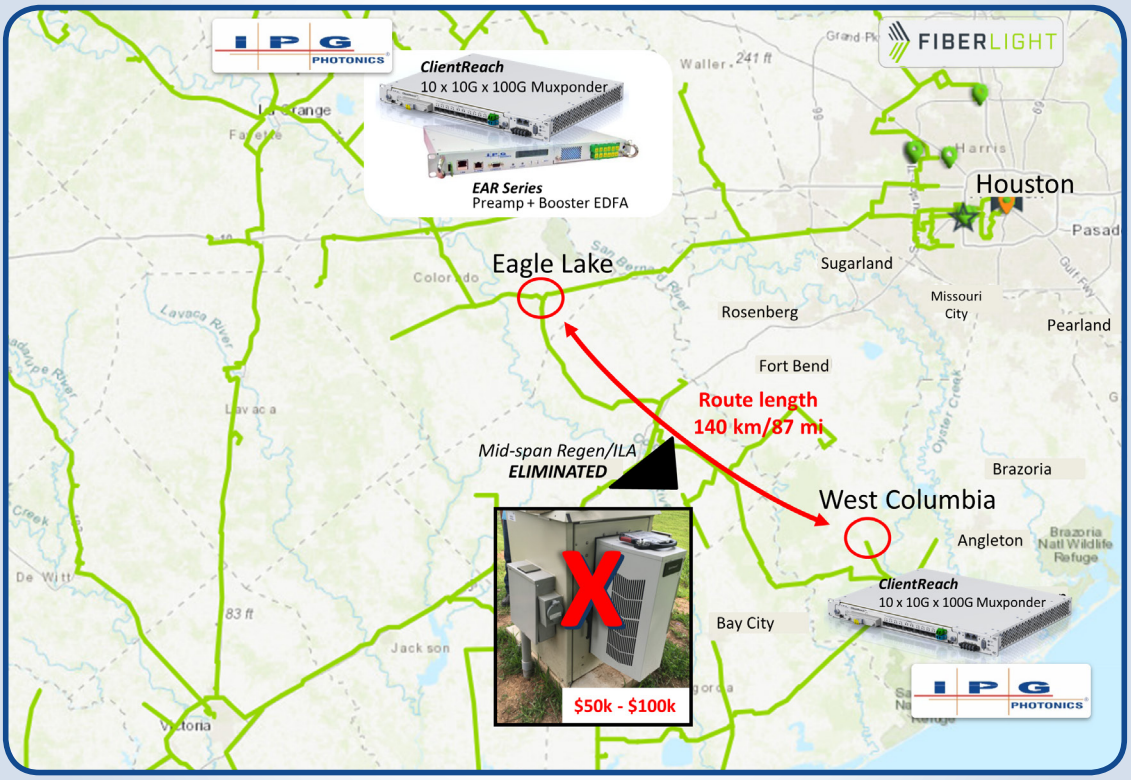
Application Note

ILA Elimination from 100G Network Extension

ILA ELIMINATION APPLICATION



Application Overview

FiberLight, a fiber infrastructure provider with more than 20 years of construction experience building mission-critical, high-bandwidth networks, serves domestic and international telecom companies, wireless, wireline, cable and cloud providers as well as key players across enterprise, government and education.

FiberLight needed a high-speed network connection between a major network hub (Eagle Lake) in Texas and a remote location about 140 km from the network hub. The requirement was to provide a single 10Gbps connection, with capacity to grow to support up to (10) ea. 10Gbps circuits over time.

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The Solution

FiberLight had the network. IPG Photonics made it possible in the shortest amount of time and with the least amount of capex and opex.

The combination of IPG's layer 1 transport solution supporting transparent multiplexing of (10) ea. 10Gbps client connections into a 100Gbps coherent optical line interface based on OTN protocol and IPG's high performance EDFA booster and preamplifier, enabled FiberLight to reach their customer's far-end location without adding any mid-span amplification or regeneration locations.

Less Time, Less Money, Higher Reliability
Installation time was greatly reduced because no mid-span location was required. Commonly, it takes months to secure a location for a network asset that is only used to regenerate the 100G signal.
CAPEX was reduced because the only equipment required is located at each end of the 130km link, eliminating the mid-span location.

On-going OPEX was eliminated because the monthly cost of operating (power, etc.), maintaining, and leasing space for the mid-span location was eliminated.

Network availability and reliability was maximized because the mid-span regen, representing a "single-point-of-failure", was eliminated from the signal path.

Summary

"As the only vertically-integrated amplifier company in the world, IPG has a unique ability to extend the reach of optical signals," explains Mark Cannata, Director of Sales and Marketing, IPG Communications products. "In addition, the company's own ASIC and DSP designs enable state-of-the-art 100G and 200G coherent transport in standard MSA-compatible devices. The combination provides significant value add to customer's networks, whenever transmission distances exceed PMO."

"FiberLight's over 14,000 mile fiber network is deployed in some of the most rapidly expanding metro areas in the US," states Kelly Sullivan, Vice President, Network Engineering at FiberLight. "We use IPG's solutions to enable us to serve our customers when the fiber connection normally requires a mid-span regen or Intermediate Line Amplifier. IPG eliminates that location, shortens implementation time and saves us capital and operating expenses."

About IPG Photonics

IPG Photonics is the world's leading developer and manufacturer of high-performance fiber lasers and amplifiers for use in diverse applications in numerous market. IPG designs, develops, manufactures and offers a full range of optical telecommunications networking products, from component to full system level, necessary to address Optical Broadband Access (FTTH, CATV) and Optical Transmission (Long-haul, Repeaterless 155Mbps-200G single-channel and DWDM) applications. These products are deployed in the world's largest FTTH and longest distance optical transport networks.

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