

VM Tracer - Unprecedented Visibility

Data Center Class

Introduction

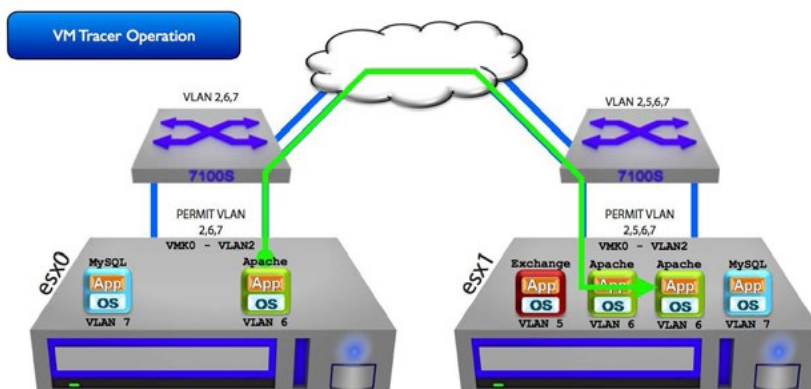
Virtual Machines are inherently mobile and the amount of data moved makes even high-end video conferencing or telepresence look tiny in comparison. Coupled with new service-oriented application architectures and consolidated IP-based storage and backup systems these three factors are changing the way data moves in the data center network.

VMs are consolidating traditional servers and the network bandwidth requirements increase with each additional VM - 10Gb Ethernet becomes the preferred interconnect for ESX hosts. Advanced virtualization features like VMware Fault Tolerance also impose an additional requirement of low-latency in the network transport. Private clouds demand automation, extensible API integration, and self-service operating models, and operationally the question still gets asked every day, "Where is that VM at?"

Arista is introducing VM Tracer, a capability that is natively integrated into the Arista Extensible Operating System (EOS) and works with the entire Arista 7000 Family of Data Center Switches, and links the Arista switches to VMware's vCenter and create an adaptive infrastructure whereby the network responds to sensed changes in the virtual machine network.

VM Tracer works with vSphere 4.0 and higher. It utilizes the published vCenter APIs and works across all editions of vSphere.

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Some of the key capabilities of VM Tracer include segmentation, quality of service, etc. that is designed to address the challenges Virtual Machines bring to networking. The individual features are:

VM Auto Discovery - Find exactly which ESX Hosts and VMs are on a given port in the network. Displays the full Physical Port to Virtual Switch to VM Binding. Provides visibility into the network reachability of a given virtual machine and the virtual machine's transient state including detail into whether it is part of a VM Fault Tolerance configuration or actively being vMotioned.

VM Adaptive Segmentation - Arista EOS will dynamically create VLANs as they are needed by the virtual machines. If a virtual machine shuts down, or is moved it's VLAN(s) will be pruned to preserve bandwidth and CPU cycles for useful workloads. With the VMware vCloud Director VM Adaptive Segmentation enables full-service provisioning through the customer self- service portal and vSphere 4.1.

VM Host View - gives the network administrator unprecedented visibility into the host with critical information such as: Manufacturer, Processor, NIC type, and Service Tag/Serial Number. This allows the network operator to better understand the performance capabilities of a given host and thus manage bandwidth provisioning more effectively. It also greatly aids in troubleshooting as it is much easier to communicate to a remote operator when you can tell them exactly what they are looking for.

VMware ESX Port Profile - When a port is placed into vmware-esx mode Arista EOS will automatically configure the interface based on the best practice for connecting virtual machines. This reduces configuration, and more importantly reduces configuration errors.

As EOS continues to evolve by keeping VMware interfaces in the correct port profile future upgrades will automatically apply any updates to this best practice.

vEOS's evolution will provide a point of aggregation for large scale network views across multiple switches to ease the discovery of MAC addresses, IP addresses, and Virtual Machines.

VM Tracer Multi-Tenancy- Arista EOS 4.5 supports connections to up to four separate vCenter administrative domains with VLAN span-of- control per vCenter instance. This allows for a single switch to connect to and participate in multiple virtualization domains concurrently. This is ideal for environments with a mix of production and lab services where each is allocated a specific range of routable VLANs.

The Role of vEOS with VM Tracer

vEOS provides network administrators a familiar command line interface and SNMP interface to the vSwitch infrastructure. vEOS's evolution will provide a point of aggregation for large scale network views across multiple switches to ease the discovery of MAC addresses, IP addresses, and Virtual Machines. vEOS and VM Tracer are designed to seamlessly interoperate.

VM Tracer, integrated into EOS 4.5 and higher provides unprecedented visibility into the virtualized environment, seamless integration into a familiar industry-standard CLI, and automatic configuration of tasks and policy by integrating natively with VMware vCenter. When coupled with vEOS as a management plane, Arista customers will enjoy visibility into the vSwitch, the VM farm, and policy control that is natively integrated into VMware vCenter.

How to Buy VM Tracer

VM Tracer is integrated with EOS and runs on the Arista 7000 Family of Cloud Networking Switches. VM Tracer is a separately licensed software function available direct from Arista, and through the Arista reseller channel. VM Tracer is licensed by the switch type it is resident on enabling it to be far more cost effective at any scale than per-server or per-core licensing schemes.

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