

# Smart Edge Visibility Into AWS Cloud Assures Global Employee Productivity Over VPN

Improving End-User Experience Across Client, Network,  
Data Center, and Cloud Service Edges

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## OVERVIEW

### The Challenge

- Visibility issues in client, data center, network, and cloud service edges led to lower-quality end-user experience and business continuity issues

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### The Solution

- nGeniusONE® Service Assurance platform
- InfiniStreamNG® and vSTREAM® smart visibility appliances, with Virtual nGenius® Flow Collectors
- nGenius®PULSE with nPoint sensors
- NETSCOUT® Premium Services Engineering

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### The Results

- High-quality end-user experience in WFH and remote offices aids employee productivity
  - End-through-end visibility assures reliable business delivery across all service edges
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## Customer Profile

This U.S. company manufactures specialized equipment and applications used by businesses across numerous industry verticals. Their workforce is segmented into division-specific practice areas, which has enabled the company to expand their service delivery reach to more than 100 countries. Some 10,000 global employees are focused on developing and supporting products used by 250,000 clients.

In the last decade, information technology operations (IT Operations) teams have relied on NETSCOUT technology and contracted Premium Services Engineering (PSE) to assure business continuity and a high-quality end-user experience. During that time, PSE resources have helped IT Operations to maximize the efficiencies offered by their NETSCOUT investments, including Service Assurance analytics (i.e., nGeniusONE, nGeniusPULSE, and nGenius for Flows) and Smart Edge visibility (i.e., InfiniStreamNG, vSTREAM, nGenius NetFlow Collector, nGenius Packet Flow Switch, and nGeniusPULSE nPoint hardware and virtual sensors) solutions.

### The Challenge

The pandemic's arrival marked the start of increased complexity in the company's client, network, data center, and cloud service edge environments. Shortly after COVID-19's emergence and the company's expansion of virtual private network (VPN) services to support thousands of employees moving to work-from-home (WFH) environments, IT Operations conferred with their NETSCOUT PSE resources about maximizing the use of nGeniusONE and nGeniusPULSE to better inform their investigation and resolution decision-making. That effort quickly resulted in IT Operations using VPN split-tunneling to ease WFH users' access to UC&C services directly over the Internet.

Longer-term, IT Operations' remediation approach involved establishing nearly 20 VPN access points and Palo Alto Network (PAN) firewall services in Amazon Web Services (AWS) cloud resources. That approach seemed to address their remote network bandwidth issues quickly and securely, but it also revealed a gap in how well IT Operations could visualize VPN and firewall services were performing in AWS. Performance over these network service edges in the AWS environment was critical to WFH employees' success. With only NetFlow and MIB2 data available to them, IT Operations struggled to make sense of the discrepancies between the disparate, siloed data sources. Further, IT Operations was losing visibility into performance at one remote site due to blind spots in the traffic traversing from their wide area network (WAN) into AWS.

With a larger application migration planned to AWS, as well as an interest in investing in a high-availability data center that involved establishing standby servers in this cloud environment, IT leadership was fully aware of how milliseconds in latency, multiplied by thousands of employees having trouble accessing cloud-based services, would adversely impact performance in the long term.

These point-in-time issues occurred early in the pandemic cycle, but the need to achieve consistent service edge visibility across hundreds of business environments and thousands of WFH locations was omnipresent. IT Operations' need for service edge visibility would not abate any time soon.

## Solution in Action

IT Operations orchestrated a coordinated approach to closing blind spots by collaborating with their PSE resources to map out an AWS Cloud Visibility design that enabled the company to refactor some earlier-deployed NETSCOUT investments and quickly add only as-needed data sources to deliver the end-through-end visibility that had been lacking.

In improving visibility in AWS, the design plan involved:

- Architecting vSTREAM virtual appliances to monitor VPN and PAN Firewall services operating in the cloud.
- Refactoring nGenius Flow Collectors into Virtual Flow Collectors for deployment in the cloud.
- Deploying Remote ISNG appliance technology at the regional facility where IT Operations experienced blind spots into the traffic traversing from their WAN into AWS.
- Migrating select nGeniusONE Server instances to AWS cloud, so IT Operations could leverage nGeniusONE Service Dashboard and Service Monitor views based on NETSCOUT Smart Data generated in real-time from vSTREAM and nGenius Collector data sources to refine their AWS monitoring capabilities.

This enhanced NETSCOUT design, with PSE configuration expertise, provided IT Leadership with the service dashboard and monitor views they required into AWS and VPN performance, with real-time analysis of:

- Latency – including overall connect times, roundtrip times, response times, and likely sources
- Quality of Service assignments
- VPN capacity reporting
- ISL utilization in AWS cloud facilities

## The Results

The common denominator associated with these issues was service edge visibility limitations, and the challenge involved quickly closing those blind spots to return business service reliability to employees – and, by extension, the thousands of customers and millions of users reliant on this company's biomedical solutions. When considered outside the walls of the business, the company's reliable performance and employee productivity during this period have enhanced public perception, especially among those clients relying on uninterrupted delivery of essential biomedical products and services.

Hybrid workforce transformations are dynamic, and the IT teams tasked with overseeing these rapid changes no longer have the time to manage project challenges on a one-by-one basis. These ongoing IT Operations successes – all realized during a transformative business phase occurring during a global pandemic – worked to convince executive leadership that NETSCOUT should be granted the right of first refusal when it comes to partnering on the company's IT projects.

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## LEARN MORE

For more information about how NETSCOUT Assures Availability and Performance for Manufacturing Networks solutions, visit:

[www.netscout.com/solutions/manufacturing](http://www.netscout.com/solutions/manufacturing)

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