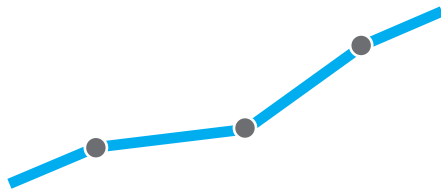


ETHERNET BUSINESS SERVICES

How to Handle Monitoring and SLA Visibility Challenges



ETHERNET BUSINESS CUSTOMERS DEMAND VISIBILITY



Ethernet business services represent a growing percentage of service providers' revenue, with the global market size projected to hit \$50 billion in 2015. Because this market is now more competitive than ever before, customer needs are highly critical.



In the past, business customers were satisfied with a monthly service-level agreement (SLA) report from their service providers. The reports would provide a simple, high-level overview of quality-of-service metrics. Those days are now long gone. Today, customers require much more, and service providers must keep up. At a minimum, business customers expect direct portal access to a detailed daily view of their services matched to SLAs. In many cases, they demand a near real-time view of these services—a need that legacy monitoring solutions cannot cost-effectively fulfill.



Today, Ethernet Business service providers must compete on two fronts: closely monitoring business SLAs and providing their customers with 24/7 access to SLA compliance metrics.

As a result, service providers are looking for creative differentiators that will enable them to retain and acquire more customers.



FOUR KEY CHALLENGES FOR SERVICE PROVIDERS

1 END-TO-END VISIBILITY

Customers demand end-to-end visibility of their services. A competitive monitoring solution must provide that view.

2 OPERATIONAL EFFICIENCY

Operational efficiency gains can be made by deploying a single solution capable of internal troubleshooting and monitoring, and external SLA visibility.

3 SERVICE TESTING AND INFRASTRUCTURE MONITORING

Service providers must cost-effectively meet two different needs: service testing and infrastructure monitoring.

Deep Dive: Service Testing and Infrastructure Monitoring

Service providers must go beyond traditional network fault and performance monitoring. Now, service testing and infrastructure monitoring are both critical for end-to-end visibility into customer and service impact.

Service testing needs to include end-to-end and/or segmented operation, administration and maintenance (OAM) testing. Infrastructure monitoring must cover network health, bandwidth utilization and network congestion.

4 VENDOR-AGNOSTIC EQUIPMENT COVERAGE

Service providers need vendor-agnostic testing and monitoring capabilities.

Deep Dive: Vendor-Agnostic Equipment Coverage

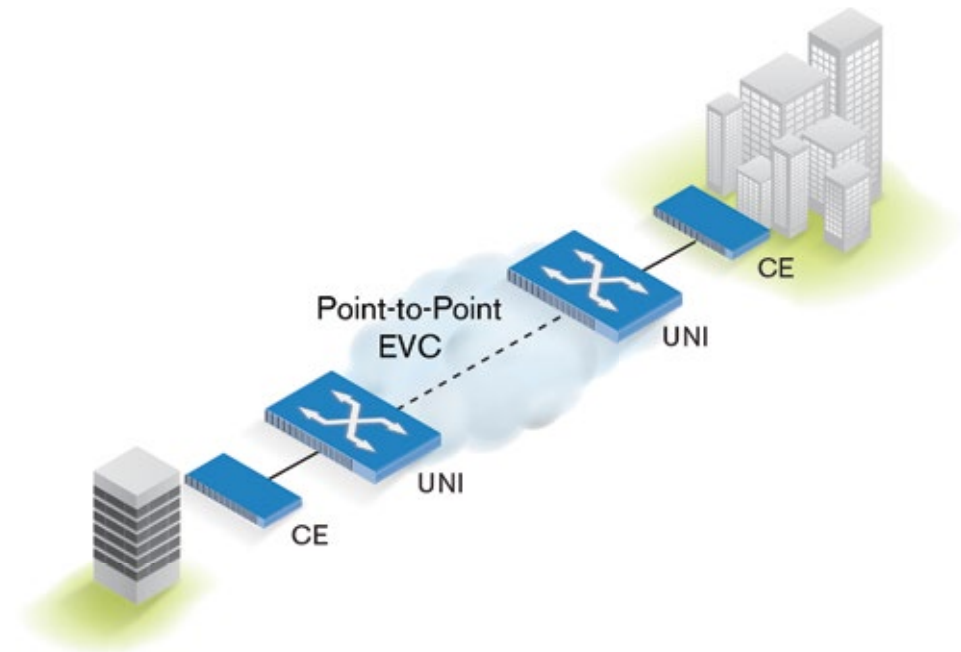
To satisfy business customer needs and use cases, deployments often bring together equipment from different network manufacturers over a variety of disparate network architectures.

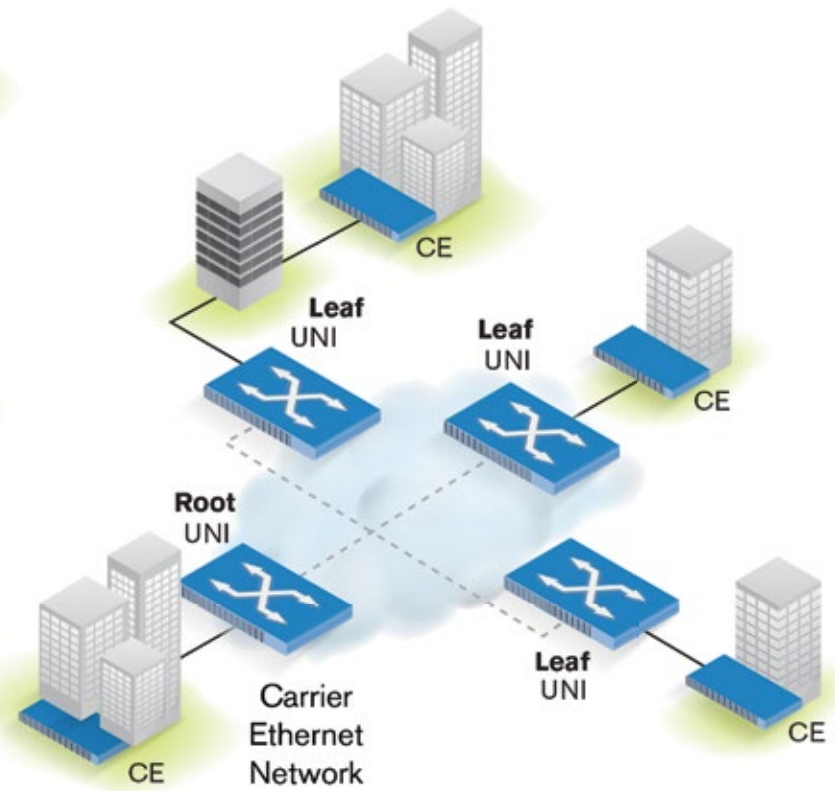
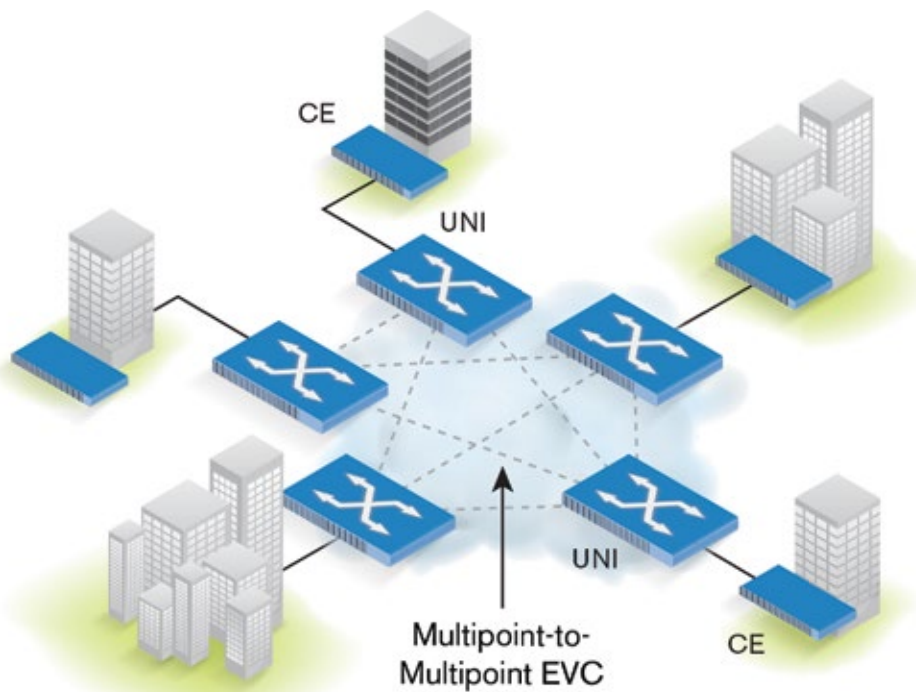
For example, a service provider might deploy multiple network interface device (NID) vendors at some customer premises, but just one customer premises equipment (CPE) device as a demarcation point in other cases. Successful service deployments must cope with a vendor-agnostic environment, and at the same time seamlessly provide the same troubleshooting and visibility capabilities regardless of the network architecture.

WHY EXFO XTRACT

Designed to increase operational efficiency, reduce troubleshooting time, and help meet SLA commitments, EXFO Xtract is a proactive end-to-end monitoring solution focused on service and customer impact analysis. Nothing beats the flexibility of EXFO Xtract for configuring the endpoints to furnishing customizable subscriber portals for your business customers.

EXFO Xtract addresses all three metro Ethernet service types—E-Line (point-to-point service), E-LAN (multipoint to multipoint) and E-Tree (point to multipoint) from layer 1 to layer 7—along with the multiple service variations driven by complex customer needs.





HOW EXFO XTRACT TACKLES TODAY'S TESTING AND MONITORING

Upgrading Your Monitoring Solution? Keep These Four Crucial Xtract Capabilities Top of Mind

1 FULL CUSTOMER EXPERIENCE VISIBILITY

EXFO Xtract correlates between service performance, infrastructure health, and bandwidth utilization to provide a complete, accurate view of customer experience and service health.

The goal of the correlation? Pinpoint exactly where an issue may lie, regardless of different network equipment manufacturer constraints or network architectures. For example, packet loss between two customer locations can be correlated to poor bandwidth provisioning in one or more segments along the circuit path. As more data sources are added and correlated, it becomes easier to identify and isolate the most likely root causes of service or network issues.

2 PROACTIVE CUSTOMER SLA MONITORING

EXFO Xtract includes projection analysis for potential SLA compliance breaches, enabling the network operations center (NOC) to proactively address network and service issues before they become critical.

The solution provides trend analysis on all collected data, along with deep granularity on data related to customer SLAs and contributing contributing service-level objectives (SLOs). This enables the NOC to drill down into details as needed. Users can also view detailed events for service degradation or non-compliance on an end-to-end or segment-by-segment basis.



CHALLENGES

3 SERVICE AND CUSTOMER IMPACT ANALYSIS

Impact analysis means that problems are ranked in order of priority based on impacted customers, services and SLAs.

The flexible modeling solution within EXFO Xtract provides a mapping mechanism between the network and service topology based on a customizable template. As a result, service providers are able to provide timely corrections when issues affecting business services and customers are detected, while ruling out any issues that have no impact. They are able to do this because EXFO Xtract provides actionable items and prioritizes issues based on multiple dimensions, such as service types and penalty-ranked SLA breaches.

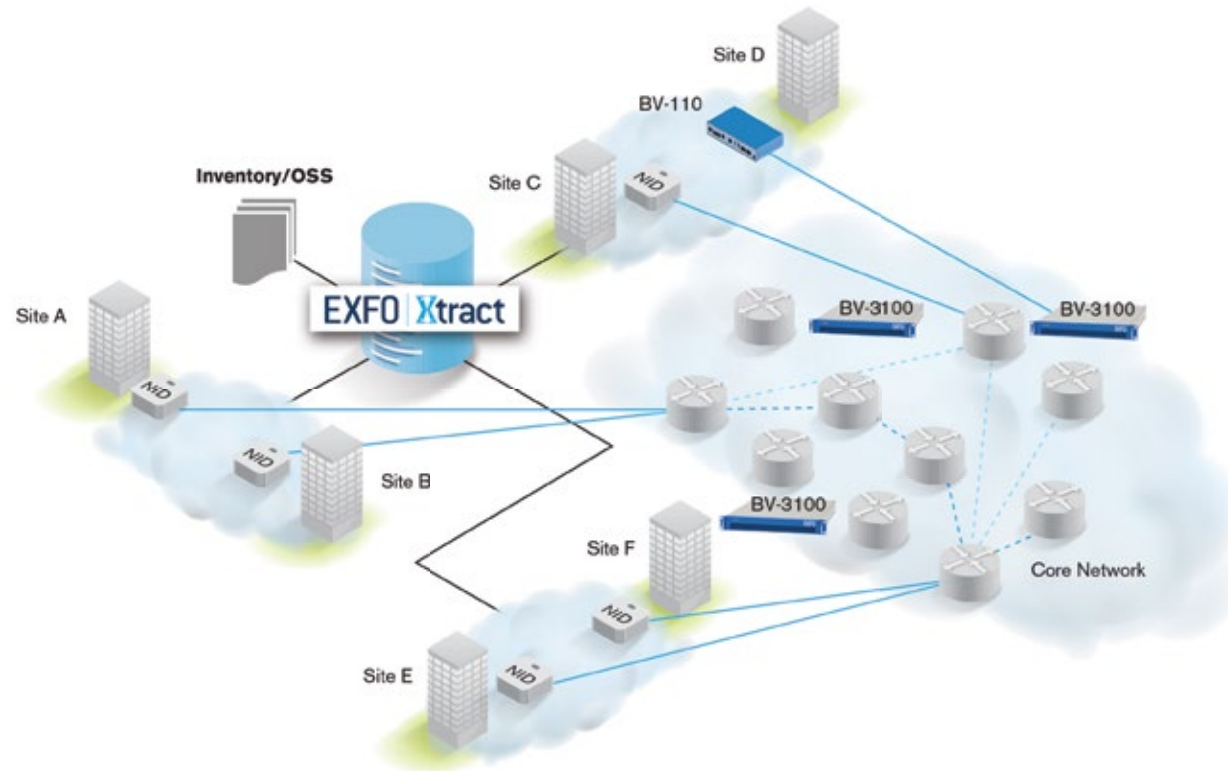
4 END-TO-END VISIBILITY

Built into the solution is a single internal portal with views for multiple stakeholders: executives, sales and marketing, NOC, service operations center (SOC), and engineering teams.

Service providers are able to not only raise internal visibility, but also focus on customers and services, rather than simply on network infrastructure. Additionally, NOC, SOC, and engineering users get a simple, real-time historical troubleshooting application. The beauty and simplicity of this solution is that the same dashboard is used (based on authorizations) to provide a subscriber portal for external users.

EXPAND COVERAGE TO THE EDGE

Expand to the Edge via Inventory Synchronization and Customer SLA Focus



Two EXFO Xtract Capabilities to Drive Coverage to the Edge

1 INVENTORY SYNCHRONIZATION

Inventory synchronization is based on the ability to automatically discover network assets, and continuously access customer data sources while synchronizing with the operations support system (OSS). Data sources include customer-level SLA definitions and data points, customer circuits, and the end-to-end physical path. Without autodiscovery and a continuously updated inventory, the NOC would struggle to maintain continuous contextual coverage.

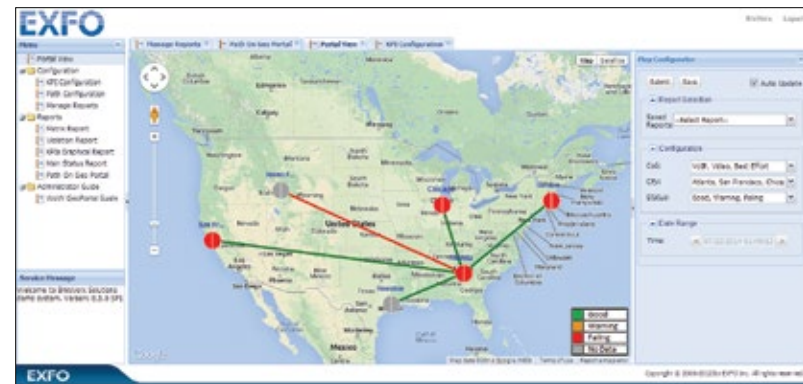
2 SLA-DRIVEN VISIBILITY

SLA-driven visibility is supported via several key characteristics. First and foremost, endpoint-to-endpoint OAM testing (an endpoint can be an NID, router or even a BrixWorx Verifier) is important, so is NID and CPE vendor agnosticity when supporting test standards such as Y.1731, TWAMP, or UDP Echo. Other testing and monitoring features that support end-to-end visibility include core network active performance testing (via the EXFO BrixNGN solution), circuit polling (port and flow), infrastructure polling (covering memory, CPU, availability, etc.), E2E and segmented bandwidth utilization monitoring (to cover network congestion), and event management. By combining these different vantage points, EXFO Xtract provides a segmented view for customer-level problem troubleshooting well before SLAs reach breach levels. The result is proactive monitoring.

VISUALIZATION IS AT THE CORE OF

The NOC dashboard provides both multicriteria reporting and a segmented view with drill-down capabilities. Why is this important to your operations? Because the high-level reporting gives an overview of the customer circuit, class of service (CoS), and the region, while the segmented view drills deeper into core network monitoring with full mesh testing per CoS, as well as each customer circuit with detailed physical segment visibility.

Because EXFO Xtract performs customer impact analysis continuously, problems are prioritized and the NOC can configure appropriate alarms. The NOC can then focus on the most important issues, based on the worst-performing key performance indicators (KPIs) and most costly SLAs.



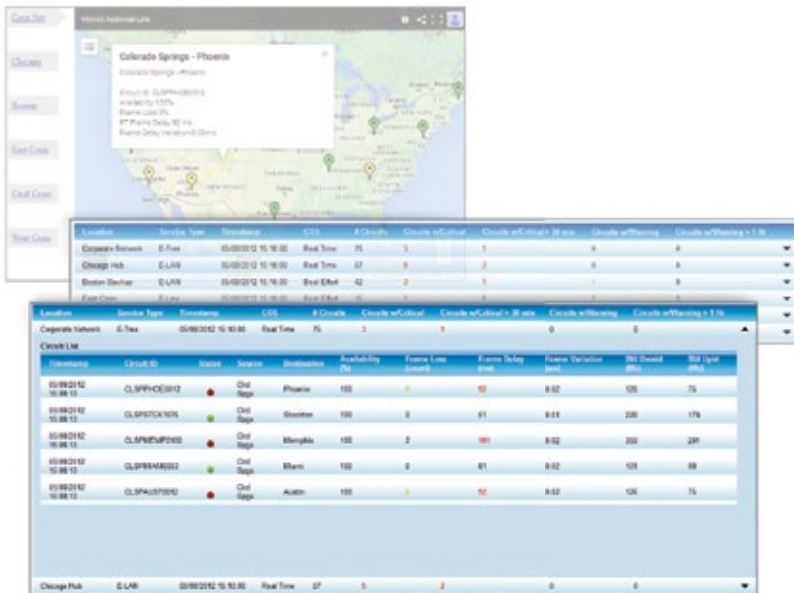
NOC dashboard for multicriteria reporting and segmented views

OPERATIONAL EFFICIENCY

NOC dashboards can also include powerful end-to-end customer views for SLA monitoring:

- The dashboards are customizable, which means that extraneous information can be hidden. Dashboard content can include real-time, trend and historical reports. The same information can be configured for a customer-facing dashboard.
- With the correlation enabled by combining multiple data sources, the solution can also provide predictive analytics to proactively alert users about at-risk SLAs.

Dashboards also include an end-to-end circuit view, customer SLA compliance reporting, and a correlated service and capacity view.



Customer SLA monitoring includes multicriteria reporting, in addition to real-time and historical data



SLA compliance view

EXFO XTRACT AND BRIXWORX

EXFO Xtract is a critical component for network performance monitoring and SLA management. Combine EXFO Xtract with BrixWorx to ensure that all hosted service assurance applications have access to a common set of essential functions (such as open application programming interfaces, or APIs).

Enable easy integration of KPIs and alerts with third-party OSS. Users enjoy easy access to SLAs and service-status, problem-detection and troubleshooting functions through the 100% web-based BrixWorx Operation Center.

Automate. Accelerate. Visualize. Optimize.

End-to-End Solution

BSS/OSS

Open APIs

EXFO Flex
Adapted Analytics

EXFO | Xtract

Real-Time E2E
Lifecycle Management

Field Test Data

Probe Performance Data

Network Equipment Data

Learn more at www.EXFO.com/xtract

