NETWORK VISIBILITY

NETWORK PACKET BROKER COMPARISON TABLE

ixia A Keysight Business

FEATURE BRIEF

	Vision Edge 40	Vision Edge 100	Vision Edge 10S	Vision Edge 1S	Vision 5288	Vision ONE	Vision X	Vision 7300	Vision Edge OS	GTP Session Controller 7433	TradeVision
KEY VISIBILITY ATTRIBUTES											
Smart, drag-and-Drop, Intuitive GUI	✓	✓	✓	✓ Centralized	✓	✓	✓	✓	✓	✓	✓
Zero-Packet Loss Architecture	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Overlapping Filter Rules Automatically Handled by Visibility Engine	✓	✓	✓		✓	✓	✓	✓	✓	Yes (2 stage)	✓
SYSTEM SPECIFICATIONS											
System Height (RU)	1	1	1	1	2	1	3	7	Switch Dependent*	2	1
AC Redundant Power Supply (Hot Swap)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DC Redundant Power Supply (Hot Swap)	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
SYSTEM CAPACITY											
Max Backplane Capacity (Gbps)	720	3200	480	12	640	640	6400	3840	Switch Dependent*	320	640
Max Number of 1Gb Ports	48	0	48	10	64	64	0	288	Switch Dependent*	0	64
Max Number of 10Gb Ports	72	128	48	4	64	64	108	384	Switch Dependent*	64	64
Max Number of 25Gb Ports	0	128	0	0	0	0	108	288	Switch Dependent*	0	0

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Max Number of 40Gb Ports	18	32	0	0	16	16	76	96	Switch Dependent*	0	16
Max Number of 50Gb Ports	0	64	0	0	0	0	108	144	Switch Dependent*	0	0
Max Number of 100Gb Ports	0	32	0	0	4	0	60	72	Switch Dependent*	0	0
MODULE TYPE											
1Gb Copper Port / Transceiver	✓		✓	✓	✓	✓		✓	Switch Dependent*		
1Gb SFP Port	✓		✓		✓	✓		✓	Switch Dependent*		✓
10Gb Copper Transceiver	✓		✓	✓	✓	✓			Switch Dependent*		
10Gb SFP+ Port	✓	✓	✓	✓	✓	✓	✓	✓	Switch Dependent*	✓	✓
25Gb SFP28 Port 100Gb QSFP28 port can be converted into 4x10G, 4x25G, 1x40G, 2x50G and 1x100G		✓					✓	✓	Switch Dependent*		
50Gb QSPF28 Port 100Gb QSFP28 port can be converted into 4x10G, 4x25G, 1x40G, 2x50G and 1x100G		✓					✓	✓	Switch Dependent*		
40Gb QSFP+ Port	✓	✓			✓	✓	✓	✓	Switch Dependent*		✓
Cisco BIDI	✓	✓				✓	✓	✓	Switch Dependent*		✓
100Gb CFP					✓			✓	Switch Dependent*		
100Gb QSFP28 100Gb QSFP28 port can be converted into 4x10G, 4x25G, 1x40G, 2x50G and 1x100G		✓					✓	✓	Switch Dependent*		
INLINE SECURITY											
Supports inline deployment including full feature set for HA	✓	✓	✓			✓					
Inline configuration on web console	✓	✓	✓			✓					
Load balancing with spare	✓	✓	✓			✓					
Serial service chaining	✓	✓	✓			✓					

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Customizable heart beat	✓	✓	✓			✓					
Link fault detection (LFD)	✓	✓	✓			✓					
Negative heart beat	✓	✓	✓			✓					
Tool mandatory vs. optional (fail-closed vs. fail-open)	✓	✓	✓			✓					
Multiple network links tool sharing (VLAN port tag)	✓	✓	✓			✓					
Multiple network links tool sharing (MAC address)											
VLAN Translation during filtering (VSET) for inline	✓	✓	✓			✓					
Replacement during filtering (VSET) for out-of-band	✓	✓	✓			✓	✓	✓			
HA active-active	✓	✓	✓			✓					
HA active-standby											
Support inline and out-of-band simultaneously	✓	✓	✓			✓					
Asymmetric load balancing (client/host affinity)	✓	✓	✓			✓					
Multi-path (multiple criteria for different data paths)											
Load balance based on port speeds or weight											
Support for Active SSL transparent proxy, including tools that are either actively inline or passively out of band						✓					
MPLS inner IP filtering for inline	✓	✓	✓			✓					
DEPLOYMENT OPTIONS											
Simplex (Double Your Ports)	✓				✓	✓		✓	Switch Dependent		✓
Fan-In	✓					✓			Switch Dependent		

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Fan-Out	✓	✓				✓	✓	✓	Switch Dependent*		✓
MANAGEMENT											
Cluster Management through Ixia Fabric Controller (IFC)	✓	✓	✓			✓	✓	✓			✓
IFC Fabric Direct Connect	✓	✓	✓			✓	✓	✓			
IFC Fabric GRE						✓		✓			
IFC CM (formerly Indigo Pro) for OAM&P (systems mgmt.)	✓	✓	✓		✓	✓		✓		✓	
RESTful API	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Role Based User Accounts	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TACACS+, RADIUS Authentication	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Syslog	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
SNMP Traps	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Strong Password	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Event monitoring and Alarm Generation	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Link Status Trap	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Packet Counters and Statistics	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
WebUI (HTML5) for System Access	✓	✓	✓	✓	✓	✓	✓		✓		✓
COMPLIANCE											
FIPS 140-2 validation	✓	✓	✓			✓	✓	✓	✓		✓
Common Criteria						✓		✓			
DoD UCAPL						✓		✓			
NEBS Certified					5293	✓	✓	7303		✓	

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NETSTACK											
Three Stages of Filtering - Filter rules may be applied to ingress, dynamic, and/or egress traffic	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Filtering layer 2, layer 3 and layer 4 fields plus custom and pre-defined offset filters for GTP, MPLS, and VxLAN	✓	✓	✓	✓ (No custom)	✓	✓	✓	✓	✓	✓ (Deny By on output)	✓
Counter Comparison - Ingress, Dynamic, Egress	✓	✓	✓		✓	✓	✓	✓	✓		✓
MPLS/GTP Dynamic Filtering	✓	✓	✓		✓	✓	✓	✓	✓		✓
VxLAN VNI/Tunnel IP Dynamic Filtering	✓	✓	✓			✓	✓	✓	✓		✓
Max # of General & Custom Rules	16k	4k	16k	N/A	4k	4k	4k	4k per blade	Switch Dependent	N/A	4k
Max # of Source IP Rules (unicast)	8k	8k	8k	N/A	1k	8k	8k	1k per blade	Switch Dependent	N/A	8k
Max # of Destination IP Rules (unicast)	8k	8k	8k	N/A	1k	8k	8k	1k per blade	Switch Dependent	N/A	8k
Max # of Multicast IP Rules (No wildcard / masking capability)	3k	3k	3k	N/A	3k	3k	3k	3k	Switch Dependent	3k	3k
Dynamic Filter Compiler / Intersection mode provides patented technology that automatically resolves filter rules to provide self-maintaining visibility	✓	✓	✓		✓	✓	✓	✓	✓	Yes (2 stage)	✓
Priority Based Filtering (PBF) provides ACL-like logic when filtering traffic. Usually used for Inline	✓ IPv4 Only OR IPv6 Only	✓ IPv4 Only	✓ IPv4 Only OR IPv6 Only	✓		✓ IPv4 Only OR IPv6 Only					
VLAN Tagging - Track packets easily by adding VLAN IDs to packets based on the source (ingress) port and remove them as they leave a packet broker via exit (egress) ports.	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
VLAN Tagging per Port	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
VLAN Tagging per Dynamic Filter	✓	✓	✓			✓	✓	✓	✓		✓

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VLAN Un-tagging - per Port	✓	✓	✓		✓	✓	✓	✓	✓		✓
VLAN Un-tagging - Conditional	✓	✓	✓			✓	✓	✓	✓		✓
Aggregation - Consolidate incoming traffic to optimize port usage and simplify filtering	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1 : 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1 : Many	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Many : 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Many : Many	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Replication - Replicate traffic to multiple dynamic filters (ingress) or to multiple tools (egress)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Load Balancing - Distributes traffic across tool ports	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Load balancing Standard (3 Tuple & 5 Tuple)	✓	✓	✓		✓	✓	✓	✓	✓		✓
Load Balance Tunneled IP (MPLS Based)	✓	✓	✓		✓	✓	✓	✓	✓		✓
Maximum Ports per Load Balancing Group	72	128	48		64	64	108	64 per card	Switch Dependent	32	64
LLDP Auto Discovery – Automatically discover neighbors on network and tools ports and interconnect	✓	✓	✓			✓		✓			
RBAC – Role based Access Control											
RBAC Inline	✓	✓	✓			✓					
RBAC Out-of-Band / Passive	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Command Line Interface Management – CLI access to NetStack and Inline features	✓	✓				✓	✓				

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PACKETSTACK											
Deduplication - Remove repeat data to deliver a unique stream to your tools so they can operate at their peak.			✓	✓	✓	✓	✓	✓			✓
Header Stripping - Detect and remove headers so data can be easily analyzed by security and monitoring (IPS, IDS, NGFW, etc.) tools that do not support such protocols			✓	✓	✓	✓	✓	✓			
Generic Header Stripping **(GHS)**			✓			✓	✓	✓ Via multi-speed card			
VLAN			✓	✓	✓	✓	✓	✓			
VxLAN - Standard UDP Port #			✓		✓	✓	✓	✓			
VxLAN - Cisco ACI UDP Port #			✓			✓	✓	✓			
MPLS (L2VPN/VPLS with or without control word)			✓	✓	✓	✓	✓	✓			
Cisco Fabric Path			✓		✓	✓	✓	✓			
RSPAN / ERSPAN			✓	✓	✓	✓	✓	✓			
GTP (GTP-U)			✓		✓	✓	✓	✓			
L2GRE/NVGRE			✓		✓	✓	✓	✓			
802.1 BR			✓		✓	✓	✓	✓			
VNTag			✓		✓	✓	✓	✓			
Mac-in-Mac/PBB			✓ Via GHS			✓ Via GHS	✓ Via GHS	✓ Via GHS			
L3GRE			✓ Via GHS			✓ Via GHS	✓ Via GHS	✓ Via GHS			
L2TP			✓ Via GHS			✓ Via GHS	✓ Via GHS	✓ Via GHS			
JMirror			✓ Via GHS			✓ Via GHS	✓ Via GHS	✓ Via GHS			

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GENEVE			✓ Via GHS			✓ Via GHS	✓ Via GHS	✓ Via GHS			
PPPOE			✓ Via GHS			✓ Via GHS	✓ Via GHS	✓			
LISP			✓ Via GHS			✓ Via GHS	✓	✓			
Cisco VSL (Virtual Switch Link)			✓ Via GHS			✓ Via GHS	✓ Via GHS	✓ Via GHS			
Cisco OTV (MPLS over GRE)			✓ Via GHS			✓ Via GHS	✓ Via GHS	✓ Via GHS			
Packet Trimming - Send only what security and monitoring tools need by cutting out the unnecessary information and reducing packet size			✓	✓	✓	✓	✓	✓		✓	
HTTPs/GQUIC Slicing			✓			✓	✓	✓ Multispeed Card Only			
Timestamping - Insert high-accuracy timestamps into every packet at ingress			✓		✓	✓	✓	✓		✓	✓ Included with base license
NTP			✓		✓	✓	✓	✓		✓	✓
PTP						✓	✓	✓			✓
GPS					5293						
Data Masking - Hide or overwrite sensitive or personally identifiable information (PII) before providing the data to analysis tools			✓		✓	✓	✓	✓			
GRE Tunneling - Encapsulate and de-encapsulate data. Origination and termination features.											
Tunnel Origination: L2GRE			✓	✓		✓		✓ AFM16 Only		✓	
Tunnel Origination: ERSPAN											
Load Balancing on L2GRE Tunnel Group								✓			

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Tunnel Termination: L2GRE			✓	✓	✓	✓	✓	✓			
Tunnel Termination: ERSPAN			✓		✓	✓	✓	✓			
NetFlow - generate NetFlow for tools without burdening network devices			✓ (Hardware)	✓ (AppStack)		✓ Network Processor		✓ Network Processor			
Burst Protection - allows monitoring tools to see everything without dropped packets when traffic exceeds tool bandwidth			1G		1G	1G	10G, 25G, 40G, 50G	1G			
Source Port Labeling						✓					
SECURESTACK											
SSL Decryption (Passive) - Get greater visibility by decrypting traffic to detect such malware, prevent data loss, monitor applications and more						✓		✓			✓
Active SSL - Decrypt and encrypt traffic as an inline transparent proxy, including the use of ephemeral keys and support for TLS 1.3. Includes host categorization as an optional feature.						✓					
Data Masking Plus - Mask sensitive data such as a credit cards, SSN's and email addresses using pre-defined patterns						✓		✓			✓
Threat Insight – Recognize malware, botnet, exploits, hijacked IPs and phishing activity						✓		✓			
APPSTACK											
Application Identification - Define traffic filters to view or forward specific traffic patterns that you want to monitor, based on application type, operating system, transport protocol, and other criteria.				✓		✓		✓			✓
Geolocation & tagging - Separate traffic by client or server location				✓		✓		✓			✓

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Optional Regex						✓		✓			✓
IxFlow Generation - In addition to packet forwarding NetFlow information, optionally enhanced with application layer data (IxFlow), can be forwarded for matching traffic				✓		✓		✓			✓
Packet Capture - Save traffic matching any filter as a pcap-format capture file with a user defined size				✓		✓		✓			✓
AppStack Dashboard - Displays comprehensive network traffic information that provide real-time network traffic information.				✓		✓		✓			✓
Free AppStack Dashboard – discover the benefits of AppStack with access to the AppStack Dashboard without the need of a license.				✓		✓					
ATI Subscription - Provides updates to application signature database, vital for AppStack to stay updated with emerging applications.						✓		✓			✓
MOBILESTACK											
SIP / RTP Correlation – Correlate data and control planes of your users VoIP traffic so probes don't have too, making them more efficient and effective						✓					
SIP / RTP Load-Balancing – Scale monitoring infrastructure by load-balancing VoIP traffic across multiple probes						✓					
GTP Correlation - Improve performance of QoS and QoE monitoring probes by offloading GTP session correlation										✓	
3GPP Support										✓	
4G LTE, 3G and 2G support										✓	

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Max Number of GTP Sessions										54 Million	
GTP Load-balancing - Scale monitoring infrastructure by load-balancing GTP data across multiple probes								✓		✓	
Subscriber filtering - Selectively send mobile network traffic for subscribers of interest						✓ SIP/RTP				✓	
Subscriber sampling - Reduce costs by sending only a certain percentage of the subscriber traffic to the monitoring infrastructure						✓ SIP/RTP				✓	
Subscriber whitelisting – Ensure specific customers are always included in the session sample sent to probes for monitoring.						✓ SIP/RTP				✓	
Packet core filtering- selectively sending traffic to probes based on traffic types: RAT (2G, 3G, 4G), Bearer QoS class identification (QCI), and Access Point Name (APN)										✓	
TRADESTACK											
Gap Detection - Quickly detect gaps in multicast data to recognize market feed network problems with alerts to other tools and systems.											✓
Feed and Channel Health - Simplify feed troubleshooting by monitoring channel performance and alerts											✓
Traffic statistics - Improve capacity planning by streaming metadata off TradeVision to analysis tools where network engineers can build up data on historical traffic patterns.											✓
Microburst Detection - Detect and remedy "bursty" network traffic, where small bursts can cascade into dropped data.											✓

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Auto Feed Updates – automatic updates of market feeds and channels											✓
Simple Feed Management – feed channel configurations are auto populated											✓
One Way Latency											✓
Two Point Latency											✓
Synthetic Mesh Latency											✓
Real Time Dashboards											✓
TradeStream											✓
IP Burst Detection											✓ Requires 5.4
Feed Channel Bandwidth Utilization											✓ Requires 5.4
ACTIVE MONITORING											
Hawkeye Endpoint – Able to register as active monitoring endpoint and generate traffic				✓							
Node to node traffic – can generate traffic toward other Hawkeye endpoints for network heartbeats, voice, video, skype for business, throughput and speed test (TCP and UDP)				✓							
Real service traffic – can validate access to http/https service on premise or on cloud, validate DNS service, send ICMP, UDP and TCP to echo ports on the network				✓							
Path discovery – can discover and map out network topology to reach remote destination, on-net of off-net				✓							
10G interface - active monitoring				✓							
1G interface – active monitoring				✓							

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	*Vision Edge OS supports Edgecore 5812 & Edgecore 7712 ONLY											

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