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Fiber recovery for federal government agencies

Fiber recovery solutions can bring rapid and significant cost savings to an overstretched budget. Fiber recovery is a DWDM (Dense Wavelength Division Multiplexing) application that reduces the amount of fiber needed to deliver a given number of services. It achieves this by combining and transmitting signals at different wavelengths onto a single fiber.

A U.S. health-related federal agency recently discovered compelling fiscal imperatives for fiber recovery on its 60-building campus in a metropolitan area environment. This agency was relying on dark fiber for its connectivity.

As a result, every time a new service was required for an end user, they had to procure a new fiber pair and engineer, install and test the new service.

Escalating ownership costs

The growing cost of supporting these services was the immediate problem this agency needed to address. At an average cost of \$2,300 per month for each fiber pair, the total monthly bill for leasing dark fiber was in excess of \$87,000 and continuing to grow. Demands for more services and service types were also increasing the cost of ownership of the network.

The agency was also discovering that the network had inherent infrastructure deficiencies. These were serious enough to affect growth, flexibility and reliability. In turn, these shortcomings also increased the financial burden of network ownership. Monitoring and maintenance was growing in complexity, requiring more resources to keep the network running. The overall architecture consisted of numerous independent networks, which decreased reliability and increased the likelihood of security issues.

Initially, the emphasis was on the immediate reduction of the costs associated with leasing dark fiber, although it was clear that there was also a need to address the security, reliability and complexity concerns. Fujitsu was able to offer a solution that addressed all of the agency's issues and provide a return on investment within months instead of years.

The DWDM fiber recovery solution

Fujitsu proposed a fiber recovery solution using DWDM and ROADM (Reconfigurable Optical Add-Drop Multiplexer) technology in a single, flexible platform.

Multiple wavelengths on a single fiber pair

The FLASHWAVE 7500 system transparently aggregates 40 optical wavelengths onto a single fiber pair and supports channel capacities of up to 40G for a total system capacity of 1.6 Tbps. This meets the agency's current bandwidth needs, as well as providing significant reserve capacity to grow and provide higher speed services to their customers. The Ethernet and SONET/SDH interface flexibility of the FLASHWAVE 7500 system equips the network to evolve with the changing customer requirements.

The Fujitsu portfolio

- FLASHWAVE® 9500 Packet Optical Networking Platform
- FLASHWAVE 7500 Metro/Regional ROADM Platform
- FLASHWAVE 7420 Managed Wavelength Platform
- FLASHWAVE 7120 Optical Extension Platform

Features

- Deterministic yet flexible
- Highly cost-effective
- Delivers guaranteed bandwidth
- Excellent latency and jitter performance
- 50 ms automatic protection switching
- Statistical multiplexing and oversubscription

Fast return on investment

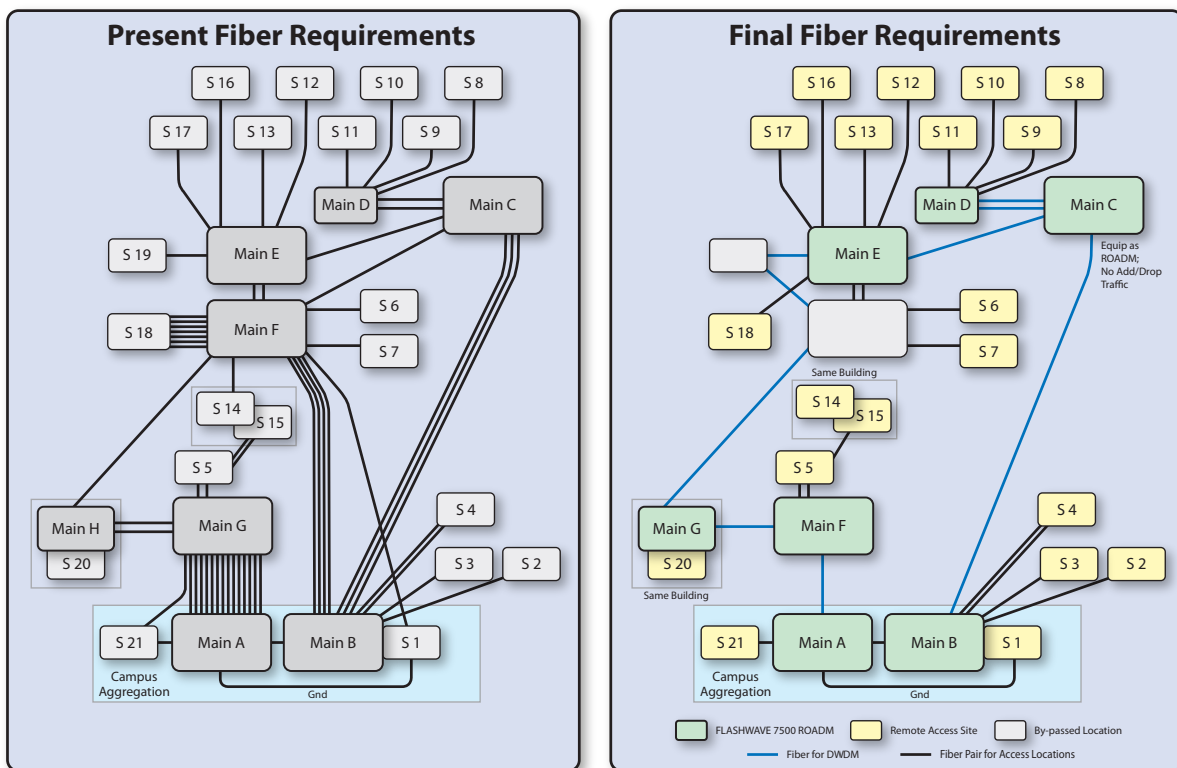
Instead of monthly expenditures exceeding \$87,000, fiber recovery has slashed monthly dark fiber leasing costs to \$11,500, resulting in savings of more than \$910,000 per year. The agency will be able to recoup its ROADM investment within 11 months, based on the savings generated by fiber recovery. Since significant capacity remains on the FLASHWAVE 7500 system, they can still grow the network infrastructure without having to re-invest in additional monthly dark fiber leases.

Assured redundancy, improved control, simplified structure

To assure redundancy and address the agency's reliability concerns, the durable FLASHWAVE 7500 system architecture includes an optical ring to enable traffic protection and sub-50 millisecond switching. The ring provides a high level of remote provisioning and control sophistication that eliminates the need to dispatch technicians to remote sites when network changes, maintenance or troubleshooting are required.

The FLASHWAVE 7500 ROADM uses patented optical power control technology to simplify the network structure and eliminate the need for attenuators or manual power balancing. This technology greatly reduces the operational costs associated with turning up new services, and fulfills another agency goal—simplification. Further operational cost savings result from the capability to reconfigure the ROADM on an as-needed basis without affecting existing network traffic.

The Fujitsu FLASHWAVE 7500 ROADM solutions enable networks to be configured to increase security and reduce exposure risks. The seamless and scalable FLASHWAVE 7500 system supports data, video and voice communications growth without requiring costly network upgrades. This fiber recovery solution was an extremely cost-effective approach for this healthcare agency, and it can also be beneficial to any federal agency that needs to eliminate costly fiber paths. The Fujitsu FLASHWAVE 7500 ROADM platform has been rigorously tested and deployed by major carriers in North America and various U. S. government and military agencies.



Network fiber usage

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Configuration requirements for certain uses are described in the product documentation.
Features and specifications subject to change without notice.