Assuring data center interconnectivity with the OTH-7000

EXFO

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EXFO RFTM

Benefits

Manage fiber SLAs with 24x7 monitoring of critical links

Automated segment-by-segment baselining and threshold setting

Automated alerting upon deviations from baseline

Reduced MTTR with rapid detection and fault on map localization

Use case description

EXFO RFTM meets a wide variety of fiber monitoring needs. When used with the OTH-7000 optical test head, it is ideal for applications such as ensuring data center interconnectivity.

This use case describes a typical data center monitoring scenario where the customer owns both the optics and the line system over which more than three links are carried, but the fiber is leased from a dark fiber provider.

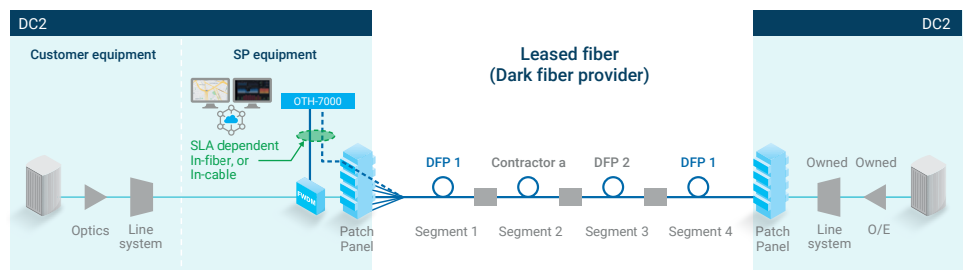The illustration below shows where the OTH-7000 would be placed to perform monitoring.

Figure 1. Leased fiber

End-to-end monitoring options

There are two main methods for end-to-end fiber monitoring in this application:

1. **Monitoring one or more unassigned fibers within the cable, without providing customer-specific KPIs**

This method is likely used for leased fiber opportunities that don't have stringent SLA requirements since it does not provide specific (unique) KPIs per customer service.

2. **Managing an SLA on each fiber**

In this case, the dark fiber provider (DFP) would need to monitor each of the fibers by multiplexing (FWDM) a test wavelength with the customer's own wavelength(s).

This method would be used for leased fibers with stringent SLAs in order to provide the required KPIs to SLA management.

What to look for

- Changes in end-to-end loss, including breaks and degradations
- Location and identification of the loss (i.e., which segment, fiber, splice, connector and distance from OTDR)
- Who to assign the issue to (i.e., contractor, DFP 2 or own maintenance group)
- Geo-location of fault: pinpoint where along the route or identify physical landmarks to help locate fault
- Source of loss: macro-bend, disconnect, misconnect, damaged cable (natural cause, accidental or malicious)

Dimensioning for SLA considerations

Scan time

1 fiber	8 fibers	16 fibers
3 s	24 s	48 s
5 s	40 s	80 s (i.e., 1 min 20 s)
50 s (~iOLM)	400 s (i.e., 6 min 40 s)	800 s (i.e., 13 min 20 s)
60 s	640 s (i.e., 10 min 40 s)	1280 s (i.e., 21 min 20 s)

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