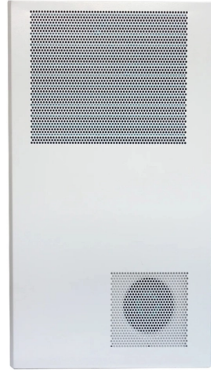


Optical Splitter Link Group



Overview

Optical Splitters Demystified: The Silent Heroes explains how optical splitters enable FTTH, their types (FBT vs. PLC), key ratios, and how Optical Splitte.

Key Takeaways

An optical splitter is considered a link group because it aggregates multiple subscriber connections from a single input fiber, forming a logical group of optical links in a PON network. Role of Optical Splitters in PONs

An optical splitter is a passive device that divides a single input optical signal into multiple outputs, allowing one central Optical Line Terminal (OLT) to serve many Optical Network Terminals (ONTs) at users' homes . By distributing the signal across multiple fibers, the splitter effectively creates a group of links that share the same input source, which is why it is referred to as a link group .

Link Group Concept

In network terminology, a link group represents a set of connections that are logically or physically associated. In the case of optical splitters:

- Single input fiber: The OLT sends a signal into the splitter.
- Multiple output fibers: Each output fiber connects to a different subscriber or endpoint.
- Shared resources: All outputs share the same upstream and downstream bandwidth from the input fiber.

- Logical grouping: The outputs are managed collectively for network planning, monitoring, and capacity allocation . This grouping allows network operators to treat all the splitter outputs as a single entity for configuration, fault management, and performance monitoring, simplifying network management.

Splitter Placement and Architecture

Splitters can be deployed in centralized or distributed architectures:

- Centralized splitters: Located near the OLT, all subscriber fibers branch from a single splitter, forming a large link group.
- Distributed splitters: Placed in closures or pedestals closer to subscribers, smaller link groups are formed, which can be cascaded to expand coverage . The choice of architecture affects the size and management of the link group, but in both cases, the splitter defines the boundaries of the group by determining which fibers share the same input signal.

Summary

An optical splitter is considered a link group because it collectively manages multiple optical connections from a single input, enabling efficient distribution of signals in a PON. The split ratio, deployment architecture, and shared bandwidth define the scope and functionality of the link group, making the splitter a central element in network design and management .

Article Content

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Learn about optical splitter split ratios (1:N, 2:N), centralized vs. cascaded architectures, and how to choose the right

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