

ABSTRACT

The Dual-stage FTTH network is a network with the use of 2 passive splitters, namely 1:4 passive splitters in ODC and 1:8 or 1:16 passive splitters in ODP but in the field, 2 passive splitters are still found in ODP which is called ODP Expand which means the addition of ODP capacity. This causes the optical fiber attenuation to be higher and also affects the calculation of the Link Power Budget. This study analyzes the implementation of ODP Expand normalization which will result in differences related to the power received in ONT and QoS before and after the implementation of ODP Expand normalization. Power received before implementation is -26.95 dBm and after the implementation of ODP Expand normalization is -17.37 dBm and produces network performance with an average value of packet loss before the implementation of normalization ODP Expand 3.51% after the implementation of normalization ODP Expand to 3.08%, throughput with an average value before the implementation of normalization ODP Expand 296.35 bps after implementation of normalization ODP Expand 90.87 bps, Delay with an average value before implementation of normalization ODP Expand 526.50 ms after implementation of normalization ODP Expand 96.31 ms and the last Jitter with an average value of 0.15 ms after implementation of ODP normalization Expand 0.06 ms and calculate link power budget before implementing ODP Expand. normalization - 26.72 after the implementation of ODP Expand normalization - 23.75 dBm and the value of the rise time budget before the implementation of ODP Expand normalization is 0.031527018 ns and after the implementation of ODP Expand normalization 0.031540597 ns.

Keywords: Optical Distribution Point, Link Power Budget, Rise Time Budget, Quality of service