Arrcus NOS To Run On 400G Tomahawk 3 Switches

Drew Conry-Murray January 23, 2019

Startup Arrcus, which makes the ArcOS network operating system, has announced that its NOS will run on 400GbE whitebox switches using Broadcom’s Tomahawk 3 ASIC.

ArcOS will initially be available on switches from the ODMs Celestica and Edgecore.

As of this announcement, the switch specs include:

- 32 ports of 400G or 128 ports of 100G
- QSFP-DD optics
- Available Q2 2019

As far as I’m aware, Arrcus is the first independent NOS vendor to announce 400G support, but not the first networking vendor.

In late 2018, Arista and Cisco announced 400G lines, also promising availability some time in 2019.

Arista will roll out its own branded switches on Broadcom’s Tomahawk 3.

Cisco announced two different 400G platforms: one based on its custom Cloud Scale ASIC, and the other on third-party silicon. Cisco declined to name this ASIC provider, but IDC analyst Brad Casemore offered reasonable speculation that it’s Innovium.

How Arrcus Positions Itself

The notion of a standalone network OS vendor doesn’t seem as unusual as it might have a few years ago. In fact, the NOS market is getting crowded. You can license an OS to run on whitebox switches from companies such as Big Switch, Cumulus, Pica8, and Pluribus.
You can also grab open-source options such as Open Switch and Open Network Linux.

And the traditional network vendors are also decoupling their software and hardware, including Cisco, Arista, and Juniper.

Arrcus aims to distinguish itself through its overall design, its multi-platform support, and by touting the benefits of deploying a uniform OS that can serve switch and routing functions.

On the design front, ArcOS is built with a microservices architecture and modular design instead of as a monolithic code base.

The company says this gives customers the flexibility to add, remove, and upgrade individual components as suits their needs. And each component runs as its own process, so if there’s a glitch in one component, it can be restarted without affecting other components.

In regards to multiple platforms, ArcOS runs on a variety of Broadcom ASICs, including Tomahawk, Trident, and Jericho. It can also be deployed on Intel and ARM servers and run in a container or on a VM, and in public clouds.

This multi-platform support means a customer such as a carrier or service provider could use the same network OS in its data centers, for peering and route reflection, and as the network engine on server-based CPE.

This uniform NOS may help streamline operations by reducing the time spent on software maintenance and management.

At present, however, Arrcus doesn’t have a centralized management console, which to my mind somewhat undercuts its messaging around a uniform NOS.

However, ArcOS does integrate with automation and configuration tools such as Ansible, Salt Stack, Chef, and Puppet; and orchestration platforms such as Open Daylight.
If you’re interested in more detail, Arrcus sponsored a Packet Pushers podcast on its ArcOS software.

About Drew Conry-Murray
Drew Conry-Murray has been writing about information technology for more than 15 years, with an emphasis on networking, security, and cloud. He’s co-host of The Network Break podcast and a Tech Field Day delegate. He loves real tea and virtual donuts, and is delighted that his job lets him talk with so many smart, passionate people. He writes novels in his spare time. Follow him on Twitter @Drew_CM or reach out at drew.conrymurray@packetpushers.net.