Connecting communities

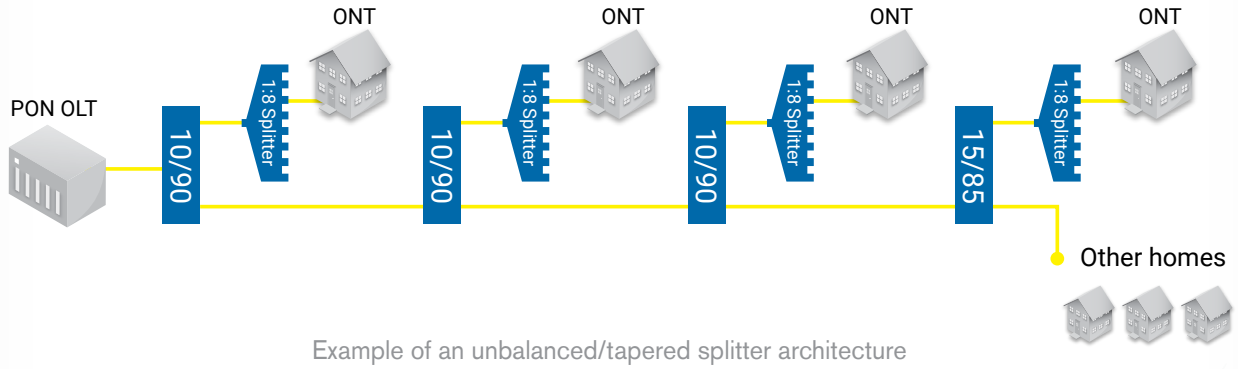
Maximizing the Rural Digital Opportunity Fund (RDOF) with the right testing gear

Background

Rural Electric Cooperatives and their optical network design and test partners are gearing up to deploy thousands of miles of new fiber cables under the FCC's Rural Digital Opportunity Fund (RDOF) to expand broadband access to underserved communities across the United States.

New passive optical network (PON) architectures

To serve residents in sparsely populated rural areas cost-effectively (i.e., as an alternative to traditional centralized or cascaded PON), two new PON architectures have been developed: tapered splitter and distributed tap. Either of these PON types can be characterized with EXFO's iOLM.



Example of an unbalanced/tapered splitter architecture

About the FCC's Rural Digital Opportunity Fund

The RDOF aims to ensure that consumers in rural areas have access to modern broadband networks at rates that are comparable to urban areas.

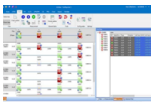
The FCC makes it imperative to test at the service level to verify that speed and latency requirements are met. Service-level quality depends on good physical infrastructure which can be certified using an OTDR, an optical fiber multimeter (OFM) and fiber inspection scopes.

Reference: www.fcc.gov/performance-testing-carriers-receiving-high-cost-universal-service-fund-support

Performance Tier	Speed
Minimum	≥ 10/1 Mbit/s
Baseline	≥ 25/3 Mbit/s
Above baseline	≥ 100/20 Mbit/s
Gigabit	≥ 1 Gbit/s/500 Mbit/s
Latency	**Requirement**
Low latency	≤ 100 ms
High latency	≤ 750 ms & MOS of ≥ 4

Source: The Federal Communications Commission

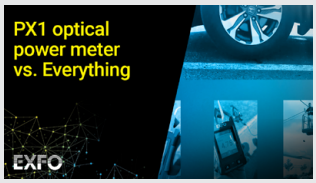
What test solutions to look for?

SOLUTION		WHAT IT DOES	WHEN TO USE IT	WHY?
MAX-730C OTDR with intelligent Optical Link Mapper (iOLM)		Characterization and troubleshooting through splitters of all PON architectures. Generate reports right from the field.	Construction, expansion and advanced maintenance	EXFO's unique, proven iOLM provides an accurate characterization that prevents false impairments and properly identifies performance issues, helping technicians resolve all network faults. One button push is all it takes to unleash adaptive acquisition, resulting in optimal results, clear diagnostics, and comprehensive troubleshooting guidance.
Optical Explorer (OX1), the first optical fiber multimeter		Confirm power level and verify subscriber-to-splitter link in seconds. Identify most common issues impacting customer installation. Generate and share reports via smartphones right from the field.	Drop cable installation, customer activation and maintenance.	Get the instant and accurate visibility needed to increase first-time install success rate, at the push of one button, no expertise required.
Optical Power Expert (PX1) power meter		Confirm power level at splitters or in-premises, verify continuity and spot common issues with optional red laser or visual fault locator.	Customer activation	Easy touchscreen operation and ruggedized for field use.
EX1 FTTH and business services tester		Qualify broadband speed metrics from 1 Mbit/s to 1 Gbit/s, including WiFi metrics and analysis.	Customer activation	Pocket-sized EX1 tester provides reports proving compliance with FCC speed test requirements.
FIP-435B wireless fiber inspection scope		Certify cleanliness and health of connector end-face.	Every time a fiber connector is manipulated	Reliable and fast, makes inspection easy.
FastReporter data post-processing software		Comprehensive reporting to document all network test results and show compliance quickly and efficiently.	Construction and maintenance	Boost reporting productivity for connector endface inspection and for all types of optical-layer testing.

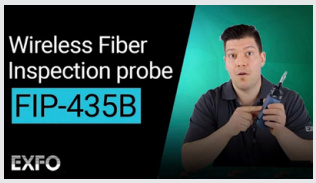
Find us on YouTube

iOLM

OX1



PX1



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For more information, visit www.EXFO.com