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 for up to 80Gbps of traffic 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.

KEYSIGHT

Use Cases

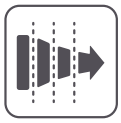
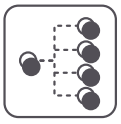
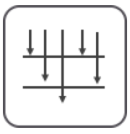
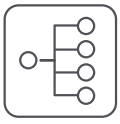
- For Single site deployment with network and network and security analytics tools
- In a distributed network, Vision E40/E100 can be used with Vision E10S with direct connect, so tools at the data center can be used for multiple branch monitoring and security.
- IFC clustering with other Vision packet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

Three Stages of Filtering 	**Aggregation** 	**Intersection Mode Filtering** 
Replication 	**Priority Based Filtering** 	**Load Balancing** 
Dynamic Filter Compiler 	**Source Port Labeling (VLAN Tagging)** 	**Packet Capture** 

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 80 Gbps total processing capacity to any port or dynamic filter in 10 Gbps increments. An additional 40 Gbps resource is dedicated to line-rate NetFlow v10 (IPFIX) generation and export.

Deduplication 	**Header Stripping** 	**Packet Trimming (Slicing)** 
Timestamping 	**Extended Burst Protection** 	**Data Masking** 
Tunneling 	**Hardware-based NetFlow Generation** 	

Learn more about PacketStack Features

Vision E10S features

	Feature
NetStack	High density 1U platform for visibility per rack service
	Supports 1G, 10G and 40G networks via 4x10G fan-in
	Support both inline and OOB use cases
	Simplex port mode (TX ignores RX status)
	Fully featured with Keysight's robust NetStack capabilities: Aggregation, replication, filtering, and load balancing
	Keysight's innovative filter compiler and three stages of filtering for one-of-a-kind flexibility in managing network and tool traffic profile
	Packet Capture on all ports. Up to 1000 packets per capture. Up to 50MB for storage
PacketStack	Up to 80 Gbps line rate advanced packet processing with PacketStack
	Supports line-rate packet deduplication, header stripping and other advanced packet processing features.
	Supports up to 40 Gbps hardware based NetFlow generation. Working in conjunction with PacketStack trimming and preserving original packet length, 40 Gbps NF engine can generate flow records for over 200 Gbps traffic.
	Supports L2GRE and ERSPAN termination and L2GRE origination.
	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
IFC clustering	IFC clustering with other Vision platforms for single pane of glass operation, management, and provisioning

Inline capabilities

Requirement	Inline capability
Heartbeat	Multiple HB templates allow each tool to have its own unique HB
	Customizable heartbeat (HB) support to detect and automatically recover from monitoring and security tool failures
Service chaining	Supports failsafe serial service chaining, parallel load balancing with spares, or combined topologies
	Asymmetric hashing supports common use cases for lawful interception
	Weight based load balance and LBG threshold high-and-low watermark
High Availability (HA)	Bypass switches and Keysight Vision E40 can have different HB so multi-tier design is possible to increase overall resilience for High Availability (HA)
	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

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	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.
	IFC clustering supports any combination of Vision Edge 40/100/10S, Vision ONE/X/7816 platforms
Topologies	Typical topologies supported include hub-and-spoke, spine-and-leaf, tree, ring, full mesh, partial mesh, or any combination of above
	Supports direct connection for interconnects, or GRE encapsulated interconnects (limited to Vision ONE and 7300 only) when going thru DWDM or WAN devices
	Supports both single hop and multi hop cluster topology
Algorithms	Best routes are calculated based on least hop-count using Shortest Path First (SPF) algorithm
	Intelligent load balance among Equal Cost Multiple Paths (ECMP) to guarantee session integrity and avoid packet reordering
Scalability and resiliency	User configurable number of Controller Node vs. Fabric Node to maximize resiliency
	A single IFC cluster can scale to more than 50 nodes
	Total flexibility in the number of controller nodes vs. the number of fabric nodes. Full redundancy among controller nodes
	LLDP auto discovery of interconnect links makes cluster configuration easy and error proof
	Automatic or user triggered path re-optimization to avoid failed links or nodes
	IFC cluster offers industry best resilient architecture for OOB monitoring

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

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

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

Product Specifications

General specifications

Airflow direction	Front to rear	
MTBF	132,402 h @ 30 °C	
Management	• Intuitive Web GUI, TLS 1.2 • SNMP v1, v2, v3 Requests, Inform Requests and Traps support • Local, RADIUS, TACACS+, LDAP and LDAP/CAC support (users and groups) • Granular access control features	• Event monitoring and logging • Syslog (cleartext or encrypted) • IT Automation control with RESTful API • IPv4, IPv6, static or DHCP • Secure serial console port with authentication • IP allowlist

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

Power AC	2 redundant hot swap AC power supplies	
Input voltage	90-260 VAC @ 50-60 Hz	
Input current	Max. 3A, 260W (x2)	
Power DC	2 redundant hot swap power supplies	
Input voltage	-44 to -70 VDC	
Input current	Max. 3A (x2) @44v	

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
EMC immunity	CISPR 35
	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), if LIC-10S-NTFL is activated, maximum of (4) licenses can be used
LIC-E10S-DDUP	Keysight Vision E10S, Enables PacketStack Deduplication feature, licensed per system; Up to 80 Gbps supported if PacketStack is licensed at 80 Gbps
LIC-E10S-STRP	Keysight Vision E10S, Enables PacketStack Header stripping feature, licensed per system; Up to 80 Gbps is supported if PacketStack is licensed at 80 Gbps
LIC-E10S-TUNL	Keysight Vision E10S, Enables PacketStack Tunneling feature, licensed per system, up to 80 Gbps
LIC-E10S-NTFL-10G	Keysight Vision E10S, Enables up to 10 Gbps NetFlow generation feature; If used only maximum of (4) licenses LIC-E10S-PS-10G of PacketStack can be used
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

Acessories 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.

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