

# The Compelling Case for Modernizing Your Campus and Branch-Office Networks Now

## Enterprise networking has become a true challenge for most IT shops.

Vendor lock-in, aging and soon-to-be-unsupported infrastructure, sprawling switch farms, and aggressive vendor sales cycles all conspire to make it seemingly impossible to innovate in the current network switching landscape.

Pica8, however, is on a singular mission to replace and modernize these legacy enterprise campus and access networks, while concurrently slashing their operational complexity and overhead. Pica8's unique open-standards-based approach to building out a fully automated, end-to-end centrally managed campus network alternative architecture by leveraging underlying white- and brite-box open switches can reduce overall CapEx and OpEx costs by as much as 80 percent while producing a better, more secure and more reliable data network.

Founded in 2009, Pica8 has always been at the cutting edge of open networking, ensuring open white box switches offer even better benefits to enterprise networking than they've delivered to the server world. For too long, organizations have been trapped by brand-name gear, costly licensing, and one-size-fits-all code with glacial update cycles. With fully automated, open white box campus networking, IT teams can put their skills to work to create a switch network customized to their particular organization's needs.

While legacy switches follow a model that requires a homogenous blueprint, Pica8 is built on heterogeneity (mix-and-match), effortless ease of use, and cost effectiveness. Global retailers; financial institutions; local and state governments; higher and K-12 education; aerospace, health care companies, manufacturers, and more have now embraced Pica8 as the modern, cost-effective alternative to their mainstream legacy vendors.

Pica8 promotes enterprise use of business-leading applications such as voice over IP with support for auto-provisioning and new, granular security capabilities and analytics that are only available from Pica8.

**Pica8's Threshold™ reference architecture describes how to turn a generic white/brite box Ethernet switch environment into a well-orchestrated symphony of switches.**

Threshold is the first end-to-end open networking solution capable of replacing entire legacy-vendor enterprise networks of any size with centrally managed, modern, disaggregated white/brite box-based alternatives. To create a complete network of white box switches Pica8's Threshold offers:

- A centralized, single point of management
- Automated deployment, configuration, monitoring, alerting, and lifecycle management
- GUI-based network-level system view
- CLI-based switch-level management/control
- Centralized, AI-Ready™ data collection for analytics/visibility
- A broad selection of open campus and access switches from a number of vendors

Threshold comprises three distinct solutions to deliver these capabilities:

### **PICOS®**

The company's flagship product, PICOS is a network operating system based on open standards, and is available in both enterprise and software-defined networking (SDN) editions. Running atop open white box switches, PICOS leverages an unmodified Linux kernel, providing a virtual playground for network administrators to create a customized network environment programmed to their organization's needs. Pica8's ability to deliver Zero-Touch Provisioning in an in-band remote environment is just one of many features that make this disaggregated solution the easiest in the market to deploy and manage.

PICOS also incorporates port aggregation features that allow users to strip away much of the complexity and operational overhead related to their existing legacy switch stacks, IDFs and campus chassis switches. It offers superior active-active redundancy at these aggregation points, while removing any requirement for unreliable and bandwidth consuming spanning tree protocol (STP). Unlike legacy switch stacks and chassis, PICOS can aggregate ports from a variety of switch models. It manages these switch "clusters" as a single, logical IP address from an easy-to-use Web-based GUI. PICOS simplifies maintenance as well. If a switch running PICOS were to fail, any employee could plug in a replacement box and walk away, thus fixing the problem with zero impact on the live network.

### **AmpCon™**

AmpCon, short for "Amplified Control," is a powerful, open networking competitor to legacy tools, such as Cisco DNA Center. AmpCon helps automate and simplify network management in two distinct ways. First, it drastically simplifies all tasks associated with installing and configuring open network switches across a distributed enterprise. With AmpCon, once a switch is powered up, it automatically installs and verifies PICOS configuration for that particular switch and handles all license management tasks, all without the possibility of human error. This first-ever framework for enterprise networks and workflows automates all Day 0 and Day 1 tasks related to switch deployment and turn-up in distributed campus and access networks. Second, AmpCon then provides full ongoing network lifecycle management capabilities, including license maintenance, configurable security controls, and more.

### **CrossFlow™**

CrossFlow, Pica8's dual control-plane capability, is unique in the networking industry and provides an open alternative to Intent-based Networking (IBN). It enables IT to control every switch port in a network using Layer 2/Layer 3 protocols and OpenFlow/OVS at the same time, on the same switch ports. This gives network managers unmatched, granular control of policies and monitoring across their Layer 2/Layer 3 ports. Network operations and security teams can utilize CrossFlow to quickly remediate security issues such as DDoS attacks, zoom in on flows of interest, and redirect them for in-depth analytics – all in real time and without disruption to network traffic and user productivity.

## GET STARTED TODAY

So, how do you get going with a Pica8 deployment? You can begin with a phased approach – no rip-and-replace required. Pica8 works seamlessly with your current investment in legacy switches, helping you determine which gear is ready to age out and be replaced with a new, innovative approach to network switching. Pica8 also supports virtually any network access control (NAC) solution that may be operational in your network – from Cisco ISE, to Aruba ClearPass, to the PacketFence Open Source project. Needless to say, Pica8 also supports the multitude of authentication use cases found in 802.1x.

Pica8 solutions are compatible with most vendor environments – a full list of supported hardware is available here: <https://www.pica8.com/hardware-compatibility/> – giving you time to test the new environment and get comfortable with its features and functionality. We have both enterprise and software-defined networking software options that blend with your network management strategy. And Pica8 solutions have virtually no scalability limits, which is a welcome change from legacy architectures. For example, in Quick Start Mode, AmpCon's English-language GUI allows even non-programmers to turn on hundreds of remote switches at the click of a button.

With more than 1,000 customers spanning 40+ countries, Pica8 is well-versed in how our solutions can benefit different industry verticals, enabling organizations of all types to speed the purchase and deployment of this new, modern, best-practices switch environment. We also offer a simplified perpetual license program, which saves organizations from ongoing subscription licensing costs and never-ending sales cycles. We also are pioneering world-class 24/7 customer support for an open white- and brite-box switch environment. For the latter, Pica8 is a Tier 1 global partner with Dell EMC. Here, Pica8 would handle any software-related support calls and Dell EMC would do the same for the switching hardware.

Pica8 offers a truly revolutionary approach to enterprise networking aimed at giving businesses, government agencies, and educational institutions the greatest flexibility and agility possible along with unmatched ease of use, simplicity, and cost efficiency.

**So, if you're ready to step out from under the weight of a burdensome and aging legacy switch network, we're ready to help.**

**Pica8, Inc.**  
1032 Elwell Court, Suite105, Palo Alto, CA. 94303 USA