Top FTTP/FTTH Resolutions for 2022

If service providers pay attention to the best test and measurement solutions to ensure success, 2022 can be a great year to extend fiber everywhere reliably.

By Stéphane Chabot / *EXFO*

For businesses and consumers, reliable access to mission-critical communications services in an increasingly connected world has never been more critical. The rapid evolution of technologies – including live streaming of events, videoconferencing and collaboration, gaming and cloud storage – is driving the need for high-speed, ultra-available connectivity. The experience of remote business operations, telecommuting and distance learning necessitated by the global pandemic has further escalated demand for service, especially for residential end users.

Communications service providers feel the pressure of these expectations, and optical fiber is being deployed everywhere as the essential foundation for today's and tomorrow's networks. Look no further than the newspaper headlines to see that this is a priority for governments throughout North America and worldwide, with increasing pressure and funding to expand broadband infrastructure.

NETWORK PROVIDER CHALLENGES

Fiber-to-the-premises (FTTP) and fiber-to-the-home (FTTH) networks extend connectivity beyond core and aggregation networks to cell towers and end users. However, the path to successful FTTH deployment is not without roadblocks. Service providers and contractors working to extend the reach of fiber optic networks to the home quickly and cost-effectively must also be aware of maintaining high quality and reliability. In some cases, they integrate new builds with legacy networks, which can be challenging.

More deployments also increase the pressure to rapidly expand the pool of qualified installers and technicians who can support and validate fiber deployments.

TOP 2022 FTTP/FTTH RESOLUTIONS

Fortunately, recent innovations in test technology – both in-the-field and remote testing – have emerged to enhance the quality of access network buildouts and meet service expectations. With attention to the best test and measurement solutions to ensure success, 2022 can be a great year to extend fiber everywhere reliably.

Resolution 1: Get it right the first time. For providers focused on fast, high-quality rollouts, "first-time-right" deployment of FTTH is essential. Return visits to fix problems are costly and time-consuming. Additional truck rolls to address connection problems can double typical testing costs.

Multiple test equipment vendors provide optical time domain reflectometer (OTDR) test equipment to deliver greater accuracy and insight for installers, which can help avoid costly repeat service visits.

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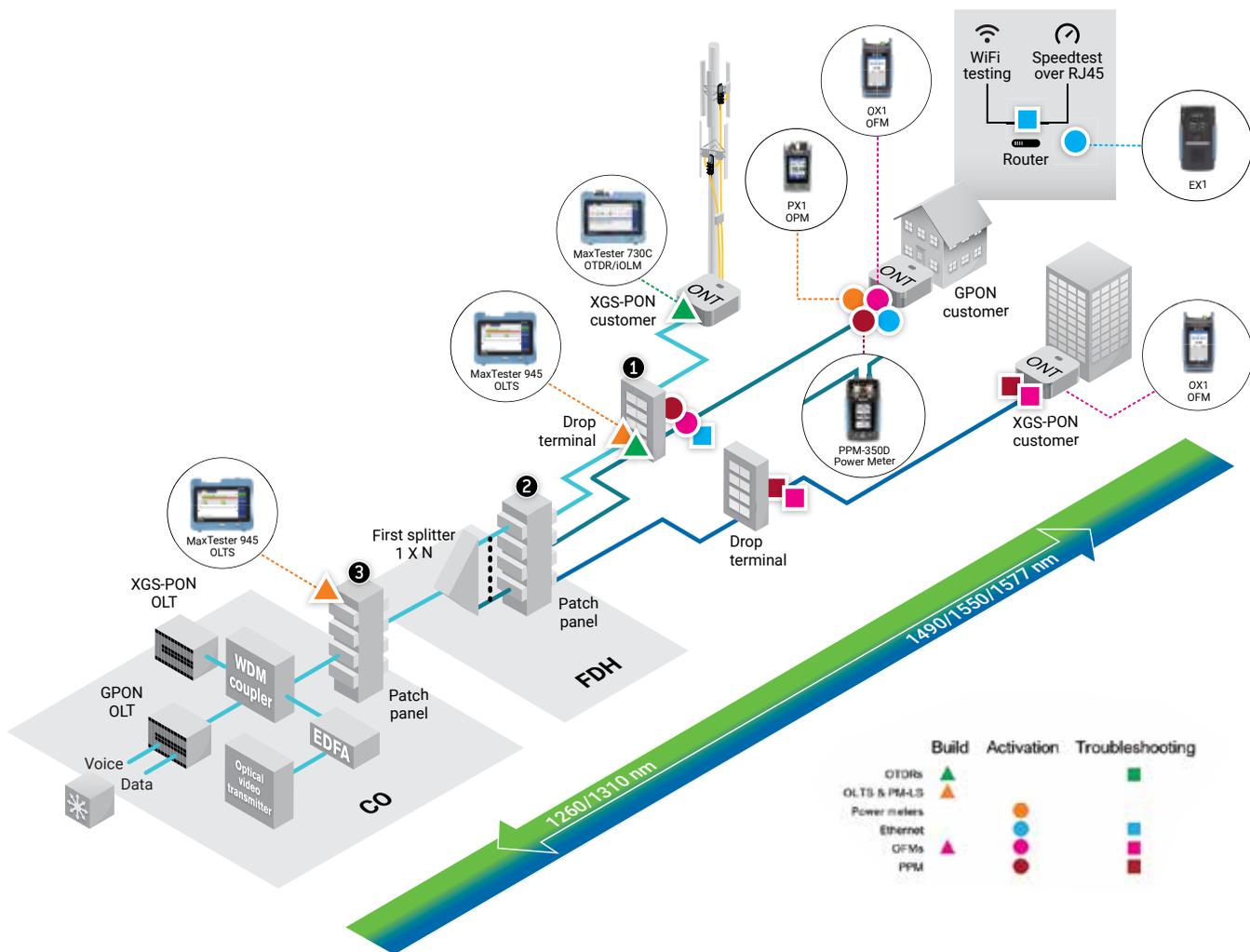
EXFO test and measurement solutions are aligned with service provider FTTP and FTTH application.

Though assuming that equipment was pre-tested in a manufacturing facility is tempting, interconnectivity needs to be checked on-site.

A sophisticated OTDR-based solution with intelligence and automation can provide visibility to every element in a fiber link. Technicians can access information that helps them fix issues faster, with a precise pass-fail diagnosis to address faults without delay.

Ensuring the suitable investments for end-to-end visibility with intelligence and automation are critical to the No. 1 resolution of getting it first-time-right.

Resolution 2: Solve the talent shortfall with a better mousetrap.
One new reality of today's FTTH networks and within increasingly complex data centers is the high density of cables and fibers being deployed. Instead of the traditional 864-fiber line, next-generation versions now include 6,912 fibers to be validated and monitored. The high-density, high-fiber count poses a distinct hurdle, especially when a shortfall of trained field testers and technicians makes keeping pace with burgeoning deployments difficult.

To address this challenge, easy-to-use test inspection solutions that automate processes have come to market, enabling accurate testing with minimal training and providing fast, reliable testing of single-fiber and multi-fiber connectors. With an easy-to-use, automated device, even a new technician can work like an experienced professional. Now that's a better mousetrap!

Enabling new technicians to come on board with less training time, equipped with the suitable test tools to handle the job, makes resolution No. 2 doable for fiber everywhere.

Resolution 3: Inspect, inspect, inspect! A critical aspect of deploying FTTH is checking connections in the field where poor splicing, contaminated connectors or microbeads in the fiber can all impede the signal, causing loss of signal strength and degraded service.

Connectors are known to have high failure rates if not tested properly. Research has shown that 80 percent of network owners report having issues linked to bad connectors, negatively impacting network performance. NTT Advanced Technology Corporation names contaminated connectors as the No. 1 cause of network failure.

Fault detection and isolation are critical in every fiber optic network life cycle stage. Testing consistently

and accurately can reduce the cost and complexity of FTTH implementation, enabling network operators to qualify and troubleshoot their fiber networks to ensure high quality of service (QoS).

Resolution 4: Prioritize QoS. Once turned up live, FTTH or FTTP links can carry enormous amounts of potentially mission-critical data, making ongoing monitoring and maintenance a necessity for continued QoS. That's why providers increasingly rely on automated monitoring solutions to ensure optimum performance.

OTDR testing can provide ongoing oversight using end-to-end link testing, diagnostics and proactive monitoring for any fiber network, including passive optical networks (PON) in HTTP. OTDR test solutions with built-in intelligence and automation can provide greater efficiency and ease of use.

Ensuring that field technicians can remotely trigger OTDR tests using a mobile application supported via a cloud-native application server will ensure that everything from end-to-end link loss measurements to link continuity can be quality checked at the touch of a button.

Resolution No. 4 will help ensure reliable connections for positive end-user experiences.

2022 FTTH OPPORTUNITIES

The accelerated pace of innovation and demand for ultra-fast, data-intensive services will continue to challenge the scope and responsiveness of providers. But with the use of advanced test technologies, deploying a solid fiber foundation and extending fiber reach to the home can be faster, less costly and reliable.

Communications providers who stick to their 2022 resolutions will have fewer challenges deploying fiber everywhere and providing high QoS to their customers. ❖

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