

S5500-48T8SP Switch Typical Network Solution

Model: S5500-48T8SP

Overview

S5500-48T8SP switch is a new generation of aggregation ethernet routing switch with 48x 10/100/1000BASE-T RJ45 PoE ports and 8x 10G SFP+ uplink ports.

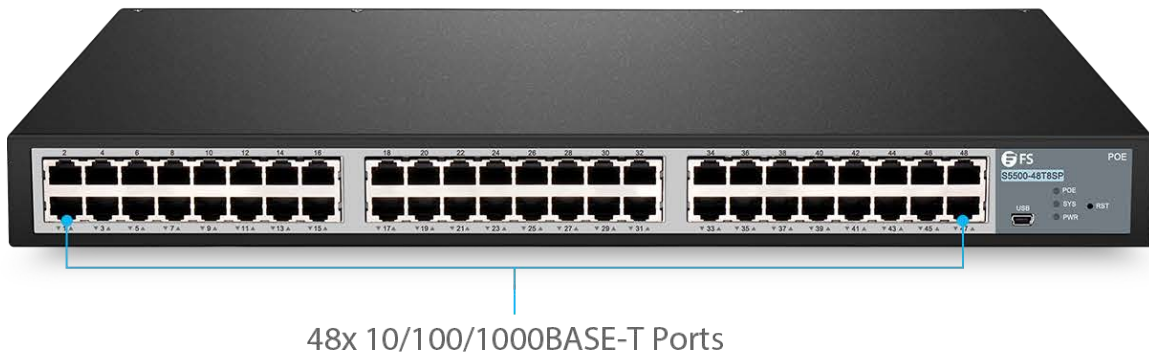
In addition to power and data to network devices that need high power to work normally, such as smart lighting, all-in-one PC, AI high-speed camera, industrial sensor etc., it is also a L3 stackable managed switch which allows multiple switches to be combined to form a single physical or virtual stack via stacking technology and to segment your network into workgroups and communicate across VLANs without degrading application performance.

High port densities, switch stacking, and easy management makes the switch suitable for a variety of small to medium businesses enterprises and ISPs to build a secure enterprise or metro Ethernet access network.

256 Gbps
Switching Capacity

IEEE 802.3af/at
PoE Standard

740W
Power Budget



Small Business Phone Systems Solution

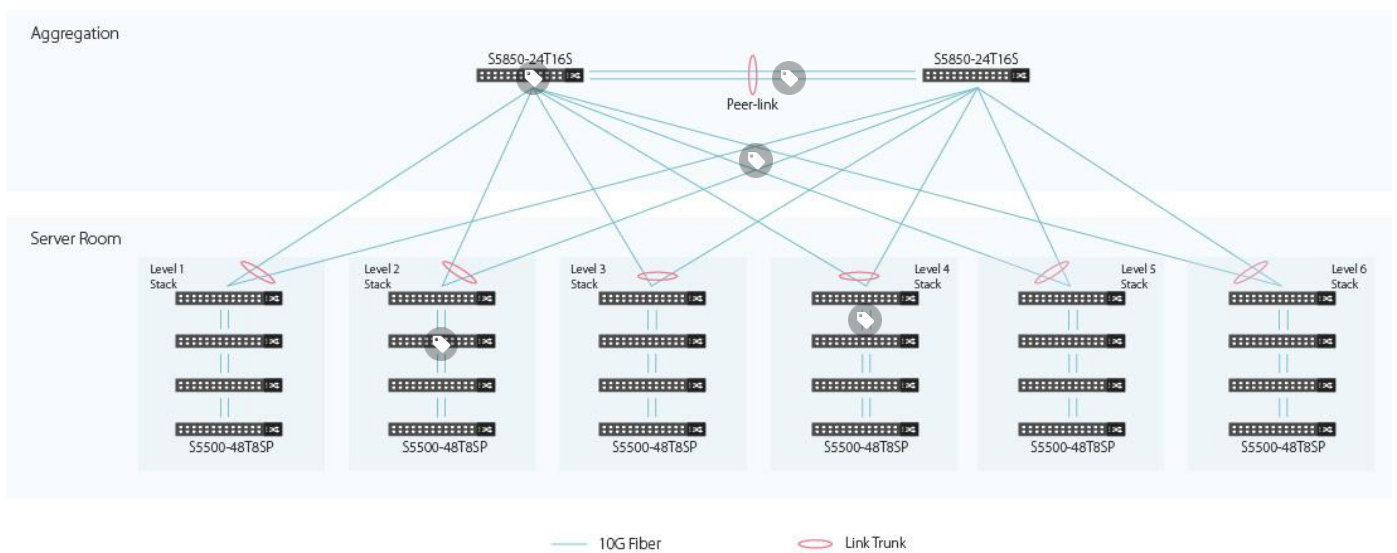
Background

One customer who specialized in ICT is looking for a solution to build a phone systems. There are a total of 200 persons in 6 levels, total capacity is 1,200 users. They need 48 ports gigabit PoE+ switch with 2x 10G uplink (total 4 units each level X 6 levels) and 2x 12/24 ports 10G SFP switches (HA) on level 1 data room.

Challenge

Solution should provide Dynamic Host Configuration Protocol (DHCP) for the IP phones, end users should have gigabit ports and remain 10G for uplinks. High availability which is capable to support load balancing of the network traffic and no more than two ICMP echo packet drop during the failure between the primary and secondary network equipment.

Solution Topology



Solution Description

This is a typical aggregation-access network. In this solution, the S5500-48T8SP PoE+ switch is connected to the S5850-24T16S aggregation switch to form a redundant network, which increases the security and stability of the network structure.

Connection

S5850-24T16S: With 16x 10G SFP+ ports can be used to connect the 10G port of the PoE, the remaining 24x 1G ports is used to connect other existing equipment, it support Mlag and can meet customer needs.

S5500-48T8SP: The products support IEEE 802.3 af/at, layer 3 network management and PoE management, responsible for the power supply and communication of the PD devices. At the access layer of the network, we stack the switches to facilitate switch management and form a whole logically management.

MLAG: The design above adopts MLAG technology mainly. Two S5800-24T16S are connected with 6 stacking group to realize dual redundancy of equipment and links.

Stacking: The four S5500-48T8SP switches in each Level are configured with stacking, increased redundancy over multiple physical units, simplifies management and provides a single IP address to manage all members in the stack. Multiple Gigabit ports can be configured for a stack using directly to provide high bandwidth. Support for virtual stacking provides further convenience by allowing centralized management of ports across different locations for simplifying large-scale deployments.

Security: A robust set of L2/L3 solutions help ensure that critical network services such as VoIP, ERP, Intranet, and video conferencing are served with proper priority.

Product List

ID	Description
85069	S5850-24T16S 24-Port 10/100/1000BASE-T Gigabit L3 Managed Ethernet Switch with 16 10Gb SFP+ Uplinks for Hyper-Converged Infrastructure
83325	S5500-48T8SP 48-Port Gigabit L3 Stackable Managed PoE+ Switch with 8 10Gb SFP+ Uplinks, 500W
11552	FS for Cisco SFP-10G-SR Compatible, 10GBASE-SR SFP+ 850nm 300m DOM Transceiver Module (Standard)
41728	3m (10ft) LC UPC to LC UPC Duplex OM3 Multimode PVC (OFNR) 2.0mm Fiber Optic Patch Cable
11555	FS for Cisco SFP-10G-LR Compatible, 10GBASE-LR SFP+ 1310nm 10km DOM Transceiver Module (Standard)
40191	1m (3ft) LC UPC to LC UPC Duplex OS2 Single Mode PVC (OFNR) 2.0mm Fiber Optic Patch Cable

Church Building Solution Case Study

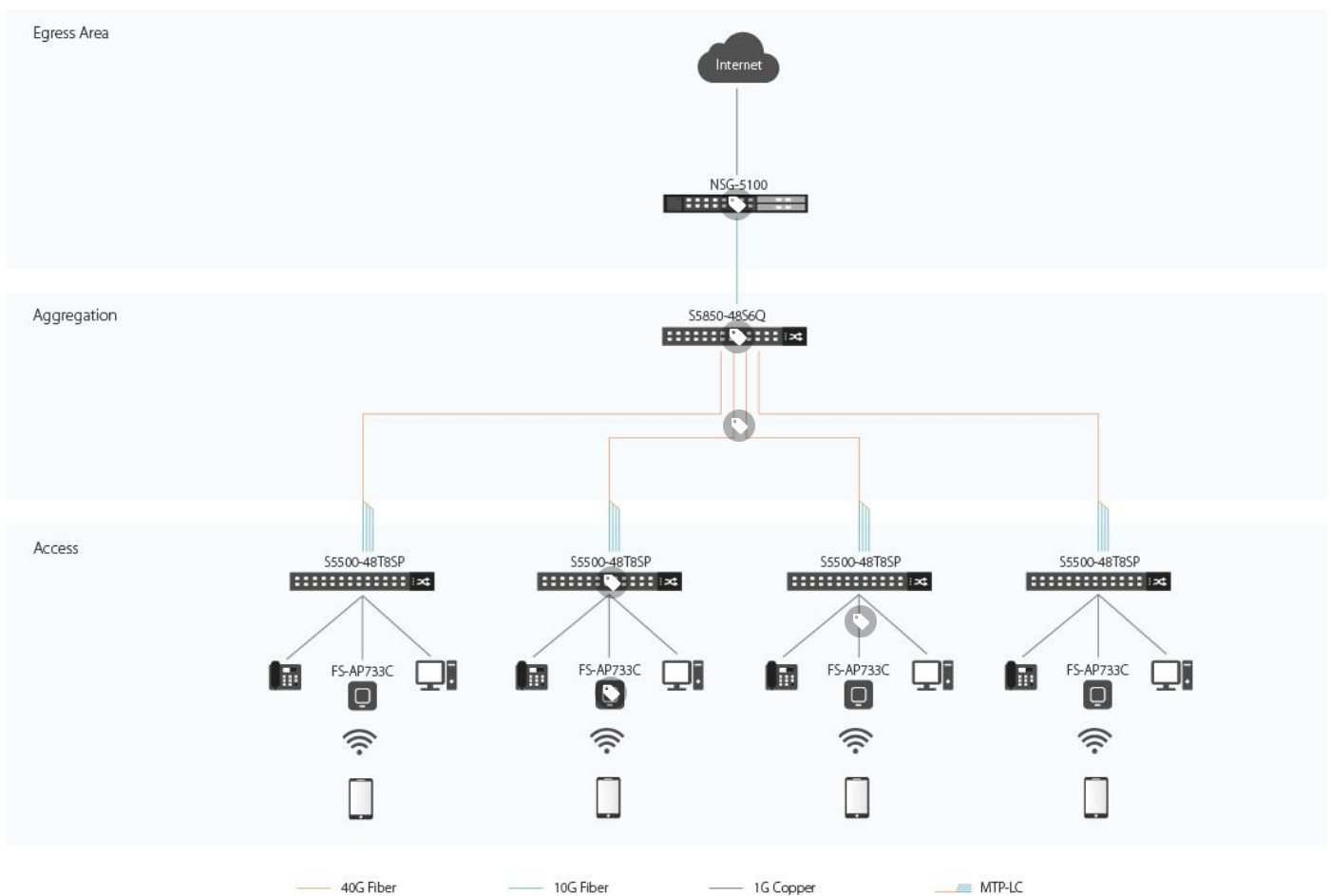
Background

The customer needs a network for a small church building with 2 floors that had been divided into 4 zones. Each zone will have its own distribution switch. He just wants to have a strong backbone that has a high throughput between the switches. There are plans to do video live streaming in the future, so they need to upgrade the distro switch in Zone 1 to one that can support that.

Challenge

Four zones need to be easy managed and run cables to each room – without having to home run everything to the server room (on the lower floor). There need to have 10G uplink fiber to the Core Switch and deliver 1G access ports and PoE+ to end devices. The access ports on the distro switches will be populated by end user devices. All the devices that will be connecting to the access ports on the distro switches will utilize 1G Copper connections. These are primarily user desktops, wireless APs, VOIP Phones, etc.

Solution Topology



Solution Description

This network is a combination of communication, power supply, and security. The firewall is used as a security exit. Our S58 series switches are used as aggregation layer switches, and the PoE+ switches are used as access layer switches to provide power and communication to PD devices.

Connection: S5500-48T8SP connects terminal PD equipment IP phones and APs, and can also connect non-PD equipment such as PCs. A dynamic routing protocol runs between the S5500-48T8SP and the aggregation switch S5850-48S6Q. The NSG-5100 provides information security protection for the network and ensures the security of the import and export network.

Management: Providing layer 3 management based on WEB, with function including static route, Web configuration, port management fast-ring, Qos, SNMP, IGMP & VLAN etc. Application: the solution could be applied to lighting industry, security monitoring, enterprise park and other applications.

Product List

ID	Description
29123	S5850-48S6Q 48-Port 10Gb SFP+ L3 Managed Ethernet Switch with 6 40Gb QSFP+ Uplinks
83325	S5500-48T8SP 48-Port Gigabit L3 Stackable Managed PoE+ Switch with 8 10Gb SFP+ Uplinks, 500W
90594	NSG-5100 Next-Generation Firewall for Medium-sized Enterprises and Data Centers
11552	FS for Cisco SFP-10G-SR Compatible, 10GBASE-SR SFP+ 850nm 300m DOM Transceiver Module (Standard)
36157	Cisco QSFP-40G-SR4 Compatible 40GBASE-SR4 QSFP+ 850nm 150m MTP/MPO DOM Optical Transceiver Module
70555	3ft (0.9m) Cat5e Snagless Unshielded (UTP) PVC CM Ethernet Patch Cable, Blue
66262	Cisco GLC-T Compatible 1000BASE-T SFP Copper RJ-45 100m Transceiver Module
68059	5m (16ft) MTP Female to 4 LC UPC Duplex 8 Fibers Type B Plenum (OFNP) OM4 50/125 Multimode Elite Breakout Cable, Magenta
84026	733Mbps 2x2 MIMO Dual-Band FAT/FIT Wireless 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.