

Simplify Nutanix Connectivity with Cumulus Linux

The Connectivity Challenge

IT managers are under considerable pressure to accommodate diverse traffic loads, increase scalability, and improve resiliency. Too often, their legacy infrastructures are too rigid and complex to meet these needs—they’re simply not up to the task. What’s needed is an open, flexible networking model that is easy to operate, flexible and cost effective.

Hyperconverged infrastructure (HCI)—integrated compute and storage—offers lower operating costs, improved performance, greater scalability, streamlined management and simplified procurement.

In a crowded field of HCI vendors, Nutanix has emerged as a top performer, receiving high marks from analysts for both strength of product offering and long-term strategy. Nutanix leverages commodity server hardware to collapse independent services into a single converged platform, optimizing both computing and storage infrastructures.

Given these advantages, it’s no surprise that many IT groups are moving to deploy Nutanix solutions. Unfortunately, many risk the potential to fall behind schedule, hampered by network connectivity and configuration issues as well as organizational challenges.

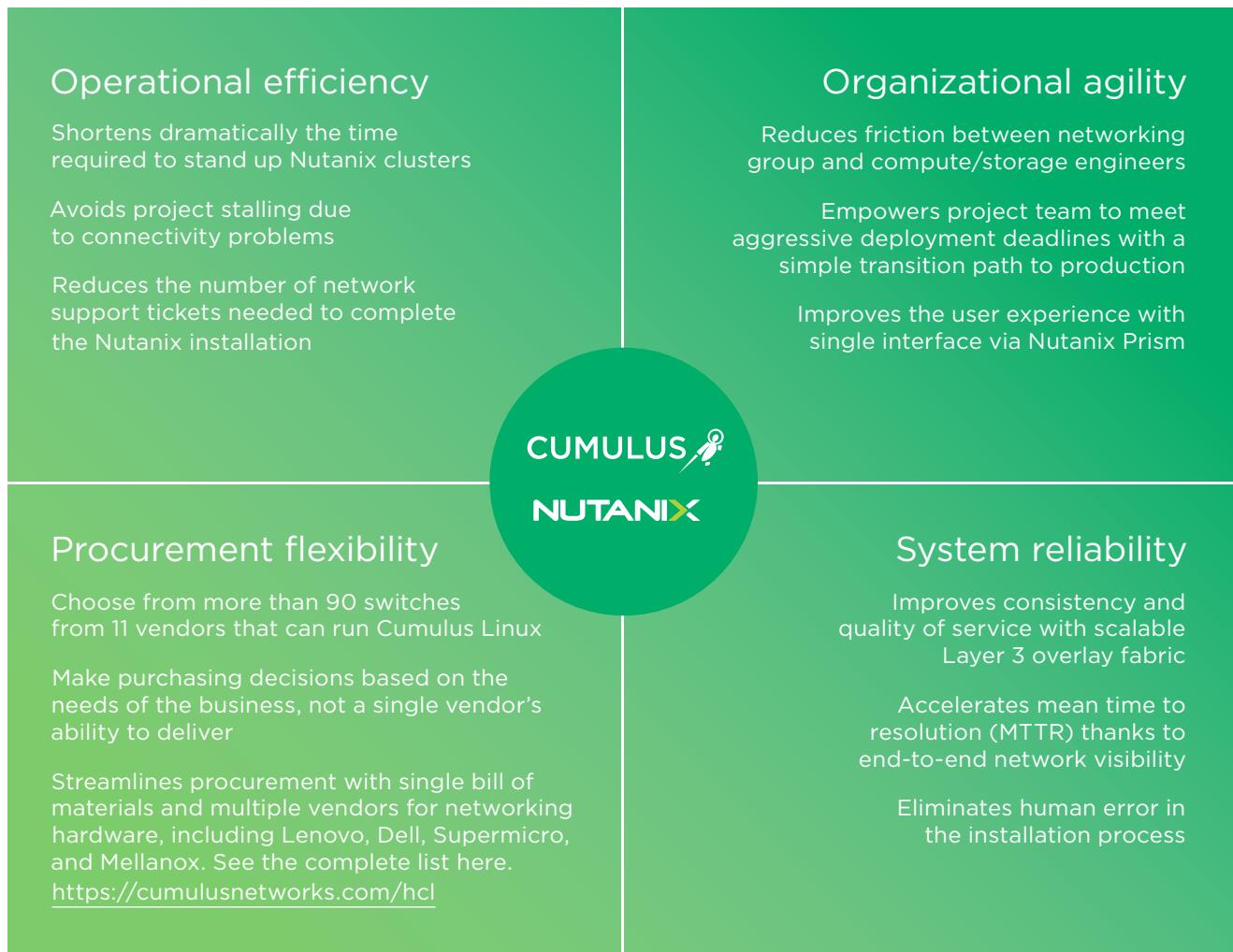
The Cumulus-Nutanix Solution

To address this problem, Cumulus Networks and Nutanix have collaborated on a comprehensive solution that automates network connectivity, simplifies procurement and speeds problem resolution. The key features of the joint solution are:

- Streamlined installation process for bare-metal and existing Cumulus-powered switches
- Automatic VLAN provisioning to establish and maintain connectivity without human intervention
- Distributed networking solution, which eliminates the need for a central controller
- End-to-end visibility across the network fabric
- Built-in link redundancy using Multi-Chassis Link Aggregation (MLAG) protocol

Solution Benefits

The Cumulus-Nutanix solution delivers tangible business value by increasing efficiency, boosting organization agility and procurement flexibility, and improving system reliability.



How It Works

The joint solution has three components: Cumulus Hyperconverged Service, Cumulus VLAN Management and Cumulus Zero-Touch Deployment.

CUMULUS HYPERCONVERGED SERVICE

Cumulus Hyperconverged Service (HCS), an enhancement to Cumulus Linux, automates the process of connecting Nutanix systems to Cumulus switches. Cumulus HCS allows compute and storage technicians to bring up Nutanix HCI with little or no involvement from busy networking engineers—no more support tickets and deployment delays. A simple provisioning script downloaded from the Cumulus support site manages the process (see Figure 1).

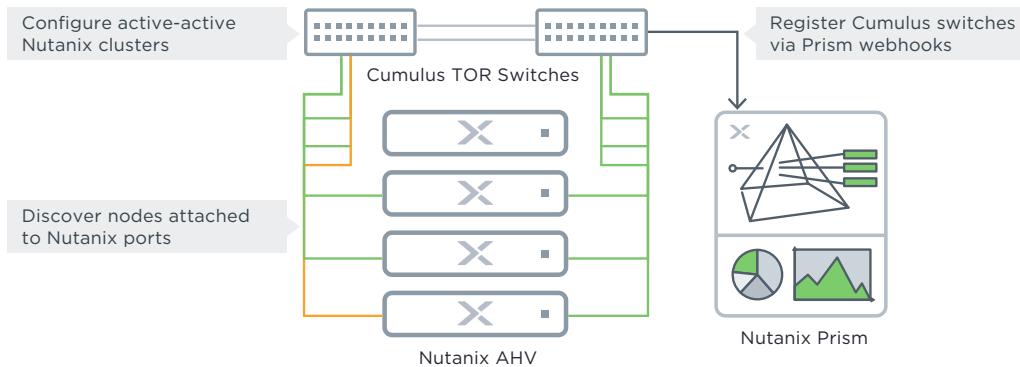


FIGURE 1. AUTOMATIC PROVISIONING PROCESS USING CUMULUS LINUX WITH HCS

CUMULUS VLAN MANAGEMENT

Once the system is fully operational, the Cumulus-Nutanix solution efficiently manages the provisioning and deprovisioning of virtual machines in the Nutanix systems. Cumulus Linux and Nutanix work together to ensure that VLAN information is accurate and routing tables are up to date (see Figure 2).

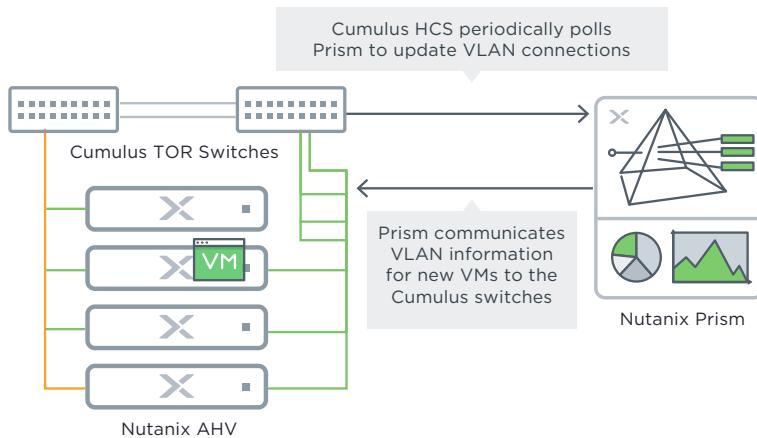


FIGURE 2. CUMULUS VLAN MANAGEMENT

CUMULUS ZERO TOUCH

When deploying new bare-metal switches in a Nutanix architecture, Cumulus Zero Touch Provisioning offers a simple and foolproof way to install Cumulus Linux and configure Cumulus HCS. Unlike other solutions, Cumulus Linux doesn't require additional servers to manage and provision the network.

To start the process, you simply copy the Cumulus Zero Touch Provisioning configuration onto a USB stick, set a few parameters, and insert the USB stick into the switch. Cumulus Zero Touch Provisioning takes it from there, installing your licensed copy of Cumulus Linux and executing the configuration script that runs Cumulus HCS.

Cumulus Zero Touch Provisioning takes you from bare metal to provisioned Nutanix deployment in under 30 minutes. Cumulus Zero Touch Provisioning eliminates the time drain on busy networking engineers and puts control in the hands of the project team.

Solution Extensions

The Cumulus-Nutanix solution can be extended and enhanced with these optional Cumulus product offerings.

Cumulus NetQ provides actionable insight into every trace and hop in the Linux-based data center — from the container, virtual machine or host, all the way to the switch and port. With NetQ, you can validate network designs, reduce complexity and simplify troubleshooting.

Cumulus RMP is the Cumulus Linux network operating system in a ready-to-deploy solution that enables out-of-band management for web-scale networks. Cumulus RMP offers the same architecture and user experience as Cumulus Linux with a feature set customized to the needs of out-of-band management, including IPMI connectivity. With Cumulus RMP, you directly manage and support Nutanix systems in the rack without relying on the rest of the network.

Cumulus VX is a free virtual appliance that enables cloud admins and network engineers to preview and test Cumulus open networking technology at zero cost. When used with Nutanix Community Edition (CE), Cumulus VX allows users to replicate their Nutanix cluster and Cumulus Linux network to test and validate changes.

Cumulus Prescriptive Topology Manager is a dynamic cabling verification tool to help detect and eliminate cabling errors.

Why Cumulus Linux for Nutanix?

CUMULUS LINUX HELPS BREAK DOWN SILOS

Hyperconverged infrastructure is a transformational approach that combines simplicity and scale-out by eliminating dedicated storage nodes while also providing data resiliency via distributed storage software. By coupling the Cumulus Linux network operating system with hyperconverged systems, businesses can break free from the traditional siloed approach and can simplify and aggregate compute and storage resources.

CUMULUS LINUX ENABLES THE SOFTWARE-DEFINED DATA CENTER

With increased adoption of off-the-shelf hardware, open networking and hyper-converged have pulled intelligence into the software layer, making it easy for operators to realize their software-defined data center dreams. Cumulus Networks and Nutanix enable turnkey solutions for compute and storage that are easy to deploy and scale.

CUMULUS LINUX SIMPLIFIES WEB-SCALE ARCHITECTURES

With a Cumulus Linux based, scale-out approach, the entire networking stack follows the same design principles as compute to focus on scale-out, simplicity and automation readiness. The consumption model of an integrated stack can be easily driven through the hyper-converged solutions with open networking to help customers deploy web-scale architectures with ease.

Get started!

For more information, visit www.nutanix.com and www.cumulusnetworks.com.

- Try Cumulus Linux with Cumulus VX: www.cumulusnetworks.com/cumulus-vx/
- Download the latest version of Cumulus Linux: www.cumulusnetworks.com/downloads/