NIAGARA NETWORKS

THE POWER OF AGILE NETWORK VISIBILITY

SOLUTION PORTFOLIO
BROCHURE

Security Services

Services

Troubleshooting

Performance Management

Network Monitoring

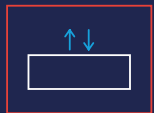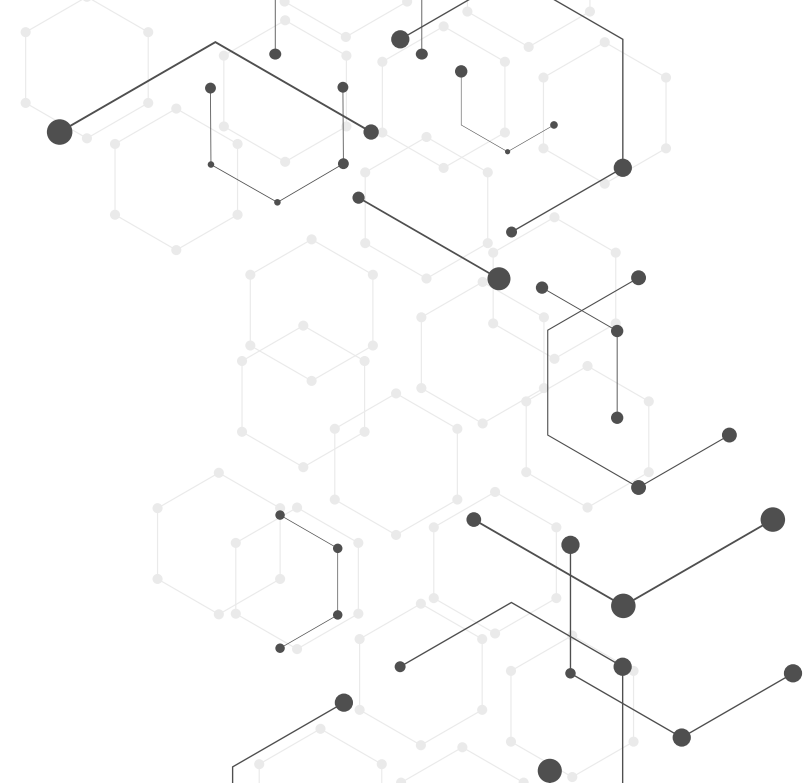**NIAGARA NETWORKS**
Visibility Layer
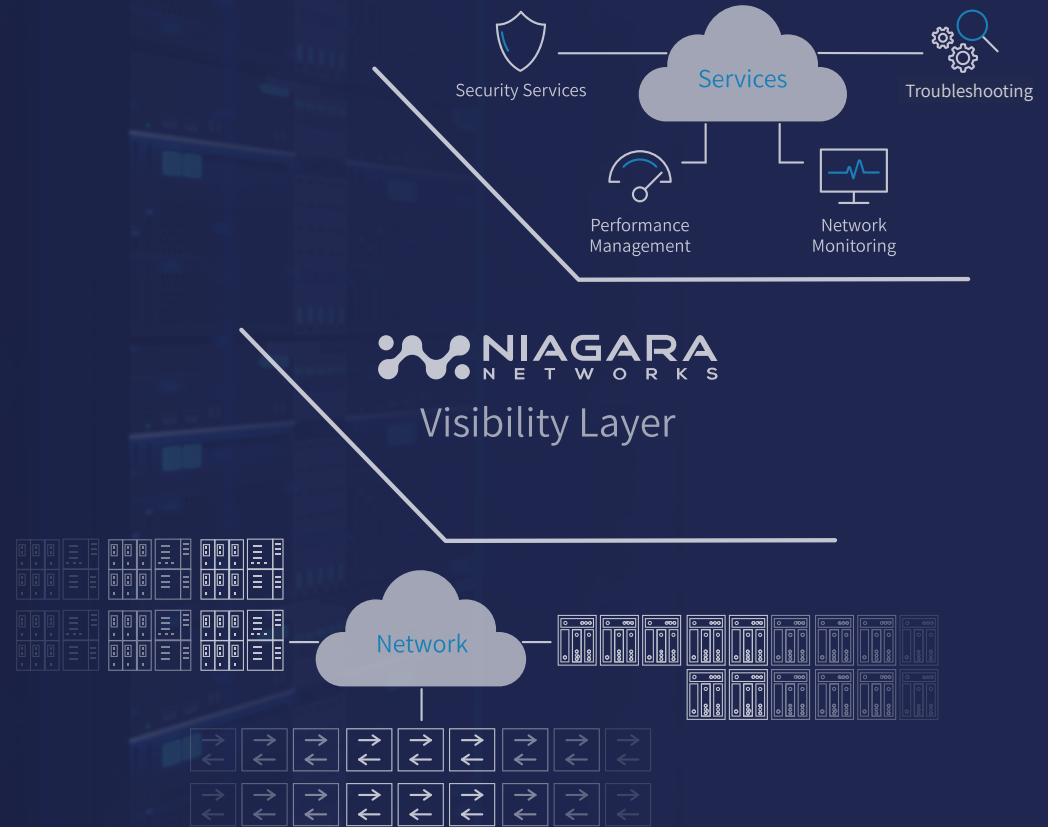
Network

Our Solutions

Niagara Networks™ solutions enable NetOps and SecOps teams to easily and efficiently operate and administer multiple security tools and platforms with service scale and flexibility, while reducing operational expenses and downtime.

Niagara Networks™ provides all the building blocks for an advanced Visibility Adaptation Layer at multiple data rates up to 100Gb, through offering packet brokers, bypass elements, network TAPs and a unified management layer. We design, develop and manufacture our products in Silicon Valley, USA.
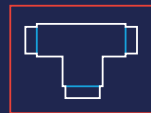
Network Packet Broker

Network Bypass
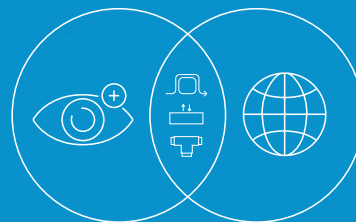
Niagara CloudRay

Network TAP

Open Visibility

Visibility Orchestration

SSL TLS

Best-in-class performance

Leading vendor in the network visibility market

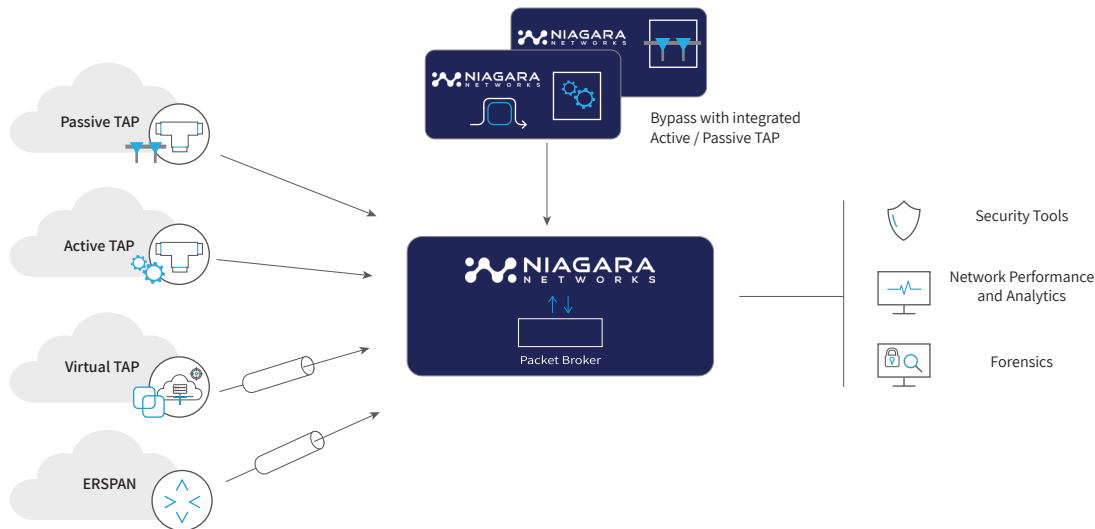Customizations that are made quickly and without hassle

NETWORK PACKET BROKER

Niagara's Packet Brokers deliver access to network data to NetOps & SecOps to enable detection, investigation and response to threats in real-time. Our NPB solutions are enhanced by a comprehensive Technology Alliance Program with world-class technology leaders and deployed in the world's most prominent networks.

BENEFITS

- ✓ Pay as you grow options for best application fit
- ✓ High Density – optimized for more services per minimal rack space
- ✓ High Versatility - mix and match a wide. range of interfaces and network speeds for any tool
- ✓ Intelligent traffic management enabled by FabricFlow™ technology

- ✓ Field-proven in carrier-grade inline cyber security applications
- ✓ Field-proven for passive out-of-band inspection and analysis applications
- ✓ Centralized ease of use – auto discovery and visibility clustering via Niagara's Visibility Controller (NVC)

Bypass with integrated Active / Passive TAP

Passive TAP

Active TAP

Virtual TAP

ERSPAN

Packet Broker

Security Tools

Network Performance and Analytics

Forensics

Full spectrum of intelligent network packet brokers optimized and adaptable for superior edge-to-edge visibility applications

BYPASSP2™

The combination of in-line security solutions with Niagara Networks Bypass technology provides transparent inline full threat prevention without compromising reliability of the network and mission-critical services. Our platforms enable ultimate flexibility and service integrity to allow you to take down a security tool for maintenance, with the load balancing scheme automatically redistributing traffic to the remaining tools.

Inline Security Tools
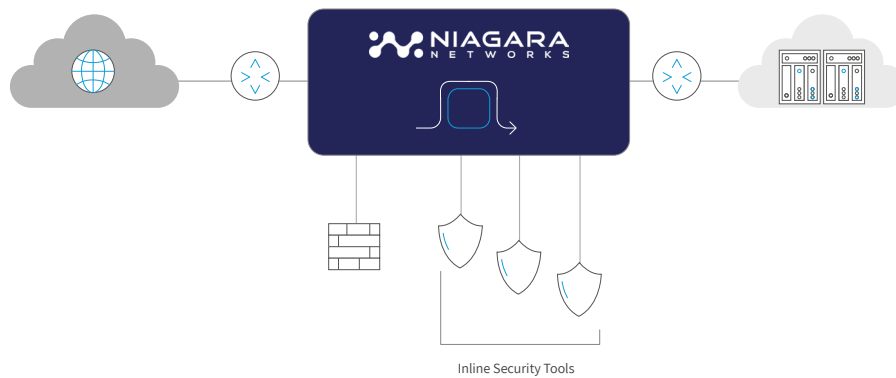
Extensive Bypass Solution for Any Use Case - all rates up to 100G

BypassP2 - Advanced Carrier-Grade Bypass Switches

Product model	1G	10G	25G	40Gb	100Gb
N2 series 2845 / 2847	●	●		●	●
2825	●	●		●	●
3808	●	●	●	○	○
2814 / 2818	●	●			
3299 TT	●				
3299	●				

Advanced Carrier-Grade
Bypass Switches to enable
Inline Always-on Security
and Uninterrupted
Network Uptime

CloudRay

With increasing transition to data center and cloud based environments, IT teams find it challenging to use traditional monitoring tools for traffic visibility. Physical taps are unsuitable for virtual environments since they cannot monitor East-West and inter-VM traffic. Moreover, they cannot track VMs when moved across hypervisors. Niagara Networks' CloudRay-vTAP is a software solution that addresses these challenges, providing complete visibility of VM traffic in virtual computing environments, be it Private, Public or Hybrid clouds.

BENEFITS

✓ Enables 100% visibility of Virtual Machines traffic

✓ Supports high-performance VM traffic up to 10Gbs

✓ Supports VLAN, VXLAN and GRE tunnelling

✓ Supports KVM, VMware ESXi, NSX and Microsoft Hyper-V

✓ Ultra-high granular view of packet flows from any TAP use cases

✓ Supports Amazon EC2
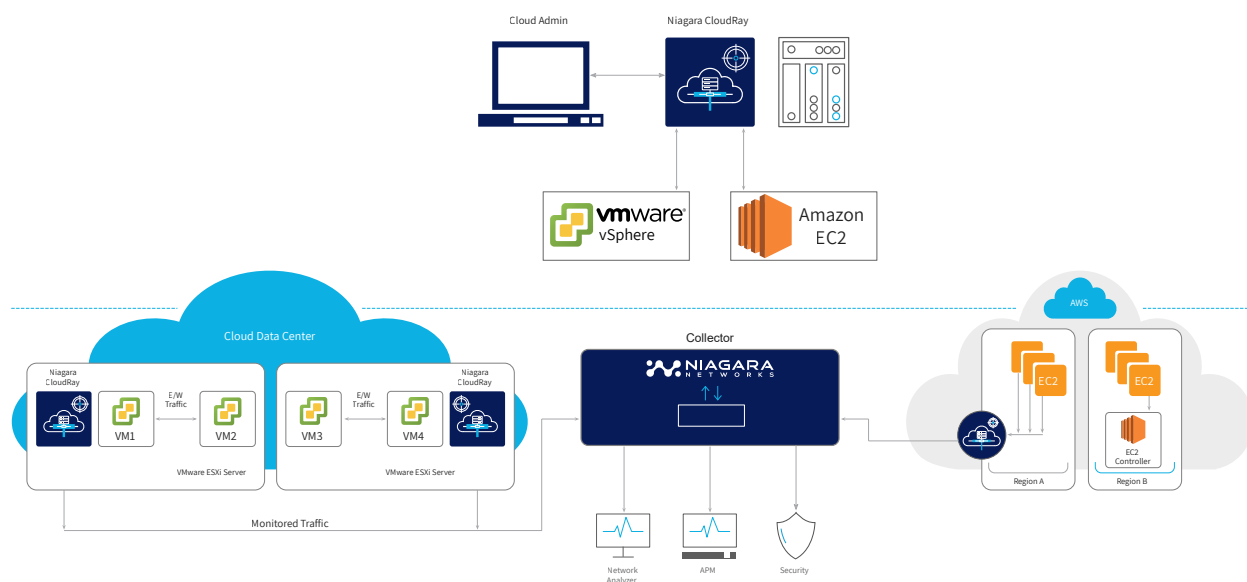
Enables 100% visibility of virtual network traffic for superior monitoring capabilities in private, hybrid and public clouds
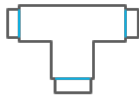
NETWORK TAP

Niagara Networks bypass switches have active TAP functionality built-in and have additional ports to feed the tapped traffic to reporting tools or a packet broker. Niagara Networks fixed and modular bypass switches offer active TAP functionality for speeds up to 100Gb. Both passive and active TAPs are offered, along with a wide range of supported connectors and fiber types.
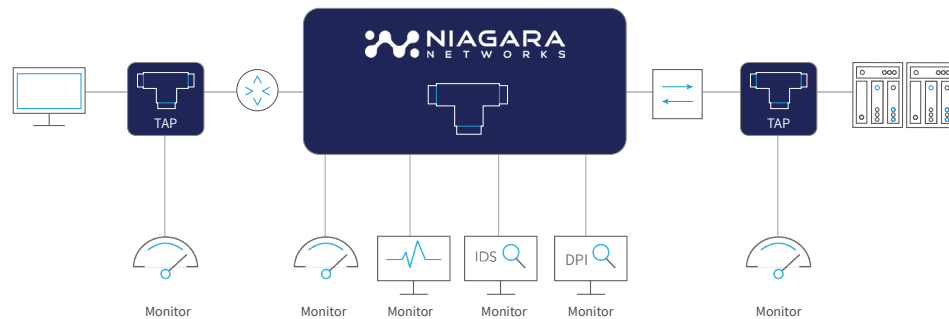
Niagara Products Offering - TAP Functionality
Flexibility and multipurpose offering for various use cases

Product model	1G	10G	25G	40Gb	50Gb	100Gb	400Gb
Passive TAP							
3225	●	●	●	●		●	●
Active TAP							
N2 series 2845 / 2847	●	●		●		●	
2825	●	●		●		●	
3808	●	●	●	○		○	
2804	●	●					
4432					●		
3299	●						

Can you see all traffic of all speeds at all times?

Collect and intercept any network infrastructure up to 400Gb- Networking TAP solution
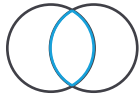
OPEN VISIBILITY PLATFORM^{TM}

ChannelVision Magazine has recognized Niagara Networks as a winner in the 2020 Visionary Spotlight Awards for Cybersecurity for its breakthrough in bringing much-needed agility and flexibility to security teams.

Media's Security Today, the leading industry media has recognized the Open Visibility Platform as a winner in the 2020 CyberSecured Award for Enterprise Security category as a leading solution in the transformation of cybersecurity.

Niagara Network's Open Visibility Platform enables carrier-grade agile security deployment with hyper-converged packet brokering for pervasive network visibility. Serving as an open deployment hub, the Open Visibility Platform hosts any networking or security solutions directly on the Network Packet Broker appliance and provides them with the appropriate, pre-processed, and decrypted network traffic to deliver comprehensive content visibility and control to SecOps. The Open Visibility Platform brings new value to channel partners in deploying security solutions faster and easierwith less threat of internal roadblocks.

## Open Visibility Platform- the Power of Agile Visibility

Niagara's Open Visibility Platform (OVP) is the flexible deployment hub for cutting edge applications, Giving you the freedom to choose and spin-up the best solution for your SecOps and NetOps needs. Integrated intelligent switching fabric capabilities empowered by visibility intelligence ensure that the solution will get the right traffic in the right way, without further encumbering the operations of deploying a new solution.

## Address the NetOps and SecOps Challenge

The ability to deploy a security or a networking solution in the network has been a long, complicated process – one of the least agile. Niagara's Open Visibility Platform brings security and network operations together, so security and networking teams can focus on common objectives instead of operating independently with different goals. The platform removes the restrictions of deploying new network technologies and can host any virtualized solution, old or new. It can also accommodate proprietary solutions and ad-hoc solutions used temporarily for testing purposes. Open Visibility Platform brings a higher level of agility to security and offers the optimal choice built on the principles of digital transformation to delive optimal benefits to the visibility layer.

> "New Security Realities Demand Next-Generation Visibility - There are several ways in which the Open Visibility Platform brings security and network operations together, so security and networking teams can focus on common objectives instead of operating independently with different goals"
>
> *-ZK RESEARCH-*
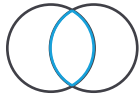
OPEN VISIBILITY PLATFORM™
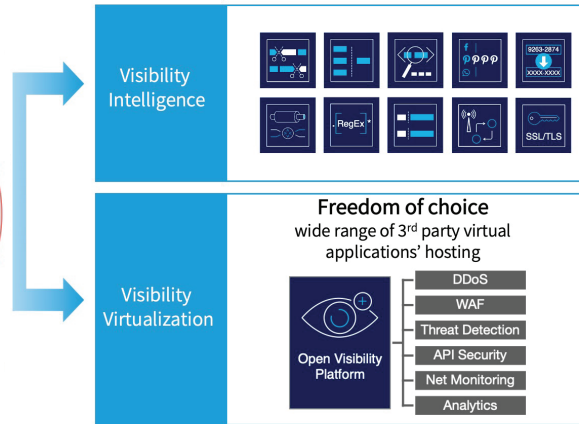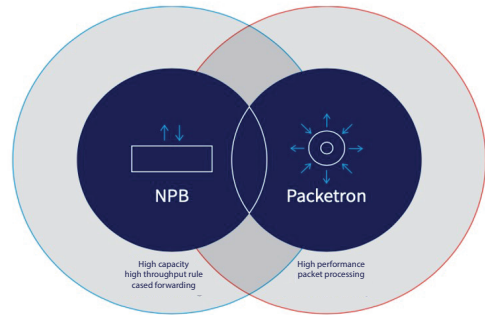
Open Visibility Platform Benefits To Visibility Layer

Freedom to choose
Not tied to closed garden offerings of a particular vendor.

Deployment Hub
Enables agility and flexibility by providing a deployment hub to easily host and serve multiple security and networking solutions. The deployment hub is a high performance/high reliability appliance that meets stringent demands for the core networking reliability, scalability and performance required by networking teams.

Getting the Right Traffic the Right Way
Intelligently deliver traffic and configure policies and rules to establish traffic flows to and from solutions. Determine the logical sequence of traffic being sent to the hosted applications as needed. Policies, actions and traffic steering can be triggered to address host application failure and failover conditions.

Deep Traffic Intelligence and Processing
Powerful combination of traffic intelligence and data processing. Processing utility functions, such as deduplication and decryption performed within OVP secure and low latency domain - carrying out these tasks centrally on a visibility platform can boost performance of individual security apps or devices.

Security Tool Chaining
The platform enables intelligent tool chaining, which is important for establishing the order of security operations. There has to be logical sequencing and management of network security. For example, a web or application firewall should be in a path before an intrusion detection system (IDS) or an intrusion prevention systems (IPS), and each must be treated differently. In addition, network requirements can be upheld to ensure performance and availability and prevent solutions from impairing the network. This way, IT can stay one step ahead of potential problems or blind spots as the environment changes.

"The optimal choice is an open and unrestricted visibility platform that can accommodate any solution without compromising network operations. Only a platform built on the principles of digital transformation can deliver. A new visibility platform is emerging that brings a higher level of agility to security. The Open Visibility Platform from Niagara Networks is an open, network packet broker-based platform that works as an intelligent cross-connect and can host and manage any third-party security solutions that run on it"

-ZK RESEARCH-
[Resource link](#)

NETWORK VISIBILITY ORCHESTRATION

Single-pane of glass for the visibility layer is a critical mechanism for Network and Security Operations (NetSecOps) to enable them to locate, isolate, and provision network visibility solutions for performance and network security related applications. In today's fast-paced, digital-first ecosystem, complete visibility is vital in maintaining control of your network and eliminating (or at least minimizing) blind spots and infrastructure downtime. Niagara's Network Visibility Controller (NVC) is that single pane of glass. It is an enterprise-wide unified SDN manager for network visibility.

BENEFITS

✓ Visibility Groups - Logical containers of visibility elements tailored to your needs

✓ Topology and Navigation - A 360° view of the network connectivity to single element view

✓ Granularity - Topology of port status, configurations, and device schematics

✓ The NVC empowers a true application-aware network to manage and improve the performance of business-critical devices and applications
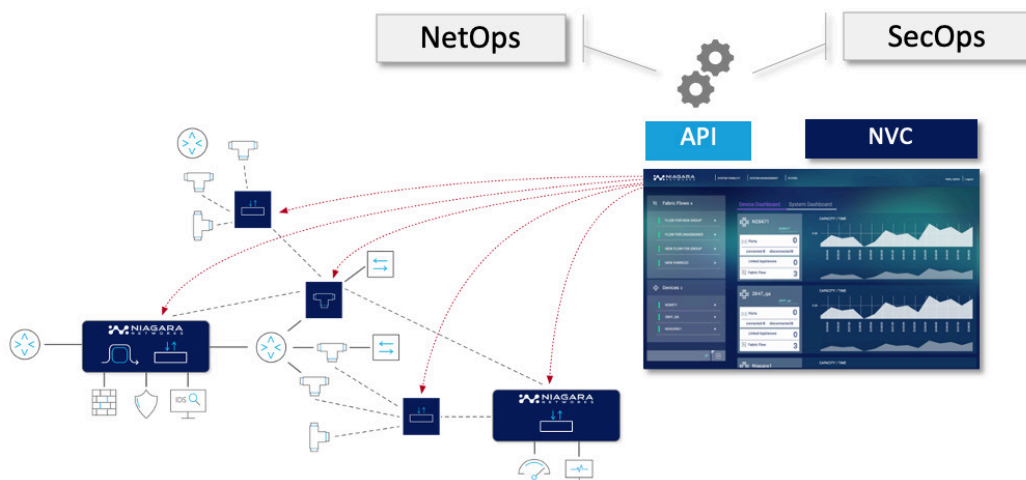
The NVC provides network operations teams with a powerful point-and-click graphical tool to quickly and seamlessly provision and manage visibility infrastructure via a centralized platform

SSL/TLS DECRYPTION

SSL/TLS decryption is part of Niagara Networks Open Visibility Platform architecture with foundation around the Packetron™ process acceleration module and the N2 series Bypass and Packet Broker appliance, providing advanced visibility intelligence functionality such as SSL/TLS decryption, Data masking, Packet slicing, and deduplication amongst others.

The Open Visibility Platform's visibility virtualization enables hosting of third-party applications which can be deployed reliably in-line or out-of-band.

BENEFITS

✓ Deep visibility into encrypted data traffic

✓ Powerful combination of decryption platform and the on-board resident 3rd party security & network applications, delivering a cyber threat detection multiplier

✓ Seamless support for network TAP, or inline bypass deployments on the same platform

✓ Encrypted traffic can be collected from multiple interfaces - from 1GbE up to 100GbE

✓ Decrypted traffic packet brokering to multiple tools based on policy rules – decrypt once, use many and various intelligent packet manipulations (masking, filtering, steering and more)

✓ Off load / minimize performance hit for individual tools
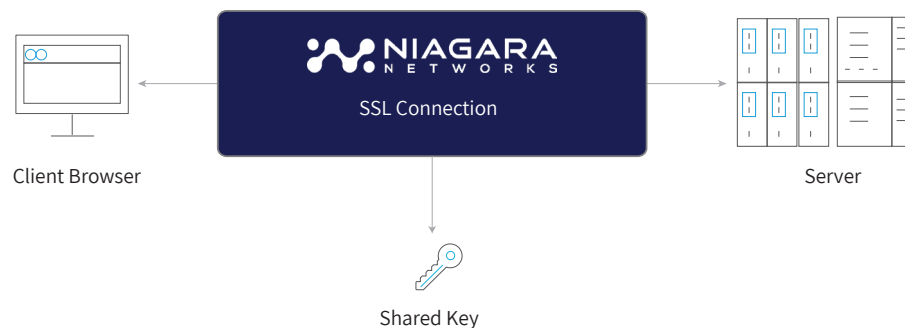
Niagara Networks comprehensive solutions enable three universal use cases for decryption visibility as part of its extensive visibility intelligence toolkit

Client Browser

NIAGARA NETWORKS

SSL Connection

Server

Shared Key

MOBILE SUBSCRIBER-AWARE VISIBILITY

Mobile networks involve a large amount of data traffic and numbers of subscribers. The different cybersecurity & traffic analysis tools will usually struggle to process a large number of endpoints effectively.

Niagara Networks solution deployed in mobile Evolved Packet Core (EPC) to perform an intelligent inspection of the control plane to identify subscriber data sessions and to link them to specific user plane (data) traffic itself. Niagara Networks platform defines this process as a mobile subscriber correlation. The Open Visibility Platform empowered by mobile subscriber-aware traffic intelligence enables advanced correlation between the subscriber identifiers and attributes, and the subscriber actual data streams as they occur throughout each subscriber's life-cycle usage on the mobile network.

BENEFITS

✓ Enables 100% visibility of mobile and wireline converged networks to ensure security posture across mobile domain

✓ Highly flexible mobile traffic intelligence to efficiently operate and optimize traffic analysis

✓ Advanced traffic filtering, packet slicing, packet deduplication, and application layer inspection

✓ Collecting packet-level analysis from Radio Access Network (RAN) via physical and virtual TAPs

✓ Inline appliance protection in EPC for carrier-grade high availability and uninterrupted network uptime

✓ Ease of use and operational efficiency - NVC point & click single pane of glass for visibility provisioning and orchestration
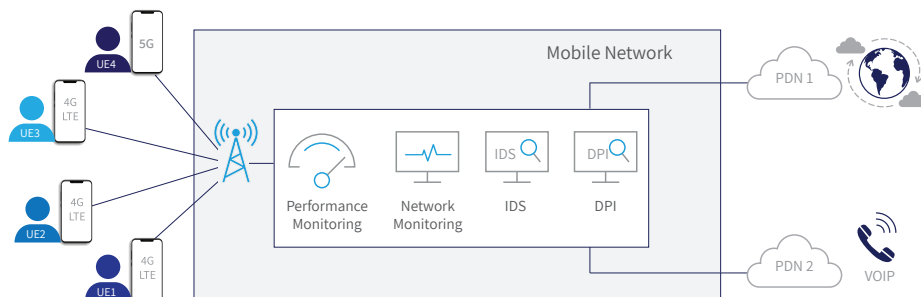
Niagara Networks visibility solutions enable Mobile Network Operators (MNO) to easily and efficiently operate, administer and deliver the mobile subscriber traffic to multiple cybersecurity and network monitoring tools

Niagara Networks - Product Matrix

Product	Packet Broker					Hybrid Bypass		Bypass						Passive TAP
	2847	2845	4432	4248-6XL	4272	3808	2804	2825	2818	2814	3299	3299TT	3296	3225[3]
Packet Broker Functionalities														
Flow Mapping	●	●	●	●	●	●	●				●	●		
Service Chaining	●	●	●	●	●	●	●				●	●		
Network Visibility	●	●	●	●	●	●	●				●	●		
Advanced Load Balancing	●	●	●	●	●	●	●				●	●		
Tunnel Termination	●	●	●	●	●									
Actionable Application Intelligence [1]	●	●												
Open Visibility [1]	●	●												
Bypass Protection														
Active inline Bypass Protection	●	●				●	●	●	●	●	●	●		
Passive inline Bypass Protection														
Tapping														
Passive Optical TAP	●	●							●	●				●
Active Inline TAP	●	●				●	●		●	●	●	●		
Port Density														
Max 1Gb ports	96	48		48	72	48	24	32	24	16	24	8	32	36 (48)[2]
Max 10Gb ports	96	48	2 (130)[2]	48 (72)[2]	72	48	24	32	24	16	4	4	32	36 (48)[2]
Max 25Gb ports			(128)[2]			48							32	36 (48)[2]
Max 40Gb ports	32	16	32	6				16					32	24
Max 50Gb ports													32	36 (48)[2]
Max 100Gb ports	8	4	32					8					32	36 (48)[2]
Max 400Gb ports														36 (48)[2]
Port Type														
1G SFP	●	●		●	●	●	●	●	●	●	●	●		
10G SFP+	●	●	2	●	●	●	●	●	●	●	●	●		
25G SFP28						●								
40G QSFP	●	●	●	6				●						
100G QSFP28	●	●	●					●						
Physical Specifications														
Rack units	2RU	1RU	1RU	1RU	1RU	1RU	1RU	1RU	1RU	1RU	1RU	Table Top	1RU	1RU
Modular	●	●				●		●			●		●	●

[1] Functions are part of the Open Visibility Platform   [2] using fan-out cable   [3] TAP segments per chassis

Niagara Networks Advanced Visibility Features

Advanced Visibility Features	

Network Visibility	• Advance flow mapping:
	  • Aggregate traffic to a single port
	  • Replicate traffic to multiple ports
	  • Load Balance traffic flow across multiple egress ports
	  • Sophisticated L2-L4 filtering and User Defined Byte (UDB) filtering
	• Ingress and egress filtering, internal traffic loopback for efficient creation of sophisticated multi-level filters
	• Filter templates for rapid deployment and filter re-use
	• Tunnel Handling: GTP, GRE, MPLS, VXLAN, VLAN
	• Multiple flexible load balancing regimes
	  • Layer 2 to layer 4 hashing criteria
	  • port utilization based load balancing
	  • Session stickiness
	• Virtual bypass segments for advanced service chaining
	• Port configuration for listen-only, transmit-only, and bi-directional deployment
	• All ports can be ingress and egress port simultaneously
	• MAC header rewrite

Actionable Application Intelligence	• Packet Slicing • Advanced Flow Slicing • De-DuplicationNetflow/ IPfix generation • L7 / Application Layer filtering • Data Masking • GTP Header Stripping • Correlated and uncorrelated GTP load balancing • SSL/ TLS decryptioN • Regular Expression searching and filtering • ERSPAN tunnel ternination
Open Visibility	• NFV virtual application hosting in Niagara Open Visibility Platform • Open architecture to host 3rd party and home-grown virtual applications integrated into virtual packet broker functions

ABOUT NIAGARA NETWORKS

Niagara Networks™ is a Silicon Valley based company that pioneered the Open Visibility Platform™ to bring desperately needed agility to network security. Niagara Networks provides high-performance, high-reliability network visibility and traffic delivery solutions for the world's most demanding service provider and enterprise environments.

We design, develop and manufacture our products in Silicon Valley, USA.

Made in the USA
Premium Quality