nGenius 6000 Series Packet Flow Switch

Service providers, private clouds, and large enterprises must contend with the collection, processing, and aggregation of traffic from a high number of network segments, while addressing space and power constraints in the data center and managing the migration to 40 and 100Gbps network infrastructure.

According to independent research analysts, network professionals today are challenged by increasing network speeds (beyond 10Gbps) and the pressure to optimize the cost of security and operational tools – challenges especially acute in large-scale environments.

High-density, flexible visibility solutions that reliably support high speed links are critical to enabling cost-effective, large-scale network monitoring, regardless of throughput or tool processing capacity.

The Solution

The nGenius® 6000 series packet flow switch (PFS) is a massively scalable blade & chassis packet flow switch (also known as network packet broker) that redefines the economics

of the data center, allowing network owners to aggregate, monitor and secure traffic at hyper-scale. There are two models: nGenius 6002 packet flow switch and nGenius 6010 packet flow switch.

Serving as the aggregation backbone for centralized network tools, the nGenius 6010 packet flow switch is scalable to up to 6Tbps of throughput and 600 ports at speeds of 1GigE to 100GigE. The nGenius 6010 packet flow switch offers a redundant and highly available architecture, ensuring line rate and full throughput performance at 6Tbps, regardless of traffic and processing load.

Tool chaining delivers advanced packet flow switching for 1, 10, 40, and 100 GigE networks, while optimizing the effectiveness of security tools.

The density of the nGenius 6010 packet flow switch reduces the space and power consumed by the monitoring infrastructure, while significantly lowering per port costs and streamlining management and support.

The nGenius 6002 packet flow switch is a small chassis that is perfect for smaller remote and branch office sites, and supports the same line cards as the nGenius 6010 packet flow switch.

Using the nGenius 6000 series packet flow switches, speed conversion, filtering and load balancing features, tools designed to process traffic at 1 and 10Gbps can continue to be leveraged across 40 and 100Gbps networks. Efficient mediation of network traffic enables monitoring tools and security applications to operate more efficiently – extending their life span and increasing their ROI.

The nGenius 6000 series packet flow switch is an intelligent, modular family of products designed to provide persistent, flexible visibility to network tools and security systems, optimizing their functions and enabling them to scale as networks grow and usage increases.

nGenius 6010 packet flow switch enables network owners to create a Unified Visibility Plane™ for comprehensive network access across many thousands of ports over LAN and WAN environments. Each nGenius 6002 packet flow switch and nGenius 6010 packet flow switch can be centrally managed via an easy-to-use Web GUI and options for integration into standard management systems and workflows.

Blade & Chassis

Redefining the Economics of the Data Center with Density, Scale, and Cost-Effective Performance.

- 3 or 15 Rackmount Units
- Up to 2 or 10 Blades
- Up to 120 or 600 ports (1GigE-100GigE)
  - 72 or 360 1GigE
  - 120 or 600 10GigE
  - 30 or 150 40GigE
  - 12 or 60 100GigE
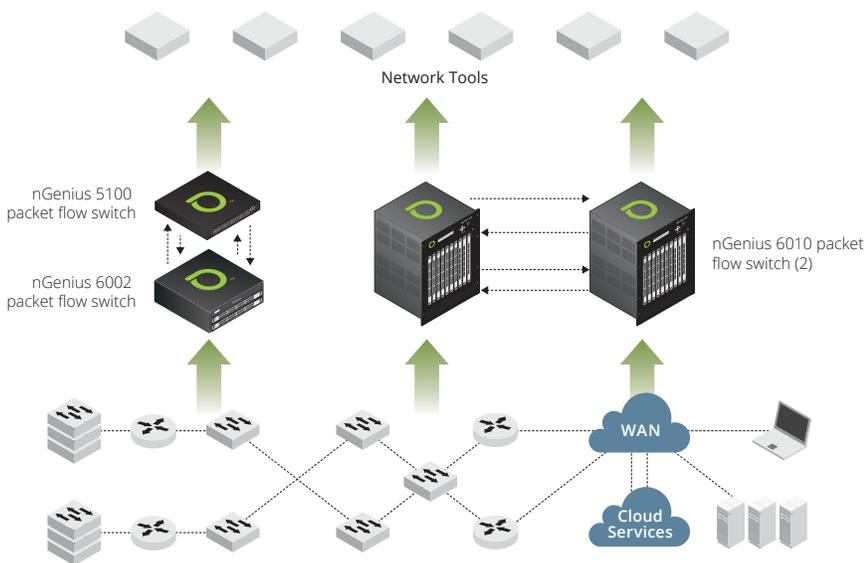- Up to 1.2Tbps or 6Tbps throughput

Figure 1: Backbone of Large Scale Monitoring Infrastructure in the Data Center.

- Line rate speed conversion; aggregation; replication; filtering; load balancing; port tagging; time stamping; deduplication; protocol stripping & de-encapsulation; conditional masking & slicing; and remote SPAN IP tunnel termination

- Active inline and passive traffic forwarding

- Highly available design with in-built redundancy

- Hot-swappable blades, fans, and power units

- Central management

- Self-healing, intelligent, self-organizing mesh technology

- Designed for NEBS III Compliance

The Unified Visibility Plane and suite of PFS products deliver maximum performance, scale and flexibility across both distributed environments and hyper-scale data centers. Carriers, private clouds, and large enterprises now have solutions that can match and grow with their network densities and performance.

The NETSCOUT® patented self-organizing mesh technology, pfsMesh™, enables efficient scaling and self-healing connections between the PFS appliances – in the datacenter or across large distances.

The inline security capabilities and unified packet visibility from NETSCOUT allow organizations to accelerate advances in cyber security posture, capabilities and responses. The nGenius 5000 (or 6000) series packet flow switches provide network visibility for multiple active inline and out-of-band security systems tool-chained together, creating a pervasive defense architecture against a broad range of attacks. This includes active

inline bidirectional traffic forwarding and health checking. Should any inline security applications fail, they can be bypassed or traffic can be sent to another system. This works seamlessly with any external Bypass TAP for fail-safe capability to ensure no interruption to the inline traffic availability in the event of power loss.

Unique in the market, the NETSCOUT approach of pfsMesh complements cost-effective aggregation with massive scalability and line-rate performance where it matters. With the combined solution, there's no trade-off to be made between line-rate performance or sophisticated packet conditioning. While nGenius 6000 series packet flow switch provides high performance standard and advanced packet processing, which can be centralized in the data center close to the cybersecurity systems and service assurance tools, cost-effective aggregation and standard packet broker functionality can be delivered by the nGenius 5000 series packet flow switch.

Benefits

- Lower per port CAPEX and OPEX for large density deployments

- Increased tool efficiency and extended tool life span

- Smaller physical footprint in data center

- Reduced power consumption

- Ensure highly available monitoring coverage for fast, comprehensive issue remediation and business insight

- Flexible and scalable software-driven packet brokering

- Boost monitoring and security tool efficiency

To learn more about the PFS products:

- Download the nGenius 6002 packet flow switch Data Sheet

- Download the nGenius 6010 packet flow switch Data Sheet

To ask a technical question:

- Contact support@netscout.com

NETSCOUT.