Pica8 AmpCon™ Controller Brings Automation to Open Access Networks

ENTERPRISES, EDUCATIONAL INSTITUTIONS, STATE AND LOCAL GOVERNMENT USERS FINALLY HAVE A VIABLE ALTERNATIVE TO LEGACY NETWORK VENDORS.

A number of trends are conspiring to put extraordinary pressure on enterprise, education and government networks, particularly at the access edge. A flood of data is coming from Internet of Things applications, cloud services and next-generation Wi-Fi networks – far more data than these networks were designed for. Plus, many of the networks are simply old, due ,if not overdue, for an upgrade.

That means organizations are faced with replacing or adding dozens or hundreds of access switches. But few organizations have the number of skilled IT experts required to deploy, configure and manage all these switches. So, they need an automation framework that is purpose-built for the complexities of distributed campus and remote access networks.

Until today, only the legacy network vendors offered such automation tools – at grossly inflated prices resulting from vendor lock-in.

Now Pica8 offers the first viable alternative to legacy automation with its AmpCon™ controller. Short for "amplified control," AmpCon delivers comparable capability to the legacy automation platforms for a small fraction of the cost.

AmpCon is a game-changer in the world of access and campus networking. This solution brief explains why.

AmpCon Highlights

- Automated turn-on and configuration of all PicOS®-powered switches – the world's first, open Linux NOS on disaggregated white box open switches
- Easy to learn: simple GUI-based English commands
- No licensing limits on number of connected devices or users
- Full access to a vast ecosystem of third-party open networking tools
- Partnerships: Tier-1 partner Dell EMC provides global reach and support

AmpCon: Automation Comes to Open Access and Campus Networks

Back in 2012 Pica8 shipped PicOS, the first open Linux network operating system solution on a white box disaggregated switch. Pica8 now offers the world's first automation framework explicitly designed for open enterprise networks – AmpCon.

Network automation tools are mandatory for any large-scale switch deployment. Data center networks are now generally fully automated, with zero-touch provisioning (ZTP) and other tools that work well over the out-of-band management networks available in a data center. It's an ironic situation because in a data center, there's no shortage of experienced network personnel.

The same is not true at the edge of enterprise networks. Access and campus network switch populations and configurations are far more complicated than in a data center, and enterprise workflows bear no resemblance to DevOps-oriented DC workflows.

Compounding the problem, top tier network support personnel are generally not available for remote sites, nor are there out-of-band network management fabrics that would enable organizations to remotely manage their far flung branch offices, retail sites and schools.

Vendors such as Cisco, Juniper, HPE and others offer their own, proprietary automation suites for their own switches, but tie them to ever-increasing prices and complexity. With no comparable offering available for the open, white box networking space, customers were essentially forced to stay with their legacy access network vendors.
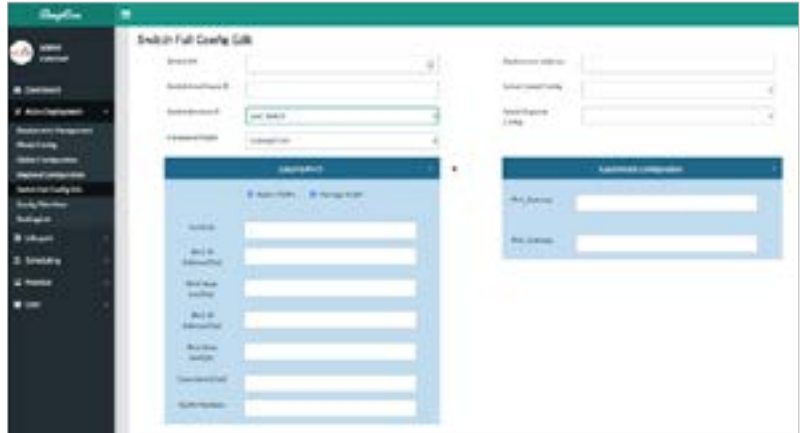
AmpCon changes that equation, presenting a viable, proven automation framework that works with any white box or brite box switch running the PicOS Software Switches.

Also, unlike DNA Center, AmpCon can be deployed in the Cloud at no additional cost and comes with no limits on the number of connected devices or users.

Solution Overview

Despite its significant introductory price difference, AmpCon offers a very comparable feature set to DNA Center.

AUTOMATED SWITCH DEPLOYMENT, CONFIGURATION

AmpCon enables push-button deployment for hundreds or thousands of open, white box switches running PicOS. From its simple GUI, administrators use plain English commands to define a standard global, or "golden," configuration along with any site- or region-specific variations. All configurations are tied to specific switches by the switch serial number and stored in a database. (Pica8 Professional Services are available to create these global configs to populate the customizable GUI.)

When a switch is installed and powered up at a remote site, an auto-connection script enables it to find the AmpCon automation server and register with it; this kicks off the configuration process. The designated configuration is then downloaded and installed on the switch, followed by a validation process and any software updates, if needed.

AmpCon likewise automates the Pica8 software licensing process, including obtaining licenses from the Pica8 License Portal and installing them.

LIFECYCLE SWITCH MANAGEMENT

AmpCon also automates important ongoing operational tasks, including:

- Configuration retrieval and backup. AmpCon will periodically copy a switch configuration to capture any changes. In case of a switch failure, the latest configuration can be quickly re-installed.

- Automated software upgrades: Periodic software updates can be scheduled within your regular change control windows and automatically deployed, whether all at once, by region, or on a location-by-location basis.

- License analysis: AmpCon can generate an inventory report of all licenses currently installed on Pica8 switches in the network and update any nearing the end of support.

- Switch inventory: Get an inventory of all switches in your network along with details about what configuration each is running, software version, license status and more.

- Compliance check: Ensure switches stay in compliance with industry regulations that require a certain configuration to maintain proper security and privacy.

With these features and more, AmpCon reduces the burden on your network team, resulting in significant savings in operational expenses. With AmpCon, a relatively small team can manage and maintain even large networks.

FULL SUPPORT FOR OPEN SOURCE TOOLS

True to Pica8's commitment to openness, AmpCon also supports the vibrant ecosystem of freely available open source networking tools, including Ansible and AWX. Pica8 offers a variety of pre-built automation scripts with step-by-step instructions to sharply reduce the learning curve. We also provide quick-start guides to other open source tools, such as Zabbix for network monitoring and Packet Fence for network access control (NAC) that can have you up and running in an afternoon. Support for the REST API enables integration of even more management tools and frameworks.

GLOBAL SUPPORT

Pica8's global partnerships with hardware vendors, including FS, Dell EMC and Edgecore Networks, mean global support is available from a trusted brand. Many customers already have support contracts with Dell EMC for laptops, servers and the like. Now you can get a global support contract under which Pica8 will handle any switch software issue 24×7, and Dell EMC takes care of the hardware – anywhere, anytime.
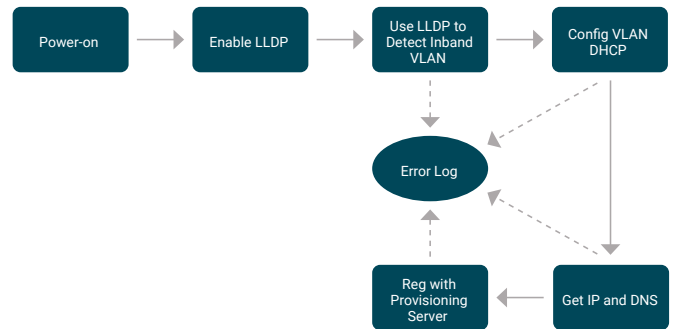
New Switch Auto Connection with AmpCon

AmpCon Benefits

No longer are organizations tied to their legacy vendors for lack of a robust, feature-rich automation solution for their networks. A number of Fortune 100 companies are already using AmpCon, along with Pica8 PicOS, to replace thousands of legacy Cisco switches with superior, cost-effective – and future-proofed – open network switches.

AmpCon breaks the legacy vendor bond, and provides a number of key benefits, including:

- Brings the new industry best practice of open networking to access and campus networks of enterprises, schools, universities, and local/state governments
- Replaces legacy vendor-driven operational complexity with modern simplicity
- Enables push-button deployment and configuration for thousands of remote access switches
- Eliminates human error in large-scale deployments and upgrades
- Simplifies ongoing switch management
- Cuts OpEx by reducing the required number of scarce and expensive Tier-3 network support personnel
- Allows scalable deployment of a future-proof, AI-Ready™, open automation architecture – ready to adopt the latest technologies as they emerge over time

Summary

AmpCon offers something enterprises, educational institutions, and state-and-local government users have been lacking for decades: a real choice in network vendors. No longer must you be tied to a choice that made sense many years ago, but today offers only unneeded operational complexity and expense.

AmpCon is the latest in a long line of Pica8 open networking "firsts" that enable Pica8 to deliver open networks that out-perform the legacy competition at dramatically reduced cost.