

# Vision Edge 40 (Model: Vision E40) 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 40 (E40) 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 1/10G and 40G 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.
- Software defined platform that offers new features without platform change.
- Priority-based filtering for inline and inline HA configurations
- Native L2GRE/VxLAN termination and origination

# Use Cases

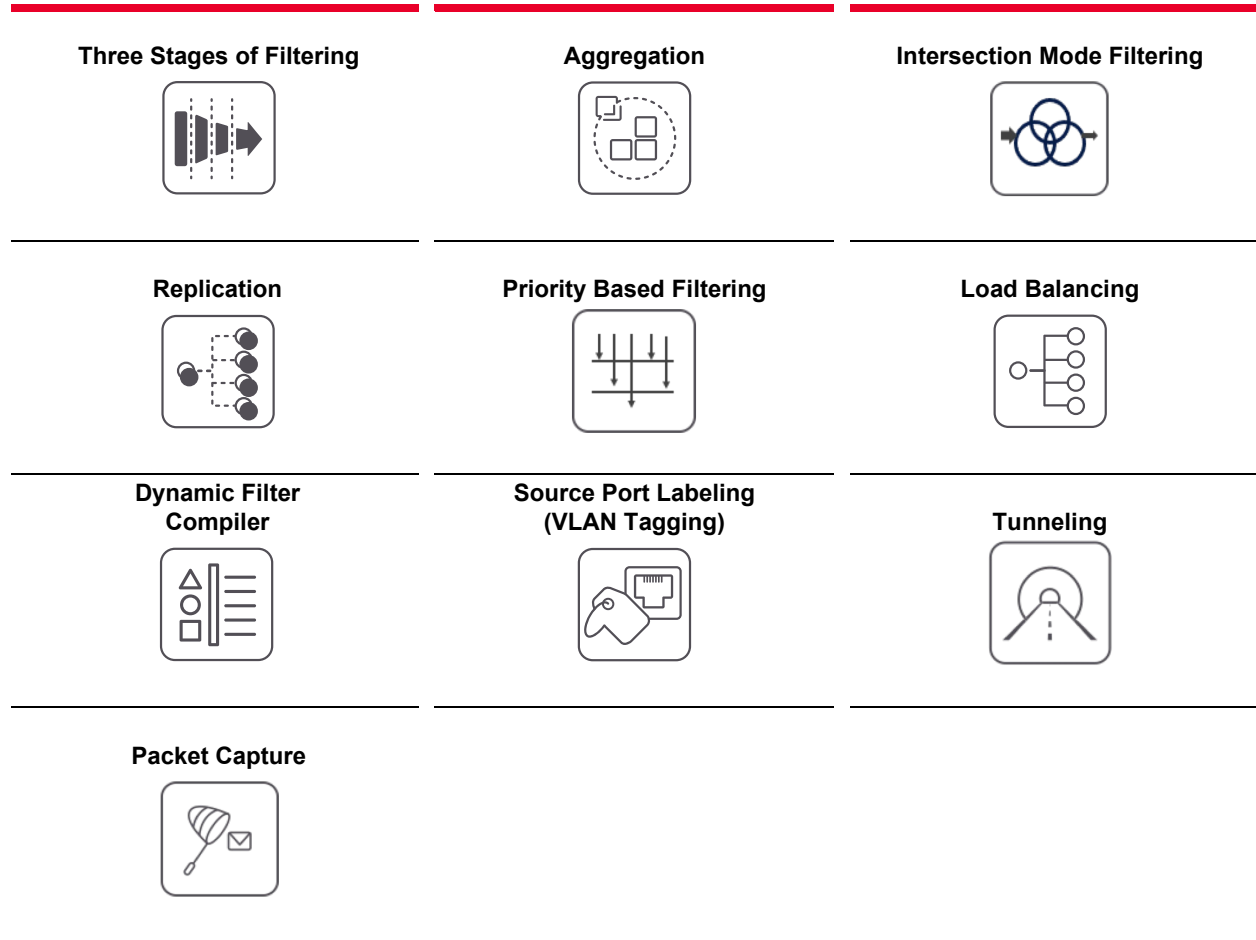
- Top-of-the-rack visibility for a single site deployment with network and tools.
- In a leaf-spine architecture, aggregating across multiple racks in a smaller or microscale data center.
- In a distributed network, Vision Edge can be used with Vision ONE/X using Ixia Fabric Controller (IFC) for a single 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.



[Learn more about NetStack features](#)

## Inline capabilities

Requirement	Inline Capability
<b>Service Chaining</b>	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
<b>Heartbeat</b>	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
<b>Load Balance</b>	Asymmetric hashing supports common use cases for lawful interception Advanced load balance options include weight-based LB and high-and-low watermark LB
<b>High Availability (HA)</b>	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
<b>Platforms</b>	<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>
<b>Topologies</b>	<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>
<b>Algorithms</b>	<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>
<b>Scalability and Resiliency</b>	<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> <p>Automatic or user triggered path re-optimization to avoid failed links or nodes</p> <p>IFC cluster offers industry best resilient architecture for OOB monitoring</p>

[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	10G	40G
Standard ports per system	48	6
Max ports per system	72 (with 40G breakout)	18 (with 40G breakout)

NOTE: The Vision E40 system has forty-eight (48) 1G/10G SFP+ data ports and six (6) 40G QSFP+ data ports. With breakout cables, each 40G ports can be broken out into four (4) 1G/10G SFP+ ports, making a total of 72, 1G/10G ports available.

# Product Specifications

## General specifications

<b>Airflow direction</b>	Front to Rear	
<b>MTBF</b>	115,546 h @ 25 °C 75,438 h @ 40 °C	
<b>Management</b>	<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+ and LDAP support (users and groups)</li><li>• IP allowlist</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></ul>

## Physical specifications

<b>Physical size (W x D x H)</b>	44.1 x 47.2 x 4.3 cm 17.4 x 18.6 x 1.71 inches	
<b>Weight</b>	8.9 kg or 19.72 lbs	

## Electrical specifications

<b>Power AC</b>	2 redundant hot swap AC power supplies	
<b>Input voltage</b>	100-240 VA, 50-60 Hz	
<b>Input current</b>	Max. 6A @ 100/120 VAC Max. 3A @ 200/240 VAC	
<b>Power DC</b>	2 redundant hot swap -48V DC power supplies	
<b>Input voltage</b>	-48 to -72 VDC	
<b>Input current</b>	Max. 10A @ -72 VDC	
<b>Max Power</b>	282 W without pluggable optics	

## Environmental specifications

Operating Temperature	0 to 40 °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
<b>Safety</b>	EN IEC 62368-1
	UL 62368-1/CSA C22.2 No. 62368-1
<b>EMC Emissions</b>	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
	VCCI - CISPR 32, Class A
<b>EMC Immunity</b>	CISPR 35
	EN 55035
	KS C 9835

<b>Country / Region Certifications</b>	USA
	Canada
	EU
	UK
	Australia
	South Korea
	Japan
<b>Country of Origin</b>	Taiwan



# Order Information

## Base Unit Vision E40

Part Number	Description
SYSE40-24PG-AC	Keysight Vision E40 System AC Chassis; Includes license for (24) 1G ONLY ports; Upgrade to (24) 10G speed with LIC-E40-24PX-U; Additional 1G only license not offered
SYSE40-24PG-DC	Keysight Vision E40 System DC Chassis; Includes license for (24) 1G ONLY ports; Upgrade to (24) 10G speed with LIC-E40-24PX-U; Additional 1G only license not offered
SYSE40-8PX-AC	Keysight Vision E40 System AC Chassis with fixed (48) 1G/10G and (6) 40G ports; Includes license for (8) 1G/10G or (2) 40G ports (991-0176)
SYSE40-24PX-AC	Keysight Vision E40 System AC Chassis with fixed (48) 1G/10G and (6) 40G ports; Includes license for (24) 1G/10G or (6) 40G ports or any 1G/10G or 40G combination
SYSE4048PX6P4XDC	Keysight Vision E40 System DC Chassis with fixed (48) 1G/10G and (6) 40G ports; Includes license for (24) 1G/10G or (6) 40G ports or any 1G/10G or 40G combination
SYSE40-24PG-AC-T	Keysight TAA Compliant Vision E40 System AC Chassis with license for (24) 1G ONLY ports (991-1143)
SYSE40-24PG-DC-T	Keysight TAA Compliant Vision E40 System DC Chassis with license for (24) 1G ONLY ports (991-1144)
SYSE40-24PX-AC-T	Keysight TAA Compliant Vision E40 System AC Chassis with fixed (48) 1G/10G and (6) 40G ports; Includes license for (24) 1G/10G or (6) 40G ports (MUST use MM850-PLUS-FN for 10G transceiver)
SYSE40-24PX-DC-T	Keysight TAA Compliant Vision E40 System DC Chassis with fixed (48) 1G/10G and (6) 40G ports; Includes license for (24) 1G/10G or (6) 40G ports (MUST use MM850-PLUS-FN for 10G transceiver) (991-1146)

## Port Licenses Vision E40

Part Number	Description
LIC-E40-ADD-24P	Keysight Vision E40, Port license for an additional (24) 1G/10G or (6) 40G ports or any combination of 1G/10G or 40G combination.
LIC-E40-4PX	Keysight Vision E40, Port license for additional (4) 1G/10G ports (993-0226)
LIC-E40-8PX-U	Keysight Vision E40, Upgrade SYSE40-8PX-AC/DC to SYSE40-24PX-AC/DC system (993-0228)

## Feature Licenses Vision E40

Part Number	Description
LIC-E40-IFC	Keysight Vision E40, Enables Ixia fabric controller (IFC) for direct connect to Vision ONE/X or Vision 7300/3 or other Vision Edge platforms; licensed per system
LIC-E40-INLINE	Keysight Vision E40, Enables Inline feature; licensed per system. One per system. Requires previous or adjunct purchase of port licenses to operate.
LIC-E40-TUNL	Keysight Vision E40, Enables NetStack tunneling feature, one per systems (993-0169)
LIC-E40-CAPT	Keysight Vision E40, perpetual license. Enable packet capture for all ports

## Accessories Vision E40

Part Number	Description
SYSE40-SPR-AC	Keysight Vision E40 System AC Chassis with no ports or features enabled; Requires short term license to be installed to operate when required; PREREQUISITES: Cold space license LIC-E40-SPARE for operation
SYSE40-SPR-DC	Keysight Vision E40 System DC Chassis with no ports or features enabled; Requires short term license to be installed to operate when required; PREREQUISITES: Cold space license LIC-E40-SPARE for operation
LIC-E40-SPR	Keysight Vision E40, Cold spare system license; NOTE: Includes max configuration; Activation includes all ports, all inline and Ixia Fabric Controller; Short term activation only to operate Vision E40 cold spare system
ME40-ACPS	Keysight Vision E40 System, (1) AC power module, for the Vision E40 chassis
ME40-DCPS	Keysight Vision E40 System, (1) DC power module, for the Vision E40 chassis
ME40-FAN-ASSY	Keysight Vision E40, (1) FAN module, for the Vision E40 chassis

# 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](http://www.keysight.com).



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