

# Bringing Cloud-like Experience to any Data Center at Scale with Nutanix and Apstra

## Delivering Business Services Faster with a Scalable, Turnkey Network Operations for the Entire Data Center Infrastructure

Companies are embracing digital transformation to improve on customer experience, gain competitive advantages and increase business revenue. Data Center IT has seen several transformations in the last two decades. One recent transformation is the modernization of networking. A modern data center network needs an automated control plane to support management of distributed applications and highly scalable infrastructure. Another transformation is the use of hyperconverged infrastructure (HCI) systems to consolidate data center infrastructure and simplify operations. HCI systems support a wide range of applications including business-critical enterprise applications, virtual desktop infrastructure (VDI), virtual machine consolidation, and test and development.

The [global HCI market size](#) is expected to grow from \$4.1 billion in 2018 to \$17.1 billion by 2023, at a Compound Annual Growth Rate (CAGR) of 32.9% during the forecast period according to ReportLinker. With this growth, the network needs to enable seamless scalability, and simplified and accelerated provisioning of network services.

### What Is The Challenge Today?

The OPEX to CAPEX ratio for data centers varies depending on the organization. In some cases, it can reach 30:1. The high OPEX is mainly contributed to Day 2 operation that requires on-going maintenance, troubleshooting potential failures, identifying performance issues, provisioning for new applications and services, and more. Hyperconverged infrastructure (HCI) systems offer a scaled-out, modular and distributed approach to storage, compute and network on standard hardware with unified management. However, the main challenge that remains is the physical network that sits outside the domain of HCI systems. HCI systems have limited visibility and are unaware of the network infrastructure to enforce common policy management across racks of clustered HCI systems. This is largely due to switch manufacturer policy or closed technology.

#### Specific challenges include:

1. Managing VXLAN/EVPN protocols over multi-rack networks is complex
2. Managing multi-vendor network environment is complicated
3. Managing layer 2 and layer 3 workloads in a state of change is cumbersome

#### CHALLENGES

- Managing VXLAN/EVPN protocols over multi-rack networks
- Managing multi-vendor network environment
- Managing layer 2 and layer 3 workloads in a state of change

#### SOLUTION

- Apstra AOS and Nutanix Prism integration

#### BENEFITS

- Scale and Agility of any Data Center
- Control, Automation and Deep Analytics of the Entire Infrastructure
- Breakdown silos, accelerate deployments and expansion

[www.apstra.com](http://www.apstra.com)



Managing these tasks manually tends to be error prone. In operating the data center, the HCI/server team and network operations team are typically separate and operate in silo. The separation of siloed management and control over portions of the data center limits business responsiveness and expansion and increases cost. Specific challenges faced by each team:

#### HCI/server team is faced with:

1. Manual process extending layer 2 and layer 3 workloads across racks. This process is lengthy, time consuming with chances of making configuration errors
2. Frustration as the process is not automated and unproductive consuming valuable IT resources and slowing down tasks

#### Network operations team is faced with:

1. A general need to automate and operate multi-vendor network infrastructure
2. An agile change management responsive to changes in Nutanix HCI, while maintaining operational control

## Why A Unified Apstra And Nutanix

With the integration of Apstra and Nutanix Enterprise Cloud with AHV virtualization, physical networks are no longer a burden to virtualization operators - allowing them to focus on applications rather than the underlying infrastructure. Specifically, operators can rest assured that as they provision and manage applications, Nutanix and Apstra will ensure that network services are simultaneously and correctly provisioned and monitored as needed. This will prevent failures caused by misconfigurations, reduce the duration of implementation and provisioning and reduce OPEX by eliminating manual configurations. The integrated solution enables Nutanix operators to seamlessly manage connectivity and enforce common policy among HCI clusters across racks over any network hardware vendor.

## Distinct Benefits include:

### Cloud-like Experience, Scale and Agility of any Data Center

1. Manage the entire infrastructure of any networking hardware vendors including Cisco, Arista, Juniper, Dell, Cumulus and SONiC from a single pane of glass interface increasing overall productivity and user experience
2. Make network configuration changes quicker and minimize human errors enabling IT to be more responsive to the business
3. Scale infrastructure to multi-racks much easier, quicker meeting business demands efficiently

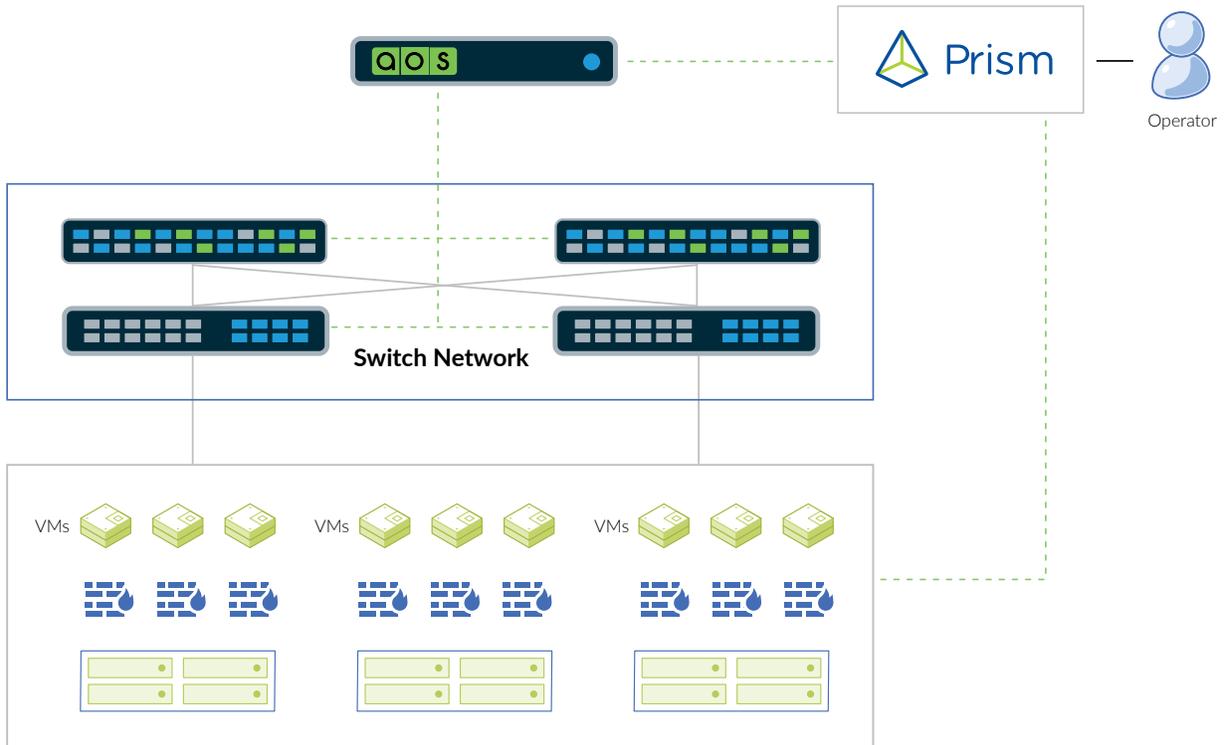
### Effortless Control, Automation and Deep Analytics of the Entire Infrastructure

1. End-to-end visibility into virtual networks, hypervisors, VMs, etc. across the entire infrastructure preventing failures and reducing operational cost
2. Complete control across the data center environment to automatically provision the network or stage the changes for review - no more silos and complexity
3. Automate policies, from a single interface eliminating misconfigurations and associated failures

### Breakdown silos, accelerate deployments and expansion

1. Bridge the integration gap across the entire infrastructure by:
  - a. Enabling Nutanix as a Virtual Infra System in Apstra AOS breaking down team silos
  - b. Unifying Nutanix cluster visibility into Apstra AOS
  - c. Multiple built-in Intent-Based Analytics probes
2. Accelerate infrastructure deployment by automating VLAN configuration and pruning for Nutanix cluster operations
3. Expand HCI and fabric capacity easily and quickly without increase in IT resources





## In Summary

Enterprises are looking for turnkey operations of their data centers to accelerate the delivery of business services. With Apstra and Nutanix virtual networking for distributed layer 2 and layer 3 workloads are entirely secured and automated. Operators are able to provision network services faster at any scale, control and automate operations of the entire infrastructure, and run over existing and future networking vendors including Cisco, Arista, Juniper, Dell, Cumulus and SONiC. All done from a unified interface - eliminating manual configurations.

Beyond the automation of physical and virtual networking for Nutanix AHV, Apstra AOS also enables extension of these capabilities beyond the network environments where Nutanix nodes operate. Non-virtualized (bare metal) nodes, hypervisors other than AHV and ESXi, storage devices and other middle-box appliances must be protected by underlying network policies, and this cannot be easily managed when the various networking domains within the data center operate independently. Apstra AOS manages this heterogeneous environment, eliminating complexity and human error while preventing outages.



- **Nutanix Ready; AHV Integrated**
- **Apstra AOS is a Nutanix Ready solution to address and meet a variety of business needs and challenges.**

