

Definitive Guide™ to Next-Generation Network Packet Brokers

What They Are, How They Work — and Why You Should Invest in Them Now

“By adopting an NGNPB, a composite organization of 5,000 employees could save a net total of \$1.6 million over three years on security hardware, software and staffing, with payback in seven months, according to a study conducted by Forrester Consulting on behalf of Gigamon.”

- Definitive Guide to Next-Generation Network Packet Brokers, p 15

Designed to help network administrators monitor networks, network packet brokers are so much more than they used to be. According to the Definitive Guide™ to Next-Generation Network Packet Brokers, next-generation network packet brokers (NGNPB) have advanced into solutions that IT security groups, data analysts and network operations staffs rely on. Benefits include:

- Providing full visibility into network traffic across the entire enterprise
- Making security tools more effective
- Boosting the performance of network and application management tools
- Helping enterprises take advantage of virtualization and cloud platforms

Plus, they're saving organizations millions of dollars in hardware and software costs. If you haven't looked into them lately, here is what you need to know:

NGNPBs Offer Four Core Capabilities

1. Collection and Aggregation

On behalf of security, analytics and performance monitoring tools, across the enterprise, NGNPBs collect and aggregate network traffic that is flowing:

- In and out of corporate data centers
- Across systems, zones and information silos within a datacenter
- Between software instances running on virtual machines in a virtualized environment
- Among application modules and services running in different tiers and different regions on public and private cloud platforms

2. Intelligent Filtering

NGNPBs can differentiate among traffic types based on a wide range of criteria, including application type, source, destination and port used, and route to each tool the packets it needs.

Each tool receives exactly what it needs and no more, dramatically reducing the load on tools and allowing them to perform better.

3. Offload Non-Essential Services

NGNPBs can perform tasks, such as decrypting and re-encrypting SSL/TLS traffic, de-duplicating packets and generating NetFlow (IPFIX) metadata, ensuring any performance or latency hit due to the function is only incurred once.

4. Balance Workloads and Eliminate Single Points of Failure

NGNPBs provide features that increase the performance and resiliency of networks and security tools. For example, load balancing and inline bypass, that help to ensure your network can handle spikes in traffic, avoid downtime during maintenance and upgrades and minimize network latency.

NGNPBs in Action



Inline Bypass

Inline bypass consists of features — **Mix, Match, Bypass and Toggle** — that allow you to:

- Lower costs
- Reduce the need for planned downtime
- Ensure automated failover when security tools go down
- Make better use of capacity — and avoid buying and managing more units
- Enable tools to work out of band during normal circumstances and automatically toggle them to inline mode when an attack is detected



Offloading and Sharing Services

NGNPBs can offload a surprising number of services, including:

- SSL/TLS decryption
- Metadata generation
- Packet de-duplication
- Header stripping
- Packet slicing
- Masking



Visibility into Virtual and Cloud Environments

When the NGNPBs are integrated with cloud platforms, such as VMware NSX, Cisco ACI, Amazon AWS, Microsoft Azure or Open Stack, it can:

- Deploy visibility nodes on cloud-based virtual private networks
- Automate responses to dynamic changes in workloads by exchanging information with cloud platform monitoring and management tools
- Share network traffic and metadata running on the cloud platforms and tools in enterprise datacenters



Out-of-Band Security and Performance Monitoring Tools

NGNPBs help security, analytics and performance monitoring tools that operate out of band, do their jobs effectively by:

- Ensuring that out-of-band analytics tools have visibility into all network traffic
- Acquiring and aggregating traffic from physical, virtual and cloud environments and delivering it in a single data stream
- Enabling performance monitoring tools to perform detailed analyses of normal and anomalous behaviors
- Sending all the packets that each tool needs, unsampled, unsummarized and including malformed packets
- Forwarding network traffic and generating metadata at the same time, then filtering it to each tool
- Providing shared services that increase the accuracy and effectiveness of performance monitoring tools
- Overcoming the limitations of SPAN Ports
- Monitoring at full line speed by using targeting and filtering, balancing network traffic and freeing capacity on the tools

Finding a NGNPBs Vendor

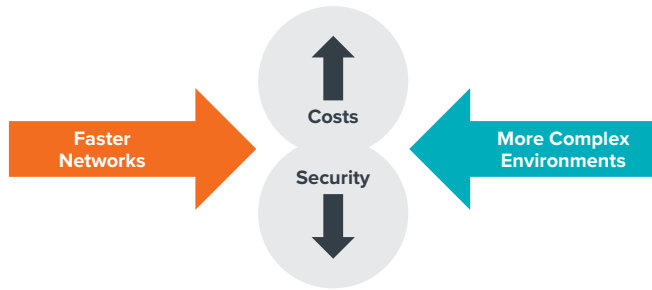


Figure 1. High-speed networks and new computing models are forcing IT organizations either to accept gaps in security network management or to dramatically increase spending.

Ensure that you make a strategic investment in NGNPBs, by working with an experience vendor that has:

- A history of demonstrating a long-term commitment to network packet brokers
- A track record of anticipating customer needs and the evolution of the product category
- A road map that shows how to address the next big opportunities with technologies that will make your security and network operations more efficient and effective
- Investments and acquisitions that demonstrate commitment to the road map and to technological innovation
- An active, growing ecosystem of technology partners
- A large, committed customer base, including enthusiastic reference customers

Download the full report

This is just a taste of what the full guide offers. Download it now to find:

- The evolution of NGNPBs — how we got here and where we're going
- What NGNPB can do for your organization
- A step-by-step guide to ensure that you choose the correct NGNPB for your business
- Four in-depth common use cases for NGNPB: Inline Bypass, Offloading and Sharing Services, Visibility into Virtual and Cloud Environments and Out-of-Band Security and Performance Monitoring Tools

Download the full report at www.gigamon.com/ngnpb-def-guide to learn more.