

Tracer for AHV: Network Automation for Nutanix Enterprise Clouds

KEY BENEFITS FOR BUSINESS AND IT

- › Integration with Nutanix APIs to provide network automation and visualization for virtualized workloads
- › Simplifies network manageability and troubleshooting in virtualized environments
- › Reduces operator error and increases security
- › Highly available disaster recovery between multiple data centers with seamless networking
- › Scalable, low latency enterprise cloud architecture
- › Highly resilient and fault tolerant design

NUTANIX READY



SOLUTION OVERVIEW

Next generation data centers offer the flexibility of the cloud with on demand consumption, quick deployment, faster ROI and easier manageability. Nutanix and Arista have partnered to deliver a more agile, dynamic and cloud-like experience where the network is made invisible just like storage and compute resources.

Nutanix Prism provides simple and open APIs that enable automated policy updates to network devices such as top-of-rack (ToR) switches. Arista Tracer for Nutanix AHV (AHV Tracer) uses these APIs to automate and visualize VM and network lifecycle events.

The AHV Tracer gives the user a VM centric view of the network. It is able to pull information from VMs in the cluster and display it providing quick access to information enabling, the end user to have a network centric view of their virtualized environment. As the environment scales, new VM addresses are picked up automatically via the API allowing the simple management experience to extend throughout the entire data center stack - networking, storage and compute.

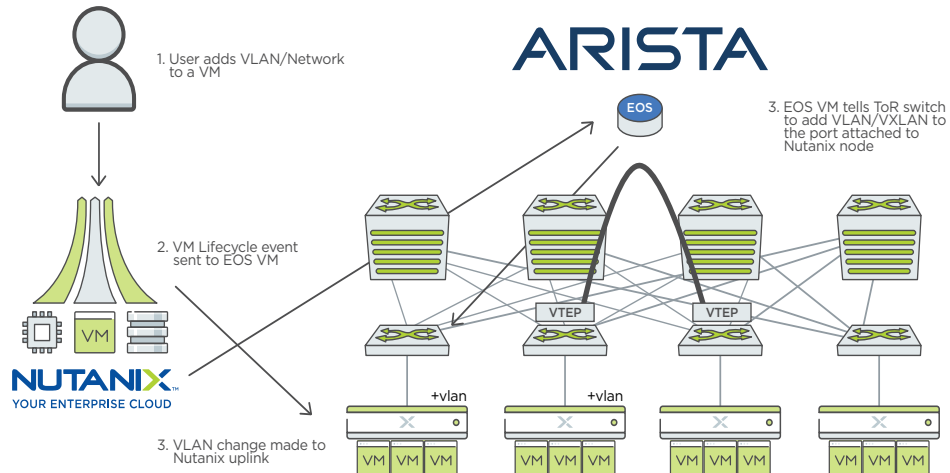
In addition to visualization, VM and network events in Nutanix Prism can trigger automatic provisioning at the network layer. When a VM migrates from one AHV host to another, the VLAN can be assigned to the new switch port and removed from the previous port. When a network is created in Prism, that network can also be created by API in Arista EOS, and even span multiple data centers using VXLAN. Nutanix and Arista customers benefit from seamless application mobility and disaster recovery without having to manually reconfigure guest VM IP addresses.

TECHNICAL SUMMARY

AHV Tracer is deployed as an extension on Arista EOS. By leveraging standard networking protocols and the open APIs available on both EOS and Nutanix, it can determine where virtualized workloads are located on the network. If a network operator needs to find which switch port a particular Virtual Machine is connected to, they can find it quickly and easily without having to trace cables or manually correlate data from various sources. In addition, it can be run with a detailed view to get even more information about the attached VMs such as NIC IDs, VLANs, and IP Addresses.

By leveraging Arista NetDB, AHV tracer gains a network-wide view of the network topology, including Nutanix hosts. With this information, AHV Tracer is able to automatically provision Arista ToR switches with VLANs which have been created in Nutanix Prism as AHV Networks, as well as remove unused VLANs from the switches when no longer needed. When deploying across a layer 3 network fabric, AHV Tracer is able to leverage hardware VXLAN and Arista VXLAN Control Services (VCS) to automatically create an overlay between the required switches for guest VM networking. To provide immediate response to these changes, AHV Tracer listens to VM lifecycle events when triggered by AHV, no polling is required.

TOPOLOGY AND INTERACTION



SAMPLE OUTPUT

```

cvx#sh acropolistracer vlans
VMHOST          VMID          VMNAME          POWER STATE    HOSTNAME          LOCAL INTERFACE    VLANS
-----
NTNX-AHV-3      5a15d71a-25d4-41e3-8  nutanix-demo    ON             cs-1f22.sjc.aristane  Ethernet9          200
NTNX-AHV-3      5a15d71a-25d4-41e3-8  nutanix-demo    ON             cs-1f22.sjc.aristane  Ethernet7          23
NTNX-AHV-3      5a15d71a-25d4-41e3-8  nutanix-demo    ON             cs-1f22.sjc.aristane  Ethernet7          200
NTNX-AHV-3      5a15d71a-25d4-41e3-8  nutanix-demo    ON             cs-1f22.sjc.aristane  Ethernet9          23
NTNX-AHV-3      381e59f7-25ca-46b5-a  p_demo          ON             cs-1f22.sjc.aristane  Ethernet9          23
NTNX-AHV-3      381e59f7-25ca-46b5-a  p_demo          ON             cs-1f22.sjc.aristane  Ethernet9          22
NTNX-AHV-3      381e59f7-25ca-46b5-a  p_demo          ON             cs-1f22.sjc.aristane  Ethernet7          23
NTNX-AHV-3      381e59f7-25ca-46b5-a  p_demo          ON             cs-1f22.sjc.aristane  Ethernet7          22
  
```

```

cvx#sh acropolistracer vm
HOSTNAME          VMNAME          POWER STATE    LOCAL INTERFACE
-----
NTNX-AHV-3        p_demo         on             ['Ethernet7', 'Ethernet9']
NTNX-AHV-3        nutanix-demo   on             ['Ethernet7', 'Ethernet9']
  
```

TECHNICAL RESOURCES

Download link for Arista Tracer for Nutanix AHV:

<https://www.arista.com/en/support/software-download>

ABOUT ARISTA

Arista Networks was founded to pioneer and deliver software-driven cloud networking solutions for large data center storage and computing environments. Arista's award-winning platforms, ranging in Ethernet speeds from 10 to 400 gigabits per second, redefine scalability, agility and resilience. Arista has shipped more than 20 million cloud networking ports worldwide with CloudVision and EOS, an advanced network operating system. Committed to open standards, Arista is a founding member of the 25/50GbE consortium. Arista Networks products are available worldwide directly and through partners.

At the core of Arista's platform is the Extensible Operating System (EOS™), a ground-breaking network operating system with single-image consistency across hardware platforms, and modern core architecture enabling in-service upgrades and application extensibility.



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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 solution with rich machine intelligence. The result is predictable performance, cloud-like infrastructure consumption, robust security, and seamless application mobility for a broad range of enterprise applications.

Learn more at www.nutanix.com or follow us on [Twitter @nutanix](https://twitter.com/nutanix).

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