

S8050-20Q4C Switch Typical Network Solution

Model: S8050-20Q4C

Overview

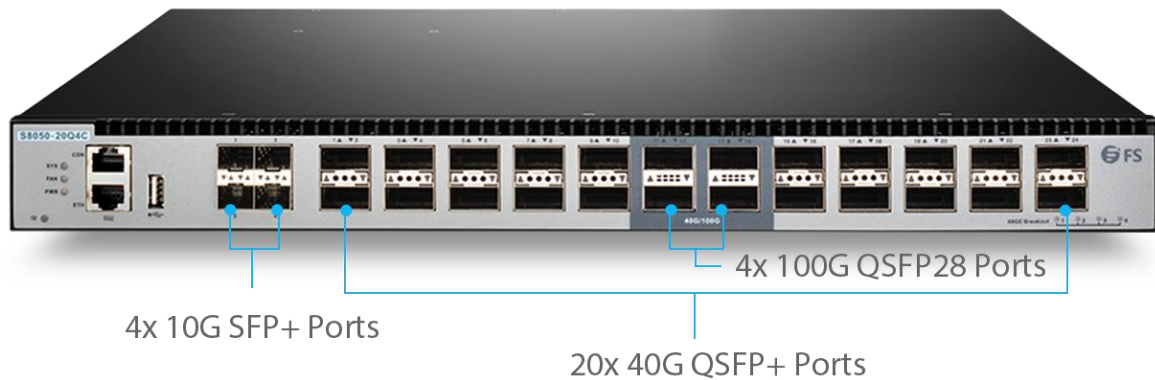
S8050-20Q4C switch has 20x QSFP+ and 4x QSFP28 ports in a compact 1U form factor and it's a low latency L2/L3 Ethernet switch. The S8050-20Q4C switch comes with the complete system software with comprehensive protocols and applications to facilitate rapid service deployment and management for traditional L2/L3 networks.

With support for advanced features, including MLAG, VXLAN, IPv4/IPv6, SFLOW, SNMP, etc., it can provide routing function and hardware-based security features to meet the needs of different scenarios such as metro Ethernet access and aggregation, enterprise network and traditional or fully virtualized data center. It helps users build cost-effective and optimized networks with high reliability to effectively protect the security capabilities of users' existing equipment.

2.4 Tbps
Switching Capacity

1071.4Mpps
Forwarding Rate

L2/L3
Layer Type



IT Cloud Data Center Solution Case Study

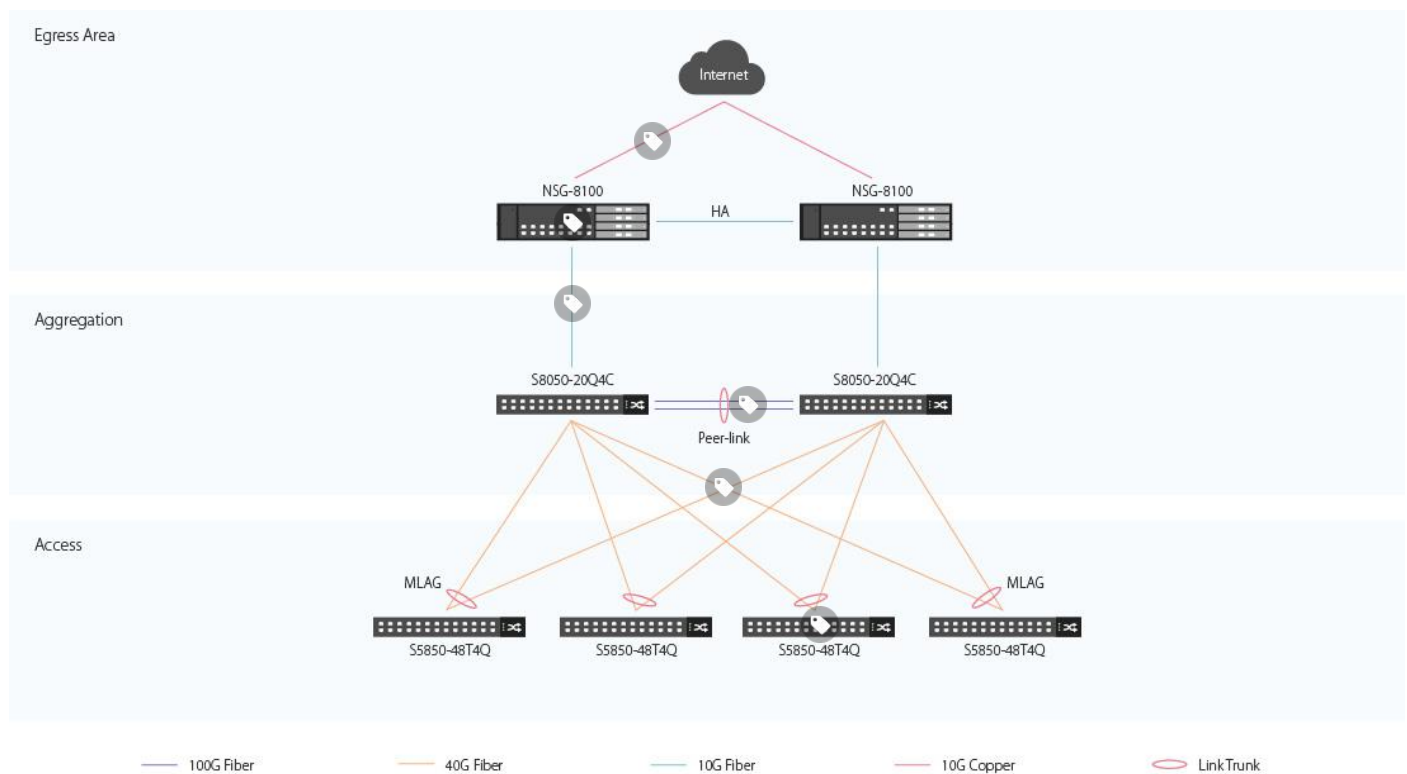
Background

The customer is from an energy consultancy company, all their IT is cloud based on office 365 and Azure. They run various high computer engineering application suites that use a great deal of bandwidth internally and externally. Now they are looking for a new core network for head office, 2pcs firewalls and at least 150 servers are needed.

Challenge

In the data center, customers want to have device isolation at the access layer, control plane isolation, and device fault isolation, packet forwarding in active-active mode without being affected by the upgrade. The entire network needs to adopt the active-active design to ensure the security.

Solution Topology



Solution Description

The solution deploys MLAG to form a loop-free topology. The firewall is accessed in transparent mode and enables hot-standby function to work in load balance mode to ensure network robustness. The dual-homing mode is used to ensure reliability and links load balance traffic so as to improve its utilization.

Connection:

The whole scheme adopts 100G, 40G, 10G multi-rate converged mode to reasonably allocate the networking rate. The firewall HA networking mode ensures the reliability of the entire data center and greatly improves network security.

MLAG: Two S8050-20Q4C switches are configured with MLAG to achieve dual-homing access. During normal operation, links load balance traffic and a fault of any aggregation switch does not affect services, ensuring high reliability of services.

Product List

ID	Description
29126	S8050-20Q4C (20*40Gb+4*100Gb) 40Gb IP Storage and Spine/Aggregation Layer Switch
69378	S5850-48T4Q 48-Port 10GBase-T L2/L3 Data Center ToR/Leaf Switch with 4 40Gb QSFP+ Uplinks
48354	Cisco QSFP-100G-SR4-S Compatible 100GBASE-SR4 QSFP28 850nm 100m DOM Transceiver Module
36157	Cisco QSFP-40G-SR4 Compatible 40GBASE-SR4 QSFP+ 850nm 150m MTP/MPO DOM Transceiver Module
72582	Cisco CVR-QSFP-SFP10G Compatible 40G QSFP+ to 10G SFP+ Adapter Converter Module
11552	FS for Cisco SFP-10G-SR Compatible, 10GBASE-SR SFP+ 850nm 300m DOM Transceiver Module (Standard)
68020	3m (10ft) MTP Female 12 Fibers Type B Plenum (OFNP) OM4 (OM3) 50/125 Multimode Elite Trunk Cable, Magenta
41729	2m (7ft) LC UPC to LC UPC Duplex OM3 Multimode PVC (OFNR) 2.0mm Fiber Optic Patch Cable
97356	NSG-8100 Next-Generation Firewall for Large-sized Enterprises and Data Centers
66799	1ft (0.3m) Cat6a Snagless Shielded (SFTP) PVC CMX Ethernet Network Patch Cable, Blue

Audio-visual Network Solution Case Study

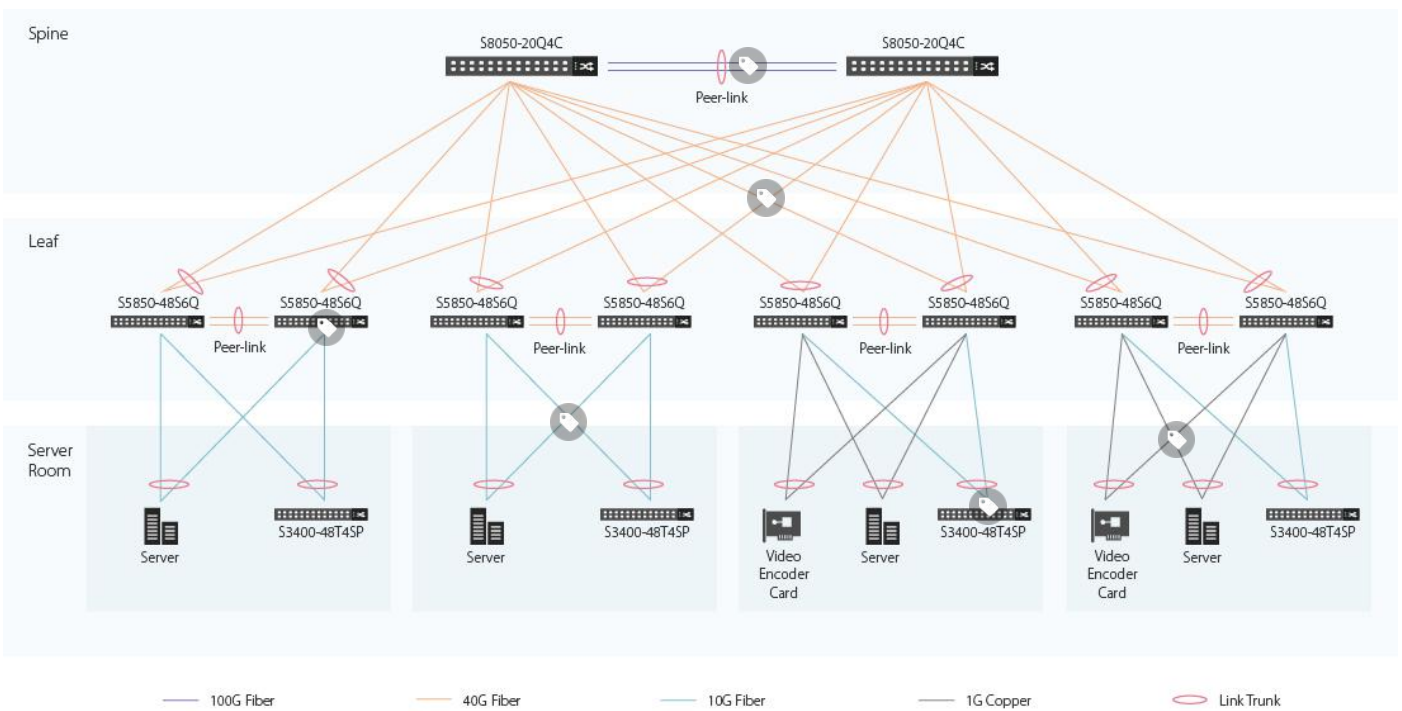
Background

The customer wants to build a system that is for a new visitor attraction involving computer vision systems and gameplay systems. Bandwidth is higher compared to their usual museum environment thanks to the CV systems. He is hoping to create a spine-leaf architecture with MLAG to give full redundancy to all connected devices.

Challenge

The spine layer needs 100G connection, the leaf switch should have 40G uplink port to connect the spine switch, and then some POE+ switches are needed for remote terminals. When the scheme is designed, the entire network must be redundant to guarantee the stability of the audio-visual network effectively, otherwise the network will be paralyzed.

Solution Topology



Solution Description

The solution uses S8050 and S5850 series switches to form a spine-leaf structure, and configure MLAG to make the entire network safe and reliable. The dual-link connection is adopted to improve the security design of the entire network. The whole scheme integrated four areas network and the structure is clear. From the 100G connection to the gigabit connection, the speed is gradually reduced as the network level changes, which can effectively and reasonably use network resources.

Connection:

S5850-48S6Q: The scheme using S8050 series switches as the aggregation to form MLAG groups, the device-grade redundant connection is achieved in this way to ensure the security of the aggregation layer network. At the access layer, our S5850-48S6Q is configured at the same way to increase the stability of the network structure.

MLAG: S5850-48S6Q and S8050-20Q4C switches are configured with MLAG which are logically a virtual switch, and different dual-link connections are set up in each area to form a ring-free topology. Meanwhile, they also improve the link reliability from single board grade to device grade via MLAG, forming a active-active system, which can make use of all links. When the link is interrupted and the topology changes, it will not cause network vibration.

Product List

ID	Description
29126	S8050-20Q4C 20-Port 40Gb QSFP+ and 4 10Gb Combo L3 Managed Ethernet Switch with 4 100Gb QSFP28 Uplinks
29123	S5850-48S6Q 48-Port 10Gb SFP+ L3 Managed Ethernet Switch with 6 40Gb QSFP+ Uplinks
90132	S3400-48T4SP 48-Port Gigabit Managed PoE+ Switch with 4 10Gb SFP+ Uplinks, 400W
48354	Cisco QSFP-100G-SR4-S Compatible 100GBASE-SR4 QSFP28 850nm 100m DOM Transceiver Module
36157	Cisco QSFP-40G-SR4 Compatible 40GBASE-SR4 QSFP+ 850nm 150m MTP/MPO DOM Transceiver Module
11552	FS for Cisco SFP-10G-SR Compatible, 10GBASE-SR SFP+ 850nm 300m DOM Transceiver Module (Standard)
11773	Cisco GLC-T Compatible 1000BASE-T SFP Copper RJ-45 100m Transceiver Module
68020	3m (10ft) MTP Female 12 Fibers Type B Plenum (OFNP) OM4 (OM3) 50/125 Multimode Elite Trunk Cable, Magenta
41728	3m (10ft) 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

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