Tracer for AHV: Network Automation for Nutanix Enterprise Clouds

**SOLUTION OVERVIEW**

Next generation data centers have many benefits. They 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 network is made invisible just like storage and compute resources.

Nutanix Acropolis provides simple and open APIs that allow automated policy updates to the top-of-rack (TOR) switches enabling Arista Tracer for Nutanix AHV functionality to automate and visualize network operations related to guest VM lifecycle events.

In the first release, the Tracer for AHV 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 an 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 through the entire data center stack – networking, storage and compute.

**TECHNICAL SUMMARY**

Tracer for AHV is deployed as an extension on an Arista switch running EOS that is connected to a Nutanix node. By leveraging standard networking protocols and the open APIs available on both EOS and Nutanix, it is able to 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.

**KEY BENEFITS FOR BUSINESS AND IT**

- Integration with Nutanix APIs to provide network information for virtualized workloads
- Simplifies network manageability and troubleshooting in virtualized environments
- Scalable, low latency enterprise cloud architecture
- Highly resilient and fault tolerant design
**SAMPLE OUTPUT**

LF1> show acropolistracer vm

<table>
<thead>
<tr>
<th>HOSTNAME</th>
<th>VMNAME</th>
<th>LOCAL INTERFACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTNX-AHV-2</td>
<td>Demo1</td>
<td>['Ethernet13', 'Ethernet14']</td>
</tr>
<tr>
<td>NTNX-AHV-3</td>
<td>NTNX-AHV-3-CVM</td>
<td>['Ethernet16', 'Ethernet15']</td>
</tr>
<tr>
<td>NTNX-AHV-1</td>
<td>NTNX-AHV-1-CVM</td>
<td>['Ethernet11']</td>
</tr>
<tr>
<td>NTNX-AHV-2</td>
<td>NTNX-AHV-2-CVM</td>
<td>['Ethernet13', 'Ethernet14']</td>
</tr>
<tr>
<td>NTNX-AHV-4</td>
<td>ntnx-ubuntu1</td>
<td>['Ethernet18', 'Ethernet17']</td>
</tr>
<tr>
<td>NTNX-AHV-4</td>
<td>NTNX-AHV-4-CVM</td>
<td>['Ethernet18', 'Ethernet17']</td>
</tr>
</tbody>
</table>

LF1> show acropolistracer vm detail

**Arista AcropolisTracer Extension: 1.0.0**

**EOS Configuration:**
- **USERNAME:** admin
- **PASSWORD:** Set
- **HOST:** 10.92.48.251
- **TRANSPORT:** https
- **PORT:** 443
- **ENABLE PASSWORD:** Set

**PRISM CONFIGURATION:**
- **USERNAME:** admin
- **PASSWORD:** Set
- **PRISM IP:** 10.92.48.100
- **PRISM PORT:** 9440

**Vm Details:**

**DETAILS FOR VM Demo1**

- **HOSTNAME:** NTNX-AHV-2
- **VM NAME:** Demo1
- **VM ID:** d6affb7b-4c9a-48f1-869f-6iec2575f0f8
- **SWITCH INTERFACES:** ['Ethernet13', 'Ethernet14']
- **Virtual NicU Uid:** 18a63018-05fe-4ad3-a35e-40fb8544aa5a
- **IPV4 ADDRESSES:**
  - For VNic 18a63018-05fe-4ad3-a35e-40fb8544aa5a:
    - vNic ID: 00054758-34f0-5ed5-0000-00000000ce50::d6affb7b-4c9a-48f1-869f-6iec2575f0f8:50:6b:8d:9b:cd:99
    - Acropolis Interface:vNic Name : eth2:tap0
    - Acropolis Vlan ID: 100
    - Switch Device ID: LF1.sjc.aristanetworks.com
    - Switch Interface: Ethernet13
    - Switch Vlan ID: 1048
  - For VNic 18a63018-05fe-4ad3-a35e-40fb8544aa5a:
    - vNic ID: 00054758-34f0-5ed5-0000-00000000ce50::d6affb7b-4c9a-48f1-869f-6iec2575f0f8:50:6b:8d:9b:cd:99
    - Acropolis Interface:vNic Name : eth3:tap0
    - Acropolis Vlan ID: 100
    - Switch Device ID: LF1.sjc.aristanetworks.com
    - Switch Interface: Ethernet14
    - Switch Vlan ID: 1048
TECHNICAL RESOURCES

ABOUT 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 solution with rich machine intelligence. Nutanix has helped large and small IT organizations simplify their datacenter and gain predictable performance, linear scalability, and cloud-like infrastructure consumption.

ABOUT ARISTA
Arista Networks was founded to deliver software-driven cloud networking solutions for large data center and computing environments. Arista's award-winning 10/25/40/50/100 GbE switches redefine scalability, robustness, and price-performance, with over 2,700 customers and more than two million cloud networking ports deployed worldwide. At the core of Arista's platform is EOS, an advanced network operating system. Arista Networks products are available worldwide through distribution partners, systems integrators and resellers.

NUTANIX READY

About Nutanix
Nutanix makes IT infrastructure invisible with an enterprise cloud platform that delivers the agility and economics of the public cloud, without sacrificing the security and control of on-premises infrastructure. Learn more at www.nutanix.com or follow us on Twitter @nutanix.