

GigaVUE Cloud Suite for Private Cloud

Comprehensive Workload Visibility for Fully Automated and Virtualized Hybrid Clouds

GigaVUE® Cloud Suites for private clouds provide an industry-leading, virtual and automated solution that allows VM traffic flows within a private cloud managed by various server and network management platforms to be acquired, optimized, and delivered to security, network, and application performance monitoring tools.

GigaVUE-FM leverages dynamic service chaining and workload relocation monitoring to ensure visibility and policy integrity. GigaVUE-FM is tightly integrated with VMware, Nutanix, and OpenStack platforms to automatically provide continuous VM visibility in a micro-segmented SDCC.

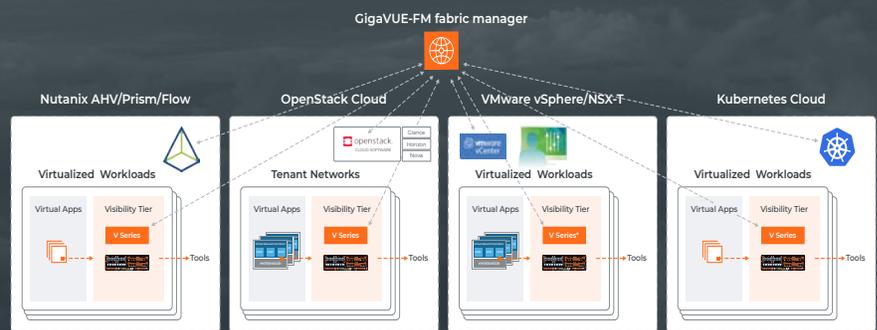


Figure 1. Certified integration of GigaVUE Cloud Suite with multiple private cloud environments.

KEY FEATURES

- Dynamically deploy and provision virtual V Series instances for VM traffic acquisition, aggregation, processing, and distribution
- Manage via coupling between GigaVUE-FM and cloud orchestration tools
- Supports all GigaSMART® CoreVUE™ applications and data de-duplication
- Track vMotion and Live Migration across DSR and HA clusters
- Automatically identifies 3,500 applications and generates 7,000 app-aware metadata attributes

KEY BENEFITS

- Enables a virtualized infrastructure with full automation
- Comprehensive visibility into all VM traffic; scale to any number of servers
- Automatically discover new workloads and adjust policies as needed
- Significantly lower tool processing demands by optimizing the traffic that is forwarded
- Selectively filter and forward applications to the appropriate tools with contextual insights

Virtualized Data Center Traffic Keeps Growing

With the migration of applications to virtual servers, the shift to virtualized private cloud infrastructures, fully automated environments, and today's modular and distributed application architectures, more and more application traffic never hits the physical network.

While solutions for virtual machine (VM) monitoring are well developed, they focus on server status with available CPU, memory, storage, and overall North-South network bandwidth. Very little insight into VM-to-VM traffic is being offered by legacy VM monitoring tools.

With exponential growth in virtualized traffic within the data center, a challenge for a centralized monitoring infrastructure is accessing East-West virtual traffic for application, network, and security analysis and eliminating any blind spots in enterprise private clouds or service-provider NFV deployments. Only Gigamon provides application layer traffic visibility solutions for virtual workloads in environments based on:

- VMware: ESXi, vCenter, and NSX-T
- Nutanix: Prism and Flow
- OpenStack
- Kubernetes
- Multi-tenant hybrid clouds

Key Considerations

IT, cloud, and security architects are responsible for addressing the following questions before successfully deploying applications in virtual machines with private cloud vendor server management and network virtualization tool suites to ensure the optimal traffic is processed and appropriately distributed:

- What visibility fabrics will support a completely virtualized data center design with full automation?
- How can I get visibility into VM traffic as VMs are ephemeral and constantly in motion?
- Can I ensure scalable visibility as deployed apps grow and can span numerous VMs each?
- Is there a way to automate the configured policies across thousands of VMs in real time?
- How do I detect and respond to security or network anomalies when deploying virtualized apps?
- Are there efficient ways to consolidate network traffic flows to security and monitoring tools?
- Do you have visibility into the applications running to stop rogue apps, filter out irrelevant content, and generate advanced L4–L7 metadata attributes?

Not addressing these considerations slows down the transition to VM-based applications, limits the use of data center automation, and leaves the organization vulnerable to potential security breaches.

THE SOLUTION

GigaVUE Cloud Suites for private cloud support virtualized environments and tight integration with orchestration tools to deliver intelligent network traffic visibility for workloads running in VMs, on-premises, or in private cloud environments.

These solutions, dedicated to specific private cloud environments for VMware, Nutanix, Kubernetes, and OpenStack enable increased security, operational efficiency, and it scales across an unlimited number of VMs to:

- Optimize traffic processing and distribution
- Leverage GigaSMART CoreVUE and data de-duplication applications to dramatically reduce traffic loads
- Attain insights into thousands of applications running in the network with application-aware metadata

GigaVUE Cloud Suite for private clouds consists of three key components:

- Traffic acquisition and partial processing using either virtual TAPs (G-vTAP VMs) or, for VMware deployments, virtual V Series instances that optionally fully process and distribute traffic to tools
- Traffic aggregation, intelligence, and distribution using either virtual V Series and/or GigaVUE HC Series physical appliances
- Centralized orchestration and management using GigaVUE-FM with certified interoperability with multiple orchestration tool suites

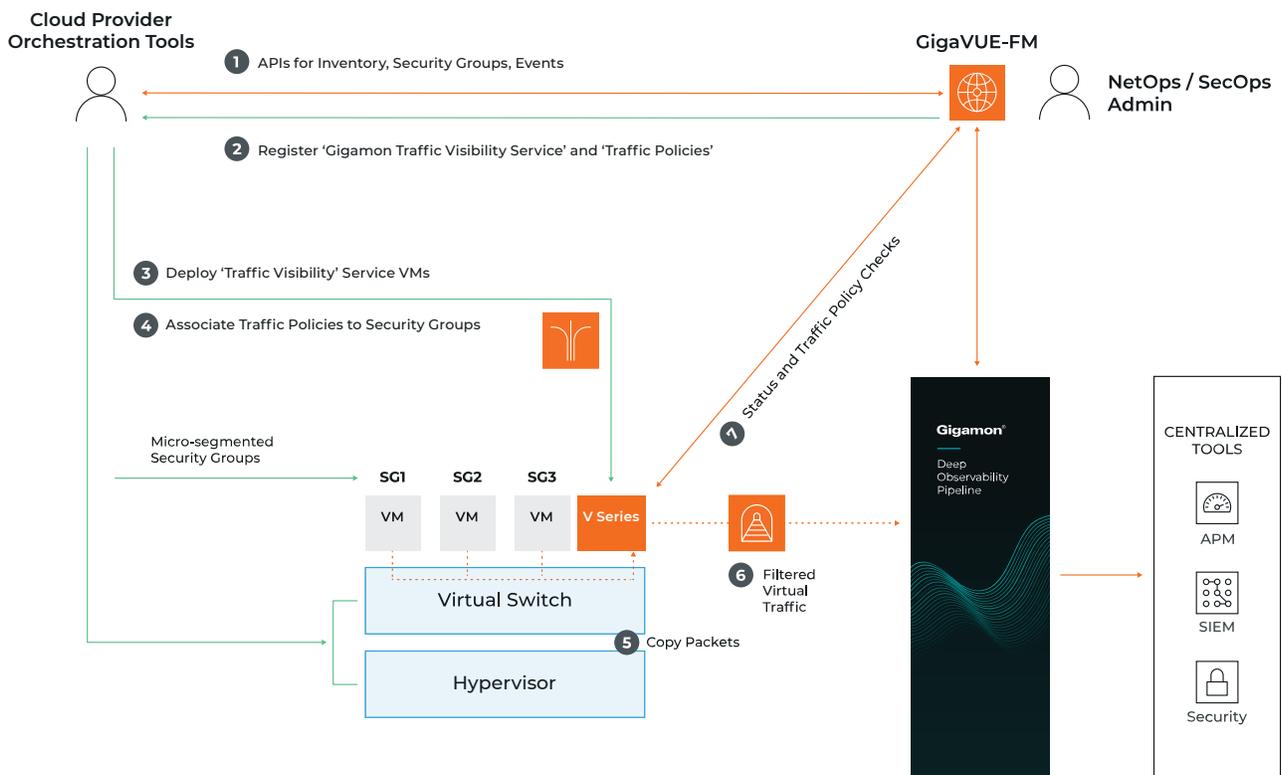


Figure 2: Straightforward seven-step process for provisioning, configuration, and monitoring.

GigaVUE V Series: Traffic Acquisition

For traffic acquisition, light-footprint virtualized G-vTAP VMs or V Series instances are deployed as a guest VM on each hypervisor. They receive copied packets from each of the other VMs on the same server through a virtual switch. They subsequently send mirror traffic to the V Series for aggregation or to GigaVUE HC visibility nodes, or, for VMware scenarios, directly to tools. Key benefits include:

- Minimizes impact on compute nodes and delivers high throughput per instance with DPDK* support
- No special software or changes to kernel modules
- Reduction in application downtime when adding new tools
- Movement of VMs across different servers does not impact continuous traffic visibility
- Flexibility to locally process GigaSMART CoreVUE applications that offloads tools

GigaVUE Physical Appliances

Traffic aggregation, intelligence, and distribution also can take place within the GigaVUE hardware nodes, which are deployed within the visibility tier. Key benefits include:

- Automatic Target Selection (ATS): Automatically extract traffic of interest from any virtualized workload
- Header Transformation: Modify content in the header (L2–L4) to ensure security and segregation of sensitive information
- GigaSMART intelligence: Slice, sample, and mask packets to optimize traffic sent to tools, reducing tool overload
- Leverage Application Intelligence to identify thousands of applications and utilize over 7,000 application metadata elements

GigaVUE V Series: Data Aggregation

For traffic aggregation and processing, V Series can also be provisioned as a visibility node. These combine traffic streams and apply processing to optimize flows and distribute to the proper tools. Key benefits include:

- Deployment of a fully virtualized and automated architecture for SDDCs
- Centrally apply GigaSMART CoreVUE and data de-duplication to increase network efficiencies and offload tools
- Accelerate troubleshooting and remediate network and security issues
- Automatically instantiate unlimited V Series instances to ensure performance
- Process all Application Intelligence features, including application filtering and application metadata generation*

GigaVUE-FM fabric manager

Centralized orchestration and management are handled by GigaVUE-FM. Using RESTful APIs and tight coupling to orchestration tools from VMware, Nutanix, and OpenStack, this tool instantiates V Series for both traffic acquisition and aggregation where needed and configures policies for virtualized instances within any of these environments. Key benefits include:

- Detect changes in VM location or scale and automatically instantiate V Series for data acquisition and adjust the V Series for aggregation visibility tier
- Publish REST APIs: Integrate with third-party tools to dynamically adjust traffic received or to orchestrate new traffic policies
- Auto-discover and visualize end-to-end network topology, including virtualized workloads, by using an intuitive drag-and-drop user interface

* For V Series within VMware deployments

Conclusion

Whether your organization is already using VMware's ESXI, vCenter or NSX-T; Nutanix AHV, Prism or Flow; Kubernetes; or OpenStack-based orchestration, or is considering a future migration, GigaVUE Cloud Suite for private clouds provides intelligent network traffic visibility for virtualized workloads, on-premises or in the private cloud.

Integration with APIs automatically deploys and scales a visibility tier in all required locations, collects aggregated traffic, and applies advanced intelligence prior to sending selected traffic to existing security tools. With the GigaVUE Cloud Suite platforms, organizations can obtain consistent insight into their infrastructure across multiple private cloud environments.

For more information on GigaVUE Cloud Suite for private cloud, visit gigamon.com/solutions/cloud/private-cloud.html