, services completion acknowledgement, and any follow-up actions necessary by End User or Brocade.
- Project Closure
Includes delivery of project closure documentation.

Model Description

Part Number

Next Business Day parts only support	<p>Brocade Essential VDX6740/VDX6740T 24-port Next Business Day Parts Only Support</p> <p>Provides next-business-day response for VDX6740/VDX6740T 24-port parts replacement from the time Brocade has determined a replacement is required and confirmed dispatch with the customer. NDP is subject to customer providing Brocade with accurate information regarding the description of the repair problem, the part number, the serial number, and the return address. Physical installation of the replacement part and defective product return shall be performed by the customer. NDP is available in most major metropolitan areas worldwide and is available on business days 9-5 local time to customer site. These services will be made available for 1 year from the time of sale.</p>	D4U30A
Next Business Day parts only support	<p>Brocade Essential VDX6740/VDX6740T 48-port/64-port Next Business Day Parts Only Support</p> <p>Provides next-business-day response for VDX6740/VDX6740T 48-port/64-port parts replacement from the time Brocade has determined a replacement is required and confirmed dispatch with the customer. NDP is subject to customer providing Brocade with accurate information regarding the description of the repair problem, the part number, the serial number, and the return address. Physical installation of the replacement part and defective product return shall be performed by the customer. NDP is available in most major metropolitan areas worldwide and is available on business days 9-5 local time to customer site. These services will be</p>	D4U31A

Configuration Information

made available for 1 year from the time of sale.

4-hour Onsite (4OS) 1yr support	<p>Brocade VDX6740/VDX6740T 24-port Essential 4hr Onsite 1yr Support</p> <p>Provides 4-hour response for onsite parts and labor for VDX6740/VDX6740T 24-port for 1year from the time Brocade has determined a replacement is required and confirmed dispatch with the customer. 4OS is subject to customer providing Brocade with accurate information regarding the description of the repair problem, the part number, the serial number, and the return address.4OS is offered in most major metropolitan areas worldwide and is available 24x7.</p>	P9S59A
4-hour Onsite (4OS) 3yr support	<p>Brocade VDX6740/VDX6740T 24-port Essential 4hr Onsite 3yr Support</p> <p>Provides 4-hour response for onsite parts and labor for VDX6740/VDX6740T 24-port for 3years from the time Brocade has determined a replacement is required and confirmed dispatch with the customer. 4OS is subject to customer providing Brocade with accurate information regarding the description of the repair problem, the part number, the serial number, and the return address.4OS is offered in most major metropolitan areas worldwide and is available 24x7.</p>	P9S60A
4-hour Onsite (4OS) 1yr support	<p>Brocade VDX6740/VDX6740T 48-port/64-port Essential 4hr Onsite 1yr Support</p> <p>Provides 4-hour response for onsite parts and labor for VDX6740/VDX6740T 48-port/64-port for 1year from the time Brocade has determined a replacement is required and confirmed dispatch with the customer. 4OS is subject to customer providing Brocade with accurate information regarding the description of the repair problem, the part number, the serial number, and the return address.4OS is offered in most major metropolitan areas worldwide and is available 24x7.</p>	P9S61A
4-hour Onsite (4OS) 3yr support	<p>Brocade VDX6740/VDX6740T 48-port/64-port Essential 4hr Onsite 3yr Support</p> <p>Provides 4-hour response for onsite parts and labor for VDX6740/VDX6740T 48-port/64-port for 3years from the time Brocade has determined a replacement is required and confirmed dispatch with the customer. 4OS is subject to customer providing Brocade with accurate information regarding the description of the repair problem, the part number, the serial number, and the return address.4OS is offered in most major metropolitan areas worldwide and is available 24x7.</p>	P9S62A
Tech support - 3yrs 24x7 Phone consulting	<p>Brocade Essential Direct Support Software Technical Support 24x7 - Technical support - phone consulting - 3 years - 24x7 - for FCoE for Brocade VDX 6740 24 or 48 or 64 ports Data Center</p> <p>Provides 24x7 access to the TAC, firmware updates, and online self-service tools. Organizations facing the challenges of maintaining large or complex FCoE based Brocade VDX networking environments can gain immediate access to Brocade expertise and resources to accelerate problem resolution, increase uptime, and improve overall efficiency. Remote support is available worldwide and 24x7. Software Technical Support (SW) is available worldwide, including holidays, and is only available for standalone software products. These support and services will be made available for 3 years from the time of sale.</p>	L7E02A

Configuration Information

Tech support - 3yrs 24x7 Phone consulting	Brocade Essential Direct Support Software Technical Support 24x7 - Technical support - phone consulting - 3 years - 24x7 - for Brocade Network Advisor IP Management - up to 50 devices Provides 24x7 access to the TAC, firmware updates, and online self-service tools. Remote support is available worldwide and 24x7. Software Technical Support (SW) for the Brocade Network Advisor is available worldwide, including holidays, and is only available for standalone software products. These support and services will be made available for 3 years from the time of sale and can be used to manage up to 50 VDX switches.	L7E03A
Tech support - 3yrs 24x7 Phone consulting	Brocade Essential Direct Support Software Technical Support 24x7 - Technical support - phone consulting - 3 years - 24x7 - for Brocade Network Advisor IP Management - up to 100 devices Provides 24x7 access to the TAC, firmware updates, and online self-service tools. Remote support is available worldwide and 24x7. Software Technical Support (SW) for the Brocade Network Advisor is available worldwide, including holidays, and is only available for standalone software products. These support and services will be made available for 3 years from the time of sale and can be used to manage up to 100 VDX switches.	

Technical Specifications

System Architecture	10GbE and Fibre Channel ports	VDX 6740: 48 10 Gigabit Ethernet (GbE) SFP+ ports and four 40 GbE QSFP+ ports
	Interoperability	Please refer to HPE SPOCK/Streams for details
	Performance	VDX 6740: Support for 10GbE, 40GbE and Data Center Bridging (DCB), which enables the reliable exchange of storage traffic over the LAN network
	DCB features	Priority-based Flow Control (PFC) IEEE 802.1Qbb, Enhanced Transmission Selection (ETS) IEEE 802.1Qaz, Data Center Bridging Exchange (DCBX), DCBX Application Type-Length-Value (TLV) for FCoE and iSCSI
	Switching LAN bandwidth (data rate, full duplex)	VDX 6740: 1.28Tbps
	Fabric latency	VDX 6740: 850ns
	Maximum jumbo frame size	VDX 6740: 9216-bytes
	Port types	
	Data traffic types	Fabric switches supporting unicast
	Media types	VDX 6740 CEE media type: Hot-pluggable, 10 Gigabit Ethernet SFP+ supports any combination of Short-Reach (SR) and Long-Reach (LR) optical transceivers; copper twinax cables of one, three, or five meters
Management	USB Options	One USB port for system log file downloads or firmware upgrades SFP media, USB Device
	Management and control	IPv4/IPv6 management, Industry-standard Command Line Interface (CLI), Netconf API, Link Layer Discovery Protocol (LLDP) IEEE 802.1AB, Logical chassis management, Switched Port Analyzer (SPAN), Telnet, SNMP v1, v2C, v3, Management Access Control Lists (ACLs), Role-Based Access Control (RBAC)
	Management access	10/100 Mbps Ethernet (RJ-45), in-band over Fibre Channel, serial port (RJ-45), and one USB port
	Security	Port-based Network Access Control 802.1X, RADIUS, TACACS+, Secure Shell (SSHv2), BPDU Drop Lightweight Directory Access Protocol (LDAP), Secure Copy Protocol
Mechanicals	Enclosure	Port side Intake and Port side Exhaust airflow models available VDX 6740: 1U form factor
	Size	VDX 6740: Width: 440 mm (17.3 in.) Height: 43 mm (1.7 in.) Depth: 410 mm (16.14 in.) Depth: 385 mm (15.1 in.)
	System Weight	VDX 6740: 8.66 kg (19.1 lb), without transceivers

Technical Specifications

Environment	Temperature	Operating: 0° to 40° C (32° to 104° F) Non-operating: -25° to 70° C (-13° to 158° F)
	Humidity	Operating: 10 to 85 percent non-condensing Non-operating and storage: 10% to 90% non-condensing
	Altitude	Operating: Up to 3000 meters (9,842 feet) Storage: Up to 12 kilometers (39,370 feet)
	Shock	Operating: 20 g, 6 ms half-sine Non-operating and storage: VDX 6740: Square wave, 44 G, 15 ms
	Vibration	Operating: VDX 6740: Operating: 0.5 G peak, 0.7 G ms random, 5 to 500 Hz Non-operating: VDX 6740: 2.0 g sine, 1.4 grms random, 5 to 500 Hz
Power	Power Supply	Two internal, redundant, field-replaceable, load-sharing AC power supplies
	AC input	VDX 6740: 85 to 264 VAC nominal
	Input line frequency	VDX 6740: 50 Hz to 60 Hz
	Maximum Power Consumption	VDX 6740: 110 watts

Summary of Changes

Date	Version History	Action	Description of Change
07-Jun-2016	From version 3 to 4	Changed	Changes made to the Configuration Section
22-Jan-2016	From Version 2 to 3	Changed	Added VDX Service SKUs
23-Oct-2015	From Version 1 to 2	Changed	Added some marketing info, eliminated redundancy



Sign up for updates



**Hewlett Packard
Enterprise**

© Copyright 2016 Hewlett Packard Enterprise Development LP. The information contained herein is subject to change without notice. The only warranties for Hewlett Packard Enterprise products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. Hewlett Packard Enterprise shall not be liable for technical or editorial errors or omissions contained herein.

c04347399 - 15145 - Worldwide - V4 - 07-Jane-2016