

## ESG SHOWCASE

# Enable Hyperscale Networking: Enterprise SONiC Distribution by Dell Technologies

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**ABSTRACT:** Tier 2 and tier 3 cloud providers and large enterprises need solutions to help efficiently scale their network environments to accommodate current and future demand. However, many emerging cloud providers don't have the resources to keep pace, nor the budgets to deploy commercial products. Fortunately, these organizations can now take advantage of open system software like SONiC—and Dell Technologies now offers Enterprise SONiC Distribution.

## Overview

Digital transformation initiatives are accelerating across industries, driving greater numbers of applications and workloads to the cloud. In fact, ESG research validates the considerable adoption of IaaS growth over the last 10 years, with more than three-quarters of respondents (78%) currently using public cloud services, up from 17% in 2011.<sup>1</sup> Yet, despite growing numbers of organizations migrating to the cloud, there is still much more to come. Given the increasing distributed IT environment, it's no surprise that organizations' top goal when it comes to their digital transformation efforts is to increase operational efficiency.<sup>2</sup> This scenario has also created a clear need to scale these cloud environments—while reducing cost and complexity.

While most organizations like the idea of open-source technology, they don't like the idea of a working on a “science project.” They require proven solutions that are reliable, that can efficiently scale, and that are fully supported. Given that, cloud service providers (CSPs), telcos, and even large enterprises are attempting to replicate hyperscale environments in their own data centers. This is where SONiC comes in.

## Why SONiC Makes Sense

Software for Open Networking in the Cloud (SONiC) was specifically designed to enable highly available and reliable networking for hyperscale or cloud environments. SONiC was also designed to enable organizations to add necessary functionality over time to ensure their networks would remain relevant in rapidly changing environments.

Initially, the open-source network operating system (NOS) was created by Microsoft for Azure. The vendor then donated the code to the Open Compute Project (OCP). Thus, SONiC was born. SONiC leverages a Linux-based distribution and Switch Abstraction Interface (SAI) software to optimize its applicability across networking hardware. The goal of SONiC was to provide network switch software that leveraged software-defined networking solutions to provide unified control of the network environment. Pivotal SONiC design criteria include:

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<sup>1</sup> Source: ESG Master Survey Results, [2021 Technology Spending Intentions Survey](#), December 2020.

<sup>2</sup> Ibid.

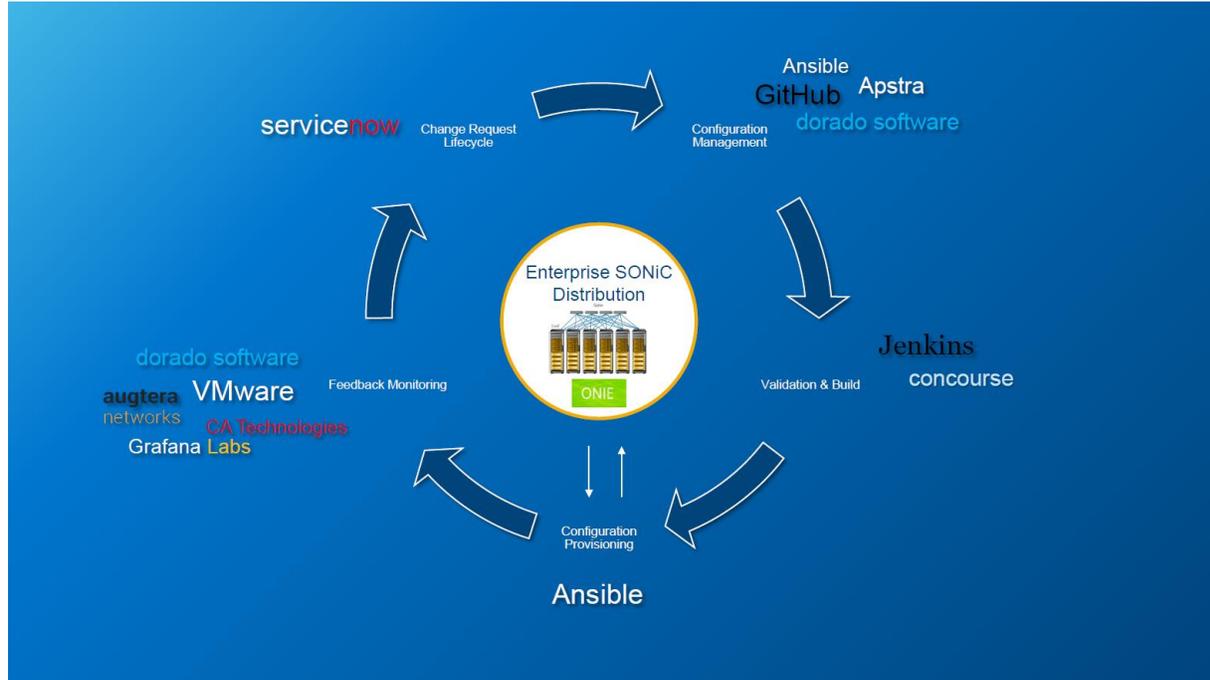
- **Availability.** Upgrade functionality without disruption. To remain successful, organizations must ensure their environment is highly available. As companies move to modern application environments, it's essential that network systems leverage modern architecture as well. Because SONiC leverages modern application architecture, microservices, and containerization, organizations can seamlessly upgrade to new functionality without disruption.
- **Efficiency.** Update the entire network at once. By leveraging a modern network environment using software-defined networking principles, network updates can be performed in a fraction of the time—upgrades across the entire network can all be done at once, eliminating the need for manual, in-series-type patching and upgrades.
- **Flexibility.** Customize software, only delivering what is needed. Organizations are able to select specific applications, functionality, or protocols to deploy (or not deploy). IT no longer needs to waste time and resources patching and updating programs that aren't being used.
- **Innovation.** Rapidly add new capabilities; develop networking operation systems without vendor lock-in. Organizations can rapidly add new capabilities as required via a suite of containerized features and components. Since SONiC is based on the Switch Abstraction Interface (SAI), hardware vendors are able to focus on innovation, giving them the freedom to stay focused on developing network operating systems without being tied to a specific network vendor.

With its significant capabilities and favorable economics, many organizations would welcome the chance to take advantage of SONiC but lack the necessary resources to support an open-source project. However, that's in the past. Enter Enterprise SONiC Distribution by Dell Technologies.

## Enterprise SONiC Distribution by Dell Technologies

Enterprise SONiC Distribution by Dell Technologies offers the benefits of open source SONiC, while also providing a focused roadmap of functionality designed to meet the scalability, management, and global support needs of tier 2 and tier 3 cloud service providers and large enterprise networking environments.

Dell Technologies' commitment to leading the open networking space makes the vendor particularly well suited to fully test and validate Enterprise SONiC Distribution across a wide variety of network devices and ecosystem partners, as well as provide additional functionality and management support. Not only has Dell Technologies fully validated key enterprise and service provider uses cases with PowerSwitch platforms in the lab, but the vendor also has a number of hardened deployments in large scale production environments. Combined with its experience creating ecosystems to deliver greater flexibility and choice (see Figure 1), Dell Technologies is simplifying the process of incorporating new applications and functionality into SONiC deployments.

**Figure 1. Dell Technologies Ecosystem of Partners and Solutions**

Source: Dell Technologies

By supplying a roadmap for new functionality and partner applications, Dell Technologies enables Enterprise SONiC Distribution customers to effectively plan for, and take advantage of, new technologies when they become available.

## Global Services and Support

One of the key benefits of leveraging Enterprise SONiC Distribution by Dell Technologies is that the solution is backed by Dell Technologies' global support and services organization. Organizations have the benefit of open-source technologies, along with peace of mind that comes with 24x7 support in more than 160 countries worldwide. Depending on the level of support desired, this could include options for proactive support.

## The Bigger Truth

Digital transformation is driving massive growth in the cloud. Cloud service providers (CSPs) and large enterprises must be prepared to scale their environments—especially the network environment—in a cost-effective and operationally efficient manner. Accordingly, fully supported and hardened open solutions can help drive the process by eliminating the prospect of “science project” syndrome. And Enterprise SONiC Distribution seems to fit the bill.

Enterprise SONiC Distribution by Dell Technologies reinforces the vendor's commitment to being open, while providing proven solutions that enable CSPs and large enterprises to rapidly adopt and deploy. The vendor offers 24x7 global support for all SONiC applications and services, a dedicated roadmap, and hardware certification to simplify managing large-scale network environments. In the future, there will be even greater choice in how this technology is consumed, as Dell Technologies is planning to offer Enterprise SONiC Distribution under APEX Cloud Services.



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