nGeniusONE Platform for Unified Communications

Fast Triage for Complex UC&C Problems

Unified Communications and Collaboration (UC&C) environments are constantly evolving, expanding and improving. At any given time, IT teams may be in the middle of a new rollout, perfecting last year's deployment, or creating plans for next year. No matter if the project is an IP Telephony system rollout or upgrade, a SBC deployment to support your SIP Trunk strategy, or the introduction of collaboration services such as Microsoft® Skype for Business or Cisco Jabber®, triaging problems fast is essential.

Executing UC&C service projects on time and within budget is a daunting task in and of itself. Doing so without strong performance management visibility is exponentially more difficult. The nGeniusONE® Service Assurance platform provides a single monitoring application for UC&C deployments that includes voice, video, and data services, allowing enterprises to deliver and assure the availability and quality of voice and video services more efficiently.

IT teams involved in network, server and UC&C can collaborate more effectively to identify the root cause of issues in complex UC&C environments with the nGeniusONE platform. In a vendor independent manner, the nGeniusONE platform supports multiple UC&C technologies such as VoIP, telepresence, and collaboration services from a variety of UC&C vendors like Cisco, Avaya, ShoreTel, Oracle/Acme Packet and Microsoft.

The nGeniusONE platform leverages rich packet-flow data removing the need to rely on server agents or vendor specific metrics, or a multitude of point tools requiring a specific skillset to operate. Powered by Adaptive Service Intelligence™ (ASI) technology, the highly scalable and patented Deep Packet Inspection engine, the nGeniusONE platform enables a comprehensive view of service performance across complex multi-tier, multi-vendor, multi-location UC&C environments. The built-in advanced UC&C media analytics software, leverages ASI metrics to provide deeper insights into voice, video and media performance. This enables IT teams to triage issues faster with the nGeniusONE platform, ultimately reducing mean time to resolution (MTTR).

UC&C Problems Solved by the nGeniusONE Platform

The nGeniusONE platform examines all service-level interactions to deliver holistic visibility into the performance of application tiers, network, service enablers, and end users to understand the full context of voice and video service anomalies. Therefore, the nGenusONE platform reduces the time to triage UC&C performance impacting problems by providing visibility into the relationships and interrelated nature of the overall network infrastructure, application services, signaling, and enabling protocols such as DNS, DHCP, and Active Directory/ LDAP, which are necessary to deliver voice and video services.

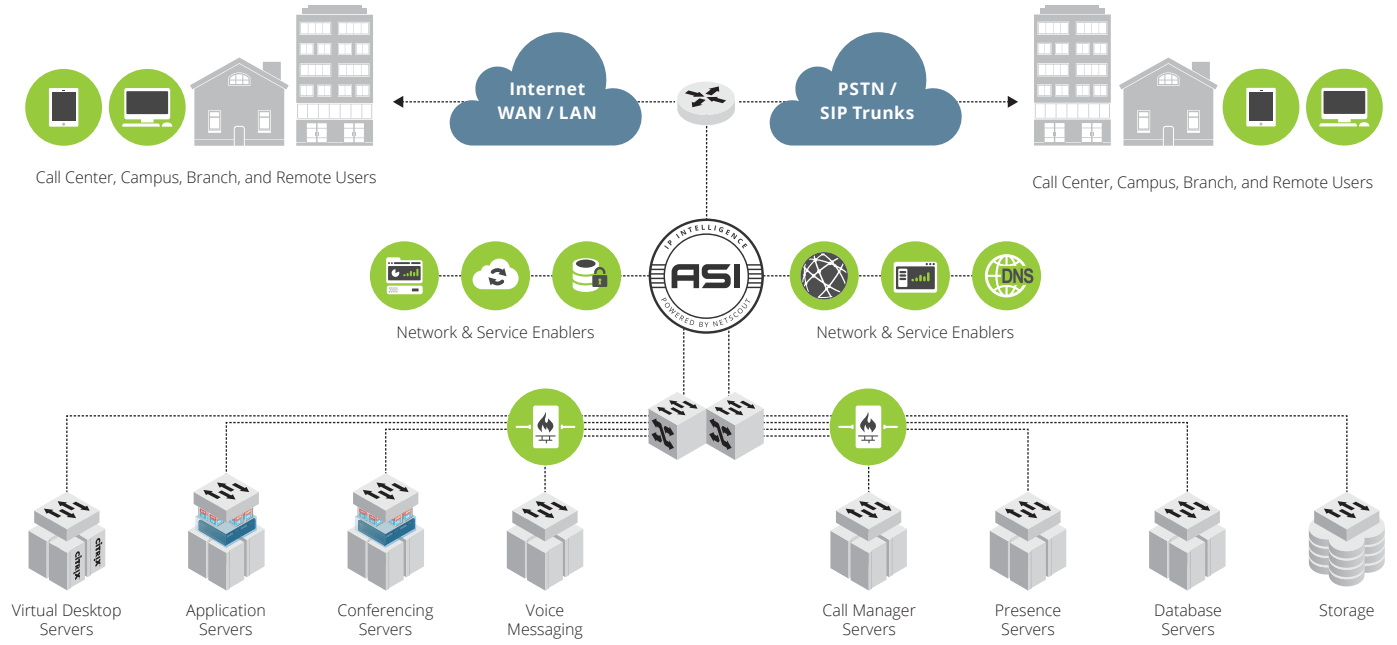

Figure 1: The nGeniusONE platform delivers cross-application tier and cross-network tier performance analytics to support end-to-end unified service delivery management.

The nGeniusONE platform's advanced UC&C media analytics provides visibility into the performance of SIP/SCCP/H323/RTP based call signaling and media protocol issues from an end user perspective and enables IT teams to precisely diagnose if the root cause is related to the underlying infrastructure such as the network, routers, servers, or related to misconfiguration of call processing servers, Session Border Controllers, and PSTN gateways, or if the issue is within the SIP Trunking service provider domain. This ability allows the nGeniusONE platform to uncover the root cause of voice and video service delivery problems quickly, which dramatically reduces the time to diagnose service delivery issues from hours to minutes. The nGeniusONE platform provides visibility into some of the following common voice and video call signaling issues:

- Registration, call setup, teardown latencies and response times
- Number of failures and error codes
- Load balancing problems
- SIP Trunk interoperability issues
- Capacity management issues encompassing network bandwidth and queue management, as well as component capacity management (e.g. routers, firewalls, session border elements)

nGeniusONE Platform Support for UC&C

In order to help IT teams address voice, video call signaling and media quality issues, the nGeniusONE platform relies on the power of ASI. Using the efficient data organization provided by ASI, performance data can be viewed by a range of keys such as location (community of users), QoS level, codec, VLAN, servers, applications, etc. This enables the nGeniusONE platform to offer efficient, top-down approach to problem identification, service triage, and resolution.

Using contextual workflows, the precise location and the source of voice and video call quality issues can be quickly identified in a matter of a few seconds due to the system-wide visibility not available with other tools. This ultimately reduces MTTR.

The nGeniusONE platform provides service-oriented workflows to enable seamless, contextual transitioning across multiple layers of analysis. This allows the nGeniusONE platform to facilitate efficient and informed hand-off of incident response tasks across the different IT groups involved in end-to-end service.

The nGeniusONE platform extends ASI data and provides additional views to provide advanced media analytics and call search capabilities such as network-based views for precisely pinpointing the nature and the source of service degradation; community level views to view top community interactions so IT teams can quickly identify the source of problems and their impact on a community of users; and service desk search to find out call history for an individual user with contextual drilldown into media and signaling details among several others.

nGeniusONE streamlines service delivery management by providing the following key analysis layers:

- **Service Dashboard** provides real-time, at-a-glance, holistic status visibility of all UC&C voice and video services and their network and application components. The dashboard delivers alarms and intelligent early warnings so the IT organization can focus their triage efforts where needed
- **Service Dependency** visualizes the current state of the environment by automatic discovery and mapping of client - server relationships
- **Performance Analysis** enables comprehensive analysis of UC&C transactions such as call setup performance, voice and video quality, and traffic analysis to identify the root cause of UC&C performance issues
- **Session Analysis** enables session-level analysis, ladder diagrams, with hop-by-hop transaction analysis for UC&C services to help identify interoperability issues with endpoints e.g. call servers and SIP peering points, etc.
- **Packet Analysis** enables deep-dive, protocol-level analysis and forensic evidence collection

A majority of UC&C service issues can be efficiently triaged within the first two layers. Should deep dive troubleshooting be needed, IT teams can contextually perform session and packet analysis.

Benefits of the nGeniusONE Platform for UC&C

- **Triage issues quickly** – Decreases MTTR with real-time, end-to-end, and comprehensive service visualization that enables IT teams to quickly triage service issues by pinpointing source of voice and video call quality problems
- **Improve IT team collaboration** – Using a common ASI dataset, the platform improves time to knowledge by enabling collaboration between network, application, and UC&C teams for resolving voice and video service delivery problems
- **Single solution supports entire UC service** – Allows the enterprise to monitor the performance of multi-vendor UC&C environment with a single solution
- **Optimize available bandwidth** – Combined service management for voice, video, and data applications helps enterprises optimize the environment with directed capacity upgrades
- **Investment protection** – Protects investment already made in NETSCOUT Intelligent Data Sources. Single solution provides visibility into the performance of voice, video, and data applications

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