NETSCOUT®

Service Assurance for Communications in Contact Centers

Fast Triage for Managing Complex Contact Center UC&C Performance Problems

To better streamline customer interaction with contact center agents, and to provide different communication options such as voice, video, instant messaging, and conferencing; many contact centers are adopting Unified Communications and Collaboration (UC&C) technologies while others are migrating to Contact Centers as a Service (CCaaS). UC&C also helps organizations better utilize converged IT infrastructure and reduce communication costs and CCaaS provides organizations with elasticity and agility to respond to changing business demands.

As contact centers are often the initial point of contact for customers, a high quality communication experience is essential to enhance the relationship and improve customer perception about the company. Moreover, when the call quality is poor, not only do customers express dissatisfaction with the company, the lack of clarity may also result in transaction errors and longer call times.

Therefore, IT teams should continuously monitor call quality in order to increase agent productivity and improve customer service.

While IT can monitor individual service components within a UC&C solution to gauge service performance, the siloed management results are often not complete or detailed enough to understand their full impact on user experience. This can be particularly challenging in the shadow of the COVID-19 pandemic when many agents may now be operating out of their homes.

In addition to the UC&C servers and the gateways, a voice and video session depends on the efficient functioning of other service elements such as Session Border Controllers (SBC), DNS, DHCP, LDAP/ Active Directory, load balancers, firewalls, and backend databases. Consequently, with so many possible areas that could contribute to voice and video service quality degradation, IT teams need a robust service triage solution that is capable of isolating service delivery management problems across multiple domains very quickly.

The nGeniusONE® Service Assurance platform provides real-time visibility into the performance of call signaling and media sessions by analyzing all wire data flowing over the network. Powered by Adaptive Service Intelligence® (ASI) technology, the highly scalable and patented deep packet inspection engine, the nGeniusONE platform enables IT teams to identify the root cause of UC&C performance issues occurring anywhere in the UC&C service delivery environment. As a result of this end-to-end view, IT teams can quickly triage voice and video performance issues even in complex multivendor UC&C networks, ultimately reducing Mean Time to Resolution (MTTR).

UC&C Problems Solved by the nGeniusONE Platform

The nGeniusONE platform delivers visibility into the performance of an integrated UC&C service delivery environment including agent desktop/phones, UC&C Servers, load balancers, service enablers (e.g., DHCP, LDAP/AD, and DNS), backend database servers, the application and web tiers, the
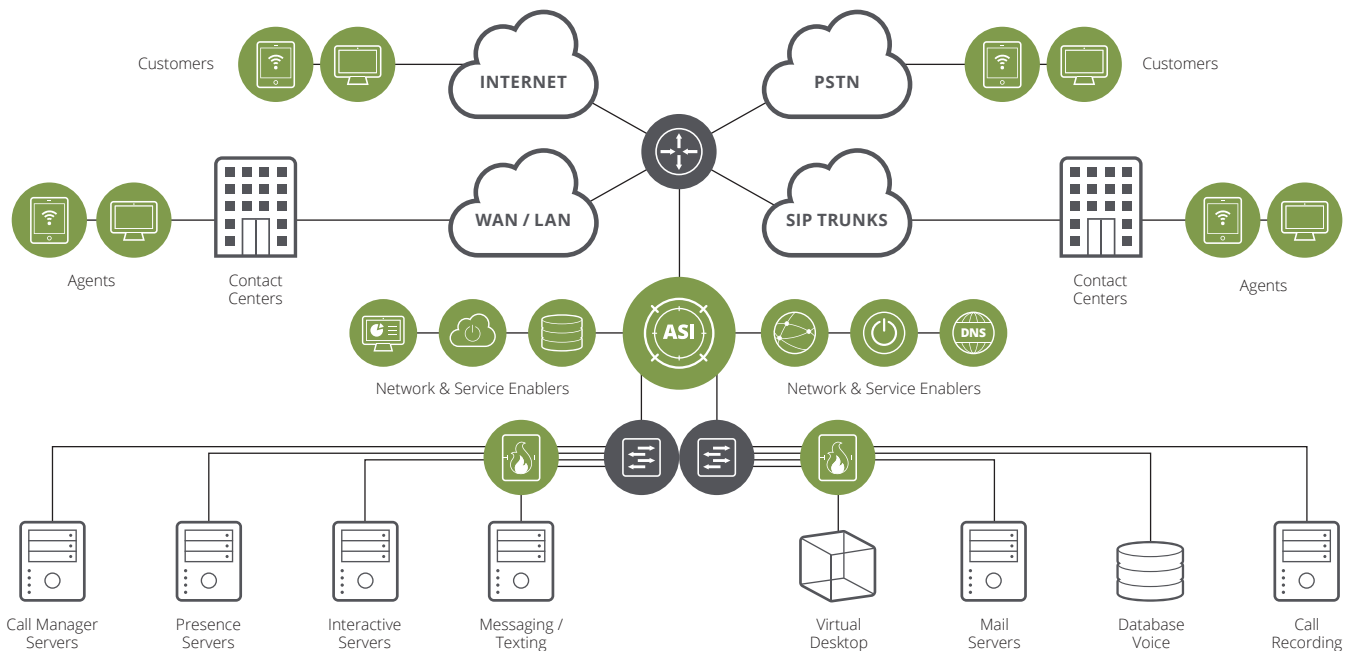

Figure 1: The nGeniusONE platform delivers quick service triage for managing voice and video performance in complex, multivendor UC&C service delivery environments.

network, WAN, and the end users. As a result of this integrated view that shows the interrelationships between different elements used in the service delivery, nGeniusONE can enable IT teams to understand the full context for voice and video service anomalies from an end user perspective.

By measuring the performance across the communications path, IT teams can accurately diagnose if the root cause is within the underlying infrastructure such as the network, or UC&C servers, or if the issue is originating in the SIP trunking service provider domain. The nGeniusONE platform includes views providing advanced media analytics 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 users; and service desk search to query on call history with contextual drilldown capabilities to get more details into media and signaling, among many others.

The nGeniusONE platform supports any UC&C technology that uses SIP/SCCP/H323 and RTP protocols. The platform enables IT teams to efficiently identify, triage, and resolve many UC&C service delivery management problems such as:

- Delays in registering agent phones, call setup, and termination
- Servers responding with call signaling failures or taking too long to process signaling messages
- Interoperability issues between SBC and SIP trunking service provider
- Load balancing issues across different UC&C servers and SBCs
- LAN/WAN capacity management issues causing too many packet drops and excessive jitter or latencies
- QoS mismatch problems between different network elements

nGeniusONE Offers Seamless, Contextual Workflows

In order to help IT teams address voice, video call signaling and media quality issues, the nGeniusONE platform relies on the power of ASI. The data is efficiently organized so it 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 a top-down workflow based approach to problem identification, service triage, and resolution.

Through the use of contextual workflows, IT teams can seamlessly transition across multiple layers of analysis. This enables the service delivery teams to efficiently hand-off incident response tasks between different internal IT groups as well as with external service provider support groups that are involved in troubleshooting UC&C performance issues. As a result, service delivery teams supporting the network, UC&C, endpoint devices, and SIP trunking service providers can effectively collaborate to quickly triage and isolate call quality problems.

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

- **Service Dashboard** – The dashboard delivers real-time health status, metrics, alarms, and intelligent early warning of application performance problems. IT teams can use the dashboard to quickly spot performance issues related to a composite service including the UC&C server components, SBCs, service enablers, backend databases, and load balancers in a single view.

- **Service Dependency Map** – The service dependency map provides visibility into all the dependencies among various UC&C Service components. This enables IT teams to analyze the service delivery environment and discover the client-server relationships and messaging performance.

- **Service Monitors (Call Server Monitor, Media Monitor, DNS Monitor, etc.)** – Service monitors enable IT teams to quickly investigate and isolate the sources contributing to UC&C performance degradation across different tiers such as Call processing/UC&C servers, DNS servers, front and backend servers, and load balancers. Using these monitor views, IT teams get a consolidated view of application request workloads, traffic latencies, SIP/SCCP/H323 signaling errors, and media performance providing holistic visibility into the performance of voice and video service components within all tiers.

- **Session Analysis** – Session analysis helps IT teams analyze transaction latencies, network-related information such as average response time and QoS class assignments, as well as detailed session and flow information.

- **Packet Analysis** – Packet analysis enables IT teams to perform deep-dive protocol level analysis and forensic evidence collection. Packet analysis provides UC&C application-specific details and any proxy servers through which the voice and video requests have passed including the load balancing server.

The majority of performance issues can be efficiently investigated by using the Dashboard and the Service Monitor screens alone. However, should deep dive troubleshooting be needed, IT teams can contextually drill down to the Session and the Packet Analysis layers.

nGeniusPULSE

nGenius®PULSE and nPoints provide valuable visibility from the contact center agent's perspective with contact center and CCaaS providers environments to assure service availability and performance for 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 contact center 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 to other agents and users.

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 contact center agents in 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 understands 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 agent-impacting communication issue in contact centers and CCaaS.

Benefits of nGeniusONE Platform

- **Quickly and Efficiently Troubleshoot UC&C Performance Issues** – Reduce MTTR with visibility into the health of the entire infrastructure environment enabling IT teams to investigate service performance across multi-tier, multi-vendor, multi-location UC&C services.

- **Improve IT Team Collaboration** – The platform improves MTTR by enabling collaboration between network, application, and UC&C teams by providing a common set of Smart Data and contextual workflows across all tiers of the UC&C service.

- **Increase Call Quality Reliability** – nGeniusONE provides visibility into true user experience by measuring call quality performance due to impairments observed in network transmission, media traffic, and call signaling. This helps IT improve communication reliability between call agent and the customer.

- **Monitor Data, Voice, and Video Performance within a Single Solution** – Combined visibility of data, voice, and video helps organizations optimize the performance of voice and video over a converged IP network.

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