GigaVUE Cloud Suite for Nutanix

TECHNOLOGY ALLIANCE **Gigamon®**

KEY BENEFITS FOR BUSINESS AND IT

- Optimize traffic processing and distribution with 100% visibility into apps while reducing load on compute instances and tools

- Identify over 3000 apps with 5000 L4-7 metadata attributes to send the right traffic to the right tool with contextual insights

- Simplify network management with full automation through integrated and certified tool suites

- Dramatically improve security tools effectiveness, improve performance, accelerate troubleshooting and reduce TCO

"As organizations adopt hyperconverged infrastructures VMs proliferate and disperse. Gigamon ensures visibility to fully acquire, optimally process and dynamically direct their traffic to the proper security and network monitoring tools."

– Bassam Khan, VP-Product and Technical Marketing, Gigamon

GIGAMON AND NUTANIX

Nutanix makes infrastructure invisible, elevating IT to focus on the applications and services that power their business. The Nutanix Enterprise Cloud platform leverages web-scale engineering and consumer-grade design to natively converge compute, virtualization and storage into a resilient, software-defined hyperconverged infrastructure (HCI) for your workloads and applications.

The GigaVUE Cloud Suite for Nutanix ensures network performance, security and IT agility with complete visibility across all layers of traffic. This solution aggregates, optimizes and delivers the right traffic to the right tools so organizations can better protect their network, improve performance and prevent outages.

NETWORKING AND SECURITY CHALLENGES

Organizations managing modern applications deployed on hybrid clouds require complete visibility at not only packet, but application layers. Administrators need insights into all VMs and containers to fully understand traffic flows and avoid blind spots.

Legacy schemes only provide sampled NetFlow data and involve SPAN ports that only get a subset of traffic due to the impact on networking equipment. If raw data is disributed this results in duplicated and complex packets with excessive bandwidth use. Tools are overloaded and their effectiveness and accuracy reduced.
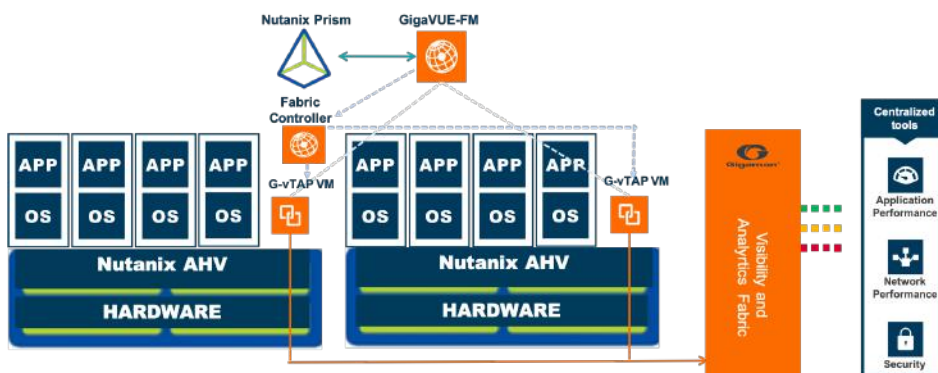

Figure 1: Traffic acquisition with Gigamon G-vTAP

NUTANIX™

SOLUTION OVERVIEW

Together Nutanix and Gigamon's GigaVUE Cloud Suite for Nutanix help deliver end-to-end solutions for hybrid clouds.

• Provide packet and application layer visibility for distributed virtual workloads in Nutanix AHV powered private clouds

• Deliver VM flows of interest to the Gigamon Visibility and Analytics Fabric for aggregation and advanced processing

• Automate the provisioning and configuration of Gigamon fabric components with tight integration with Nutanix Prism

• Nutanix Flow and GigaVUE Fabric Manager enable granular traffic selection within microsegmented security groups

NUTANIX READY

GigaVUE Cloud Suite for Nutanix is validated on Nutanix AHV

TECHNICAL DETAILS

The Gigamon Visibility and Analytics Fabric includes: G-vTAPs that provide traffic mapping, VM/port filtering, L2GRE tunneling and packet slicing; distributed physical (GigaVUE HC Series platforms) visibility nodes that provide traffic aggregation and advanced processing including data deduplication, header stripping, tool load balancing and TLS decryption. At the heart of the fabric is Gigamon's patented Flow Mapping® technology that identifies and directs incoming traffic to single or multiple tools based on user defined rules implemented from a centralized fabric management console, GigaVUE-FM.

• GigaVUE-FM directs Prism to instantiate G-vTAP VMs, directs traffic policy configurations and monitors operations

• GigaVUE-FM directs compute VMs running workloads to copy their micro-segments' traffic and send to the visibility nodes

• GigaVUE-FM configures and monitors HC series appliances and directs traffic to the security and monitoring tools

• For optimized traffic processing, application filtering, advanced L4-7 metadata generation and SSL decryption, these services can be enabled on the Gigamon HC physical platforms before delivering to the security and monitoring tools

GIGAVUE CLOUD SUITE FOR NUTANIX

This suite delivers intelligent network traffic visibility for workloads running in VMs and deployed on-premise or in private cloud environments managed by Nutanix Prism/Flow. The joint solution enables increased security, operational efficiency and scales across an unlimited number of VMs. The solution consists of three key components:

• Traffic acquisition using agentless G-vTAP VM

• Traffic aggregation, intelligence and distribution using GigaVUE physical HC series

• Centralized orchestration and management using GigaVUE-FM

G-VTAP VM

For traffic acquisition, agentless, light footprint virtualized G-vTAPs are deployed as a Nutanix guest VM on each hypervisor. FM leverages Prism APIs to deploy G-vTAPs and configure traffic redirection from the Acropolis hypervisor; copied packets from each of the VMs on the same server are sent to the G-vTAPs through a virtual switch. They subsequently send this mirrored traffic via tunneling to a GigaVUE HC Series for aggregation and processing. Key benefits include:

• Single, lightweight VM per hypervisor minimizes impact on compute nodes and delivers gigabits/sec. per instance

• No need to run special software or make changes to kernel modules

• Reduction in application downtime — there is no need to redesign applications when adding new tools

• Auto-pinned to a host so movement of VMs across different servers does not impact continuous traffic visibility.

GIGAVUE PHYSICAL NODES

Traffic aggregation, intelligence and distribution is provided by the GigaVUE HC Series nodes, which are deployed within the visibility tier. Key benefits include:

• Automatic Target Selection (ATS): Automatically extract traffic of interest from any workload

• Flow Mapping®: Selection of Layer 2 to 4 traffic

• NetFlow/IPFIX generation: Create flow records from network traffic to determine IP addresses and ports used

• Header Transformation: Modify content in the header (L2-L4) to ensure security and segregation of sensitive data

• GigaSMART intelligence: Slice, sample and mask packets to optimize traffic sent to tools, reducing tool overload

• Support for Gigamon Application Intelligence with identification and extraction of over 3000 applications as well as over 5000 advanced L4-7 metadata attributes that can be sent to various SIEM and other security tools

• SSL/TLS processing

• Load balancing of security and network monitoring tools

GIGAVUE-FABRIC MANAGER (FM)

Centralized orchestration and management are handled by GigaVUE-FM. Using RESTful APIs and its tight coupling to Prism, this tool directs Prism to instantiate G-vTAP VMs on each hypervisor where visibility is needed and configures policies for these virtualized instances within multiple environments. Essentially any deployment where Prism orchestration is utilized. Key benefits include:
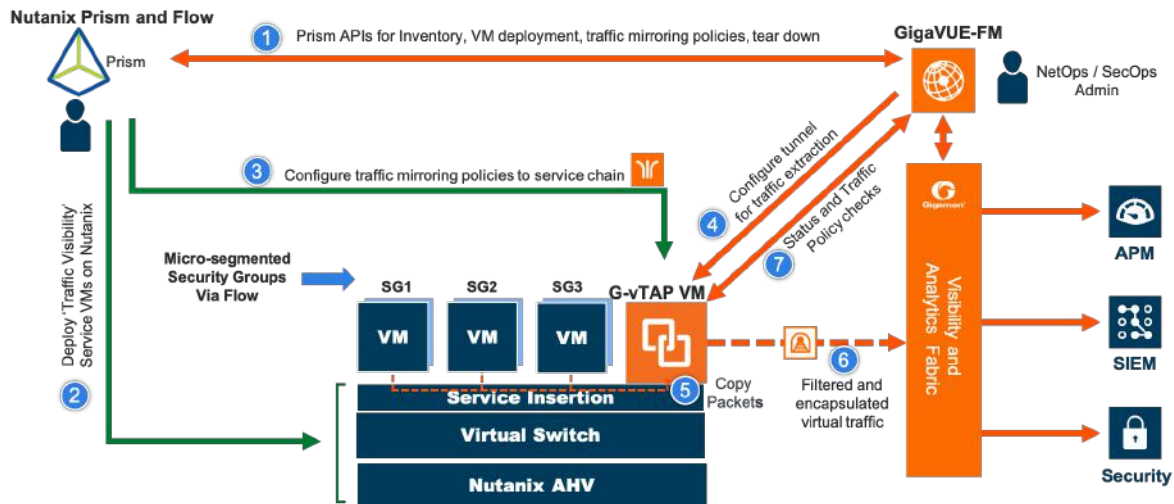
Figure 2: Centralized management with Prism and FM

- Detect additional VM location and automatically instantiate G-vTAP VMs and adjust the visibility tier, through pre-built integration with Prism APIs

- Track change of location events across the high availability (HA) cluster environments, enabling visibility policies of the G-vTAP VMs to be tied to the monitored VMs as workloads move across physical hosts

- Publish REST APIs: Integrate with third-party systems and tools to dynamically adjust traffic received or to orchestrate new traffic policies

- Auto-discover and visualize the end-to-end network topology, including VM workloads by using an intuitive drag-and-drop user interface

- Eliminate manual processes and errors by automatically identifying each new workload and their associated traffic mirroring via ATS, and then configuring the G-vTAP VMs to direct traffic to physical appliance nodes

TECHNICAL RESOURCES

- GigaVUE Cloud Suite for Nutanix Data Sheet
- Configuration Guide
- Gigamon Validated Design

GET STARTED

Nutanix and Gigamon are committed to our customers' success. We offer a wide range of services, around design, deployment, and optimization, as well as custom services tailored to customers' needs. To try Nutanix with Gigamon, contact Gigamon and speak to an expert.

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YOUR ENTERPRISE CLOUD

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