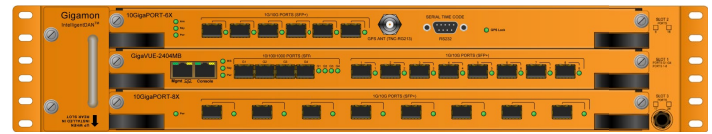## Product Description

The GigaVUE-2404 mid-density Visibility Fabric™ node for 10Gb networks, housed in a low profile 2RU chassis, aggregates, filters, and replicates traffic flows across multiple monitoring, analysis, and security tools.
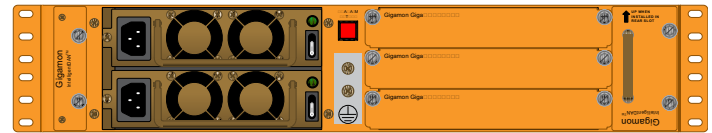
The low profile base chassis houses eight 10Gb ports and four 1Gb ports and scales to a maximum of 24 10Gb ports. The GigaVUE-2404 fabric node's modular design allows network managers the flexibility to deploy blades with additional ports or TAPs. Inline bypass switching is available through hardware and logical through software. And, the optional GigaSMART® blade delivers packet modification technology including packet slicing, masking, de-duplication, and header stripping.

FRONT

BACK

With the GigaVUE-2404 fabric node, tools may be added without affecting the production network and changes to traffic flows can be made dynamically at any hour without a configuration management review. GigaVUE fabric nodes are designed to work together to create a Visibility Fabric architecture with the capability to intelligently aggregate, replicate, and filter traffic from across broad networks to centralized management, monitoring, and security systems.

The GigaVUE-2404 product line is NEBS Level 3 certified, as defined by Telcordia and describes extensive physical performance criteria for telecommunications equipment.

NEBS LEVEL 3 CERTIFIED

Table 1: Features & Benefits

Features	Benefits
Powerful Flow Mapping® to Manage Traffic	Leveraging purpose-built hardware, Flow Mapping technology enables complex traffic-forwarding decision making to be executed at wire speed. • Apply different maps to allow each tool to only see the traffic of interest • Selectively map traffic from 1Gb/10Gb network ports to lower speed 1Gb tools to better leverage existing tools • Distribute traffic from single higher speed ports to multiple tool ports with GigaStream™ technology • Multicast a single traffic source to multiple tool ports allowing a range of tools to access the same traffic • Detailed filtering down to the bit pattern using user-defined attributes (UDA) • Aggregate multiple 1Gb network ports to 10Gb tool ports to help prevent oversubscription • Combine traffic from multiple network paths so that full bi-directional conversations are sent to your monitoring tools for analysis.
Supports 1Gb and 10Gb Network and Tool Connections	• High-density 1Gb and 10Gb connections • A flexible range of SFP and SFP+ transceivers including direct attach copper and active fiber cables, SR, LR, ER, and LRM
Inline Bypass	Fault tolerance for security-based and other inline tools is provided with software-based bypass options as well as physical bypass protection on the GigaTAP-BPS blades. • Simultaneously deploy inline and out-of-band inspection tools • Fail-open and fail-closed options • Primary and secondary/standby inline tools with failover
Optional GigaSMART® blade	Adding the optional GigaSMART blade enhances the montoring infrastructure with the capabilities to modify packets at line rate and add valuable information through features including packet slicing, masking, source port labeling, tunneling, de-duplication, header stripping, Layer 7 load balancing, and GPS time synchronization for high-definition time stamping.
Modularized Design	• Modular design allows flexibility to accommodate TAPs, by-pass TAPs, port expansion, or stacking link modules depending on needs • Redundant hot-swappable load-sharing AC and DC power supplies, dual cooling fans for investment protection

Table 1: Features & Benefits (continued)

Features	Benefits
Stacking	Stack multiple GigaVUE G series fabric nodes to create a powerful Visibility Fabric architecture so that data arriving at a network port on one GigaVUE node in a cross-box stack can be forwarded to a tool port on another GigaVUE node.
Flexible Management	Versatile management options and capabilities are available including an integrated command-line interface (CLI), graphical user interface (GUI) for 'drag and drop' configuration, fully compliant support for SNMPv3 and email (SMTP) alerting capability.

Table 2 : Product Information

Type	Description
Mounting	Mounts in an EIA-standard 19 inch or 24 inch telco rack or equipment cabinet, up to 39 inches deep. Front and rear mounting brackets included. Optional 18 inch long rear brackets may be specified at order time.
Standard Ports and Expansions	GigaVUE-2404 base system standard ports: 4 x 1Gb ports (Port ID: G1 to G4, SFP transceivers) plus 8 x 1Gb/10Gb ports (Ports 1 to 8, accepts SFP+ 10Gb and SFP 1Gb transceivers). Optional 10Gb blades may be plugged into front slots 2 and 3 and expand total number of 10Gb ports to 24 (Ports 1 – 24).
Optional Transceivers	Ports G1 to G4 (1Gb port) will accept the following transceivers: • 1Gb SFP optical (SX/LX/ZX, LC connectors) speed 1000Mbps • 1Gb SFP copper (RJ45), speed 10/100/1000BASE-T Ports 1 to 24 (1Gb or 10Gb port via transceiver type) will accept the following transceivers: • 1Gb SFP (optical SX/LX/ZX) speed 1000Mbps • 1Gb SFP copper (RJ45) speed 1000BASE-T only • 10Gb SFP+ (SR/LR/ER/LRM) speed 10,000Mbps
Optional Expansion Blades	Front expansion slots: two (2), each accommodate a single 8 x 1Gb/10Gb expansion blade Rear expansion slots: three (3), reserved for future expansion Available GigaVUE-2404 front expansion blades: 10GigaPORT-8X, 10GigaTAP-SR/LR/ER/LRM, GigaTAP-SX/LX/ZX, 10GigaPORT-8CX4, 10GigaPORT5X3C, GigaSMART
Management	User interface: command line interface (CLI); out of band management (serial RS-232C port); Telnet, SSH2 through Ethernet management port. RADIUS, TACACS+ support
Performance	Port to port throughput: Wire speed per port, no degradation when filters/maps are applied Packet Latency: (typical) 10Gb to 10Gb : 2.5 microseconds 1Gb to 1Gb : 9.5 microseconds
Power Cords	Supply end: NEMA 5-15 Equipment end: IEC60320 C13

Table 3 : Weight & Dimensions

Feature	Height	Width	Depth	Weight
Chassis	3.50in (8.89cm)	17.35in (44.07cm)	19.25in (48.90cm)	System: 37lbs (16.78kg) Shipping: 50lbs (22.68kg)

Table 4: Electrical Characteristics

Type	Specification
Power Supply Types	Dual 1+1 redundant load-sharing, hot-swappable power supplies, AC or DC
Heat/Power Dissipation	Fully populated 24 + 4 port system with all ports at 100% traffic load: nominally 200Watts/683 BTU/hr
Cooling	Dual redundant hot-swappable cooling fans
Air Flow	Side to side from left to right
Voltage	AC power modules: 100 to 240V AC. Fuse rating: internally protected, not user accessible DC power modules: -36 to -72V DC. Inputs reverse polarity protected For DC source: optional external fuse rating: 7 Amps Slo-Blo
Current (nominal)	1.8 Amp @ 110V AC / 3.8 Amp @ -48V DC
Current (surge)	50/60Hz for AC
Frequency	50/60Hz for AC

Table 5: Environmental Specifications

Type	Description
Operating Temperature	32ºF to 104ºF (0ºC to 40ºC)
Operating Relative Humidity	20% to 80%, non-condensing
Non-operating/Storage Temperature	-4ºF to 158ºF (-20ºC to 70ºC)
Non-operating/Storage Relative Humidity	15% to 85%, non-condensing
Altitude	Up to 15,000ft (4.6km)

Table 6: Standards & Protocols

Type	Description
Standards and Protocols	IEEE 802.1Q VLAN, IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX, IEEE 802.3ab 1000BASE-T, IEEE 802.3z 1000BASE-X, IEEE 802.3ae 10000BASE-X, RFC 783 TFTP, RFC 791 IP, RFC 793 TCP, RFC 826 ARP, RFC 854 Telnet, RFC 768 UDP, RFC 792 ICMP, SNMP v1/v2c, RFC 2131 DHCP client, RFC 1492 TACACS+, support for IPv4 and IPv6.

Table 7: Regulatory Compliance and Safety

Specification	GigaVUE-420
Compliance and Safety	UL 60950-1; CSAC22.2 EN 60950-1; IEC-60950-1, NEBS Level 3 on some models (see page 6); China Compulsory Certification (CCC) Mark
RoHS Compliance	RoHS 6, EU directive 2002/95/EC
Emissions	FCC Part 15, class A; VCCI Class A; EN55022/CISPR-22 Class A; Australia/New Zealand AS/NZS CISPR-22 Class A; CE Mark EN 55022 Class A
Immunity	ETSI EN300 386 V1.32, EN61000-4-2, EN 61000-4-3, 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-3-2

Table 8: Warranty & Support

Part Number	Description
Hardware	Gigamon 5-Year Hardware Limited Warranty included with purchase
Software	1-Year Software Limited Warranty included with purchase
Support	1-Year Standard Support included with purchase

Gigamon offers a range of premium support and extended services. For details regarding warranty and support, visit:
http://www.gigamon.com/gigamon-technical-support

Table 9: Expansion Blades

Blades	Optional Transceivers/Cables Supported	Ports	Physical Characteristics
10 GigaPORT-8X	SFP+ 10Gb speed only (850, 1310 or 1550nm) SFP Cu (1Gb speed only) SFP 1Gb speed only (850, 1310 or 1550nm) Cable: SFP+ 10Gb copper cable, 12m max	8 x 10Gb SFP+ fiber optic	Height: 1.13in Width: 15.0in Depth: 9.75in Weight: ~3.5lbs
GigaSMART	SFP+ 10Gb speed only (850, 1310 or 1550nm) SFP Cu (1Gb speed only) SFP 1Gb speed only (850, 1310 or 1550nm) Cable: SFP+ 10Gb copper cable, 12m max	6 x 10Gb SFP+ fiber optic	Height: 1.13in Width: 15.0in Depth: 9.75in Weight: ~3.5lbs
10GigaBPS-2SX/2LR	Inline bypass blade SR 850nm MM LX 1310nm SM	2 Inline units with 2 SFP+ each	Height: 1.13in Width: 14.8in Depth: 10.3in Weight: ~4.1lbs
GigaBPS-2SX/2LX	Inline bypass blade SX 850nm SM LX 1310nm SM	2 Inline units with 2 SFP+ each	Height: 1.13in Width: 14.8in Depth: 10.3in Weight: ~4.1lbs
10GigaTAP-4SR/4LR/4ER/4LRM	Internal optical 50/50 splitters TAPs full duplex links SR 850nm MM LR 1310nm SM ER 1550nm SM LRM 1310nm MM	8 LC splitter ports tap 4 full duplex 1Gb fibers	Height: 1.5in Width: 2.75in Depth: 7.3in Weight: ~4.31lbs
GigaTAP-4SX/4LX/4ZX	Internal optical 50/50 splitters TAPs full duplex links SX 850nm MM LX 1310nm SM ZX 1550nm SM	8 LC splitter ports tap 4 full duplex 1Gb fibers	Height: 1.5in Width: 2.75in Depth: 7.3in Weight: ~4.31lbs
GigaPORT-8CX4	Integrated CX4, standard. Optional cables: CX4 copper cable (up to 15m) Parallel CX4 fiber cable, up to 100m max	8 x 10Gb copper CX4 ports	Height: 1.13in Width: 15.0in Depth: 9.75in Weight: ~3.13lbs
GigaPORT-5X3C	3 Integrated CX4 ports 5 SFP+/SFP capable ports Optional cables: CX4 copper cable (up to 15m) Parallel CX4 fiber cable, up to 100m max	3 x 10Gb copper CX4 ports 5 x 10Gb SFP+ fiber optic	Height: 1.13in Width: 15.0in Depth: 9.75in Weight: ~3.13lbs

Note: Performance throughput, environment, safety, emissions, immunity, & standards/protocols for modules are the same as the specifications on pages 2 & 3.

Ordering Information

Table 10: Ordering Information

Part Number	Description
GVS-432	GigaVUE-2404 with 4 x 1Gb & 8 x 10Gb ports, AC powered
GVS-434	GigaVUE-2404 with 4 x 1Gb & 8 x 10Gb ports, DC powered
PRT-438	10GigaPORT-8X, 8 x 10Gb SFP+ port expansion blade
PRT-439	10GigaPORT-8CX4, 8 x 10Gb CX4 port expansion blade
PRT-435	10GigaPORT-5X3C, 5 x 10Gb SFP+, 3 x 10Gb CX4 port expansion blade
SMT-436	GigaSMART, 6 x 10Gb SFP+ port expansion blade
BPS-GV6-X20020	10GigaBPS-2SR in-line bypass module
BPS-GV6-X30020	10GigaBPS-2LR in-line bypass module
TAP-232	10GigaTAP-4SR, 850nm, multimode, tap blade
TAP-233	10GigaTAP-4LR, 1310nm, singlemode, tap blade
TAP-234	10GigaTAP-4ER, 1550nm, singlemode, tap blade
TAP-235	10GigaTAP-4LRM, 1310nm, multimode, tap blade
TAP-222	1GigaTAP-4SX, 850nm, multimode, tap blade
TAP-223	1GigaTAP-4LX, 1310nm, singlemode, tap blade
TAP-224	1GigaTAP-4ZX, 1550nm, singlemode, tap blade
SFP-501	1Gb, SFP, Copper UTP with RJ45 interface
SFP-502	1Gb, SFP, multimode, 850nm
SFP-503	1Gb, SFP, singlemode, 1310nm
SFP-504	1Gb, SFP, singlemode, 1550nm
SFP-532	10Gb SFP+, multimode, 850nm
SFP-533	10Gb SFP+, singlemode, 1310nm
SFP-534	10Gb SFP+, singlemode, 1550nm
SFP-535	10Gb SFP+, LRM, multimode, fiber, 1310nm
CBL-005	CX4 copper cable, 5m
CBL-015	CX4 copper cable, 15m
CBL-F05	CX4 fiber cable, 5m
CBL-F99	CX4 fiber cable, 100m
CBL-S05	Passive SFP+ copper cable, 5m
CBL-S11	Passive SFP+ copper cable, 12m
SVC-000	12 months Standard support and software maintenance
SVC-001	1st Year Premium 24x7 upgrade
SVC-002	12 months Premium 24x7 support and software maintenance

Table 11: Ordering Information (NEBS Compliant)

Part Number	Description
GVS-432N	GigaVUE-2404 with 4 x 1Gb & 8 x 10Gb ports, AC powered, NEBS certified
GVS-434N	GigaVUE-2404 with 4 x 1Gb & 8 x 10Gb ports, DC powered, NEBS certified
PRT-438N	10GigaPORT-8X, 8 x 10Gb SFP+ port expansion blade, NEBS certified
PRT-439N	10GigaPORT-8CX4, 8 x 10Gb CX4 port expansion blade, NEBS certified
PRT-435N	10GigaPORT-5X3C, 5 x 10Gb SFP+, 3 x 10Gb CX4 port expansion blade, NEBS certified
TAP-222N	1GigaTAP-4SX for GigaVUE-2404, 850nm multimode tap blade, NEBS certified
TAP-223N	1GigaTAP-4LX for GigaVUE-2404, 1310nm singlemode tap blade, NEBS certified
TAP-224N	1GigaTAP-4ZX for GigaVUE-2404, 1550nm singlemode tap blade, NEBS certified

For More Information

For more information about the Gigamon Visibility Fabric architecture or to contact your local representative, please visit:

www.gigamon.com