

GigaVUE Operating System

The proven and extensible operating system for Gigamon visibility nodes

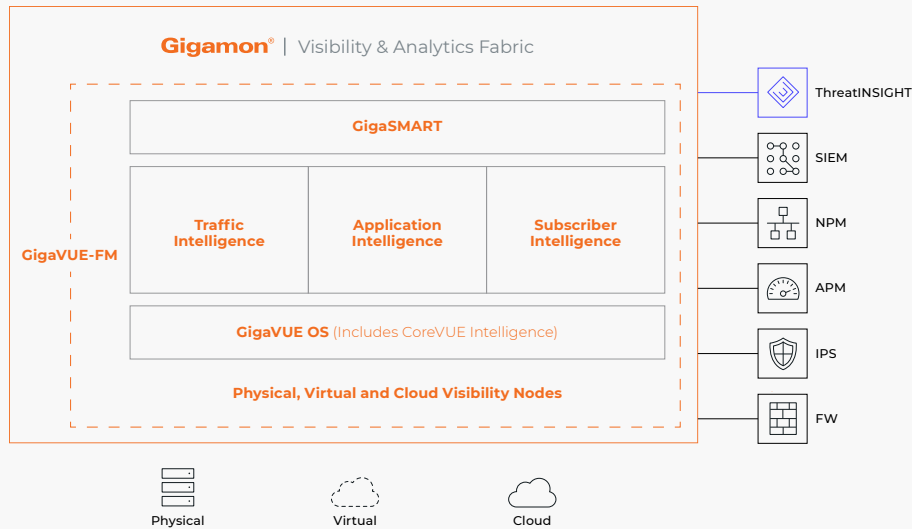


Figure 1. GigaVUE-OS is the underlying software that drives all GigaVUE® functionality

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 Visibility and Analytics Fabric™ (VAF), GigaVUE-OS software provides the basis for the G-TAP A Series 2, GigaVUE TA Series (including whitebox switches) and GigaVUE HC Series products to perform aggregation, processing, and forwarding at scale. These network packet brokers are ideal choices to enhance your security and performance monitoring solutions.

GigaVUE-OS enables the Gigamon VAF 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.

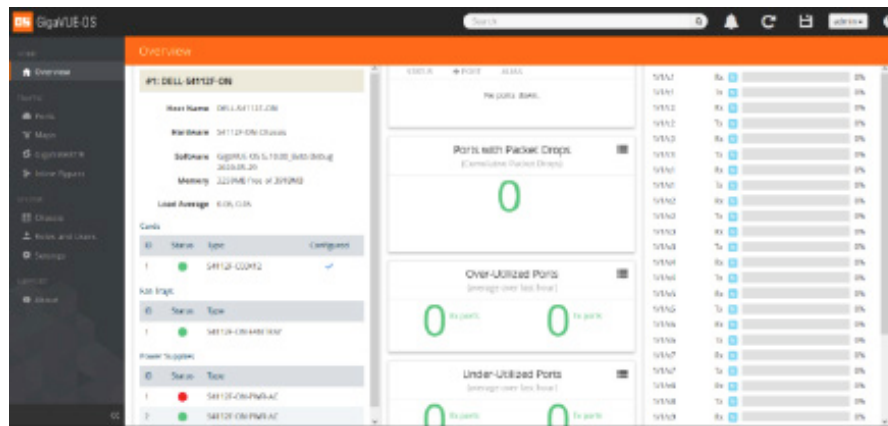


Figure 2. GigaVUE H-VUE web GUI

The Solution

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

Flow Mapping takes line-rate traffic at 1Gb, 10Gb, 25Gb, 40Gb, or 100Gb 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.

Load balancing 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. This further optimizes tool performance and security with dynamic, session-aware load balancing that can ensure complete traffic flows by maintaining the integrity of sessions.

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. This feature is supported on all GigaVUE-HC Series* and GigaVUE TA Series* nodes.

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. This feature is supported on all GigaVUE HC Series*, GigaVUE TA Series*, and Dell whitebox nodes.

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. The operating system also provides the necessary APIs to integrate with GigaVUE-FM, the centralized management and orchestration console for the entire visibility network.

GigaVUE-OS supports multiple management methods, including GigaVUE-FM, web-based interface (H-VUE), 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 Gigamon VAF that greatly expedites deployment of inline, out-of-band, and flow-based tools across the network.
- Improve overall network performance and uptime during upgrades.

GigaVUE-OS powers the core and edge visibility nodes in the Gigamon VAF. Implemented in the most demanding Global 5000, government agency, and large service-provider environments, GigaVUE-OS provides the reliability required to help ensure accurate visibility into physical, virtual, and cloud infrastructure.

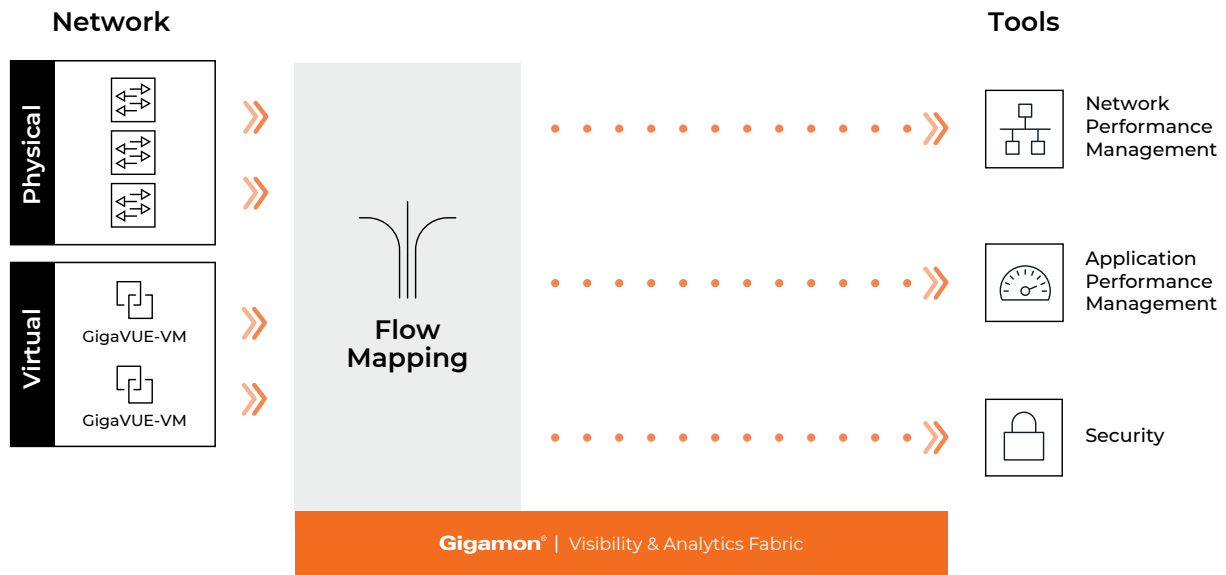


Figure 3. Flow Mapping — a key GigaVUE-OS feature

Key Features and Benefits

System	Modular and portable Linux-based OS	Rich network visibility, management, and data-delivery services
	<p>Port configurability:</p> <ul style="list-style-type: none"> Full flexibility in selecting ports as ingress, intermediate, interconnect, or egress functions Unidirectional and bi-direction ports Tunneling (e.g. L2GRE, ERSPAN, TCP, VXLAN) 	<ul style="list-style-type: none"> Enable agile response to changes in monitoring infrastructure and monitoring needs Facilitate passive out-of-band and active inline monitoring via the same HC node Allow virtualized traffic to be accessed, or backhauled between locations, over an IP network — and with reliable delivery (using TCP)
	<p>Local and remote management using:</p> <ul style="list-style-type: none"> Command line interface (CLI) (Telnet/SSH) Web GUI (HTTP/HTTPS) XML API (HTTP/HTTPS) GigaVUE-FM (HTTP/HTTPS) SNMP (v1, v2, v3) Syslog 	<ul style="list-style-type: none"> Easy to manage via a web 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
	<p>User access:</p> <ul style="list-style-type: none"> Role-based access control (RBAC) <ul style="list-style-type: none"> Multi-tenant user access Flexible user/role defined privileges, screen views, and access AAA security with local and remote authentication (LDAP, RADIUS, TACACS+) 	<ul style="list-style-type: none"> Adhere to corporate IT security policies Meet corporate IT authentication policy
Core Intelligence	Patented Flow Mapping technology for aggregation, filtering, and replication	Select traffic of interest through user-defined map rules
	Scalable visibility node clustering and fabric maps	<ul style="list-style-type: none"> 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
	GigaStream load-balancing across tools	Load balances across multiple tool instances of the same type
	Tunnel termination and initiation (L2GRE, VXLAN)	Enables network traffic visibility into cloud and remote sites for cloud based or on-premises tools
	Protocol header stripping (MPLS, VXLAN)	Makes various monitoring tools more effective
	Source port tagging with VLAN tags	Pinpoint source of traffic

Core Intelligence continued

- MAC address modification
 - Obscure original MAC information to meet privacy needs with retained ability to distinguish traffic sources
 - Allow certain tool types to ingest traffic that meets specific MAC address requirements
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- Inline Bypass:
- Optional 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 (e.g. 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

Ordering Information**Part Number****Description****GSW-WBX01**

GigaVUE-OS software for 500 Gbps (and lower) systems (supported products: Dell 4112F-ON 12x10G + 3x100G). Includes bundled Elite Support.

CLS-WBX01

Advanced Features License corresponding to GSW-WBX01.

Support and Services

Gigamon offers a range of support and maintenance services. For details regarding the Gigamon Limited Warranty and our Product Support and Software Maintenance Programs, visit [gigamon.com/support/support-and-services.html](https://www.gigamon.com/support/support-and-services.html).

For More Information

For more information about the Gigamon Platform or to contact your local representative, please visit: [gigamon.com](https://www.gigamon.com).

Gigamon®

Worldwide Headquarters
3300 Olcott Street, Santa Clara, CA 95054 USA
+1 (408) 831-4000 | www.gigamon.com

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