

nGeniusONE Solution for Media Quality

Fast Triage for Call Quality

When issues such as degradation of network performance result in problems with gaps in voice conversation, one-way audio, and frozen video sessions, IT teams need solutions to quickly find root causes. Unlike narrowly focused point tools, the nGeniusONE® Service Assurance platform provides a holistic view of end-to-end communication for all converged IP-based services to help protect end-user experience.

nGeniusONE is uniquely capable of monitoring call quality by capturing performance metrics at strategic locations in the network to provide a comprehensive view and deeper insights into the root cause of service quality issues. Using proactive application and network analysis, service quality alerts, and state of the art continuous monitoring, UC&C and IT personnel can quickly resolve service quality issues before they become apparent to end users.

The nGeniusONE Service Assurance platform converts wire data into Smart 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 provides a comprehensive view of service performance across complex multi-tier, multi-vendor, multi-location UC&C environments whether they are deployed in corporate or cloud locations. Leveraging key performance metrics and metadata generated by ASI, nGeniusONE provides deep insights into voice and video media performance. Using the efficient data organization provided by ASI, performance data can be viewed by a range of keys such as location (community of users), servers, users, applications, etc. This enables the nGeniusONE solution to offer an efficient, intuitive approach to problem identification, service triage, and resolution.

Using contextual workflows, the source of service degradations can be quickly identified due to the system-wide visibility not available with other tools. This ultimately reduces mean time to resolution (MTTR).

Problems Solved by nGeniusONE with UC&C Capabilities

IT & UC&C organizations need the ability to see the relationships and interdependencies of network infrastructure, applications, services, and enabling protocols necessary to deliver voice and video sessions. However, point tools and agent-based approaches make it difficult to isolate and detect voice and video call quality problems across distributed, multi-vendor platforms. In such environments, manually correlating data from disparate sources to find the root cause becomes extremely difficult and may not provide the necessary visibility into the end-to-end behaviour of both networks and applications on the delivered call quality.

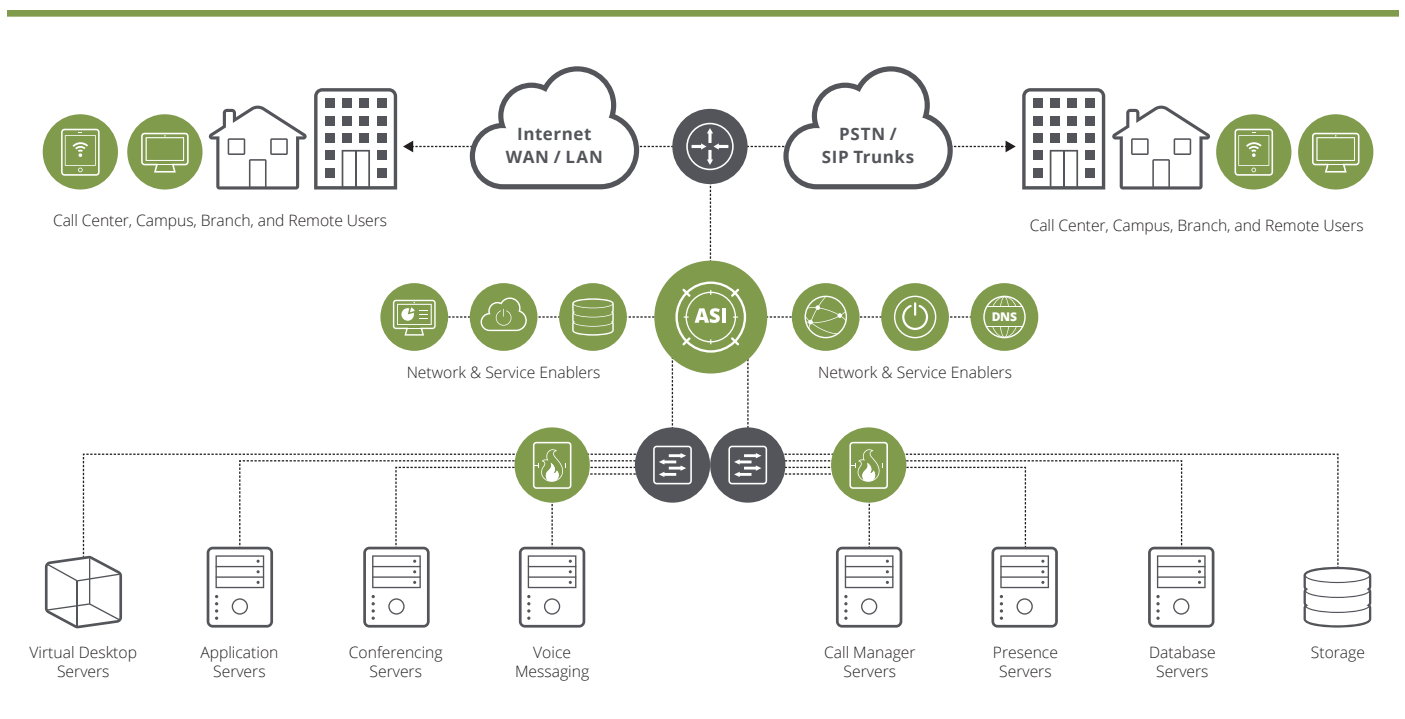


Figure 1: The nGeniusONE platform delivers Smart Data and rich analytics to support end-to-end visibility into the service delivery environment.



nGeniusONE automatically detects voice and video quality impairments and delivers real-time QoE measurements such as IP network-based Mean Opinion Score (MOS), listening and conversational quality MOS for VoIP calls, as well as video MOS for IP-based video conferencing and desktop video sessions. It delivers fine-grained key performance metrics by providing visibility into network packet loss, jitter, DSCP value changes, negotiated CODECs, and impairments to speech introduced within the payload such as echo and speech levels that are often the main reasons for voice and video quality issues.

The visibility into these and other detailed sets of key performance indicators and diagnostic data help isolate the root cause(s) of voice and video media quality problems quickly. To facilitate quick service triage, the nGeniusONE platform provides hop-by-hop network-based views which enable IT teams to precisely locate root causes of voice and video call quality problems whether they are introduced by the underlying infrastructure such as the network, routers and servers, or caused by misconfiguration of call processing servers, Session Border Controllers (SBC's), PSTN gateways, or if the issue is caused by WAN/ SIP Trunking service providers.

Through correlated metrics along the call path, nGeniusONE helps IT organizations move from reactive to a more proactive service delivery management approach. Additionally, to address any customer complaint about call quality, nGeniusONE helps first-level support staff to make an informed decision based on facts and quickly escalate the problem to the right team or team member for fast resolution.

The nGeniusONE platform provides visibility into some of the following common causes for voice and video call quality issues:

- Changes in QoS tags, VLAN, and negotiated CODECs on a per segment basis
- IP network impairments such as packet loss, jitter
- Payload metrics such as echo and speech levels
- MOS values based on IP network impairments as well as based on conversation quality

nGeniusONE Platform

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

The nGeniusONE platform also provides 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 observe 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 details such as media and signaling.

In order to help IT teams address voice and video media quality issues, the nGeniusONE platform uses NETSCOUT® technology to extract granular performance metrics and metadata using ASI. These data sources dynamically extract user experience metrics from active voice and video media streams. They may be deployed along the call path, at traffic aggregation points, and at points of demarcation including soft-clients, hard phones, multiple vendor network devices and IT telephony equipment. These highly efficient data sources generate very granular performance metrics and metadata needed to assure the service quality of voice and video services operating across complex, multi-platform and multiple vendor, multi-location environments.

nGeniusONE then presents the performance metrics in an easy-to-view network-oriented visualization displaying correlated metrics from along the service delivery chain. Using this unique data presentation model, all service teams supporting the network, voice and video applications, and the endpoint devices can effectively collaborate to quickly triage and isolate call quality problems, precisely locate the impairment anywhere in the network, and rapidly resolve problems before users are disrupted.

Using the nGeniusONE platform, organizations gain full visibility into the performance and service levels achieved by all IP-based applications such as voice, video, and data delivered on a single converged IP network.

nGeniusPULSE

nGenius®PULSE and nPoints provide valuable visibility from the user's or administrator's perspective whether using collaborative communications software for intra-company productivity, contact centers or CCaaS for customer service, or any UC&C deployment to assure service availability and performance for all your users. nGeniusPULSE pro-active synthetic testing automatically sends consistent, configurable, scheduled tests from the user desktop, even when the users are not active. This provides early warning of emerging communications problems for that user, from wherever they are performing their jobs, with corporate or cloud-based environments. This contributes to troubleshooting by discovering a problem early, to alert IT that a problem exists that can be quickly addressed to avoid broader impact on users inside or outside your company.

Smart Edge Monitoring

When deployed as part of the NETSCOUT Smart Edge Monitoring solution, nGeniusONE and nGeniusPULSE combine to extend IT's ability to truly visualize real-time, end-user experience for all of your users at the client edge. Smart Edge Monitoring is an entirely new, patent-pending architecture that combines smart data analytics with synthetic transaction testing to deliver visibility and support for end-users experience whether working at home, business offices, or remote locations.

In leveraging the Cloud Adaptor in InfiniStreamNG® or vSTREAM® appliances, ASI technology now combines passive, packet-based monitoring data with nPoint synthetic test monitoring to quickly understand what the end-user experience is and exactly why issues are occurring. As a result, this unique solution drives significant reductions in time-to-resolution for any communication issue in your UC&C infrastructure or applications.

Benefits of the nGeniusONE Solution

- **Triage Issues Quickly** – Decreases MTTR with real-time, end-to-end, and comprehensive service visualization that enables IT teams to quickly triage service issues to pinpoint location and sources of voice and video call quality problems
- **Improve IT Team Collaboration** – Using a common ASI dataset, the platform improves time to knowledge and resolution by enabling collaboration between network, application, and UC&C teams for solving voice and video service quality problems
- **Single Solution Supports Entire UC&C Service** – Allows the enterprise to monitor the performance of multi-vendor UC&C environments with a single solution
- **Increase Reliability** – Provides visibility into true user experience by measuring call quality performance due to impairments observed in the network transmission, media traffic, and call signaling
- **Investment Protection** – Protects investment already made in NETSCOUT equipment and solutions. Single solution provides visibility into the performance of voice, video, and data applications



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