

The potentials of OCDM technique for local area network

Evolution of the optical fiber systems is currently seeing the general acceptance of wavelength division multiplexing (WDM) as the best mechanisms in increasing the transmission capacity of fiber optics. However, there are problems associated with WDM technique such as wavelength drifts, wavelength inventory and management and stringent demultiplexing requirements that tend to either limit the system's performance or increase the cost. Also, it is difficult to construct a WDM system for a dynamic set of multiple users because of the significant amount of coordination among the nodes required for successful operation. Optical Code Division Multiplexing (OCDM) provides some solutions to the problems. This simple technique operates on a single broadband light source, thus alleviating the problems and cost of handling multiple lasers as in WDM systems. This paper elaborates the working principle of the OCDM technique and provides some proofs on its viability.