

Service Assurance Monitoring for Performance and Availability of UCaaS Services



The evolution of Unified Communications & Collaboration (UC&C), or what we more often call UC systems these days has been going on for over a decade. From PBX services hosted centrally by PSTN carriers handling only analog voice, to rich sets of multi-vendor applications to handle IP-based video, chat, data and voice hosted on complex infrastructure in the enterprise data center, and on to a wide variety of collaborative productivity tools residing both on-site, and in the hybrid cloud. Always the goal is to maximize human capital by enabling workers to communicate with each other and their customers, collaborators and vendors in the most efficient way possible.

The current trend is for very sophisticated UC systems, as they support an ever-increasing number of services, to be handled by a unified vendor, offering them as a service, or UCaaS. This offloads the burden of traditional new service roll outs within the UC implementation, provisioning of UC resources, call center administration and so on from the enterprise's IT staff.

Nemertes Research data from 2019 revealed that almost 65% of enterprises have implemented, or plan to implement, cloud-based services for their UC needs. The reasons that enterprise network operators were moving to UCaaS even before the Covid-19 crisis are both financial and operational.

The uncertainties that underlay the problems of capacity planning are only exacerbated by situations such as the current public health crisis which makes the number and location of staff even more of a moving target.

Enterprises face several challenges when implementing UC on premises, and NETSCOUT's UC monitoring capabilities have been providing excellent visibility in this area for years.

When organizations entrust their UC traffic to a UCaaS service provider a new set of challenges arises to ensure high quality service delivery in a precise, cost-effective way. Visibility, for both the enterprise organization and the UCaaS provider is beneficial to ascertain performance, ensure Quality of Service assignments are accurate, and quickly address issues impacting call set up and/or voice and video quality.

Our Approach

NETSCOUT® Smart Visibility provides the ability to examine traffic in your data center, at the co-lo, in the cloud, and through to the other end of the UC conversation. Even the best-designed systems for providing UC functions as a cloud-based service will likely have issues under certain conditions, such as when you ask your UCaaS provider to add specialized applications to supplement the main functions of your UC system or the number of users of the system makes a dramatic rise.

NETSCOUT's patented Adaptive Service Intelligence™ (ASI) creates Smart data from packets on the wire which are converted to metadata for analysis. This provides insights which enterprises can use to both monitor and troubleshoot their UC implementations. NETSCOUT's ASI technology provides unique capabilities to track application performance across private and public cloud environments to determine exactly where performance bottlenecks may be emerging, whether it is determined that the current issue resides inside your UC system or inside the infrastructure supporting it. The nGeniusONE® platform is an advanced monitoring solution that leverages smart data from NETSCOUT appliances to give you the insights you need to monitor the availability, and continuously determine the quality of the services across your UC implementation.

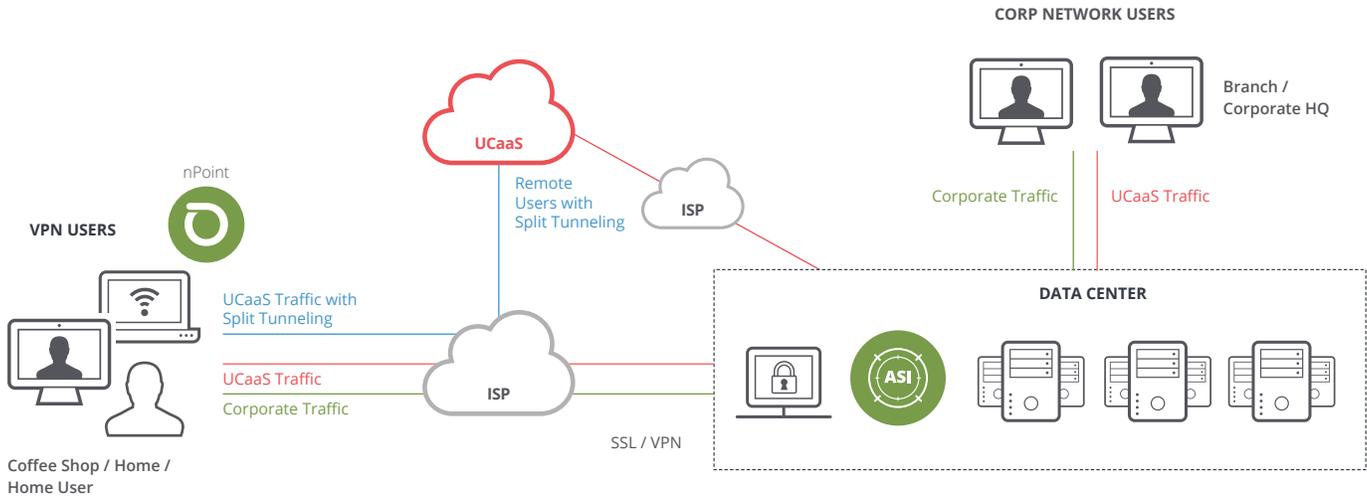


Figure 1: NETSCOUT provides visibility of your UCaaS traffic.

Our Solutions

Our nGeniusONE platform draws together information from InfiniStreamNG, and vSTREAM™ appliances to provide industry leading UC service assurance and quality assurance, along with clear, concise workflows for rapid problem resolution. The unique troubleshooting capabilities are available whether applications are being hosted on premises or in multi-cloud environments. NETSCOUT InfiniStreamNG® (ISNG) appliances and vSTREAM virtual appliances, provide ASI-generated smart data used by nGeniusONE.

UC performance monitoring provides session tracking, call setup information, round trip times, video latency, audio latency and standard voice quality measures, and performance by location information to help investigate and isolate potential issues that would create a poor user experience.

nGeniusONE analysis and views into SIP, MSRP protocol and UC Call Search and Session Analysis provides insight into many of today's text based and instant messaging services. It also correlates the MSRP sessions with the corresponding SIP sessions, including a view of the Media & Signaling as well as ladder diagrams to troubleshoot sessions.

nGenius®PULSE provides valuable visibility from the end-user perspective and the interaction with third-party cloud-based providers assuring service availability and performance for your UCaaS users. The real-time data from nGeniusONE is complemented by nGeniusPULSE pro-active synthetic testing from the user perspective by automatically sending consistent, scheduled testing from the user desktop via the VoIP service even when the users are not active. This has the benefit of discovering a problem early so it can be addressed and possibly rectified before it impacts the users.

nGeniusONE service assurance monitoring and nGeniusPULSE synthetic testing solutions can be combined to give pervasive visibility into UCaaS, helping to pinpoint and remediate network issues. This might include voice, chat, video, web conferencing, or call center applications. With these elements in place, even today's complex UC systems, whether maintained as part of the enterprise's infrastructure, or purchased as a service from a UCaaS vendor, can be monitored continuously and diagnosed quickly when availability or performance issues arise.

Rapid, focused investigation can determine whether the issue is an application availability or a network performance problem, as well as which UC service is being impacted.

Our Value to Enterprises Using UCaaS

With NETSCOUT, enterprises can:

- **Resolve even the most challenging performance and availability issues in their UCaaS implementations and reduce MTTR.** nGeniusONE can monitor all the traffic using the services on your UC system, even when enterprises have moved these systems to a third-party UCaaS provider. Complex implementations of UC can be viewed and monitored as a unified service or as individual services, leading to clarity about business impacts, and to root causes quickly.
- **Alert IT teams to Performance bottlenecks even before user experience is degraded.** nGeniusONE's performance monitoring abilities are already pre-configured for in-depth monitoring of the applications which are widely used in UC. Custom or niche applications can also be analyzed by quickly configuring application monitoring. Both approaches present users with relevant performance data to determine if performance is within parameters, and if those parameters are trending towards values which will adversely affect users.
- **Understand how your people are using your UCaaS implementation.** Because of NETSCOUT's long experience with UC implementations and individual services, even before they were offered as a combined service, the nGenius ONE application makes it clear which services within the UC system are being under-used, well-used or oversubscribed. This can have financial benefits, as some additional features are paid additions to UCaaS.
- **Reduce time to troubleshoot issues with network transmission.** Complementing nGeniusONE, nGeniusPULSE provides visibility by monitoring services from the end-user perspective to assure service availability and performance. The cause of an issue can be quickly isolated to the Wi-Fi network, the ISP, a device, the wired network or the service itself with nGeniusPULSE. Continuous, automated, synthetic tests simulate user actions and can run even when services are not in use, to identify potential network and application availability and performance issues as they emerge so that IT can address them before issues become catastrophic.
- **Maintain underlying infrastructure of other network services and applications, which the UC system depends on.** Network services which form the underpinning for many business applications such as DNS, email, and VPNs can be monitored with the same set of tools used to monitor the UCaaS implementation, preventing business disruptions which can have reputational as well as mitigation costs.



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