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 nondisruptively 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.

Unitrends and VMware: Next-generation Data Protection

With the vRecovery solution from Unitrends and VMware, customers can leverage next-generation data protection including VMware features such as vMotion, thin provisioning, direct I/O and more. The reliability of Unitrends technology in a virtual appliance creates an unparalleled advantage for companies with VMware who want to maximize return on their entire IT infrastructure investments and growth.

Learn More

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

vmware®

V-locity Boosts Virtual Performance and Efficiency Across Your Entire Infrastructure

Maximize I/O performance and efficiency for Windows guest virtual machines

While virtualization offers near-instant provisioning, better hardware utilization, and energy and space savings, it comes with two prime performance considerations. First, due to accelerated logical disk fragmentation within Windows, I/O bandwidth rapidly bottlenecks, resulting in notable performance problems. Fragmentation at the Windows OS level creates split I/Os, resulting in notable loss of data throughput on virtual machines regardless of underlying storage infrastructure. Second, thin disks do not resize when data is deleted, resulting in a waste of vital free space.

The challenge of maintaining the highest possible Service Level Agreement (SLA) with no overhead in today's virtual environments has been solved with the introduction of the first VMware Ready–certified virtual platform optimizer. V-locity eliminates fragmentation at the guest OS'es running on VMware's ESX/i Server platform, returning excess disk I/O to the storage array without consuming unnecessary resources. To eliminate resource contention, V-locity intelligently synchronizes and automates resource usage between virtual guests. Disk I/O saved and storage space preserved means resource bottlenecks are averted, affording Admins greater VM performance and density.

Solution Benefits

The benefits of V-locity VMware Ready virtual platform optimizer include reduced help desk calls and hardware costs, faster VMs, extended drive life, averted performance degradation at the Windows Guest levels, and true realized performance of the virtual platform. On the VMware platform, users will see:

- Optimized disk I/O across the VM implementation–ensuring maximum data throughput speeds are realized

- Increased resource efficiency heightening security against hazardous bottlenecks and providing Storage Admins with more options

- Elimination of resource overhead typically expected from an optimization solution

Preventing File Fragmentation and More

Fragmentation problems result in slow operating system performance. The proprietary IntelliWrite technology found in V-locity prevents file fragmentation before it occurs, optimizing file placement and eliminating excess disk I/O. InvisiTasking® technology permits synchronous resource monitoring between virtual guests, eliminating I/O conflicts. And virtual disk compaction returns otherwise wasted storage space to the Storage Admin.

Overview

Enterprise-class software specialists for VMware and Windows. Flagship products include Diskeeper® performance software and V-locity® virtual platform optimizer.

Key Business Needs

- Existing physical storage investments are not yielding their optimal benefit due to file system limitations at the OS level

- Windows' split I/Os, due to fragmentation, lead to excess disk I/O, reducing IT service levels

- VM density is limited by unnecessary .vmdk bloat

- Service bottlenecks arise from inefficient resource allocation

Key Business Benefits

- A virtual platform optimizer must bridge the gap between virtual guests that are natively unaware of their environment. The patented technology found in V-locity enables communication between VMs to intelligently synchronize resource allocation

- Groundbreaking IntelliWrite® technology prevents file fragmentation before it occurs, optimizing file placement and eliminating excess disk I/O

Business Results

V-locity VMware Ready virtual platform optimizer provides:

- Increased internal and external service levels

- Reduced energy costs arising from optimized I/O efficiency

- Higher value of existing virtual space by reducing storage costs

- Increased uptime by averting resource bottlenecks

- Data throughput speeds unhindered by split I/Os

Products

V-locity VMware Ready virtual platform optimizer

Diskeeper performance software

"I was shocked to see after deploying V-locity how much performance increased on the servers I had hosting disk-intensive operations. This includes our database server, Exchange server and to a certain extent, two terminal servers. I am very happy with this V-locity product."   – Mesa Industries, Inc.