

Transforming Business Continuity with VMware Infrastructure & Virtual Instruments

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 datacenter infrastructure, resulting in a proliferation of underutilized servers.
- **High complexity.**
Most traditional business continuity solutions add significant complexity to datacenter 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.



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Overview

Virtual Instruments provides virtual infrastructure optimization solutions that improve the performance, availability, and utilization of virtualized data centers.

Key Business Needs

IT organizations want to increase the use of virtualization with mission-critical applications in order to reduce overall IT costs and increase business agility so they can be more responsive to changing business needs. Concerns about performance and problem resolution times must be eliminated before mission-critical applications can be successfully virtualized.

Key Business Benefits

Only Virtual Instruments can provide the real-time visibility into the virtualized server and storage infrastructure to enable IT managers to optimize performance, availability and utilization. By monitoring the virtual and physical infrastructure, performance can be substantially improved, problems resolved immediately, and the use of virtualization dramatically increased.

Business Results

By deploying VirtualWisdom with VMware vSphere, IT organizations can typically reduce troubleshooting time by up to 80%, improve application performance by up to 10X, and increase overall server and SAN utilization by 2X. This results in both substantially lower capital and operational expenses and maximizes overall uptime.

Products

- VirtualWisdom software monitoring solutions: VirtualWisdom, Probe V, and ProbeVM
- SANInsight hardware monitoring solutions: ProbeFCX, Tap Patch Panels, Protocol Analyzers, and Rovers

Successful Virtualization of Business-Critical Applications with VMware & Virtual Instruments

Keep Your Business Up and Running 24x7 with Real-time Infrastructure Monitoring

Industry Overview

VirtualWisdom is designed for IT Managers, VMware Administrators, Server Administrators/Mgrs, Application Managers, and Virtualization Architects. VirtualWisdom addresses the need for IT organizations to lower both capital and operating expenses, while simultaneously reducing the risk of virtualizing business-critical applications. With its comprehensive real-time monitoring and analysis capabilities, VirtualWisdom addresses the needs for optimized application performance, faster problem identification and resolution, increased server consolidation ratios, and higher overall IT infrastructure availability.

Solution Overview

VirtualWisdom is a virtual infrastructure optimization solution that dramatically improves the performance of applications deployed on VMware vSphere – without using agents or other intrusive technologies. While VMware vCenter™ will monitor CPU and memory characteristics, VirtualWisdom adds the key missing I/O performance data by monitoring all transactions crossing the SAN infrastructure in real-time. Together vCenter and VirtualWisdom can be used to re-balance the server infrastructure to improve performance, availability, and utilization

VirtualWisdom gets data from 3 unique sources, called Probes. The Probes include 2 software Probes, ProbeVM and ProbeV, and the ProbeFCX hardware monitoring device. ProbeVM extracts all data that VMware vCenter collects as it pulls data from vCenter as frequently as once every 20 seconds. In parallel, VirtualWisdom ProbeV collects SAN switch utilization and performance data via SNMP from the SAN switches. And, most importantly, ProbeFCX directly measures I/O transaction data in real-time via Fibre Channel network TAPs that analyze the fibre channel frame header data transmitted over the Fibre Channel network. The data is measured, analyzed and correlated by VirtualWisdom, which resides on a Windows-based server. The information can then be

used to easily feed or trigger alerts into any management platform such as vCenter.

Solution Benefit

VirtualWisdom helps ensure that your virtualized IT infrastructure is up and running 24x7x365. With real-time monitoring of the virtual and physical infrastructure, the IT organization will find problems that could affect performance or availability before they affect the application end-users. With a unique combination of software and hardware monitoring, only VirtualWisdom can see the impact of I/O transactions on application response time. Only VirtualWisdom can determine if the SAN is truly the cause of application outages and slowdowns.

VirtualWisdom on VMware

VirtualWisdom enables the IT Manager to have complete confidence to deploy I/O-intensive business-critical applications on vSphere. Due to its unique cross-domain real-time monitoring capabilities, VirtualWisdom can feed essential performance and utilization data back into vCenter to trigger a vMotion transfer and re-balance the virtual machines across the server cluster. This results in significantly improved virtualized application performance, substantially increased server and SAN utilization, and higher overall availability. Simply put, VirtualWisdom saves IT organizations both time and money by proactively optimizing both virtual and physical infrastructure.

“As more companies consider deploying mission-critical applications in a virtualized environment or look into deploying private clouds, it will be imperative for them to have complete real-time visibility into the response times of their virtual and physical IT infrastructure. Without the visibility enabled by solutions such as VirtualWisdom, they will be flying blind, exposing their businesses to needless risk and wasted IT resources.”

Bernd Harzog, Senior Analyst
The Virtualization Practice

