



Joint Solution Brief

Pervasive Visibility into SDDC/NSX Deployments

The Challenge

Current network and security solutions are rigid, complex, and often vendor-specific. This creates a costly barrier to data center agility, efficiency and scale.

Integrated Solution

Software Defined Data Centers (SDDC) provide a different approach to enable fast provisioning of networking and security services, simplified operations and fundamentally better security for data centers. Gigamon and VMware have developed an integrated solution that leverages Gigamon's Unified Visibility Fabric™ and VMware NSX network virtualization. Gigamon's Unified Visibility Fabric delivers pervasive and dynamic visibility of traffic traversing both physical and NSX-based virtual networks. This allows customers to realize the full benefits of network virtualization including service provisioning agility, feasible micro-segmentation and simplified operations as well as significantly improved end-to-end network flexibility by enabling static tools to connect to dynamic, virtualized applications.

Key Benefits

- Deploy over existing physical networks or next generation topologies without disrupting the production network
- Place and move virtual workloads independent of physical topology
- Achieve tenant-level isolation and security using data center micro-segmentation
- Use pervasive visibility into virtual and physical network traffic to offload intelligent and scalable filtering policies to Gigamon's Visibility Fabric while

The Challenge

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 monitoring the SDDC infrastructure is the ability to have an immediate and rich understanding of activity in your end-to-end network. To accomplish this, network monitoring solutions require visibility and monitoring of both virtual and physical infrastructure. This requirement can be challenging.

Pervasive visibility into the data center network requires this information to be readily accessible so that network, application and security monitoring tools can leverage the physical and virtual data flows to analyze congestion points, security threats, and application behavior to help automate, secure, and optimize the data center network.

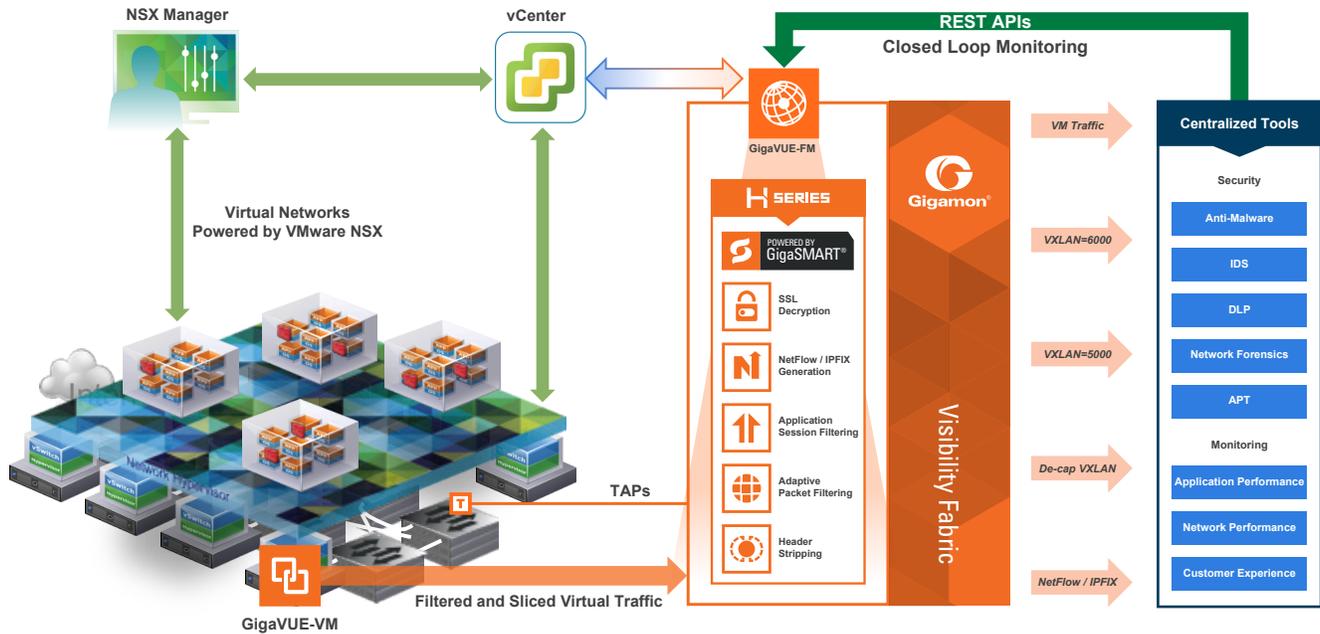
The Gigamon and VMware Joint Solution Overview

Using the Software Defined Data Center approach, Gigamon, a leader in network visibility and monitoring (NVM) solutions and VMware, the leader in server and network virtualization, are extending their joint product offerings to provide pervasive and intelligent visibility into the physical and virtual networks by integrating the Gigamon Visibility Fabric with VMware NSX platform.

VMware NSX is the leading network virtualization platform that delivers the operational model of a virtual machine for the network. Similar to virtual machines for compute, virtual networks are programmatically provisioned and managed independent of underlying hardware. NSX reproduces the entire network model in software, enabling any network topology—from simple to complex multi-tier networks—to be created and provisioned in seconds.

Gigamon's Unified Visibility Fabric is an innovative solution that delivers pervasive and dynamic visibility of traffic traversing communication networks. The Unified Visibility Fabric significantly improves network flexibility by enabling static tools to connect to dynamic, virtualized applications, so users can efficiently and securely address their business needs.

The Visibility Fabric consists of distributed physical nodes (GigaVUE H Series platforms) and virtual (GigaVUE-VM) nodes that provide an advanced level of filtering intelligence. 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.



How the Joint Solution Works

VMware NSX leverages the vSwitches already present in server hypervisors across the data center. NSX coordinates these vSwitches and the network services pushed to them for connected VMs to effectively deliver a platform—or “network hypervisor”—for the creation of virtual networks.

These virtual networks are created using encapsulation technologies like VXLAN, which create Layer 2 logical networks that are encapsulated in standard Layer 3 IP packets, thus allowing the extension of Layer 2 virtual networks across physical boundaries. A “Segment ID” in every frame differentiates the VXLAN logical networks from each other without any need for VLAN-Tags. With a 24 bit segment ID to uniquely identify broadcast domains, VXLAN enables multi-tenant environments at cloud scale and extends the Layer 2 network across physical boundaries by encapsulating the original frames in a MAC-in-UDP encapsulation.

Learn More

For more information on the VMware and Gigamon solution, visit:

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Monitoring performance of VXLAN networks and virtual tunnel endpoints is the key to enabling network operations teams to control and comprehend the “virtual” domains floated on top of the common networking and virtualization infrastructure.

Gigamon’s solutions extend visibility into the “Virtual Networks” using existing physical network monitoring tools.

- Filter and monitor traffic at virtual network level using the GigaSMART® Adaptive Packet Filtering application
- Identify, filter or drop application traffic sessions using GigaSMART® Application Session Filtering, based on signatures or patterns
- Decapsulate VXLAN traffic using GigaSMART Header Stripping
- Integrate with VMware vCenter to extend visibility policies for inter-host VM traffic using GigaVUE-VM
- Automate migration of VM-level monitoring policies when vMotion is detected
- Centralize management of physical and virtual visibility policies using GigaVUE-FM Fabric Manager



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