

ABSTRACT

Backbone network system used by PT XL Axiata currently having the bandwidth capacity of 10 gbps with using SDH (Synchronous Digital Hierarchy) technology. But with increasing needs of traffic between Bali and Lombok, the bandwidth capacity of 10 gbps has been insufficient. With the condition of being thus PT XL Axiata require renewal of a network capable of providing the bandwidth enough along a network of Bali Denpasar - Senggigi Lombok. PT XL Axiata planned construction of new network backbone is with speed 10 times the speed of previous namely 100 gbps, with the transmission system using DWDM technology who capable of accommodating the needs of bandwidth is very large. Planned also protection system Denpasar - Amlapura namely Denpasar - Tukad Mungga - Amlapura thus forming ring configuration. Performs the necessary construction of a reliable network design for the performance of the system is running well. Factors in this plan that needs to be considered is the power loss due to attenuation, losses due to dispersion, PMD (Polarization Mode Dispersion), OSNR (Optical Signal Noise Ratio), Power Margin, and Link Availability which will be seen based on standards and requirement PT XI Axiata with software Cisco Transport Planner.

Keywords: Performance, DWDM, Cisco Transport Planner