

## Cisco and VMware Facilitate Virtualization Strategies

Server virtualization solutions such as VMware ESX Server® are increasingly being deployed because of their effectiveness in addressing current cost and operating inefficiency challenges in the server environment in the data center. However, widespread deployment of virtual machines can stress or even overwhelm data center infrastructure designed on the old “one server per application” model.

A customer can quickly scale the number of virtual machines in the data center to meet growing and changing business demands, which is a primary advantage of VMware software. However, the underlying LAN and storage area network (SAN) infrastructure must be capable of handling a dense virtual machine environment, providing logical port scalability and maintaining deterministic performance, security, availability, and manageability. Similarly, the data center must be capable of supporting high virtual machine density and virtual machine mobility without compromising segmentation to support business requirements such as information security and regulatory compliance. The Cisco® and VMware alliance delivers solutions that allow organizations to implement their server virtualization strategies without adverse effects on application infrastructure availability and stability, security, policy compliance, or manageability.

### A Common Vision

Both VMware and Cisco share a long-held vision of the value of virtualization to the IT organization. Both companies advocate virtualization as a long-term strategy to improve return on assets, reduce operational complexity, and increase infrastructure agility.

VMware is the industry leader in infrastructure virtualization software and the virtualization of industry standard servers as a means to reduce costs, increase adaptability, and maximize availability of application infrastructure.

Virtualization has been a central tenet of the Cisco technology vision since the Cisco Catalyst® 5000 introduced VLAN technology in the mid 1990s. Virtualization continues to be a central concept in the Cisco vision for the next-generation data center. The Cisco Data Center Network Architecture (DCNA) currently delivers fabric-based virtualization of network services, storage, security, and Layer 4 to 7 processing of application traffic.

Within the data center, Cisco and VMware solutions complement each other, allowing customers to create and implement a virtualization strategy that supports their business objectives. Both Cisco and VMware continue to explore additional collaboration opportunities to deliver increased value for the customer.

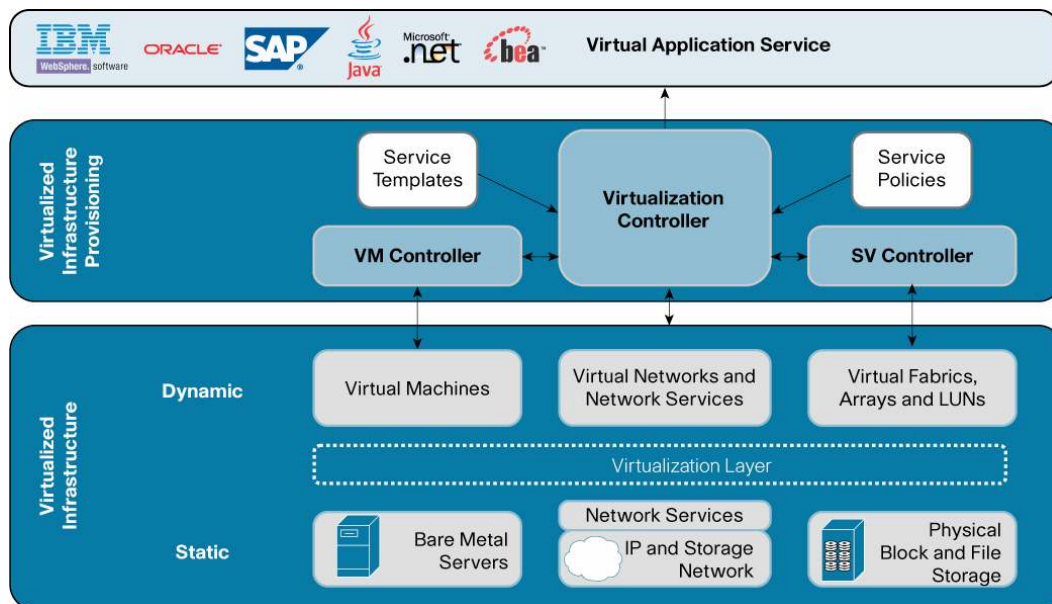
### How Customers Benefit

Because virtualization is central to the technology vision of both VMware and Cisco, products and solutions are specifically engineered to work in a virtualized IT environment. This approach means that implementation of a customer’s virtualization strategy is not undermined by product shortcomings. For instance, the Cisco Catalyst family of switches provides the scalability, security, high availability, and manageability needed to successfully deploy a dense virtual machine

infrastructure to support mission-critical applications. The Cisco MDS 9000 family director, fabric, and blade SAN switches provide crucial technology that supports consolidation, server virtualization, and virtual machine mobility, while still preserving segmentation and helping ensure proper information security and regulatory compliance.

Figure 1 shows the type of framework needed to successfully implement a dense virtual machine environment on an enterprise-wide basis. Table 1 summarizes the main benefits that VMware and Cisco bring to customers with their alliance.

**Figure 1.** Service Provisioning Architecture



**Table 1.** Joining Forces to Meet Customer Needs

VMware	Cisco	Alliance
<ul style="list-style-type: none"> <li>Increased use, availability, and flexibility</li> <li>Up to 70% savings in operating costs</li> <li>Server provisioning cycles cut from weeks to minutes</li> <li>Freedom to run your choice of operating system</li> <li>Run unmodified Linux and Windows operating systems</li> <li>Dramatic hardware cost savings</li> <li>Increased service availability</li> <li>Planned downtime no longer affects service availability</li> <li>Applicable for development and testing as well as production and IT optimization</li> </ul>	<ul style="list-style-type: none"> <li>Industry-leading performance and scalability to support dense virtual machine environments</li> <li>Control-plane protection and traffic management to help ensure virtual machine availability and predictable application performance</li> <li>Best-in-class management to streamline operations and facilitate rapid diagnosis and troubleshooting</li> <li>Virtualization-friendly segmentation to help ensure information security and regulatory compliance</li> </ul>	<ul style="list-style-type: none"> <li>Scalable network and application services as virtual machine density increases</li> <li>Dependable, highly available application environment</li> <li>Resource flexibility without compromising information security or regulatory compliance</li> <li>Complementary solutions that maximize the benefits of virtualization strategies</li> <li>Long-term strategic partners that will continue to promote innovation in the data center</li> </ul>

### About VMware

VMware, an EMC company (NYSE: EMC), is the global leader in virtual infrastructure software for industry-standard systems. The world's largest companies use VMware solutions to simplify their IT environments, make full use of their existing computing investments, and respond faster to changing business demands. VMware is based in Palo Alto, California. For more information, visit <http://www.vmware.com> or call 650-475-5000.

## About Cisco

Cisco (NASDAQ: CSCO) is the worldwide leader in networking, transforming how people connect, communicate, and collaborate. For more information about Cisco data center solutions, visit <http://www.cisco.com/go/datacenter>.



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