NEOX NETWORKS
NEXT GENERATION NETWORK VISIBILITY

Feature Brief

Eliminate Inefficiency & Cost with Packet Deduplication

In today's data-driven world, Network Visibility performance and efficiency are critical to maintaining seamless operations. With the exponential growth of data traffic, networks are often burdened with redundant packets that consume valuable bandwidth, slow down performance, and increase costs. When the network traffic is mirrored or replicated using TAP or SPAN, those duplicate packets are also copied, wasting resources of the expensive monitoring tools as well. Monitoring and security tools only need to see every packet once to do their job NEOX Network's advanced Deduplication feature acts as a game-changer in network packet brokering, by removing all the unnecessary copies of the same packets, saving valuable resources and prolonging investments.

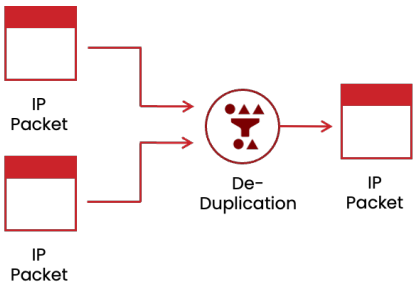
What is Packet Deduplication

Deduplication is an advanced network packet brokering feature designed to identify and eliminate redundant data packets traversing the network monitoring links. By intelligently filtering out duplicate packets, a Packet Broker ensures that only unique, essential data is forwarded to monitoring tools, security appliances, or analytics systems. This not only optimizes bandwidth utilization but also enhances the overall efficiency of the network monitoring infrastructure.

NEOX Deduplication technology is built on a foundation of innovation and precision. Leveraging state-of-the-art algorithms, NEOX Packet Brokers analyze packet streams in real-time, identifying and removing duplicates before they reach the monitoring tools. This ensures that your network operates at maximum efficiency, without compromising on data integrity or security.

Why Packet Deduplication Matters

At NEOX, we recognize that Deduplication is critical for modern network visibility. Here's why:



1. **Maximize Bandwidth Efficiency**
   Redundant IP packets can clog your network monitoring infrastructure, leading to unnecessary congestion and blind spots for observability and security. NEOX Packet Brokers' Deduplication technology ensures that the bandwidth for network visibility is used effectively, allowing critical packet and flow data to flow smoothly towards analysis tools without interruptions.

2. **Reduce Monitoring Costs**
   By eliminating duplicate packets by NEOX Packet Brokers, you can significantly reduce the load on visibility infrastructure and monitoring tools. This translates to lower operational costs and extended hardware lifespan, as your systems are no longer overwhelmed by redundant data, and you do not have to spend on infrastructure, bandwidth, and tool upgrades.

3. **Enhance Monitoring Performance**
   With fewer redundant packets to process, as serviced by NEOX Packet Brokers, network tools can operate at peak efficiency. This results in faster data processing, improved analytics, and quicker threat detection. It ensures that Intrusion Detection Systems (IDS) and Network Detection and Response (NDR) tools receive only unique packets, enabling faster and more accurate threat detection. Deduplication Improves the accuracy of analytics tools by eliminating redundant data, providing clearer insights into network performance.

4. **Simplify Management and Compliance**
   NEOX Packet Brokers' Deduplication feature seamlessly integrates into existing network visibility infrastructure, providing a hassle-free solution to optimize your network monitoring and security. Its intelligent algorithms work with real-time network traffic handling, ensuring your network remains agile and responsive. It streamlines compliance efforts by reducing the volume of data that needs to be captured, processed, and stored, making audits simpler and more efficient.

How NEOX Delivers Deduplication

NEOX Deduplication technology is designed to overcome these challenges with advanced algorithms, scalable architecture, and seamless integration capabilities. By leveraging cutting-edge innovation, NEOX ensures that your network visibility remains efficient, secure, and future-ready.

NEOX PacketWolf and PacketTiger, series of Advanced Packet Brokers are engineered to maximize the efficiency of Deduplication deployments. Unlike other vendors who require a license, Deduplication is a Free (no license needed) feature with NEOX Packet Brokers. It is by-default turned on and ready to use. Here's how we do it:

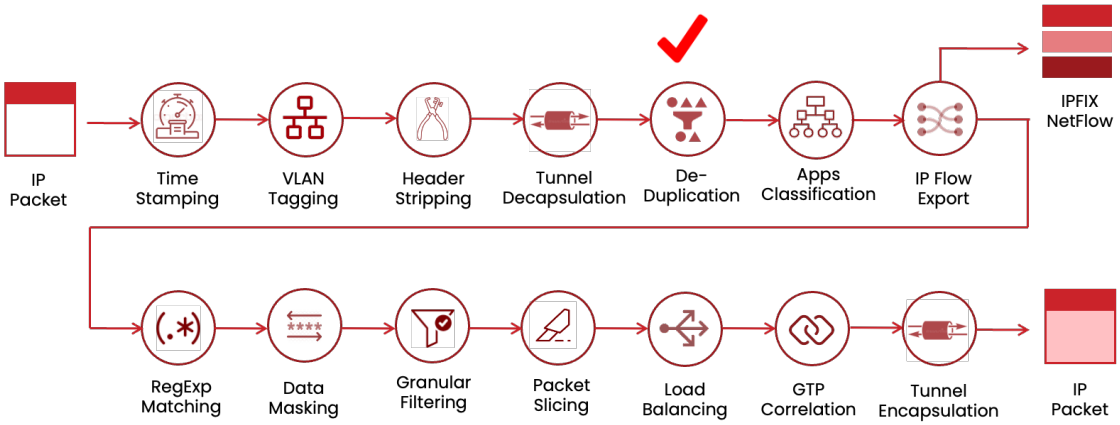
1. **Real-Time Processing Performance**
   Deduplication must occur in real-time to avoid delays in packet forwarding for timely analysis and threat detection. Achieving this without impacting network latency or throughput can be technically demanding. NEOX Packet Brokers deliver hardware-based Deduplication as the network traffic grows and scale seamlessly to handle increased data loads without compromising performance.

2. **Accuracy in Packet Identification**
   Deduplication algorithms can be resource-intensive, requiring significant computational power and memory, which may strain existing hardware. Misidentification can lead to the loss of critical data or the forwarding of redundant packets, defeating the purpose. NEOX Packet Brokers use intelligent algorithms for accurately identifying duplicate packets in high-speed, high-volume networks.

3. **Compatibility with Diverse Traffic**
   Networks carry a variety of traffic types (e.g., video, voice, data), each with unique characteristics. Networks are also constantly evolving, with changes in traffic patterns, protocols, and devices. NEOX Packet Brokers ensure that Deduplication works effectively across all traffic types without errors. They ensure that Deduplication does not accidentally remove non-redundant but similar-looking packets is critical to maintaining data integrity for network security and analysis.

4. **Cost of Advanced Features**
   High-performance Deduplication solutions often come with a significant upfront cost, which may be a barrier for smaller organizations. NEOX Packet Brokers do not require any special hardware upgrades, modules, or software licenses and there is no additional cost to use the feature.

5. **Cloud & Hybrid Support**
   With NEOX Packet Brokers, you can extend Deduplication to cloud and hybrid environments. NEOX Packet Brokers give network and security teams the necessary visibility into traffic types across systems, including multi-cloud environments. Deduplication saves significant costs (and monthly bills) in the cloud by reducing the data transfer costs across the VPCs and out of the cloud.



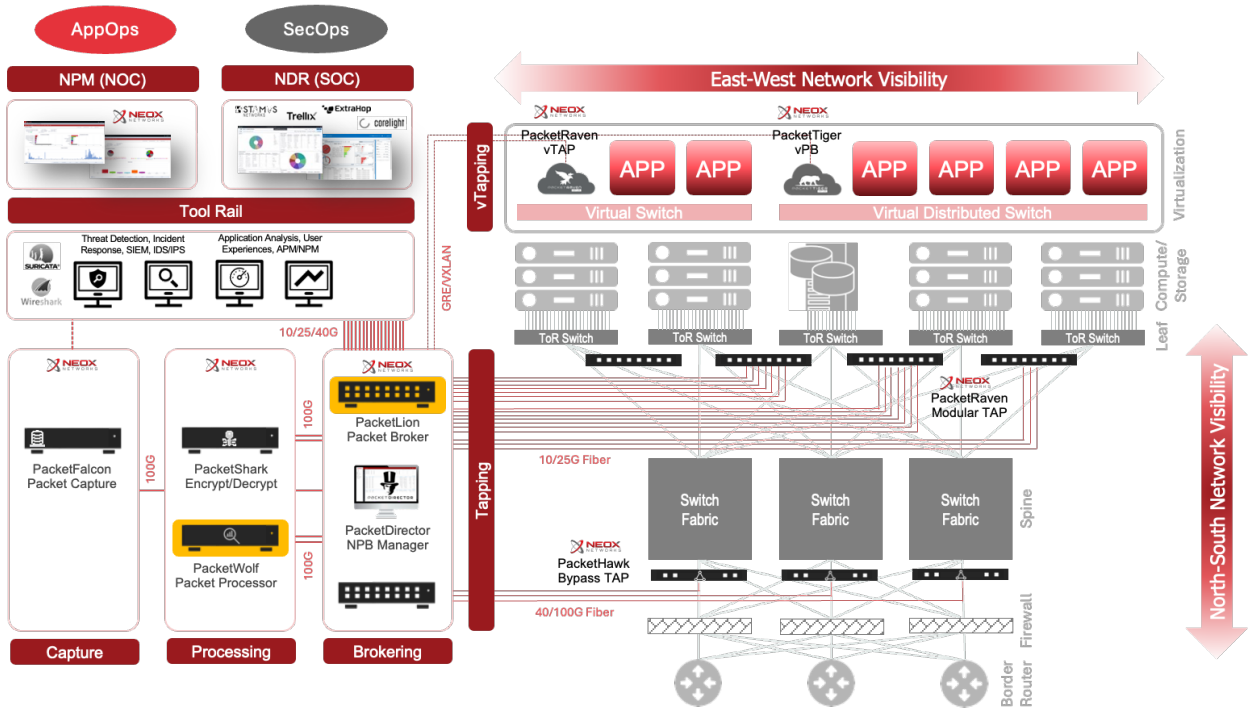
Feature	PacketWolf	PacketLion	PacketTiger	PacketTigerVirtual
Deduplicaiton	✓		✓	✓

Best Practices for Deduplication with NEOX

To help you get the most out of your network, we recommend the following best practices to funnel, consolidate, and process all network traffic to be monitored through one of the two NEOX Packet Broker approaches:

- For better hardware performance, lower latency network, or for a future-proofed scalable visibility approach, deploy a **two-tier visibility architecture**. Use NEOX PacketLion Packet Broker for high-density TAP and tool aggregation, and use NEOX PacketWolf Packet Broker for faster Deduplication and other packet services operations.

- For a lighter or software-driven approach, consolidate all network traffic to be monitored through a NEOX PacketTiger, and then from there to the tool rail. Same can be achieved in the cloud with PacketTigerVirtual before forwarding traffic to cloud-native monitoring or security tools.



The Future of Network Traffic Brokering Starts Here

As networks grow in complexity and speed, the importance of Deduplication will only continue to rise. At NEOX we're committed to helping you stay ahead of the curve with innovative solutions that deliver precision, reliability, and performance

Ready to Transform Your Network?

Discover how NEOX can elevate your Network Traffic Brokering with advanced Deduplication technology. Contact Us today or Request a Demo to learn more about our solutions and take the first step toward a smarter, faster, and more secure network.
NEOX – Precision. Performance. Perfected.

About NEOX Networks

NEOX Networks provides Next Generation Network Visibility for IT & OT Observability and Security. The result is strengthened cybersecurity, hybrid-cloud application observability, and business continuity, by integrating the network intelligence and real-time data-in-motion. Learn more at neoxnetworks.com