

Assuring Application Availability at Federal Government Agency with NETSCOUT

Remote ISNGs in Remote Locations Delivers Proactive Early Warning and Fast Troubleshooting

OVERVIEW

The Challenge

- Lack of visibility at distributed locations to effectively troubleshoot application problems at the remote business edge
- Complex mix of Infrastructure and the use of several critical voice, video & data applications complicated problem discovery and resolution

The Solution

- nGeniusONE® solution
- InfiniStreamNG® (ISNG) appliances
- Remote InfiniStreamNG 600 Series Appliances
- nGenius® Flow Collector

The Results

- Improved troubleshooting and mean time to resolution (MTTR) by increasing observability at remote business edges
 - Covered blind spots to user experience issues with packet-level granularity to solve problems faster improving employee and IT productivity
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Customer Profile

This federal government agency oversees a large-scale law enforcement operation, incorporating headquarters and primary data centers, as well as regional hub and remote local office locations. Mission-critical application business services and technology operations are essential to the daily operation of this agency.

Like any public legal system—police or judicial—for county, state, provincial, or country, this agency depends on efficient operation and communications of their networked services. This includes voice, video, and business data applications. The ability to host and share critical documents related to individual cases, whether criminal or civil, involving individuals or businesses, are equally critical. Slowdowns and outages that impact any of these services must be avoided or rapidly resolved to ensure the safety and justice of the citizens and organizations they are charged with serving.

The Challenge

Providing legal support activities across a geographically vast region presents distinct challenges for this agency's information technology (IT) staff, particularly as they assure availability, performance, and user experience for their network and applications.

Several years earlier, the IT team had added visibility with the NETSCOUT® nGenius Enterprise Performance Management solution. They implemented nGeniusONE in the centralized data center for troubleshooting, performance management, and reporting purposes. For this analysis, they leveraged the Smart Data collected in real-time from the InfiniStreamNG appliances deployed in the data centers, regional and district offices.

The Agency has undergone several digital transformations over the last few years that included adopting cloud-based software as a service (SaaS) applications, increasing the use of Unified

Communications as a Service (UCaaS), upgrading the networks at the local offices, and, most recently, migrating their WAN technology to SD-WAN. All these changes sparked a need to update their local monitoring capabilities to address new challenges including:

- Dealing with voice, video, UCaaS, and streaming video user experience issues that were impacting the senior staff, lawyers, police, local teams, administrative assistants, and other participants. When using VoIP and Microsoft Teams for conducting successful business operations, issues such as latency, echoes, dropped calls, and other impairments were degrading call quality. When interested parties were watching and listening to YouTube to follow cases in session, some locations were experiencing intermittent slow-downs and degradations. Both situations were hampering employee productivity, their ability to perform their jobs, and their progress in moving cases forward.
- As the IT team migrated more than 100 remote locations from MPLS to SD-WAN, they were challenged to monitor, assess, and assure quality performance, availability, and business continuity throughout the transition for the applications already listed as well as their document management and filing system for all briefs, exhibits, and schedules.
- Due to the lack of local IT support at these remote locations, responsibility for troubleshooting issues and assuring performance of Agency applications and services fell to the central network operations (NetOps) team, including all unified communications (UC), UCaaS, streaming platforms, business applications—like document management applications—and network connectivity.

This Agency was not new to NETSCOUT nGenius Enterprise Performance Management, having implemented the solution several years earlier in the data centers and many of the remote locations. However, due to technology upgrades and digital transformations that had occurred in recent years, a refresh and expansion to all sites was now in order.

Solution in Action

To address the challenges posed by their distributed and transforming remote environments, the NetOps team turned to NETSCOUT to evaluate their issues and needs. Following a review of the issues they faced at the different offices, it was determined that the four-port Remote InfiniStreamNG units were the best suited to the demands in these locations. The Remote ISNGs were strategically placed at all their distributed sites, which are monitoring before and after the firewalls to provide packet-level visibility into the traffic flows between these locations and their data centers.

The NetOps team implemented two essential monitoring capabilities in the Remote ISNGs. First, synthetic testing and customized business transaction tests (BTTs) were configured to provide automatic, consistent, scheduled testing of specific application services, such as VoIP, UCaaS, and their authentication service, to track and trend performance and user experience. Additionally, they leveraged real-time monitoring with Deep Packet Inspection (DPI) to help troubleshoot issues with their applications, including streaming services, document management applications, and their different communications services.

Issues already resolved using the nGeniusONE and Remote ISNGs include pinpointing the cause of one-way voice issues at one site; QoS mismatch problems at several other offices; and isolating a signal to noise ratio problem impacting the senior staff to faulty microphones and / or high background noise. In this last case, the use of the call search feature in nGeniusONE saved the NetOps team troubleshooting time as they were able to research the problem based on the phone numbers associated with the senior staff experiencing problems.

The metrics from nGeniusONE are based on the Smart Data from Remote ISNGs are used by the NetOps organization and a NETSCOUT premium services engineer (PSE) to detect emerging issues at the different regional and district offices and to quickly troubleshoot and pinpoint the true root cause of the

problems. One example is the ability to ensure user experience and business continuity during each location's migration from MPLS to SD-WAN by identifying whether the network or applications are causing poor service performance.

The Results

The improved monitoring capabilities at over 100 locations has enabled the Agency to better ensure performance and user experience across various sites. By managing their entire IT ecosystem with Remote ISNGs, the Agency has mitigated risks, ensured reliable service delivery, and supported ongoing digital transformation initiatives. Furthermore, by establishing a process to track trends using synthetic tests, traffic volumes, and application utilization of critical services, they can proactively resolve disruptions at their earliest stages, preventing impacts on critical legal proceedings. The Agency is also benefiting from investment protection with continued use of their existing nGeniusONE solution for analysis of Smart Data from their newly deployed Remote ISNG appliances.

Given the critical work carried out in these facilities, having remote observability is essential for protecting the local employees' productivity. It is also enhancing the NetOps team's efficiency, improving the collaboration and relationships between NetOps and their many vendors, and avoiding the need for costly on-site support. As the IT leadership assesses the success of this observability strategy with NETSCOUT, the verdict is unanimously positive!

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For more information about NETSCOUT solutions visit:

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