

VIRTUAL INFRASTRUCTURE OPTIMIZATION AND BEST PRACTICES

While VMware has many advantages and savings opportunities, they aren't met without proper planning and implementation. VMware consolidation projects significantly increase the need for greater SAN visibility and closer coordination between Storage and Server teams. The tools available to manage, migrate, and share the SAN environment combined with the consolidated SAN workload lead to many infrastructure, organizational and process challenges. While many organizations have faced these challenges alone for their non-production or less critical applications, production and mission critical applications demand a system with greater transparency and robustness. The Virtual Infrastructure Optimization and Best Practices Service is designed for customers who are planning virtualized infrastructure and need the tools and information to assess the current environment and to plan for and optimize their virtualized environment.

The Virtual Infrastructure Optimization and Best Practices Service provides customers the information they need to answer the questions that have impacted Virtualization and Consolidation projects:

- With I/O as the major determinant of response time, how do I account for I/O in the consolidation process
- What are the SAN best practices for a VMware environment
- How do I ensure that vMotion and DRS activities don't cause SAN related issues or vice versa
- How many Clusters, Servers, and VMs can my environment support
- Why are we not seeing the level of consolidation and efficiencies that we expected
- How will this scale to my production applications without overwhelming my limited staff

The service utilizes VirtualWisdom, the most advanced SAN monitoring and analysis tools available, which are the same market-leading tools used by leading SAN storage and switch vendors to develop and support their SAN devices. Completely invisible and non-intrusive to the SAN, fault-tolerant Traffic Analysis Points (or TAPs) provide access to the links. Baseline SAN I/O data is collected and analyzed to assist in configuration planning from Virtual Machine to LUN. Proposed configurations can be tested and monitored with VirtualWisdom, providing the ability to quickly

identify performance and behavior anomalies and trouble spots on any Virtualized environment prior to deployment. The TAPs installed during the service can remain in place for future use, providing a powerful new permanent non-disruptive diagnostic layer.

Once the virtualized infrastructure is brought into production, the Virtual Infrastructure HealthCheck and Performance Scan Service can be utilized for ongoing monitoring and analysis.

KEY DELIVERABLES

- Pre-consolidation baseline I/O characterization
- VM to ESX best ratio and layout recommendations, incorporating I/O characteristics
- VM to SAN I/O stress test to determine optimal configuration and maximum environment limitations
- VM, ESX, and Cluster rollout process definition to ensure resources are evenly distributed to maximize efficiencies and fully utilize the environment.

BENEFITS

- Improved system utilization by incorporating SAN and I/O metrics into configuration planning
 - Prevent I/O bottlenecks and SAN performance or availability issues
 - Quickly identify any potential SAN issues during planning and testing phases
-

VIRTUAL INFRASTRUCTURE OPTIMIZATION AND BEST PRACTICES

PHASES

Baseline Measurement

- Latency time-of-day trends
- Performance and Utilization assessment
- Assess Latency-to-load relationships
- Array response times to read requests – worst and average
- Performance time-of-day trends
- Performance-to-load comparison
- Applications

Planning

- 4 Dimensional (CPU, Memory, LAN, SAN) Server load assessment
- Initial VM, Server, and Cluster layout recommendation
- Infrastructure process plan and SAN sizing

Testing

- Stress test VM to SAN load characteristics and recommend upper limit and best practice configuration
- Instrument the environment for the next phases

Delivering

- Monitoring and alerting based on SLA requirements
- Recommend SLA, Server, and application performance and utilization reports
- Recommend Alerts to ensure that vMotion activities don't cause serious SAN issues
- Define ongoing processes to ensure even and optimal deployment and growth.



100 Enterprise Way, Suite C-3
Scotts Valley, CA 95066
Phone: 831-439-4000

Sales Information
sales@virtualinstruments.com
Phone: 831-439-4080

Customer Support
support@virtualinstruments.com
www.virtualinstruments.com