



## nGENIUS® | VIRTUAL AGENT

*Extending the nGenius Service Assurance Solution into virtualized environments with a unified view of network and application performance across the modern IP network*

### Highlights

The nGenius® Virtual Agent extends packet-flow visibility into VMware™-based virtualized environments. In order to ensure that virtualized services deliver the same user experience as traditional applications, the nGenius Virtual Agent

- Extends core NetScout technology to virtualized environments
- Provides packet-flow monitoring of traffic inside virtualized servers
- Enables KPI monitoring in virtualized environments
- Complements application data from the physical network with data between virtual machines
- Provides on-demand packet capture within the virtual environment

Increasingly companies are turning to server virtualization to speed application delivery, reduce application failure, decrease server hardware and maintenance cost, and lower facility costs. However, virtualized environments have one significant problem, they mask visibility into the metrics necessary for optimizing service delivery, troubleshooting service degradations, or effective planning for new resources.

Visibility inside virtualized servers is critical for understanding how a virtualized application is being delivered, in a cohesive, unified view of both the virtual and physical environment.

### nGenius Virtual Agent

The nGenius Virtual Agent is a software-based intelligent data source that extends the reach of the nGenius Service Assurance Solution to application performance and behavior inside virtual computing environments. Bringing visibility to traffic inside virtualized servers, the nGenius Virtual Agent extends the NetScout intelligent data source family and complements existing nGenius hardware instrumentation strategies. The nGenius Virtual Agent:

- Extends core NetScout technology, proven in the world's largest networks, applying nGenius probe technology to virtualized environments.
- Provides packet-flow monitoring of traffic inside virtualized servers in a common format that allows unified views of services across virtual and physical infrastructure
- Enables key performance indicator (KPI) monitoring within virtualized servers
- Complements virtualized application data from the physical network provided by nGenius InfiniStream appliances with data from inside and between virtual machines
- Delivers on-demand packet capture in order to give IT managers a way to gather and analyze live packets within the virtual environment
- Leverages a simplified, single-package installation of operating system and nGenius Probe software optimized for the virtual environment to provide an efficient and cost-effective means of gaining visibility into the virtual environment

Based on core NetScout data abstraction technology, the nGenius Virtual Agent works in conjunction with the nGenius Service Assurance Solution to report on key performance indicators (KPIs), perform on-demand packet capture, send threshold-based alarms, and provide end-to-end service delivery information for virtualized applications. These functions work in unison to deliver key data allowing IT organizations to:

- Increases the value of existing nGenius Service Assurance Solutions by extending service delivery management capabilities within the physical servers for end-to-end visibility
- Provides a cost-effective addition to the nGenius Service Assurance Solution and delivers critical visibility to service delivery traffic across the virtual switch and provide key metrics that assure key business application availability to the end user
- Supports historical monitoring and reporting functionality to enable proactive planning and infrastructure optimization and improve end user experience
- Enables predictive service delivery problem resolution for issues stemming from inside the virtual environment, to avoid and minimize the impact of performance problems.

### For More information

For more information please visit [www.netscout.com](http://www.netscout.com) or contact NetScout sales at 800-309-4804 or +1 978-614-4000.

### Empowered by CDM

The NetScout common data model (CDM) architecture allows traffic-flow data from disparate network technologies, regardless of the location within the infrastructure, to be integrated into a common repository for consistent analysis, views and reports. CDM provides detailed information for emerging technologies, such as virtualized environments, and policy-based configurations, including VoIP, MPLS, QoS, VPNs and NetFlow. This gives customers a unified view of service delivery.

### How It Works with the nGenius Service Assurance Solution

The nGenius Virtual Agent is a software-based solution that runs as an autonomous virtual machine within the virtual environment. The nGenius Virtual Agent software provides a viewpoint within the virtual environment by monitoring the packets between virtual machines as well as measuring traffic in and out of virtualized servers. The metadata derived from these packets-flows is then sent to nGenius Performance Manager and nGenius K2 Service Delivery Manager for unified service delivery visibility.

When used in conjunction with the nGenius Service Assurance Solution, the nGenius Virtual Agent software allows users to gain a complete understanding of service delivery across the modern IP network and provides critical information from the virtual environment viewpoint. The nGenius Service Assurance Solution:

- Extends industry leading technology, including KPI monitoring, automated behavioral analytics, Sniffer®/nGenius decodes and CDM data collection into the virtualized computing environment
- Integrates view of service delivery across physical and virtual infrastructure for unified visibility of service delivery across the modern IP network
- Provides unique insight into the interactions of tiers in a multi-tier application across virtual and physical locations
- Delivers unmatched breadth and depth of data for virtualized application performance

Working in unison with the nGenius Service Assurance Solution, the nGenius Virtual Agent software enables:

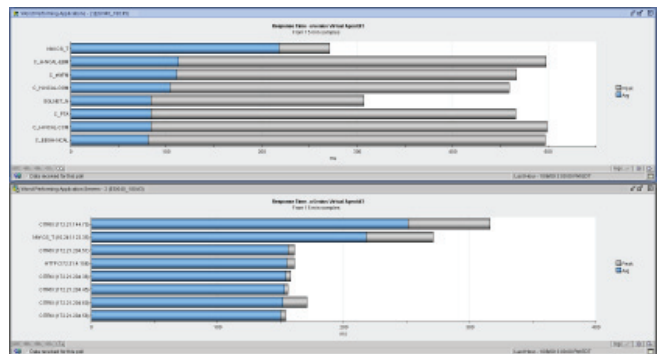
- Virtual service delivery infrastructure optimization to improve performance and application delivery
- End-user experience assurance by measuring how performance is impacted with the transition from physical to virtualization
- Improved rate of virtual service delivery issues resolution in order to minimize the impact of performance degradation on the business
- Lower total cost of ownership for IT operations of virtualized infrastructure, and eliminates tool clutter by leveraging one solution across technologies and IT groups



The nGenius Virtual Agent extends the CDM architecture of the nGenius Service Assurance Solution into virtualized servers to monitor key performance metrics including top applications and their users.

Application	Source	Source Address	Destination	Destination Address	Package	Volume	Time	Count
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	1000000	1000000	1000000
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	500000	500000	500000
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	250000	250000	250000
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	125000	125000	125000
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	62500	62500	62500
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	31250	31250	31250
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	15625	15625	15625
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	7812	7812	7812
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	3906	3906	3906
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	1953	1953	1953
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	976	976	976
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	488	488	488
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	244	244	244
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	122	122	122
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	61	61	61
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	30	30	30
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	15	15	15
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	7	7	7
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	3	3	3
HTTP	192.168.1.100	192.168.1.100	192.168.1.100	192.168.1.100	HTTP	1	1	1

The nGenius Virtual Agent enables a clear understanding of who is accessing virtual applications by delivering visibility to all conversations within the virtualized computing environment.



The nGenius Virtual Agent monitors transaction response time between virtual servers, and in and out of the virtual environments, to reveal worst performing applications and worst performing virtual application servers.

## Key Features

### Application Recognition and Monitoring

Support for a variety of application types, including

- Well-known and children of well-known applications
- User-defined, custom-developed applications
- Peer-to-peer applications
- Web-based applications and URLs

### Packet Troubleshooting

- Robust packet capture decode engine (450 protocol family decodes)
- Pre-capture filtering
- Supports capture and upload to nGenius Performance Manager
- Configure a data capture to start automatically by matching a pattern of packets

### Response Time Analysis/Key Performance Indicators

- Passive application responsiveness measurements
- Supports response time metrics for virtually all application types
- Supports 1-minute granularity: average response time, no. of active sessions, no. of successful transactions, and no. of server error types
- Supports 15 minute granularity: maximum & average response time per client/server pair, total no. of transactions, no. of successful transactions, TCP connect time, no. of active sessions, total packet loss, responses time distribution, no. of timeouts, no. of retries, and application payload
- Supports the measurement of key performance indicators including packet loss, inter-packet delay, client and server errors, and timeouts

### Network Management Metrics

- TCP, HTTP and server-specific performance and error conditions
- Percent Utilization and Packet/Byte Counts for: link, host, host group, applications, conversations

### Alarming and Event Identification

- Define alarms for link utilization, application utilization, application response time, application availability
- Burst Alarms at millisecond resolution
- "Power Alarms" highlight root cause by gathering top users and applications automatically at violation time for segments exceeding utilization, responsiveness and availability thresholds
- Supports rising, falling and time-over-threshold templates

### Data Granularity

- 15-second, real-time views with 1-second peaks
- 1-minute historically logged data for all application, hosts, and conversation flows

### Specifications and System Requirements

Specification	
Supported VMware® ESX versions	VMware® ESX™ v3.5, 4.0 VMware® ESXi™ v3.5, 4.0
Supported VMware® Client versions	VMware® Virtual Infrastructure Client 2.5 VMware® vSphere Client 4.0
Supported VMware® Virtual Management Server versions	VMware® Virtual Center 2.5 VMware® vCenter 4.0
Virtual Central Processing (CPU) Requirements*	One (1) core of physical CPU
Random Access Memory (RAM) Requirements	Two (2) Gigabyte
Available Hard Drive Space	Thirty (30) Gigabyte

\*2.4 Ghz XEON or above processors



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