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## *Wavelength Division Multiplexing*

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## **Abstract:**

With the increasing emphasis on the importance of speed and bandwidth in today's communication networks, wavelength division multiplexing (WDM) has emerged as a promising solution. WDM helps to increase the capacity of this fiber network while necessitating new fiber, which becomes a problem when the demand for speed within a transmission line exceeds the present capacities. The difficult part of this decision is figuring out how to maximize savings while increasing network capacity so that all anticipated demand can be met. This Research provides an overview of WDM technology, discussing its history, recent advancements, and the ways in which it can be used to increase the overall capacity of both a communication network.

## **Keywords:**

Bandwidth, multiplexing, optical network unit, OCDM, passive optical network, supervision method.