

# Fixed access and backhaul transport monitoring

Meet low-latency targets to improve user experience and NPS, and detect issues before they impact customers

**EXFO**

Optimize transport network performance; grow network services revenue



**Minimize latency**



**Optimize network efficiency**



**Excel in user experience**

Fixed operators want to develop new markets and partnerships and grow new services revenue. This requires end-to-end control and visibility into how the network is performing in order to minimize latency for latency-sensitive fixed network services. Otherwise, customers rapidly experience issues, leading to churn and impacting Net Promoter Scores (NPS). With accurate insight into how services are performing across the fixed access and backhaul network, operators can optimize network efficiency and maximize end-user experience.



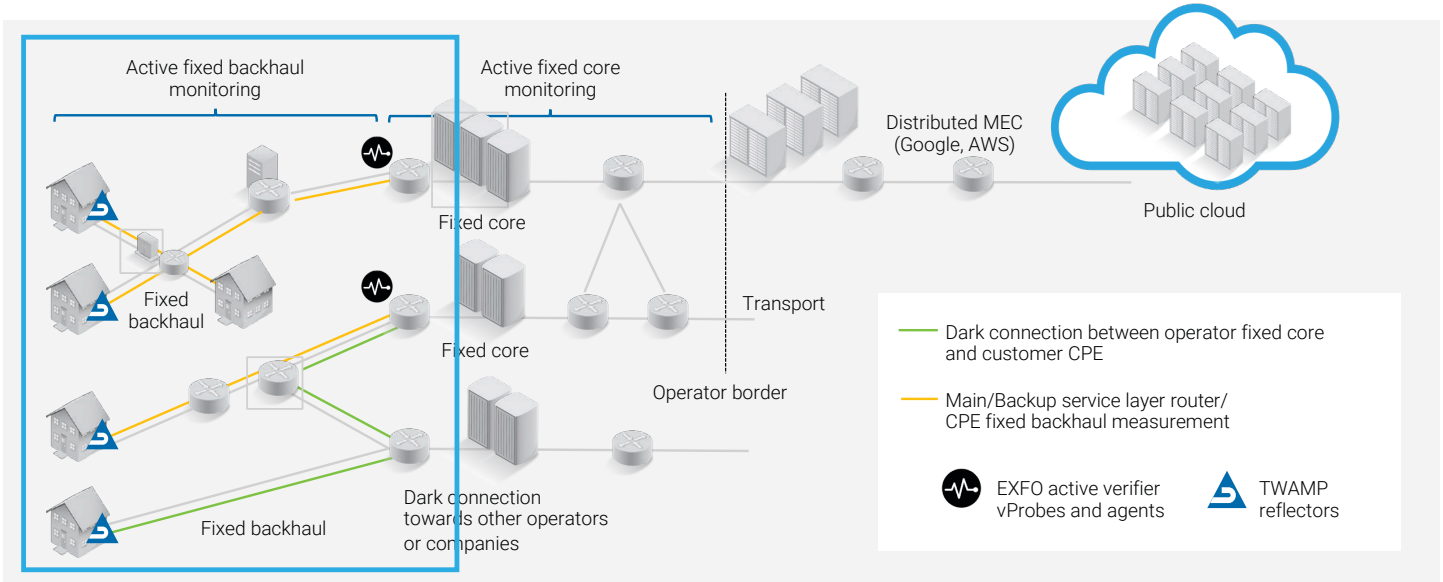
## Optimize user experience with end-to-end service visibility

Understand the end-to-end service path for latency, packet loss and jitter by injecting layer-3 synthetic test traffic between the service layer router and the customer CPE. This insight into user experience is critical to proactively identify service quality issues and them before users are impacted.



Proactively test user experience and pinpoint where issues are occurring on video, voice and data QoS classes using a high-performance virtual verifier in the service path. This helps transport planning and fixed transport access and backhaul operations teams to optimize actual end-user experience.

# Fixed backhaul network: putting things into perspective



EXFO fixed backhaul transport monitoring addresses thousands of customer CPE active tests on service paths for voice, data and video.

## How it works

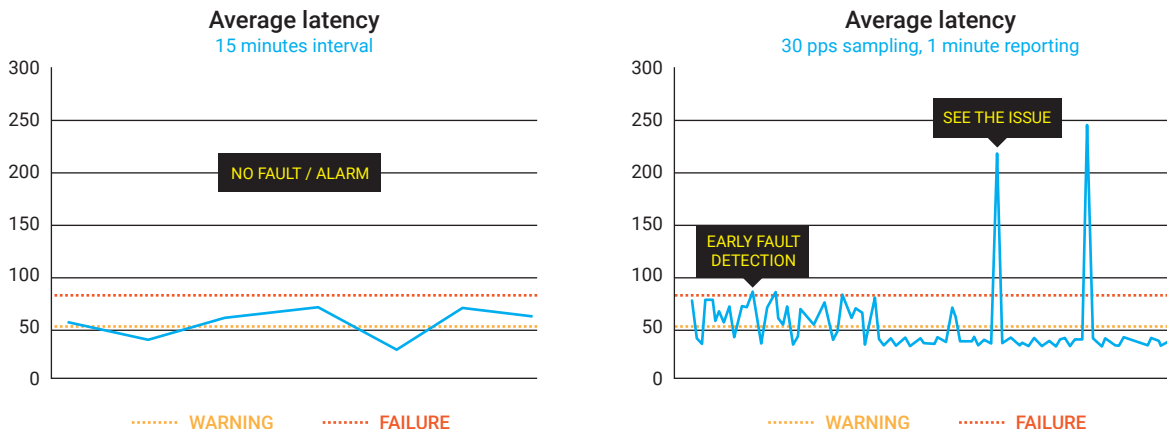
EXFO active verifier probes test user experience in the fixed backhaul service path.

The virtual active test probe can be instantiated at the service layer router in the fixed core network to inject synthetic test traffic on a per-second basis toward customer premise equipment (CPE) in the network. This provides granular per-second visibility into user plane traffic. The test instance can be located close to the fixed core where thousands of CPEs can be measured in parallel, and without overloading the network. In addition, the performance of third-party dark connections can be tested and validated.

EXFO active verifier probes deliver performance, scale and accuracy with per-second testing and reporting.

- Per-second testing and reporting interval
- Precise uplink and downlink KPIs using TWAMP
- Up to 25,000 TWAMP tests per EXFO verifier to reach a high number of nodes
- TR69 support to enable TWAMP reflection at the CPE
- IPv4 and IPv6 supported
- Easy to orchestrate and configure via API:
  - Continuous or on-demand testing
  - Test before and after changes

Highly accurate sensor data is important for automation and real-time service degradation analysis. EXFO active verifiers provide per-second analysis and the KPIs required to see each performance degradation impacting user experience in the end-to-end transport network.



# Features

- **Real-time, per-second user QoS visibility** measures uplink and downlink latency, packet loss, jitter and availability
- **High performance and quality measurements at scale** for QoS classes across thousands of customer CPE on a continuous per-second basis
- **Modern architecture** with KAFKA streaming capability, open APIs and virtualized architecture framework
- **Support automation and zero-touch operations** with high quality network performance data
- **Cost-effectively deployed** on a single server with no additional hardware required at the customer site

# Benefits



**Gain end-to-end QoS visibility into the fixed access network** to improve service quality and application performance for remote workers.

**Prevent outages through early warning on degradations and anomalies** via EXFO's adaptive service assurance platform.



**Detect issues impacting user experience** on the fixed access and backhaul network.

**Identify latency and packet loss caused by:**

- Traffic shaper overload or misconfiguration
- DSL- or cable-related capacity issues
- Main and backup routing issues
- New or existing fiber connections, and validate them



**Support projects to increase Net Promoter Score** as customer expectations are more demanding.

**Provide meaningful SLA reports** to fiber end-users.

**Gain insight to introduce localized content delivery** and edge computing and optimize backhaul and peering.



## EXFO adaptive service assurance

The EXFO adaptive service assurance platform combines performance data from networks, services, devices and users with machine learning-enabled analytics to deliver unique insight and diagnostics into networks and services. Open integration and third-party data analysis—including network topology—adds context to enrich troubleshooting and minimize latency.

Learn more about fixed access and backhaul transport monitoring at [EXFO.com](https://www.exfo.com)

