

BROCADE VDX SWITCHES AND MICROSOFT VIRTUALIZATION



DATA CENTER NETWORKS

Meeting the Network Challenges of Virtualized Environments

HIGHLIGHTS

- Flattens network architectures and enables cloud computing by delivering Brocade® Virtual Cluster Switching (VCS™) technology to Microsoft virtualized environments
- Migrates network policies as virtual machines move throughout the data center with Automatic Migration of Port Profiles (AMPP) to simplify management
- Seamlessly scales a Microsoft Hyper-V virtualized environment as needed without adding network complexity
- Enables server consolidation in a Hyper-V environment for increased utilization
- Provides high availability within the network

In today's data centers, applications can provide business value as long as data center infrastructure is agile, flexible, and cost effective. Server virtualization and server consolidation have become key components of IT strategy to improve application resource utilization, ensure that applications are "always on," and simplify disaster recovery planning. Virtualization has the ability to create virtual machines to host applications breaking the static tie to a specific physical server and creating headaches for network designers and administrators. For many organizations, the business value of application mobility promised by virtual machine migration cannot be realized due to network issues. And at the heart of the network is classic Ethernet, the network technology found in all data centers.

Used with server virtualization, classic Ethernet networks present these challenges:

- Low inter-switch link utilization caused by Spanning Tree Protocol (STP)
- Limited range of virtual machine (and application) mobility due to network tiers
- Virtual machine consolidation ratios limited by network bandwidth: 1 Gigabit Ethernet (GbE)
- Virtual machine migration restricted by network bottlenecks and manual reconfiguration of network policies

Brocade has worked with Microsoft to test and validate its network solutions with Microsoft Windows Server 2008 R2 with Hyper-V and the latest release of Microsoft applications. Leveraging solution blueprints for Exchange Server 2010, SharePoint Server 2010, SQL Server 2008 R2, and Lync Server 2010, more customers are deploying mission-critical business applications in a Microsoft Hyper-V environment.

However, Microsoft customers are discovering that although they can leverage virtualization across the Microsoft portfolio, their classic Ethernet networks can't keep up with the demands of virtualized application servers to allow them to build a solid foundation for a private cloud in their data centers.

THE BROCADE VDX REVOLUTIONIZES DATA CENTER NETWORKS

Brocade VDX™ 6720 Data Center Switches and Brocade VCS technology eliminate the classic network problems that plague virtual server adoption. Brocade VCS technology introduces the world's first Ethernet fabric, provides distributed intelligence across all switches in the fabric for plug-in network scalability, and manages all switches in a fabric as a single logical chassis.

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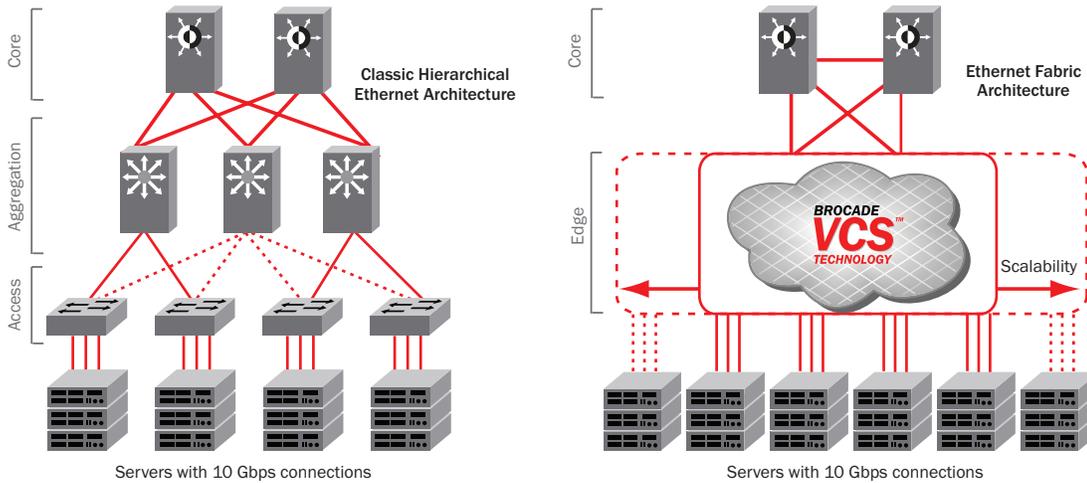


Figure 1. Brocade VCS Ethernet fabric (right) compared to classic hierarchical Ethernet (left).

Fabric services such as AMPP provide the agility, simplicity, and low operating costs missing from classic Ethernet networks connected to virtualized servers. Live migration allows customers to move applications non-disruptively from servers scheduled for maintenance or to smoothly scale resources up and down as application workloads dictate. Automated Migration of Port Profiles ensure that network policies are defined once, consistently applied fabric wide, and always applied to a Hyper-V virtual machine no matter where its traffic enters the fabric. Network administrators maintain control over network policies and don't have to reconfigure port profiles when a virtual machine moves. The Brocade VDX family of switches represents a revolution in Ethernet technology that does not require replacing classic Ethernet switches. Brocade VDX 6720 switches automatically form an Ethernet fabric that is transparent to other Ethernet switches. An Ethernet fabric that scales as needed can be added when customers are ready to replace classic Ethernet, as shown in Figure 1.

THE BROCADE VDX SOLUTION FOR MICROSOFT APPLICATIONS

Brocade VDX 6720 switches can be deployed in several configurations that simplify management, flatten the network, and improve scalability and performance—all while keeping costs low. For example, two switches at the top of rack provide 1 and 10 GbE connectivity with extremely low latency and are managed as a single logical chassis. For customers deploying many racks of virtual servers, a 10-switch Brocade VCS fabric flattens the network, eliminating the aggregation layer across 4 server racks, while providing almost 100 percent utilization of inter-switch links for low oversubscription rates. In addition, the range of virtual machine mobility is increased.

More Microsoft customers will realize the value of running their applications in a Hyper-V environment now that the network, enabled by Brocade VCS technology, can deliver the business value promised by virtualization. Microsoft applications can

be virtualized without concern for network limitations. For customers migrating from an existing hypervisor to Microsoft Windows Server 2008 R2 with Hyper-V, existing network policies can be rapidly associated with a Hyper-V virtual machine, eliminating time-consuming manual changes to the network configuration. Microsoft customers can extend the value of server virtualization confidently to all Microsoft applications when they are ready to do so.

ABOUT BROCADE

Brocade partners with companies of all sizes to deliver innovative solutions that help organizations maximize the value of their most critical information. Learn more at www.brocade.com/microsoft.

LEARN MORE

For more information about Microsoft solutions for virtualized environments, visit www.microsoft.com/virtualization.

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