

Intelligent fiber distribution hubs with FiberConnect

FiberConnect for FTTX Networks

Advanced FTTX access networks promise to bring high-speed broadband networking to the market. But with high variability in customer acceptance rates, seemingly endless technology improvements, and the lack of a single killer application, the operational cost of these fiber networks is increasing exponentially.

Further, to minimize capital investment in FTTX networks, operational processes are being substituted. Technicians are dispatched for dozens of events; including drop installation, splitter connections (PONs), load balancing, congestion relief, troubleshooting and fault isolation. All at the same time that customer expectations for immediate response are increasing.

An automated fiber optic cross-connect system (FOCS) located in the fiber distribution hub or wherever PON splitters are deployed eliminates much of this operational burden. Intelligent remote monitoring and a reconfigurable fiber plant supporting splitter grooming, fault isolation, and smooth technology migration all lead to reduced or eliminated truck rolls.

Calient's DiamondWave® FiberConnect FOCS is protocol and bandwidth transparent, ensuring compatibility with any PON-based or active Ethernet FTTX deployment.

Features

- Scalable - configurations from 8x8 to 320x320
- Remote Management – secure browser access from anywhere

- Fault Isolation – OTDR baseline comparison
- Reliability – carrier class, billions of connection cycles without failure

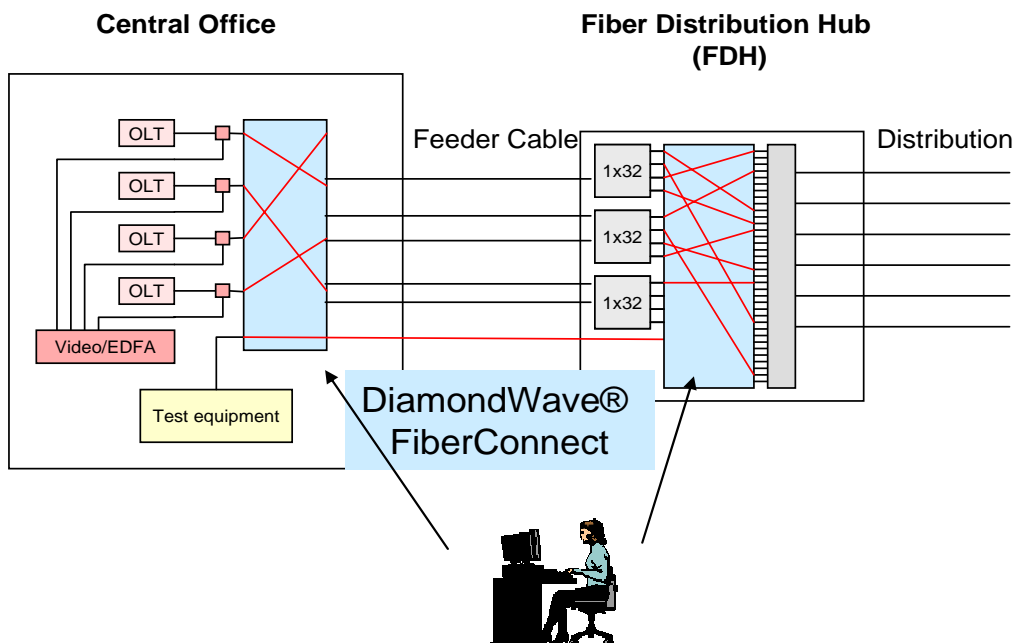
Benefits

- Hands out of the Plant – remote control of cross connections
- Elimination of truck rolls for any event requiring fiber reconfiguration (customer churn, optical protection/restoration, migration of services, splitter balancing, etc.)
- Intelligent fiber monitoring for early detection and advanced troubleshooting
- Automated records inventory of all fibers and cross connections
- Green – low power, RoHS, reduced carbon emissions

Business Case

- CapEx Savings: centralize test equipment, increase equipment utilization, test access
- OpEx Savings: eliminate truck dispatch, reduced fiber cleaning, faster trouble isolation and resolution, centralize technical expertise

...Move the light, not the fiber.



DESCRIPTION

Like a manual fiber patch panel or fiber distribution frame, any input fiber on the FiberConnect FOCS can be connected to any output fiber. Capacity is added using in-service-pluggable "Soft Patch Cords."

Unlike the manual fiber management systems it obsoletes, the FiberConnect enables remote management of all fiber cross-connections via a web-based graphical user interface, and reconfiguration of connections in less than 20 ms. A remotely-accessible database stores the current state of all connections. Optional integrated detectors allow continuous monitoring of optical power on all input and output fibers. Test ports enable any fiber to be remotely connected to shared test equipment, including OTDRs. Other optional carrier-class features include full alarm and event management.

STANDARD FEATURES

- Up to 640 fiber terminations per shelf
- Grow-able in increments of 8 connections
- Dual DC power feeds
- Graphical user interface
- TL-1 command line interface
- Front-panel LC connectors
- Telco alarm and event management
- Output power monitoring
- ANSI or EST1 rack configuration
- 19" or 23" rack mounting

OPTIONAL FEATURES

- Input and output power monitoring
- Dual AC power feeds
- Redundant Configuration Processors
- Latching Battery Power Supply

SPECIFICATIONS

OPTICAL

Fiber type	Single-mode fiber
Insertion loss	1.75 dB typical
Configuration time	<20 ms

ENVIRONMENTAL

<i>Temperature</i>	
Operating	-5° to 50° C (23° to 122° F)
Non-operating	-40° to +70° C (-40° to 158° F)
<i>Humidity</i>	
Operating	5% to 90%, non-condensing
Non-operating	5% to 95%, non-condensing

POWER – FULLY LOADED

Input voltage	nominally -42V DC
Input current	4A continuous, max.
In-rush current:	7A for 8 ms
Power dissipation	470 mW per connection

MECHANICAL

ANSI Configuration	29.5"h x 17.5"w x 12.5"d 752 x 445 x 318 mm
ETSI Configuration	30"h x 17.5"w x 12.5"d 760 x 445 x 318 mm
Weight	84 lbs. (38 kg)
Shipping weight	149 lbs. (68 kg)

REGULATORY COMPLIANCE

Safety	UL 60950, EN 60950-1, CSA 69950
EMI/EMC	EN 300 386 V1.2.1 FCC Part 15, Subpart B GR-1089-CORE EN 55022, Class A, EN 55024
Environ.	GR-63-CORE (NEBS)
Eye safety	CFR Title 21 Part 1040 Class I

RAS

Reliability	MTBF > 37 years
Serviceability	Hot-swappable FRUs
Indicators	Standard telco alarms