

Achieving Elusive Live Streaming Video Quality With NETSCOUT

Media Company Assures Real-Time Event Broadcast and Streaming Quality for Subscribers

OVERVIEW

The Challenge

- Inability to capture live stream video packets jeopardized real-time event presentation quality.
- Executive-level requirements for post-event media quality reporting.

The Solution

- nGeniusONE® Service Assurance platform
- InfiniStreamNG® smart visibility appliances
- NETSCOUT® Visibility as a Service

The Results

- Improved live stream video service quality and troubleshooting.
 - Executive-level visibility into event-by-event video quality performance, both in real-time and post-broadcast operations.
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Customer Profile

This media company is internationally renowned for their high-quality broadcast, real-time video streaming, and film presentation services.

Like many media industry leaders, the company was required to modify both their business and service delivery models to respond to the safety and logistical demands associated with the COVID-19 pandemic, all without any disruption to their direct customers or partner affiliates' subscribers.

The company is a long-time NETSCOUT customer, who has assured reliable video and audio quality for real-time event presentation with the nGeniusONE platform and InfiniStreamNG (ISNG) appliances.

The Challenge

In preceding years, the company had made significant investments to enhance real-time, high-quality video streaming service delivery across their own business platform, as well as those of numerous partner affiliates. While this mix of platforms offered wide-ranging access options to customers, there was one consistent theme that prevailed, irrespective of subscription model – any video or audio glitch during a real-time performance was to be avoided at all costs.

With these baseline operational guidelines in mind, the company adopted a no-expense-spared approach to assuring live streaming quality, as these platforms represented a continued growth opportunity. In part, these business demands prompted the company to expand their information technology (IT) footprint to include Equinix Co-located (Co-lo) data centers, with the assumption this expanded network presence would reduce the potential for video and audio latency. With this updated architecture, video from live cameras at the event was fed to one of Equinix Co-lo's, which then redistributed video and audio to a primary data center.

Since network responsiveness was an essential element of coordinating these video and audio handoffs in real-time, business leadership decided to entrust quality assurance of live streaming event presentation to the Network Engineering team.

There was one element of their event presentation that was technically challenging – the ability to achieve high-quality delivery of live streaming video segment replays for users / customers to see again and again, if desired. Network Engineering was particularly challenged by unexplained packet loss / frame loss, which caused quality of experience issues in the replay environment.

This issue was so profound that Network Engineering leadership quickly commenced a thorough technical analysis of market-leading Unified Communications (UC) vendor tools that would allow them to capture live streaming video packets.

In activity related to this initiative, Network Engineering also identified a need for better visibility into the Equinix Co-lo sites being used for their data center operations.

Solution in Action

The Network Engineering team enhanced the company's ability to monitor and troubleshoot streaming real-time video traversing data center and cloud service edges with NETSCOUT in a manner that met executives' expectations for live event presentation and subscribers demands for flawless user experience across all platforms.

While their long-deployed nGeniusONE Service Assurance platform offered out-of-the-box media analytics to satisfy the company's live video stream monitor requirements, Network Engineering's efforts to expand visibility into data center performance at the additional Equinix Co-lo's and better operationalize the NETSCOUT solution across the business were advanced by the NETSCOUT Visibility as a Service (VaaS) consultative approach.

In expanding visibility, Network Engineering deployed additional ISNG appliances supporting 40 GB network speeds at each of the three Co-lo data centers, which enabled them to both visualize network responsiveness from these Equinix locations, as well as monitor the quality of streaming video and audio streams traversing into the data centers from remote event locations. NETSCOUT Adaptive Service Intelligence® (ASI) technology in the ISNG appliances generated real-time smart data from those video and audio network traffic packets for consumption by nGeniusONE UC analytics.

Network Engineering enhanced video replay quality by deploying an ISNG appliance to monitor multi-cast feeds coming from encoders at live event sites that are streamed to the Equinix Co-lo's.

NETSCOUT VaaS consultants collaborated with Network Engineering to customize nGeniusONE Service Dashboard and Service Monitor views that proved invaluable in analyzing of the quality of video and audio streaming from live event environments to subscribers, as well as the responsiveness of the multi-tier infrastructure supporting this vast broadcast delivery effort. In particular, NETSCOUT VaaS-customized Media Monitor views enabled Network Engineering to assure performance, troubleshoot issues as they occurred, and provide event-specific reporting required by executives, with contextual drill-downs into call flows, single-stream views, and individual voice records. nGeniusONE Grid views provided Network Engineering with dedicated visualization and analytics into the streaming quality of individual live events as they occurred.

Additional nGeniusONE monitor and dashboard views improved Network Engineering's ability to monitor essential service enablers in this environment (e.g., DNS, LDAP, and DHCP), business services (Microsoft Exchange, Active Directory, LDAP, and SQL), and UC services (Microsoft Teams).

The Results

As a company that has enjoyed a pre-eminent position in the media industry for decades, capital expenditures (CapEx) and operating expenses (OpEx) were not the principal drivers in their decision-making.

Quite simply, NETSCOUT provided them with the only commercially available solution for live stream video packet captures and viewing, supporting the company's MPEG transport stream (MPEG-TS) format in doing so. After they scrutinized another vendor's solution purportedly offering comparable functionality, the company's technical assessment showed this alternative approach could not be used to view live stream video packets. Absent this ability, that alternate solution would not offer troubleshooting into the root causes behind jitter, latency, and packet loss in a live streaming event or replays, thus compromising the company's ability for flawless event presentation for their partners and millions of subscribers.

LEARN MORE

For more information about NETSCOUT video and voice solutions, visit:

<https://www.netscout.com/solutions/unified-communications-collaboration>



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