



Microsoft®

System Center Virtual Machine Manager 2008

Performance and Resource Optimization Solutions Brief



BROCADE

Solution

The Brocade Management Pack for Microsoft System Center monitors the health and performance of data center SAN infrastructure to help IT manage virtual server workload.

Technologies Used

Microsoft:

- Microsoft System Center Virtual Machine Manager 2008
- Microsoft System Center Operation Manager 2007
- Microsoft Windows Server 2008 with Hyper-V

Brocade:

- 4 Gbps and 8 Gbps SAN platforms (Brocade DCX® backbones, directors, switches, and embedded switches)
- Brocade 415/425 and 815/825 Fibre Channel Host Bus Adapters
- Brocade Data Center Fabric Manager (DCFM™)
- Brocade Host Connectivity Manager (HCM) for Brocade FC Host Bus Adapters

Brocade Management Pack for System Center

Brocade products deliver scalability and reliability to Virtual Data Centers.

As organizations shift to virtualized infrastructure, it's important to have comprehensive tools that allow them to effectively manage and monitor virtual machines and the hosts they are running on. System Center Virtual Machine Manager (VMM) 2008 provides this functionality as well as enabling administrators to easily and effectively complete many daily virtualization tasks such as physical to virtual conversions, rapid provisioning of new virtual machines and Intelligent Placement of those new virtual machines on the best suited physical hosts, among others.

With VMM 2008, administrators can take advantage of a particularly useful feature called Performance and Resource Optimization (PRO). PRO can monitor virtualized infrastructure and issue alerts and remedial recommendations when poor performance or hardware failures have been identified in hardware, operating systems or applications. PRO also provides an open and extensible platform allowing partners to develop solutions that integrate their products and solutions with PRO's powerful and dynamic management capabilities.

Situation

IT departments are broadly deploying server virtualization to gain the benefits of consolidation: lower costs, reduced space and power, and a more flexible IT infrastructure. Of course, customers need this without giving up their level of security and compliance, performance and scalability, business continuity, and disaster recovery.

Here are some of the IT challenges in a virtualized environment:

- IT is using server virtualization to reduce the CapEx and OpEx of current server sprawl. Unfortunately the move to "virtual" servers requires new management strategies. Simply stated, the more you virtualize, the more essential management becomes—and the increased IT overhead may offset the cost savings of physical consolidation.

- As VMs and workloads move, access to storage, DR, security, and so on all need to move with the VM. Individual VM profiles need to be created to move with VMs as they migrate across servers.
- As more applications can be located on a physical server, I/O performance may become an issue. Virtual storage applications automatically move data from one storage tier to another, and this dynamic movement can create unexpected bottlenecks, which cause unpredictable network congestion. Provisioning, configuration management, capacity planning, security, and fault isolation are all more complex in a virtual environment.

Solution

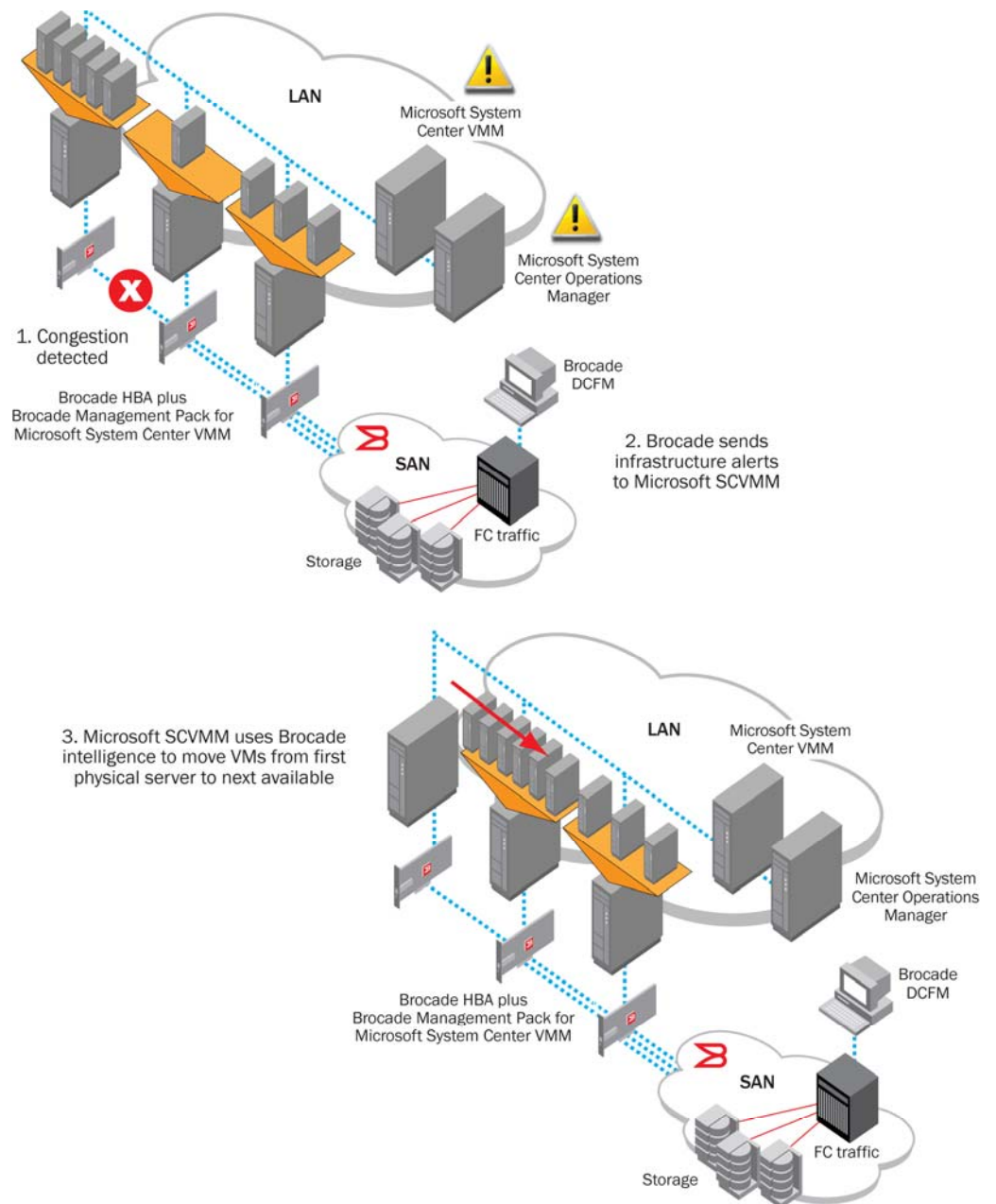
The Brocade System Center integration helps ensure that customers maintain the level of reliability and performance they need when accessing their critical corporate data in the Virtual Data Center. Brocade has designed a management pack to integrate its SAN management information into Microsoft System Center, extending the server administrator's view beyond the server and into the SAN. As part of the solution, VM associations such as virtual port, QoS priority, SLA assignment, and encryption requirements are part of a "VM profile" that moves with the VM as it migrates across servers.

The Brocade Management Pack for Microsoft System Center monitors the health and performance of data center SAN infrastructure and alerts IT when data access issues may impact the performance of their virtualized workloads. Using the Microsoft PRO (Performance and Resource Optimization) interface, the Brocade Management Pack sets specific policies that Microsoft System Center Virtual Machine Manager 2008 (VMM) can act on automatically or that IT can act on manually.

In real time, the Brocade Management Pack for Microsoft System Center works with Microsoft VMM as follows:

- Brocade Management Pack monitors the link between the server's HBA and the SAN switch.
- During synchronization, System Center VMM receives any "warning" or "critical" alerts sent from Brocade Management Pack events and creates PRO Tips.
- PRO Tips can be implemented either manually or automatically using System Center Operations Manager and typically recommend moving a VM workload to another physical server.

The Brocade Management Pack for Microsoft System Center monitors ports and links in the fabric to acquire the information needed for intelligent VM migration.



Manage Virtual Servers with Infrastructure Intelligence

Benefits

The Brocade Management Pack for Microsoft System Center integrates support for Brocade products with emerging technologies to unify the overall management of the physical and virtualized data center. Brocade and Microsoft together offer companies a data-centric, end-to-end solution that helps them harness, manage, and deploy a virtualized data center.

When an enterprise application, such as SQL Server or BizTalk or an Oracle database application, is running in a Windows Hyper-V virtual server environment, Brocade can help ensure reliable, secure access to the application's data by deploying the Brocade data center architecture. Companies can leverage these solutions to build a truly dynamic IT environment that features adaptive networking, non-disruptive services, enterprise-class data protection, and unmatched scalability.

The extent to which IT deploys the right virtualization strategy is the extent to which it can free up resources to address larger business goals and ultimately achieve competitive advantage through business agility.

About Microsoft Virtualization Management Solutions

Microsoft System Center Virtual Machine Manager (VMM) 2008 is a comprehensive multivendor virtualization management solution that enables easy and fast consolidation of physical servers and rapid provisioning of new virtual workloads. Another feature of VMM is Performance and Resource Optimization (PRO) which helps ensure that physical resources within a virtualization environment are being managed efficiently and that virtualized workloads are meeting SLAs. PRO also provides an open and extensible framework allowing partners to utilize this new technology for the creation of management packs for virtualized applications or associated hardware. In building these management packs enabled for PRO, partners can create a customized solution combining their offerings with the comprehensive monitoring and issue-resolution capabilities of PRO.

For More Information

Go to
www.brocade.com/msvirt
or visit
www.microsoft.com/scvmm