ABSTRACT

Currently, growth of multimedia services expands rapidly, so that network bases on optical very required accommodating the generated traffic load. One of main problem in Photonic Packet Switch system is packet loss because of contention in output port of switching. Contention occurs when two or more packets are trying to leave the switch from the same output port at the same time.

Scheme of WDM FDL in PPS represent one technique to resolve packet contention. This scheme does not only provide some fiber lines with different delay as buffers, but also multiple wavelengths in the fiber lines. This Photonic Packet Switch will reach the best performance if using appropriate packet scheduling algorithm. Several algorithms that are chosen to evaluate the performance of Photonic Packet Switch shared buffer among others Algorithm A1 : assign packets to the buffer with minimum queue, Algorithm A2 : assign the shortest packet first to the wavelength with minimum queue, Algorithm A3 : assign the longest packet first to the wavelength with minimum queue. And last that is added method void space reduction at third of algorithm because Photonic Packet Switch only had one shared fiber delay buffer line.

The simulation results show that in the same condition, Algorithm A2 has minimum packet loss probability and has same tendency with Algorithm A1 in average delay. As a whole, Algorithm A2 is to be the main choice because of its optimal performance. Algorithm A2 will improve the performance of PPS. By added method void space reduction, at result graphic which seen at packet loss small probability. Hence this method can be added at photonic network.