Vision Edge 50 (Model: Vision E50) 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.

Current reality is that compute, storage and networks are now software defined and built by the rack and containers. And, in keeping with demand to deliver lower operating expense and offering the best-of-breed in software-defined flexibility, visibility is lost at every layer as installations get dense and traffic moves east-west within a rack and north-south between racks.

More servers, more switching layers, more virtual platform translate to more visibility blind spots.

Keysight's Vision Edge 50 (E50) network packet broker is designed to provide rack-level visibility through a solution that allows seamless integration into existing hybrid SDN architectures, offering true flexible multi-speed capability, and a comprehensive feature set for the versatility to adapt to the future, ensuring your Security Fabric's strength, all while offering a compelling total cost of ownership.

Key Features

- High density 1U platform for visibility per rack service
- Supports 1/10/25G and 40/100G port speeds, including fan-in and fan-out support.
- Inline and Out-of-Band capable
- Keysight IFC (Ixia Fabric Controller) cluster support
- Fully featured with Keysight's robust NetStack capabilities:
  - Aggregation, replication, filtering and load balancing
  - Keysight's unique and innovative filter compiler and three stages of filtering for one-of-a-kind flexibilities in managing network and tool traffic profile.
- Priority-based filtering for inline and inline HA configurations
- Native L2GRE/VxLAN termination and origination

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Use Cases

- Top-of-the-rack visibility for a single site deployment with network and tools.
- In a leaf-spine architecture, aggregating across multiple racks in a smaller or microscale data center.
- In a distributed network, Vision Edge can be used with Vision ONE/X using Ixia Fabric Controller (IFC) for a single pane of glass management and operation, so tools at the data center can be used for multiple branch monitoring and security.
- In a high-availability configuration for the most resilient inline tool deployment, when used in conjunction with Keysight's bypass switches.
- IFC cluster in spine-and-leaf topology offers the most resilient OOB architecture that provides auto failover and active-active load balance.
- Taking traffic from Cisco ACI environment or other data centers and perform conditional VxLAN header stripping with matching VNI.

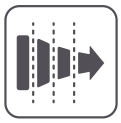
Product Capabilities

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



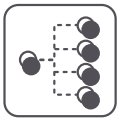
Aggregation



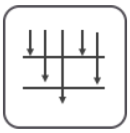
Intersection Mode Filtering



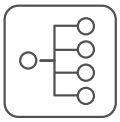
Replication



Priority Based Filtering



Load Balancing



Dynamic Filter Compiler



Source Port Labeling (VLAN Tagging)



Tunneling



Packet Capture



Learn more about NetStack features

Inline capabilities

Requirement	Inline Capability
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
Heartbeat	Customizable Heartbeat (HB) support to detect and automatically recover from monitoring and security tool failures
	Multiple HB templates allow each tool to have its own unique HB
Load Balance	Asymmetric hashing supports common use cases for lawful interception
	Advanced load balance options include weight-based LB and high-and-low watermark LB
High Availability (HA)	Bypass switches and Keysight Vision E50 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 E50, 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 50/40/100/10S, 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

Port Configuration

System	SFP28	QSFP28
Standard ports per system	48	8
Speed support per port	1x1G/1x10G/1x25G	1x40G/1x100G
QSFP28 breakout support		4x25G
		2x50G (Doesn't support 1x50G PAM4, only supports 50G from 2x25G NRZ)
		4x10G

NOTE: The Vision E50 system has forty-eight (48) 1G/10/25G SFP28 data ports and Eight (8) 40/100G QSFP28 data ports. With breakout cables, each 40/100G ports can be broken out into four (4) 10G/25G ports, making a total of 80, 10G/25G ports available.

Product Specifications

General specifications

Airflow direction	Front to Rear	
MTBF(AC)	248,028 h @ 25 °C 151,423 h @ 40 °C	
MTBF(DC)	224,782 h @ 25 °C 122,467 h @ 40 °C	
Management	• Intuitive Web GUI, TLS 1.2 • SNMP v1, v2, v3 Requests, Inform Requests and Traps support • Local, RADIUS, TACACS+ and LDAP support (users and groups) • IP allowlist	• 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

Physical specifications

Physical size (W x D x H)	43.84 x 53.6 x 4.35 cm 17.26 x 21.1 x 1.71 inches	
Weight	10 kg or 22.05 lbs	

Electrical specifications

Power AC	2 redundant hot swap AC power supplies	
Input voltage	100-240 VA, 50-60 Hz	
Input current	Max. 6A @ 100/120 VAC Max. 3A @ 200/240 VAC	
Power DC	2 redundant hot swap DC power supplies	
Input voltage	-36 to -72 VDC	
Input current	Max. 8A @ -72 VDC Max. 16A @ -36 VDC	
Max power	550 W	

Environmental specifications

Operating temperature	0 to 45 °C (32 °F to 113 °F)	
Operating humidity	10% to 90% RH (non-condensing)	
Storage temperature	-40 °C to 70 °C (-40 °F to 158 °F)	
Storage humidity	10% to 90% RH	
Operating altitude	Up to 3000 m (10,000 ft)	
RoHS	Directive RoHS 2011/65/EU Directive (EU) 2015/863 Taiwan RoHS CNS 15663 China RoHS	
WEEE	WEEE Directive 2012/19/EU	

Compliance

Regulatory type	Standard
Safety	CB (IEC 62368-1)
	UL/cUL (UL 62368-1 / CSA C22.2 No. 62368-1)
	EN IEC 62368-1, BS EN IEC 62368-1
	BSMI (CNS15598-1)
EMC emissions	CE Mark
	EN 55032, Class A, EN 61000-3-2, EN 61000-3-3 BS EN 55032 Class A, BS EN 61000-3-2, BS EN 61000-3-3
	FCC 47 CFR Part 15B Class A CAN ICES-3(A)/NMB-3(A)
	VCCI – CISPR 32, Class A
	KS C 9832 Class A, KS C 9610-3-2, KS C 9610-3-3
	BSMI CNS 15936
EMC immunity	CISPR 35
	EN 55035 BS EN 55035
	KS C 9835

Country / Region certifications	USA
	Canada
	EU
	UK
	Australia
	South Korea
	Japan
	Taiwan
Country of origin	Taiwan

Order Information

Base Unit Vision E50

Part number	Description
SYS-VE50-AC	Keysight Vision E50, base AC system with fixed (48) 25G SFP28 and (8) 100G QSFP28 ports. Includes chassis, power supplies and fans. Requires port license activation (991-8200)
SYS-VE50-DC	Keysight Vision E50, base DC system with fixed (48) 25G SFP28 and (8) 100G QSFP28 ports. Includes chassis, power supplies and fans. Requires port license activation (991-8201)
SYS-VE50-AC-T	Keysight TAA compliant Vision E50, base AC system with fixed (48) 25G SFP28 and (8) 100G QSFP28 ports. Includes chassis, power supplies and fans. Requires port license activation (991-8202)
SYS-VE50-DC-T	Keysight TAA compliant Vision E50, base DC system with fixed (48) 25G SFP28 and (8) 100G QSFP28 ports. Includes chassis, power supplies and fans. Requires port license activation (991-8203)

Port Licenses Vision E50

Part number	Description
LIC-VE50-12PL	Keysight Vision E50, perpetual license for twelve (12) 25G SFP28 ports (993-0500)
LIC-VE50-4PC	Keysight Vision E50, perpetual license for four (4) 100G QSFP28 ports (993-0501)
SUB-VE50-12PL	Keysight Vision E50, 1 year subscription license for twelve (12) 25G SFP28 ports (993-0505)
SUB-VE50-4PC	Keysight Vision E50, 1 year subscription license for four (4) 100G QSFP28 ports (993-0506)

Feature Licenses Vision E50

Part number	Description
LIC-VE50-CAPT	Keysight Vision E50, perpetual license, enables Port Packet Capture, one per system (993-0504)
LIC-VE50-INLN	Keysight Vision E50, perpetual license, enables Inline feature, one per system (993-0503)
LIC-VE50-TUNL	Keysight Vision E50, perpetual license, enables NetStack tunneling feature, one per system (993-0502)
SUB-VE50-CAPT	Keysight Vision E50, 1 year subscription license, enables Port Packet Capture, one per system (993-0509)
SUB-VE50-INLN	Keysight Vision E50, 1 year subscription license, enables Inline feature, one per system (993-0508)
SUB-VE50-TUNL	Keysight Vision E50, 1 year subscription license, enables NetStack tunneling feature, one per system (993-0507)
LIC-VE50-IFC	Keysight Vision E50, perpetual license, enables Ixia Fabric Controller (IFC) feature, one per system (993-0510)

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 Ixia 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.

KEYSIGHT

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