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Brocade VDX Switch Portfolio

HIGHLIGHTS

- Delivers the high performance and low latency needed to support demanding virtualized data center environments
- Highly reliable, scalable, and available switches are designed for a wide range of environments
- VCS fabric enables an entire fabric to be treated as a single logical switch for management, configuration and maintenance
- Easily scales up and down as needed and is self-forming and self-healing
- Zero-touch provisioning and zero-touch scale-out enables simple, rapid deployment.

Brocade VDX Switches with VCS Fabric Provide Automation, Resiliency, and Scalability

Industry-leading Brocade® VDX® switches are the foundation for high-performance connectivity in Ethernet fabric, storage, and IP network environments. Available in fixed and modular forms, these highly reliable, scalable, and available switches are designed for a wide range of environments, enabling a low Total Cost of Ownership (TCO) and fast Return on Investment (ROI).

Brocade VDX 6740 Switch

The **Brocade VDX 6740 Switch** offers 48 10 Gigabit Ethernet (GbE) Small Form Factor Pluggable Plus (SFP+) ports and four 40 GbE Quad SFP+ (QSFP+) ports in a 1U form factor. Each 40 GbE SFP+ port can be broken out into four independent 10 GbE SFP+ ports, providing an additional 16 10 GbE SFP+ ports, which can be licensed with Ports on Demand (PoD).

The **Brocade VDX 6740T Switch** offers 48 10 GbE BASE-T (GbE-T) 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.

The **Brocade VDX 6740T-1G Switch** offers 48 1000BASE-T ports and two 40 GbE QSFP+ ports. Each 40 GbE port can be broken out into four independent 10 GbE SFP+ ports, providing an additional eight 10 GbE SFP+ ports for uplink. All 48 1000BASE-T ports can be upgraded to 48 10 GbE BASE-T ports via a Capacity on Demand software license.

Brocade VDX 6940 Switch

The **Brocade VDX 6940-36Q Switch** is a fixed Ethernet 40 GbE optimized switch in a 1RU form factor. It offers 36 40 GbE QSFP+ ports. Each 40 GbE port can be broken out into four independent 10 GbE SFP+ ports, providing a total of 144 10 GbE SFP+ ports.

Brocade VDX 8770 Switch

The **Brocade VDX 8770 Switch** is available in 4-slot and 8-slot versions. The 100 GbE-ready Brocade VDX 8770 dramatically increases the scale that can be achieved in Brocade VCS® fabrics (based on Brocade VCS Fabric technology), with 10 GbE and 40 GbE wire-speed switching, numerous line card options, and the ability to connect over 8,000 server ports in a single switching domain. Modular four-slot and eight-slot chassis options are available to match the switch to the needs of the organization.

Brocade VDX 8770-4: Supports up to 192 10 GbE ports, 108 40 GbE ports, and 24 100 GbE ports.

Brocade VDX 8770-8: Supports up to 384 10 GbE ports, 216 40 GbE ports, and 48 100 GbE ports.

The Brocade VDX 8770 supports a variety of wire-speed line cards to offer maximum flexibility in terms of port bandwidth, as well as cable and connector technology:

1 GbE: 48 × 1 GbE line card provides up to 48 SFP/SFP-copper ports.

10 GbE: 48 × 10 GbE line card provides up to 48 SFP+ ports.

10 GbE-T: 48 × 10 GbE line card provides up to 48 RJ45 ports.

40 GbE: 12 × 40 GbE line card provides up to 12 40 GbE QSFP ports.

40 GbE: 27 × 40 GbE line card provides up to 27 40 GbE QSFP ports.

100 GbE: 6 × 100 GbE line card provides up to 6 100 GbE CFP2 ports.

Brocade VCS Fabric Technology

All Brocade VDX switches feature Brocade VCS Fabric technology. Brocade VCS fabrics equip next-generation data centers with the automation, resiliency, and scalability that is required to support virtualized environments and the transition to cloud computing. The evolutionary approach of Brocade VCS Fabric technology helps customers solve key data center issues. Brocade VCS fabrics deliver these benefits:

Provide nonstop networking: Using Trans-parent Interconnection of Lots of Links (TRILL)-based technology to keep networks available and resilient, Brocade VCS fabrics utilize multilayer multipathing
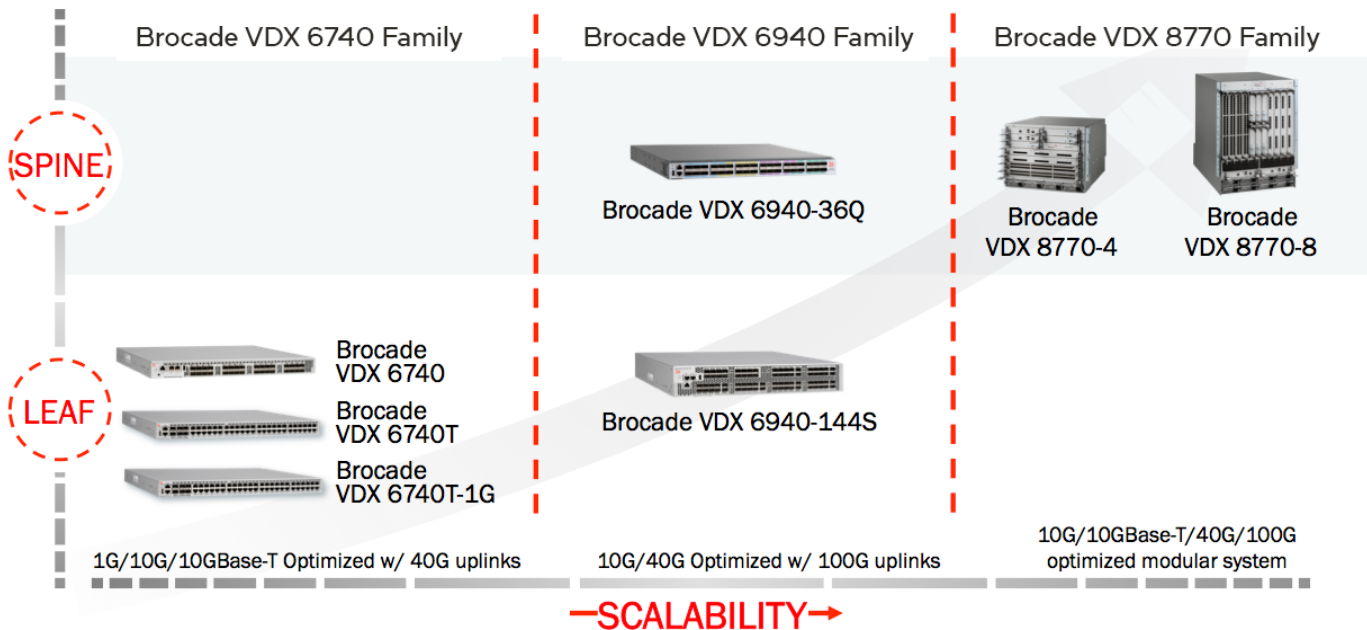

Figure 1: Brocade VDX Switch Portfolio and Performance Optimization Numbers.

to improve the network and offer VM-aware network automation to support VM mobility.

Are simple and automated: Brocade VCS fabrics were designed to just work. No additional equipment is required, and fabrics are self-forming as switches are added to the fabric for real-time scaling. In addition, Brocade VCS Logical Chassis provides the ability to manage the entire fabric as one switch, further simplifying management.

Are evolutionary: Brocade VCS fabrics flatten three-tiered networks to two-tier flat mesh networks capable of handling any network topology. In addition,

Brocade VCS fabrics are flexible enough to support emerging technologies such as IPv6, OpenFlow, VXLAN, and more, providing a strong foundation for years to come.

ARP = Address Resolution Protocol

CML = Conversational MAC Learning

ISSU = In-Service Software Upgrade

MM = Management Module

VE = Virtual Ethernet

VF Extension = Virtual Fabric Extension

VLAN = Virtual Local Area Network

VM = Virtual Machine

VRF = Virtual Routing and Forwarding

VRRP-E = Virtual Router Redundancy Protocol Extended

VXLAN = Virtual Extensible LAN

About Brocade

Brocade networking solutions help organizations transition smoothly to a world where applications and information reside anywhere. Innovative Ethernet and storage networking solutions for data center, campus, and service provider networks help reduce complexity and cost while enabling virtualization and cloud computing to increase business agility. Learn more at www.brocade.com.

Table 1: Brocade VDX Switches Scalability Comparison.

	Brocade VDX Switch	Brocade VDX 6740	Brocade VDX 6940	Brocade VDX 8770
System	Port Type	1 GbE/10 GbE/10 GbE-T/40 GbE	10 GbE (w/ breakout)/40 GbE/100 GbE	10 GbE/10 GbE-T/40 GbE/100 GbE
	Port Density	Up to 48 × 10 GbE/4 × 40 GbE	Up to 144 × 10G/36 × 40G/4 × 100G	Up to 384 × 10 GbE/216 × 40 GbE/48 × 100 GbE
	System HA	ISSU	ISSU	ISSU and Redundant MM
	System Buffer	24 MB	24 MB	12 GB/Module
	Latency	850 ns	700 ns	<4 microseconds
	Performance	960 Mpps	2.16 Bpps	Up to 11.42 Bpps
Layer 2 Fabric	Maximum VMs (MAC Table)	160 K 256 K Fabric-Wide (CML)	112 K 256 K Fabric-Wide (CML)	384 K 512 K Fabric-Wide (CML)
	Maximum L2 Segment (VLANs)	4 K/8 K (with VF)	4 K/8 K (with VF)	4 K/8 K (with VF)
Layer 3 Fabric (L3 at Spine)	Maximum VMs (ARP Table)	16 K	84 K	128 K
	Maximum L3 Network (VE)	256	1 K	1 K
	Maximum L3 Redundancy Session (VRRP-E)	256	1 K	1 K
	Tenant Separation at L3 (VRFs)	32	512	512
	IPv4 Route Table	8 K	12 K	280 K
	VF Extension/VXLAN Gateway	Yes	Yes	Yes, with Brocade 6740/6940 in fabric

*Please refer to the current version of the release notes for the most up-to-date feature support.

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