

Remote ISNGs Ensure 100% Wi-Fi Connectivity at High-Profile Conference

Each year, technology companies host global conferences to showcase their innovations through hands-on training workshops, breakout sessions, interactive labs, and more. The success of these events relies on high-performance network infrastructure. This includes complex Wi-Fi systems with wireless access points for connectivity, a local network to manage traffic, peering connections for efficient data routing, interconnects for secure, high-speed links, and cloud computing services from Cloud Service Providers (CSPs). Not all conference locations perform the same, and even different areas within the same venue can provide varying user experiences.

One such event recently brought together a leading technology manufacturer and several hundred network, security, and AI professionals from around the world for five days of keynotes, general sessions, and over 40 instructor-led workshops. Hands-on training with expert instructors was a major draw for many attendees, as they would receive valuable product certifications that would improve their workplace performance and professional value. With so much depending on seamless service operations, even minor disruptions could jeopardize the event's success.

Performance Issue

As a precautionary measure commonly employed for high-profile conferences, the host company sent their cross-functional IT specialists to collaborate with conference center staff and their managed service provider (MSP) on a multi-week preparation plan to ensure the wireless network could meet the demands of the 2024 conference. Together, they conducted pre-event synthetic tests—using automated, simulated user transactions to mimic real-world application and network usage—to assess the performance and reliability of high-demand workflows under stress. These tests uncovered significant performance issues in the conference center's environment, including application slowness, intermittent connectivity, and failures to connect to the newly deployed, event-specific Wi-Fi—problems that could disrupt training sessions and negatively impact customers.

Impact

In a high-density environment like this conference—which was promoted for months and could host hundreds of attendees accessing more than 2,000 virtual instances in the cloud—stable Wi-Fi connectivity was essential. Even minor disruptions would undermine the event's success, especially as participants continued arriving from other countries throughout the five-day event, further increasing demand on the network. The performance issues the team discovered could have significantly impacted critical conference activities, such as accessing remote training labs and collaborating in real-time during breakout sessions. These challenges also risked tarnishing the reputation of both the conference and the venue. Swift resolution was imperative.

Implementation

The manufacturer and venue's IT teams embarked on an ambitious eight-week preparation plan to ensure the wireless network could handle the demands of the 2024 conference. They selected nGenius® Enterprise Performance Management for synthetic testing of user experience and to provide deep packet inspection (DPI) insights for rapid troubleshooting.

Remote InfiniStreamNG® (ISNG) appliances were strategically deployed in key areas of the conference center, including the Demo Pavilion concourse (Figure 1), main conference stage, ballroom, and breakout rooms, to monitor network activity in real time. These appliances seamlessly integrated with nGenius®PULSE for synthetic testing and nGeniusONE® for centralized visibility into application performance.

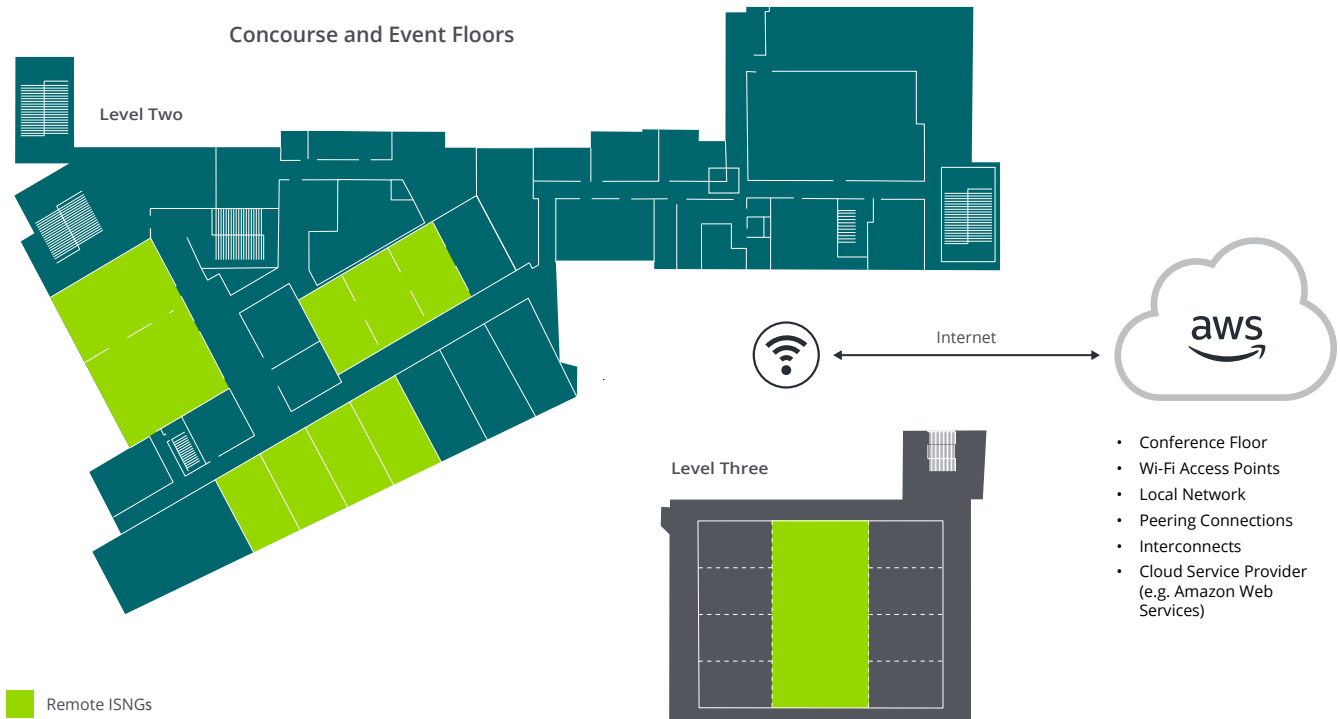


Figure 1: Remote InfiniStream appliances can be deployed in critical locations for monitoring and synthetic testing.

The technology manufacturer also implemented NETSCOUT® vSTREAM® virtual appliances within Amazon Web Services (AWS), where training modules were hosted to support hybrid workflows. Together, NETSCOUT's instrumentation provided deep packet-level visibility into network performance—synchronizing with user data to analyze system outputs, detect Wi-Fi issues, understand the local network's internal state, and enable rapid troubleshooting.

Troubleshooting

Network performance is often a balancing act, and in high-demand conference centers like the one hosting this event, even small oversights can disrupt the equilibrium. For instance, too many SSIDs (Service Set Identifiers) in a Wi-Fi environment can overwhelm a network, and initial observations suggested this might be the issue. Designed to support a maximum of 12 SSIDs, their wireless access points were burdened with over 15 active configurations, including hidden SSIDs left behind from previous conferences. This kind of overloading can lead to network congestion and degraded performance—a common risk in venues hosting multiple events.

To figure out exactly what was happening, the venue's IT team and managed service provider configured Business Transaction Tests (BTT) to simulate key workflows, such as logging in and accessing training sessions. Using nGenius Enterprise Performance Management (Figure 2), they compared the performance of the venue's Wi-Fi network to a control group—users connecting to the same hybrid cloud-based remote labs and AWS-based applications from an external location.

Having a control group in place allowed the team to clearly identify that the 2024 conference network's performance issues were isolated to the venue's infrastructure and Wi-Fi network, rather than the internet connection or AWS cloud.

Building on insights from Remote ISNG appliances and nGenius Enterprise Performance Management (Figure 3), the team found that while the control group's performance remained stable, analysis of the venue's network revealed clear signs of degradation.

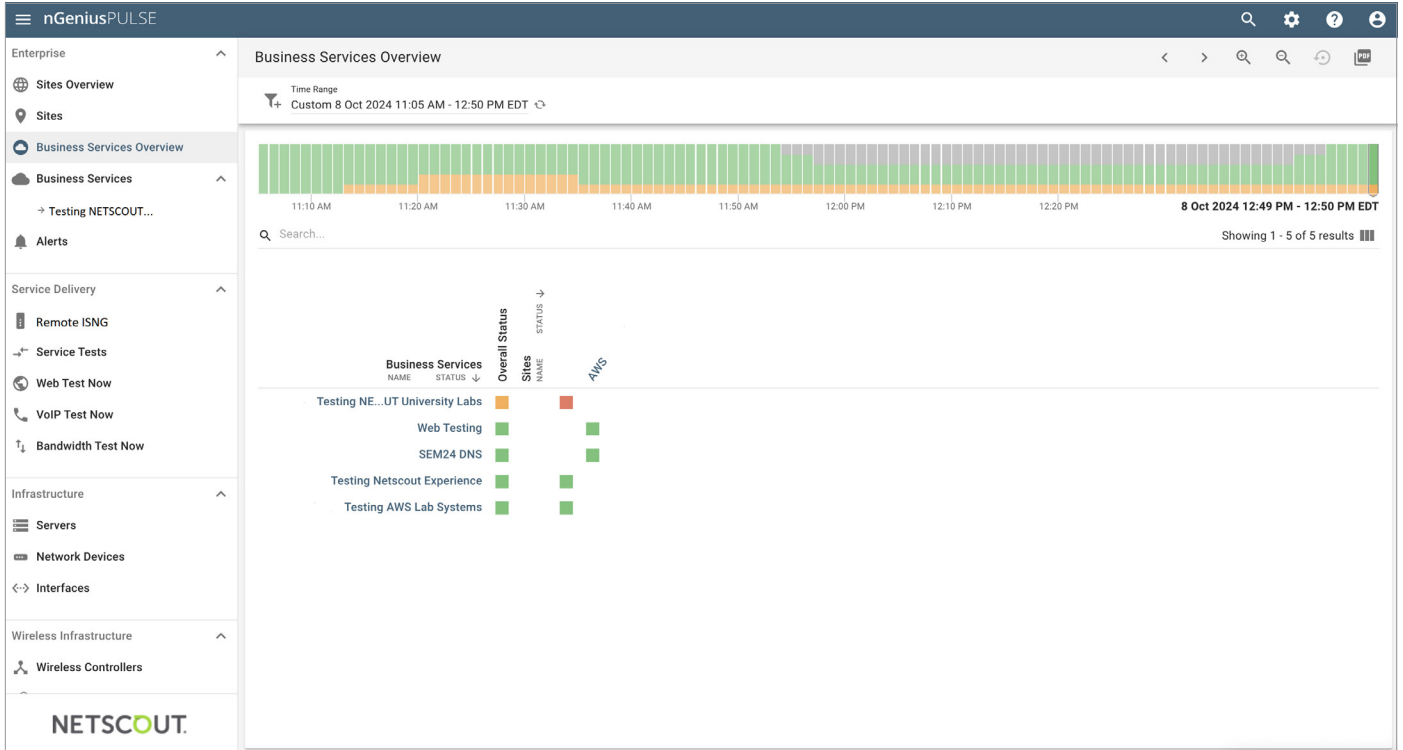


Figure 2: Conference site denotes a red (severely degraded) status. Note the tests emulating this user's experience are green, indicating no performance degradation.

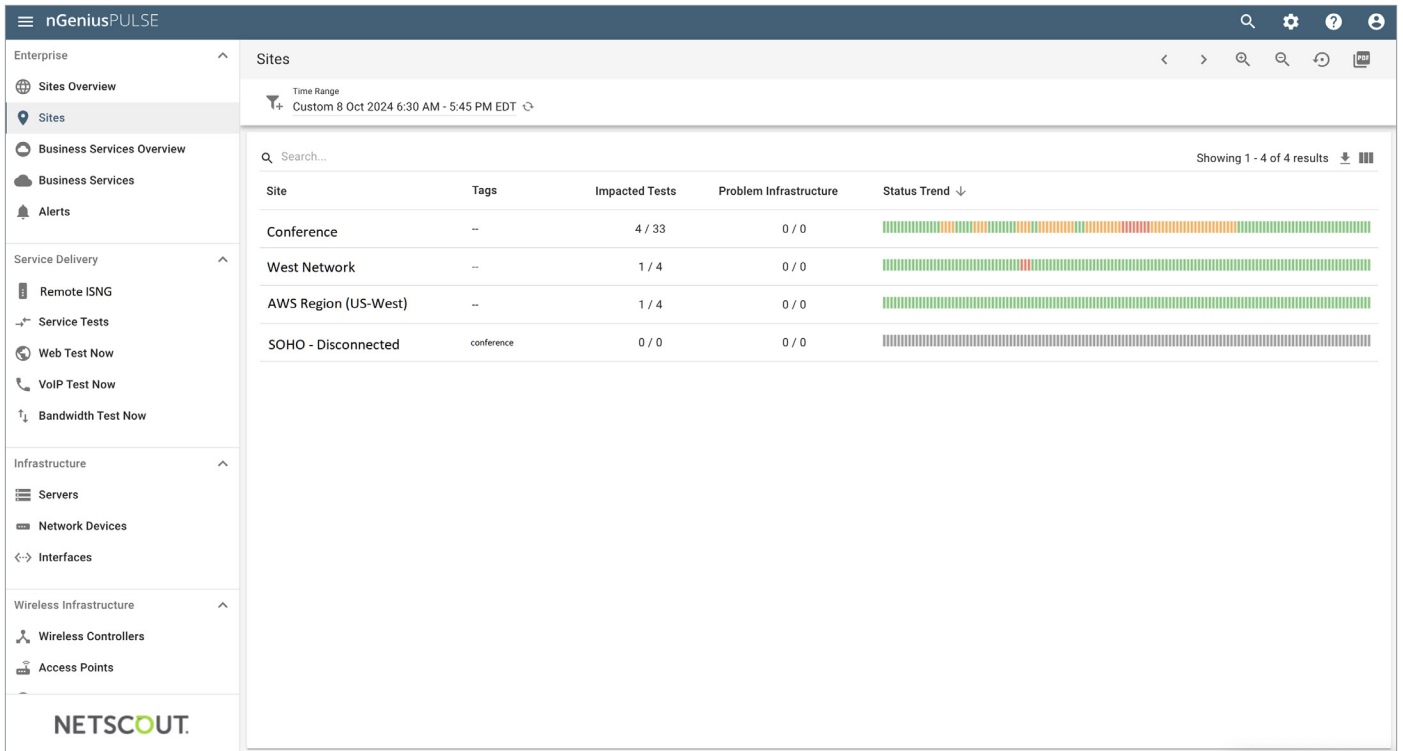


Figure 3: The Business Services dashboard provided clear insights into the conference's network performance degradation, illustrating the timeline from its onset to resolution.

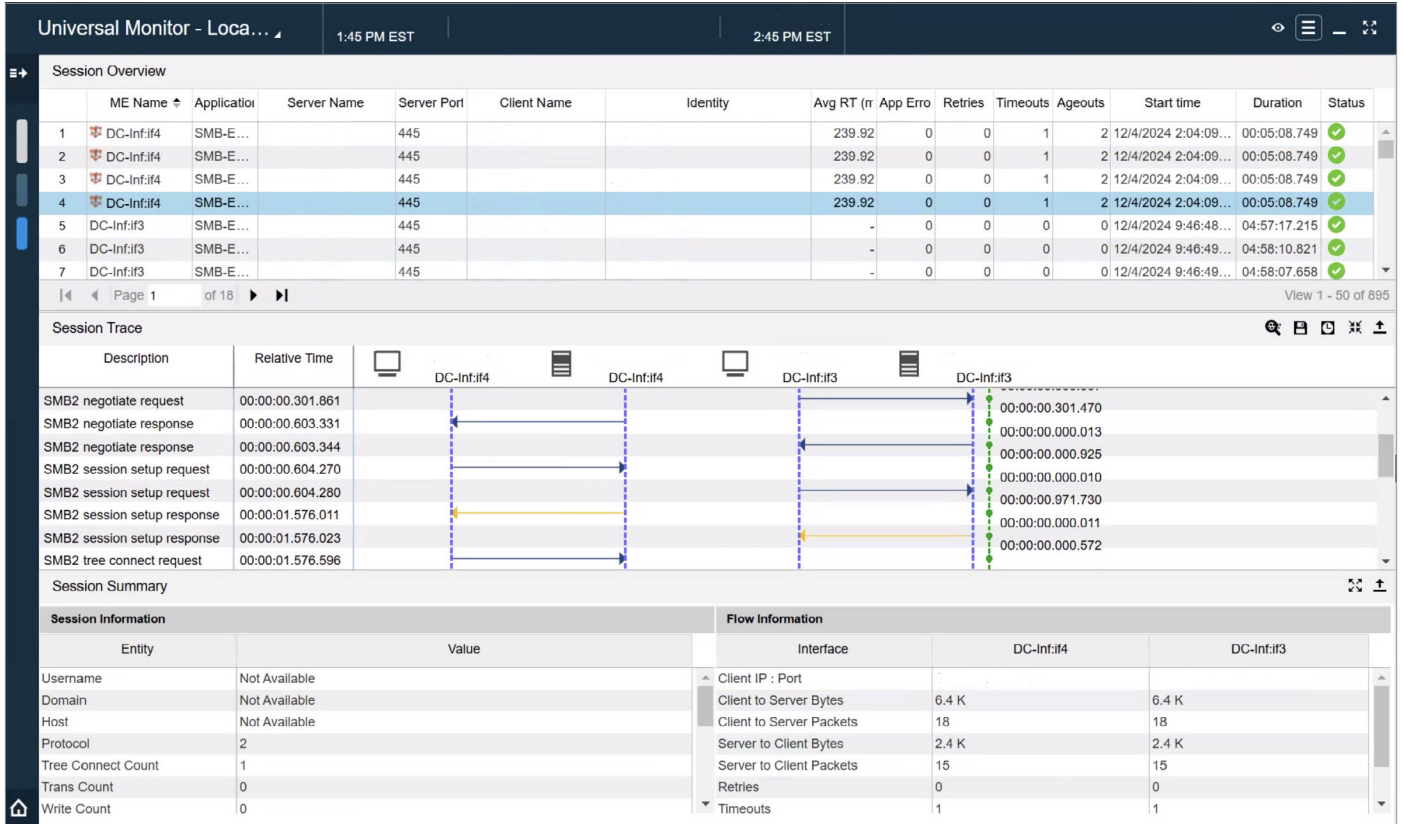


Figure 4: The Universal Monitor multi-hop diagnostics screen in nGeniusONE showed network paths and identified the overprovisioned SSIDs.

Multi-hop diagnostics in nGeniusONE (Figure 4) confirmed that the root cause was the overprovisioning of SSIDs, which exceeded the access points' capacity. As the screens showed, hidden SSIDs left behind from previous events, combined with new configurations, pushed the hardware beyond its limits.

Armed with irrefutable evidence, the technology manufacturer's IT specialists worked closely with the venue's network team and MSP to resolve the issue.

Remediation

Using insights from nGenius solutions and Remote ISNGs, along with diagnostic dashboards and workloads, the team identified bottlenecks and inefficiencies in the network configuration. A detailed analysis revealed that unused settings and hidden SSIDs were creating unnecessary load on the access points, leading to degraded performance. Once the SSIDs were removed from the network configuration, services were immediately restored to full operation.

These critical adjustments helped the cross-functional IT team achieve 100% connectivity for over 2,000 virtual instances used in hands-on training and workshops. To sustain this high level of performance, they closely monitored activity throughout the week-long conference, ensuring everything ran smoothly.

Summary

Network disruptions can put any event at risk, but nGenius Enterprise Performance Management and Remote ISNGs deliver the visibility needed to quickly identify and resolve issues. For the technology manufacturer hosting the conference, this meant uninterrupted connectivity and positive feedback on social media.

NETSCOUT solutions ensure seamless network operations, minimize downtime, and contribute to the success of high-profile events like this manufacturer's conference. By partnering with NETSCOUT, organizations gain the industry-leading expertise required to maintain service performance in complex, high-density environments.

"Wrapping Up #MyConference

Thank you to conference coordinators for a very well-organized event with a strong focus on both technical and business insights. The speakers were excellent, and the sessions were truly impactful. Looking forward to seeing everyone next year!"

— Participant, 2024 Conference, on LinkedIn



Corporate Headquarters

NETSCOUT Systems, Inc.
Westford, MA 01886-4105
Phone: +1 978-614-4000
www.netscout.com

Sales Information

Toll Free US: 800-309-4804
(International numbers below)

Product Support

Toll Free US: 888-357-7667
(International numbers below)

NETSCOUT offers sales, support, and services in over 32 countries. Global addresses, and international numbers are listed on the NETSCOUT website at: www.netscout.com/company/contact-us