Maximizing Business Value: Strategies for Virtualizing Business-Critical Applications
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Executive summary
Effective organizations harness technology to deliver new customer services, operate more efficiently, and cultivate collaborative efforts that lead to innovation. Server virtualization technology transformed IT by reducing hardware and operating costs while increasing agility and responsiveness. Today, most organizations have already virtualized some of their application workloads and are planning to virtualize more. Typically, they will start with less-important applications, and then move to the critical applications on which their organizations depend.

Virtualizing business-critical applications delivers significant strategic benefits, and is a key step toward a cloud model of IT service delivery. But these applications also require provably high levels of security, resiliency, performance, and operational efficiency. Symantec solutions for business-critical virtualization are optimized for all leading virtualization platforms, and provide the advanced security, availability, and storage management capabilities required to virtualize business-critical applications with confidence.

The promise of virtualization
IT organizations started virtualizing servers to cut infrastructure costs and more easily provision and manage both the servers and the applications they run. Most quickly realized those benefits and more: lower capital and operating expenses, less downtime, and faster delivery of applications from streamlined test and development processes. Their early successes raised the priority organizations gave to virtualizing a growing proportion of their infrastructure and applications.

But virtualization’s promise extends beyond economy and efficiency. Virtualization has the potential to dramatically raise IT’s service levels and ability to meet changing business requirements, while reducing development, deployment, and management costs of application infrastructure and operations.

Stepping stone to the cloud
IT leaders also see virtualization as the first step in moving their data centers to a cloud model of IT service delivery. Implemented properly, virtualization helps consolidate and automate infrastructure and processes more effectively than the technologies and architectural approaches it replaces. Virtualization offers a way to transform islands of disparate application infrastructure into a highly automated platform for delivering mission-critical IT services. This service model—the private cloud—also makes it faster, cheaper, and safer to adopt external cloud services such as software-as-a-service (SaaS) applications and public or virtual private platform-as-a-service (PaaS) and infrastructure-as-a-service (IaaS) solutions.
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Figures 1. The trajectory of virtualization adoption, from initial test and development projects to cloud computing.

The virtualization journey
Most organizations adopt virtualization following a path like the one shown in Figure 1. Initial projects focus on IT’s own test and development environments, where early wins encourage virtualization of production resources under IT control, such as file, print, and domain name servers. Then, as IT experience and business confidence with the technology grow, organizations start to consider virtualizing business production applications.

At this point, quality of service and resiliency determine the rate of adoption. Most organizations virtualize less-critical business applications first. These offer a low-risk way to build experience, overcome technical and operational challenges, and implement virtualization-ready high availability, disaster recovery, security, and other solutions with service-level impact. As IT’s experience, confidence, and reputation grow, they move on to virtualize progressively more important applications with progressively more demanding Service-Level Agreements (SLAs).

Regardless of the progress they have made to date, most mid-to-large enterprises have aggressive plans to use virtualization to reduce costs and transform service delivery. Analyst firm Gartner\(^1\) estimated that between 20 and 25 percent of global application workloads were running virtualized in December 2010, and predicted growth to 75 percent by 2014. These numbers show that while server virtualization is already a mainstream technology, most enterprises are still working to virtualize more critical applications, and overcome the management, security, availability, and storage challenges that stand in the way.

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Transformation strategies
IT organizations trying to unlock virtualization’s strategic promise and find their path to the cloud tend to combine elements of three strategies:
- Virtualize more infrastructure
- Consolidate application silos into shared pools
- Automate provisioning and service-level processes

Virtualize more infrastructure
Virtualization and cloud computing promise scalability, automation, elasticity, and cost-effectiveness. But restricting virtualization to development environments or noncritical applications limits the benefits it can deliver: the best returns are achievable only by virtualizing more applications.

At some point, an organization can raise its virtualization percentage, and enjoy the economies and other benefits of scale, only by virtualizing its most-critical applications—those with the highest service-level requirements. For most organizations, overcoming security, availability, and storage management challenges is a necessary step on the path to the hybrid cloud.

Consolidate resources
Virtualizing application infrastructure delivers hardware savings and operational efficiencies, but real transformation requires more. True data-center transformation requires consolidated pools of server, network, and storage capacity that can be applied to many different application workloads and utilization requirements.

Properly implemented, this type of consolidated private-cloud architecture delivers flexibility, provisioning new servers quickly, allocating storage dynamically on demand, and adjusting CPU capacity and transaction throughput to meet business requirements like demand spikes in an e-commerce application. Such a shared-services model can reduce costs by raising utilization, avoiding the overprovisioning that is a necessary evil with IT architectures based on separate silos of application infrastructure.

Automate provisioning and service-level processes
Virtualization and consolidation pave the way for dramatic increases in the level of automation an environment will support. Automating request, provisioning, and management processes for server, storage, and network resources cut staffing costs and accelerate execution.

The value of automated resource and application provisioning was proven in physical environments, and productively extended to include virtual infrastructure. Now, organizations are turning to automation of other processes essential to meet the more demanding SLAs of business-critical applications and cloud computing. Automating processes with service-level impacts—high availability, disaster recovery, data protection, security and compliance, and more—are essential steps in delivering on the strategic promise of virtualization.
Symantec solutions for business-critical virtualization

Business-critical workloads need advanced security, availability, and storage management. Symantec offers solutions that work effectively on any leading virtualization platform to help you virtualize business-critical applications with confidence.

Rapid changes in demand for critical applications can affect latency, performance, availability, and other key service levels. Symantec management solutions instrument your virtual data center and adjust processes that affect service levels automatically and continuously as demand changes. The span of automation extends all the way from discovery of virtual machines to enforcement of security, backup, and storage allocation policies.

Virtualization expands an organization’s attack surface. Symantec security solutions keep risks under control by extending current security policies across physical and virtual environments, with easy deployment and centralized management. Virtualization-specific security enhancements auto-detect rogue virtual machines and scan offline virtual machines to detect vulnerabilities before they cause a problem.

Because server virtualization can increase storage requirements dramatically, inefficient storage management can reduce or even nullify cost savings from server consolidation. Advanced Symantec storage management solutions put you in control, with point-and-click deduplication, reclamation of orphaned storage, virtualization of pooled storage, and dynamic storage tiering and provisioning, even across heterogeneous arrays.

Advanced Symantec technologies give you the visibility and control needed to automate service-level processes, accelerate virtual server and desktop deployments, and cut the cost and complexity to manage and protect high-density virtual and physical infrastructure.

Figure 2. Symantec offers solutions that help optimize virtual and mixed virtual/physical environments to deliver the most business value.
Summary
Organizations started virtualizing to reduce costs and improve efficiency, but the next wave will go much further. Virtualizing more infrastructure helps transform IT, meet service-level challenges, and migrate from application-focused infrastructure silos to a shared, automated service-delivery platform.

Symantec has the security and information management solutions you need to virtualize with confidence, from the smallest test environment to the largest and most complex applications that power your business.

More information
Visit our website
http://enterprise.symantec.com

To speak with a Product Specialist in the U.S.
Call toll-free 1 (800) 745-6054

To speak with a Product Specialist outside the U.S.
For specific country offices and contact numbers, please visit our website.

About Symantec
Symantec is a global leader in providing security, storage, and systems management solutions to help consumers and organizations secure and manage their information-driven world. Our software and services protect against more risks at more points, more completely and efficiently, enabling confidence wherever information is used or stored.

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