

## Monitoring Virtualized Environments

Organizations of all sizes are adopting virtualization, and with good reason: implemented properly, virtualization can result in more cost-effective hardware utilization, reduced power consumption, simpler disaster recovery, and faster, more flexible provisioning. Virtualization also poses new challenges to IT departments to ensure that end users continue to receive the expected levels of service from critical applications once they have “gone virtual.”

### Why Virtualization Changes the Monitoring Paradigm

Traditionally, the health of an application could be assessed based on the resource utilization of the underlying server and physical infrastructure. Application Performance Best Practices that evolved over the years dictated that performance degradations could be expected when the server CPU, memory, I/O, and disk utilization crossed certain well known thresholds. Additional data, such as workload characterization information and user response time, helped to fine tune the process of monitoring and evaluating application performance.

Virtualization has necessitated a new approach to monitoring application performance. Why? In a virtualized environment, there is no longer a one-to-one correspondence between an operating system instance and a physical server. A single server (host) could host several operating system instances (guests or VMs), each running its own OS and application workload; furthermore, guests may be migrated automatically among hosts in order to maintain optimal load balancing among the available resources. Additionally, resources are grouped in datastores, clusters, resource pools and data centers, and dynamically allocated according to workload. Therefore, monitoring software must look at virtual resource utilization and user response, as well as physical resource utilization, in order to gauge application performance.

### Longitude: An Integrated Approach

Longitude's VMware monitoring solution monitors the key performance indicators that matter in virtualized environments and alerts you to potential issues with guests or hosts. These built-in VMware monitors work in conjunction with end user experience monitoring and service level agreement monitoring to give IT organizations the accurate performance data needed to assess and assure service levels in virtualized environments. Longitude provides an integrated approach to monitoring your virtualized environment:

- Automatically collects key physical and virtual performance metrics for VMware guests, hosts, resource pools, clusters, datastores, and datacenters.
- Consolidates alarms generated by VMware itself for unified alerting and reporting.
- Alerts you to potential performance or availability problems with guests, hosts, or any VMware-related entities, and optionally takes corrective action.
- Generates comprehensive reports to show physical utilization and virtual utilization.
- Correlates VMware indicators and infrastructure issues with end user response metrics for the most accurate assessment of application performance.



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