At-A-Glance





VDX with IP and VCS Fabrics Provides Automation, Resiliency, and Scalability

Industry-leading ExtremeSwitching VDX 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).

VDX 6740

The VDX 6740 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 VDX 6740T 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 VDX 6740T-1G 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.



VDX 6940

The Extreme 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.



The VDX 6940-144S is 10 GbE optimized with 40 GbE or 100 GbE uplinks in a 2U form factor. It offers 96 native 1/10 GbE SFP/SFP+ ports and 12 40 GbE QSFP+ ports, or 4 100 GbE QSFP28 ports.



VDX 8770

The VDX 8770 is available in 4-slot and 8-slot versions. The 100 GbE-ready VDX 8770 dramatically increases the scale that can be achieved in data center fabrics, 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.

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



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



The 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/SFPcopper 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.



SCALABILITY ->

Figure 1: ExtremeSwitching VDX Portfolio and Performance Optimization Numbers.

Data Center Fabric Technology

All ExtremeSwitching VDX feature evolutionary Extreme data center fabric technology. These fabric-ready switches equip next-generation data centers and cloud service providers with the automation, resiliency, and scalability required to support highly virtualized environments and optimize cloud computing. VDX are built by design with an advanced feature set, along with the high performance and low latency that virtualized environments demand. Together with flexible deployment options, including Extreme IP fabrics and VCS fabrics, these switches transform data center networks by delivering cloud-based architectures that offer new levels of scale, agility, and operational efficiency. These open, highly automated, software-driven, and programmable data center fabric design solutions support a breadth of network virtualization options and scale for data center and cloud environments ranging from tens to many thousands of servers. Extreme data center fabric solutions make it easy for customers to architect, automate, and integrate with current and future data center ecosystem tools and technologies while they transition to the cloud model that addresses their needs.

VDX Switches Scalability Comparison

VDX Switch	VDX 6740	VDX 6940	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 × 10 GbE/36 × 40 GbE/ 4 × 100 GbE	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	800 ns	<4 microseconds
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 6740/6940 in fabric
VI Extension, VALAR Outeway	105	105	

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 VRP-E = Virtual Router Redundancy Protocol Extended VXLAN = Virtual Extensible LAN



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