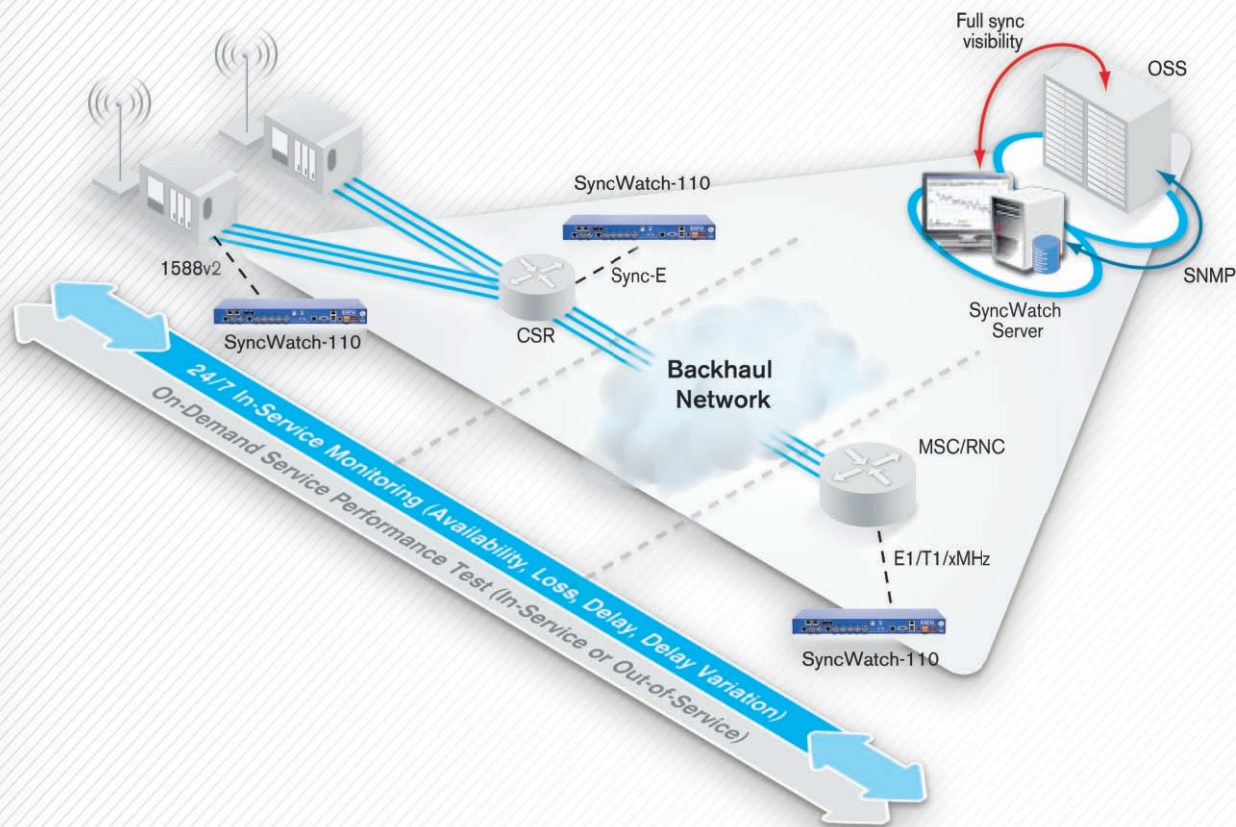


QUALIFYING AND MONITORING NEXT-GEN NETWORK SYNCHRONIZATION



Measuring the pulse of the network

- › Real-time testing (on-demand or automated)
- › Seamless integration with any operations support system (OSS)
- › Based on industry standards
- › Fully scalable
- › Configurable key performance indicators (KPIs)
- › Advanced reporting
- › Remote troubleshooting
- › 4G/LTE-ready
- › Precision Time Protocol (IEEE 1588v2)
- › Synchronous Ethernet (SyncE) frequency and 1 PPS signals
- › Traditional synchronization protocols
- › Cost-effective deployment
- › OPEX and CAPEX reduced



SyncWatch-110



Local Software



SyncWatch Server Software



SyncWatch USB



SyncWatch Stand-Alone



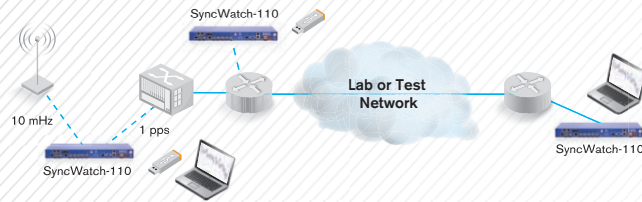
SyncWatch Managed

SyncWatch Operational Modes

Synchronization Equipment Benchmark

Objectives:

- › Standardize new equipment to ensure accuracy after equipment upgrade
- › Compare synchronization solutions before investing capital
- › Benchmark network solutions in a lab network before field deployment



How:

- › Stand-Alone mode allows for real-time analysis
- › Up to two interfaces can be tested at the same time
- › Extensive analysis via powerful post-processing analysis

Key Concerns:

- › Ensuring accuracy when deploying new synchronization equipment
- › Making the right synchronization choice
- › Testing and simulating in the lab before deploying
- › Establishing a synchronization service-level agreement (SLA)

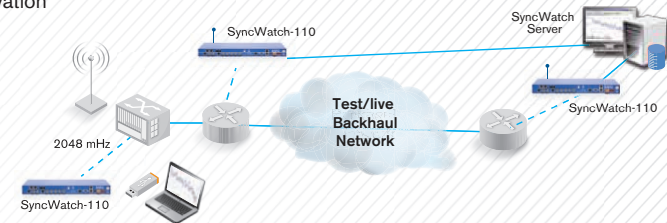
EXFO Solution—Key Benefits

- › Interface flexibility with support for legacy, Precision Time Protocol (IEEE 1588v2 PTP) and SyncE support
- › Port flexibility allows to test up to two interfaces simultaneously
- › Accurate and precise reference options, ensure the highest precision in results
- › Ease of use and powerful post-processing analysis for advanced testing

Synchronization Service Turn-up and Burn-in

Objectives:

- › Test synchronization on the production network and ensure synchronization performance before activation
- › Identify areas of risk and adapt the solution to real-world network conditions
- › Analyze long-term stability of synchronization before activation



How:

- › Perform real-time analysis of the synchronization metrics
- › Long-term data collection to assess the stability of the synchronization service

Key Concerns:

- › Reference options for accurate field measurements
- › Reduce OPEX by efficiently using personnel for data collection

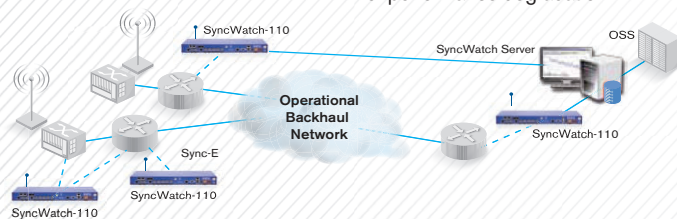
EXFO Solution—Key Benefits

- › Stand-Alone and USB modes for efficient testing and management of technical resources
- › Compact and flexible solution that's ready for field use
- › USB mode enables easy and secure long-term data collection

Network-Synchronization Monitoring

Objectives:

- › Continuously monitor synchronization
- › Determine faulty links and the data trend



How:

- › 24/7 monitoring of synchronization via SyncWatch Managed mode
- › Advanced reporting and operations support system (OSS) integration
- › Alarm threshold for immediate notification of performance degradation

Key Concerns:

- › Continuous data collection for performance assessment
- › Quick reaction to degradations or network synchronization issues
- › Speedy identification of faulty links and analysis of issues to determine their root cause

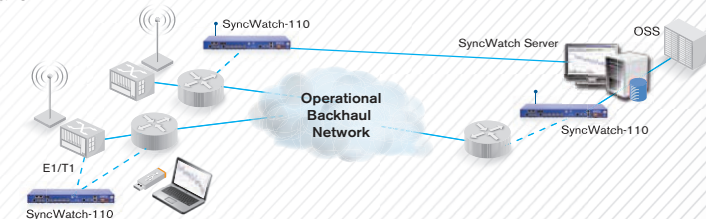
EXFO Solution—Key Benefits

- › EXFO's SyncWatch Managed solution allows for monitoring of synchronization events and error collection
- › Highly expandable to support large-scale deployment
- › Correlation of results allows root-cause analysis and per-link performance assessment
- › Seamless OSS integration to enable real-time SNMP notification of threshold crossings

Troubleshooting

Objectives:

- › Troubleshoot synchronization issues to determine the cause of failure
- › Locate synchronization issues and perform root-cause analysis
- › Test the impact of the corrective measures taken



How:

- › Perform accurate synchronization testing across the network to identify the root cause of an issue
- › Validate troubleshooting by benchmarking a new solution

Key Concerns:

- › Minimize the service outage and troubleshooting time
- › Maximize the service window
- › Reduce truck rolls, only send technicians when necessary

EXFO Solution—Key Benefits

- › A versatile solution for field and lab use
- › Monitoring mode and remote control provides remote troubleshooting capabilities
- › USB mode enables fast data collection