Cisco and SONiC

To address the requirements of running one of the largest clouds in the world, in 2016, Microsoft announced a major innovation to operate and manage thousands of network devices using open-source software, Software for Open Networking in the Cloud (SONiC). Since then, SONiC has gained momentum as the open source operating system of choice for cloud-scale data center networks. A Key component of SONiC is the Switch Abstraction Interface (SAI) that enables ASIC and hardware abstraction and network operating systems portability. Thanks to this abstraction layer, networking vendors can provide a consistent programming interface to their ASICs while developing highly differentiated hardware platforms. In return, hyperscalers can quickly benefit from innovations in silicon, increased reliability, and reduced complexity.

Cisco has been and remains committed to driving openness across the industry. When we launched the Cisco 8000, we shared our vision of creating products with open capabilities. From day one, we supported Switch Abstraction Interface on our next-generation routing platforms to align well with our cloud customers' strategies to manage and operate hyperscale architectures. While the support for SONiC on fixed, single NPU systems is an incremental step, support for SONiC/SAI on a modular platform marks a significant milestone in adapting modular routing systems to support SONiC in a fully distributed way. As a result, we empower our customers to achieve the most desirable network architecture according to their needs using Cisco's gear. Customers can now do this not only as a concept but at scale, with the advanced functions they need to run their network.

2021 OCP Summit

On November 9th and 10th, we had the opportunity to showcase our commitment at the 2021 Open Compute Project Global Summit. OCP celebrated its 10th anniversary with this year's event. It was made special by the fact that this is one of the first in-person events we have participated in since COVID-19 began. It was especially exciting because we got to

showcase a modular Cisco 8800 router natively running SONiC on the Route Processor and Linecards.

The Demo

The demo showcased scaling a next generation data center with SONiC VXLAN on the Cisco 8000. We built a 3-tier 5 node Clos network using fixed Cisco 8101-32H acting as a Top of the Rack (Tor) switch, Cisco 8102-64H as spine along with modular Cisco 8808 router as super-spine all running SONiC.

We explained in the demonstration the design decisions that helped us scale to 32K remote Virtual Tunnel End Points (VTEP) with 128K unique overlay-prefix and VTEP Encap entries in the hardware.

Take a glimpse into our disaggregation journey as we showcase OCP's SONiC software on fixed (Cisco8201) and Modular (Cisco88XX) hardware.

In addition to our demonstration of SONiC on the Cisco 8000 family, we were also featured on the keynote given by Meta (formerly Facebook) where Cisco and Meta unveiled the Wedge400C, a 12.8 Tbps OCP white box system that utilizes Cisco Silicon One Q200L. To learn more about this data center switch, read this recent blog from Rakesh Chopra, detailing our work with Meta.

In summary, whether a customer wants a fully integrated system with the silicon, platform, and IOS-XR from Cisco, or wants to run SONiC on Cisco hardware (Cisco 8000), or wants a Silicon only offering, our experienced systems designers, hardware and software engineers have your back. I can proudly say that in our industry, Cisco is the only company that can meet and exceed our customers' expectations across this spectrum of consumption models.