

Server Optical Module Switch

Article Overview

Switch server optical modules are hot-pluggable transceivers that enable servers to connect to network switches via fiber or copper, typically installed through server NICs.

Overview

Switch server optical modules, commonly in the SFP family (SFP, SFP+, SFP28), are compact, hot-pluggable transceivers that convert electrical signals from a server or switch into optical signals for fiber transmission, or vice versa, for copper connections . They are not directly installed on server motherboards; instead, servers use network interface cards (NICs) with SFP ports to host these modules . This modular approach allows flexibility in network deployment, supporting different speeds and media types without replacing the server or switch hardware.

Server Connection

Most servers lack native optical ports. To connect to a switch via fiber, a PCIe NIC is installed in the server, which provides slots for optical modules . For example, Intel X520 series NICs support 10G SFP+ modules, while other NICs may support 1G, 25G, or higher speeds. The optical module is inserted into the NIC, and a fiber patch cord connects it to the corresponding switch port. Compatibility depends on the NIC manufacturer (Intel, Broadcom, Mellanox, QLogic) and the module type .

Switch Port Compatibility...

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