

ABSTRACT

One factor that drives service development is the presence of several access technologies that can optimize access networks for broadband services. Currently there are several access technologies that can combine voice, data and images in one service, these services are triple play services. To be able to support this, a new system is needed that can support this technology. These technologies include Multi Service Access Node (MSAN) and Gigabit Passive Optical Network (GPON). Telecommunications service providers replace copper cables into fiber optic cables to meet customer satisfaction with these services. The paper discusses the comparison of network quality. So that the results of the calculation of network quality parameters are known to customers using MSAN and GPON technology. Based on the measurement data calculated, the average Line Rate parameters obtained showed an increase in GPON performance against MSAN of 41.96% in the upstream line while for the downstream line it was 5.27%. The attenuation parameter obtained by GPON has decreased performance against MSAN by 359.3% on the upstream line while for the downstream line it is 136.17%. The Attainable Rate parameter is obtained by increasing the performance of GPON to MSAN very rapidly which shows that GPON technology is better than MSAN technology, because GPON uses full optical fiber technology with very large bandwidth capacity.

Keywords: copper cable, fiber optic cable, MSAN, GPON