

ABSTRACT

Backbone Network Telkom Jakarta - Surabaya is a large-capacity core network that connects Jakarta and Surabaya, where the network has an important role in the communication activities between cities, along with increasing needs of customers will need internet media it is necessary to also increase network capacity to meet those needs. So evaluation is necessary in order to know the feasibility of the existing network in the present network and for the future.

In this final performance will be analyzed SKSO backbone link Java, where at first the technology backbone Jakarta - Surabaya using technology Dense Wavelength Division Multiplexing (DWDM) capacity of 40 Gbps and will be re-plan to 100 Gbps. The analysis was conducted based on several performance parameters, namely Link Power Budget, Rise Time Budget, and Optical Signal to Noise Ratio.

From the results of a thorough reconfiguration, in doing turn into G.655 optical fiber G.652, after the turn of the cable, amplifiers redeployment done using the method jumlah Link Power Budget with 60 nodes, as well as manual calculation of OSNR on noise figure only. In the calculation results of the reconfiguration, 46.79 dB OSNR values obtained for the North Inner links, obtained 46.66 Outer north to link, to link South Outer 46.96, and 46.78 for the Inner South links

Key Word : *DWDM , Link Power Budget, OSNR, Noise figure*