S5800-48F4SR Switch Typical Network Solution

Model: S5800-48F4SR

Network Solution

Overview

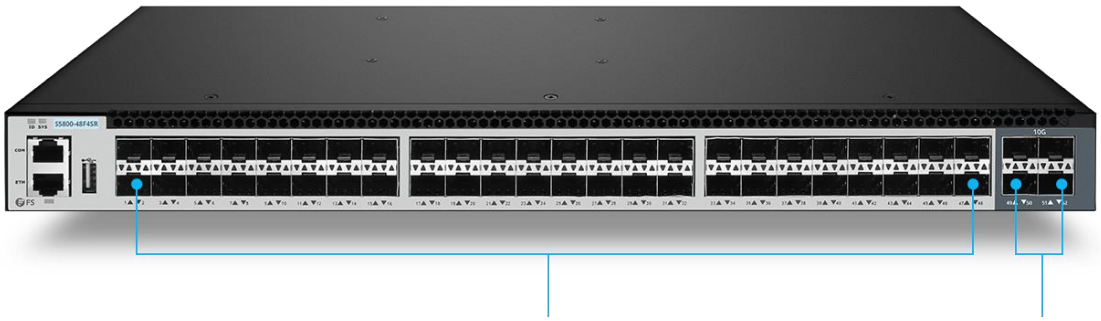
As local area network (LAN) requirements continue to change, many companies extend functional components from the core to the edge. Edge switches are an important part of in-depth network defense. They are particularly important for protecting edge nodes from other nodes. S5800-48F4SR switch highlights various advanced functions, which can work as both the edge switch for large and medium-sized campus network and the core switch for campus branches and small campus.

S5800-48F4SR switch is designed in a compact 1U form factor and equipped with 48x 1G SFP ports and 4x 10G SFP + uplink ports, supporting advanced functions such as Priority Flow Control (PFC), Explicit Congestion Notification (ECN) and data center TCP, etc. It can provide flexible Ethernet networking, diverse security controls, intelligent deployment, easy operation and maintenance, etc.

176 Gbps
Switching Capacity

132Mpps
Forwarding Rate

Layer3
Layer Type



Community Core Network Solution Case Study

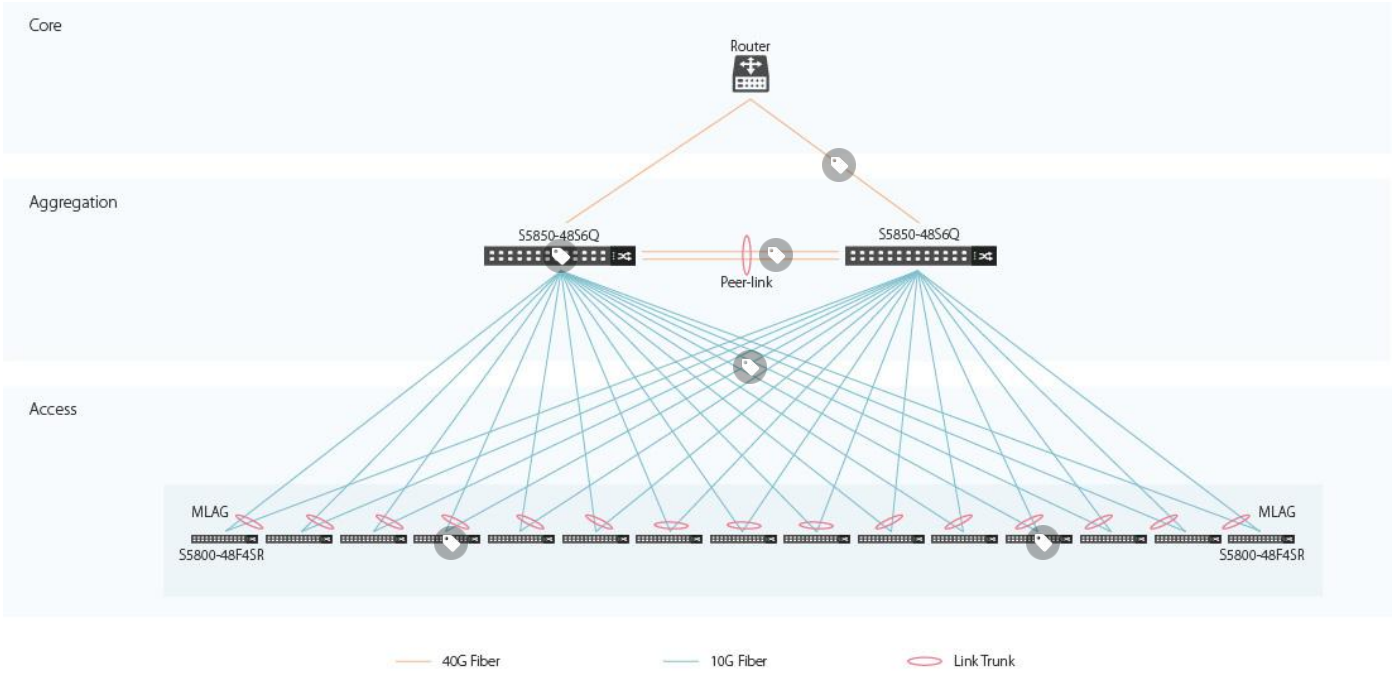
Background

To connect over 700 households, the customer needs to build a FTTH + LAN network. The network with small investment scale can ensure user shared bandwidth, unlimited Internet service and strong network scalability. What we need to do is to recommend cost-effective and reliable switches and solution to complete the core network architecture.

Challenge

Since the community has high-density user group and also needs to deal with various multimedia services, such as video, audio, monitoring. High access rate, scalability and security are of great importance. Also problems caused by protocol conversion also needs to be avoided. Devices need to be connected to the core network and full redundancy is required.

Solution Topology



Solution Description

In response to the core network bandwidth requirements, this solution adopts a two-layer network architecture, which simplifies the network structure and features high stability. The router accesses the network, then the aggregation switch connects to access switches to distribute network to hundreds of households.

Connection
S5850-48S6Q: As an aggregation switch, its 40G ports are used to set up peer links with the peer switches and are also connected to router. It supports MLAG configuration, which ensures network availability in case of a network device or path failure. As such, it provides a means of network failover.

S5800-48F4SR: Functioned as access switches in this network, it can build 10G links with S5850-48S6Q and also much 1G fiber links with other devices to extend transmission distance. With great mobility and flexibility, users are no longer limited to copper cables to access wired networks.

Product List

ID	Description
29123	S5850-48S6Q 48-Port 10Gb SFP+ L3 Managed Ethernet Switch with 6 40Gb QSFP+ Uplinks
99540	S5800-48F4SR 48-Port Gigabit SFP L3 Managed Ethernet Switch with 4 10Gb SFP+ Uplinks
36157	Cisco QSFP-40G-SR4 Compatible 40GBASE-SR4 QSFP+ 850nm 150m MTP/MPO DOM Transceiver Module
68017	1m (3ft) MTP Female 12 Fibers Type B Plenum (OFNP) OM4 (OM3) 50/125 Multimode Elite Trunk Cable, Magenta
11552	FS for Cisco SFP-10G-SR Compatible, 10GBASE-SR SFP+ 850nm 300m DOM Transceiver Module (Standard)
41730	1m (3ft) LC UPC to LC UPC Duplex OM3 Multimode PVC (OFNR) 2.0mm Fiber Optic Patch Cable

Multi-service Fiber Solution Case Study

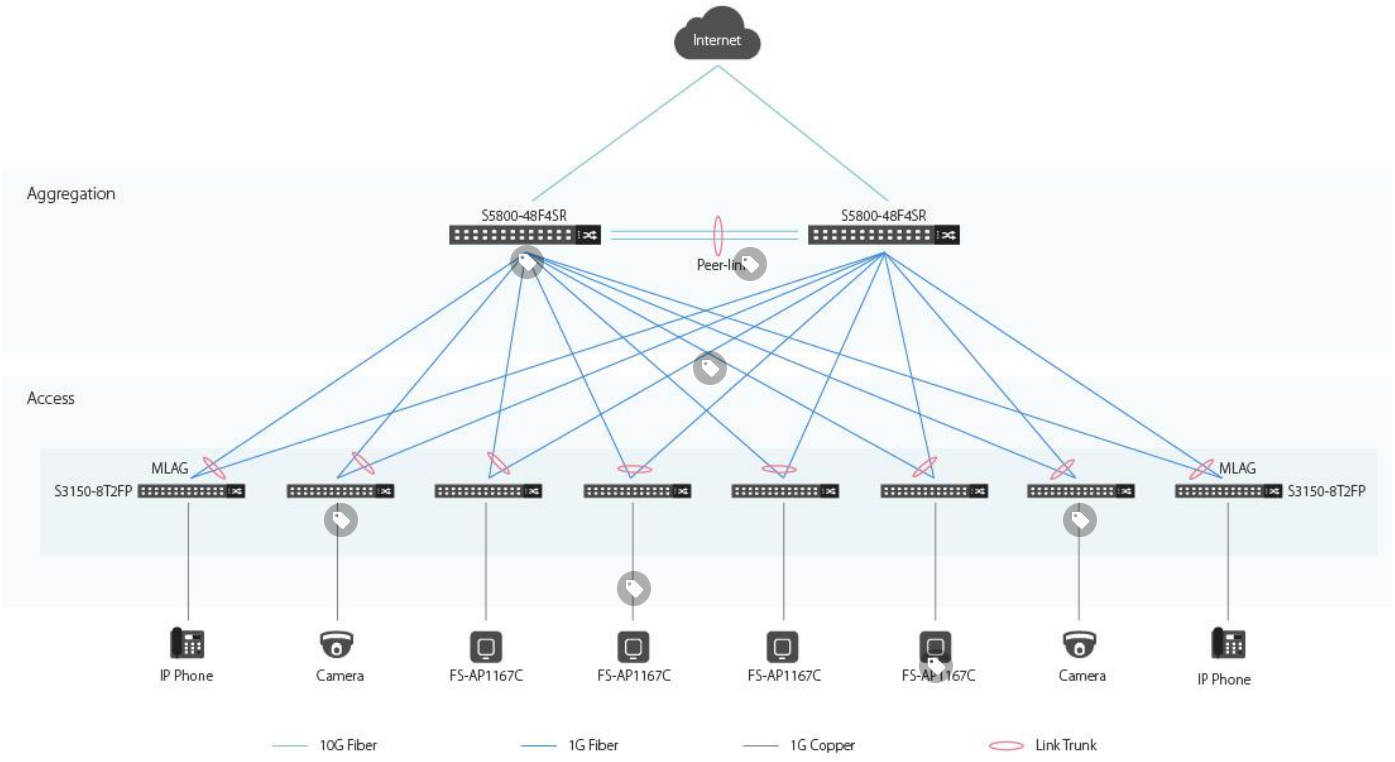
Background

As an ISP, the customer needs to build a complete network for an industrial manufacturing company. The terminal devices include cameras APs, and IP phones, eight nodes in total.
They need FO switches and other necessory network products. We need to help them work out a stable, flexible and manageable network infrastructure solution.

Challenge

Since the area of this company is large enough, it becomes difficult to power those PD equipments. This solution needs to choose the best Ethernet switch with all fiber ports and right power supply distance.

Solution Topology



Solution Description

The above network architecture builds peer links between two S5800-48F4SR switches and meanwhile configures MLAG (Multi-Chassis Link Aggregation Group), which can greatly enhance the network reliability and redundancy to achieve high availability. Moreover, PoE+ switches can transmit data and also power terminals, such as cameras and APs as well as others.

Connection
S5800-48F4SR: If computers in CCS needs to be connected at 100Mbps,1G SFP port of S5800-48F4S switch can be set to 100Mbps to realize the link.

S3150-8T2FP: It can support both IEEE 802.3af PoE and IEEE 802.3at PoE+ (up to 30W per port) for powering attached IP phones, wireless access points. Fanless design ensures noiseless operation without disrupting your quiet business environment

MLAG: Two S5800-48F4SR switches are logically a virtual switch, and connect to the access layer switches S1150-8T2F through the MLAG to establish multi-chassis link aggregation connections to form a ring-free topology, together forming a dual-active system. When a "Error-Down" occurs in one link, traffic can be quickly switched to another link.

Product List

ID	Description
99540	S5800-48F4SR 48-Port Gigabit SFP L3 Managed Ethernet Switch with 4 10Gb SFP+ Uplinks
90130	S3150-8T2FP 8-Port Gigabit Managed PoE+ Switch with 2 1Gb SFP Uplinks, 150W, Fanless
11774	Cisco GLC-SX-MM Compatible 1000BASE-SX SFP 850nm 550m DOM Transceiver Module
43132	2m (7ft) LC UPC to LC UPC Duplex OM2 Multimode PVC (OFNR) 2.0mm Fiber Optic Patch Cable
11552	FS for Cisco SFP-10G-SR Compatible, 10GBASE-SR SFP+ 850nm 300m DOM Transceiver Module (Standard)
41730	1m (3ft) LC UPC to LC UPC Duplex OM3 Multimode PVC (OFNR) 2.0mm Fiber Optic Patch Cable
70555	3ft (0.9m) Cat5e Snagless Unshielded (UTP) PVC CM Ethernet Network Patch Cable, Blue
84027	1167Mbps 2x2 MU-MIMO Dual-Band FAT/FIT Gigabit Access Point

Note: If you have any questions or requirements, please contact FS technician team or your Account manager for personalized services:

https://www.fs.com/solution_support.html

https://www.fs.com

The information in this document is subject to change without notice. FS has made all efforts to ensure the accuracy of the information, but all information in this document does not constitute any kind of warranty.