GigaVUE Cloud Suite for VMware

Intelligent Traffic Visibility for VMware-Based Networks

Figure 1. Improving visibility in a VMware system using the GigaVUE Cloud Suite for VMware

Key Benefits

Traffic acquisition
- Minimize agent overload
- Reduce application downtime
- Scale up and down
- Minimize production changes
- Reduce costs

Traffic forwarding for network and security operations
- Selectively aggregate, optimize, replicate and distribute
- Easily chain services
- Elastically modify scale and performance

Management and orchestration
- Conduct from one or more central locations
- Automate with integration
- View topologically
The rapid adoption of Infrastructure-as-a-Service (IaaS) brings instant advantages of economies of scale, elasticity and agility to organizations seeking to modernize their IT infrastructures. A downside of the IaaS approach, however, is the inability to access all necessary traffic for threat detection and response and for application and network performance. For example, current security and monitoring tools that operate in private clouds such as VMware often lack complete access to this data in motion.

One approach to this challenge is to adopt what is shown in Figure 1 on the left. Such an approach, however, overloads compute instances, increases application and bandwidth costs, and forces an architecture redesign when adding new security and monitoring tools. An efficient and optimal solution, in contrast, is to use Gigamon GigaVUE® Cloud Suite as shown on the right in Figure 2.

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 cloud, thereby accelerating the onboarding of applications to VMware.

GigaVUE Cloud Suite for VMware, as shown in Figure 2, acquires traffic with a single, lightweight agent installed on the workloads, in this case VMware instances. The platform integrates with VMware’s vCenter APIs to discover the cloud infrastructure, deploys a Gigamon G-vTAP VM visibility fabric node in each vCenter host that collects aggregated traffic from the desired hosted applications and apply advanced traffic intelligence prior to sending selected traffic to security and monitoring tools.

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Figure 2. Application of GigaVUE Cloud Suite with VMware
GigaVUE Cloud Suite Components

Giga-vTAP VM
A lightweight application deployed as a VMware VM instance. The agent directs and receives mirrored traffic from the desired VM applications and sends the mirrored traffic via VxLAN, L2GRE or IPSec to GigaVUE H Series nodes or directly to monitoring applications.

GigaVUE-FM
The Gigamon Fabric Manager provides centralized orchestration and management across the entire network infrastructure, including on OpenStack, VMware and public clouds, such as Microsoft Azure and Amazon AWS. You can configure traffic policies using a simple drag-and-drop user interface.

With this solution, you can take advantage of:

- **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. Specifically, with NetFlow up to more than 90 percent reduction in data to tools can be achieved.\(^1\)
- **Operational efficiency**: One common platform for visibility across the entire IT environment enables consistent insight in VMware. Acquire network traffic with minimal impact to 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 specific target compute instances to monitor
  - Flexibility to perform the analysis of traffic anywhere
  - Automate and orchestrate visibility using open REST APIs

\(^1\) Based on Gigamon internal testing in November 2017.
## Key Features and Benefits

### Visibility Deployment
- Lightweight tapping application, deployed per vCenter hypervisor host
- vSwitch agnostic
- GigaVUE-FM integration with vCenter APIs for provisioning of G-vTAP VM instances
- **Minimize host overload:** Deploy one G-vTAP per vCenter host (vs. one per security tool or one per application VM instance) lowers impact on CPU utilization per host and per instance
- **Reduce application downtime:** Avoid redesigning infrastructure to add new tool agents as applications scale out in vCenter or as more operational tools are added
- **Scalability:**
  - Automatically scale G-vTAP VM as instances scale out due to demand
  - Automatic target applications and traffic
  - Service chain multiple operations

### Traffic Acquisition
- VM traffic selected to be mirrored
- Mirrored traffic received
- **Minimize production changes by directing vSwitch to mirror traffic to/from applications of interest**
- Access traffic from any application to any tool, even for different throughput rates of applications and tools
- **Reduce costs:** Forward only traffic of interest to reduce application, vSwitch and data egress costs

### Traffic Forwarding for Network and Security Operations

#### Core intelligence:
- Selectively filter traffic based on Layer 2–4 rules (e.g. IP addresses/subnets, TCP/UDP ports)
- Tunnel traffic out using L2GRE or VxLAN, which can be optionally IPsec encrypted
- **Optimize tools by forwarding only traffic of interest or dropping traffic not of interest**
- Forward selected traffic to physical or virtual visibility nodes or security and monitoring tools, and securely if desired

#### Traffic intelligence:
- Modify key content in packet headers
- Slice off packet payload
- Fragment large packets before tunneling
- **Pinpoint source of traffic**
- Maintain regulatory compliance by removing sensitive and private data
- Allow tools to operate more effectively by forwarding less traffic volume and more packets
- **Ensures no loss of data in large packets over LAN networks with restricted MTU**
Management and Orchestration

Note: See the GigaVUE-FM data sheet for more details

<table>
<thead>
<tr>
<th>Centralized orchestration and management:</th>
<th>• Single-pane-of-glass management, orchestration and visualization across entire infrastructure — public, private and hybrid</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Define traffic policies using simple drag-and-drop</td>
<td>• Detect VM instance changes in the vCenter host and automatically adjust the visibility tier</td>
</tr>
<tr>
<td>• Configure traffic policies using software-defined networking constructs</td>
<td>• Dynamically adjust traffic received or orchestrate new traffic policies</td>
</tr>
</tbody>
</table>

Automation and integration:

• Automate visibility with vCenter APIs
• Integrate tools with visibility using open published REST APIs

Topography visualization:

• Automatically discover and display end-to-end topology
• View the visibility tier and vCenter VM instances as a topology

* Requires Advanced Features license

Minimum Requirements for GigaVUE Cloud Suite Components

<table>
<thead>
<tr>
<th>SOLUTION COMPONENT</th>
<th>MINIMUM PER HOST</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating system</td>
<td>4GB virtual IDE storage</td>
<td>Per component choices: • Linux: RPM or Debian package • Windows: Windows Server 2008/2012/2016</td>
</tr>
<tr>
<td>G-vTAP agent</td>
<td>1 x vCPU, 2GB RAM, 3 x vNICs</td>
<td>vNICs (three or more): • Maximum: 10 network adapters • Network Adapter 1; G-vTAP VM management port • Network Adapter 2; G-vTAP VM tunneling port to on-prem physical or virtual visibility fabric nodes • Network Adapters 3–10; G-vTAP VM network ports</td>
</tr>
<tr>
<td>GigaVUE-FM</td>
<td>4 x vCPU, 16GB RAM, 40GB root disk</td>
<td>Fabric manager: • Needs to be able to access the G-vTAP VM nodes to issue the commands • Automatically spins up additional G-vTAP VM nodes based on a predefined configuration in the user interface*</td>
</tr>
</tbody>
</table>

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

For on-premises GigaVUE-FM requirements and ordering information, please refer to the GigaVUE-FM data sheet.
Ordering Information

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

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
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</thead>
<tbody>
<tr>
<td>GFM-VM010</td>
<td>GigaVUE-VM 10 Pack Bundle SW License Extension</td>
</tr>
<tr>
<td>GFM-VM050</td>
<td>GigaVUE-VM 50 Pack Bundle SW License Extension</td>
</tr>
<tr>
<td>GFM-VM100</td>
<td>GigaVUE-VM 100 Pack Bundle SW License Extension</td>
</tr>
<tr>
<td>GFM-VM250</td>
<td>GigaVUE-VM 250 Pack Bundle SW License Extension</td>
</tr>
<tr>
<td>GFM-VM1000</td>
<td>GigaVUE-VM 1000 Pack Bundle SW License Extension</td>
</tr>
<tr>
<td>GFM-VM-NSX</td>
<td>Add-on NSX-V Integration license for GFM-FM001, GFM-FM005, GFM-FM010, GFM-HW0-FM010</td>
</tr>
<tr>
<td></td>
<td>Note that customer still needs to purchase the VM packs for the number of hosts</td>
</tr>
<tr>
<td>GFM-VM-NSXT</td>
<td>Add-on NSX-T Integration license for GFM-FM001, GFM-FM005, GFM-FM010, GFM-HW0-FM010</td>
</tr>
<tr>
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<td>Note that customer still needs to purchase the VM packs for the number of hosts</td>
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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 www.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: www.gigamon.com.