GigaVUE Cloud Suite for VMware

Intelligent Traffic Visibility with Comprehensive Virtualization and Automation for VMware-Based Networks

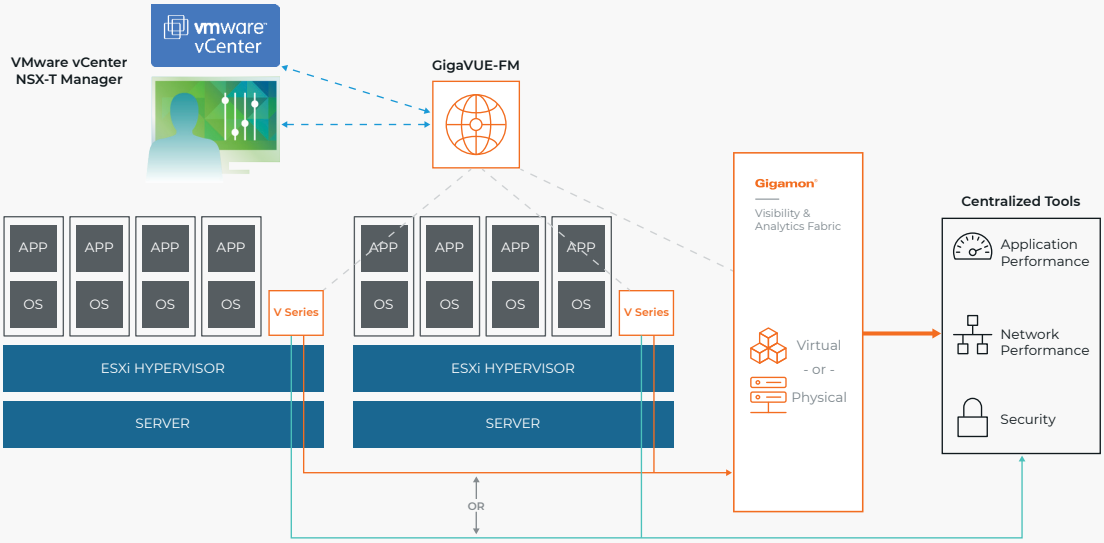

Figure 1. Certified integration of GigaVUE® Cloud Suite™ with VMware vCenter and NSX-T.

Key Features and Benefits

Traffic acquisition and local workload-based processing

- Lightweight agent-less vTAPs reduce cost and complexity
- Reduce application downtime
- Automatically scale vTAPs up/down on demand
- Acquire all East-West VM workload traffic
- Optionally provide full processing on each hypervisor
- Minimal VM impact with DPDK for high performance and capacity

Traffic aggregation, expanded processing and distribution to tools

- Flexibly send traffic to aggregating visibility nodes or directly to tools
- Selectively process traffic with GigaSMART® CoreVUE™ and Application Intelligence
- Increase overall efficiency by eliminating duplicated packets
- Simplify operations by service chaining traffic to multiple security and monitoring tools
- Monitoring sessions support flexible traffic filtering, packet modifications and forwarding rules

Centralized multi-cloud management and orchestration

- Realize a fully automated environment including support for vMotion
- Supports a completely virtualized infrastructure
- Automatically instantiate and configure V Series using NSX-T Dynamic Service Insertion
- ATS automatically selects VMs and interfaces to simplify horizontal scaling configuration
- Single-pane-of-glass management, orchestration and visualization across multiple clouds

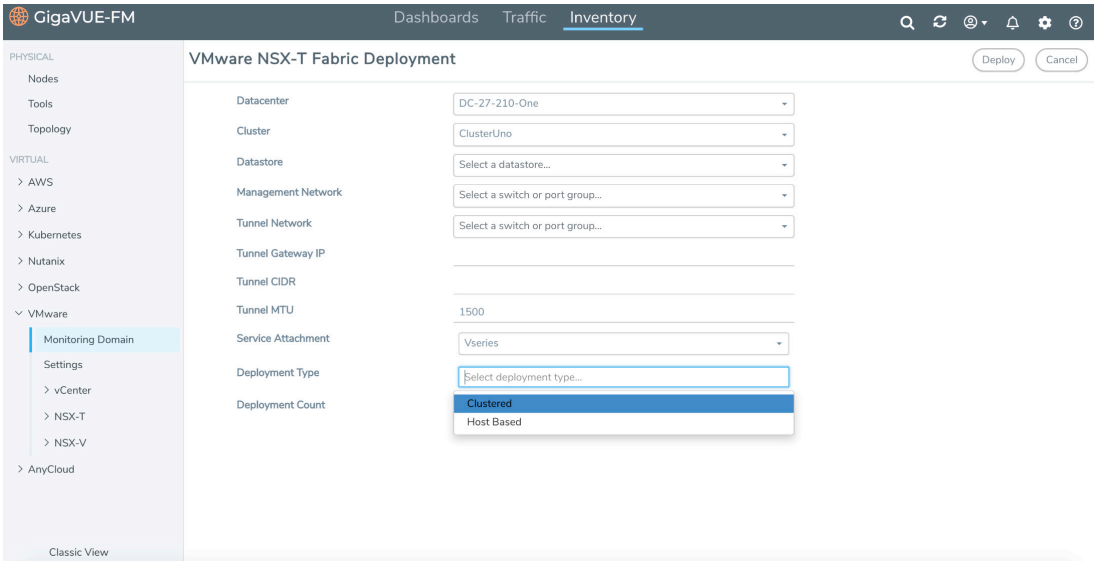

Figure 2. Easy-to-use and intuitive graphical user interface with drop-down menus.

Limitations of physical networking and traditional security in an increasingly dynamic virtual world create artificial barriers to fast provisioning of networking and security services and simplified network operations. Manual provisioning and fragmented management interfaces reduce efficiency and limit the ability of enterprises to rapidly and securely deploy, move, and scale applications and data to meet business demands.

Paramount to securing and monitoring the software-defined datacenter (SDDC) infrastructure is the ability to have an immediate and rich understanding of activity in your end-to-end network. To accomplish this, security, application and network monitoring solutions require traffic visibility of both virtual and physical infrastructure. This requirement can be challenging.

Pervasive visibility into the datacenter enables application and security monitoring tools to analyze congestion points, security threats and application behavior. This helps automate, secure and optimize the datacenter network.

GigaVUE Cloud Suite is an intelligent network-traffic visibility solution that acquires, optimizes and distributes selected traffic to security and monitoring tools. This enables enterprises and service providers to extend their security posture and network monitoring to VMware and accelerate the time to detect and mitigate threats and operational issues, while helping to assure compliance.

Accelerate Application Migration to the Cloud

Using GigaVUE Cloud Suite for VMware, security architects can ensure an effective security posture in the private and hybrid cloud, thereby accelerating the onboarding of applications to VMware.

GigaVUE Cloud Suite for VMware, as shown in Figure 1, acquires traffic with a single, lightweight V Series VM installed on each of the various hypervisors running workloads of interest. The platform integrates with VMware's vCenter and/or NSX-T APIs to discover the cloud infrastructure. It then deploys the V Series instances that copy, optionally process, and either transmit traffic to a second stage V Series or HC Series for aggregation and expanded processing, or send traffic directly to tools. First-stage V Series visibility nodes are capable of processing all GigaSMART CoreVUE and data de-duplication applications, as well as apply multiple filtering techniques. Second-stage V Series collect aggregated traffic from the desired hosted workloads and apply additional advanced traffic intelligence prior to sending selected traffic to security and monitoring tools.

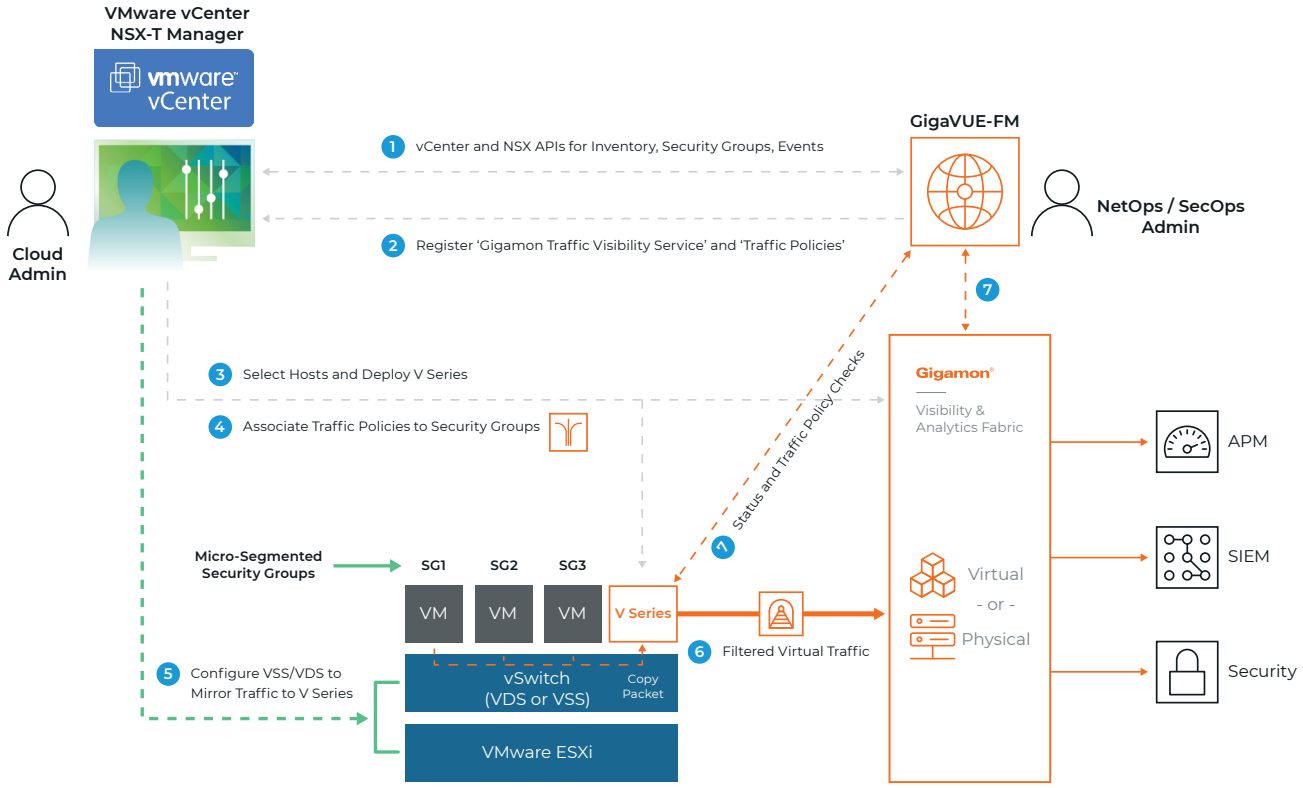

Figure 3. Straightforward seven-step process for provisioning, configuration and monitoring.

With this solution, you can take advantage of:

- Complete infrastructure virtualization with automation: The entire environment, including the Visibility and Analytics Fabric™, can be implemented in software with automated orchestration tools. This provides superior agility with minimal manual interventions and allows proactive architectural modifications to enable maximum efficiency.
- Increased security: Centralize visibility for security and performance monitoring of all projects in an organization. Network and security operations and incident response teams can use network visibility to rapidly detect and respond to threats, vulnerabilities, compliance violations and operational issues across the infrastructure.
- Reduced data costs: Optimize costs with pervasive visibility for security and monitoring, without increasing load on compute instances as more security and monitoring tools are deployed. Acquire traffic once from compute instances and leverage traffic intelligence to optimize data to multiple tools.[1]
- Operational efficiency: One common software-based platform for visibility across the entire IT environment enables consistent insight in VMware. Acquire network traffic with minimal impact to the host's utilization and apply traffic intelligence before distributing to multiple security and monitoring tools for analysis.
- Operational agility:
  - Rapidly detect changes in projects being monitored
  - Automatic Target Selection: Automatically extract network traffic of interest anywhere in the infrastructure being monitored, without having to specify the target compute instances to monitor
  - Flexibility to perform the analysis of traffic anywhere
  - Automate and orchestrate visibility using a tight coupling between Fabric Manager's open REST APIs and VMware's vCenter and NSX-T

[1] Based on Gigamon internal testing in November 2017.

GigaVUE Cloud Suite Components

GigaVUE V Series: Data Acquisition

For traffic acquisition and optional GigaSMART-based processing, V Series are provisioned as data acquisition VMs and deployed as a VMware ESXi guest on each hypervisor. These instances receive copied packets from each of the other VMs on the same server through service insertion on a virtual switch (VDS or VSS). They may be configured to partially or fully process traffic and send either directly to the end security or monitoring tools or to a V Series or HC Series for aggregation, expanded processing and distribution. Key capabilities and benefits include:

- Single, lightweight VM per hypervisor minimizes impact on compute nodes and delivers high throughput by leveraging DPDK
- Locally process GigaSMART apps, such as all CoreVUE and data de-duplication, to offload tools, and utilize Flow Mapping® for optimized flows and IPsec tunneling for secure transmissions
- Automatic instantiation, configuration, vMotion-based VM relocation and monitoring via vCenter and NSX-T with Fabric Manager enables operational simplicity
- Dynamically select VM and network interfaces based on the rules defined in the inclusion and exclusion maps in the monitoring session to enhance filtering and granularly target specific workloads

GigaVUE V Series: Data Aggregation

For traffic aggregation and enhanced processing, V Series can also be provisioned as visibility nodes and centrally deployed in host or cluster (NSX-T) formats. These instances receive copied packets from the data acquisition V Series, combine these streams and apply additional CoreVUE and data de-duplication GigaSMART applications to optimize flows and distribute to the appropriate tools. Key capabilities and benefits include:

- Deployment of a fully virtualized architecture to realize software-defined datacenters (SDDC)
- Flexible filtering mechanism with elastic monitoring session support for traffic filtering, packet manipulation and forwarding
- Rich optimization to reduce load on operational tools, accelerate time to troubleshoot and remediate network and security issues
- Automatically instantiate unlimited V Series instances in a cluster without extra expense, to provide the required performance
- Supports multiple ingress protocols including VXLAN, ERSPAN, L2GRE and REP (raw endpoint) and L2GRE for egress
- Maintain regulatory compliance by masking sensitive and private data

GigaVUE Physical Appliances: Data Aggregation

Traffic aggregation, intelligence and distribution can alternatively leverage the GigaVUE HC Series visibility nodes, which are deployed within the visibility tier. Advanced transformations on the aggregated network traffic can be performed before it is delivered to the tools. Key capabilities and benefits include:

- Automatically identify over 3,000 applications using deep packet inspection; selectively filter and distribute to the proper security and monitoring tools
- Generate more than 5,000 application-metadata attributes and send to SIEM and other tools to further refine distribution rules, troubleshoot issues and identify security risks
- Transform headers: Modify content in the header (L2–L4) to ensure security and segregation of sensitive information
- Handle sensitive data including slicing, sampling and masking packets to optimize traffic sent to tools, reducing tool overload

GigaVUE Fabric Manager: Management and Orchestration

Fabric Manager (FM) handles centralized orchestration and management. Using RESTful APIs and tight coupling to VMware vCenter and NSX-T, FM directs the automatic instantiation and configuration of V Series for data acquisition on each server with workloads to be scrutinized, as well as those used for aggregation. FM monitors and controls operations to simplify network management. Key capabilities and benefits include:

- Enable SecOps and NetOps teams to automate the selection, filtering and forwarding of the ever-growing East-West virtual traffic for security and monitoring analytics
- Use VMware NSX Data Center Dynamic Service Insertion to associate visibility policies with security groups, thereby providing continuous and automated traffic visibility for applications as they scale up
- Directs the V Series for data acquisition to copy their micro-segments' traffic, process accordingly and send it to V Series or HC Series for aggregation and further processing, or send directly to tools
- Tracks vMotion events across distributed resource scheduler (DRS) and high-availability (HA) cluster environments to couple visibility policies to the monitored VMs and migrate them with the VMs as they move across physical hosts
- Dynamically adjust traffic received or orchestrate new traffic policies
- Automatically discover and display end-to-end topology and view the visibility tier and vCenter VM instances as a topology
- For visibility tiers based on physical appliances, configures and monitors GigaVUE HC series and forwards traffic to tools
- Works with NSX-T to support Host mode (one V Series node per host) or Cluster mode (*n* V Series nodes per cluster)

Minimum Requirements for GigaVUE Cloud Suite Components

SOLUTION COMPONENT	MINIMUM PER HOST	DESCRIPTION
V Series	Small: 4xvCPU, 8GB RAM Medium: 8xvCPU, 16GB RAM Large: 16xvCPU, 32GB RAM 10xvNICs	vNICs (three or more): • Maximum: 10 network adapters • Network Adapter 1; V Series management port • Network Adapter 2; V Series tunneling port to on-premises physical or virtual visibility fabric nodes or to tools • Network Adapters-ESXi 3–10; V Series network ports • Network Adapters-NSX-T: 3 for V Series network ports
GigaVUE-FM	4 x vCPU, 16GB RAM, 40GB root disk	Fabric manager: • Needs to be able to access the V Series nodes to issue the commands • Automatically spins up additional V Series for aggregation nodes based on a predefined configuration in the user interface* *For on-premises GigaVUE-FM requirements and ordering information, please refer to the GigaVUE-FM data sheet.*

*Based on the number of virtual TAP points, GigaVUE V Series nodes will be auto-launched by GigaVUE-FM.

Ordering Information

GigaVUE Cloud Suite for VMware can be purchased as a tiered data licensing subscription from Gigamon. The table below lists the SKUs for procurement.

PART NUMBER	DESCRIPTION
VBL-50T-BN-CORE	Monthly term license for CoreVUE software up to 50TB per day in V Series. Min. term is 12 months. Includes bundled Elite Support.
VBL-250T-BN-CORE	Monthly term license for CoreVUE software up to 250TB per day in V Series. Min. term is 12 months. Includes bundled Elite Support.
VBL-2500T-BN-CORE	Monthly term license for CoreVUE software up to 2,500TB per day in V Series. Min. term is 12 months. Includes bundled Elite Support.
VBL-25KT-BN-CORE	Monthly term license for CoreVUE software up to 25,000TB per day in V Series. Min. term is 12 months. Includes bundled Elite Support.
VBL-50T-BN-NV	Monthly term license for NetVUE software up to 50TB per day in V Series. Includes: CoreVUE for V Series and De-duplication. Min. term is 12 months. Includes bundled Elite Support.
VBL-250T-BN-NV	Monthly term license for NetVUE software up to 250TB per day in V Series Capabilities include: CoreVUE for V Series, De-duplication. Min. term is 12 months. Includes bundled Elite Support.
VBL-2500T-BN-NV	Monthly term license for NetVUE software up to 2,500TB per day in V Series. Capabilities include: CoreVUE for V Series, De-duplication. Min. term is 12 months. Includes bundled Elite Support.
VBL-25KT-BN-NV	Monthly term license for NetVUE software up to 25,000TB per day in V Series. Capabilities include: CoreVUE for V Series, De-duplication. Min. term is 12 months. Includes bundled Elite Support.

Note: Licenses are managed and activated from GigaVUE-FM.

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-and-services/overview-and-benefits.

For More Information

For more information about the Gigamon Visibility and Analytics Fabric or to contact your local representative, please visit gigamon.com.

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