

# Deploying Your Own Metro Fiber Network

Case Study: University of Washington

DXM Optical Transport System

02/18/2008

## University of Washington

- **Need:** To build a multi-service diverse path between an off-campus datacenter and campus computing resources.
- **Interest:** Building their own optical network on available dark fiber.
- **Problem:** Traditional gear was too expensive and complicated in this case.
- **Solution:** The economical XKL DXM allows any of UW's network engineers to deploy and manage optical network channels with a familiar interface and straightforward architecture.
- **Results:** UW can easily deploy new network services along this fiber path in minutes, up to 400Gbps with currently available XKL gear.

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## The Customer: University of Washington



Founded in 1861, the University of Washington is one of the oldest state-supported institutions of higher education on the West Coast and is one of the preeminent research universities in the world.

Such a major institution has massive computing requirements, which in turn require massive bandwidth between routers, server clusters, and other computing resources. In order to accommodate a network in a constant state of expansion, a new diverse path was required between a major off-campus datacenter and campus.

The University staff knew they had available "dark fiber" (fiber optic cable which can be driven by in-house equipment) between this datacenter and campus, and that building a multi-service optical network on this dark fiber would allow for hundreds of gigabits per second of possible bandwidth.

There was one problem: Traditional gear used for lighting multi-service dark fiber, using a technology called 'DWDM', is built with telecommunications companies in mind. With high associated capital costs and complicated user interfaces, this type of equipment can be difficult to justify for many enterprise organizations engaged in managing routers, switches and servers.

## The Solution: The DXM Optical Transport System

By providing a user interface familiar to the typical network operator and a unique integrated-systems approach to optical networking, the XKL DXM allowed the University of Washington to easily deploy their own private metro optical network on this new diverse path.



The familiar command line user interface allowed UW's network operation staff to deploy the system in hours with minimal training, due to standard management and maintenance conventions.

The DXM's unique architecture provides UW substantial service flexibility and environmental efficiency. For instance, client connectivity is software-programmable, with no module changes for changes between Ethernet, Fibre Channel and SONET. This allows turn up of new services in minutes. Furthermore, the DXM provides power efficiency, low heat production, and scales based on 1U units, optimizing use of the University's valuable datacenter resources.

## The Results: Massive increase in service capacity and flexibility



Installation of the DXM immediately gave the University of Washington the ability to quickly provision multiple 10 Gigabit Ethernet channels along this fiber path, as well as other Fibre Channel and Gigabit Ethernet services.

New channels can be provisioned in minutes without affecting existing services by using familiar software commands and the integrated management network. UW's technology department can now offer campus computing centers incredible response time for bandwidth growth needs.

From inter-campus networking and beyond, XKL's DXM provides an economical, easy way for enterprises to harness high-end optical networking technologies in-house.