



High-density Monitoring for National Service Provider

OVERVIEW

About the company

- **Industry:** Wireline and mobile service
- **Location:** North America

Business Challenge

- Scaling up monitoring to accommodate growing volume of traffic across multiple mobile hub sites
- 10G tools becoming obsolete in a 100G core network environment

Results

- Efficient service assurance and security operations via the ability to deliver all traffic of interest
- Tool platform optimization by load balancing across a variety of tools
- Opex savings by increasing tool longevity, with the ability to use existing 1/10Gbps tools in a 40/100Gbps environment

nGenius Packet Flow Switches Solve Visibility Challenge

Customer profile

The company provides a wide range of services including data, voice, entertainment and video. It has over \$12 billion in annual revenue and 12 million customers, with about 70 percent of them mobile subscribers.

The company has fully tapped its mobile network for a complete, holistic view of its traffic. The tapped traffic is then fed into a packet visibility layer which then aggregates, filters and load-balances traffic of interest to tools such as voice and video performance management and security.

Monitoring challenges

Transition to 100G in core network necessitated an upgrade of its architecture to distribute monitoring traffic to accommodate 10G tools which would have otherwise been rendered obsolete. Additionally, with the ever growing traffic demands on the network, Customer had to prepare to expand its monitoring infrastructure.

Solution

NETSCOUT nGenius® 6010 series packet flow switch (PFS) provided the highest density solution with 6 Tbps of duplex capability per chassis, as well as the most competitive price per port. Due to current and anticipated growth at the mobile edge, the 100G solution is being deployed there as well.

The performance of packet flow switches from NETSCOUT is backed by a non-blocking backplane of up to the stated capacity. This meant that Customer's traffic could not overload the packet flow switch no matter how much traffic had to traverse through it. Generally the links are not utilized at capacity on a typical network, but when they are, systems with limitations on their backplane have challenges with core functionality, such as forwarding, aggregation, load balancing, and replication.

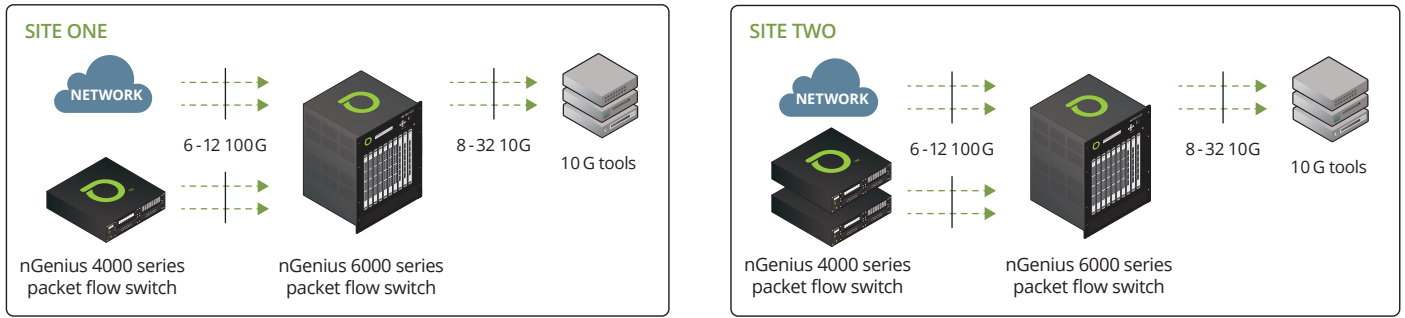


Figure 1: Multiple data centers require high-density and throughput offered by 100G packet visibility plane.

Benefits

NETSCOUT packet flow switches removed barriers to visibility by providing a unified packet delivery architecture, enabling control of packet flows across Customer's entire network. Customer has achieved 100% visibility, essentially creating a full reflection of their network. Thus, its service assurance platform was able to perform smoothly and provide meta analysis based on the totality of traffic, rather than a sample that can potentially be non representative.

The packet flow switches simplified management of monitoring infrastructures and delivered an economically compelling solution vs competitive products. The Customer saw the following benefits directly as the result of the deployment of packet flow switching:

- **Efficient service assurance and security operations** via the ability to deliver all traffic of interest
- **Tool platform optimization** by load balancing across a variety of tools
- **Opex savings** by increasing tool longevity, with the ability to use existing 1/10Gbps tools in a 40/100Gbps environment

Connectivity, port types and fiber will vary across environments, and will change over time as the network evolves. The nGenius 6010 series PFS is specifically designed to provide high density and to help scale the packet flows as the environment scales, while delivering non-blocking 6Tbps line rate performance.

Filtering, packet slicing, and load balancing can help reduce traffic volume to individual systems, allowing of down-speed conversions to legacy tools.

Future plans

- In addition to expansion in 100G monitoring for the mobile traffic, company is continuing to expand its current deployment of taps and 10G/40G/100G packet flow switches in its wireline business, with the goal of continued full network coverage in the coming years
- Company is also evaluating the advanced packet conditioning capabilities offered by NETSCOUT, such as packet slicing that reduces the unnecessary payload. This extends the efficiency of tools as they can focus only on the portions of the packets that are critical to service assurance and security management systems.

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