NEOX NETWORKS
NEXT GENERATION NETWORK VISIBILITY

Feature Brief

Optimize Monitoring Performance with Load Balancing

For today's high-speed, high-volume network visibility and monitoring, efficient traffic distribution is critical to maintaining performance, scalability, and reliability. Without proper load balancing, monitoring and security tools can become overwhelmed, leading to dropped packets, latency spikes, and missed threats. NEOX Packet Brokers based Load Balancing feature ensures that network traffic is dynamically and intelligently distributed across the tool rail, maximizing efficiency while preventing bottlenecks.

What is Load Balancing

Load Balancing in packet brokering refers to the intelligent distribution of network traffic across multiple monitoring, security, and analytics tools to prevent overloading any single system. Unlike basic round-robin distribution, NEOX's stateful load balancing ensures session-aware traffic routing, maintaining flow integrity while optimizing tool utilization.

Why Load Balancing Matters

NEOX's Load Balancing feature enhances network observability and security by:

1. **Preventing Tool Overload & Ensuring High Availability**
   NEOX's Load Balancing ensures traffic is evenly distributed across tools like IDS/IPS, NDR, and SIEM, preventing performance bottlenecks. It maintains seamless monitoring by automatically rerouting flows if a tool fails, guaranteeing no critical data is lost. This intelligent distribution maximizes efficiency while keeping security and analytics tools operating at peak capacity.

2. **Maximizing Tool Efficiency & ROI**
   NEOX's Load Balancing optimizes tool utilization by dynamically adjusting traffic flows in real time, eliminating both underused and overloaded systems. By preventing excessive packet drops and processing delays, it enhances performance while extending the lifespan of monitoring and security tools. This intelligent distribution ensures efficient resource usage across your entire network infrastructure.

3. **Enhancing Security & Threat Detection**
   NEOX's Load Balancing delivers a steady, optimized stream of traffic to security tools, enabling thorough inspection without overload. It intelligently reassembles asymmetric flows before distribution, ensuring complete analysis and eliminating fragmented visibility gaps. This maintains security effectiveness while maximizing tool performance.

How NEOX Delivers Intelligent Load Balancing

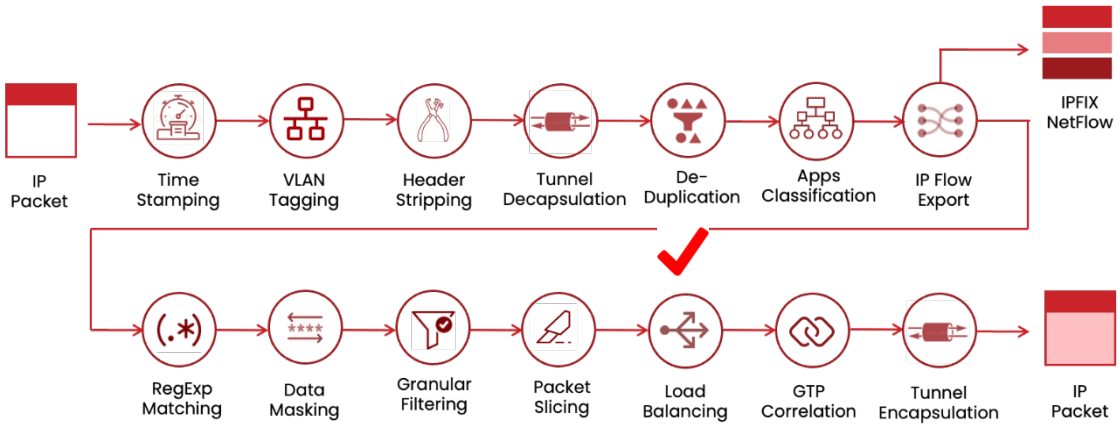
NEOX's PacketLion and PacketTiger series of Packet Brokers integrate hardware-accelerated VLAN Tagging to ensure zero-latency traffic classification and forwarding.

1. **Stateful Flow-Based Distribution**
   NEOX preserves session integrity through intelligent flow hashing (5-tuple/L7), guaranteeing all related packets route to the same tool. The system automatically rebalances traffic when tools are added or removed, maintaining

optimal distribution without manual intervention. This ensures consistent monitoring while adapting to infrastructure changes.

2. **Weighted & Adaptive Traffic Routing**
   NEOX dynamically distributes traffic based on real-time tool capacity (CPU/memory utilization), preventing bottlenecks and optimizing performance. It intelligently prioritizes mission-critical traffic like VoIP and transactions while efficiently managing background flows, ensuring smooth operations across all network activities. This adaptive approach maximizes resource utilization while maintaining quality of service.

3. **Health Monitoring & Failover**
   NEOX's load balancing continuously monitors tool health, instantly rerouting traffic if a system becomes unavailable to ensure uninterrupted monitoring. The solution seamlessly integrates with inline bypass mechanisms, maintaining critical network operations even during tool outages or maintenance windows. This dual-protection approach guarantees maximum uptime while preserving complete traffic visibility.



Feature	PacketWolf	PacketLion	PacketTiger	PacketTigerVirtual
Load Balancing		✓	✓	✓

Best Practices for Advanced Filtering with NEOX

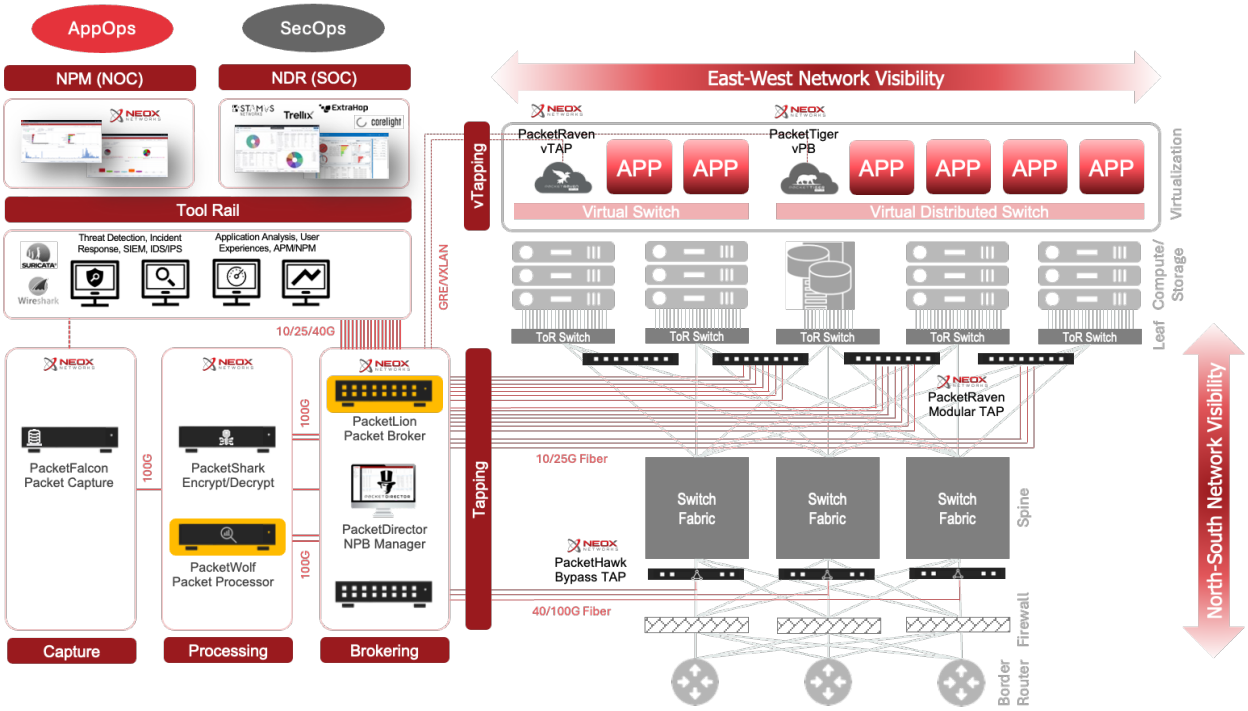
To maximize efficiency, we recommend:

- ✓ Deploy NEOX in aggregation points (core, data center, cloud gateways) for centralized load balancing.
- ✓ Use flow-aware hashing to maintain session continuity for stateful security tools.
- ✓ Combine with Advanced Filtering to reduce unnecessary traffic before distribution.
- ✓ Monitor tool performance metrics to adjust load-balancing policies dynamically.

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 NEOX PacketLion Packet Broker for high-density TAP and tool aggregation, and for faster Load Balancing 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 Traffic Distribution Starts Here

As networks grow in speed and complexity, intelligent Load Balancing will be essential for maintaining visibility and security. NEOX is committed to delivering scalable, high-performance traffic distribution that adapts to your evolving infrastructure.

Ready to Transform Your Network?

Discover how NEOX can elevate your Network Traffic Brokering with Load Balancing 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