GigaVUE Operating System

The proven and extensible operating system for Gigamon visibility nodes

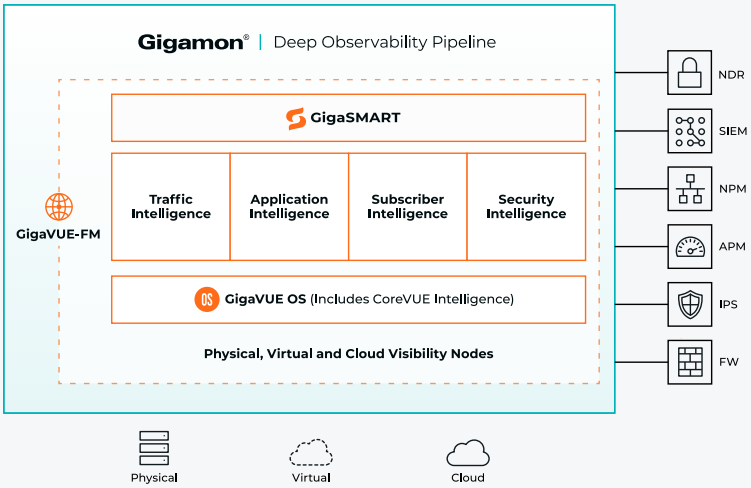

Figure 1. GigaVUE-OS is the underlying software that drives all physical GigaVUE® appliances.

Key Benefits

- Rich network visibility, management and data-delivery services
- Select traffic of interest through user-defined map rules
- Combines multiple devices to be managed as one logical node
- Load balances across multiple tool instances of the same type
- Enables network traffic visibility into cloud and remote sites for cloud-based or on-premises tools
- Makes various monitoring tools more effective

As a key element within the Gigamon Deep Observability Pipeline, the GigaVUE-OS software provides the basis for the GigaVUE HC Series and GigaVUE TA Series products to perform aggregation, replication, filtering, tunneling, header stripping, forwarding and distributing at scale. These network packet brokers are ideal choices to enhance your security and performance monitoring solutions. GigaVUE-OS is also used on G-TAP A Series 2 for management through SSH and/or GigaVUE-FM.

GigaVUE-OS enables the Gigamon Deep Observability Pipeline to offer 25Tbps of traffic intelligence across 32 clustered nodes, greater network traffic visibility into data-in-motion, minimized traffic overloads, and more effective options for deploying both inline and out-of-band security and performance monitoring tools.

The Solution: GigaVUE HC Series and GigaVUE TA Series

The foundational GigaVUE-OS service provides the ability to select traffic flows of interest using our patented Flow Mapping® mechanism.

Flow Mapping takes line-rate traffic at 100Mb, 1Gb, 10Gb, 25Gb, 40Gb, 100Gb, or 400Gb from various sources — such as visibility nodes, network TAPs, virtual TAPs, and mirror/SPAN ports across physical, virtual, and cloud networks — and sends it through a set of user-defined map rules to network-based tools that secure, monitor, and analyze your IT infrastructure. You can optimize tools by sending only traffic of interest and dropping all irrelevant traffic.

GigaStream load sharing distributes network traffic to multiple monitoring tools, allowing you to group multiple tool ports into a logical bundle and throttle down traffic before transmission, thereby overcoming port oversubscription challenges. It provides tools with complete traffic flows, maintaining the integrity of sessions, providing full visibility for security and application monitoring. Tool weighting and session sampling further optimize tool performance.

MPLS and VxLAN protocol header-stripping allows monitoring and security tools that don't understand these network-encapsulation protocols to see into the encapsulated packets or remove the need for them to remove these protocols themselves, thereby making the tools more effective and efficient.

L2GRE and VXLAN tunnel initiation, encapsulation, termination, and de-encapsulation provides network traffic visibility into cloud and remote sites for cloud-supported or on-premises tools.

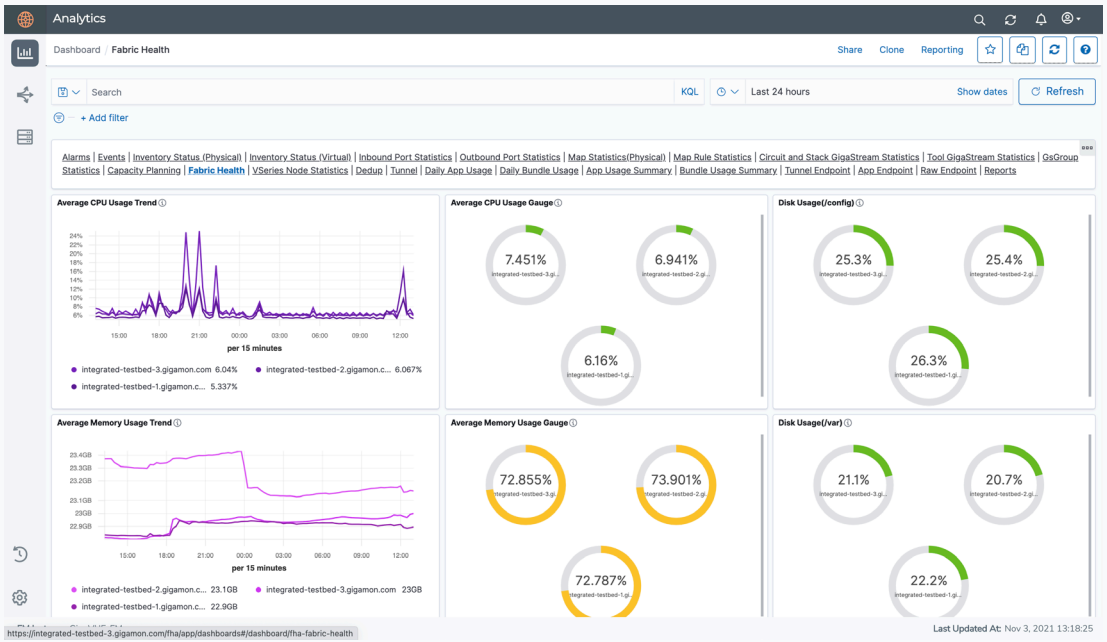

Figure 2. Fabric Health Analytics visualized via GigVUE-FM.

Clustering lets you manage multiple heterogeneous nodes with different underlying hardware capabilities running GigaVUE-OS as a single logical unit. This unique service allows advanced capabilities in GigaSMART® modules to be accessed anywhere within the logical unit even if, for example, traffic arrives on a unit in the cluster that does not have hardware resources natively within it.

In addition to Gigamon hardware, GigaVUE-OS is also available on select whitebox hardware. This lets you extend the rich visibility services GigaVUE-OS offers into whitebox deployments.

GigaVUE-OS supports multiple management methods, including GigaVUE-FM, web interface, SNMP, and command line interface (CLI). GigaVUE-FM also offers a REST XML API.

Top Use Cases

Network Operations

- Replicate and/or distribute traffic across multiple network, security, and monitoring tools based on a programmable rules engine.
- Combine core capabilities in GigaVUE-OS with GigaSMART traffic intelligence to maximize tools performance and ROI.

Security Operations

- Create a deep observability pipeline that greatly expedites deployment of inline, out-of-band, and flow-based tools across the network.
- Improve overall network performance and uptime during upgrades.

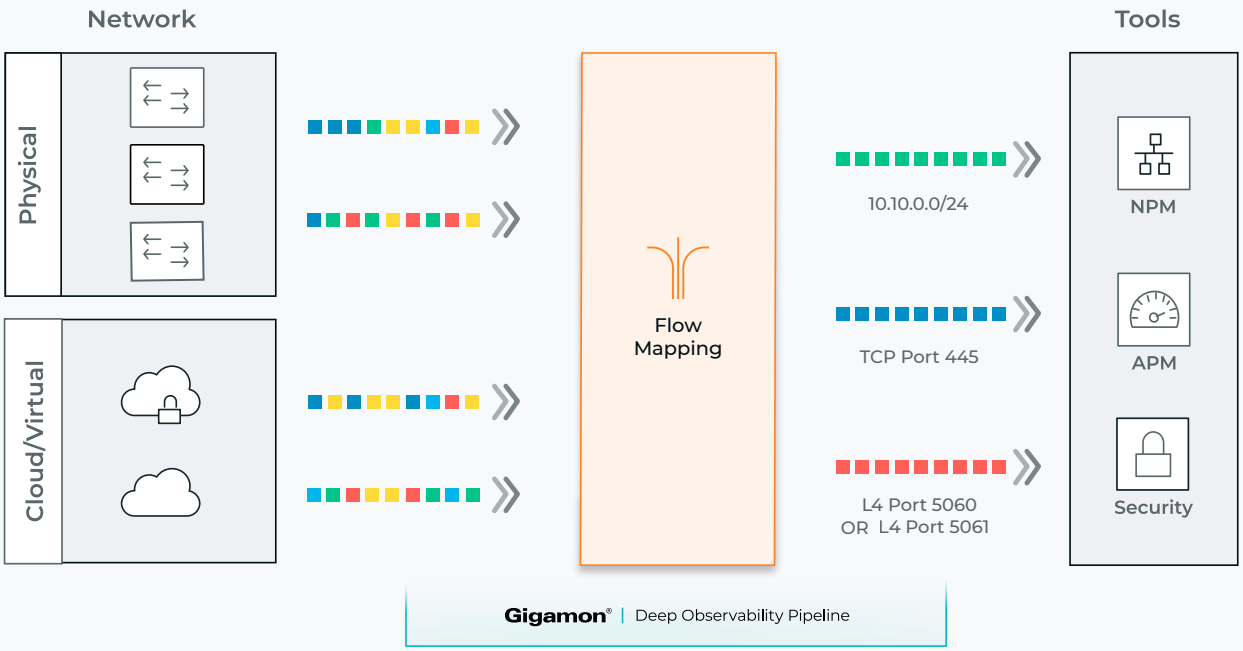

Figure 3. Flow Mapping — a key GigaVUE-OS feature.

GigaVUE-OS powers the core and edge visibility nodes in the Gigamon Deep Observability Pipeline. Implemented in the most demanding Fortune 100, government agency, and large service-provider environments, GigaVUE-OS provides the reliability required to help ensure acurate and reliable visibility into physical, virtual, and cloud infrastructure.

Key Features and Benefits

System	Modular and portable Linux-based OS Rich network visibility, management, and data-delivery services
	Port configurability: • Full flexibility in selecting ports as ingress, intermediate, interconnect, or egress functions • Unidirectional and bi-directional ports • Tunneling ports, ingress and egress • Enable agile response to changes in monitoring infrastructure and monitoring needs • Facilitate passive out-of-band and active inline monitoring via the same node • Allow virtualized traffic to be accessed, or backhauled between locations, over an IP network
	Local and remote management using: • Command line interface (CLI) • SSH • XML API (HTTP/HTTPS)* • GigaVUE-FM (HTTP/HTTPS) • SNMP (v1, v2, v3) • Syslog • Easy to manage via GigaVUE-FM GUI or via CLI for users already familiar with Cisco • Easy integration with applications using CLI or RESTful API • Supports the SDN paradigm • Manage and orchestrate from single pane of glass • Alerts can be received by any Syslog server or SNMP manager
	User access: • Role-based access control (RBAC) – Multi-tenant user access – Flexible user/role defined privileges, screen views, and access • AAA security with local and remote authentication (LDAP, RADIUS, TACACS+) • Automatic Certificate Management Environment (ACME) • Adhere to corporate IT security policies • Meet corporate IT authentication policy • Automates updating of authentication certificates from an enterprise's certificate management and repository systems

* In conjunction with GigaVUE-FM

Core Intelligence	**Flow Mapping®, including:** • Aggregation and replication – Selective any-to-any port mapping • Filtering – Layer 2 to 7 rules – Customizable bitmask filters – Up to 96k map rules – Aggregate and egress • Load sharing – Layers 2 to 4 hashing criteria – Session continuity • Access traffic from any link to any tool, even for different link rates • Remove issues with asymmetric routing and LAG • Optimize tools by only forwarding traffic of interest or dropping traffic not of interest • Spread load across multiple tool instances of same type
	Clustering and Fabric Maps • Enable resilient traffic forwarding • Manage up to 32 nodes in a cluster as a single virtual node • Enact end-to-end Flow Mapping, across clusters, scaling to hundreds of nodes
	Tunnel termination/decapsulation Facilitate traffic forwarding from cloud or virtual infrastructures
	Tunnel initiation/origination (L2GRE, VXLAN) Backhaul across IP networks to central sites or cloud-based tools
	Protocol header stripping (MPLS, VLAN, VXLAN) Makes various monitoring tools more effective
	Source port tagging with VLAN tags Pinpoint source of traffic
	IP and MAC address modification • Obscure original IP and/or MAC information to meet privacy needs while retaining ability to distinguish traffic sources. • Allow certain tool types to ingest traffic that meets specific IP and MAC address requirements.
	Device and link discovery with ARP and LLDP Reduce time to install and configure GigaVUE nodes

Core Intelligence cont'd	**Inline Bypass:** • Logical and physical bypass for 100M/1G/10G/25G/40G/100G link rates and copper/fiber (multimode, single mode) media types • Aggregate multiple network segments • Filter and load-balance towards inline applications/tools • Easily configure simple and complex tool chains • Customizable heartbeat packets for positive (through-path) and negative (block) tests • Remove multiple points of network failure • Provide full visibility for each inline security tool type (for example, IPS, WAF) • Easily deploy security in layers solutions, for both active and passive scenarios • Seamlessly migrate tools from passive out-of-band to active inline mode • Reduce likelihood of network impact due to malfunctioning active inline tools

Product Specifications: Compliance

Aspect	Appliance	Standard
Security	TA Series, HC Series	FIPS 140-2 level 1

Ordering Information

Part Number	Description
GSW-WBX01	Monthly subscription GigaVUE-OS software license for 500 Gbps (and lower) systems. Includes bundled Elite Support.
CLS-WBX01	Monthly subscription Advanced Features License corresponding to GSW-WBX01. Includes bundled Elite Support.

Support and Services

Gigamon offers a range of support and maintenance services. For details regarding Gigamon Limited Warranty and its Product Support and Software Maintenance Programs, visit gigamon.com/support-and-services/overview-and-benefits.

About Gigamon

Gigamon offers a deep observability pipeline that harnesses actionable network-level intelligence to amplify the power of observability tools. This powerful combination enables IT organizations to assure security and compliance governance, speed root-cause analysis of performance bottlenecks, and lower operational overhead associated with managing hybrid and multi-cloud IT infrastructures. The result: modern enterprises realize the full transformational promise of the cloud. Gigamon serves more than 4,000 customers worldwide, including over 80 percent of Fortune 100 enterprises, nine of the 10 largest mobile network providers, and hundreds of governments and educational organizations worldwide.

To learn more, please visit gigamon.com.

For more information about the Gigamon Platform or to contact your local representative, please visit gigamon.com.

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