

What is the optical port identifier on a switch



Overview

Combo ports are optical opto-electronic complex interface, can switch electrical port mode and optical port mode in need . 1.

Key Takeaways

Optical ports on switches are identified using a combination of port type, slot/subcard/stack IDs, and port sequence numbers, often displayed as SFP, SFP+, or QSFP followed by a numeric identifier. Port Numbering Conventions

Optical ports on switches are typically labeled using a structured format that reflects the physical and logical location of the port:

- Slot ID / Subcard ID / Port Sequence Number: On many switches, such as Huawei S5700 series, a port is identified by its slot, subcard, and sequence number. For example, 0/0/2 indicates slot 0, subcard 0, port 2. In stacked switches, the Stack ID is added, e.g., 1/0/3 for stack 1, subcard 0, port 3 .
- Port Type Prefix: The type of optical interface is included in the identifier:
 - GigabitEthernet or GE for 1G ports
 - XGigabitEthernet or 10GE for 10G ports
 - 40GE or QSFP+ for 40G ports
 - SFP or SFP+ for small form-factor pluggable modules

- QSFP28 for 100G high-speed ports .

Optical Module Identification

Optical transceivers themselves have identifiers stored in their EEPROM, which can be queried on the switch:

- Identifier: Indicates the module type, e.g., 0x03 for SFP
- Extended Identifier: Provides additional module classification
- Connector Type: Specifies the physical connector, e.g., LC for fiber
- Transceiver Type: Defines the standard, such as 10GBase-LR or 1000BASE-LX
- Rate and Distance: Nominal speed and supported fiber length . Commands to view these identifiers vary by vendor:
- Cisco: show interface or show inventory to see module details .
- Netgear: show port status and show fiber-ports optics-info to display transceiver type and specifications .

Practical Example

For a 10G SFP+ port on a Huawei switch, the identifier might appear as:

- XGigabitEthernet 0/0/1 — indicating the first 10G port on slot 0, subcard 0, port 1.
- If a 40G QSFP port is split into four 10G interfaces, the numbering follows a calculated sequence based on the last 10G port number and the 40G port position .

Summary

Optical ports are identified by a combination of:

- Port type (SFP, SFP+, QSFP, QSFP28)
- Physical location (slot, subcard, stack ID)
- Port sequence number (order on the switch panel)
- Module-specific identifiers (EEPROM data including connector type, transceiver type, and supported rates) Understanding these identifiers is essential for network configuration, monitoring, and troubleshooting, ensuring correct module compatibility and link management.

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