



# High Speed Optical Transport Network

## BUILDING A GLOBAL RESEARCH AND EDUCATION SUPERHIGHWAY

### BUSINESS CHALLENGE

In today's global society, research and education institutions work with experts located around the world. You form alliances based on each participant's expertise, not his or her location. This kind of national and multinational collaboration can only work when you have a communications system that supports high volumes of data and can be readily adapted as your needs change. If you're forced to rely on the public Internet, your valuable research has to contend for bandwidth with other non-priority traffic. If you need to transport large quantities of data to multiple sites around the world and you don't have a high-speed broadband network, your only option may be to courier disks or tapes to the different partners within the study—a very slow, cumbersome process that can add months onto your timelines. Working with these kinds of limitations can significantly delay, and ultimately affect the success of your projects. To participate effectively in today's research and education world, you need a next generation optical transport network.

### KEY REQUIREMENTS

- Capacity to handle high volumes of data—ranging from 10 Gb/s up to 40 Gb/s
- Ability to quickly and easily reassign capacity as one project finishes and another takes off
- Access links into one or more peering sites to access worldwide research and education backbone networks.
- Support for peer-to-peer linkages with other institutions, including research, education, governmental and policy bodies

### THE MERITON SOLUTION

The Meriton 7200 OSP (Optical Switching Platform) is deployed to produce a scalable and flexible optical transport network solution to provide a private information superhighway between two research and education institutions. Two 7200 OSP nodes are located at each location (west and east). One node (W1) acts as the access link to the global research and education network. 10 Gb/s LAN PHY circuits transport traffic between the west and east nodes. Traffic headed to the first eastern node (E1) is electronically switched at the second west node (W2). Traffic headed to the second eastern node (E2) can be electronically switched at either W2 or E1. Meriton amplifiers are deployed along the fiber to ensure the integrity of the signals.

### TOP BENEFITS REALIZED

- **Flexibility**—The Meriton 7200 OSP relies on pluggable optics and flexible optical transceiver and transponder cards, so it is easy to reconfigure and adapt the network to suit changing requirements. Adds and changes can be undertaken on the fly—without affecting existing network traffic. Multiple 10 Gb/s protocols can be carried over the same transponder without changing any optics. The universal switching fabric means that line interfaces can be changed entirely through software controls, making it easy to adapt the network as needs change. The 7200 OSP can easily grow the network configuration from point-to-point to ring or mesh configurations as access to other locations or network peering centers is required, simply by adding additional WDM cards.
- **Easy management**—Centralized management, using a point-and-click network management system, means there is no need to be on site at remote locations. Troubleshooting and performance monitoring can be done by a small operations team at a central location. The integral wavelength switching of the 7200 OSP eliminates the need for additional switching and grooming equipment, ensuring simplified end-to-end management.

