EXFO Ontology

Real-time active topology

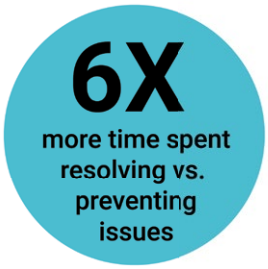
Network complexity is growing. CSPs are struggling to keep up.

Trying to manage networks and services without understanding how devices relate across layers, technologies and domains is like taking the subway across a city without a map. Only 15% of CSPs have a fully integrated view of network and service topology. CSPs clearly need a solution to help regain control of their network and bring end-to-end dependencies into focus.

Obtaining an accurate, unified view of network, services and subscribers is hard

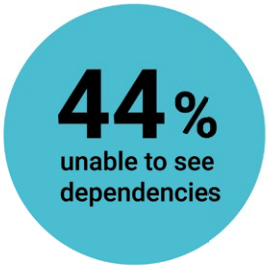
- Networks and services are dynamic
- Data changes too fast
- SDN & NFV increase the pace of change
- Systems weren't designed to be linked

Operational efficiency is impaired by mounting tech debt, increased complexity and tons of data



- On average, it takes 12 people and 3 teams to resolve an outage
- Separately managed network domains (20 avg.)
- Disparate inventory systems (9 avg.)

High quality data is important. But something fundamental is missing: context



- Automation requires excellent understanding of infrastructure
- Customers are impacted when fault impact assessment is impaired
- Outages (24%) caused due to bad change planning

Bring context to your data through topology.

EXFO Ontology reveals the relationships between data in operations, business and service assurance systems, unlocking the potential of automation to accelerate operations, increase efficiency, avoid outages and reduce downtime.

What is EXFO Ontology?

EXFO Ontology is a graph-data and sematic modelling-based solution. It collects data from almost any source (OSS, BSS etc.) and uses it to build a complete and accurate model of the network including all of the components involved in delivering a service (showing both the logical and virtual layers). This model is served to fulfillment-side orchestrators to improve the decision-making process and corresponding visualizations and data are provided to the service assurance team empowering them to perform critical tasks such as service troubleshooting or to fully automated functions like service impact analysis.

How EXFO helps CSPs

Challenges	Solution: **EXFO Ontology**	Benefits
Tackle data quality and **integrity** issues across inventory and other platforms	Agile modelling and semantic inference technology enables quick reconciliation between network and inventory. Source of truth can be used to compare with additional connected sources.	Digital transformation can be achieved. OPEX savings through automated reconciliation processes.
Implement automation of the order to provision process	Rapid alignment of data between platforms, supporting automated provisioning flows through APIs. Circuit path computation functionality.	OPEX reduction through automated service order management and plan -to-build processes.
Accelerate **root cause analysis** troubleshooting	Cut time in root-cause investigations by automating identification and troubleshooting infrastructure shared by multiple resources reporting similar issues.	Reduce NOC/SOC overheads Improve customer satisfaction.
Reduce errors related to **planned network changes**	Cut time in change approval: detect sets of conflicting change plans which waste resources, cause unintended outages or are impacted by network faults. Avoid unwanted outages and allow change management optimization.	Accelerate network management rollout Reduce failed truck rolls Reduce unintended outages caused by unknown change impacts.
Implement a correlated and centralised **network, service and customer topology**	Accurate and dynamic topology from >100's of EMS/NMS/OSS/BSS systems, thousands of files and millions of entities. Allows service impact for fiber-cut analysis, reduction of truck rolls and better customer notification.	Visibility across entire infrastructure provides the basis of fulfilment and assurance use cases.
Identify **the impact and fall-out of network failures or degradations** in real time	Automatically determine the customer-facing effects of network faults. Enable the effective prioritization of repair activity according to business priorities and accurate customer notifications.	Better manage SLAs and avoid costly penalties Better visibility of the impact on your customers avoids churn.

EXFO Ontology avoids **costs and complexities**
that cause traditional inventories to underperform

Did you know...?

- 80% of operators run up to 9 inventory systems and up to 20 or more different network domains
- 71% have been unable to run successful inventory federation or unified topology projects
- Half of operators believe that a unified, dynamic view of topology and inventory is critical to achieving their automation goals
- 90% of operators have attempted inventory and topology federation projects, less than a third succeed

Statistics taken from Heavy Reading Custom Survey for EXFO, 2019-07 Auto-Assurance Survey Results Summary

For more information, contact **YourExpert@exfo.com**