Vision ONE (Model: Vision ONE) Network Packet Broker

Product Description

Amplify your security without changing a cable. Keysight Vision ONE provides IT Operations the ability to deploy resources where they are needed most and secure any traffic in their network.

Vision ONE acts as the first step to security, providing reliable inline connectivity for security tools such as intrusion prevention systems (IPS), data loss prevention (DLP), and Web firewalls. It simultaneously connects out-of-band monitoring tools like intrusion detection systems (IDS) and data recorders.

Integrated intelligence features enable you to access encrypted traffic using inline or out-of-band decryption, reduce analysis traffic using advanced packet processing, and precisely select traffic by application type, and geography. Vision ONE forwards selected traffic in a variety of formats to interoperate with any security tool.

Key Features

- **All-in-one** solution to meet all your visibility needs from 1G to 40G in 1U compact form.
- **Powerful GUI** allows you to focus on security rather than configuration — the industry-leading user interface and patented filter compiler make configuration simple for both inline and out-of-band topologies.
- **Inline Decryption** provides the ability to decrypt and re-encrypt traffic as a transparent proxy for both inline and out-of-band tool deployments. Offloads the decryption burden from tools to improve ROI and security performance.
- **Out-of-Band Decryption** provides downstream security tools with plain text content, so they do not need to support or incur the performance overhead of decrypting traffic to find hidden threats.
- **Zero-loss advanced packet processing** improves security tool efficiency through techniques such as deduplication and packet trimming without dropping packets.
- **VOIP / VoLTE** support provides correlation, sampling and allowlisting of SIP/RTP traffic. Allows visibility into Evolved Packet Core (EPC) and IP Multimedia Core Network Subsystem (IMS) interfaces based on SIP messaging.
- **Built-in 32-core CPU** supports AppStack for high performance application and metadata intelligence.

Use Cases

- In a typical spine-and-leaf visibility architecture, Vision ONE takes aggregated traffic from Vision Edge NPBs, and provides the centralized traffic processing before sending the processed traffic to security tools.

- With dedicated encryption/decryption hardware, Vision ONE provides inline man-in-the-middle decryption/encryption for either inline or out-of-band security tools.

- For application DPI, Vision ONE provides application identification, app filtering and forwarding, rich metadata generation including proprietary IxFlow generation to security tools.

- Inline HA offers the best in the industry, and most resilient visibility architecture to protect against all kinds of failures (tools, cables, transceiver, loss of power, hardware replacement, software upgrade etc.)

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 160Gbps of total processing capacity to any port or dynamic filter in 10 Gbps increments.

Deduplication	Header Stripping	Packet Trimming (Slicing)

Timestamping	Extended Burst Protection	Data Masking

Tunneling

Learn more about PacketStack features

AppStack

Context aware, signature-based application layer filtering. Relying on both static traffic pattern identification and dynamic application discovery, AppStack provides a comprehensive view of which applications are running within your network, what bandwidth they consume, and where these applications are running geographically.

Pinpoint and mask sensitive information anywhere in the data, using advanced RegEx, with pre-defined detection for e-mail addresses, social security numbers and credit card numbers.

IxFlow empowers Big Data, observability, security and performance monitoring tools by generating enriched metadata with support for NetFlow, IPFIX, JSON, Kafka and Pulsar.

Application Identification	Geolocation and Tagging	RegEx Filtering
IxFlow	Packet Capture	Application Signature Subscription
Data Masking +		

Learn more about AppStack features

SecureStack

Optimized handling for secure traffic, via dedicated hardware resources on add-on Visibility Application Module. SecureStack allows organizations to inspect encrypted data and enable tools to detect threats and malware hiding in encrypted traffic.

Out-of-Band Decryption	Inline Decryption	

Learn more about SecureStack features

MobileStack

Simplifies traffic management in VoLTE networks by reducing the data sent to monitoring probes. MobileStack organizes control and user plane traffic into subscriber sessions for greater control of subscriber-based traffic through sampling, filtering, allowlisting and load balancing.

Performance of SIP/RTP on Vision ONE with a packet size of 90 bytes:

- RTP: Up to 44M PPS
- SIP: Up to 170k PPS
- Max concurrent calls: 100k
- Max whitelist size: 1M
- Sampling granularity: 1%

SIP/RTP Correlation

Subscriber Filtering

Subscriber Sampling

Subscriber Load Balancing

Subscriber Allowlisting
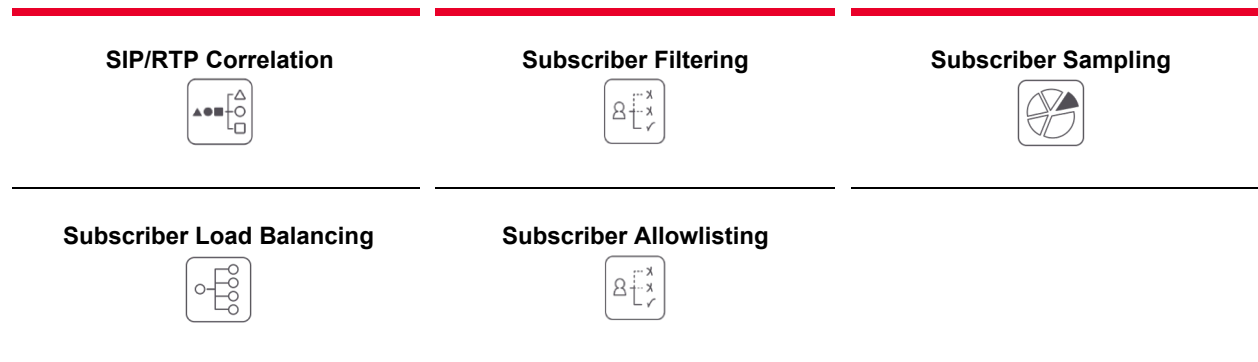
Learn more about MobileStack features

Vision ONE features

	Feature
NetStack	CLI support for NetStack and inline features
	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
	Supports both fan-in and fan-out to increase 10/40G port density
	"Double your ports" when ports are in simplex mode
	Packet Capture on all ports. Up to 1000 packets per capture. Up to 50MB for storage
PacketStack	Supports L2GRE termination from vTap and L2GRE Origination to WAN
	Performs line-rate deduplication, header stripping, timestamping, data masking, packet trimming, burst protection and other advanced traffic transformation, including cascading operations
	Standard header stripping that includes VLAN, FabricPath, ETag, VNTag, GTP, MPLS, VxLAN, L2GRE, ERSPAN. Supports cascaded header stripping
	Generic Header Stripping can be used to strip proprietary or other protocols headers not in above list. Examples are: L3GRE, GENEVE, JMirror, PBB-TE, LISP, VSL, OTV, PPPoE
	Selective packet trimming for HTTPs and QUIC traffic. Traffic can be GTP encapsulated, or no encapsulation
MobileStack	VOIP / VoLTE support provides correlation, sampling and whitelisting of SIP/RTP traffic. Allows visibility into Evolved Packet Core (EPC) and IP Multimedia Core Network Subsystem (IMS) interfaces based on SIP messaging.
AppStack	Classify traffic in real time with hundreds of pre-loaded application signatures, and direct it to the correct tool according to parameters such as application type, geolocation, or even handset type—so tools get just the traffic type they need, again optimizing your investment in tool infrastructure
	Supports simultaneous packet forwarding and generation of NetFlow v9, v10 (IPFIX), JSON records and records destined for Kafka and Pulsar collectors.
	Comprehensive dashboard provides easy-to-use graphical displays of traffic classified based on throughput, sessions, application, geography, device and browser information, and service provider.
IFC Clustering	IFC clustering with other Vision platforms to offer single pane of glass management
Inline Decryption	Transparently intercepts and decrypts TLS traffic, allows inspection by both inline and out-of-band tools connected to Keysight Vision ONE, then re-encrypts it and transmits to the wire.
Out-of-band Decryption / Passive SSL	SSL/TLS decryption based on server private key that provides passive tools with cleartext traffic. Available as OOB Decryption on VAM Netservice, or as Passive SSL on AppStack.

Inline capabilities

Requirement	Inline Capability
Service Chaining	Supports failsafe serial service chaining, parallel load balancing with spares, or combined topologies
Heartbeat Support	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
	Bypass switches and Keysight Vision ONE can have different HB so multi-tier design is possible to increase overall resilience
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)	Keysight's Active-Active Inline HA solution is the gold standard in the industry and offers the most resilient architecture to protect against all kinds of failures
	Inline coordinated responses include Bypass Port Pari (BPP) triggered response, and Inline Tool Resource (ITR) selective synchronization between HA primary and secondary units

Network Packet Broker Management

IFC (Ixia Fabric Controller) Clustering

Ixia Fabric Controller (IFC) clustering offers a single pane of glass management for a cluster of network packet brokers. Manage and configure NPBs in a distributed environment using a single user interface as if one centralized visibility and security fabric.

	Capability
Platforms	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

	1G/10G HW Ports incl.	40G HW Ports incl.	Ports Licensed for 1G use	Ports Licensed for 10G use	Ports licensed for 40G use
Vision ONE 8/16 Ports AC version (SYS-V116PX8PGAC) DC version (SYS-V116PX8PGDC)	48	4	8	16	0
Vision ONE 16/4 Ports (SYS-V14PX16PGAC)	48	4	16	4	0
Vision ONE 48 Ports AC version (SYS-V1-48PX-AC) DC version (SYS-V1-48PX-DC)	48	4	48	48	0

NOTE: Port Licenses can be found under ordering information

Solutions include Keysight Vision ONE hardware with 48 physical SFP/SFP+ ports and 4 QSFP+ ports. Transceivers are not included. Compatible transceivers are available and may be purchased from Keysight. All solutions are configured with dual power supplies. Additional licenses may be added to a system to enable additional ports or Advanced Packet Processing.

Product Specifications

General specifications

Airflow direction	Front to Rear	
MTBF	94,924 h @ 25°C	
Management	• Intuitive Web GUI, TLS 1.2 • SNMP v1, v2, v3 Requests, Inform Requests and Traps support • Supports IEEE 1588 / Precision Time Protocol (PTP) time synchronization • 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)	44.5 x 75.0 x 4.5 cm (17.5 x 29.5 x 1.75 in)	
Weight	16.5 kg (36.4 lbs)	
Rack mountable	1 RU for 19" rack-mountable chassis	

Electrical specifications

Power AC	2 redundant hot swap AC power supplies	
Input voltage	100-240 VAC, 50-60 Hz	
Input current	Nom. 6.6A @100 VAC, 2.75A @ 240 VAC Max. 7.7A @ 100 VAC Max. 3.2A @ 240 VAC	
Power DC	2 redundant hot swap DC power supplies	
Input voltage	48-60 VDC	
Input current	Nom. 12.5A @ 53 VDC Max. 19.25A @ 40 VDC	
Max Power	At 100% traffic load: 660W	
Heat dispersion	At 100% traffic load: 2252 BTU/h	

Environmental specifications

Operating Temperature	5°C to 40°C	Short term[1]: -5°C to 55°C
Operating Humidity	5% to 85% RH (non-condensing)	Short term[1]: 5% to 90% 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	

[1] (not to exceed 96 consecutive hours)

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 ONE

Part Number	Description
SYS-V1-48PX-AC	Keysight Vision ONE System AC power with license for (48) SFP/SFP+ ports to operate 10Gbps and/or 1Gbps respectively. (991-0130)
SYS-V1-48PX-DC	Keysight Vision ONE System DC power with activation license for (48) SFP/SFP+ ports to operate 10G and/or 1G respectively. (991-0131)
SYS-V116PX8PGAC	Keysight Vision ONE system AC power with (16) 10G and (8) 1G port licenses enabled. (991-0118)
SYS-V116PX8PGDC	Keysight Vision ONE system DC power with (16) 10G and (8) 1G port licenses enabled. (991-0119)
SYS-V14PX16PGAC	Keysight Vision ONE system AC power with (4) 10G and (16) 1G port licenses. This base bundle includes a 10Gbps PacketStack (AFM) license and entry-level AppStack capability (991-0121)
TAA Compliant Versions	
SYS-V1-48PX-AC-T	Keysight TAA Compliant Vision ONE System AC power with license for (48) SFP/SFP+ ports to operate 10 Gbps and/or 1 Gbps respectively. (991-1132)
SYS-V1-48PX-DC-T	Keysight TAA Compliant Vision ONE System DC power with activation license for (48) SFP/SFP+ port licenses to operate 10G and/or 1G respectively (991-1133)
SYS-V116PX8PGAC-T	Keysight TAA Compliant Vision ONE System AC power with (16) 10G and (8) 1G port licenses enabled. (991-1134)
SYS-V116PX8PGDC-T	Keysight TAA Compliant Vision ONE System DC power with (16) 10G and (8) 1G port licenses enabled. (991-1135)
SYS-V14PX16PGAC-T	Keysight TAA Compliant Vision ONE System AC power with (4) 10G and (16) 1G port licenses. This base bundle includes a 10 Gbps PacketStack (AFM) license and entry-level AppStack (ATIP) capability (991-1136)

Port Licenses Vision ONE

Part Number	Description
LIC-V1-8PX-U	Keysight Vision ONE License for upgrading (8) SFP/SFP+ ports from 1G operation to 1/10G speeds. (993-0088)
LIC-V1-24PX	Keysight Vision ONE port license - 10G SFP+ ports QTY (24) (993-0089)
LIC-V1-8PX	Keysight Vision ONE port license - 10G SFP+ ports QTY (8) (993-1112)
LIC-V1-8PX-U	Keysight Vision ONE perpetual License for upgrading (8) SFP/SFP+ ports from 1G operation to 1/10G speeds (993-0088)
LIC-V1-4PX	Keysight Vision ONE port license - 10G SFP+ ports QTY (4) (993-0096)
LIC-V1-24PG	Keysight Vision ONE port license - 1G SFP+ ports QTY (24) (993-1113)
LIC-V1-4P4X	Keysight Vision ONE perpetual port license - 40G QSFP+ ports QTY (4) (993-0091)

License Ordering Information

Software licenses can be added to any of the Keysight Vision ONE hardware components or solutions. A fully licensed chassis supports 48 ports of 1 G/10G, 4 ports of 40G, 160 Gbps of PacketStack and AppStack.

SecureStack Hardware/License Bundles Vision ONE

Part Number	Description
Inline Decryption Hardware/Licenses	**For Installation into existing Vision ONE chassis ONLY**
MV1-ASSL-1G	Visibility Application Module bundled with Secure Stack - Inline Decryption license included – 1 Gbps (992-0087)
MV1-ASSL-2G	Visibility Application Module bundled with Secure Stack - Inline Decryption license included – 2 Gbps (992-0088)
MV1-ASSL-4G	Visibility Application Module bundled with Secure Stack - Inline Decryption license included – 4 Gbps (992-0089)
MV1-ASSL-10G	Visibility Application Module bundled with Secure Stack - Inline Decryption license included – 10 Gbps (992-0086)
SUB-ASSL-HCS-1G	Host Categorization Service subscription for 1G SSL (993-0125)
SUB-ASSL-HCS-2G	Host Categorization Service subscription for 2G SSL (993-0126)
SUB-ASSL-HCS-4G	Host Categorization Service subscription for 4G SSL (993-0127)
SUB-ASSL-HCS-10G	Host Categorization Service subscription for 10G SSL (993-0128)
Vision ONE + Inline Decryption Bundle	
BD-V1-ASSL-1G	Security Bundle includes: Vision ONE, with a license for 8x1G ports and the Inline feature, and Visibility Application Module bundled with Secure Stack – Inline Decryption license – 1 Gbps (991-0192)
BD-V1-ASSL-2G	Security Bundle includes: Vision ONE, with a license for 8x1G ports and the Inline feature, and Visibility Application Module bundled with Secure Stack – Inline Decryption license – 2 Gbps (991-0193)
BD-V1-ASSL-4G	Security Bundle includes: Vision ONE, with license for 4x10G and 8x1G ports and the Inline feature, and Visibility Application Module bundled with Secure Stack – Inline Decryption license – 4 Gbps (991-0194)
BD-V1-ASSL-10G	Security Bundle includes: Vision ONE, with license for 4x10G and 8x1G ports and the Inline feature, and Visibility Application Module bundled with Secure Stack – Inline Decryption license – 10 Gbps (991-0195)
Out-Of-Band Decryption Hardware & Licenses	
MV1-VAM	Keysight Vision ONE Visibility Application Module, for use in Vision ONE Network Packet Broker (992-0142)
LIC-V1-PSSL2	Keysight Vision ONE Decryption Out-of-band perpetual feature; Licensed for the Vision ONE Visibility Application Module (VAM) (993- 0225)
SUB-V1-PSSL	Keysight Vision ONE, One (1) year Decryption Out-of-Band subscription; Licensed for the Vision ONE Visibility Application Module (VAM) (993-0178)

Feature Licenses Vision ONE

Part Number	Description
PacketStack Capability	
LIC-V1-TUNL	Keysight Vision ONE - PacketStack - GRE Tunneling license - QTY (1) (993-0105)
LIC-V1-STRP	Keysight Vision ONE - PacketStack - Header stripping feature license - QTY (1) (993-0106)
LIC-V1-DDUP	Keysight Vision ONE - PacketStack - de-duplication feature license - QTY (1) (993-0107)
LIC-V1-TMSP	Keysight Vision ONE - PacketStack - Timestamping feature license - QTY (1) (993-0108)
PacketStack Throughput	
LIC-V1-PS8X	Keysight Vision ONE - PacketStack capability license – 80 Gbps - QTY (1) (993-0092)
LIC-V1-PS4X-F	Keysight Vision ONE PacketStack full license - to enable 40 Gbps of functionality - QTY (1) (993-0099)
LIC-V1-PSX-E	Keysight Vision ONE PacketStack entry license - to enable 10 Gbps of functionality - QTY (1) (993-0098)
LIC-V1-PS4X-U	Keysight Vision ONE -PacketStack upgrade license, from entry level 10 Gbps to full 40 Gbps of processing - QTY (1) (993-0103)
AppStack Capability	
SUB-V1-SSAS	Keysight Vision ONE AppStack one year subscription license. Includes Passive SSL Decryption and all AppStack features including access to application signatures. (993-0113)
LIC-V1-SSAS-E	Keysight Vision ONE hardware enablement perpetual license for SecureStack (Passive SSL Decryption) and AppStack at entry-level performance - QTY (1) (993-0101)
LIC-V1-SSAS-F	Keysight Vision ONE hardware enablement perpetual license for SecureStack (Passive SSL Decryption) and AppStack at full performance - QTY (1) (993-0102)
LIC-V1-SSAS-U	Keysight Vision ONE hardware enablement upgrade perpetual license to enable SecureStack (Passive SSL Decryption), AppStack capabilities (from entry-level to full performance) - QTY (1). Requires additional licenses for features. (993-0104)
LIC-V1-APFL	Keysight Vision ONE, AppStack Application Filtering perpetual license for App Filtering, Masking and Regex. QTY (1) per system (993-0330)
LIC-V1-NTFL2	Keysight Vision ONE, AppStack – MetaData generation feature perpetual license – QTY (1) (993-0331)
SUB-V1-SSAS-APFL	Keysight Vision ONE AppStack one year subscription license. Includes App Filtering, Masking and Regex. QTY (1) per system (993-0334)
SUB-V1-SSAS-NTFL	Keysight Vision ONE, AppStack one year subscription license for MetaData generation (993-0335)
SUB-V1-APTL2	Keysight Vision ONE AppStack Application Intelligence updates, one year subscription license. Includes application signature updates. QTY (1) per system (993-0123)
Inline, IFC and PCAP	
LIC-V1-INLN	Keysight Vision ONE series feature license - to enable inline functionality - QTY (1) (993-0094)
LIC-V1-IFC	Keysight Vision ONE perpetual license, enables Ixia Fabric Controller (IFC) Clustering for direct connection to other Vision devices- QTY (1) (993-0170)

LIC-V1-CAPT	Keysight Vision ONE perpetual license, enables packet capture on all ports
MobileStack	
MV1-MS-SRC	Visibility Application Module bundled with MobileStack; Includes SIP/RTP for VOIP / VoLTE license; Requires previous or adjunct purchase of Vision ONE system. One license per system. (992-0095)

Acessories Vision ONE

Part Number	Description
SYS-V1-FAN-ASSY	Keysight Vision ONE System - Spare Fan assembly module. (991-2020)
SYS-V1-ACPS	Keysight Vision ONE System - Spare AC power module. (991-3023)
SYS-V1-DCPS	Keysight Vision ONE System - Spare DC power module. (991-3024)
LIC-V1-SPR	Keysight Vision ONE series - Cold spare system port license (993-0097)

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