

Case Study

Enterprise LAN Solution


Upgraded University Education Network with PicOS® Redundant Solution

A Polish client enhanced a 30-year-old university's education network with a PicOS@-based solution, deploying S5860-20SQ core switches with MLAG & LACP redundancy and S3410-48TS6- P access switches for high-density POE. This upgrade improved network reliability, bandwidth, and scalability to support modern applications.



Upgraded University Education Network with PicOS® Redundant Solution

Country

 Poland

Industry

 Education

Network Type

 Enterprise Data Centers

Solutions

 Enterprise LAN

Overview

A leading conference and training center in Poland specializes in providing venues and facilities for a variety of business and educational events, such as training sessions, corporate events, seminars, and other professional gatherings. The center planned to purchase new hardware to upgrade the aging IT infrastructure of a 30-year-old private medical university under its management. This initiative aimed to enhance the technological backbone of the university, ensuring it could meet the growing demands of contemporary educational and professional environments effectively.

Highlights

- Replaced aging Cisco 3560X core switches and DGS-1210/1100 access switches with the robust and reliable PicOS® switches.
- Build an MLAG+LACP redundancy solution to improve link utilization and ensure uninterrupted network services.

Key Stats

- The 48-port S3410-48TS-P switches have a total PoE power budget of 740W for high-density network access.
- The 40G fiber interconnects between the S5860-20SQ core switches enable high-speed communication across buildings.

Challenges

The university's legacy network was built on Cisco 3560X core switches with limited 10G uplinks, along with DGS-1210/DGS-1100 series access switches. These devices struggled to deliver sufficient bandwidth for modern applications like video conferencing, virtual simulations, and real-time data sharing during training sessions.

As a result, the client planned to choose PicOS® as the operating system and deploy S5860-20SQ switches with MLAG and LACP support as the core of the network. Additionally, they required 48-port 1Gb L2 switches with 10Gb uplinks to collectively build a network that can handle high-density connections, redundancy, and scalability.



Solutions

FS has designed a tailored PicOS® network solution for the client. FS has designed a tailored PicOS® network solution for the client. For the access layer, FS recommends deploying the S3410-48TS-P PicOS® switches, which feature 48 PoE ports and a total PoE power budget of 740W—enabling high-density connections for IP cameras, access points, and other terminal devices. Their 10Gb SFP+ ports can uplink to the PicOS® S5860-20SQ, creating an MLAG+LACP redundant network architecture from access to core. This configuration enhances link bandwidth, ensures device-level redundancy and load balancing, and allows for future flexible expansion. Additionally, the S5860-20SQ switches are interconnected via 40Gb high-speed fiber links to facilitate communication between buildings or floors.

Throughout the process, the FS technical teams provided end-to-end deployment guidance, configuration audits, and post-installation optimization to address performance bottlenecks and ensure compatibility with legacy systems.

Results

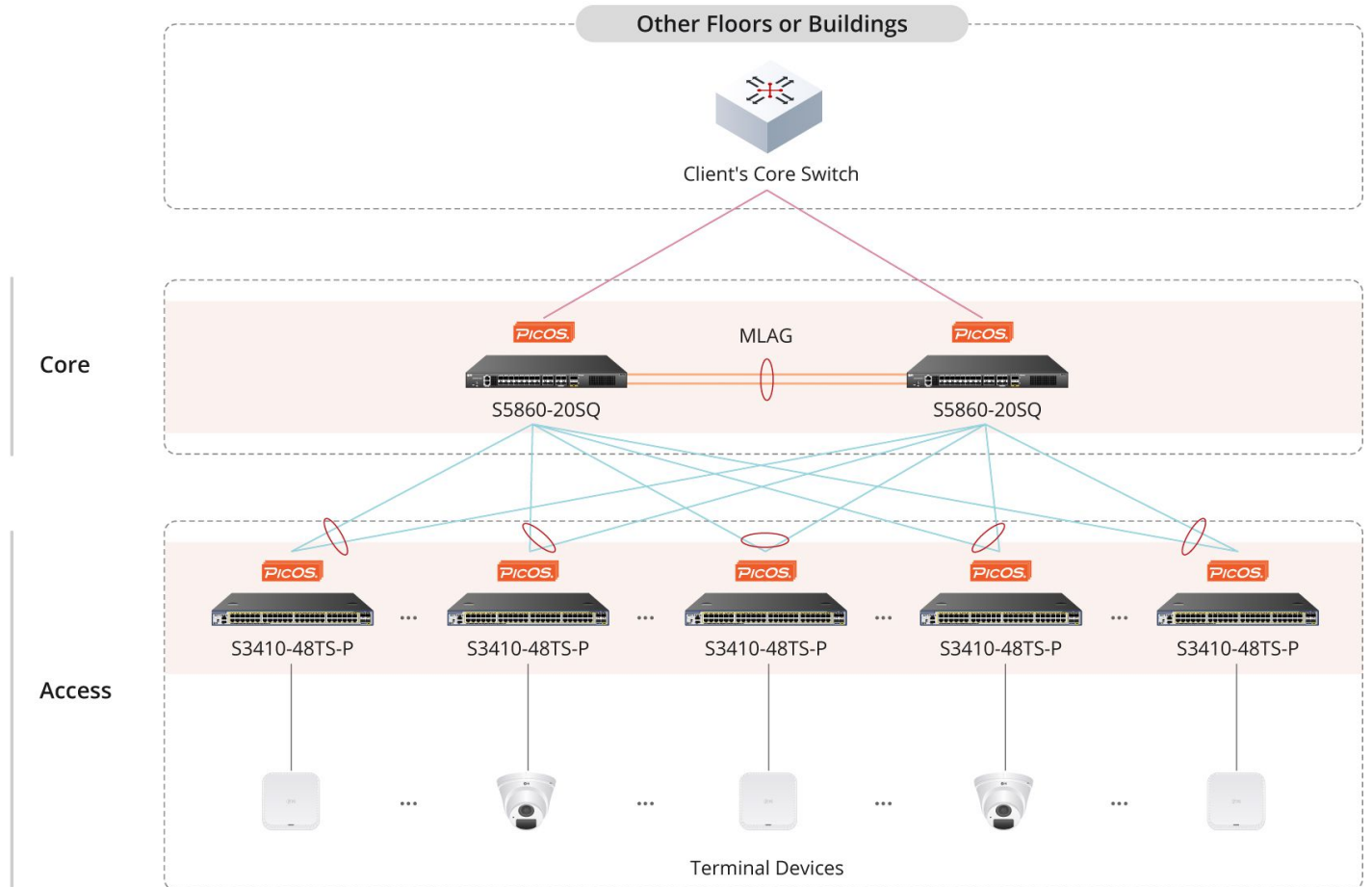
By collaborating with FS, the center has established a resilient and high-performance network infrastructure that aligns with its vision for next-generation education and professional training. The upgraded network offers higher bandwidth to support video conferencing and real-time data sharing. It also features high-density PoE ports to accommodate more endpoint devices. The MLAG+LACP redundant architecture eliminates single points of failure, ensuring uninterrupted support for intensive academic and administrative tasks while allowing for future network expansion.

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- 40G Fiber Link
- 20G Fiber Link
- 10G Fiber Link
- 1G Copper Link





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