

Network Provisioning with Nutanix AHV and NVIDIA

- Integration of NEO™ software with Nutanix Prism
- Network automation for Virtual Machine lifecycle management
- Light touch network management with NEO™
- Enhanced network security
- Efficient enterprise cloud network
- Networking as an invisible infrastructure element
- Reduced total cost of ownership

NUTANIX CLOUD PLATFORM

In today's fast-paced, highly demanding environment, IT departments are being pushed to do more at a lower cost and faster than ever. One of the best methods of reducing both cost and complexity is to turn to hyperconverged platforms that can add agility to infrastructure and drive the overall total cost of ownership.

Nutanix offers a solution that converges compute, storage, and virtualization in a single appliance. The Nutanix Cloud Platform leverages hyperconverged infrastructure with off-the-shelf x86 servers to replace silos of servers, storage, and management tools with an integrated solution for scale-out clusters.

Nutanix Prism management framework streamlines time-consuming IT tasks, simplifies upgrades for efficient cluster maintenance, and provides capacity trend analysis and planning, as well as troubleshooting. Prism offers an end-to-end view of all workflows for the various converged resources in the data center. Starting with the AOS 5.0 release, Nutanix introduced a new set of APIs for one-click simplified network management.

NVIDIA MELLANOX NEO

NVIDIA NEO software is a powerful platform for data center network orchestration, designed to simplify network provisioning, monitoring and operations of the modern data center. NEO offers enterprise-grade automation capabilities that extend existing tools, from network staging and bring-up to day-to-day operations. NEO serves as a network API for NVIDIA Ethernet solutions. NEO simplifies fabric management, automates configuration of devices, provides deep visibility into traffic and network health, and enables early detection and auto-recovery of errors and failures. NEO leverages REST APIs to simplify integration with 3rd-party orchestration and management platforms, and allows access to fabric-related data and provisioning operations.

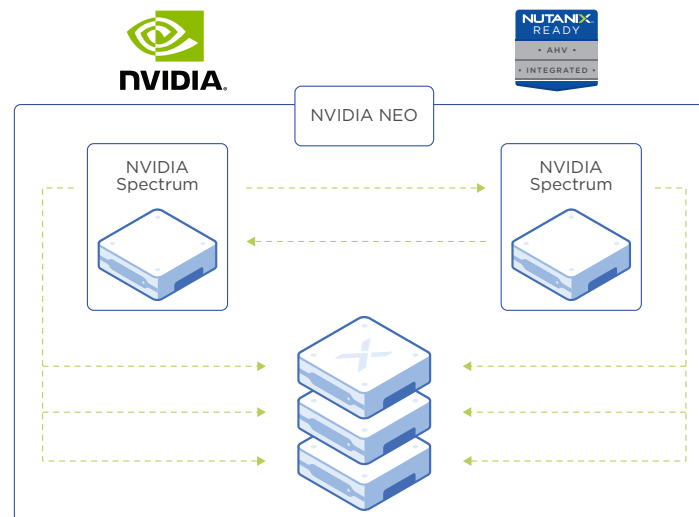
NVIDIA MELLANOX SPECTRUM

NVIDIA® Mellanox® Spectrum® Ethernet switch silicon provides leading performance, efficiency and throughput, low-latency, and scalability for data center networks. The NVIDIA SN2010 and SN2100 switches are Spectrum-based Ethernet switch systems that are ideal top-of-rack Ethernet solutions, tested and validated for the Nutanix hyperconverged Enterprise Cloud Platform

The SN2010/SN2100 switches offer a unique design to accommodate the highest rack performance. Their design allows side-by-side placement of two switches in a single 1U slot of a 19" rack, delivering high availability to the Nutanix cluster nodes. The SN2010 features 18 native 10/25GbE switch ports plus 4 40/100G ports for uplinks, while the SN2100 offers 16 ports running at 100GbE, accommodating up to 64 10/25GbE connections with breakout cables.

INTEGRATED SOLUTION

Prism offers enhanced network capabilities, including a new set of APIs to notify the network of guest VM lifecycle events. NVIDIA recently made use of these new APIs to develop an integrated solution between Nutanix Enterprise Cloud Platforms running Nutanix AHV and NVIDIA NEO that adds network automation for Nutanix Virtual Machine lifecycle management.



This integration addresses most common use cases of enterprise clouds:

- VLAN auto-provisioning for VM creation
- VLAN auto-provisioning for VM migration
- VLAN auto-provisioning for VM deletion

The integrated solution is currently suited for Mellanox Spectrum-based switches operated with NVIDIA Mellanox ONYX® and NVIDIA Cumulus Linux network operating systems.

VM Creation

When a Nutanix user creates a new VM instance from Prism, NEO will auto-matically configure the switch port that hosts the guest VM with its respective VLAN(s). For example, if a new VM “Web01” is created from Prism in network 99 (VLAN 99), NEO receives notification and automatically configures the switch port that hosts Web01 with VLAN 99. This configuration is fully trans-parent to the user, simplifying the configuration process openly and efficiently.

VM Migration

When a Nutanix user migrates a VM from one hypervisor to another or when a VM is migrated automatically from Prism, NEO automatically configures the switch port that hosts the guest VM with its respective VLAN(s). Where applicable, NEO also removes the respective VLAN(s) from the switch port that previously hosted the guest VM.

VM Deletion

When a Nutanix user deletes a VM instance from Prism, NEO automatically configures the switch port that hosts the guest VM to remove its respective VLAN(s), where applicable.

CONCLUSION

Hyperconverged-based enterprise cloud solutions bring significant advantages to data centers and clouds in today's fast-paced cost-conscious IT environments. By integrating compute, storage, virtualization, and management into a single web-scale platform with cloud-like characteristics, Nutanix Cloud Platform offer flexibility and cost savings to IT managers.

With the integration of NVIDIA NEO software to Nutanix Prism, customers can benefit from simplified network management, enhanced network security, and an efficient enterprise cloud network. This integration establishes networking as an invisible infrastructure element, further reduces the complexity of the cloud, and reduces the cluster's total cost of ownership.



T. 855.NUTANIX (855.688.2649) | F. 408.916.4039
info@nutanix.com | www.nutanix.com | [@nutanix](https://twitter.com/nutanix)