NEOX NETWORKS
NEXT GENERATION NETWORK VISIBILITY

Feature Brief

# Unlock Agility & Performance with Precise Timestamping

In today's fast-paced digital landscape, efficient Network Visibility is no longer a luxury—it's a necessity. At NEOX Networks, we specialize in delivering cutting-edge Network Traffic Brokering solutions that empower businesses to handle, analyze, and route network traffic with unparalleled precision. One of the cornerstones of our technology? Precise Timestamping. Let's explore how NEOX is revolutionizing this critical process to help you stay ahead in the game.

## What is Timestamping?

**Timestamping is the process of recording the exact moment a network frame or packet is captured or processed. By appending this timestamp to the packet's metadata, NEOX ensures that every piece of data is anchored to a precise chronological reference point. This foundational step is essential for accurate network analysis, forensics, troubleshooting, and compliance.**

## Why Timestamping Matters in Network Traffic Brokering

At NEOX we understand that timestamping is more than just a technical detail—it's a game-changer for your network's performance and reliability. Here's why:

1. Accurate Network Analysis
   - Correlate Events: Pinpoint the exact sequence of events across your network, enabling faster issue resolution and deeper insights into network behavior.
   - Measure Latency: Identify bottlenecks and optimize performance by tracking packet travel times with precision.
   - Detect Anomalies: Spot delayed packets, out-of-order delivery, and potential security threats before they escalate.
2. Enhanced Troubleshooting

   When network issues arise, NEOX timestamped packets provide a clear timeline of events, simplifying root cause analysis—even in the most complex network environments.
3. Regulatory Compliance

   For industries like finance, healthcare, and telecommunications, compliance is non-negotiable. Our time-stamping solutions ensure that your network traffic logs meet stringent regulatory requirements, providing audit-ready trails and reports.
4. Forensic Analysis

   In the event of a security breach, our time-stamped data becomes your most powerful tool for forensic analysis. Reconstruct attack sequences, identify sources, and understand attack vectors with confidence.

## How NEOX Delivers Precision Timestamping

At NEOX we've engineered our solutions such as PacketWolf, PacketLion, and PacketTiger, to address the challenges of modern networks. Here's how we do it:

1. **Advanced Clock Synchronization**

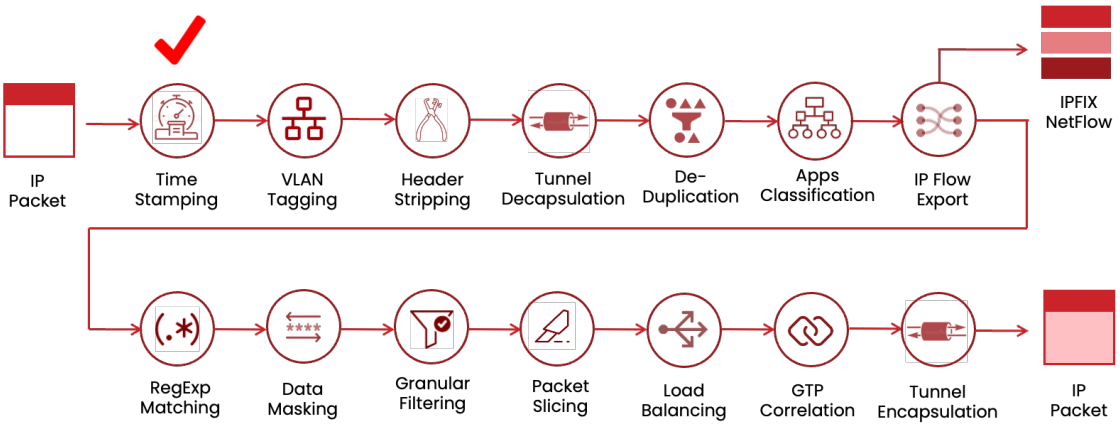
   Using industry-leading protocols like Network Time Protocol (NTP) and Precision Time Protocol (PTP), we ensure that all devices in your network are perfectly synchronized. This eliminates discrepancies and guarantees the accuracy of your timestamps.

2. **High-Resolution Timestamp Granularity**

   Whether your network operates at millisecond, microsecond, or nanosecond levels, NEOX delivers the granularity you need for precise analysis.

3. **Hardware-Based Time Stamping**
   Our Packet Brokers provide high-precision, low-latency time stamping—ideal for high-speed, high-volume networks.

4. **Resource Optimization**
   We understand that resource constraints can be a challenge. That's why our solutions are designed to balance precision with efficiency, ensuring optimal performance without overburdening your systems.




| Feature | PacketWolf | PacketLion | PacketTiger | PacketTigerVirtual |
|---|---|---|---|---|
| Timestamping | ✓ | ✓ | ✓ | ✓ |

## Best Practices for Timestamping with NEOX

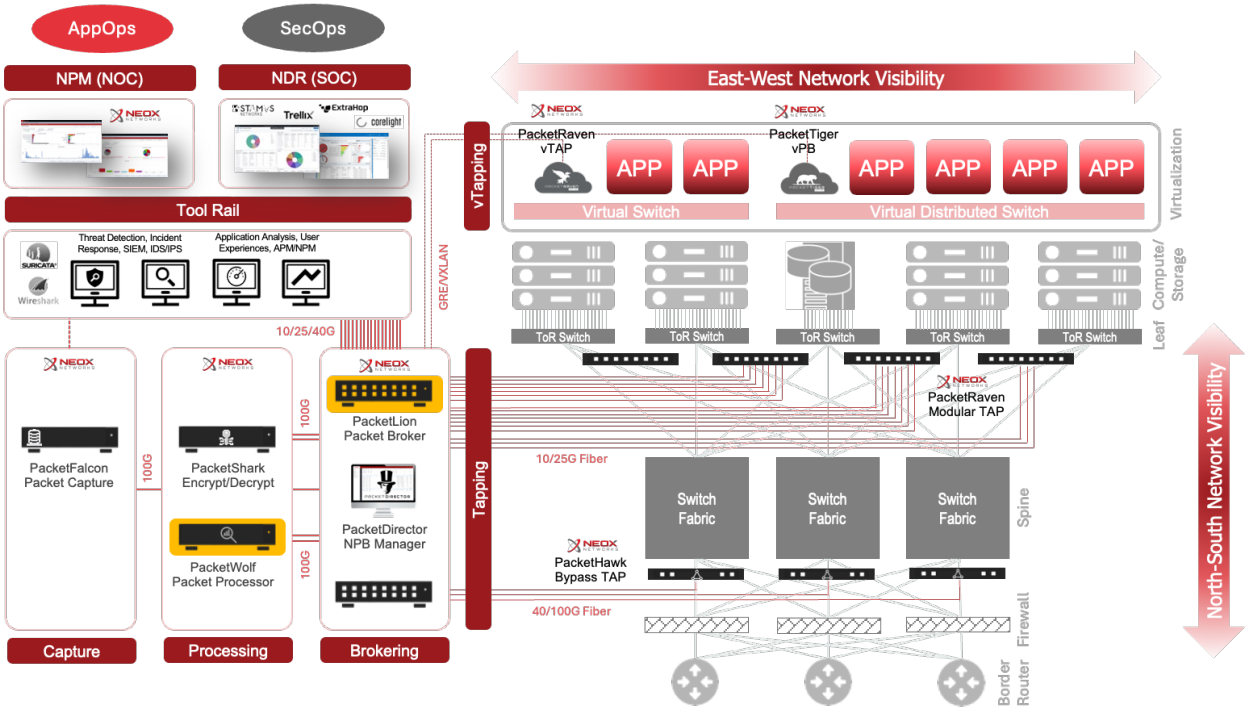
To help you get the most out of your network, we recommend the following best practices:

- Synchronize Clocks: Use NTP or PTP to keep all devices in sync.
- Optimize Granularity: Match Timestamp granularity to your network's needs—whether it's milliseconds or nanoseconds.
- Leverage Hardware Acceleration: Utilize our hardware-based solutions for high-speed environments.
- Regular Calibration: Maintain clock accuracy through regular calibration and monitoring.

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 Timestamping 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 Timestamping 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 Timestamping 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