

Comparison of Wavelength Division Multiplexing (WDM) with Dense Wavelength Division Multiplexing (DWDM)

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Abstract:

Metropolitan and enterprise networks support many mission-critical applications that require high availability such as billing and accounting on mainframes or client-server installation in data centers. Carriers have several options for core networks. Many service providers employ traditional IP-over-optical or IP-over-SONET model; these architectures have effectively meet their requirements.

There are certain multiplexing techniques for data transmission such as Wavelength Division Multiplexing (WDM), Time Division Multiplexing (TDM) but most type which is used nowadays is Dense Wavelength Division Multiplexing (DWDM). These types are compared and it is analyzed that WDM only transmit data with limited bandwidth which results that DWDM allows deployment of less fiber and hardware with more bandwidth begin available relative to standard SONET networks.

A comparison of WDM and DWDM is provided and DWDM recommended by giving some factors and MJ algorithm is introduced to help in long distance transmission.