

# Transforming Business Continuity with VMware Infrastructure

## Current Business Continuity Challenges

Implementing plans to ensure business continuity for key IT services and business critical applications is an essential requirement for organizations today. Downtime of important applications is a costly proposition and extended downtime can even be fatal—industry research finds that a significant number of companies that experience extended interruption to IT services soon go out of business.

While most organizations recognize the importance of business continuity, their ability to provide high availability and disaster recovery for key applications in a physical (non-virtualized) environment is often constrained by the following challenges:

- **High costs.**  
Many solutions require significant investment in additional hardware, software and services. Disaster recovery plans in particular often require duplicating data center infrastructure, resulting in a proliferation of underutilized servers.
- **High complexity.**  
Most traditional business continuity solutions add significant complexity to data center environments. Acquiring and managing additional servers, use of complex cluster tools, implementing and maintaining specialized software and processes all contribute to this complexity.
- **Failure to meet recovery time and availability goals.**  
Due to the cost and complexity of business continuity solutions, organizations are often forced to compromise on solutions that are unlikely to meet goals for availability and recovery time objectives.
- **Insufficient reliability.**  
Testing existing complex business continuity solutions is challenging and requires significant equipment, expertise and personnel resources. The complexity of these specialized solutions also makes them difficult to maintain.

## Higher Availability with VMware Infrastructure

Industry-leading VMware® VMotion™ technology allows IT administrators to move running virtual machines from one physical server to another without downtime. This capability makes it possible to conduct zero-downtime hardware maintenance by simply using VMotion to move running applications to other physical servers as needed.

VMware Distributed Resource Scheduler (DRS) can reduce unplanned downtime by automating the process of using VMotion to migrate running applications away from servers that cross utilization thresholds or moving virtual machines non-

disruptively to servers that have the needed compute resources.

VMware High Availability (HA) provides easy to use, cost effective high availability for applications running in virtual machines. In the event of server failure, affected virtual machines are automatically restarted on other physical servers that have spare capacity.

## Better Disaster Recovery with VMware Infrastructure

VMware virtual machines are hardware-independent so any physical server can serve as a recovery target for any virtual machine. Organizations can significantly reduce the cost of hardware for disaster recovery by repurposing underutilized existing servers for recovery targets and disaster recovery testing.

VMware Infrastructure also simplifies and accelerates recovery, helping IT organizations meet their time-to-recovery targets. Complex multi-step procedures using specialized software for baremetal recovery and operating system recovery can be simplified to single-step file recovery because virtual machines are completely encapsulated in a small number of files and can be restored to any hardware.

Finally, VMware Infrastructure simplifies testing of disaster recovery plans and makes training personnel in disaster recovery procedures easier.

## Benefits of VMware Business Continuity Solutions

Customers who use VMware Infrastructure to improve their business continuity plans experience numerous benefits, including:

Downtime reduction by eliminating planned downtime due to maintenance, or reducing un-planned downtime through economical sharing of fault-tolerant hardware features, and automated rapid restart of virtual machines.

Lower costs by implementing better business continuity at a lower cost, eliminating the need for additional hardware and specialized software.

Simplified processes by removing the complexity of maintaining duplicate physical systems for disaster recovery.

## Learn More

To learn more about VMware solutions and products, visit <http://www.vmware.com> or call 1-877-4VMWARE.

# Partner Solution Profile



## PARTNER PROFILE

BLADE Network Technologies, Inc.  
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### Overview

BLADE is the leading provider of Gigabit and 10G Ethernet networking solutions for servers and storage in dynamic data centers worldwide.

### Key Business Needs

Current networking switches are not aware of virtual machines, and this exposes the risk of service outage and security breaches due to incorrect network configuration. To fully realize the benefits of virtualization, companies need virtual machines to be able to migrate between resources to meet dynamic workloads and maintain high availability.

### Key Business Benefits

VMready™ enables the network to be virtual machine aware. It automatically detects virtual machines in the network, allowing for configuration and automated transfer of network configurations for virtual machines in real-time as they are migrated.

### Business Results

The combination of VMready and VMware vSphere™ enables customers to deploy truly dynamic data centers in which virtual machines can be automatically migrated to balance physical resources to application workloads. This helps customers minimize energy consumption while meeting service level agreements and staying fully secure and available on the network.

### VMready works with the following products:

- VMware ESX 3.5
- VMware vSphere 4
- VMware vCenter™
- BLADE Rackswitch G8124 – 24 port 10G Ethernet switch
- BLADE Rackswitch G8000 – 48 port 1/10G Ethernet switch
- BNT 1/10Gb Ethernet Switch Module for IBM BladeCenter
- BNT Virtual Fabric 10G Switch Module for the IBM BladeCenter
- 1:10Gb BL-c Switch for HP BladeSystem
- BLADEHarmony Manager

## VMready makes the network virtual machine aware

Uniquely configure networking parameters for all virtual machines and track VMware VMotion migrations

### Industry Overview

Companies that have turned to server virtualization in order to maximize resources face additional complexity and overhead. Current networking switches are not aware of virtual machines, and this exposes the risk of service outage and security breaches due to incorrect network configurations. Migration of virtual machines without guaranteed performance and security prevents virtualization from achieving its potential for rapid scale-out, balanced workloads, and high availability — all of which are required in cloud computing and dynamic data centers. To fully realize the benefits of virtualization, companies need to enable the dynamic movement of virtual machines while protecting security and maintaining accessibility on the network.

### Solution Overview

VMready is a patented, unique solution that makes the network virtual machine aware. The approach extends the concept of virtualization into the network, allowing network policies to be configured for virtual ports (v-ports), rather than just for physical ports. Each virtual machine can be assigned unique networking parameters such as security ACLs, QoS, and VLANs.

VMready automatically synchronizes with VMware vCenter™ to create port groups. These port groups all have the same network configuration on all the required ESX vSwitches. This automatic configuration simplifies administrative tasks and reduces the chance of error due to misconfigurations. VMready also tracks the mobility of virtual machines across the data center and automatically reconfigures the network in real-time as the virtual machines move.

For server and network administrators, VMready greatly simplifies management by ensuring that consistent network policies are enforced *regardless of a virtual machine's physical location*. VMready balances resources to the application workload using VMware VMotion, enabling truly dynamic data centers.

### Results

- Prevents security breaches and service outages that can be caused by improper network configuration
- Maximizes the benefits of virtualization while eliminating the exposure to error that exists in traditional networking environments
- Solves issues in managing virtual machines and provides the simplicity, flexibility, and power needed to enable dynamic data centers
- Enables administrators to configure the network parameters of virtual machines and track them as they migrate with an open-standards based solution
- Reduces complexity by requiring no additional server software or changes to hypervisors or virtual machines
- Helps create energy-efficient, cost-effective data centers that allow enterprise applications to perform with the highest availability and performance
- Lowers costs through support for VMware's Enterprise and Advanced editions (VMware vSphere 4 and 3.5) without additional license fees

