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Product Brochure

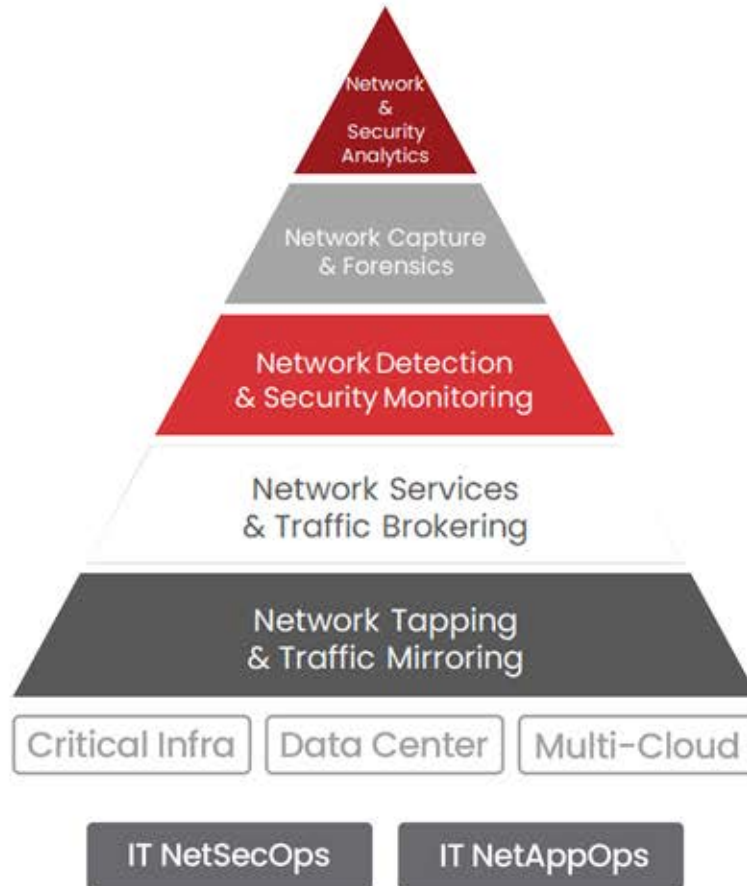
Next-Generation Network Visibility
for IT & OT Observability and Security

Download



NEOX Network Visibility Platform

Next-Generation Network Visibility
for IT & OT Observability and Security



Business Benefits

- Digital Transformation and Modernization through Hybrid-Cloud Observability
- Increased Business Continuity and Reduced Downtime
- Reduced Customer Churn through Better Experiences, Enhanced Security, and Data Protection



Technical Benefits

- Setup Once, Monitor Forever Network Visibility and Real-Time Wire-Data Access for Tools
- Scalable Foundation Layer for Building a Network Monitoring, Security, and Observability Practice
- Consistent Network Visibility for Provisioning Network-as-a-Service across the Hybrid-Cloud Infrastructure



Security & Data Protection

- Strengthened Network Security through Direct Access and Consolidation of Network Packet Data
- Real-Time Network Intelligence for Threat Hunting and Network Detection and Response
- Historic Network Data Access for Forensics, Incident Response, and Compliance



Application Observability

- Enhanced Application Performance, Response, and Availability through Network Dependency Mapping
- Faster Troubleshooting for User Experience Issues
- Reduced Mean-Time-to-Resolution

NEOXPacketOwl & NEXPacketOwlVirtual Network Security Appliance Series

Industry-Leading All-in-One Suricata-based Network Intrusion Detection,
Network Security Monitoring, and Network Detection and Response



NEOXPacketOwl Security Appliance

Open Suricata-on-Steroids 100G Network Security Monitoring
Rule-based Threat Analysis | Log Export | Alerts | Event-Triggered PCAP



100Gbps
Threat Analysis



Suricata-
based IDS



Event Logs
Export



100Gbps Selective
PCAP Capture



100Gbps
NDR Probe



Northbound
Alerts



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Cybersecurity

Threat Detection

SOC Integration

Data Center

Service Provider

Forensics

A Network Intrusion Detection System (NIDS) monitors network traffic in real-time to detect malicious activities or policy violations, providing alerts for suspicious behavior based on known attack patterns or anomalies. A Network Security Monitoring (NSM) appliance expands on this with intrusion prevention, traffic analysis, and forensics, offering centralized control and visibility across the network. A Network Detection and Response (NDR) probe takes detection a step further by using advanced analytics, machine learning, and behavioral monitoring to uncover sophisticated, often stealthy threats that evade traditional defenses.

- The industry's fastest and most versatile "Suricata-on-Steroids" solution with an all-in-one 100Gbps IDS, NSM appliance, and NDR probe, purpose-built for Enterprises, Data Centers, Service Providers, HFT/HPC, and Edge applications.
- Compatibility with Suricata signature-based ruleset and user-configurable rules. First Zero-Trust line of defense with 90% faster threat response.
- Highly scalable security events-triggered Logs and associated Packet Capture (PCAP), with tamper-proof logging for audit and compliance, and automated Log Management with smart Log Rotation and Log Compression.
- Seamless Integration with leading SIEMs, NDR tools & Syslog with north-bound alerts for SIEM and SOC consumption.

NEOXPacketOwlVirtual Software Appliance

Open Suricata-on-Steroids Cloud Network Security Monitoring
Rule-based Threat Analysis | Log Export | Alerts | Event-Triggered PCAP



Virtual & Cloud
Environments



Cloud-based
Threat Analysis



Suricata-
based IDS



Event Logs
Export



Selective
PCAP Capture



NDR Probe



Northbound
Alerts



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Cybersecurity

Threat Detection

SOC Integration

Data Center

Service Provider

Forensics

A Virtual Network Intrusion Detection System (NIDS) monitors network traffic in cloud and virtual environments to detect malicious activities or policy violations, providing alerts for suspicious behavior based on known attack patterns or anomalies. A Virtual Network Security Monitoring (NSM) appliance expands on this with intrusion prevention, traffic analysis, and forensics, offering centralized control and visibility across the virtual network. A Virtual Network Detection and Response (NDR) probe takes detection a step further by using advanced analytics, machine learning, and behavioral monitoring to uncover sophisticated, often stealthy threats that evade traditional defenses.

- The industry's fastest and most versatile "Suricata-on-Steroids" solution with an all-in-one IDS, NSM virtual appliance, and NDR probe, purpose-built for Hybrid-Cloud, Multi-Cloud (AWS, Azure, GCP), Software-Defined Data Centers (VMware), Service Providers, Virtual Branch and Edge, and other virtual deployments.
- Compatibility with Suricata signature-based ruleset and user-configurable rules.
- Highly scalable security events-triggered Logs and associated Packet Capture (PCAP), with tamper-proof logging for audit and compliance, and automated Log Management with smart Log Rotation and Log Compression.
- Seamless Integration with leading SIEMs, NDR tools & Syslog with north-bound alerts for SIEM and SOC consumption.

NEOXPacketOwl Deployment

Industry-Leading All-in-One Suricata-based Network Intrusion Detection, Network Security Monitoring, and Network Detection and Response

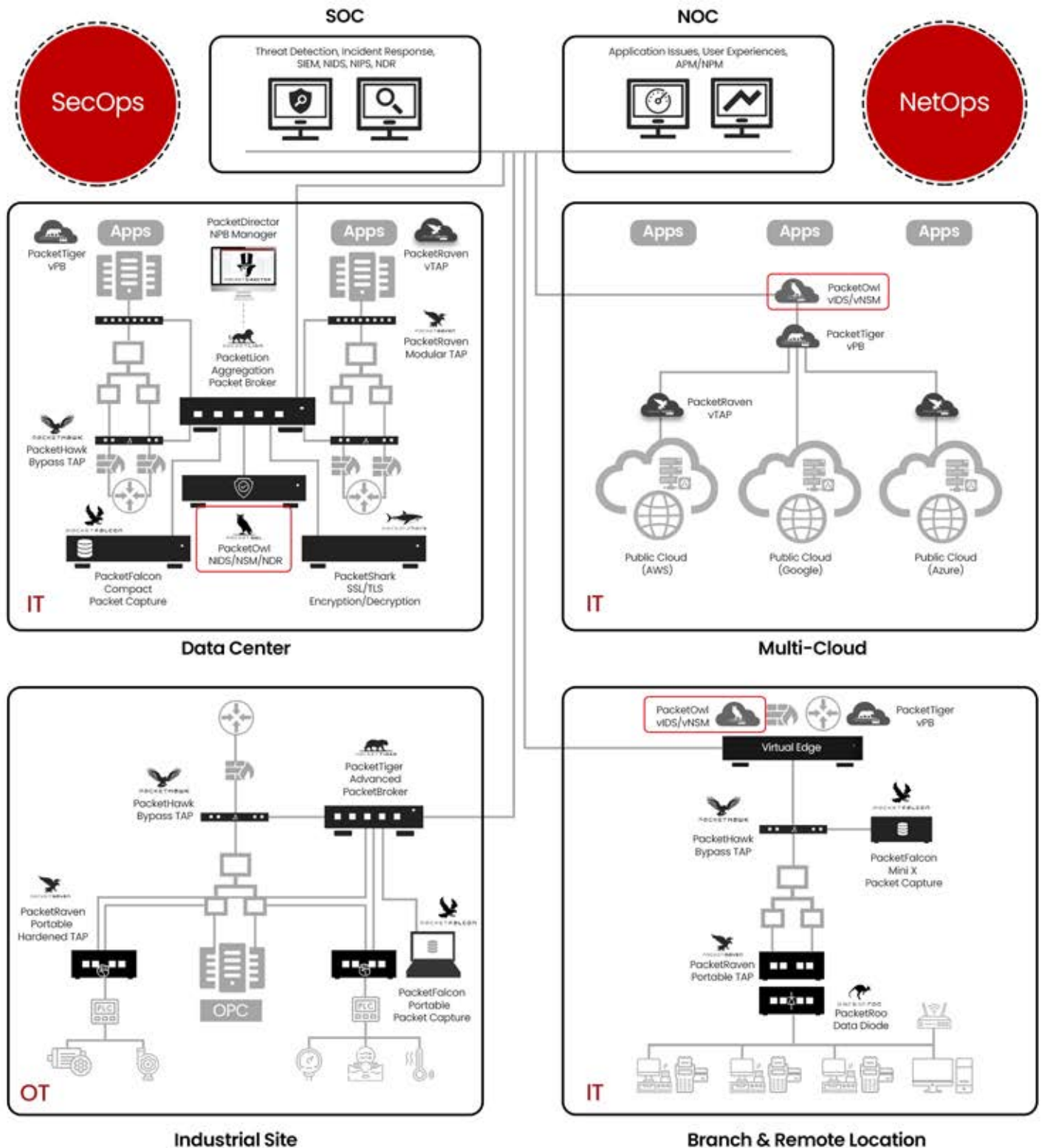
IT NetSecOps

Critical Infra

Data Center

Multi-Cloud

Deployment





NEOXPacketShark **Encryption & Decryption Appliance Series**

Strengthening Cybersecurity and Application Observability
by Network Transparency Into Encrypted Traffic



NEOXPacketShark Encryption & Decryption

TLS/SSL Traffic Visibility | Policy-Based Traffic Control
Certificates | Filtering & Bypass | Compliance

TLS
1.3TLS 1.3 & SSL
SupportSSL Decryption
on all L4 PortsMaintains
5-TupleBypass
Functionality

URL Filtering

Certificate
Distribution
& ControlCompliance
& PrivacySupports
Forward Proxy &
Reverse Proxy

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packetshark



Cybersecurity

Fraud Detection

Investigation

Data Center

Service Provider

Lawful Intercept

An Encryption/Decryption Appliance offers an all-in-one solution to improve SSL infrastructure, providing security devices with visibility into TLS/SSL encrypted traffic and optimizing existing security investments. It supports policy-based traffic management and easily integrates with current architectures, while centralizing encryption and decryption using the latest technologies across the security framework.

- The PacketShark is a modular solution that keeps up with the process of ever-growing networks with its possibility to utilize NMC modules to increase the port density if required. To add more protection to the solution these NMC modules are also available with integrated Bypass functionality, handing over full control of the network links to the user. In combination with an external PacketHawk Inline Bypass and PacketLion Network Packet Brokers one can scale their security design to an unlimited degree.
- To effectively protect an enterprise network from both internal and external threats, a range of security devices is essential. Traditionally, addressing security challenges has involved administrators manually linking various point products to form a „security stack“. PacketShark integrates with leading security vendors, allowing deployment within a “secure decrypt zone” to safeguard the entire network against encrypted threats.
- Dynamic service chaining offers a more flexible approach by routing traffic based on the Security Policy context. This enables specific types of traffic to flow through tailored chains of services, such as layer 2 and layer 3 inline services, receive-only services, ICAP, and HTTP web proxy services, optimizing security based on traffic needs. PacketShark uses advanced URL classification to categorize traffic from domains, allowing selective bypass of decryption to protect sensitive data such as medical or financial records, ensuring compliance with standards like HIPAA. Additionally, its URL filtering feature boosts employee productivity and mitigates risks by blocking access to malicious websites, including those linked to malware, spam, and phishing.

NEOXPacketShark Deployment

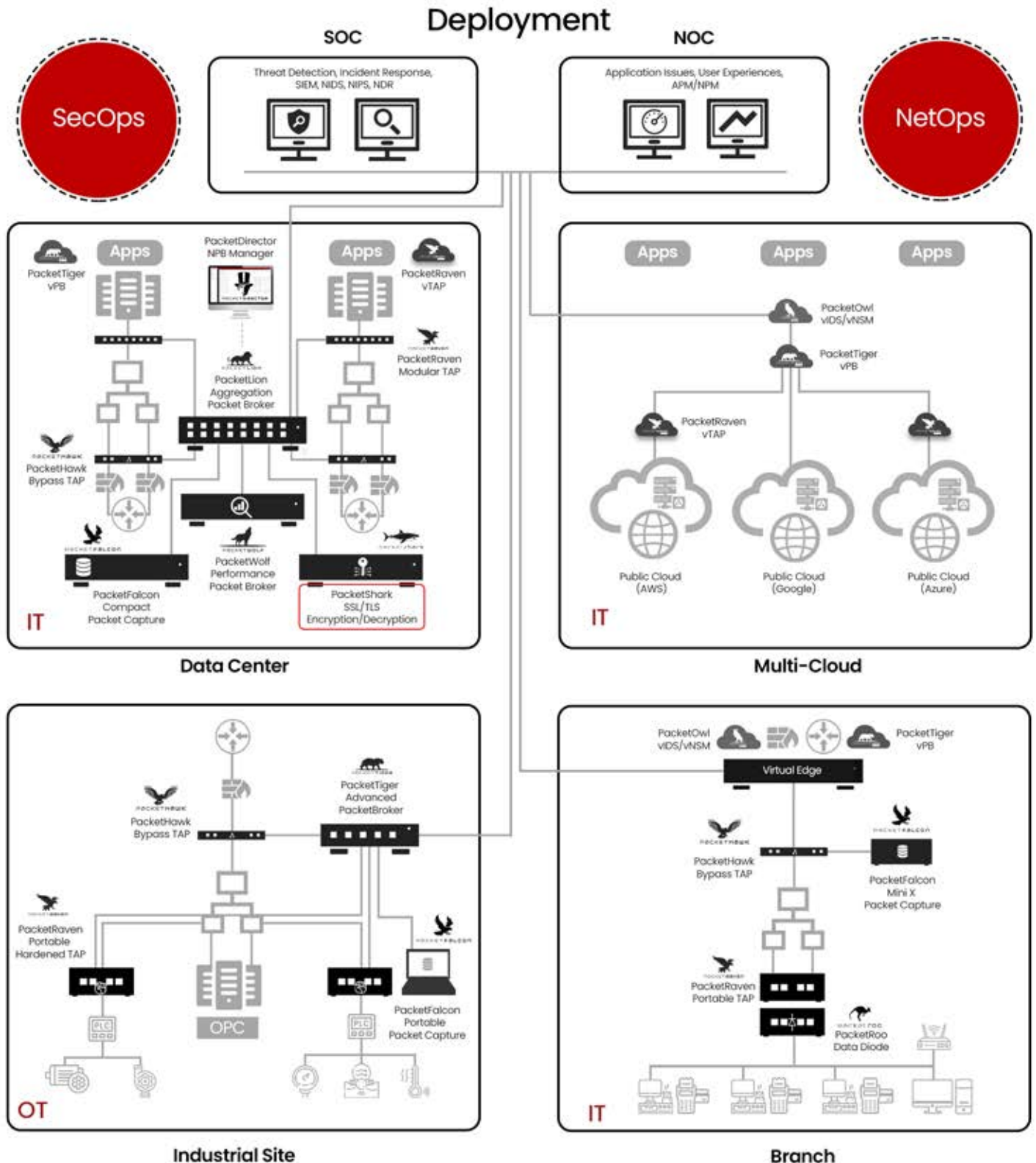
Strengthening Cybersecurity and Application Observability
by Network Transparency Into Encrypted Traffic

IT NetSecOps

Critical Infra

Data Center

Multi-Cloud





PACKETFALCON



PACKETGRIZZLY

NEOXPacketFalcon & NEXPacketGrizzly Network Capture & Forensics Appliance Series

Strengthening Cybersecurity and Application Observability
by Integrating the Historic Network Data and Forensics



NEOXPacketFalcon Mini Capture Appliance

Portable & Compact | 10Gbps Capture-to-Disk | 32TB Storage
Security Forensics | Compliance | Out-of-Box Dashboards



Lossless Full Packet Capture



Sustained Capture-to-Disk up to 10Gbps



High-Speed FPGA Capture Cards



Intelligent & Compression-based Capture



Storage up to 32TB



Portable, Compact and Robust



Fanless Design



Flexible Connectivity through SFP/SFP+/SFP28



FPGA-based 10 Nanosecond Timestamping



FPGA-based Packet Slicing & Capture Filter



FPGA-based Deduplication



PCAP & PCAPNG Support



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Incident Response

Network Forensics

Troubleshooting

Compliance

Branch Office

Remote Site

- NEXPacketFalcon Mini Packet Capture Appliance is a powerful solution to record the network packet data for up to 10Gbps speeds. The onboard storage capacity options include 8TB, 16TB, or 32TB of disk space depending on the use case and the length of time the data must be stored.
- NEXPacketFalcon enables IT NetOps and AppOps teams to reference the historical data at any time at their fingertips, recreate the data streams for troubleshooting, and perform session or conversation-level analysis, reducing finger-pointing and mean-time-to-resolution (MTTR) of customer issues.
- NEXPacketFalcon is a must-have solution for network forensics and incident response for the IT SecOps teams in a post-breach situation for investigation and court evidence. The before, during, and after event data captured, can help narrow down the security loopholes, suspicious activities, and attacker's IP address. By indexing the data and hardware/software filters (Berkeley Packet Filter), NEXPacketFalcon enables SecOps teams to quickly investigate and block attacks.

NEOXPacketFalcon Mini X Capture Appliance

Portable & Compact | 25Gbps Capture-to-Disk | 32TB Storage
Security Forensics | Compliance | Out-of-Box Dashboards



Lossless Full Packet Capture



Sustained Capture-to-Disk up to 25Gbps



High-Speed FPGA Capture Cards



Intelligent & Compression-based Capture



Storage up to 32TB



Portable, Compact and Robust



Fanless Design



Flexible Connectivity through SFP/SFP+/SFP28



FPGA-based 10 Nanosecond Timestamping



FPGA-based Packet Slicing & Capture Filter



FPGA-based Deduplication



PCAP & PCAPNG Support



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Incident Response

Network Forensics

Troubleshooting

Compliance

Branch Office

Remote Site

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- NEXPacketFalcon is a must-have solution for network forensics and incident response for the IT SecOps teams in a post-breach situation for investigation and court evidence. The before, during, and after event data captured, can help narrow down the security loopholes, suspicious activities, and attacker's IP address. By indexing the data and hardware/software filters (Berkeley Packet Filter), NEXPacketFalcon enables SecOps teams to quickly investigate and block attacks.

NEOXPacketFalcon Portable Capture Appliance

Portable & Mobile | 100Gbps Capture-to-Disk | 480TB Storage
Security Forensics | Compliance | Out-of-Box Dashboards

-  Lossless Full Packet Capture
-  Sustained Capture-to-Disk up to 100Gbps
-  Up to 3 FPGA Capture Cards
-  Intelligent & Compression-based Capture
-  Storage Capacity of up to 480TB
-  HW Encrypted (SED) Storage
-  Hardware RAID 0,5,6,00,50,60
-  Portable, Mobile, and Robust
-  Flexible Connectivity through SFP, SFP+, SFP28, QSFP+, QSFP28
-  FPGA-based 10 Nanosecond Timestamping
-  FPGA-based Packet Slicing & Capture Filter
-  FPGA-based Deduplication
-  PCAP & PCAPNG Support
-  Optional Transport Case



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Incident Response

Network Forensics

Troubleshooting

Compliance

Field

Remote Site

A Packet Capture Appliance uses specialized high-performance hyper-converged architecture to capture/record the network data in motion in a lossless fashion and store it permanently on built-in storage disks. The stored data can be retrieved and played back at any time just like a DVR, for troubleshooting, security forensics, or evidence.

- NEOXPacketFalcon Portable Packet Capture Appliance is a powerful solution to record the network packet data for up to 100Gbps speeds (1Gbps, 10Gbps, 25Gbps, 40Gbps, or 100Gbps). The onboard storage capacity options include 24TB, 51TB, 102TB, 240TB, or 480TB of disk space depending on the use case and the length of the time the data must be stored.
- NEOXPacketFalcon enables IT NetOps and AppOps teams to reference the historical data at any time at their fingertips, recreate the data streams for troubleshooting, and perform session or conversation-level analysis, reducing finger-pointing and mean-time-to-resolution (MTTR) of customer issues.
- NEOXPacketFalcon is a must-have solution for network forensics and incident response for the IT SecOps teams in a post-breach situation for investigation and court evidence. The before, during, and after event data captured, can help narrow down the security loopholes, suspicious activities, and attacker's IP address.

NEOXPacketFalcon Compact Capture Appliance

Compact | 100Gbps Capture-to-Disk | 300TB Storage
Security Forensics | Compliance | Out-of-Box Dashboards



Lossless Full Packet Capture



Sustained Capture-to-Disk up to 100Gbps



High-Speed FPGA Capture Cards



Intelligent & Compression-based Capture



Storage Capacity of up to 300TB



HW Encrypted (SED) Storage



Hardware RAID 0,5,6,00,50,60



IEEE 1588v2 Precision Time Protocol



Rackmountable



Flexible Connectivity through SFP, SFP+, SFP28, QSFP+, QSFP28



FPGA-based 10 Nanosecond Timestamping



FPGA-based Packet Slicing & Capture Filter



FPGA-based Deduplication



PCAP & PCAPNG Support



Optional Transport Case



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packetfalcon-packet-capture](https://neoxnetworks.com/packetfalcon-packet-capture)



Incident Response

Network Forensics

Troubleshooting

Compliance

Data Center

Service Provider

- NEOXPacketFalcon Compact Packet Capture Appliance is a powerful solution to record the network packet data for up to 100Gbps speeds (1Gbps, 10Gbps, 25Gbps, 40Gbps, or 100Gbps). The onboard storage capacity options include up to 300TB of disk space depending on the use case and the length of the time the data must be stored. Its flexibility in terms of mobile and stationary applications makes it the ideal companion for NetSecOps. A hard-shell transport case is optionally available.
- NEOXPacketFalcon enables IT NetOps and AppOps teams to reference the historical data at any time at their fingertips, recreate the data streams for troubleshooting, and perform session or conversation-level analysis, reducing finger-pointing and mean-time-to-resolution (MTTR) of customer issues.
- NEOXPacketFalcon is a must-have solution for network forensics and incident response for the IT SecOps teams in a post-breach situation for investigation and court evidence. The before, during, and after event data captured, can help narrow down the security loopholes, suspicious activities, and attacker's IP address. By indexing the data and hardware/software filters (Berkeley Packet Filter), NEOXPacketFalcon enables SecOps teams to quickly investigate and block attacks.

NEOXPacketGrizzly Capture Appliance

Modular & Extensible | 100Gbps Capture-to-Disk | 8PB Storage
Security Forensics | Compliance | Out-of-Box Dashboards



Lossless Full Packet Capture



Sustained Capture-to-Disk up to 100Gbps



High-Speed FPGA Capture Cards



Intelligent & Compression-based Capture



Storage Capacity of up to 8PB



HW Encrypted (SED) Storage



Hardware RAID 0,5,6,00,50,60 & ADAPT



IEEE 1588v2 Precision Time Protocol



Rackmountable



Flexible Connectivity through SFP, SFP+, SFP28, QSFP+, QSFP28



FPGA-based 10 Nanosecond Timestamping



FPGA-based Packet Slicing & Capture Filter



FPGA-based Deduplication



PCAP & PCAPNG Support



Optional Transport Case



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Incident Response

Network Forensics

Troubleshooting

Compliance

Data Center

Service Provider

- NEXPacketGrizzly Modular Packet Capture appliance is a powerful, industry-leading solution to record network packet data for up to 100Gbps speeds (1Gbps, 10Gbps, 25Gbps, 40Gbps, or 100Gbps). The onboard storage capacity options include 504TB to 8PB of disk space, and up to 4 storage units, depending on the use case and the length of time the data must be stored. NEXPacketGrizzly can accommodate the failure of up to 12 drives per unit without any data loss, setting a high bar for availability.
- NEXPacketGrizzly supports Ethernet, VoIP, Video over IP network, and session-level or conversation-level analysis, and enables IT NetOps and AppOps teams to reference the historical data at any time at their fingertips, recreate the data streams for troubleshooting, reducing finger-pointing and mean-time-to-resolution (MTTR) of customer issues. High capture speed and ample storage capacity make NEXPacketGrizzly a superior solution for NetOps to go back to network data for days, weeks, and months, to catch anomalies.
- NEXPacketGrizzly is a must-have solution for network forensics and incident response for the IT SecOps teams in a post-breach situation for investigation and court evidence. The before, during, and after event data captured, can help narrow down the security loopholes, suspicious activities, and attacker's IP address. By indexing the data and hardware/software filters (Berkeley Packet Filter), NEXPacketFalcon enables SecOps teams to quickly investigate and block attacks.
- As encrypted traffic becomes more common, NEXPacketGrizzly can detect the encrypted traffic and slice the encrypted payload from the packets to extend the retention time. This is processed in the FPGA without any performance impact.

NEOXPacketFalcon Deployment

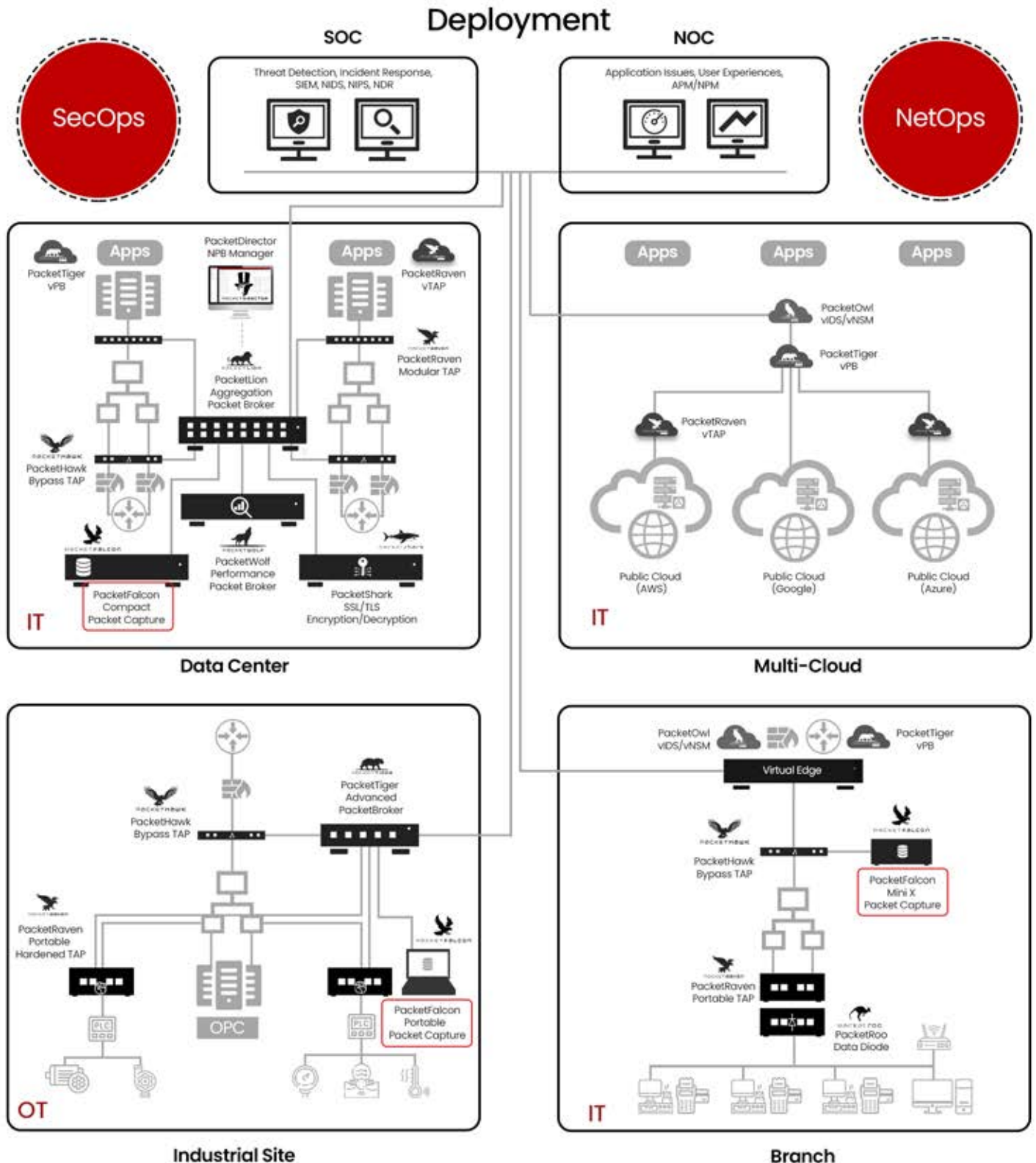
Strengthening Cybersecurity and Application Observability
by Integrating the Historic Network Data and Forensics

IT NetSecOps

Critical Infra

Data Center

Multi-Cloud



NEOXPacketGrizzly Deployment

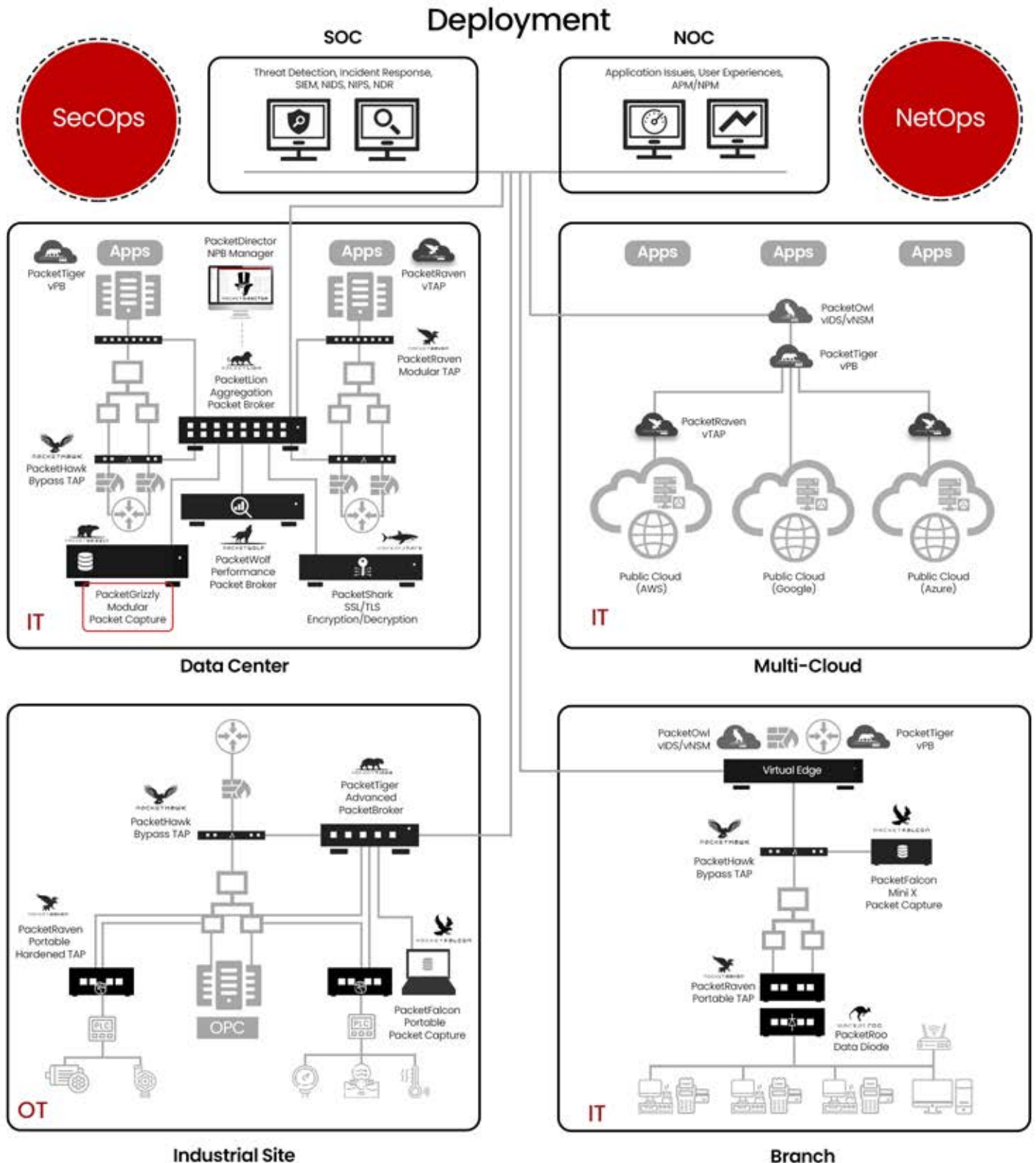
Strengthening Cybersecurity and Application Observability
by Integrating the Historic Network Data and Forensics

IT NetSecOps

Critical Infra

Data Center

Multi-Cloud





NEOXPacketWolf, PacketLion & PacketTiger Network Packet Broker Series

Strengthening Cybersecurity and Application Observability
by Consolidating and Forwarding the Right Data to the Right Tools



NEOXPacketWolf Performance Packet Broker

Advanced FPGA-based Packet Brokering | 400Gbps Throughput
Low Latency | NetFlow and IPFIX Unstamped Export

- 4x 100G QSFP28
- Up to 4 x 100Gbps SFP28/QSFP28
- Up to 400Gbps
- FPGA Design
- FPGA-based Nanosecond Timestamping
- FPGA-based Deduplication
- FPGA-based Packet Slicing
- Protocol Header Stripping
- 100Gbps NetFlow & IPFIX Unsamped Export
- Flexible Connectivity through SFP, SFP+, SFP28, QSFP+, QSFP28
- Tunnel Support (Encapsulation/Decapsulation)
- Data Masking
- Ultra low-latency
- Suricata Support



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packetwolf-packet-processor



NDR Support

Traffic Inspection

Troubleshooting

Tools Offload

Data Center

Service Provider

A Network Packet Broker (NPB), also known as a Network Monitoring Switch, aggregates all data streams from Network TAPs distributed across the hybrid-cloud infrastructure, processes it to filter and manipulate the data to forward it in the right format, to the right destinations/tools, for monitoring and analysis. An Advanced Packet Broker appliance is equipped with advanced architecture to process the network data at the individual packet level. This involves FPGA-based technology for labor-intensive but faster lookups.

- The NEOXPacketWolf Advanced Packet Broker is the ideal platform for advanced network data packet Brokering of up to 400Gbps throughput per appliance, thanks to its FPGA-based high-performance architecture.
- The data traffic requiring processing is normally fed through an aggregation Network Packet Broker such as NEOXPacketLion series or third-party packet brokers, but can also originate from other sources, such as a SPAN port or a Network TAP. The processed data is forwarded by NEOXPacketWolf on the same or a separate port to a monitoring/security tool destination or sent back to the source.
- NEOXPacketWolf Advanced Packet Broker offers several advanced features to offload the monitoring and observability tools through deduplication, advanced filtering, packet masking, packet slicing, dynamic and static header-stripping, tunnel termination, VLAN tagging, L2-L3-L4 loopback, PCAP view, replay, and edit.
- Additionally, functions such as packet slicing and packet masking can ensure meeting legal and compliance requirements. Particularly with GDPR, it may be necessary to use packet slicing to remove the user data before forwarding, or mask the personal information, as the metadata is often sufficient for an analysis.

NEOXPacketLion Aggregation Packet Broker

High-Performance Aggregation | Non-Blocking Architecture
High Port Density | Inline Bypass or Out-of-Band | Flexible Stacking



Up to 400Gbps



Port Splitting
& Port Labeling



L3GRE Tunneling
Protocol



Clustering
Possible



Dig. Diagnostics
Monitoring



Radius &
TACACS



Flexible Port
Allocation



Tunnel Filtering



Aggregation &
Regeneration



User Defined
Filter Rules



MPLS Stripping



Timestamping



Packet Slicing



8GB Deep
Buffers



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packetlion-aggregation-packet-broker



Cybersecurity

NDR Feed

Troubleshooting

Data Center

Service Provider

Lawful Intercept

A Network Packet Broker (NPB), also known as a Network Monitoring Switch, aggregates all data streams from Network TAPs distributed across the hybrid-cloud infrastructure, processes it to filter and manipulate the data to forward it in the right format, to the right destinations/tools, for monitoring and analysis.

- NEOXPacketLion Network Packet Broker acts as a high-density aggregation layer and a bridge between the network data access points i.e. TAPs, and the tool rail, such as security (NIDS, NIPS, NDR, SIEM), forensics (packet capture), and performance monitoring (APM, NPM) tools.
- NEOXPacketLion also acts as a gateway to interface network speeds of up to 400Gbps to lower speeds on the tools side, and depending on the version, supports all common transceiver standards (SFP, SFP+, QSFP-DD)
- NEOXPacketLion uses dedicated ASIC hardware to support simple or complex data filtering rules to ensure an optimized data flow, and the right data to the right analysis tools. It enables you to filter out unwanted data packets or entire data streams, thus reducing the overall load and tools-sprawl, and prolonging investments.
 - Flexible port assignment (1:1, N:N, N:1, 1:N)
 - Support for filtering rules (MAC, VLAN, IPv4/IPv6, TCP/UDP, DSCP, TCP Flags, MPLS, Ingress, Egress Filtering within a tunnel (GTP, L2TP, MPLS, GRE, PPPoE, and VxLAN)
 - 8GB Deep Buffer to eliminate packet loss because of micro bursts
 - Support for User-Defined Filter rules (UDF)

NEOXPacketTiger Advanced Packet Broker

Advanced Features | Deep Packet Inspection | Application Metadata
NetFlow and IPFIX Export



neoxnetworks.com/
packettiger-advanced-packet-broker



Cybersecurity

NDR Feed

Troubleshooting

Data Center

Service Provider

Lawful Intercept

- NEOXPacketTiger Advanced Network Packet Brokers allow full flexibility in parsing network packet headers and processing payloads and provide advanced technology for modifying and optimizing those packets.
- Advanced features such as IPv6-filtering in GTP tunneling, Regex, Deep Packet Inspection (DPI), and application-based metadata extraction are supported.
- NEOXPacketTiger uses modern, high-performance, modular, and scalable COTS hardware which can be configured for the desired processing capacity. This unique approach removes hardware performance constraints and enables better scaling and matching between hardware and performance requirements. The media type and speed of the network do not matter, as NEOXPacketTiger supports all major types (RJ45/SFP/SFP+/QSFP+/QSFP28 ports).
- The NEOXPacketTiger's advanced packet processing allows you to work more granularly and look deeper inside individual packets as compared to ordinary Network Packet Brokers. Even resource-intensive scenarios such as removing duplicates (dedup) in the network, masking, or blacking out content in the individual packets, are not an issue.
- NEOXPacketTiger Advanced Network Packet Brokers are available in different categories: Desktop Appliances, Network Appliances, and Servers, enabling a wide range of solutions.
- All in all, the NEOXPacketTiger Next-Gen Advanced Network Packet Brokers have significantly more functionalities and features for advanced applications across mission-critical data centers.

8x
100G

Up to 8 x 100Gbps



NEOXPacketLion
Parity Features



GTP Correlation



Data Masking



Deduplication



Advanced Filtering



NetFlow/IPFIX
Support



Deep Packet
Inspection



Tunnel Support



Packet Capture
& Replay



GTP Tunneling
& IMSI Filtering

NEOXPacketTigerVirtual Software Packet Broker

Hybrid-Cloud | Multi-Cloud | On-Prem Virtual Environments
Inline or Out-of-Band | Stateful Filtering | Load Balancing



Virtual & Cloud Environments



GTP Correlation & Filtering



Inner IP LB & Tunnel Filtering



OSI L2-L4 & RegEx Filtering



User Defined Filters



Header Stripping & Editing



Deduplication



Data Masking



Packet Slicing



Metadata Extraction



Timestamping



Capture & Replay



NetFlow/IPFIX



NEOX Device Manager



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packettigervirtual-packet-broker](https://neoxnetworks.com/packettigervirtual-packet-broker)



Cybersecurity

NDR Feed

Troubleshooting

Cloud

Data Center

Service Provider

A Virtual Packet Broker (vPB) works just like a physical Network Packet Broker, as a scaled-down version that can run on a standard hypervisor in the virtualized data center or the cloud. It can aggregate, filter, and process the network traffic between the virtual machines (VM) in the east-west direction, and forward to the tools for monitoring and analysis, which is otherwise a major blind spot.

- NEOXPacketTigerVirtual provides a versatile Virtual Network Packet Broker solution to meet the need for increased visibility in virtualized environments such as Software-Defined Data Centers (SDDC), and public/private clouds, completing the equation. So you have end-to-end visibility of the hybrid-cloud/multi-cloud environment.
- Deployable as a Docker container, or as a virtual appliance, NEOXPacketTigerVirtual is validated and deployable in AWS, Microsoft Azure, and Google Cloud and can collect network data streams from multiple NEOXPacketRavenVirtual vTAPs within a VPC, and optimize the cloud network data processing and forwarding, reducing the cloud bills and improving security.
- NEOXPacketTigerVirtual can provide similar benefits in an on-premises virtual network, such as a VMware environment. Since most malware attacks enter through data center east-west traffic, this greatly reduces the security gaps and blind spots and completes the visibility picture.
- NEOXPacketTigerVirtual can also be deployed in a virtualized branch edge to provide visibility, such as in an SDWAN connectivity use case.
 - Extend network visibility to virtual and cloud network traffic
 - Aggregate traffic from multiple vTAPs from cloud VPCs or VMware VMs
 - Redirect virtual network traffic to central monitoring/observability tool rail on-prem or in the cloud VPC

Balance and optimize virtual and physical monitoring tools by filtering data

NEOXPacketWolf Deployment

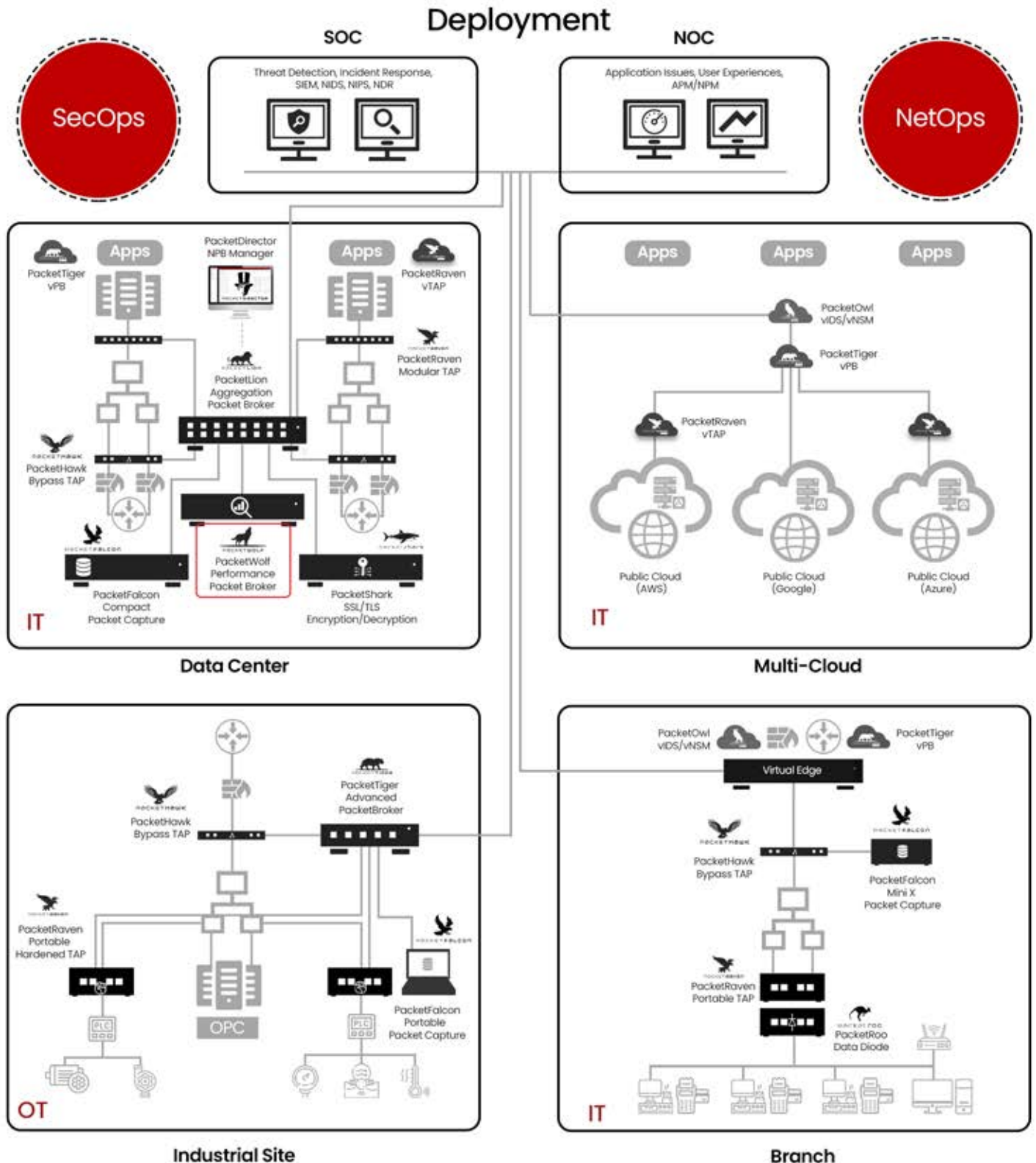
Strengthening Cybersecurity and Application Observability by Integrating the Advanced Packet Processing and Analysis

IT NetSecOps

Critical Infra

Data Center

Multi-Cloud



NEOXPacketLion Deployment

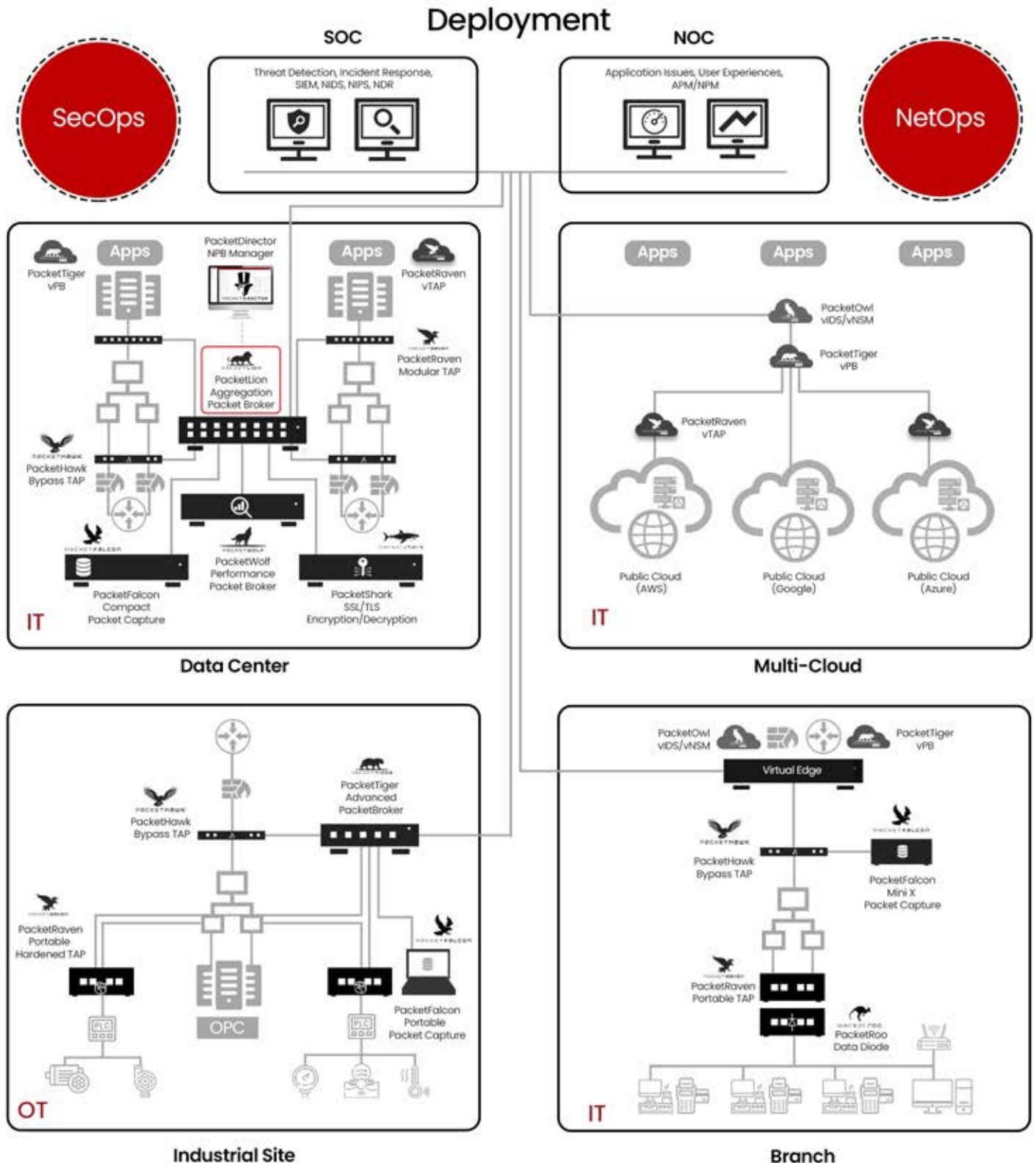
Strengthening Cybersecurity and Application Observability
by Consolidating and Forwarding the Right Data to the Right Tools

IT NetSecOps

Critical Infra

Data Center

Multi-Cloud



NEOXPacketTiger Deployment

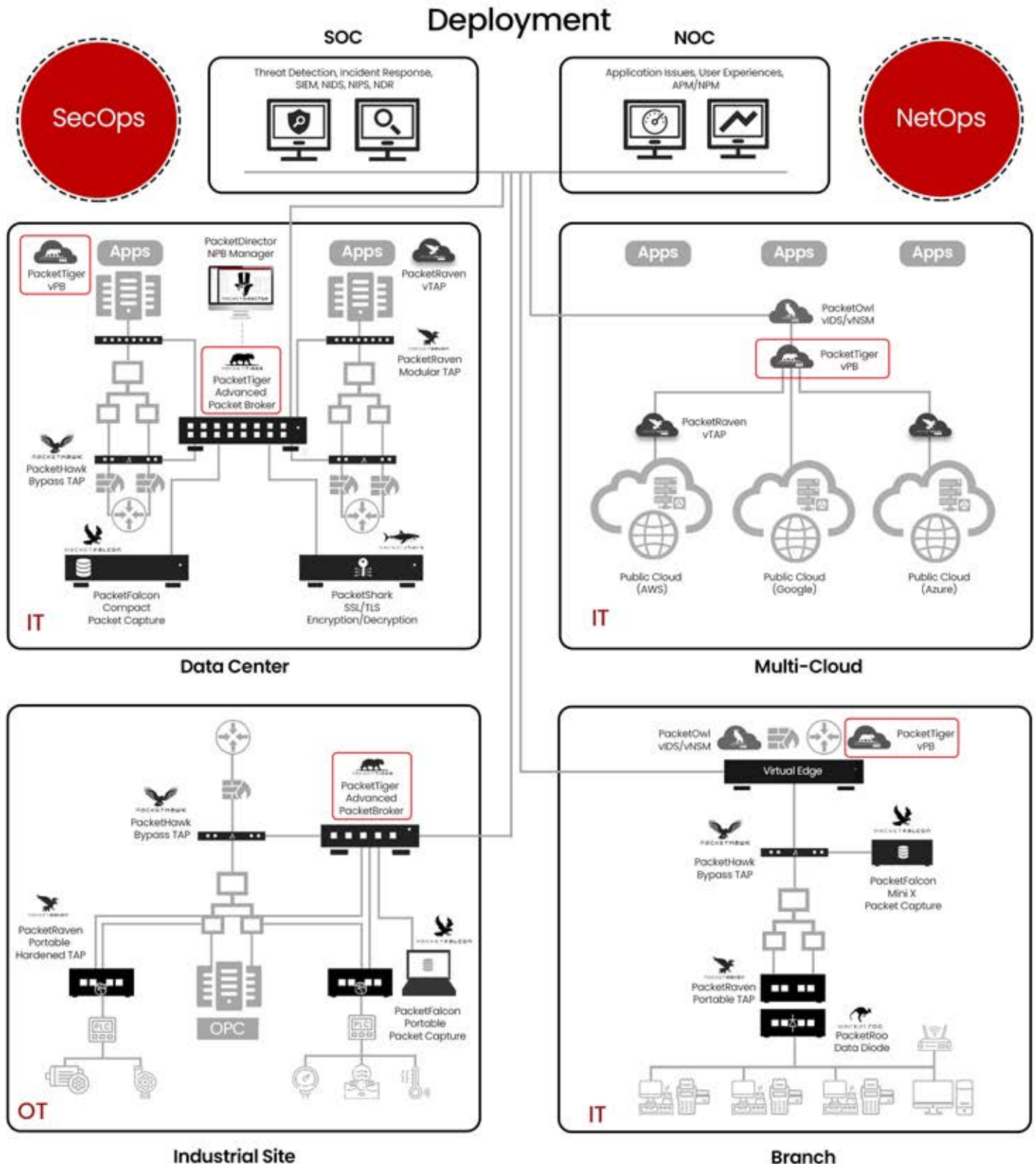
Strengthening Cybersecurity and Application Observability
by Consolidating and Forwarding the Right Data to the Right Tools

IT NetSecOps

Critical Infra

Data Center

Multi-Cloud





NEOXPacketDirector Packet Broker Manager

Strengthening Cybersecurity and Application Observability
by Centrally Managing the Right Data to the Right Tools



NEOXPacketDirector Packet Broker Manager

Single-Pane-of-Glass Management of up to 100 Devices
Bulk Provisioning & Rules | Auto-Discovery | Network Statistics

-  Auto Discovery
-  Statistics Collection
-  Bulk Operation
-  Alarms Collection
-  Elastic Database
-  Graphical Dashboards
-  Email Notifications
-  Scheduler for Bulk Tasks
-  Upgrade Manager
-  Configuration Backup



neoxnetworks.com/
packetdirector



Cybersecurity

NDR Feed

Troubleshooting

Cloud

Data Center

Service Provider

NEOXPacketDirector Advanced Features:

- Software-based solution that is available as both VM and container
- Single tool for centralized management of both Neox physical and virtual Packet Brokers
- Scheduler for bulk operations and tasks for multiple devices (configuration, backup, upgrade, reboot, scripting)
- Centralized filter and rule management per-device rules and across-device rules via clustering
- Clustering of up to 100 Neox Network Packet Brokers into a single unit, allowing for policy definition between cross-connected devices
- NEXOPacketDirector is a centralized management system for NEXOPacketLion, NEXOPacketTiger, and NEXOPacketTigerVirtual Series Packet Brokers to provision, monitor, and manage those in a single-pane-of-glass fashion. This greatly reduced the workload on NetOps and SecOps teams across large distributed hybrid or multi-site environments.
- NEXOPacketDirector is a software-based solution that can be deployed as a VM or container on-prem or in the cloud.
- NEXOPacketDirector enables the auto-discovery and management of hundreds of Neox physical and virtual Network Packet Brokers. It collects network statistics and traffic telemetry stored in elastic databases and displayed in real-time graphic visualization utilizing Kibana and Grafana dashboards. Users can define different events and triggers per device according to cross-device events, and alarms and events trigger email notifications from the NEXOPacketDirector.



NEOXPacketDirector Deployment

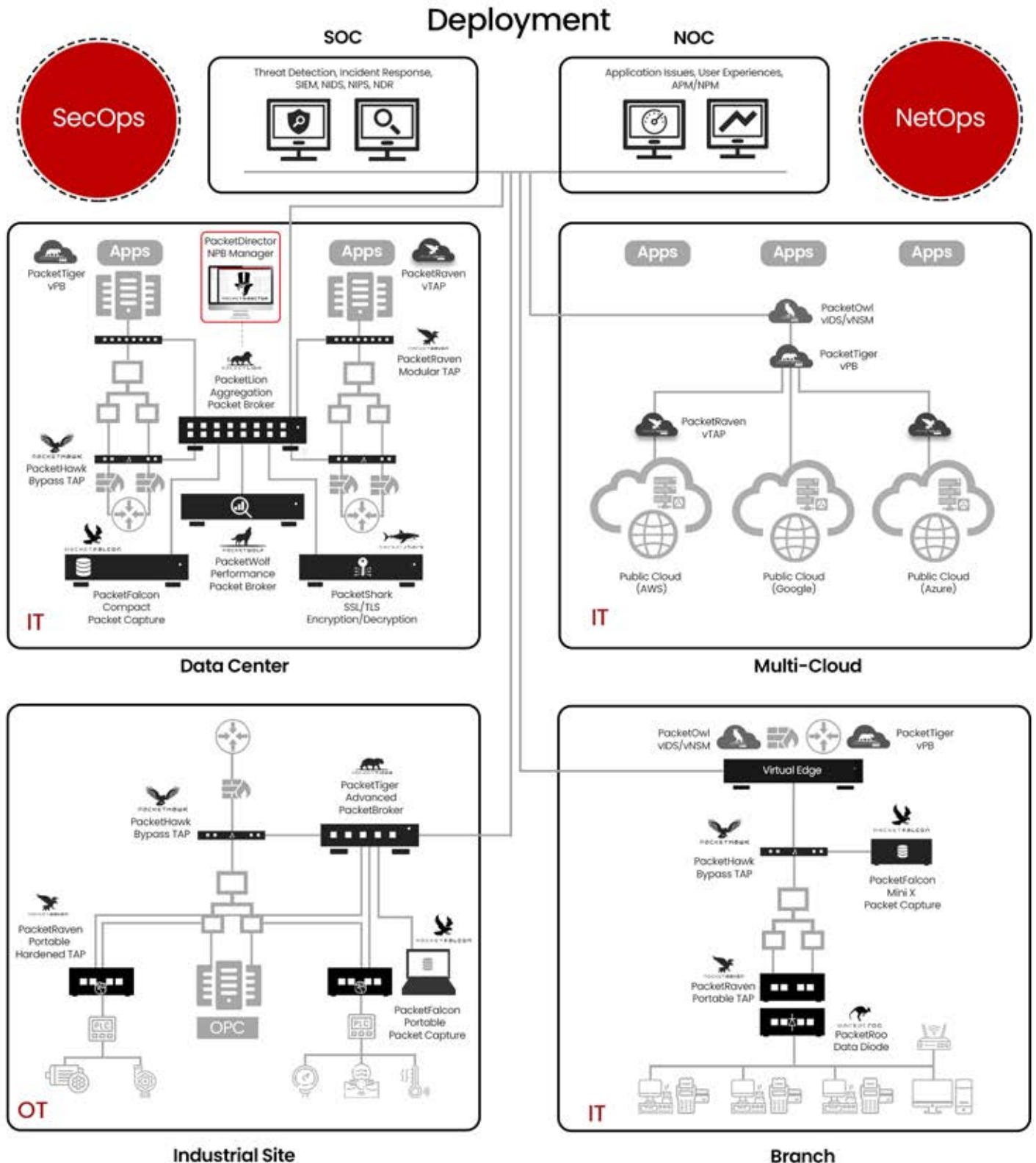
Strengthening Cybersecurity and Application Observability by Centrally Managing the Right Data to the Right Tools

IT NetSecOps

Critical Infra

Data Center

Multi-Cloud



NEOXPacketRaven Portable & Modular Network TAP Series

Strengthening Cybersecurity and Application Observability,
by Integrating the Real-Time Network Wire-Data Intelligence



NEOXPacketRaven Portable Network TAPs

Full Network Visibility up to 400G

FPGA Chipset | Data Diode Function | Redundant Power



Up to
400Gbps



Full Network
Transparency



No Impairment
of Data Traffic



100%
Network Data



Invisible
for Attackers



No Network Access
via Monitoring Port



Flexible
to Use



Plug-n-Play



Failure Protection
on Power Loss



PoE+
Power over Ethernet



Redundant
Power Supplies



Various
Split Ratios



Fast and
Precise



Supports
Jumbo Frames



Hardened
& Secure



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Cybersecurity

NDR Feed

Incident Response

Compliance

Remote Site

Industrial Facility

Network TAPs are decoupling elements for the secure and reliable tapping of network data in optical and copper-based networks. These TAPs are looped into the network line to be monitored and forward the entire data traffic without interruption or packet loss.

- With NEXPacketRaven Network TAPs you get permanent network traffic access up to 400Gbps, for hybrid-cloud observability, application performance, and security tools, and provide 100% reliable network data.
- NEXPacketRaven TAPs are untraceable for attackers and being at OSI layer-1, do not have a MAC/IP address. As the integrity of the outgoing data remains unaltered, they are used for network forensics, cybersecurity, incident response, and monitoring.
- NEXPacketRaven TAPs provide an active monitoring port acting like a "Data Diode", physically isolating the monitoring ports from the network ports. Access to the network via the monitoring ports is prevented in hardware, blocking any backdoor access.
- NEXPacketRaven Portable TAPs are available in optimally preconfigured "Hardened" versions for high-security uses compliant with IEC 62443, and equipped with encrypted firmware, security seals, and security screws against unwanted openings.
- NEXPacketRaven TAPs with passive monitoring ports are also available in an extra-secure version. These Secure Fiber TAPs have both, an additional optical isolator (Data Diode) and an optical filter, to block unwanted incoming light signals at the monitoring port, to protect the network from compromise.
- For the highest reliability, all NEXPacketRaven TAPs with active monitoring ports have redundant power supplies but can also be operated with 12-48V DC voltage, and in some cases using PoE. Fiber TAPs do not require any power.
- The versatile NEXPacketRaven can be used as Portable TAPs or installed in a 19" data center rack using a rack mounting kit, or on a DIN hat rail using a DIN rail clip.

NEOXPacketRaven Portable Hardened TAPs

High-Security Network TAPs | CRITIS & IEC 62443 Certified
Secureboot Firmware | Optionally Preconfigured | Up to 1G

-  NEOXPacketRaven Portable Standard Features
-  (Optional) Fix Preconfigured
-  Secured and Encrypted Firmware
-  Security Seal against Unnoticed Opening
-  Safety Screws against Unwanted Opening



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Cybersecurity

NDR Feed

Incident Response

Compliance

Outdoor Location

Industrial Facility

NEOXPacketRaven Hardened Advanced Features:

- Optionally preconfigured – do not allow subsequent configuration changes
- Secureboot Firmware – startup check for firmware valid signature and authorized public key
- Security Seals – cannot be removed unnoticed
- Safety Screws – special tool required
- IEC 62443 certified and CRITIS approved
- NEOXPacketRaven Hardened TAPs are available for copper and active fiber connectivity, supporting speeds up to 1Gbps.
- NEOXPacketRaven TAPs are available in the standard version to exclude an attack vector. For high-security areas per IEC 62443 and critical infrastructures (CRITIS), an additional hardened version is available.
- NEOXPacketRaven Hardened TAPs ship with secured encrypted firmware, employing secure boot checks for valid signatures and authorized public key, each time the TAP is restarted. Otherwise, TAP cannot be put into operation.
- NEOXPacketRaven Hardened TAPs can be delivered pre-configured, blocking any subsequent changes for security. In addition, they are secured against unwanted or unnoticed openings by special screws and security seals.

Certifications:

- CE, FCC, RoHS, WEEE, EN 55032 KL A/B, EN 55035, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 50121-4:2016, EN 50129

NEOXPacketRaven Modular Fiber TAPs

Full Network Visibility up to 400G | 100% Passive | Highest Density
Extra Secure Models Available



Up to
400Gbps



Full Network
Transparency



No Impairment
of Data Traffic



100% Lossless
Network Data



Invisible
for Attackers



No Network Access
via Monitoring Port



Plug-n-Play



No Power Supply
Necessary



Various
Split Ratios



Color Coded
Connectors



Scalable and
Modular



Extra Secure
Models Available



PACKETRAVEN



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Cybersecurity

NDR Feed

Incident Response

Compliance

Data Center

Service Provider

Fiber TAPs are passive decoupling elements for the secure and reliable tapping of network data in optical networks. These TAPs are looped into the fiber optic line to be monitored and transmit the entire data traffic without interruption and without packet loss.

- With NEOXPacketRaven Modular Network TAPs you get permanent network traffic access up to 400Gbps, for hybrid-cloud observability, application performance, and security tools, and provide 100% reliable network data.
- NEOXPacketRaven Modular TAPs are designed for data center class and allow up to 30 "tapped" network segments in only 1U rack space.
- NEOXPacketRaven TAPs are passive and do not require power. NEOXPacketRaven TAPs are untraceable for attackers and being at OSI layer-1, do not have a MAC/IP address. As the integrity of the outgoing data remains unaltered, they are used for network forensics, cybersecurity, incident response, and monitoring.
- NEOXPacketRaven Fiber TAPs are among the most secure, even the standard version. For ultimate security and CRITIS infrastructures, NEOXPacketRaven Secure Modular TAPs are also available.
- Due to their optical isolator and optical filter capabilities, these Secure Fiber TAPs have both, an additional optical isolator (Data Diode) and an optical filter, to block unwanted incoming light signals at the monitoring port, to protect the network from compromise. A very high insertion loss on the return channel from the monitoring port to the network provides an additional security layer.
- Some of the NEOXPacketRaven TAPs support bidirectional (BiDi) technology based on Wavelength Division Multiplexing (WDM) and are suitable for both single-mode and multi-mode configurations using LC or MTP connectors.

NEOXPacketRaven Secure Fiber TAPs

High Security and CRITIS Compliant | Data Diode Functionality
Modular or Portable Passive TAPs | Up to 400G



NEOXPacketRaven
Passive Standard
Features



Data Diode Functionality
against Undesired
Light Injections



Security Seal against
Unnoticed Opening



Safety Screws
against Unwanted
Opening



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packetraven-portable-network-tap](https://neoxnetworks.com/packetraven-portable-network-tap)



Cybersecurity

NDR Feed

Incident Response

Compliance

Remote Site

Data Center

NEOXPacketRaven Passive Modular and Portable Secure Fiber TAPs feature both an additional optical isolator (Data Diode functionality) and an optical filter that blocks unwanted incoming light signals at the monitoring port, to protect the network from compromise. This adds another layer of security, providing increased protection against attackers and faulty configurations.

- With NEOXPacketRaven Secure Fiber TAPs you get permanent network traffic access up to 400Gbps, for hybrid -cloud observability, application performance, and security tools, and provide 100% reliable network data.
- NEOXPacketRaven Secure Fiber TAPs are passive and do not require power. NEOXPacketRaven TAPs are untraceable for attackers and being at OSI layer-1, do not have a MAC/IP address. As the integrity of the outgoing data remains unaltered, they are used for network forensics, cybersecurity, incident response, and monitoring.
- NEOXPacketRaven Secure Fiber TAPs are suitable for high security areas per IEC 62443 and critical infrastructures (CRITIS).
- NEOXPacketRaven Secure Fiber TAPs are available in two variants. The Modular Fiber TAPs are designed for data center class and allow up to 30 "tapped" network segments in only 1U rack space. While the Portable Fiber TAPs are great for field and mobile use, and can also be installed in a 19" data center rack, providing great flexibility.
- NEOXPacketRaven Modular Secure Fiber TAPs are 100% compatible with standard Modular TAPs without Data Diode function and can be installed together in the same enclosure. They are also protocol agnostic and compatible with all monitoring systems from leading vendors.

NEOXPacketRavenVirtual Software TAP

100% Network Data in Virtual & Multi-Cloud Environments
End-to-End East-West & North-South Traffic Visibility



Full Network Transparency



No Impairment of Data Traffic



100% Lossless Network Data



For different Environments



Unrestricted Network Speed



Flexible Deployable



Alternative to virtual Port Mirroring



Easy to Install & Configure



GRE/VxLAN Tunneling



OSI Layer 2-4 Stateful Filtering



Aggregation N:1



Regeneration/Replication 1:N



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Cybersecurity

NDR Feed

Incident Response

Cloud

Data Center

Service Provider

With the increase in the use of virtual, hybrid-cloud, and multi-cloud environments, there also has been an increase in the number of network blind spots.

NEOXPacketRaven Virtual TAPs (vTAPs) are designed to provide secure and reliable access to network traffic in virtual and cloud environments for extended east-west and north-south network visibility and overall hybrid observability.

- NEXPacketRavenVirtual provides physical and virtual security and monitoring tools with complete network visibility in virtualized private, public, and hybrid-cloud/multi-cloud environments, including VMware, AWS, Microsoft Azure, and Google Cloud.
- Fastly deployed using a Debian package or Docker image, PacketRavenVirtual instantly provides full visibility of east-west traffic between virtual machines (VM). This extends traffic for security, availability, and performance monitoring in Linux and private-cloud environments without impacting performance or architecture, and without any changes to the network infrastructure.
- The often used and already existing (virtual) SPAN/mirror ports are unsuitable for long-term monitoring purposes. With port mirroring the entire data traffic is broadcasted to all destinations (security/monitoring tools), causing large inefficiencies and security risks. NEXPacketRavenVirtual forwards the need-to-know granular data with N:1 (aggregation) or a 1:N (regeneration). With NEXPacketRavenVirtual, it is also possible to mirror the traffic per direction. NEXPacketRavenVirtual also offers connecting to physical devices via GRE/VXLAN tunneling, which is difficult or impossible with port mirroring.
- NEXPacketRavenVirtual supports stateful filtering (connection-oriented filtering) to forward only the data that is relevant, relieving the expensive tools and reducing tool sprawl. Filter criteria on OSI layers 2-4 are supported. This is particularly useful in the cloud, saving huge data transfer bills. Some cloud providers can also restrict mirrored port mirror traffic, resulting in partial or total loss of network visibility.

NEOXPacketRaven Deployment

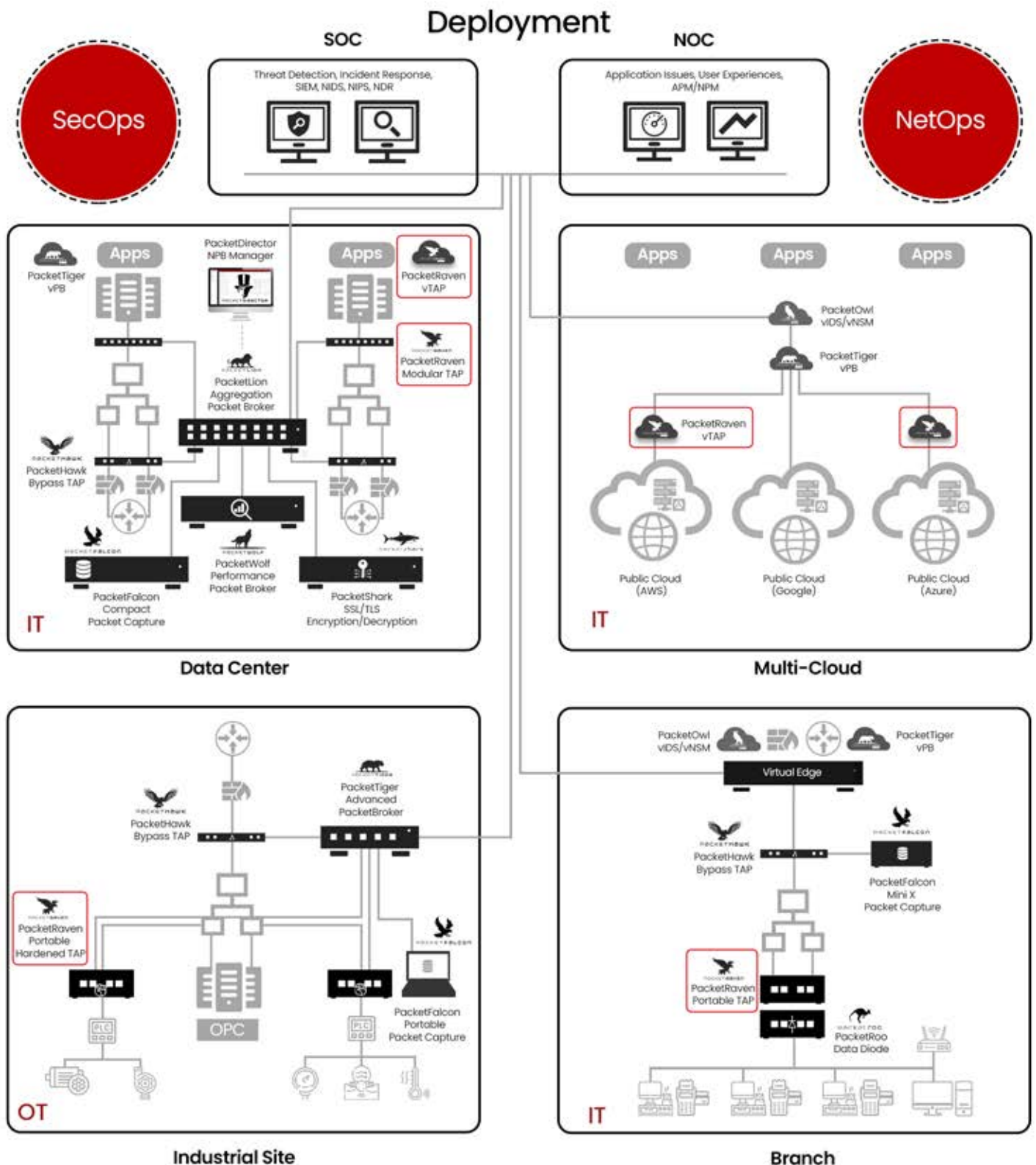
Strengthening Cybersecurity and Application Observability,
by Integrating the Real-Time Network Wire-Data Intelligence

IT NetSecOps

Critical Infra

Data Center

Multi-Cloud





NEOXPacketHawk Inline-Bypass TAP Series

Strengthening Cybersecurity and Application Observability,
by Integrating the Real-Time Network Traffic Rerouting



NEOXPacketHawk Inline-Bypass TAP

Up to 100G | Modular | Service Chaining | Filtering
Load Balancing | Inline or Out-of-Band

4x 100G QSFP28
Up to 4 x 100Gbps QSFP+/QSFP28

Modular Chassis

Service Chaining

Filtering

Breakout & Aggregation TAP Modes

User Specific Heartbeat

Invisible for Hackers

100% Network Data

Flexible to Use

Failure Protection on Power Loss



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packethawk-inline-bypass-network-tap



Cybersecurity

NDR Feed

Incident Response

Compliance

Data Center

Service Provider

An Inline Bypass TAP is essential for maintaining uninterrupted data-in-motion delivery and ensuring seamless network and security operations without a compromise. It serves as a fail-safe mechanism in case of an "inline" network node or security tool failure, or maintenance activities, allowing traffic to continue to flow without disruption through an alternate protected route with a backup set of appliances and tools. Inline means that it must be deployed in the main traffic path.

- NEXO PacketHawk Inline Bypass TAP enables the network team to maintain uninterrupted connectivity and smooth network operation during downtime. It acts as a fail-safe mechanism if devices fail or require maintenance, allowing mainstream data center north-south data traffic to continue flowing without interruption. It also provides the flexibility to reroute traffic for security monitoring or analysis purposes without impacting the network performance.
- NEXO PacketHawk sends periodic heartbeat pulses to the inline security appliances network nodes and visibility tools (such as a network firewall, WAF, NIDS, and NIPS) and receives the responses. If the heartbeat is missed, it knows that the appliance is no longer functional. NEXO PacketHawk then automatically bypasses the appliance, rerouting the network traffic and ensuring that packet data continues to flow. NEXO PacketHawk provides superior Bypass TAP functionality in hardware and at the actual wire level. It means that it physically reroutes the traffic in case of a network node or tool failure.

NEXO PacketHawk allows NetOps and SecOps to perform maintenance and upgrades, or replace security or observability tools with peace of mind, without impacting the production network operations or causing downtime. This reduces risk and workload and increases business continuity and availability.

- 6 bypass modes. Network and inline port health check and speed/duplex monitoring with heartbeat
- Link Loss Detection (LLD) in the event of a network connection failure
- Redundant bypass behavior in the event of a Bypass TAP failure: Active bypass, passive bypass
- Supports TAP mode: Net A, Net B traffic any-to-any mapping
- Supports mirror mode: mapping of Inline 1 to Inline 2, Inline 2 to Inline 1 port traffic
- Filtering by inline port IP, port: include or exclude

NEOXPacketHawk Deployment

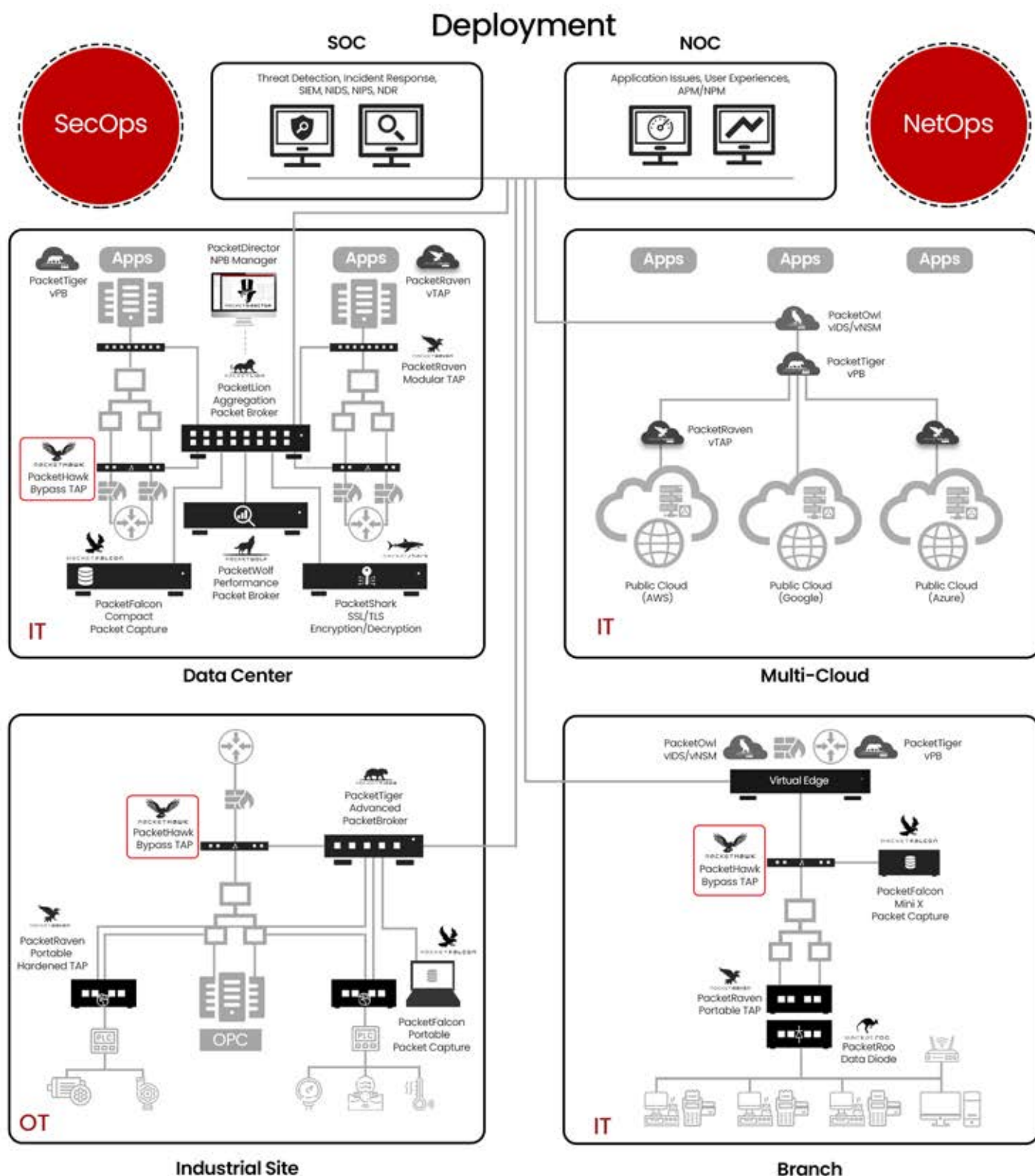
Strengthening Cybersecurity and Application Observability,
by Integrating the Real-Time Network Traffic Rerouting

IT NetSecOps

Critical Infra

Data Center

Multi-Cloud





NEOXPacketRoo **Network Data Diode Series**

Strengthening Cybersecurity and Application Observability,
by Integrating the Real-Time Network Wire-Data Intelligence



NEOXPacketRoo Data Diode

Secure File Transfer | Air Gap Assurance | Galvanic Isolation



Unidirectional
Data Flow



Galvanic
Isolation



Vendor
Agnostic



Air Gap
Assurance



For Harsh
Environments



Automatic
Speed Sync



Link Loss
Detection



Error Prevention
through Fixed
Configuration



Windows &
Linux Support



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packetroo-data-diode



Cybersecurity

NDR Feed

Incident Response

Compliance

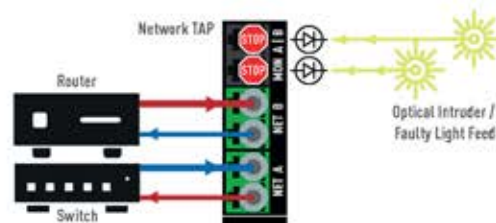
Remote Site

Industrial Facility

A Data Diode is a specialized solution that enforces full galvanic isolation between networks while allowing unidirectional signal transmission, preserving the critical air gap. To eliminate any attack surface on the physical layer, operators can either use data transfer methods leveraging the NEXO PacketRoo Data Diode functionality or utilize the NEXO SecureFileTransmitter software, which provides secure, granular, and one-way file transfer from OT to IT.

- The PacketRoo, combined with the NEXO SecureFileTransmitter, offers a scalable and high-performance solution for both Windows and Linux hosts, enabling seamless unidirectional data transmission. Each component of the bundle is also available separately, and if an existing data diode is already in place to bridge the air gap between networks, the NEXO SecureFileTransmitter remains fully vendor-agnostic. This flexibility also applies to the PacketRoo itself.
- In critical sectors like energy supply, transportation, defense, and industrial manufacturing, protecting IT/OT networks from cyberattacks is essential, especially in applications demanding Safety Integrity Levels (SIL) 3 and 4. Implementing an air gap between OT and IT environments strengthens security by physically separating operational technology systems from external IT networks, significantly reducing the risk of cyber threats.
- To reduce the risk of configuration errors, the PacketRoo is available only in fixed configurations, with no option to modify port settings after deployment. As a fully sealed system, it is designed for both civilian and military use cases, ensuring robust and secure

Data Diode functionality:



NEOXPacketRoo Deployment

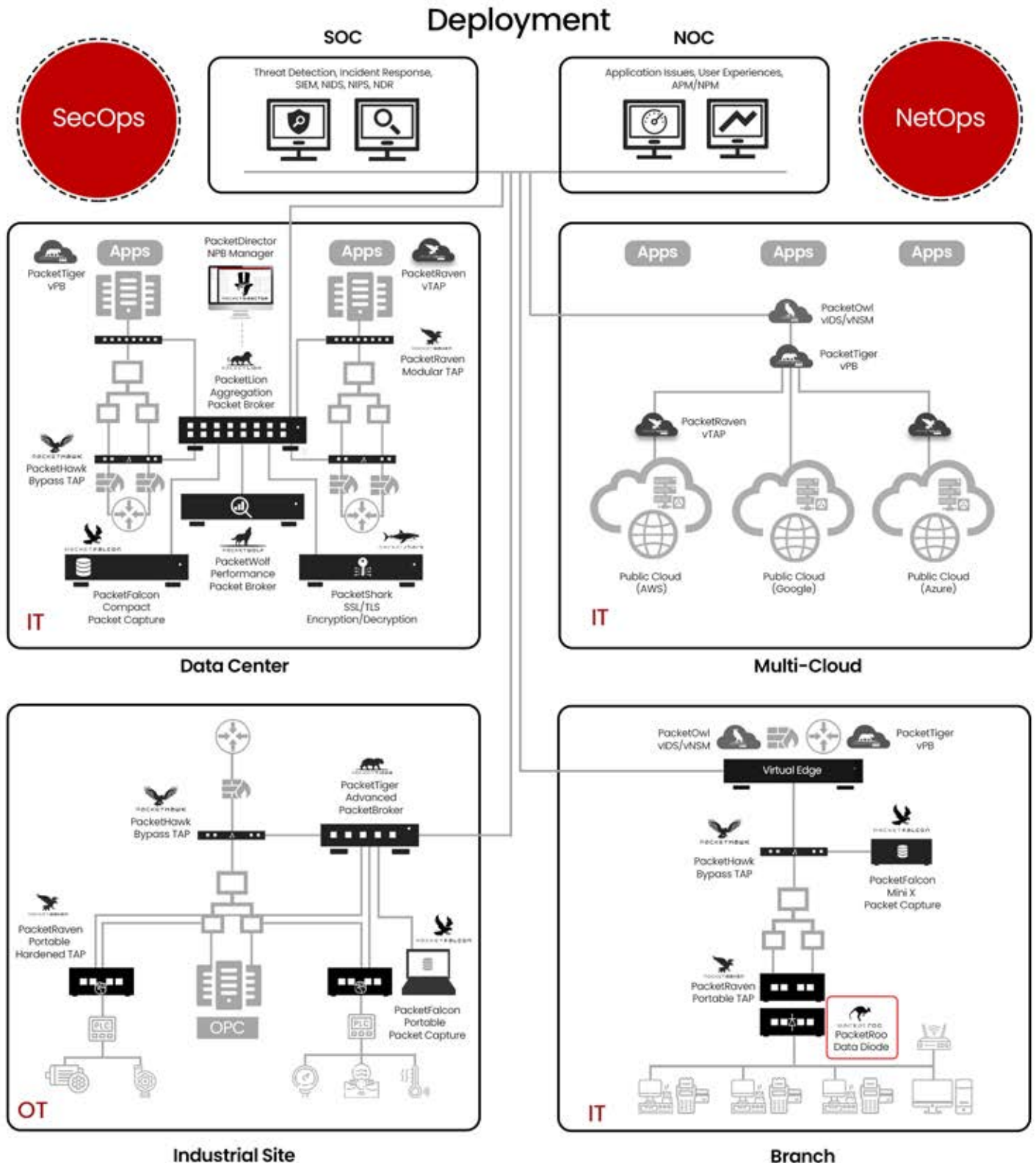
Strengthening Cybersecurity and Application Observability,
by Integrating the Real-Time Network Wire-Data Intelligence

IT NetSecOps

Critical Infra

Data Center

Multi-Cloud



NEOXOptics Transceivers & Cables

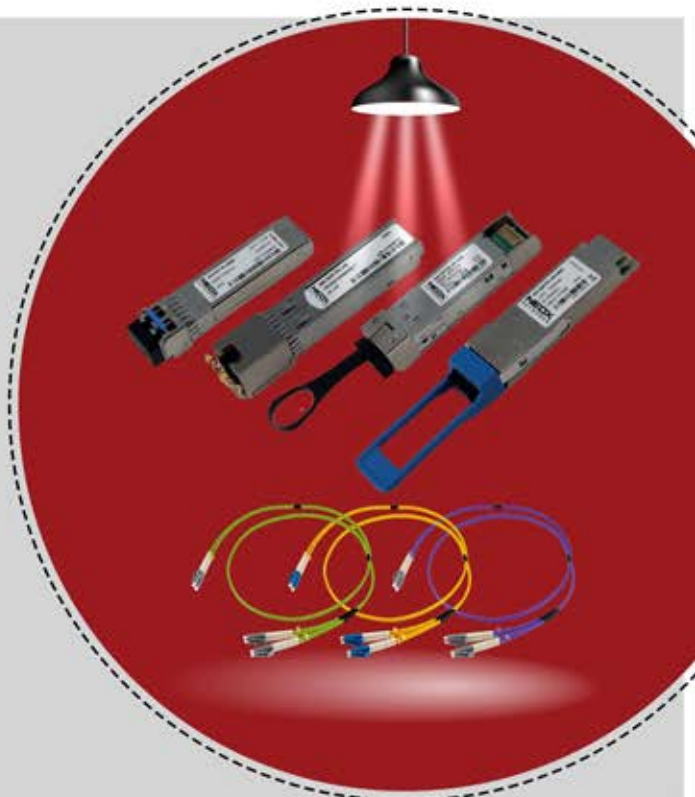
Strengthening Cybersecurity and Application Observability
by Integrating Faster and Reliable Connectivity



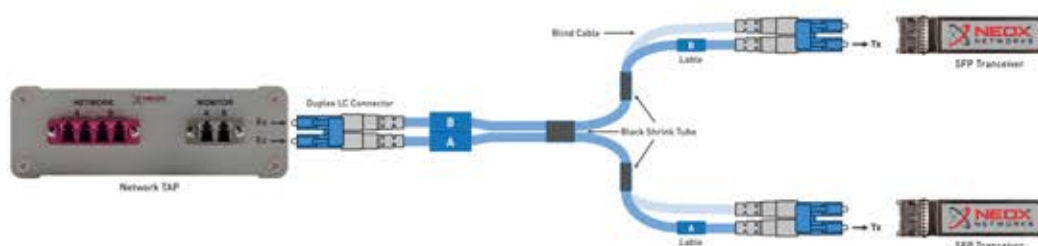
Optical Transceivers & Cables

Pre-Qualified Faster and Reliable Connectivity

-  Pre-Qualified
-  1G 400G 1 - 400Gbps
-  MSA & Multi-Vendor Compliant
-  Multiple Standards
-  High Quality
-  Special Cable Available



- Neox optical transceivers are pre-qualified with all Neox Next-Generation Network Visibility appliances for risk-free connectivity to the data center fabric, switches, or routers. Those are universally applicable and meet the highest quality requirements.
- Optical transceivers are MSA compliant and can therefore be used in Neox products, but also with devices from other manufacturers. Those are available for network connectivity of 1Gbps-400Gbps using standard SFP, SFP+, SFP28, QSFP+, QSFP28, QSFP56, or QSFP-DD.
- Neox pre-qualified cables and fibers assure risk-free connectivity for plug-and-play and faster deployment of the network visibility equipment. A NEOXPacketRaven TAP equipped with LC connectors has three duplex connectors, two of which are needed for looping through the network traffic to be analyzed, and one duplex connector for passively tapping the mirrored data for forwarding to a NEOXPacketTiger Network Packet Broker, an analysis or security tool (such as IDS/IPS).
- Data traffic is present on both sides of the monitoring port. Those two outputs must be fed into two monitoring ports using two transceivers to fully receive the bi-directional traffic, as only the receive side (Rx) of the transceivers can be used for recording. This presents a challenge because the output of the TAP is a duplex port, yet two separate ports are needed on the Rx side for two individual transceivers. To avoid this problem, it is best to use one of Neox's special Y-cables that converts one duplex connector into two duplex connectors so that the light is fed exclusively into the Rx side of the transceivers.



Accessories

Capture Cards, Mounting Kits, Transport Cases



Following Neox accessories are available for customization and extra care of Neox products during shipment, prolonging investments:

- High-performance Capture Cards for NeoxPacketFalcon and NEOXPacketGrizzly Packet Capture Appliances
- Network TAP mounting kits and cover plates for data center server racks, and DIN hat rails for NEOXPacketRaven series
- Robust transport cases
- Standard fiber optics cables, M12 cables, fan out cables, fiber loopback adapter, hat rail kits, etc.



NEOX Networks, Inc.
5201 Great America Pkwy
Suite 320
Santa Clara, CA 95054, USA

neoxnetworks.com
info@neox-networks.com
+1 408 850 7201



NEOX Networks GmbH
Monzastr. 4, 63225 Langen,
Germany

neox-networks.com
info@neox-networks.com
+49 6103 37 215 910



NEOX Networks
1F Shinsung building,
5 Eonnam-gil, Seocho-gu,
Seoul 06779
South Korea

info@neox-networks.co.kr
+822 579 2904