

Case Study

Enterprise LAN

FS PicOS[®] Switches Elevate a Local Government's Network Performance and Redundancy

FS PicOS[®] switches have significantly transformed a local government's network infrastructure, delivering a modern, highly reliable network with increased bandwidth, easier management, and substantial cost savings of approximately 35%-40%.

FS PicOS® Switches Elevate a Local Government's Network Performance and Redundancy

Country

 United States

Industry

 Government

Network Type

 Branch Interconnection Network

Solutions

 Enterprise LAN

Highlights

- Used PicOS® switches to modernize legacy network infrastructure, leading to significant bandwidth increases and easier management.
- Saved approximately 35%-40% in costs compared to their original solution, enhancing taxpayer value.
- Enabled a future-proof network supporting advanced technologies like SDN.
- Fully backward-compatible with remaining legacy networking infrastructure.

Key Stats

- Bandwidth increased from 10G to 40G, with ping and response times reduced to sub-millisecond levels.
- Approximately 50 PicOS® switches were installed across 9 buildings, supporting critical city operations.
- Overall costs were reduced by 35%-40%, delivering substantial savings to the city's budget.

“We wanted to bring in the best equipment and software we could yet be cost-efficient as this is all being paid for by taxpayer dollars. Cost reduction was a big factor but so was getting all the functionality that we needed to grow and improve our network over time. FS PicOS® switches enabled us to achieve that goal. It gives us a real future-proofed network – something that legacy networking vendors seem to shy away from.”

Jason
Technology Director

Overview

Our client, the local government of a city in Alabama with a population of 85,000, needed to upgrade its aging and complex network infrastructure. The city's goal was to improve network performance, manageability, and cost-efficiency while preparing for future technologies like software-defined networks (SDN).

Challenges

Their existing network, primarily using Cisco equipment and some HPE switches in its data center, was expensive and overly complex. The client was paying for licenses that had far more functionality than it actually needed, making the Cisco solution not only expensive but overly complex to manage and maintain.



Solutions

After learning about PicOS® switch software, the client sought assistance from FS. Following detailed discussions, our tech team recommended the S5860-20SQ PicOS® switch as the optimal solution to meet their needs. With the help of our tech team, the client deployed 8 S5860-20SQ in its data center and 1 in the backup data center at City Hall, connected by an existing fiber optic cable. This was no low-level proof of concept, however. Rather, the PicOS® switches would support all of the city's operations information systems, including telephone, public safety systems, and emergency operation centers.

Originally the city built two separate networks between the facilities, with one backing up the other, but has since implemented the Open Shortest Path First (OSPF) protocol to create a fault-tolerant meshed network for redundancy. The PicOS® operating system also offered simplified management and robust support for SDN, enabling a modern two-tier leaf-spine architecture that improved performance and reduced latency.

Results

| Continued Growth

Now the city is bringing that kind of performance to additional users in 9 buildings and counting. These 9 facilities include the rest of City Hall, plus police and fire stations; the senior and recreation centers; and a library. In all, the city has about 50 PicOS® switches installed at various sites.

They support two 10G-to-20G connections to each wiring closet, bringing up to 40G total capacity to each closet. This upgrade will bring those sub-millisecond response times to users throughout the city. A big factor in the upgrade was improving performance for its power users. The new network eliminates the bottlenecks the previous network faced with 1G connections to wiring closets.

The PicOS® operating system also enables the city to implement a modern two-tier leaf-spine network architecture that accounts for some of that performance increase. Enabling leaf-spine to be implemented throughout the network means any node is only a single logical hop away from any other, which lowers latency and improves performance.

| Simplified Management, Great Support

The new network is also significantly easier to manage. The client can monitor a lot of individual switches, servers and devices now. They now spend more time unboxing, racking, and stacking than configuring. The client has also enjoyed sound support from FS. "FS does a lot of the required footwork," says Jason, Technology Director of the client, "Including getting questions answered, handling switch specs and pricing. They are very much like a partner to us."

On the three or four occasions when he had to reach out to FS for support directly, our tech team was there to help and provided suggestions on different ways to accomplish what they were trying to do.

| Positioned for the Future

Now the city is indeed positioned for the future, as PicOS® switch software seamlessly supports features including SDN. In fact, CrossFlow, one feature of PicOS®, supports Layer 2, Layer 3, and SDN traffic over the same switch ports at the same time. This paves the way for new levels of security and policy management.

For example, virtualized security functions can now be delivered over the same ports as L2/L3 traffic, enabling solutions that detect and deflect rogue traffic in real time. Moreover, the AmpCon™ management platform makes switch deployment even easier by fully automating the configuration of hundreds of switches. It ensures the correct software version is installed for each switch and provides perpetual license management, configuration updates, and more.



United States

Address: 380 Centerpoint Blvd, New Castle, DE 19720, United States

Tel: +1(888) 468 9910

Email: US@fs.com

For more information, welcome to visit www.fs.com

Copyright © 2009-2024 FS.com Inc. All Rights Reserved.