

# Vision Edge 10S (Model: Vision E10S) Network Packet Broker



## Product Description

The need for real-time visibility into network data has never been greater. Being able to know how applications and services are performing is no longer a nice to have. It is also imperative to have the ability to quickly quantify threats from within and outside of your network.

Keysight's Vision Edge 10S network packet brokers are perfect for remote site installations with access to network and analytics tools in the same location. It is equally suitable for data centers that aggregate and send data across LAN or WAN to central NOC/SOC for real-time network visibility operations.

## Key Features

- High density multi-speed network packet broker that is designed for deployment in racks to aggregate traffic.
- Hardware based implementation of NetFlow generation and advanced packet processing.
- Exceptionally feature rich stand-alone packet broker that supports 1G to 10G networks.
- Support fan-in to use 4 consecutive 10G ports as 1 native 40G port
- Easy-to-use web-interface allows you to focus on security rather than configuration.
- Sophisticated load balancing distributes traffic across several tools for monitoring or inline in serial or parallel to maximize up-time and ensure that no critical data is lost.
- Comprehensive wizards make inline tool deployment extremely easy for complex use cases that require tool sharing or VLAN translation.

# Use Cases

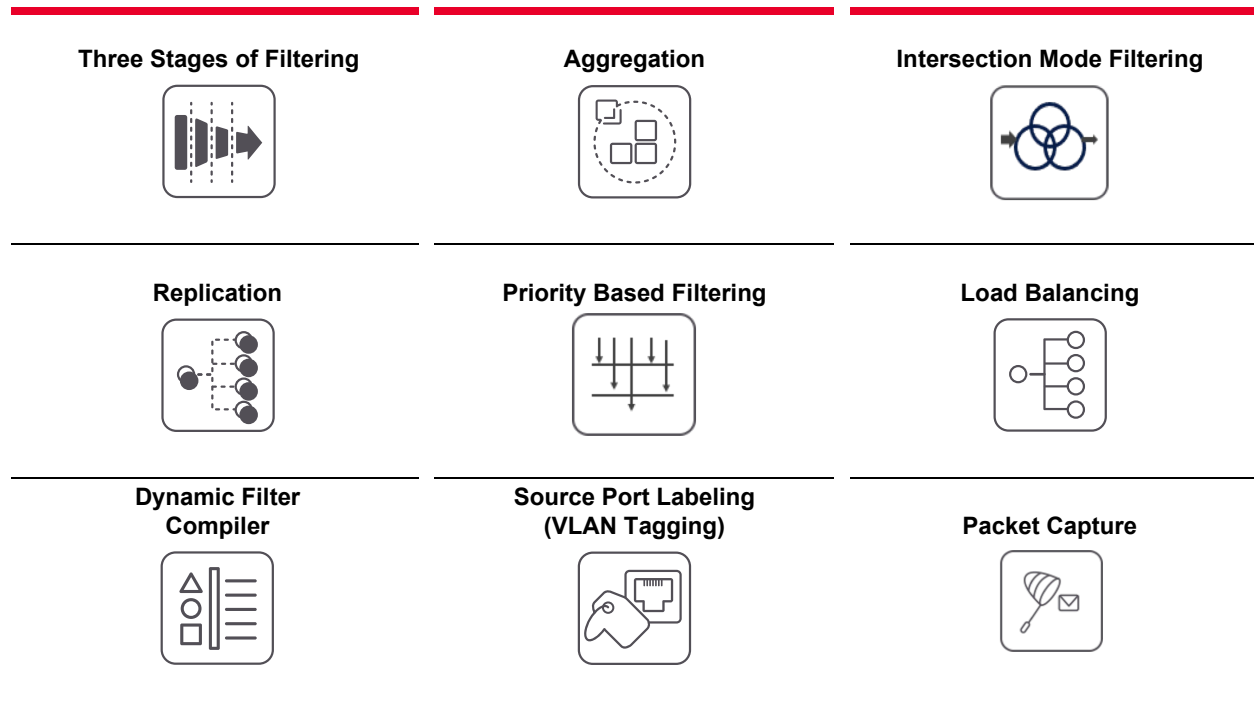
- For Single site deployment with network and network and security analytics tools
- In a distributed network, Vision E40/E100 can be used with Vision E10S with direct connect, so tools at the data center can be used for multiple branch monitoring and security.
- IFC clustering with other Vision packet brokers to leverage more advanced packet processing capabilities.

# Product Capabilities

## NetStack

Robust filtering, aggregation, replication and more – the gold standard for network traffic visibility.

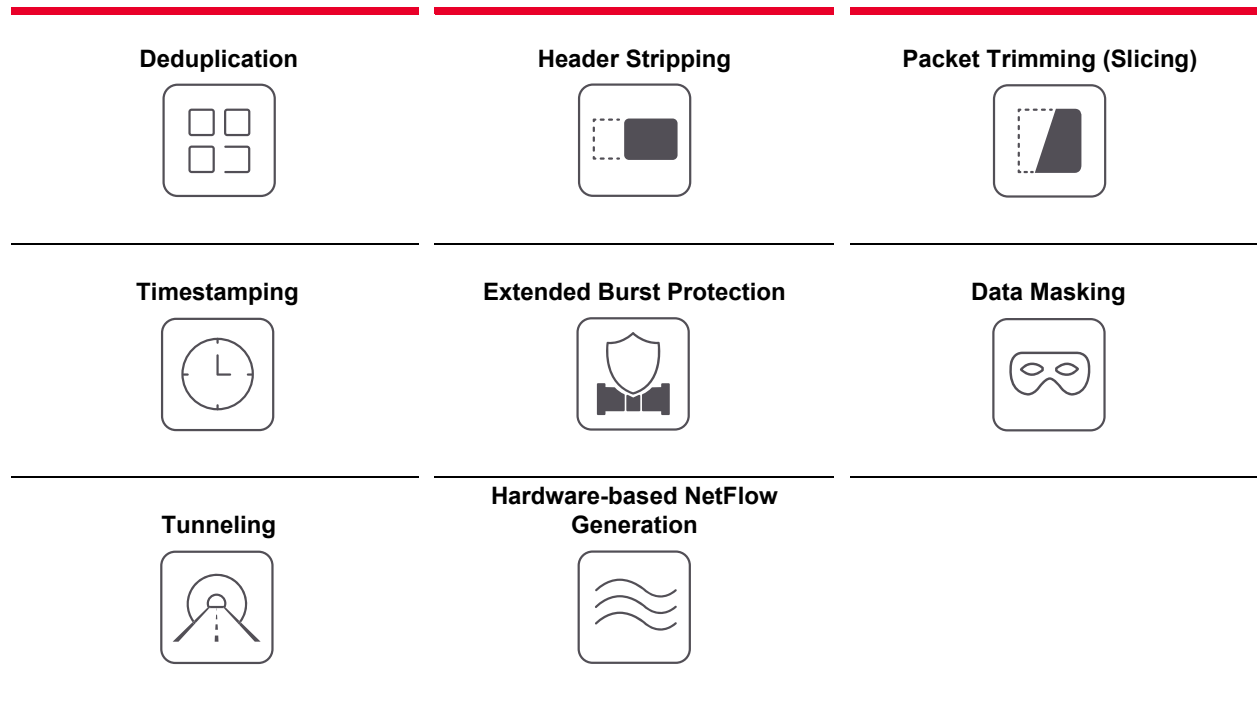
The following traffic visibility capabilities combined as NetStack are the foundational set available as standard features for Keysight’s industry-leading network packet brokers.



Learn more about [NetStack Features](#)

# PacketStack

Full, line rate intelligent packet processing. Modify every packet at line-rate using any combination of Keysight's FPGA based PacketStack (AFM) capabilities. Flexibly assign 40 Gbps total processing capacity to any port or dynamic filter in 10 Gbps increments. An additional 20 Gbps resource is dedicated to line-rate NetFlow v10 (IPFIX) generation and export.



Learn more about [PacketStack Features](#)

## Vision E10S features

	Feature
NetStack	<p>High density 1U platform for visibility per rack service</p> <p>Supports 1G, 10G and 40G networks via 4x10G fan-in</p> <p>Support both inline and OOB use cases</p> <p>Simplex port mode (TX ignores RX status)</p> <p>Fully featured with Keysight's robust NetStack capabilities: Aggregation, replication, filtering, and load balancing</p> <p>Keysight's innovative filter compiler and three stages of filtering for one-of-a-kind flexibility in managing network and tool traffic profile</p> <p>Packet Capture on all ports. Up to 1000 packets per capture. Up to 50MB for storage</p>
PacketStack	<p>Up to 40 Gbps line rate advanced packet processing with PacketStack</p> <p>Supports line-rate packet deduplication, header stripping and other advanced packet processing features.</p> <p>Supports up to 20 Gbps hardware based NetFlow generation. Working in conjunction with Vision ONE/X/400 PacketStack trimming and preserving original packet length, 20 Gbps NF engine can generate flow records for over 200 Gbps traffic.</p> <p>Supports L2GRE and ERSPAN termination and L2GRE origination.</p> <p>Supports Generic Header Stripping that can strip off well-known protocol headers as well as proprietary protocol headers. Examples are: L3GRE, GENEVE, JMirror, PBB-TE, LISP, VSL, OTV, PPPoE</p>
IFC clustering	<p>IFC clustering with other Vision platforms for single pane of glass operation, management, and provisioning</p>

## Inline capabilities

Requirement	Inline capability
Heartbeat	<p>Multiple HB templates allow each tool to have its own unique HB</p> <p>Customizable heartbeat (HB) support to detect and automatically recover from monitoring and security tool failures</p>
Service chaining	<p>Supports failsafe serial service chaining, parallel load balancing with spares, or combined topologies</p> <p>Asymmetric hashing supports common use cases for lawful interception</p> <p>Weight based load balance and LBG threshold high-and-low watermark</p>
High Availability (HA)	<p>Bypass switches and Keysight Vision E40 can have different HB so multi-tier design is possible to increase overall resilience for High Availability (HA)</p> <p>Keysight's Active-Active Inline HA solution is the gold standard in the industry and offers the most resilient architecture to protect all kinds of failures</p>

# Network Packet Broker Management

## IFC (Ixia Fabric Controller) clustering

IFC Clustering helps IT Network teams achieve basic and efficient network visibility management. It supports various platforms such as Vision ONE, Vision E40, Vision E100, Vision E10S, Vision 7816 and Vision X.

	Capability
Platforms	<p>IFC clustering offers single pane of glass management for your network packet brokers. NPBs in a distributed environment can be managed and configured, using a single User Interface, as if one centralized visibility and security fabric.</p> <p>IFC clustering supports any combination of Vision Edge 40/100/10S, Vision ONE/X/7816 platforms</p>
Topologies	<p>Typical topologies supported include hub-and-spoke, spine-and-leaf, tree, ring, full mesh, partial mesh, or any combination of above</p> <p>Supports direct connection for interconnects, or GRE encapsulated interconnects (limited to Vision ONE and 7300 only) when going thru DWDM or WAN devices</p> <p>Supports both single hop and multi hop cluster topology</p>
Algorithms	<p>Best routes are calculated based on least hop-count using Shortest Path First (SPF) algorithm</p> <p>Intelligent load balance among Equal Cost Multiple Paths (ECMP) to guarantee session integrity and avoid packet reordering</p>
Scalability and resiliency	<p>User configurable number of Controller Node vs. Fabric Node to maximize resiliency</p> <p>A single IFC cluster can scale to more than 50 nodes</p> <p>Total flexibility in the number of controller nodes vs. the number of fabric nodes. Full redundancy among controller nodes</p> <p>LLDP auto discovery of interconnect links makes cluster configuration easy and error proof</p>

Automatic or user triggered path re-optimization to avoid failed links or nodes

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IFC cluster offers industry best resilient architecture for OOB monitoring

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Learn more about [IFC Clustering Features](#)

# Keysight Vision Orchestrator

Keysight Vision Orchestrator (KVO) offers intent-based visibility for its users and its main goal is to provide a single pane of glass for Keysight visibility solutions, covering both physical and virtual world. KVO has two key components, element management and data path management. Key functional blocks of each component are listed below:

## Element management

- KVO user management - single sign on
- Granular role and resource based access control
- Custom dashboards and reporting
- Event management
- Software upgrade automation
- Centralized license management

## Data path management

- Cluster management
- Intent-based network policies
- Policy scheduler
- Self-healing visibility fabric
- Global change management
- Audit trail of changes
- Open API for fabric management

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### Keysight KVO



Keysight Vision Orchestrator can manage hundreds of visibility nodes in the Cloud, Data Center, or Edge. This enables organization to scale and operate their visibility solutions across their entire environment with the ease of intent-based policies.

Learn more about [Keysight's KVO](#)

# Port Configuration

<b>System</b>	<b>1G/10G</b>
Ports per system	48 (SFP+)

## Product Specifications

### General Specifications

Airflow direction	Front to rear	
MTBF	132,402 h @ 30 °C	
Management	<ul style="list-style-type: none"><li>• Intuitive Web GUI, TLS 1.2</li><li>• SNMP v1, v2, v3 Requests, Inform Requests and Traps support</li><li>• Supports IEEE 1588 / Precision Time Protocol (PTP) time synchronization</li><li>• Local, RADIUS, TACACS+, LDAP and LDAP/CAC support (users and groups)</li></ul>	<ul style="list-style-type: none"><li>• Granular access control features</li><li>• Event monitoring and logging</li><li>• Syslog (cleartext or encrypted)</li><li>• IT Automation control with RESTful API</li><li>• IPv4, IPv6, static or DHCP</li><li>• Secure serial console port with authentication</li><li>• IP allowlist</li></ul>

### Physical specifications

Physical size (W x D x H)	44.4 x 62.2 x 4.4 cm 17.5 x 24.5 x 1.75 inches	
Weight	13.6 kg or 30.0 lbs	
Rack mountable	1U chassis, fixed form with hot swap redundant power and fans	



## Electrical specifications

<b>Power AC</b>	2 redundant hot swap AC power supplies
Input voltage	100-240 VA, 50-60 Hz
Input current	Max. 9 A (x2)
<b>Power DC</b>	2 redundant hot swap power supplies
Input voltage	48-60 VDC
Input current	16.5 A (x2)
Maximum power	650 W

## Environmental specifications

Operating temperature	0 to 50 °C
Operating humidity	5% to 95% RH (non-condensing)
Storage temperature	-40 °C to 70 °C
Storage humidity	5 to 95% RH
Operating altitude	Up to 2000 m
RoHS	RoHS Directive 2011/65/EU; Annex II, Directive (EU)2015/863 China RoHS
WEEE	WEEE Directive 2012/19/EU

# Compliance

Regulatory type	Standard
Safety	EN IEC 62368-1
	UL 62368-1/CSA C22.2 No. 62368-1
EMC emissions	CISPR 32, Class A, IEC 61000-3-2, IEC 61000-3-3
	EN 55032, Class A, EN 61000-3-2, EN 61000-3-3
	FCC Part 15B, Class A
	CAN ICES-003(A)/NMB-003(A)
	AS/NZS CISPR 32, Class A
	KS C 9832, Class A, KS C 9610-3-2, KS C 9610-3-3
	CISPR 35
EMC immunity	EN 55035
	KS C 9835
Country/region certifications	USA
	Canada
	EU
	UK
	Australia
	South Korea
Country of origin	USA, Malaysia

# Order Information

## Base unit Vision E10S

Part number	Description
SYS-E10S-16P-AC	Keysight Vision E10 System AC Chassis with fixed (48) 1G/10G; Includes license for (16) 1G/10G ports and 20 Gbps of PacketStack (1G Burst Protection, Masking, Timestamp, Packet Trimming, Add Trailer); Contains two AC power supplies and fan units. Optional ports and feature licenses available
SYS-E10S-16P-DC	Keysight Vision E10 System DC Chassis with fixed (48) 1G/10G; Includes license for (16) 1G/10G ports and 20 Gbps of PacketStack (1G Burst Protection, Masking, Timestamp, Packet Trimming, Add Trailer); Contains two DC power supplies and fan units. Optional ports and feature licenses available
SYSE10S-16PG-AC-T	Keysight TAA Compliant Vision E10S System AC Chassis with fixed (48) 1G/10G ports. Includes license for (16) 1G ONLY ports and 20 Gbps of PacketStack (991-1141)
SYSE10S-16PG-DC-T	Keysight TAA Compliant Vision E10S System DC Chassis with fixed (48) 1G/10G ports. Includes license for (16) 1G ONLY ports and 20 Gbps of PacketStack (991-1142)

## Port licenses Vision E10S

Part number	Description
LIC-E10S-16P	Keysight Vision E10S, Port license for an additional (16) 1G/10G ports; Requires previous or adjunct purchase of SYS-E10S-16P-AC or SYS-E10S-16P-DC
LIC-E10S-4P	Vision E10S, Port license for an additional (4) 1G/10G ports; Requires previous or adjunct purchase of SYS-E10S-16P-AC or SYS-E10S-16P-DC

## Feature licenses Vision E10S

Part number	Description
LIC-E10S-PS-10G	Keysight Vision E10S, Add 10 Gbps PacketStack (1G Burst Protection, Masking, Timestamp, Packet Trimming, Add Trailer), Max (4) license per system
LIC-E10S-DDUP	Keysight Vision E10S, Enables PacketStack Deduplication feature, licensed per system; Up to 40 Gbps supported if PacketStack is licensed at 40 Gbps
LIC-E10S-STRP	Keysight Vision E10S, Enables PacketStack Header stripping feature, licensed per system; Up to 40 Gbps is supported if PacketStack is licensed at 40 Gbps
LIC-E10S-TUNL	Keysight Vision E10S, Enables PacketStack Tunneling feature, licensed per system, up to 40 Gbps
LIC-E10S-	Keysight Vision E10S, Enables up to 10 Gbps NetFlow generation feature; Max (2) licenses per system

NTFL-10G	
LIC-E10S-IFC	Keysight Vision E10S, Enables Ixia fabric controller (IFC) for direct connect to Vision ONE or NTO 7300/3, Vision Edge 40, Vision Edge 100; licensed per system; Require previous or adjunct purchase of port licenses to operate
LIC-E10S-INLN	Keysight Vision E10S, Enables Inline feature, licensed per system. Requires previous or adjunct purchase of port licenses to operate
LIC-E10S-CAPT	Keysight Vision E10S, perpetual license, enable PCAP for all ports

## Accessories Vision E10S

Part number	Description
SYS-E10S-SPARE-AC	Keysight Vision E10S System AC Chassis with no ports or features enabled; Requires short term license to be installed to operate when required; Contains two AC power supplies and fan units. PREREQUISITES: Cold spare license LIC-E10S-SPARE
SYS-E10S-SPARE-DC	Keysight Vision E10S System DC Chassis with no ports or features enabled; Requires short term license to be installed to operate when required; Contains two DC power supplies and fan units. PREREQUISITES: Cold spare license LIC-E10S-SPARE
LIC-E10S-SPARE	Keysight Vision E10S, Cold spare system license; NOTE: Includes max configuration; Activation includes all ports, and features. Short term activation only to operate Vision E10S cold spare system (SYS-E10SSPARE-AC or SYS-E10S-SPARE-DC). Must purchase Essential/Enterprise support

# Support

Keysight's Visibility industry-best products are backed by our industry-leading expertise. Our comprehensive product support does more than ensure uptime – it ensures a competitive edge. The Keysight support team partners with customers to:

- Avoid downtime and keep schedules on track
- Implement according to industry specifications
- Develop best practices to meet individual needs and objectives
- Maximize efficiency and reduce operating expenses
- Protect and maximize investments in test and visibility

In addition to above, Keysight customers registering for the secure area and access to the Support Site will also be able to view and download our product Security Advisories.

[Access Keysight Visibility Support](#)

## About Keysight Visibility

### Connect and secure the world with dynamic network intelligence

The need for always-on networks is pervasive, and expectations are high when it comes to keeping them connected and secure. As technologies advance, edge computing, cloud environments, sophisticated security threats, increasing bandwidth requirements, and demanding compliance regulations make it challenging to extract actionable insight from your network.

Keysight can help. Customers rely on our solutions to deliver rich data about network traffic, applications, and users across any networking environment. This deep insight is what we call dynamic network intelligence. It helps you continuously innovate, meet aggressive service level agreements, and keep applications running smoothly and securely.

Learn more about [Keysight Visibility Solutions](#)

Keysight enables innovators to push the boundaries of engineering by quickly solving design, emulation, and test challenges to create the best product experiences. Start your innovation journey at [www.keysight.com](http://www.keysight.com).



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