

Case Study

# Enterprise LAN Solution

## FS 10G Aggregation Network Solution Enhances University IT Infrastructure

An Australian university achieved comprehensive network coverage, minimal downtime, and future scalability in its new office by implementing a customized 10G aggregation network solution from FS.



## FS 10G Aggregation Network Solution Enhances University IT Infrastructure

### Country

 Australia

### Industry

 Education

### Network Type

 Enterprise Data Centers

### Solutions

 Enterprise LAN

### Key Stats

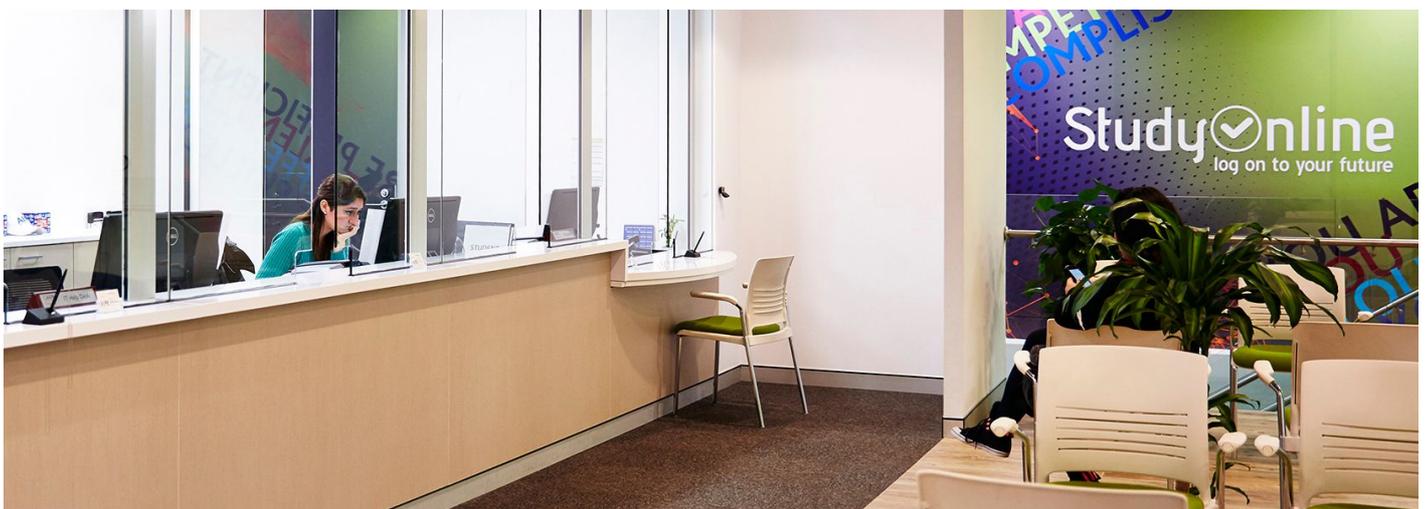
- Each core switch supports up to 176 Gbps of switching capacity, offering high bandwidth and low latency.
- The S3400-48T4SP switch provides 48 PoE+ ports, each delivering up to 30W.
- FS switches supports voice VLAN, prioritizing the transmission of voice data streams.

### Highlights

- The 10G aggregation network significantly enhances overall network performance and user experience.
- MLAG ensures uninterrupted operation even if a switch fails, addressing future business growth needs and maximizing the university's return on investment.
- The highly converged access layer architecture provides ample client port access, supporting both wired and wireless terminals.

### Overview

When setting up an IT network, it is important to build one that meets for your business needs. Our client, a renowned university in Australia, required network setup in their newly relocated office, aiming for comprehensive wired and wireless network coverage while ensuring minimal downtime and future scalability. They sought an efficient and smart network solution from FS.



### Challenges

The client needed to support a variety of device types for voice, video, and other data transmissions, ensuring sufficient network redundancy to avoid single points of failure. The solution also needed to accommodate increasing bandwidth demands and support additional device connections in the future. Additionally, regarding the placement of APs, IP cameras, and IP phones, the client emphasized the importance of proper cabling to minimize damage to the building.

### Solution

FS delivered a customized 10G aggregation network solution tailored to the client's requirements. The solution integrated the S5800-8TF12S and S3400-48T4SP switches, forming the backbone of a high-speed and scalable network.

The S5800-8TF12S, acting as the core switches, utilizes MLAG (Multi-Chassis Link Aggregation) to achieve hardware-level redundancy. The network can maintain uninterrupted service even if one of the links fails. With a switching capacity of up to 176 Gbps and a forwarding rate of 178.6 Mpps, these switches meet the high bandwidth requirements of campus networks.

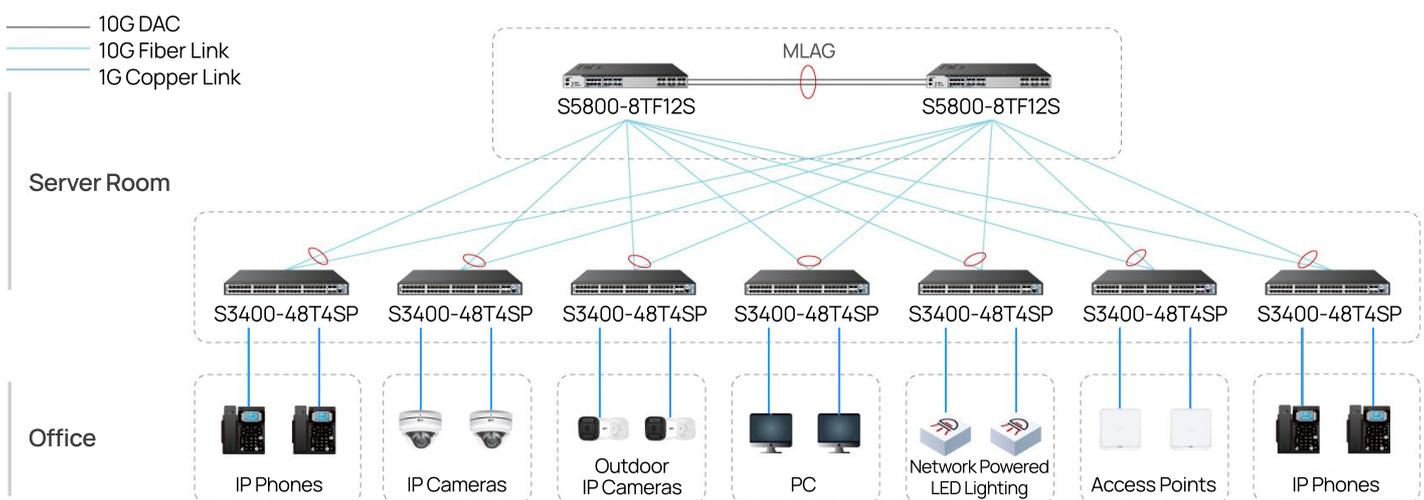
Each access layer switch, the S3400-48T4SP, provides 48 PoE+ ports to connect various wired and wireless devices, such as PCs, IP phones, and APs. These switches are connected to the core layer via 10G DAC cables.

During the planning and installation of network infrastructure, placing terminal devices side by side allows for centralized wiring, reducing the number of openings required. This minimized damage to walls and ceilings, thereby lowering installation costs to some extent.

### Results

The solution addressed the institution's challenges for converged wired and wireless access while future-proofing scalable networks.

By ensuring network redundancy through the addition of more core switches via MLAG, administrators can easily expand network capacity to meet the university's future growth needs. The S3400-48T4SP features high-density PoE ports, capable of connecting a large number of terminal devices simultaneously. Additionally, FS switches all support voice VLAN, meeting the customer's demand for using IP phones. The result was a stable, flexible, and easy-to-manage converged network.





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