

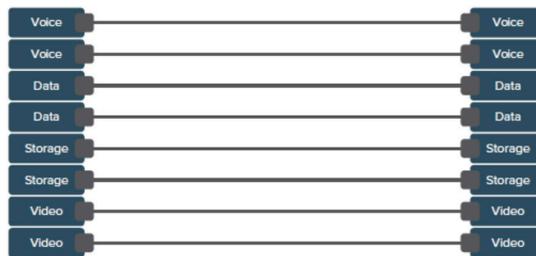
Four ways of transporting data over an optical network

The most common approaches for transporting data over a fiber network is by using single channel connectivity, embedded XWDM solutions or active, transponder-based WDM platforms. Each alternative is based on an organization's access to dark fiber, either owned or leased.

Single channel connectivity

The most basic way of transporting data over a fiber network is through single channel connectivity, where individual traffic channels run over individual fibers. A single channel transceiver is connected directly between the data switches at each site with a line fiber connected between. The method is also referred to as ELWL, extended long wavelength laser, connectivity.

This non-WDM enabled approach requires access to a fiber for each and every service. And no other traffic can be transported through the fiber. This in turn means that the cost for adding additional channels increases linearly at the cost of renting additional fiber.



Single channel connectivity requires an individual fiber for each channel

Embedded WDM solutions

Embedded XWDM represents an evolution from single channel connectivity. An XWDM transceiver is used instead of an ELWL single channel transceiver and connected directly to the data switch. Each signal is then connected to a multiplexer. With only these components, an embedded WDM solution is as simple as an ELWL approach to implement and manage.

Embedded XWDM allows multiple traffic signals to be transported over the same fiber and increases the utilization of that fiber.

What's more: The WDM solution allows multiple traffic signals to be transported over the same fiber, increasing the utilization of that fiber. New channels can be added to the embedded WDM system simply by connecting new transceivers. By deploying WDM technology, up to 80 channels of traffic can be connected together over the same fiber. ROI is realized when the second channel is added.

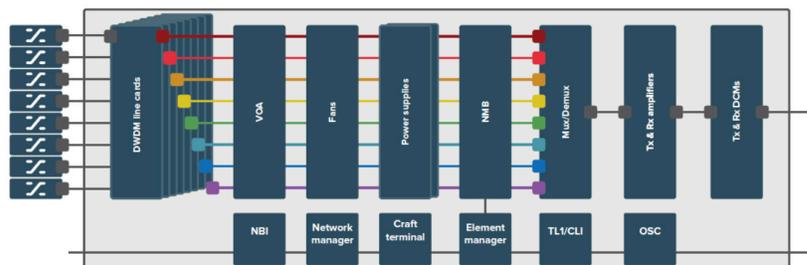


WDM allows multiple traffic signals to be transported over the same fiber

Although a basic ELWL transceiver usually beats the embedded WDM components on price per unit, a WDM based solution is far more cost effective as soon as a second channel is required. Embedded WDM offers simple, easy to manage and cost-efficient solutions for transporting large amounts of data over short to mid-range distances, typically up to 80 kilometers. Since no additional power is required for the embedded components the solutions are also preferred for creating green datacenters.

Active WDM networking solutions

Active XWDM solutions are stand-alone AC or DC powered systems, separated from the switch. In an active solution a transponder takes the output from the SAN or IP switch and converts it to a longer distance XWDM signal. After this OEO conversion, the long distance XWDM signal is transmitted through transceivers and multiplexers. To support management and control of the active, stand-alone, WDM solutions they usually come with a GUI-based management interface.



An active XWDM solution is a powered system, separated from the switch.

This makes an active, transponder-based solution a powerful platform for transmitting huge amounts of data between different sites over short or long distances. A drawback of active systems: OEO conversions tend to incur unwanted latency.

Traditionally active WDM systems were designed for dedicated carriers and service providers. In most cases neither the capacities nor the advanced feature-set of a traditional active WDM solution is required for corporate use. This makes an active system not only unnecessarily complicated to design, install and configure from an enterprise point of view, but also expensive to own and maintain.

Traditional active WDM systems are designed for carriers and service providers, making them unnecessarily complicated to design, install and configure from an enterprise point of view.

Traditionally, enterprises and corporate datacenters have opted for the embedded approach to WDM solutions, offering similar capabilities to transmit a vast range of channels over a single fiber, at a fraction of the cost of an active system.

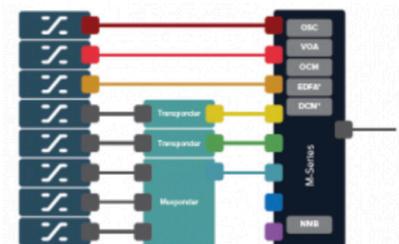
A new approach to embedded WDM networking

Having recognized that an active WDM system in most cases is far too much compared to what is needed for enterprise use, these systems do offer significant benefits over passive systems in terms of system management and signal amplification for longer distances. An ideal WDM networking solution for corporate datacenter connectivity should combine the simplicity of a passive, embedded solution with the value-adding features of an active WDM platform.

Smartoptics M-Series marks a revolution in fiber optic networking solutions. M-Series is a unique 1U multiplexer platform that combines the simplicity of a passive multiplexer with the features of a more traditional transponder-based DWDM platform. A multiplexer with integrated channel monitoring, amplification and signal conditioning. It easily handles all of today's data protocols up to 100 Gbps per channel in a simple plug and forget approach.

Our new intelligent approach to embedded WDM networking offers advanced functionality, similar, to that of active solutions, but without the complexity.

Corporate data centers, enterprises, and campus networks can now synchronously connect all their storage and data traffic between sites with minimal complexity and signal latency.



M-Series combines advanced WDM functionality with the simplicity of an embedded solution



OSI Optics: Your Optical Technology Partner

As the market for fiber optical networking solutions continues to evolve, enterprises are exploring better value alternatives to OEM offerings for their higher bandwidth, mission critical network and data center needs. We're proud to be setting the pace with our branded OSI Optics transceivers, cables and accessories.

In addition to providing expert pre-sales consultation and technical support, our in-house Optical Engineers will evaluate your end-to-end optics requirements and develop a deeply discounted, bundled approach for you today. Your choice of optics vendor is a key factor in optimizing your IT budget and maximizing the performance of your infrastructure. **Let's get to work.™**

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