The Cisco DWDM Xenpak is the first 10 GbE transceiver ever to support Dense Wavelength Division Multiplexing (DWDM). DWDM is an optical transmission technique to transmit on the same fiber strand multiple channels. DWDM Xenpak supports 32 different channels for transmissions up to 320 Gbps and about 200 km with the aid of optical amplifiers known as EDFAs.

What is really unique about the Cisco DWDM Xenpak is that it enables 10 GbE over DWDM without the need of dedicated external equipment known as transponder which operates the wavelength conversion from say 1310 nm to the DWDM channel. The sophisticated DWDM function is squeezed into a Xenpak module which is equivalent from a L2 and above perspective to any other Xenpak available on the Catalyst 6500, Cisco 7600 or CRS-1.

**What are The Benefits DWDM XENPAK?**

By integrating the DWDM function into the switch or router the end user reduces the number of lasers to support a single connection from six down to just the two lasers of the DWDM Xenpak. Beside this CAPEX aspect, deploying DWDM pluggables in the switch or router offer also operational advantages such as lower power consumption and less rack space by moving from a two-box solution to a single-box DWDM solution. And last DWDM directly on the switch or router provides a significant simplification in the design of the transport layer.

**Why Cisco?**

Yes everybody does DWDM, but integrating DWDM on a switch or router and supporting the end-to-end infrastructure all the way down to the DWDM layer is something unique to Cisco. Moreover the Cisco DWDM Xenpak is currently (2005) the only pluggable solution on the market for 10 GbE over DWDM. Cisco DWDM Xenpak has been shipping since July 2004.

For technical information on Cisco DWDM Xenpak please refer to the data sheet on http://www.cisco.com.

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**10 GbE DWDM with Integrated Optics**

The Cisco DWDM Xenpak is the first 10 GbE transceiver ever to support Dense Wavelength Division Multiplexing (DWDM). DWDM is an optical transmission technique to transmit on the same fiber strand multiple channels. DWDM Xenpak supports 32 different channels for transmissions up to 320 Gbps and about 200 km with the aid of optical amplifiers known as EDFAs. What is really unique about the Cisco DWDM Xenpak is that it enables 10 GbE over DWDM without the need of dedicated external equipment known as transponder which operates the wavelength conversion from say 1310 nm to the DWDM channel. The sophisticated DWDM function is squeezed into a Xenpak module which is equivalent from a L2 and above perspective to any other Xenpak available on the Catalyst 6500, Cisco 7600 or CRS-1.

**Why DWDM Optics?**

Cisco metropolitan DWDM optical solution with Xenpaks and ONS products allows customers to deploy metropolitan applications with the ability to scale the bandwidth up to 320 Gbps. Users can begin a deployment with just one channel (no need for extra DWDM equipment) and gradually scale the bandwidth using the same pair of fiber. Cisco DWDM solution also allows to scale the reach of these networks well beyond any traditional optics up to over 200 km by means of optical amplifiers.

**Building DWDM Network with CISCO DWDM XENPAK**

The following picture illustrates the DWDM principle of a point-to-point link with Cisco DWDM Xenpak with either two fibers (top figure) or only a single fiber (bottom figure) where signals travel in both directions. The single fiber architecture can be realized with the ONS 15216 Flexlayer family of passive filters.