



# ***INTRODUCTION TO NETWORK PACKET BROKERS***



# *A Tool to Empower Tools*

*Manage and optimize data flow to network security and performance monitoring systems*

With constantly growing network architectures, acquiring access to traffic for monitoring and analysis is becoming increasingly challenging, both due to the number of capture points, and the number of tools competing for this data.

To help us mitigate these challenges, the ideal solution for managing and optimizing data flow is the implementation of Network Packet Brokers (NPBs). But what is an NPB?

When looking at network infrastructure, we often see tools attached to different points along that infrastructure. From a central position between the network and the monitoring tools, a Network Packet Broker enables engineers to simplify the infrastructure and optimize traffic flow towards the tools. Traffic from the network's access points feeds directly into the packet broker, and we then decide which traffic should go where at the packet broker level. We might want to send all of the data to certain tools, while other tools may only need a specific part of the traffic.



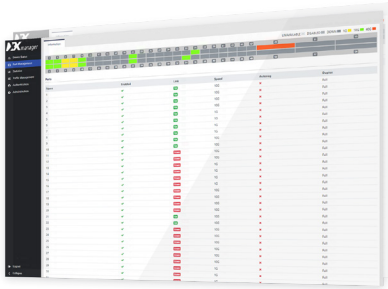
The NPB receives traffic from the network analysis points, and can then perform appropriate processing operations (filtering, packet slicing, aggregation, replication, deduplication, load balancing, media type conversion, speed conversion, etc.), before sending it to the right tools. This decreases the load on the tools by sending only clean, actionable data, and also helps increase the lifespan of legacy tools.

Effectively implementing network packet brokers allows better budgeting: rather than buying more tools to meet increased demands, you can leverage the ones you already have.

Network Packet Brokers deployed in the network monitoring infrastructure also offer greater flexibility. The traffic flow configuration can be changed remotely through its GUI/CLI interfaces without data center access.

What is an NPB	Who needs NPBs	Why use NPBs
<p><i>Network packet brokers (NPBs) are typically placed between traffic access points (e.g., TAPs, mirrored ports) and analysis tools.</i></p> <p><i>They act as a central point to direct network traffic to and from certain parts of the network while performing traffic processing operations to ensure the appropriate traffic is sent to the appropriate devices and tools.</i></p>	<ul style="list-style-type: none"> <li>◦ <i>Organizations that require a dedicated monitoring setup.</i></li> <li>◦ <i>Organizations that run multiple security and analysis toolsets.</i></li> <li>◦ <i>Organizations who want to accurately control which traffic is sent to analysis tools.</i></li> <li>◦ <i>Growing organizations that need to move away from 1:1 connections between access points and analysis tools.</i></li> <li>◦ <i>Organizations who want to stay compliant with privacy laws.</i></li> <li>◦ <i>Organizations who need to ensure high-quality data is sent to security and analysis tools for faster problem resolution.</i></li> </ul>	<ul style="list-style-type: none"> <li>◦ <i>To optimize the utilization of traffic access points and analysis tools.</i></li> <li>◦ <i>To organize and optimize traffic sent to monitoring and security tools.</i></li> <li>◦ <i>To decrease bandwidth and processing power usage by removing unnecessary data.</i></li> <li>◦ <i>To improve flexibility and scalability: easily forward data to new tools without impacting other operations.</i></li> <li>◦ <i>To have centralized management of traffic flow.</i></li> <li>◦ <i>Simplification of monitoring network architecture and on-site operations: once deployed, the traffic flow configuration can be changed remotely via an NPB's GUI/CLI without requiring physical access to the data center.</i></li> <li>◦ <i>Conversion of various media types and speeds across both access points and monitoring and security tools.</i></li> <li>◦ <i>Advanced integration with both physical and virtual TAPs.</i></li> </ul>

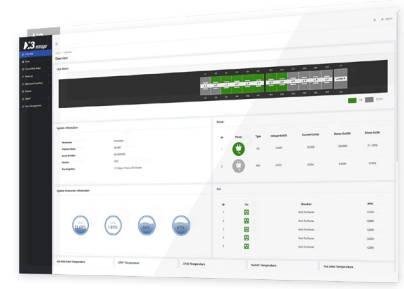
## **XX** series



## **X2** series



## **X3** series



### Benefits of Profitap NPBs

#### **XX-Series:**

- Aggregation, Replication, Load Balancing, Filtering.
- High-density, high throughput.
- Up to 255 port-to-port filters.
- Non-conflicting rules creation. All rules are active in parallel with each other. This makes sure no conflict between new and existing rules can happen and saves time setting up new rules.

#### **X2-Series:**

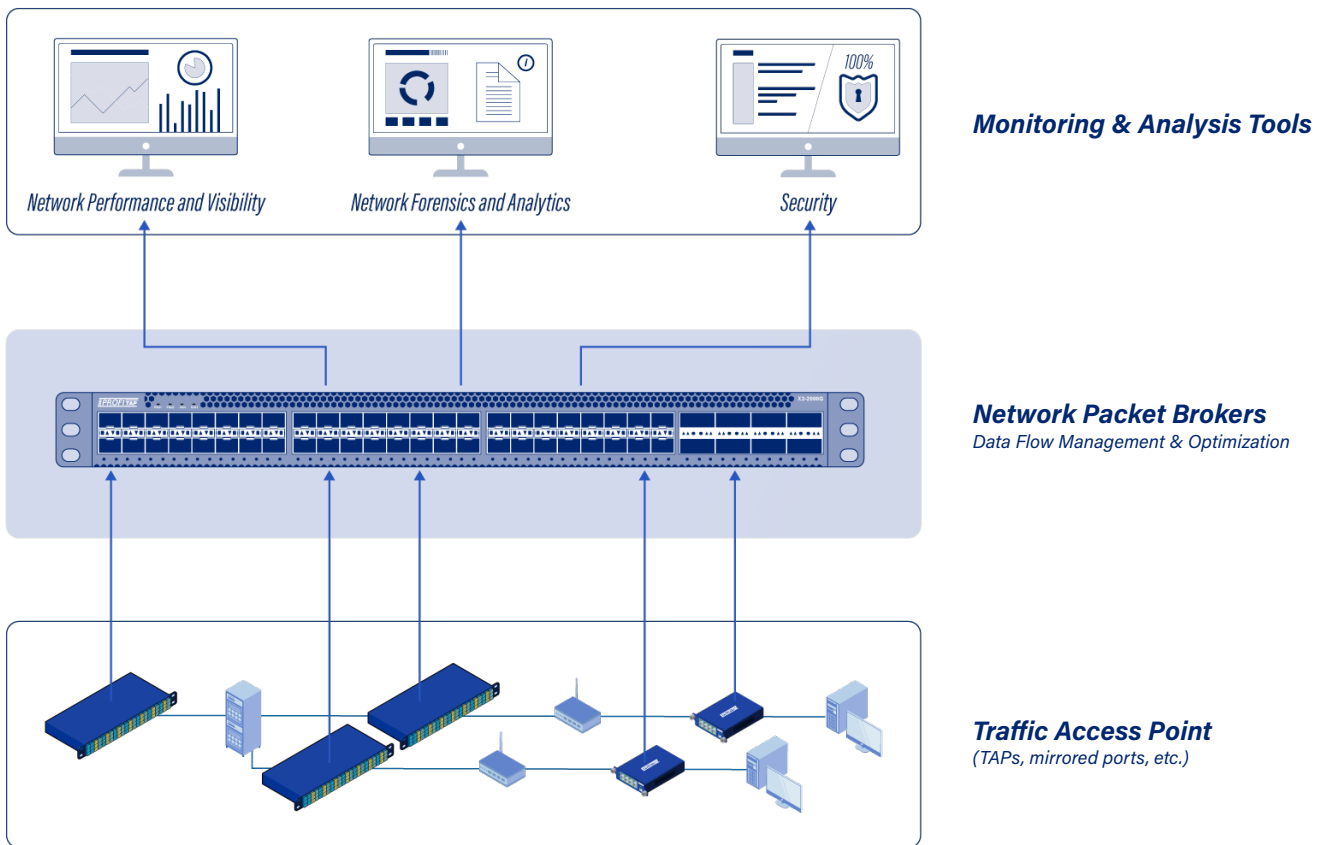
- Aggregation, Replication, Load Balancing, Filtering, Packet Slicing, GTP IP Filtering, Timestamping, Packet Deduplication, ERSPAN Tunneling & De-tunneling.
- High-density, high throughput.
- Processing of features at wirespeed in the data plane: data does not have to be forwarded to a co-processor, resulting in no added latency and no bandwidth bottlenecks.
- Non-conflicting rules creation. All rules are active in parallel with each other. This makes sure no conflict between new and existing rules can happen and saves time setting up new rules.
- Easy to use GUI for easy overview of device status and port and rules setup.
- Only 1 rule consumed per TCP/UDP/SCTP port or VLAN ID range filters.
- Up to 6000 port-to-port filters.

#### **X3-Series:**

- Any-to-any Replication and Aggregation
- Load Balancing
- Microburst protection
- Data masking
- SSL/TLS decryption
- Packet deduplication
- TCP packet reordering and fragments re-assembling
- Full tunneling capability
- Packet Slicing
- IMSI Filtering
- Timestamping
- Export NetFlow V5/V9
- L2-L7 Filtering, DPI

# Where to place Network Packet Brokers

Network Packet Brokers are typically placed between the traffic access points (e.g. TAPs, mirrored ports) and the monitoring and analysis tools, and are set up to forward the appropriate traffic from the production network to the appropriate tools.



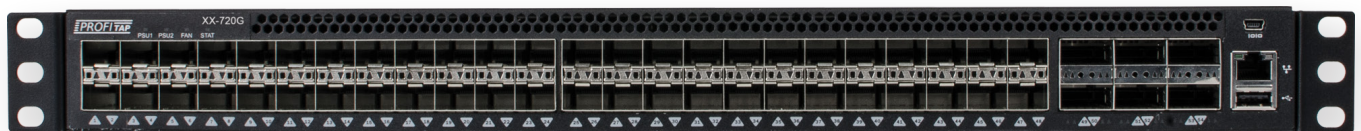
Placed between TAPs and tools, Network Packet Brokers act as a data flow management and optimization layer.

# Network Packet Brokers from Profitap

## Network Traffic Aggregators

Traffic Aggregators are entry-level packet brokers that specialize in performing traffic management operations such as aggregation, replication, load balancing, and filtering. They can be used standalone, or combined with advanced NPBs for pre-aggregation of network traffic.

Product reference	Interfaces	1G	10G	25G	40G	100G	400G	Aggregation Replication Load Balancing Filtering
XX-720G	48 x 10G SFP+ 6 x 40G QSFP+	✓	✓	-	✓	-	-	✓
XX-1800G	48 x 25G SFP28 6 x 100G QSFP28	✓	✓	✓	✓	✓	-	✓
XX-3200G	32 x 40/100G QSFP28	-	✓	✓	✓	✓	-	✓
XX-12800G	32 x 100/400G QSFP-DD	-	-	-	✓	✓	✓	✓



XX-720G



XX-1800G



XX-3200G



XX-12800G

## Network Packet Brokers

Network Packet Brokers offer a more extensive set of features compared to traffic aggregators, all of which are performed at wirespeed in the data plane. These high-versatility, high-performance systems help finely tailor network traffic from a multitude of sources and types for delivery to network analysis, monitoring, and security tools.

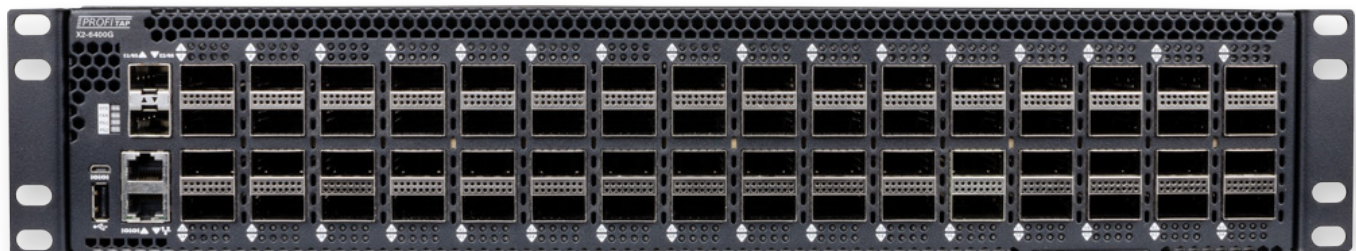
Product reference	Interfaces	1G	10G	25G	40G	100G	Aggregation Replication Load Balancing Filtering	Packet Slicing GTP IP Filtering Timestamping Packet Deduplication Tunneling & De-tunneling	Netflow export Microburst protection Data masking SSL/TLS decryption
<i>X2-2000G</i>	16 x 1/10/25G SFP28 32 x 10/25G SFP28 8 x 40/100G QSFP28	✓	✓	✓	✓	✓	✓	✓	-
<i>X2-2010G</i>	48 x 10/25G SFP28 8 x 40/100G QSFP28	-	✓	✓	✓	✓	✓	✓	-
<i>X2-3200G</i>	32 x 40/100G QSFP28	-	✓	✓	✓	✓	✓	✓	-
<i>X2-6400G</i>	64 x 40/100G QSFP28	-	✓	✓	✓	✓	✓	✓	-
<i>X3-440G</i>	24 x 1/10G SFP+ 2 x 40/100G QSFP28	✓	✓	✓	✓	✓	✓	✓	✓
<i>X3-880G</i>	48 x 1/10G SFP+ 4 x 40/100G QSFP28	✓	✓	✓	✓	✓	✓	✓	✓



*X2-2010G*



*X2-3200G*



*X2-6400G*



*X3-440G*



*X3-880G*




Profitap's unified network observability platform delivers packet-based network intelligence to strengthen network performance analysis and cybersecurity by providing fail-safe data access, traffic optimization, and traffic capture and analysis capabilities. This helps reduce network troubleshooting MTTR, eliminate downtime, assist in lawful interception, reduce network complexity, and add security to existing and new networks.

With over 1,100 clients from over 70 countries, Profitap's network monitoring solutions drive network visibility and analytics on all traffic across physical and virtual infrastructures globally.

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