

Case Study

ONMSi RFTS: ROI Use Case for Point-to-Point Fiber Lines

Auto locate fiber faults to reduce MTTR, operating expenses, crew dispatch, and track SLA compliance.

The purpose of this document is to help customers calculate the Return on Investment (ROI) of the VIAVI ONMSi Remote Fiber Test System (RFTS). ONMSi RFTS is for remote test and monitoring of Point-to-Point core, metro, access, and campus networks.



Network Model Example

Consider a typical Dark Fiber Provider (DFP) customer who owns 3200 miles of fiber infrastructure that they are leasing to customers via IRU Contract. The contract includes SLA metrics such as MTTR, TTR, and Availability and the DFP is responsible for the maintenance and repair of the fiber.



Annual Fiber Incidents and Statistics

Number of fiber cuts per year: **120**

Mean troubleshooting, fault location and repair time process: **9 hours**

Annual SLA penalties payment: **\$35,000**



Operating and Repair Expenses

NOC/Troubleshooting personnel rate: **\$100 USD/hour**

Truck roll rate: **\$250 USD**

Customer Goals

- Save OPEX, reducing mean-time-to-repair (MTTR) and network downtime by at least 30%
- Reduce manpower to identify and locate fiber faults by 60%
- Reduce truck rolls by half
- Reduce fiber SLA penalties for outages by 33%

Results

- Monthly Reduced Outages and Network Failures: **17%**
- Improved MTTR: **40%**
- Reduced truck rolls: **50%**
- ROI: **2.26%**
- Payback in months: **11**

Other Benefits

- Predictive maintenance, fiber network infrastructure health and integrity.
- Avoid outages and prioritize degradation repairs or high-risk optical events

Fiber Cuts



The Solution

VIAVI ONMSi RFTS automates the process of detecting and locating faults in fiber optic telecommunication networks. It collects and analyzes data from remote test probes, called Fiber Test Heads (FTH), allowing comprehensive performance or fault demarcation impact diagnosis prior to dispatching repair crews for either preventive maintenance or fault remediation.



Deployed at strategic points in the network, the FTHs permanently test the optical fiber infrastructure and generate alarm reports back to the ONMSi management system when faults, potential security breaches or security threats are detected at the fiber infrastructure level.

The Results

This use case and VIAVI ROI tool consider several factors in determining a payback period to include cost of labor savings, SLA/contract violation savings, and maintenance program savings. It does not account for the added revenue generated from faster installation times, value-added services, or the ability to win new customers, which is another parameter that is less objective to measure for this purpose.

Fiber Cuts			
Description: trenching, digging, or tree or other objects failing due to bad weather			
	Status Quo	With RFTS	Improvement
Incidents per year	120	120	
NOC troubleshooting time (hours)	1	0.4	60%
Fault finding time (hours)	3	1.2	60%
Fiber cut repair (hours)	3	3.0	0%
Restoration testing (hours)	2	0.8	60%
Truck roll(s)	1	0.5	50%
Man hours	1,080	648	40%
MTTR	9.00	5.40	40%
Annual OPEX	\$138,000	\$79,800	42%

Savings
\$58,200

In this case, by implementing the ONMSi RFTS system, the customer reduced operating expenses by 42%. The customer also improved full locate and repair cycle from 9 hours to 5.4 hours which represents 40% overall improvement. Thanks to these improvements and savings, the system’s payback was less than one year of operation, and the consecutive years are direct revenue associated to the solution.

Profit associated to benefits such as increased customer satisfaction, competitive marketing/technology advantage, and improved operational efficiency are certainly benefits for the organization using Fiber Monitoring in their network.



Crew dispatch directly to fix, not to find with root cause rated by fault, not just symptoms



Precise fault location. It integrates a comprehensive cable documentation including geographical landmarks and GPS coordinates



Proactive management reduces reactive truck rolls



Avoid penalties and customer churn



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