



Improving Business Continuity with VMware Virtualization

Business Continuity Challenges

Implementing plans to ensure business continuity for IT infrastructure is an essential requirement for organizations today. Downtime of important applications is a costly proposition and extended downtime can even be fatal—industry research has shown that a significant number of companies that experience extended interruption to IT services are likely to go out of business. In fact, according to the National Archives and Records Administration, 93 percent of companies that lost their data center for 10 days or more due to a disaster filed for bankruptcy within one year of the disaster.

While most organizations recognize the importance of business continuity, their ability to deliver effective protection for important applications is limited by the following challenges:

- **Difficulty meeting recovery time and availability goals.** Many business continuity solutions fail to meet organizations' requirements, leaving them at risk of extended downtime. Organizations are often unable to adequately protect more than a few privileged systems, particularly within their x86 server environment.
- **High costs.** Business continuity solutions become exponentially more expensive as availability requirements increase. Many solutions require significant investments in additional hardware, software and services. Disaster recovery plans in particular often require duplicating data center infrastructure. These requirements drive up the cost of business continuity and result in a proliferation of underutilized servers.
- **High complexity.** Traditional business continuity solutions are complex to implement, manage and execute. Managing the recovery infrastructure, maintaining up-to-date documentation of complex and often manual recovery procedures, and effectively testing plans all contribute significant complexity.
- **Unreliable solutions:** Testing complex business continuity solutions is challenging because testing often requires significant equipment and personnel resources. The complexity of traditional solutions makes them difficult to maintain. Ensuring that sufficient staff are trained and available to execute recovery plans is also problematic.

Such challenges have limited the ability of organizations to implement effective business continuity plans. As a result, key IT services lack the protection they require, putting organizations at significant risk.

Key Benefits

- **Reduce downtime** from both planned and unplanned outages.
- **Lower cost** of effective business continuity solutions.
- **Simplify** infrastructure and processes for business continuity.
- **Expand protection** by cost-effectively extending business continuity plans to more applications.

Key Building Blocks

- The VMware Infrastructure software suite provides not only the VMware® ESX platform for x86 server virtualization but also key components such as VMware High Availability and Consolidated Backup.
- VMware® VirtualCenter provides centralized management of virtual infrastructure deployments.
- VMware Site Recovery Manager delivers pioneering disaster recovery management and automation for virtualized systems.
- Professional services provided by VMware and authorized consulting partners ensure that customers can leverage expertise and best practices in their environment.

VMware® enables cost-effective, simpler and more reliable solutions for meeting business continuity requirements for x86 server systems. Recent VMware surveys indicate that over 50 percent of VMware customers are already using VMware software to implement business continuity solutions.

Ensuring Availability with VMware Virtualization

VMware® Infrastructure 3 makes it possible to reduce both planned and unplanned downtime, without the cost and complexity of alternative solutions.

Organizations using VMware can slash planned downtime by eliminating most scheduled downtime for hardware maintenance. VMware® VMotion technology along with the maintenance mode function in VMware® Distributed Resource Scheduler (DRS) make it possible to move running workloads from one physical server to another, without downtime or service interruption, enabling zero-downtime hardware maintenance.

VMware helps protect against unplanned downtime from common failures, including:

- **Network and storage interface failures.** Support for redundant network and storage interfaces is built into VMware Infrastructure 3. Redundant network and storage interface cards can be shared by multiple virtual machines on a server, reducing the cost of implementing redundancy. VMware Infrastructure 3 also makes it easy to create redundant servers without additional hardware purchases by allowing for the provisioning of virtual machines to existing underutilized servers.
- **Server failures.** VMware® High Availability (HA) delivers protection against server failures without the cost and complexity often associated with implementing and maintaining traditional solutions. VMware HA automatically restarts virtual machines affected by server failures on other servers to minimize downtime from such failures.
- **Overloaded servers.** VMware VMotion and VMware Distributed Resource Scheduler (DRS) help you to proactively balance workloads across a pool of servers.

Delivering Effective Disaster Recovery

Traditional disaster recovery solutions are costly, complex and frequently do not meet recovery objectives. Ensuring the fastest and most reliable recovery with traditional solutions requires exactly duplicating production infrastructure—and its costs—to avoid failures due to hardware dependencies. Traditional recovery plans also require complex, time-consuming processes that are prone to error. As a result, organizations find themselves unable to provide sufficient disaster recovery protection for more than a few privileged systems.

Organizations are turning to VMware to address these challenges, because it enables effective disaster recovery for both physical and virtualized servers. Physical servers can be recovered to virtual machine recovery targets in a “physical-to-virtual” recovery scenario. Even greater benefits can be realized in a “virtual-to-virtual” recovery scenario, where virtual machines in production are recovered to virtual machines.

Using VMware, organizations can effectively meet core requirements for disaster recovery:

- **Rapid recovery.** VMware software eliminates many of the slow, manual steps in traditional recovery, helping organizations meet recovery targets. Virtualization provides true hardware independence, eliminating the need to reinstall software or go through bare-metal recovery processes. VMware® Site Recovery Manager allows organizations to automate execution of the recovery process to further accelerate recovery.

- **Reliable recovery.** VMware eliminates many of the common causes of failed recovery, including failures due to hardware dependencies. Combining VMware Infrastructure with the management and automation capabilities of Site Recovery Manager ensures that recovery plans are consistently executed as designed. Site Recovery Manager also provides non-disruptive testing automation, simplifying testing of recovery plans.
- **Affordable recovery.** VMware software makes it possible to deliver rapid and reliable disaster recovery without requiring a duplicate, idle datacenter. Virtual machines are recoverable on any hardware, even hardware that has been retired or repurposed from production. Virtualization is a proven solution for server consolidation, reducing the cost of server infrastructure for both production and recovery. Additionally, VMware Infrastructure makes it possible to utilize recovery hardware without affecting disaster recovery and without requiring reconfiguration.

Key Benefits

Customers using VMware to improve their business continuity plans have realized the following benefits:

- **Reduced downtime:** VMware helps customers prevent common causes of planned and unplanned downtime and minimize downtime when outages do occur.
- **Lower costs:** VMware makes it possible for companies to implement better business continuity at a lower cost by slashing the need for additional hardware and specialized software.
- **Simplified processes:** VMware removes the complexity of maintaining duplicate physical systems for disaster recovery. It also eliminates and streamlines much of the recovery process.
- **Expanded protection:** Because VMware reduces the cost of business continuity solutions, companies can cost-effectively increase availability and ensure more rapid disaster recovery for more of their important applications.

Summary

Customers of all types and sizes are using VMware software to improve their business continuity plans. More than 100,000 companies—including the 100 percent of the Fortune 100—use VMware as their trusted virtualization platform.

To learn more about how VMware can help you build better business continuity solutions visit the VMware web site at <http://www.vmware.com> or call 1-877-4VMWARE.

“As well as having a significant cost benefit, basing our disaster recovery infrastructure on VMware software has enabled us to get servers up and running in just eight minutes, compared to eight hours with our previous configuration.”

Steve Fountain, IT Director, Markel International