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Government Case Study



integra
optics

Tripling government telecom bandwidth in record time



Government | Case Study

Customer Challenge

The customer needed to triple the bandwidth of government telecommunication services in an extremely fiber constrained environment without increasing fiber optic cable count or incurring charges to lease fiber. The additional challenges faced were the seasonal nature of infrastructure demand and a field collapsible customer premise. The solution required the upgrade on a short delivery time in order to meet expected demand.

Additional challenges to overcome were:

1. Use of a single simplex fiber to deliver all services.
2. High temperature environment.
3. Bi-directional traffic on the simplex fiber between the hub and customer site.

Integra Optics Solution

Bookend a pair of Integra Optics mux/demux with Integra coarse wavelength division multiplexing (CWDM) SFP transceivers to the single fiber span. The solution provides two bi-directional circuits and one uni-directional circuit to ride the single fiber. The solution deploys bi-directional services using optical multiplexing and demultiplexing at line speed of the SFP. The solution is left in place or can be removed for reuse after the season of use is complete.

Project Summary

Unforeseeable seasonal fluctuations caused infrastructure needs to be underestimated. The fiber environment was largely exhausted; the use of a single fiber to deliver the new services was the only option

The design must meet the following criteria:

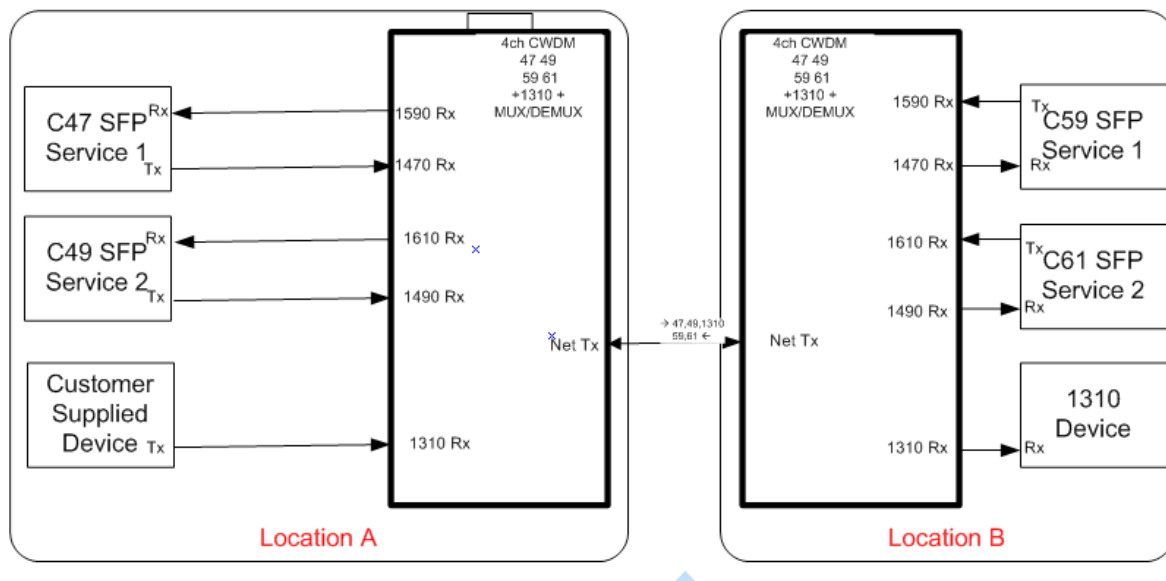
1. Extremely short infrastructure delivery times needed to provision new services.
2. Incorporate an existing uni-directional 1310nm government VoD datastream.
3. Deploy a pair of Integra's in-stock CWDM Mux/Demuxs and transceivers.
4. Use of a pair of 80km SFP transceivers for each bi-directional service.

5. Leverage the CWDM SFPs 1260-1610nm wideband optical receiver together with the bi-directional signal flow capability of CWDM mux/demux filters.
6. Include custom labeling and color coding to simplify the connection process.
7. Construct a customer circuit interconnection diagram.

Result

Our extensive domestic inventory allowed us to deliver components and equipment immediately, contrary to industry standard wait times, often measured in weeks. Integra's knowledgeable engineering team added velocity with innovative uses of existing products.

With their new multiplexed single fiber infrastructure in place, our customer is able to not only satisfy their initial government requirements, but also use the scalable architecture across other projects to collapse fiber and repurpose for other projects.



Integra Optics Equipment Used

- ➡ **IntegraOptics 80km CWDM SFP transceivers**
- ➡ **IntegraOptics 4 channel Mux/Demux**