

# NETWORK VISIBILITY



## NETWORK PACKET BROKER COMPARISON TABLE

### FEATURE BRIEF

	Vision xStream 40	Vision Edge 40	Vision Edge 100	Vision Edge 10S	Vision 5288	Vision ONE	Vision 7300	Vision Edge OS	GTP Session Controller 7433	TradeVision
<b>KEY VISIBILITY ATTRIBUTES</b>										
Smart Drag and Drop Intuitive GUI		✓	✓	✓	✓	✓	✓	✓	✓	✓
Zero-Packet Loss Architecture	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Overlapping Filter Rules Automatically Handled by Visibility Engine		✓	✓	✓	✓	✓	✓	✓	Yes (2 stage)	✓
<b>SYSTEM SPECIFICATIONS</b>										
System Height (RU)	1	1	1	1	2	1	7	Switch Dependent*	2	1
AC Redundant Power Supply (Hot Swap)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DC Redundant Power Supply (Hot Swap)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>SYSTEM CAPACITY</b>										
Max Backplane Capacity (Gbps)	640	720	3200	480	640	640	3840	Switch Dependent*	320	640
Max Number of 1Gb Ports	64	48	0	48	64	64	288	Switch Dependent*	0	64
Max Number of 10Gb Ports	64	72	128	48	64	64	384	Switch Dependent*	64	64
Max Number of 40Gb Ports	16	18	32	0	16	16	96	Switch Dependent*	0	16
Max Number of 100Gb Ports	0	0	32	0	4	0	72	Switch Dependent*	0	0

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<b>MODULE TYPE</b>										
1Gb Copper Port / Transceiver	✓	✓		✓	✓	✓	✓	Switch Dependent*		
1Gb SFP Port	✓	✓		✓	✓	✓	✓	Switch Dependent*		✓
10Gb Copper Transceiver	✓	✓		✓	✓	✓		Switch Dependent*		
10Gb SFP+ Port	✓	✓	✓	✓	✓	✓	✓	Switch Dependent*	✓	✓
25Gb SPF28 Port 100Gb QSFP28 port can be converted into 4x10G, 4x25G, 1x40G, 2x50G and 1x100G			✓				✓	Switch Dependent*		
50Gb SPF28 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*		
<b>INLINE SECURITY</b>										
Supports inline deployment including full feature set for HA	✓	✓	✓			✓				
Inline configuration on web console	✓	✓	✓			✓				
Load balancing with spare	✓	✓	✓			✓				
Serial service chaining	✓	✓	✓			✓				
Customizable heart beat	✓	✓	✓			✓				
Link fault detection (LFD)	✓	✓	✓			✓				

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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)	Advanced									
Load balance based on port speeds or weight	✓									
Failure threshold of load balance group	Configurable	Set to 0	Set to 0			Set to 0				
Support for tool with 2 or more ports (SSL decrypter)	✓	✓	✓			✓				
MPLS inner IP filtering for inline		✓	✓			✓				
<b>DEPLOYMENT OPTIONS</b>										
Simplex (Double Your Ports)	✓	✓			✓	✓	✓	Switch Dependent		✓
Fan-In	✓	✓				✓		Switch Dependent		

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Fan-Out	✓	✓	✓			✓	✓	Switch Dependent*		✓
<b>MANAGEMENT</b>										
Cluster Management through Ixia Fabric Controller (IFC)		✓	✓			✓	✓			
IFC Fabric Direct Connect		✓	✓			✓	✓			
IFC Fabric GRE							✓			
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	✓	✓	✓	✓	✓	✓		✓		✓
<b>COMPLIANCE</b>										
High security DoD and FIPS (Federal Information Processing Standard) compliant mode 1. FIPS 140-2 2. Common Criteria 3. DoD UCAPL						✓ FIPS Level 2 4.5 required	✓ FIPS Level 1 4.5 required			
NEBS Certified					5293	✓	7303		✓	

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<b>NETSTACK</b>										
<b>Three Stages of Filtering</b> - 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	✓	✓	✓	✓	✓	✓	✓	✓	✓ (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	4k	4k	4k	4k per blade	Switch Dependent	N/A	4k
Max # of Source IP Rules (unicast)		8k	8k	8k	1k	8k	1k per blade	Switch Dependent	N/A	8k
Max # of Destination IP Rules (unicast)		8k	8k	8k	1k	8k	1k per blade	Switch Dependent	N/A	8k
Max # of Multicast IP Rules (No wildcard / masking capability)		3k	3k	3k	3k	3k	3k	Switch Dependent	3k	3k
<b>Dynamic Filter Compiler / Intersection mode</b> provides patented technology that automatically resolves filter rules to provide self-maintaining visibility		✓	✓	✓	✓	✓	✓	✓	Yes (2 stage)	✓
<b>Priority Based Filtering (PBF)</b> provides ACL-like logic when filtering traffic. Usually used for Inline	✓	✓	✓			✓				
<b>Source Port Labeling</b> - 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.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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VLAN Tagging per Port (Source Port Labelling)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
VLAN Tagging per Dynamic Filter	✓	✓	✓	✓		✓	✓	✓		✓
VLAN Un-tagging - per Port	✓	✓	✓	✓	✓	✓	✓	✓		✓
VLAN Un-tagging - Conditional		✓	✓	✓		✓	✓	✓		✓
<b>Aggregation</b> - Consolidate incoming traffic to optimize port usage and simplify filtering	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1 : 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1 : Many		✓	✓	✓	✓	✓	✓	✓	✓	✓
Many : 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Many : Many		✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Replication</b> - Replicate traffic to multiple dynamic filters (ingress) or to multiple tools (egress)	✓ Egress only	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Load Balancing</b> - Distributes traffic across tool ports	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Load balancing Standard (3 Tuple & 5 Tuple)	✓	✓	✓	✓	✓	✓	✓	✓		✓
Load Balance Tunneled IP (MPLS Based)	✓	✓	✓	✓	✓	✓	✓	✓		✓
Maximum Ports per Load Balancing Group	20	72	128	48	64	64	64 per Card	Switch Dependent	32	64
<b>PACKETSTACK</b>										
<b>Deduplication</b> - Remove repeat data to deliver a unique stream to your tools so they can operate at their peak.				✓	✓	✓	✓			✓

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<b>Header Stripping</b> - 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	✓			✓	✓	✓	✓			
VLAN	✓			✓	✓	✓	✓			
VxLAN - Standard UDP Port #				✓	✓	✓	✓			
VxLAN - Cisco ACI UDP Port #				✓		✓	✓			
MPLS (L2VPN/VPLS with or without control word)	✓			✓	✓	✓	✓			
Cisco Fabric Path				✓	✓	✓	✓			
PPPoE							✓			
RSPAN / ERSPAN				✓	✓	✓	✓			
GTP (GTP-U)				✓	✓	✓	✓			
L2GRE/NVGRE				✓	✓	✓	✓			
LISP				✓	✓	✓	✓			
802.1 BR				✓	✓	✓	✓			
VNTag				✓	✓	✓	✓			
Mac-in-Mac/PBB										
GENEVE										
L2TP										
GRE-MPLS (OTV)										
Mac-in-Mac/PBB										
GENEVE										

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<b>Packet Trimming</b> - Send only what security and monitoring tools need by cutting out the unnecessary information and reducing packet size	✓			✓	✓	✓	✓		✓	
<b>Timestamping</b> - Insert high-accuracy timestamps into every packet at ingress	✓			✓	✓	✓	✓		✓	✓ Included with base License
NTP	✓			✓	✓	✓	✓		✓	✓
PTP	✓			✓		✓	✓			✓
GPS					5293					
<b>Data Masking</b> - Hide or overwrite sensitive or personally identifiable information (PII) before providing the data to analysis tools				✓	✓	✓	✓			
<b>GRE Tunneling</b> - Encapsulate and de-encapsulate data to send and receive it from different sites and platforms within your environment.				✓	✓	✓	✓			✓
Tunnel Origination: L2GRE				✓		✓	✓		✓	
Tunnel Origination: ERSPAN										
Load Balancing on L2GRE Tunnel Group							✓			
Tunnel Termination: L2GRE				✓	✓	✓	✓			
Tunnel Termination: ERSPAN				✓	✓	✓	✓			
<b>NetFlow</b> - generate NetFlow for tools without burdening network devices						✓ Network Processor	✓ Network Processor			
<b>1G Burst Protection</b> - allows monitoring tools to see everything without dropped packets when traffic exceeds tool bandwidth				✓	✓	✓	✓			



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<b>SECURESTACK</b>										
<b>SSL Decryption (Passive)</b> - Get greater visibility by decrypting traffic to detect such malware, prevent data loss, monitor applications and more						✓	✓			✓
<b>Active SSL</b> - Decrypt and encrypt traffic that uses ephemeral key (TLS 1.3)						✓				
<b>Data Masking Plus</b> - Mask sensitive data such as a credit cards, SSN's and email addresses using pre-defined patterns						✓	✓			✓
<b>APPSTACK</b>										
<b>Application Identification</b> - 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.						✓	✓			✓
<b>Geolocation &amp; tagging</b> - Separate traffic by client or server location						✓	✓			✓
<b>Optional Regex</b>						✓	✓			✓
<b>IxFlow Generation</b> - In addition to packet forwarding NetFlow information, optionally enhanced with application layer data (IxFlow), can be forwarded for matching traffic						✓	✓			✓
<b>Packet Capture</b> - Save traffic matching any filter as a pcap-format capture file with a user defined size	✓					✓	✓			✓
<b>AppStack Dashboard</b> - Displays comprehensive network traffic information that provide real-time network traffic information.						✓	✓			✓

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<b>Free AppStack Dashboard</b> – discover the benefits of AppStack with access to the AppStack Dashboard without the need of a license.						✓				
<b>ATI Subscription</b> - Provides updates to application signature database, vital for AppStack to stay updated with emerging applications.						✓	✓			✓
<b>MOBILESTACK</b>										
<b>GTP Correlation</b> - Improve performance of QoS and QoE monitoring probes by offloading GTP session correlation									✓	
3GPP Support									✓	
4G LTE, 3G and 2G support									✓	
Max Number of GTP Sessions									54 Million	
<b>GTP Load-balancing</b> - Scale monitoring infrastructure by load-balancing GTP data plane traffic							✓		✓	
<b>Location-aware filtering</b> - Selectively send mobile network traffic for subscribers connected to a specific area of the network to monitoring probes.									✓	
<b>Subscriber sampling</b> - Reduce costs by sending only a certain percentage of the subscriber traffic to the monitoring infrastructure									✓	
<b>EPC filtering</b> - Selectively sending traffic to probes based on traffic type (3G, 4G, VoLTE, etc)									✓	
<b>Subscriber &amp; Device Aware Filing</b> -selectively sending traffic to probes based on subscriber or device type									✓	

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<b>TRADESTACK</b>										
<b>Gap Detection</b> - Quickly detect gaps in multicast data to recognize market feed network problems with alerts to other tools and systems.										✓
<b>Feed and Channel Health</b> - Simplify feed troubleshooting by monitoring channel performance and alerts										✓
<b>Traffic statistics</b> - Improve capacity planning by streaming metadata off TradeVision to analysis tools where network engineers can build up data on historical traffic patterns.										✓
<b>Microburst Detection</b> - Detect and remedy “bursty” network traffic, where small bursts can cascade into dropped data.										✓
<b>Auto Feed Updates</b> – automatic updates of market feeds and channels										✓
<b>Simple Feed Management</b> – feed channel configurations are auto populated										✓
<i>*Vision Edge OS supports Edgecore 5812 &amp; Edgecore 7712</i>										

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