nGeniusPULSE

HIGHLIGHTS

- Streamline workflows and reduce complexity via built-in integration with nGeniusONE® to monitor infrastructure health.
- Reduce need for additional infrastructure component-level monitoring tools.
- Synthetic testing to actively monitor service levels from anywhere with easy-to-deploy nPoints.
- Create custom active tests for user-defined performance metrics.

Product Overview

nGenius®PULSE is the latest addition to the nGenius Platform, adding synthetic testing and infrastructure health monitoring. nGeniusPULSE extends the service-oriented approach of nGeniusONE and Adaptive Service Intelligence™ (ASI). When a problem is identified by nGeniusONE and isolated as a potential infrastructure element, IT can drill down directly from the nGeniusONE console to the underlying infrastructure. With one contextual workflow, IT doesn't need to stop the process and start using a separate infrastructure component monitoring tool.

Compliments Real User Measurement Testing and Packet Analysis in NETSCOUT's nGeniusONE

Combined with nGeniusONE, nGeniusPULSE delivers total visibility of the enterprise by routinely and automatically monitoring applications and services for performance and availability, while also monitoring the health of the underlying infrastructure that delivers those services. nGeniusPULSE extends the service-centric approach of the nGenius platform with workflows giving visibility from infrastructure elements to business services throughout the enterprise and all the way out to SaaS applications for faster problem resolution.

To monitor the health of the infrastructure, nGeniusPULSE Server uses SNMP and WinRM to monitor servers, and SNMP to monitor network devices – including wireless access points and controllers. For VMware, virtual servers and Hypervisors, nGeniusPULSE delivers vSphere infrastructure discovery and health as well as availability and health of vSphere components. nGeniusPULSE also captures and displays syslog information to easily correlate issues found in the infrastructure.

For business services from Cloud to conventional applications, active testing automatically and routinely simulates real user actions accessing the service – even if no active users of the application are on the system, in order to proactively alert for issues or outages.

The nGeniusPULSE solution is deployed in a data center on a hardware or virtual server providing security and control of your information. Agents, called nPoints, can be placed virtually anywhere to run active tests and send results to the nGeniusPULSE Server.

From the nGeniusPULSE server, results are displayed in an intuitive interface that includes dashboards, drilldowns, and alerts; as well as easy-to-use configuration and administration functions. nGeniusPULSE also includes direct technical support from NETSCOUT's best-in-class support teams with 24x7 support services.

Product Capabilities

- Test business services from up to 1,500 different locations on a single server.
- Measure service levels from anywhere users are located - even when they're not active or not logged in.
- Create your own custom active tests such as Ping, bandwidth speed, loss, latency, etc.
- Monitor up to 25,000 infrastructure elements (servers, VMware vSphere Hypervisors and Virtual Machines, interfaces, routers, switches, wireless LAN controllers and access points) on a single server.
- Or, the collector can be separated out in a distributed architecture to monitor up to 50,000 elements – with up to 10 collectors per server for a total of 500,000 elements.

Monitor	Elements	Testing Method	Measurements
Servers	Windows Linux	Polling via SNMP, WinRM	Uptime, CPU, Memory, Disk Usage and I/O, Network I/O
Network Devices	Routers Switches	Polling via SNMP	Uptime, CPU, Memory, Interface Status, Utilization
Wireless Infrastructure	Wireless LAN Controllers, Access Points	Polling Wireless LAN Controllers via SNMP	Uptime, CPU, memory, interface status, channel utilization, retry rate, error frame rate
VMware Infrastructure	Hypervisors, Virtual Machines	VMware APIs	Uptime, CPU, Memory, Disk Latency and I/O, Network I/O and packet drops, Top VMs
Syslogs		Collected from servers and network devices	Error and Event Troubleshooting
Business Services	Web or Datacenter Apps VoIP Custom Tests	Synthetic tests via nPoints deployed at user locations	Delay from: Application, DNS, SSL, Client, Network and Server; MOS, Loss, Latency

Server and Network Device Availability and Health

From a business level view, nGeniusPULSE compliments the wire data from nGeniusONE and gives IT the ability to drill down to the infrastructure-element level. With direct drilldowns from nGeniusONE, it easy to see exactly where they problem is and assign appropriate resources to get it resolved. No more having to switch to a component management tool when a problem is identified with a server, VMware server or Hypervisor, interface, router, switch or wireless infrastructure element. Statistics such as CPU Utilization, memory, disk usage and I/O, etc. are displayed in easy-to-read graphs, pinpointing the exact cause of issues affecting the business service and its users.

Test Business Services – including SaaS Applications

nGeniusPULSE tests availability and performance of any business service from Web and datacenter apps to SaaS applications- including VoIP services. Test set up is simple with configuration options to test for specific results (e.g., HTTP Response Code - 200), test frequency (from every 1-minute to once-an-hour), thresholds for alerts based on performance metrics, and running tests from only specific or all deployed nPoints. The Test Now feature in nGeniusPULSE allows users to run ad-hoc or on-demand tests for more detailed analysis; including test details and trace routes from the nPoint to the Web Service's host location.

VoIP testing capabilities include the ability to make actual phones calls between 2 nPoints, or from an nPoint to a real phone number measuring MOS, loss, latency, and jitter and other call metrics to understand call availability and call quality.

nPoint Deployment Options Provide Flexibility to Test from Anywhere

nGeniusPULSE has two deployment options – hardware and/or software nPoints, to conduct active tests from anywhere users are located. An organization can deploy either type of nPoint, or any combination of both, depending on testing requirements and its environment.

The hardware nPoint (Model 2000) is a micro-appliance device that can simply be plugged into PoE (Power over Ethernet*) anywhere – providing 24x7 continuous testing from that location, automatically.

* If PoE is not present, a simple PoE injector can be used.

The software agent, called a Virtual nPoint, is a small software-based agent that can be downloaded to Windows or Linux machines such as laptops, servers, or VMs – or even emailed to a user having issues to help diagnose the problem.

Create Custom Tests

There are many other metrics that Network Operations teams may want to test. nGeniusPULSE allows the creation of custom test scripts that can be imported into nGeniusPULSE for continuous and automatic testing. For convenience and as examples, several custom tests come pre-configured in nGeniusPULSE.

Once written, custom tests run routinely and automatically at desired intervals from each desired nPoint location- and, just as with all other tests, results are presented on dashboards with graphs and drilldown capability for more detailed analysis.

SPECIFICATIONS

nGeniusPULSE Server

Hardware Appliance	Dell R730: 2U, 2 Socket 2620 v3, 96GB, 10x 1TB & 2x 500GB Dual, Hot-Plug, Redundant Power Supply (1+1), 750W
Virtual Appliance For operating up to 1,500 nPoints and up to 25,000 Monitored Elements, a virtual server:	24-Core CPU 96 GB RAM Disk 1: 275 GB, OS (thin or thick provisioned) Disk 2: 10 GB, Commit log (thick provisioned) Disk 3: 4 TB, Data (thick provisioned)

nGeniusPULSE Collector

Hardware Appliance	Super-micro: 800-1248 Server, V4_1U, 16TB, 2.1Ghz, 8-Core Dual Broadwell CPU, 64GB, 700W, RAID 5
Virtual Appliance One virtual server for each nGeniusPULSE Collector supporting 50,000 Monitored Elements:	8-Core CPU 32 GB RAM Disk 1: 500 GB, OS Disk 2: 4 TB, Data

Hardware nPoint (model 2000)

Dimensions	4.36 in (11.1 mm) Height 1.6 in (40.6 mm) Width 1.28 in (32.5 mm) Depth
Weight: Model 2000 (with Batteries)	0.250 lbs (0.116 kg)
Battery	2 AA Alkaline
Power over Internet (PoE)	48VDC range 44V - 57VDC class 0 device
Operating Temperature	32° to 122°F (0° to 50°C)
Operating Altitude	13,123 ft. (4,000 m)
Relative Humidity	5% - 90% (non-condensing)
Shock and Vibration	Random 2g, 5Hz – 500 Hz (class 2), 1 m drop
Safety	CAN/CSA-C22.2 No. 61010-1-12, UL Std. No. 61010-1 (3rd Edition), IEC61010-1:2010, Pollution degree 2s
EMC	EN 61326-1:2006
Certifications and Compliance	Conforms to relevant European Union directives. Conforms to relevant Australian Standards. Listed by the Canadian Standards Association. Conforms to relevant FCC standards.

Virtual nPoint

Available for:	Windows® 7, 8, 10 Windows® Server 2008 R2, Windows® 2012 R2 Linux: Red Hat® Enterprise, Ubuntu

nGeniusONE Service Assurance Platform

The nGeniusONE Service Assurance platform helps dramatically shorten the time required to solve network and application performance issues by providing one common set of metadata for service visibility across application tiers, network components, and diverse user devices. With both macro-level and micro-level insights into the performance and use of complex, enterprise-wide services, the nGeniusONE Service Assurance platform addresses the needs of a collaborative IT operational team including network, application, server, and service delivery managers.

ASI Technology

The nGeniusONE Service Assurance platform is powered by Adaptive Service Intelligence™ (ASI) technology, NETSCOUT's patented, next generation Deep Packet Inspection (DPI) engine that relies on packet-flow data to provide real-time, contextual analysis of service, network, and application performance. The superior scalability, depth, and speed of ASI enables it to generate Key Performance Indicators (KPIs), Key Traffic Indicators (KTIs), Key Server Indicators (KSIs) and Key Error Indicators (KEIs) for protocols and applications that business services depend upon.

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