

## **Nominee: Brocade**

### **Nomination title: Datacentre Networking Product of the Year - Brocade VDX Switch family with VCS Fabric Technology**

Brocade VDX Switch family with VCS Fabric Technology:

- Brocade VDX 6710: Fixed Ethernet fabric switch (1 GbE)
- Brocade VDX 6720: Fixed Ethernet fabric switch (10 GbE)
- Brocade VDX 6730: Fixed Ethernet fabric switch (10 GbE with Fibre Channel)
- Brocade VDX 8770: Modular Ethernet fabric switch (10 and 40 GbE, and planned 100 GbE)

In the move from traditional hierarchical data center designs to fabric switching, enterprises should consider a wide range of advantages inherent to fabric-based network architectures. Brocade VDX switches and VCS Fabric technology are designed specifically to deliver these critical fabric switching attributes:

#### Scalability and performance

Brocade VDX switches and VCS Fabric technology offer massive performance and scalability for fabric-based networks. Unlike competitive solutions, Brocade VCS fabrics can be built automatically with as few as two switches and scale linearly to 24 switches of any type—supporting an unprecedented 8,000 ports within the fabric and 384,000 VMs attached to the fabric.

longevity and ability to support emerging technologies

Given the rapid pace of data center innovation, it is critical to select a fabric solution that is designed to support emerging data center technologies such as 100 Gigabit Ethernet (GbE) and Software-defined Networking (SDN). Brocade VDX switches and VCS Fabric technology are specifically designed to support these trends, ensuring a fabric foundation with years of longevity to maximize ROI.

#### Total cost of ownership

A Brocade VCS fabric solution provides TCO savings in the following areas:

- Operational cost savings by significantly reducing network complexity through native fabric automation. Specifically, a VCS fabric can auto-form trunks and deliver automated load balancing through efficient, packet-based multipathing and automatic redirect in the event of link/node failures. With this industry-leading level of automation, Brocade customers have reported the ability to support five times the server ports with the same number of network personnel compared to their legacy networks.
- Investment protection on both the Brocade VCS fabric switches, achieved through scalable and flexible system architectures (such as the backplane and programmable silicon). This enables customers to evolve their data center networks for capacity and emerging technologies without forklift upgrades. A proven track record Since Ethernet Fabrics are a new technology and architecture, it's important that customers partner with vendors who have a proven track record in fabric networking. Brocade is a pioneer and market leader in

the Ethernet fabric market. Brocade was the first vendor to ship an Ethernet fabric switch in January 2011, leveraging our experience and know-how gained from more than 16 years leading the SAN fabric market.

Other key factors include:

- Brocade owns over 300 patents in both the SAN fabric and Ethernet fabric markets.
- Brocade leveraged its sixth-generation ASIC development and software expertise from its SAN portfolio to accelerate the development of Ethernet fabrics.
- Brocade now offers the broadest Ethernet fabric portfolio in the industry with fixed and modular form-factor options offering 1, 10, and 40 GbE technologies and 8 Gbps Fibre Channel (Brocade VDX 6730). The new Brocade VDX 8770 features a backplane that can be upgraded for dense 100GbE in 2013.
- Brocade has more than 950 customers with VDX switch deployments worldwide, most in full production environments. The Brocade Ethernet fabric architecture has been designed to deliver new levels of operational efficiency and consistency, along with distributed intelligence and network-wide orchestration.

Key capabilities include:

Zero-touch VM discovery, configuration, and mobility Brocade VCS Fabric technology enables customers to automatically align virtual server and network resources and realize the full benefits of server virtualization without additional management overhead. Auto-forming and self-healing VCS fabrics deliver auto-forming and self-healing capabilities that enable customers to add and remove switches and links within a fabric with limited manual configuration. VCS fabrics are automatically aware of all devices (servers, switches, appliances, etc.) within a domain at any given time. This allows customers to detect and locate both physical and virtual servers that are added to the fabric without manual reconfiguration.

Customers can achieve significant capital and operational cost savings by reducing network complexity through a number of capabilities:

- Operational cost savings by significantly reducing network complexity through automation features. Specifically, a VCS fabric can auto-form trunks and deliver automated load balancing through efficient, packet-based multipathing and automatic redirect in the event of link/node failures. Using these features, Brocade customers have reported the ability to support five times the server ports with the same number of network personnel compared to their legacy networks.
- Reduced energy costs through higher switch port density per rack and lower power consumption per port. The Brocade VDX 8770 achieves power usage efficiency rates as low as 6.5 watts per each 10 GbE port. The Brocade VDX 6730 achieves power usage as low as 1.5 watts per port.
- Investment protection on the Brocade VCS fabric switches, achieved through scalable and flexible system architectures (such as the backplane and programmable silicon). This enables customers to evolve their data center networks for capacity and emerging technologies without forklift upgrades. Key aspects of the operational simplicity of Brocade VCS fabrics are best summarized in this demonstration

(<http://www.youtube.com/watch?v=3upfr5bM1M8>). Brocade VCS fabrics are based on the TRILL architecture and the creation of a fabric is achieved by the following simple steps, which typically take a network administrator one to two minutes per switch:

- A simple domain identifier, known as an RBridgeID, is initially configured within a Brocade VDX switch. Inter-switch links then auto-detect each other and automatically form the fabric.
- The fully distributed control plane within a VCS fabric allows auto-configuration, optimized MAC address learning, and VM-aligned configuration throughout the domain.
- Extending link capacity requires zero configuration. Additional links are simply plugged into existing switches and join the fabric.
- Adding switches simply requires configuring the RBridgeID on the new switch and plugging it into the existing fabric. The new switches will communicate with the fabric and automatically be included in the fabric.
- vLAGs can be created across multiple switches for resilient connectivity outside the fabric, where Brocade's vLAG allows the use of standard LACP to create the LAG.

### **Why nominee should win**

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