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SMARTNIC+IPU SOLUTIONS

NEOX NETWORKS
NEXT GENERATION NETWORK VISIBILITY

CASE STUDY

NEOX Networks PacketFalcon: 100G Packet Capture-to-Disk in a Telecom Core Network

Challenge
NEOX Networks, an innovative provider of network monitoring and security solutions, needed SmartNICs capable of capturing and storing traffic at a sustained 100G without losing any packets, while ensuring compliance with at least two weeks of data retention for a telecom core network.

Solution
To meet these requirements, NEOX Networks integrated Napatech's NT200A02 and NT100A01 SmartNICs in PacketFalcon capture-to-disk appliances. The solution ensured zero packet loss at 100G speeds, optimized data processing with advanced traffic filtering and time-stamping, and maximized storage capacity with packet slicing.

Benefits
By deploying NEOX Networks' PacketFalcon, combined with Napatech's FPGA SmartNIC technology, the client significantly enhanced the network visibility, security posture and operational efficiency, ensuring robust and scalable solution for future demands.

"The integration of Napatech SmartNICs into our PacketFalcon solution has been a game-changer. Their ability to handle high-speed packet capture with zero loss has enabled us to deliver an unparalleled level of network visibility and forensic analysis. With Napatech, we provide our customers with a scalable, high-performance solution that ensures compliance, enhances security and streamlines network operations."

- Timur Ozcan CEO, NEOX Networks

Industry Challenges

In today's digital-first world, organizations face an ever-growing demand for network visibility to manage:

- Increasing network traffic.
- Rising complexity of distributed architectures.
- Constant cybersecurity threats challenging IT teams.

Traditional monitoring tools struggle to keep up, missing critical packets or introducing latency, which undermines operational efficiency and compromises security posture.

Client's Requirements

A leading telecom operator and mobile service provider sought a high-performance network monitoring solution for its core network that could:

- Provide granular visibility into network and security operations.
- Passively capture and record full network packets at a maximum of 100G without packet loss or interference with IT infrastructure.
- Retain the packet data for compliance and forensics for a minimum of 2 weeks with sufficient storage capacity.
- Ensure cost-efficiency while supporting scalability for future growth.

Solution

NEOX Networks integrated Napatech's NT200A02 and NT100A01 SmartNICs into the PacketFalcon appliances, a compact packet capture-to-disk solution with a storage capacity of 70 TB. The solution ensured:

- Uncompromised packet capture-to-disk: Ensured zero packet loss at sustained 100G.
- Intelligent traffic distribution: Enabled precise data processing and analysis using advanced features such as hardware-based filtering, flow classification and time-stamping.
- Optimized packet capture: Packet slicing and dynamic filtering helped maximize storage capacity for optimal performane and longer data retention.
- Out-of-box dashboards and analysis: Enabled actionalble insights, detailed drilldowns and an audit trail for compliance.

Benefits

The implementation of the solution transformed the client's network monitoring capabilities, including:

- Enhanced performance: Achieved real-time, high-speed packet capture.

- Faster troubleshooting: Provided insights and forensic evidence about what really happened on the network and when.
- Improved security: Enabled better anomaly detection and faster response times to cybersecurity threats.
- Scalability: Provided a future-proof solution capable of handling increasing network demands.
- Cost savings: Delivered a powerful yet compact solution, reducing the need for additional hardware investments.

NEOX Networks' PacketFalcon, in collaboration with Napatech's SmartNIC technology, addressed the most pressing network visibility challenges. This partnership highlights the importance of leveraging innovative hardware to deliver unmatched performance and efficiency in network monitoring solutions.

Learn more about NEOX Networks at https://neoxnetworks.com.

Packet processing pipeline