

The eG VM Monitor™ for Citrix XenServer® Infrastructures



Benefits of the eG VM Monitor™

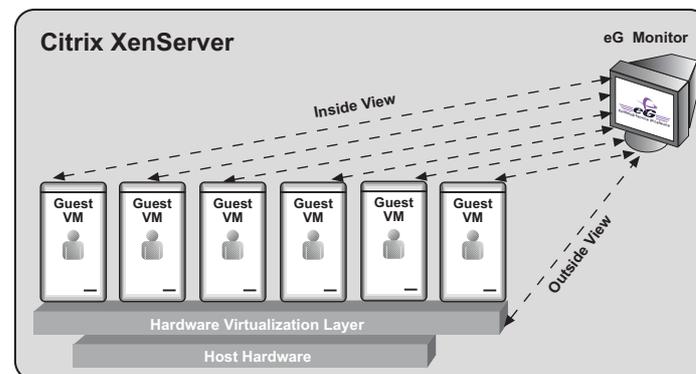
- **Combined external and internal views of Citrix XenServers :** Real-time performance views of what the XenServer host sees about the guest VMs and what the guests see internally.
- **Deep diagnostics :** With a few clicks, drill down to the exact processes causing a problem.
- **Automatic correlation :** Analyze performance across layers of the VM infrastructure - the XenServer host, between the host and the guests, and across VM guests.
- **Monitor virtual environments with service views - not as silos :** Correlate the performance across applications hosted on XenServers, discover VM dependencies, and identify performance bottlenecks.
- **Single agent licensing for Citrix XenServers :** One agent monitors the hypervisor, the control domain, and all the VM guests.
- **Compatible with Citrix XenMotion:** Detect live migration of virtual machines across Citrix XenServers, and determine the efficiency of XenMotion.
- **Extensive Reporting :** Customizable executive and operations reports on every aspect of your XenServers. Identify bottlenecks in real-time, and plan the capacity of your XenServer farm.

Virtual server technologies are now being adopted for mainstream IT deployments. From being deployed primarily in QA and development environments, virtual server technologies are being used now to support mission-critical business services in production environments. Effective monitoring and management technologies will be a key to ensuring that virtualized infrastructures deliver the cost savings and performance benefits envisaged, and serve as adequate replacements for traditional hardware-based infrastructures.

The eG VM Monitor™, part of the eG Enterprise Suite, serves as a one-stop-shop for monitoring and managing heterogeneous virtualization environments. Administrators can use a common web-based console to monitor server applications and desktops running on Citrix XenServer, VMware ESX, Microsoft Hyper-V, and other virtualization environments. Coupled with the ability of the eG Enterprise suite to monitor over 120 applications, including Citrix, Microsoft, Oracle, IBM, SAP, and others, the eG VM Monitor provides a comprehensive end-to-end solution for monitoring and managing the performance of virtual IT infrastructures.

Citrix XenServer Monitoring Challenges

Since a single Citrix XenServer is used to host multiple virtual machines (VMs), a single malfunctioning application on a VM can degrade the performance seen by applications hosted on the other VMs. Besides resource contention among virtual guests, applications executing on the control domain can also affect the performance of the virtual infrastructure. Performance degradations could also occur if a VM is not configured with sufficient resources to handle its workload. Furthermore, Citrix® XenCenter and other SNMP monitoring solutions measure the resource usage levels of the virtual machines but do not look in-depth into each guest operating system to detect abnormalities. Deploying agents on each guest VM to track its operation is a time-consuming task, has a higher resource overhead, and involves additional cost.



Monitoring VM guests: eG agents track the performance of each guest VM relative to shared infrastructure resources (outside view) as well as the workload and application mix of the individual guest VMs (inside view).

In-N-Out Monitoring and Root-Cause Diagnosis using eG Enterprise

The eG VM Monitor™ extends the eG Enterprise monitoring technology to virtual environments. Using a patent-pending In-N-Out Monitoring™ approach, the eG VM Monitor provides a comprehensive view of a Citrix XenServer, including the performance of the hypervisor, the control domain and all of its VMs. The monitoring can be done either using agents installed on the XenServers or using agentless monitors. When agent-based monitoring is used, eG agents only have to be installed on the Citrix XenServer -- not on individual guest VMs. Using XenServer APIs, the agents provide an "outside view" of a guest VM's performance. The relative resource usage levels of the guest VMs show where the performance hogs exist. To complement the outside view, the eG agent obtains an "inside view" that details the user activity, resource allocation and the application mix running inside the VM operating system. All the capabilities of agent-based monitoring are also available with the agentless monitoring option.



Monitoring and Reporting of Citrix XenServers: Using a custom monitoring model for Citrix XenServers, the eG VM Monitor correlates performance across the host and guest VMs. Extensive pre-built reports enable rapid identification of bottlenecks and streamline capacity planning.

The eG VM Monitor automatically baselines all the metrics it collects, so that IT administrators can be informed proactively of any deviations from the norm. No other virtualization monitoring solution offers this combination of features.

From a monitoring and management standpoint, the eG VM Monitor for Citrix XenServers goes well beyond managing virtualized servers as discrete entities. End-to-end business service views show the applications and network devices that support each business service, and the inter-dependencies among them. Applications are associated with the VMs they run on, and each virtual machine is mapped to the physical machine upon which it is hosted.

The dependency of the virtual machines to physical machines is determined dynamically, so as to support the Citrix XenMotion® technology. A patented root-cause diagnosis engine analyzes the service topology graphs and the virtual-to-physical machine mappings to pin-point where the problem areas in the infrastructure lie.

What the eG VM Monitor™ Reveals

- What is the CPU load on the XenServer kernel, and on the control domain?
- What is the free memory in the XenServer kernel and the control domain?
- Which network interfaces are seeing the most traffic?
- Which volume groups are experiencing a space crunch?
- How much free space is available on each of the disk partitions?
- Are there processes on the control domain that are taking up excessive resources?

Virtual Machine Monitoring

- How many virtual machines are running? What are their IP addresses/host names and operating systems?
- What portion of the XenServer's CPU is used by each VM?
- How much of the memory allocated is a VM actively using?
- Which processes on a guest are taking up high disk, CPU or memory resources?
- Is there excessive paging or memory thrashing in a VM?

- Do all the disk partitions inside the VM operating system have adequate space?
- Is there excessive queuing for disk access on any VM operating system? Which applications could be causing these accesses?

XenServer Desktop Monitoring

- How many desktops are powered on simultaneously on the XenServer?
- How much CPU, memory, disk and network resources is each desktop taking?
- What are the peak usage times?
- What applications are running on each desktop?

XenMotion Monitoring

- Which XenServer is a VM running on?
- When was a VM moved from a XenServer? Which XenServer was the VM moved to?
- Why was the VM migrated? What activities on the XenServer host caused the migration?

About eG Innovations

eG Innovations, Inc. is a global provider of IT infrastructure performance monitoring and triage solutions. The company's patented technologies provide proactive monitoring of every layer of every tier in the infrastructure, thereby enabling rapid diagnosis and recovery in enterprise and service provider networks. By ensuring high availability and optimum performance of mission-critical business services, eG Innovations' solutions help enhance customers' competitive positioning, lower operational costs and optimize the performance of their infrastructures. eG Innovations has customers in 16 countries, including organizations of all sizes in government, banking/finance, telecom, healthcare, manufacturing and service industries.

For more information
info@eginnovations.com
www.eginnovations.com
 Ph: (866) 526 6700

