Globberry

FiberSpotter: Rapid Fiber-Cut Localization for PON Networks

Detect and localize fiber cuts faster by combining passive monitoring, network topology, and active and passive inventory in one carrier-grade solution.

About Globberry

Founded in 2014, Globberry has established a solid presence across North America and EMEA. Recognized by telecom leaders such as Red Hat, Ericsson, and NEC, Globberry delivers carrier-grade telecom solutions backed by deep domain expertise in wireless and wireline telecommunications, including 3G, 4G, 5G, radio networks, OSS/BSS integration, and advanced telecom network management.

Find Fiber Cuts Faster Without Adding More Infrastructure

Fiber cuts can affect hundreds or thousands of subscribers at once, while finding the actual fault location can consume valuable time during an outage.

Traditional troubleshooting often relies on dedicated OTDR equipment and manual investigation. At scale, this increases both infrastructure and operational costs and can extend recovery time while technical teams determine where the problem occurred.

Operators need a faster way to connect network alarms with the physical topology behind them.



FiberSpotter by Globberry

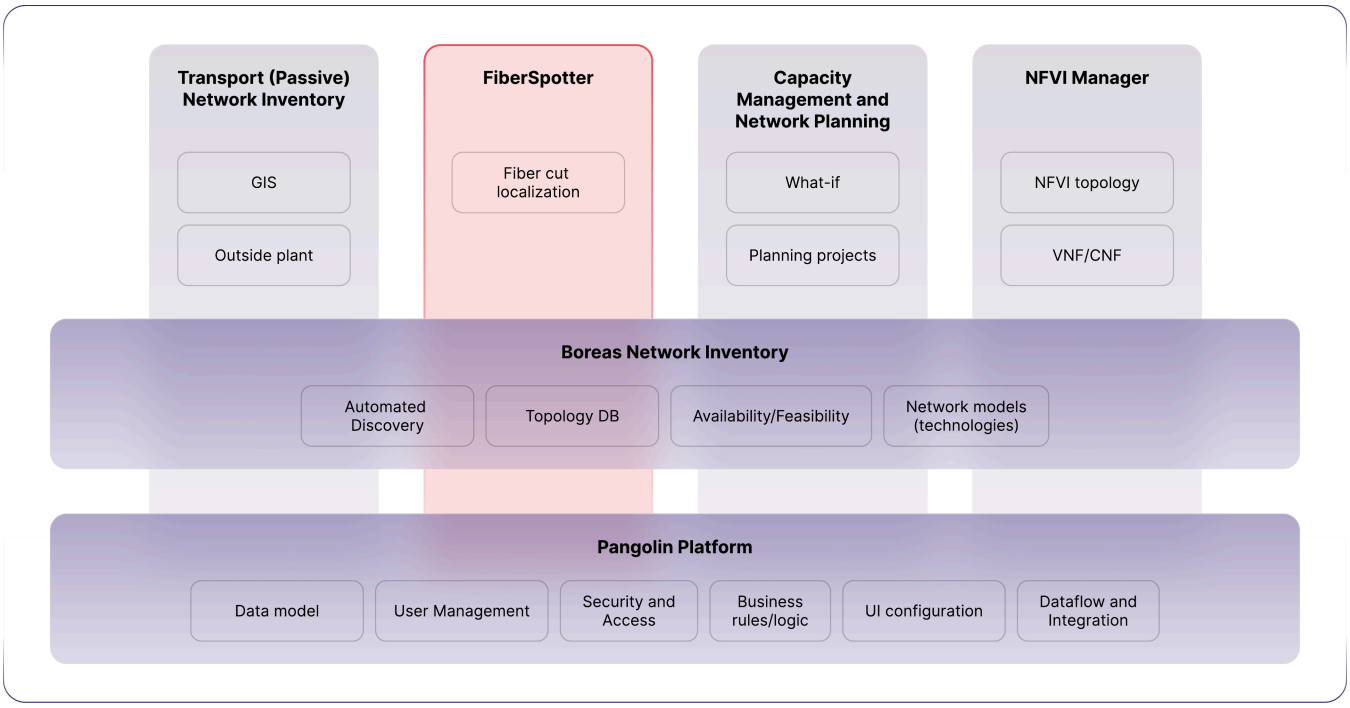
FiberSpotter uses passive monitoring to detect and localize fiber cuts without requiring additional monitoring equipment throughout the network. The solution collects alarms from Optical Line Terminals (OLTs), correlates them with network topology and inventory data, and identifies the probable location and impact of a fiber fault.

By combining troubleshooting with active and passive network inventory, FiberSpotter gives operations teams the context they need to understand not only that a failure occurred, but where it occurred and which subscribers and infrastructure are affected.

Powered by the Pangolin Platform

FiberSpotter is part of Globberry's Network Inventory suite and is built on the Pangolin platform. Pangolin provides the flexible telecom data modeling, integration capabilities, customizable interfaces, data processing, and business logic required to connect network inventory, topology, alarms, and external OSS/BSS systems.

This allows FiberSpotter to operate as either a complete PON inventory solution or a specialized troubleshooting layer integrated with an operator's existing inventory environment.



Why Choose FiberSpotter?

01

Reduce Fiber-Cut Resolution Time

Automatically correlate OLT alarms with network topology to identify the probable fault location faster and reduce manual troubleshooting.

02

Lower OPEX and CAPEX

Use passive, software-based monitoring to reduce dependence on additional OTDR infrastructure and minimize field investigation.

03

Minimize Service Downtime

Give network operations teams faster access to fault location and impact information so restoration can begin sooner.

04

Improve Customer Experience

Identify affected subscribers in real time and give customer-facing teams clearer information about outages and restoration.

05

Reduce Call-Center Workload

Connect network faults with impacted customers automatically, without manually investigating each reported issue.

06

Improve Network Visibility

Combine active equipment discovery with passive infrastructure and topology information for a clearer view of the PON network.

07

Support Smarter Network Expansion

Use availability analysis to check whether existing infrastructure can support prospective customers and where expansion is needed.

08

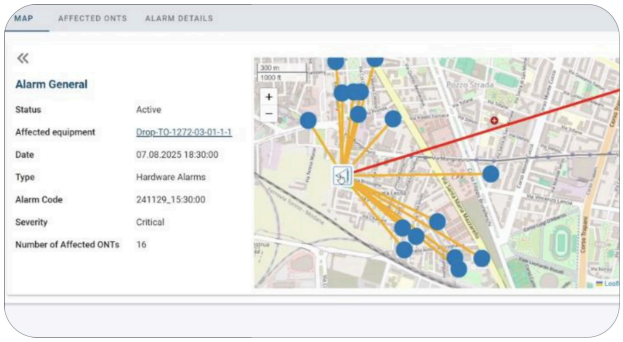
Primary or Complementary Deployment

Use FiberSpotter as the main PON inventory platform or integrate it with an existing inventory or GIS environment.

Technical Capabilities

Passive Fiber-Cut Detection and Localization:

- Continuously analyzes alarms collected from OLT management systems and correlates simultaneous events with the known PON topology.
- Identifies common points in the affected network to determine the probable fiber-cut location, without dedicated monitoring equipment at every network segment.



Fault Impact Analysis:

- Connects the detected fault with inventory and topology information to determine which network elements and subscribers are likely to be affected.
- Gives NOC and support teams a clearer picture of the incident to prioritize troubleshooting and service restoration.

Active and Passive PON Inventory:

- Maintains active network equipment and passive optical infrastructure in the same environment.
- Discovers active network elements automatically; passive infrastructure and topology can be imported, maintained in the platform, or received from an external inventory system.

Topology Discovery and Inventory Synchronization:

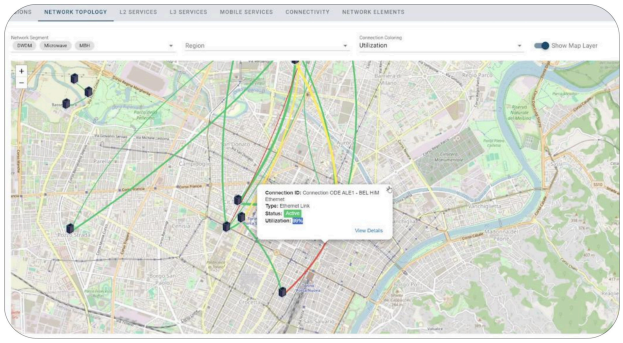
- Automatic discovery keeps active network information aligned with the real environment and supports continuous topology documentation.
- With an external inventory system, an AI-assisted discovery agent helps interpret incoming data, detect structural changes, and adapt integrations faster.

AI-Driven Analytics:

- Turns network, inventory, topology, and operational data into actionable information for fault investigation, reporting, and network planning.
- Helps teams identify patterns that are difficult to recognize from individual alarms or isolated network-management systems.

Dashboards, Reporting, and Visualization:

- Configurable dashboards and reports visualize network topology, faults, affected infrastructure, subscribers, and other operational information.
- Views can be adapted for network operations, engineering, customer support, and management teams.



Network Availability Analysis:

- Evaluates whether existing PON infrastructure can support new customer connections based on current topology and available resources.
- AI-assisted analysis helps identify suitable connection options and supports expansion decisions.

Active Equipment Monitoring:

- Provides visibility into active equipment status and alarms, giving operations teams broader context during network incidents.

Natural-Language Network Insights:

- A conversational interface lets users explore inventory, topology, alarm, and fault data using natural language.
- Works with the structured information stored in FiberSpotter, without replacing the underlying inventory and topology data.

Flexible OSS/BSS Integration:

- Connects with existing inventory, GIS, NMS/EMS, OSS/BSS, and other network-management platforms.
- Uses topology from an external master inventory, maintains its own inventory, or operates in a hybrid model.

Use Cases

Primary PON Inventory System

- Use FiberSpotter as the master inventory for Passive Optical Networks, combining active and passive infrastructure, topology, monitoring, and troubleshooting.

Complementary Fiber Troubleshooting Module

- Integrate FiberSpotter with an existing inventory or GIS platform to add passive monitoring, fiber-cut localization, and troubleshooting.

NOC Fiber Fault Management

- Give network operations teams immediate visibility into fiber faults, probable locations, affected subscribers, and relevant topology.

Customer Impact Analysis

- Identify customers affected by a network failure and provide customer-care teams with up-to-date incident information.

PON Network Expansion

- Check whether existing infrastructure can support new customer connections and identify where additional resources are required.

Network Inventory and Topology Documentation

- Maintain an accurate representation of active and passive PON infrastructure to support provisioning, maintenance, and troubleshooting.

Professional Services

Support throughout the project:

Consulting

Assess existing inventory, monitoring, GIS, and OSS/BSS systems and define the most suitable FiberSpotter deployment and integration approach.

Implementation

Full-cycle deployment support, including solution configuration, system integration, inventory and topology data migration, testing, and user acceptance.

Continuous Support

24/7 operations and maintenance support, second-level assistance, and specialized product expertise throughout the solution lifecycle.

Related Globberry Solutions

Boreas Network Inventory

Maintain a centralized view of telecom infrastructure with automated discovery, structured inventory data, and network visualization.

Capacity Management

Monitor resource utilization, forecast future requirements, and identify capacity constraints before they affect network growth.

Network Planning

Plan infrastructure expansion and network evolution using accurate inventory data and structured planning workflows.

Boreas NFVI Manager

Manage telco cloud infrastructure with automated discovery, NFVI inventory, resource analytics, and proactive capacity planning.

Case Study: Major Ukrainian Fixed Network Operator

Profile:

- Ukraine's leading fixed network provider managing a complex, multi-vendor GPON network.

Challenges:

- Frequent difficulty pinpointing exact fiber-cut locations.
- High maintenance expenses and ineffective resource deployment.
- Inefficient, prolonged downtime and operational complexity.

FiberSpotter Solution:

- Centralized alarm aggregation from over 2,000 OLTs spanning five different vendors.
- Clear visualization of cable segments affected by fiber cuts.
- Strong, scalable platform capable of handling thousands of events per second centrally, removing the need for branch-level deployments.

Results Achieved:

- Substantially reduced operational costs and minimized downtime.
- Faster, targeted dispatching of maintenance teams.
- Accurate real-time visibility, improving overall network reliability.



Trusted by Leading Telecom Providers

Globberry works with major telecom groups and service providers, including Vodafone, VEON, Kyivstar, and TELUS. Our solutions are designed for complex telecom environments where accurate network information and fast operational response directly affect service availability and customer experience.

Ready to Reduce Fiber Network Downtime?

FiberSpotter combines passive monitoring, PON inventory, topology data, and intelligent analytics to help operations teams locate faults faster, understand their impact, and restore service more efficiently.

Request a Demo | **Contact Sales**

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