ABSTRACT

Optical backbone network, which today is dominated with SDH equipment, is not suitable to support the rapid growth toward the traffic needs. The growth of traffic is followed by the increase and the expansion of the network needed as well. The need to conduct network provisioning automatically is required to replace present network resource provided which provisioning process is conducted manually.

One of the solutions is the using of the concept *Automatically Switched Optical Networks* (ASON). ASON technology is a technology platform designed to answer the survivability and capacity optimation problem in optic based network with dynamic topology method.

As a technology that is still in transmission network improvement, thus ASON based technology is an opportunity and challenge for network operator in terms of new technology knowledge, application and OMAP. In this Final Project, ASON technology planning simulation is conducted with QoS aspect approach for reducing complexity between layer 0 (DWDM) and layer 1 (SDH), by applying survive availability mechanism.

With analysis QoS from the aspect of propagation delay, link utilization, and percentage of lost that happened the failure, indicating that the best survive availability mechanism is 1+1 protection, and worst is no protection.

Keyword: ASON, QoS, survive availability