US OEM Fiber Optic Enterprise Router LPO



Overview

Approved Networks Approved Networks is a trusted provider of high-performance optical networking solutions for data centers, enterprises, and service provi.

Key Takeaways

US OEM enterprise routers supporting Linear Pluggable Optics (LPO) include solutions from Dell, Cisco, and Approved Networks, offering high-performance, interoperable fiber optic connectivity for data centers and enterprise networks.

Overview of LPO Technology

Linear Pluggable Optics (LPO) are DSP-free optical modules designed to optimize power, cost, and latency in fiber optic networks while maintaining pluggable flexibility.

LP

O modules support high-speed connections starting at 100 Gb/s per lane and are interoperable across multiple vendors through the LPO MSA specification, ensuring multi-source compatibility for enterprise deployments.

LP

O solutions are particularly suited for single-mode and multi-mode fiber in high-performance data centers.

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US OEM Router and Switch Vendors

Dell Technologies offers LPO-enabled enterprise routers and switches through its PowerSwitch line, including models like the Z9864F-ON and Z9664F-ON, which interoperate with Broadcom Thor 2 NICs using 400G and 800G LPO optics. These solutions provide incremental deployment flexibility, allowing enterprises to gradually build LPO networks while optimizing cost and performance. Cisco Systems provides high-performance enterprise routers and switches compatible with 400G and 800G pluggable optics, including QSFP-DD and OSFP modules.

Cisco's LPO-capable routers integrate with Cisco Silicon One technology, enabling AI and high-throughput workloads while maintaining reliability and low latency. Cisco also supports backward-compatible optics for seamless integration with existing infrastructure. Approved Networks, a US-based provider, offers fiber optic transceivers, DAC/AOC cables, and WDM solutions that are fully compatible with major OEM routers and switches.

Their portfolio includes 800G LPO modules designed for AI and enterprise applications, with US-based support and evaluation programs for testing interoperability.

Deployment Considerations

Interoperability: Ensure LPO modules are certified for the specific router or switch platform. Modules with the DSPLPO suffix indicate certified remote LPO connectivity. Fiber Type: Single-mode fiber is commonly used for long-distance enterprise links, while multi-mode fiber supports shorter connections.

Incremental Deployment: LPO solutions allow gradual network upgrades, enabling cost-effective scaling without full infrastructure replacement. Vendor Support: US OEMs like Dell, Cisco, and Approved Networks provide technical support, evaluation programs, and compatibility testing to ensure reliable deployment.

Conclusion

For U

S enterprises seeking fiber optic routers with LPO support, Dell, Cisco, and Approved Networks provide robust, interoperable solutions. These routers and switches leverage high-speed LPO optics to deliver low-latency, power-efficient, and scalable connectivity suitable for modern data centers, AI workloads, and enterprise networks. Enterprises should evaluate module compatibility, fiber type, and vendor support when planning LPO deployments.

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Article Content

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