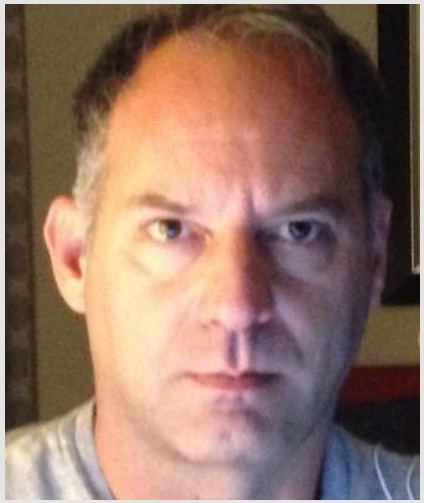
The Last Connection – Fiber Monitoring Issue Resolved

Auto-MONitored Fiber Optic Cross-Connect Panel (AMON)

By Raymond Johnson – Aug 2018



RJ has working for Verizon since 1999 in the transport engineering.

RJ is currently involved as a business owner for new in house software that automates engineering, provisioning, and activation of next generation ROADM, PON, and MSE machines.

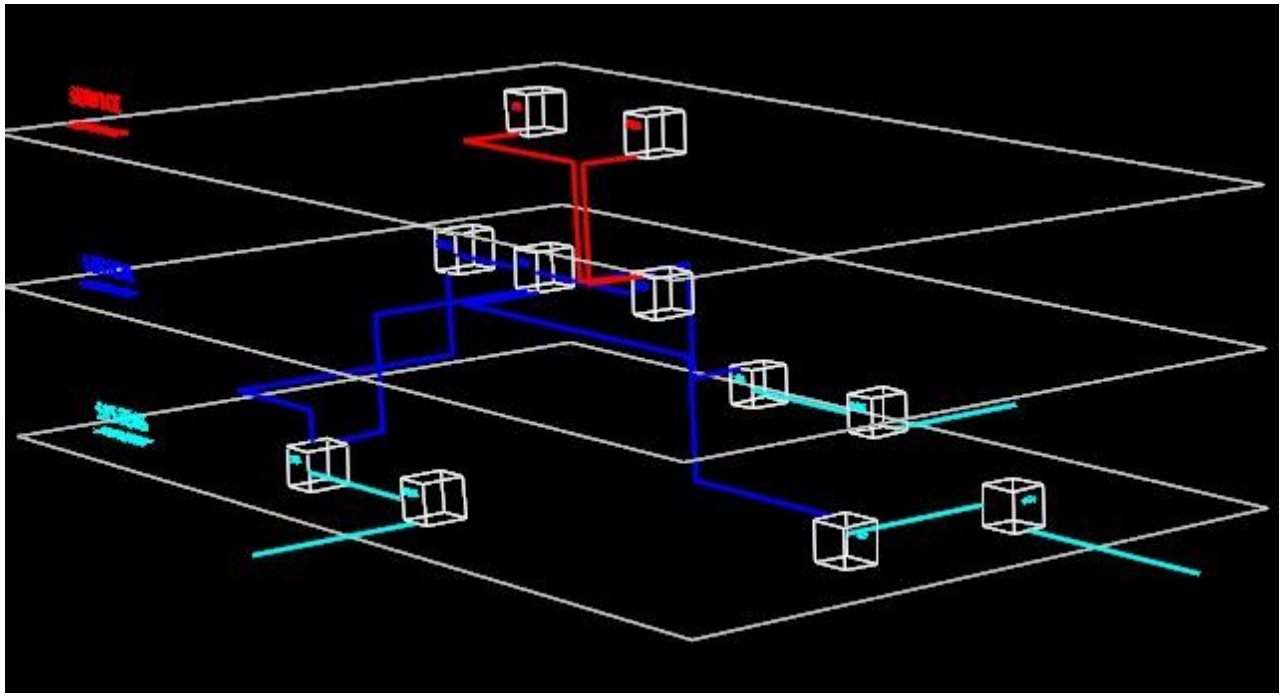
RJ is a big advocate of getting out there and seeing issues in person, and then helping to resolve them.

A year or so ago RJ and Verizon were awarded a patent for a solution of what is being discussed in this presentation.

verizon

How to solve one of the last major issues

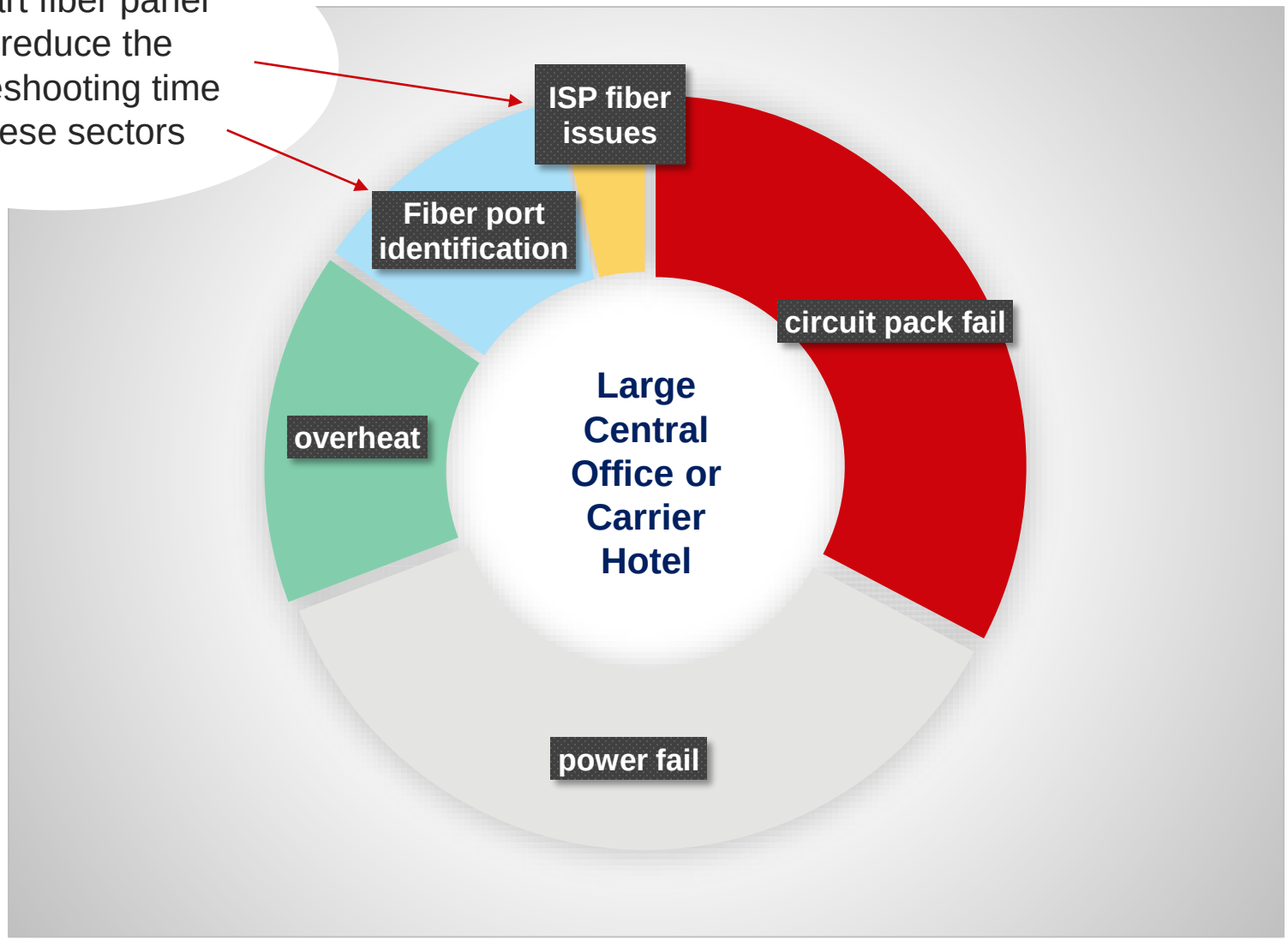
- In metropolitan central office environments there are sometimes many cross building tie cables and patch panels.
- Over time and due to various issues, there are faults that develop with optical fiber which are the cause of numerous call outs which sometimes can be complex to determine the cause, and time consuming to resolve
- What if there was a “type” of patch panel that could “see” a signal, and know what direction its arriving from? This would allow carriers to know if there is a performance issue coming from carrier A or carrier B, or from floor 1, or floor 5
- Knowing means saving minutes or hours, eliminates call outs to determine the issue since the issue would already be determined in advance thru new tools



verizon

Network Performance General Statistics

A smart fiber panel will reduce the troubleshooting time of these sectors

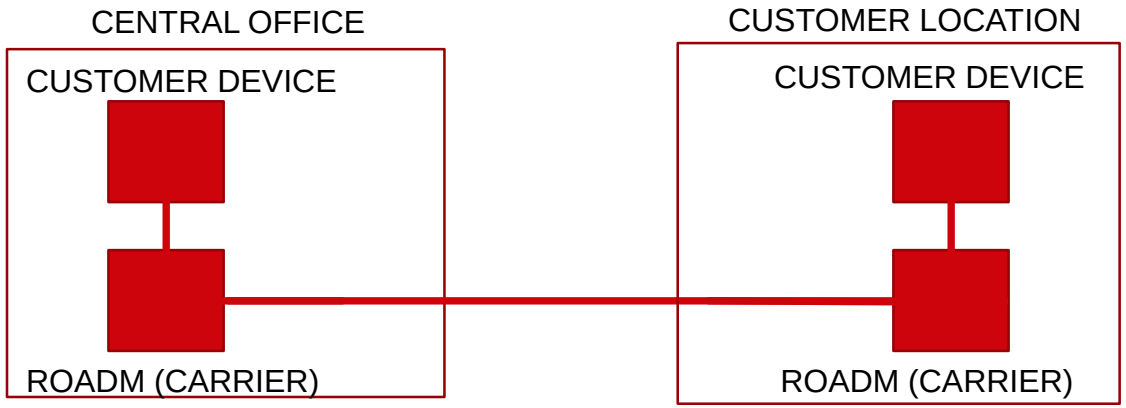


verizon

Solving an expensive issue

- Smart panel can be used to replace expensive ROADM equipment used simply for “monitoring” reasons

PAST METHOD

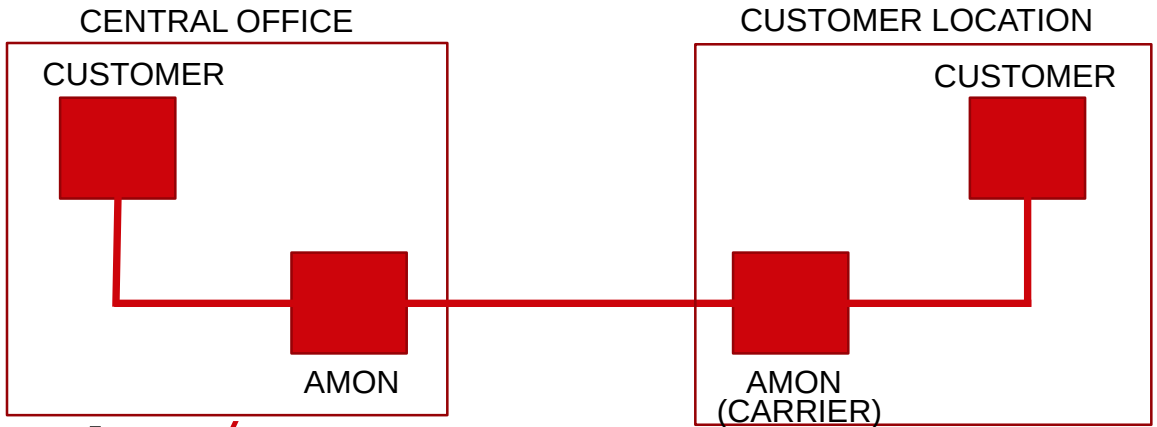


This method involves installing an expensive ROADM machine in the customer location to monitor each of the customer channels

METHOD PERFORMS: Y

COST EFFECTIVE: N

NEW METHOD



New method saves about $50K for ROADM, eliminates a lot of power consumption, and eliminates the over time replacement of expensive ROADM circuit packs

METHOD PERFORMS: Y

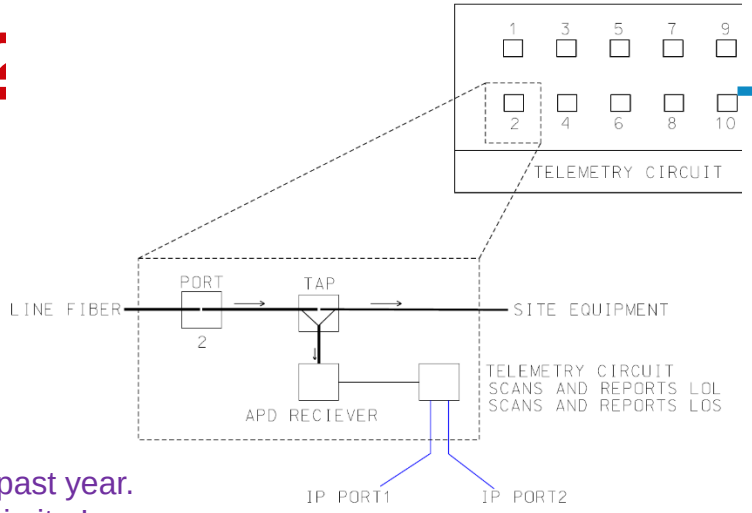
COST EFFECTIVE: Y

verizon

How does it work?

Carrier A
25th Floor

Optical termination device



Fiber tie cable

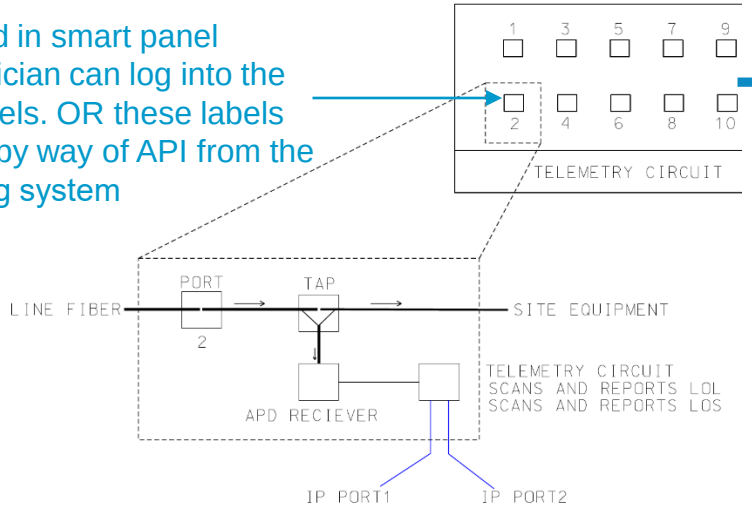
CASE STUDY:
Carrier A had multiple outages in this building over the past year. After learning about this product they decided to invest in it. In this case it required changing out a passive fiber term panel. Since there was live traffic this panel change out was done in a maintenance window. Year 1 there was two incidences in which the new panel saved 4 troubleshooting hours, and prevented two truck rolls. Investment pay back achieved year 1.

connect the smart panel to a central office LAN with CAT6, or use the optional over the fiber OSC (optical service channel) to enable telemetry by the far end panel

Ports can be labeled in smart panel software so a technician can log into the shelf to read the labels. OR these labels can be provisioned by way of API from the carrier's provisioning system

Carrier B
5th Floor

Optical termination device



verizon