

# How do you manage performance in a constantly changing virtual environment?

## Benefits at a glance.

- ▶ Immediately pinpoint root-causes of performance issues
- ▶ Forecast performance issues up to two hours ahead
- ▶ Automate baselining and threshold administration
- ▶ Improve visibility and manageability of VM deployments
- ▶ Proactively manage system health.

The search for higher capacity utilization, greater system flexibility and lower operating cost has probably set you on the path to server virtualization. If so, be forewarned that allocating resources, managing performance and isolating problems in virtual environments is far more complex than with physical systems. The elements in a virtual environment are highly interdependent and trying to understand the meaning and impact of their relationships to one another is a human impossibility. Compounding your difficulties is the speed at which entire systems – and problems – can be replicated and relocated.

These are only a few of the questions you'll face in managing a virtualized infrastructure:

- What impact is any VM having on host server performance?
- Can "badly behaving" VMs be readily identified?
- How do you set baselines and thresholds for a continually changing, virtualized environment?
- Where is the root cause of any perceived performance issues?

With Gartner reporting that 70% of IT executives have little or no confidence in their current performance management tools, your most important question may be this:

**Can you trust the performance of a dynamic virtualized infrastructure to the static monitoring tools of the physical world?**



## Real time analysis for virtualized systems.

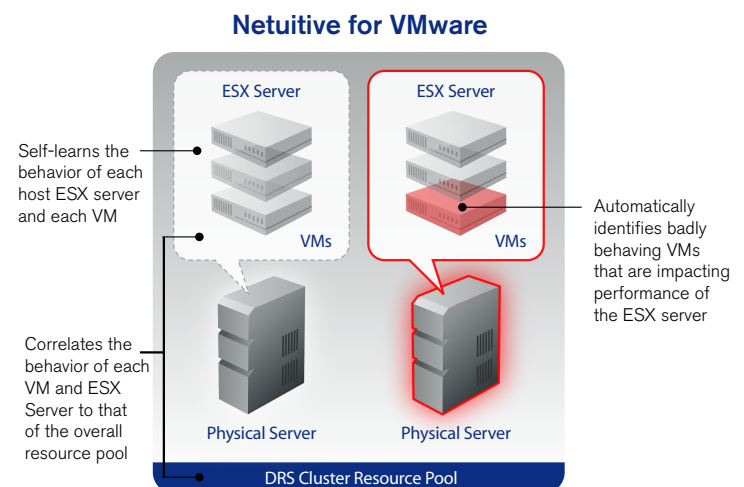
Netuitive assures performance of your VMware-based virtual infrastructures from the outset by automating the most difficult, time-consuming and costly processes in optimizing and managing virtualized environments. Applying truly unique adaptive technologies based on advanced mathematics, Netuitive software:

- Automates threshold administration for ESX servers, guest VMs, and applications.
- Self-learns the normal operating behavior and resource profiles of servers and VMs – individually and in relation to one another.
- Continuously analyzes and correlates live streaming data from all monitored components into completely self-learned Adaptive Behavior Profiles.
- Automatically identifies any "badly behaving" VM impacting the ESX server.
- Integrates quickly and seamlessly with VMware.

Unlike conventional monitoring tools you may be familiar with, Netuitive requires absolutely no manual rules, scripts or thresholds – and no agents to deploy.

## Management without guesswork.

Delivering a robust visualization of system-wide health, Netuitive takes the guesswork out of VMware performance management. Netuitive enables you to proactively manage system health by easily seeing the complex performance of each VM in the context of both its associated ESX server and the entire resource pool.



Without the analytical insight of Netuitive, you might respond to performance problems by simply allocating or reallocating resources. Rather than solving problems, that only moves or exacerbates them.

Netuitive, on the other hand, correlates resource behavior across and between the physical and virtual worlds, to maintain performance in ways that you could never do with conventional monitoring tools. Netuitive quickly isolates root-causes, accurately identifies badly behaving virtual machines and spells out necessary corrective actions in plain English – all to greatly reduce mean time to repair. And because it continuously adapts its understanding of your environment's variable, normal operating behavior, Netuitive can forecast service problems up to two hours before they occur.

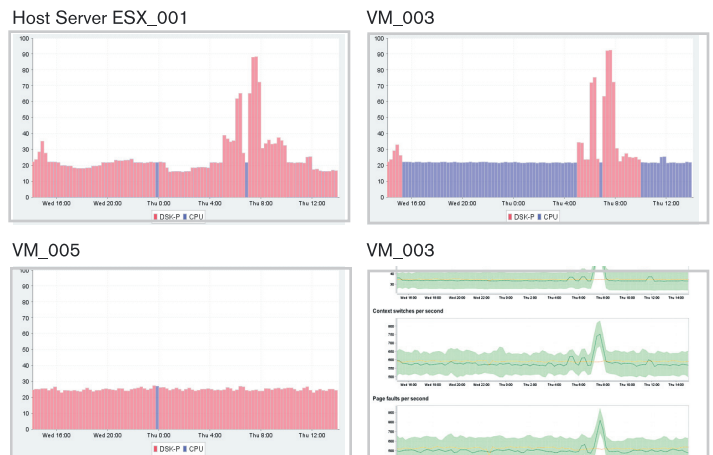
A necessary part of a successful VM deployment.

As beneficial as Netuitive is for system performance once your VMware environment is operating, it is equally critical before your virtualized servers are deployed. The earlier in the process you put Netuitive to work, the greater its benefits:

- **Right-size your virtual infrastructure** for optimal utilization. Netuitive learns the correlations and dependencies of all elements across the virtual environment for optimized resource allocation and provisioning.
- **Reduce the time, staff and cost** required to deploy and support a virtual infrastructure. Truth is, you need Netuitive's automated baselining and thresholding because there is simply no way to manually track a virtualized environment.
- **Achieve proactive management** with a real-time view of system health, encompassing both physical and virtual resources.
- **Reduce mean time to resolution.** When Netuitive detects or forecasts behavior outside your system's normal operating range, it issues Trusted Alarms providing the industry's most accurate and reliable root-cause analysis and early indication of impending performance problems.
- **Reduce uncertainty and risk.** Netuitive replaces guesswork with the precision of automated mathematics and real-time analysis.

Host Server				
	Health	Workload	Alarm Index	Availability
ESX_001	40	80%	2	Up
Virtual Machines				
	Health	Workload	Alarm Index	Availability
VM_001	99	43%	0	Up
VM_002	98	12%	0	Up
VM_003	20	90%	3	Up
VM_004	100	28%	0	Up
VM_005	99	30%	1	Up
VM_006	99	16%	0	Up
VM_007	100	12%	0	Up
VM_008	100	36%	0	Up
VM_009	96	62%	1	Up

Netuitive's ESH Health Dashboard shows performance of each guest VM in context to its host server. In the diagram above, VM\_003 is clearly consuming excess resources that's impacting host server performance



Administrators can drill down to see real-time health, workload and behavioral indicators. In the example, spikes in disk utilization from VM\_003 (upper right), which are a normal recurring pattern (lower right), are adding excess overhead to the host server (upper left)

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## Trust your performance to Netuitive.

The leader in self-learning performance management software, Netuitive, Inc., is changing the way IT manages the computing experience. Based on 20 years of academic research and covered by 9 patents, Netuitive's self-learning, self-configuring and continuously adaptive technology leverages existing monitoring infrastructures to assure system performance and reduce operating costs. Hundreds of customers, including Global 1000 corporations have discovered that Netuitive software deploys rapidly and delivers return on investment in as little as two months.

## Realize your virtual potential.

Contact Netuitive to learn more about Netuitive for VMware or to schedule an on-site demonstration.