

ABSTRACT

Asynchronous Transfer Mode is defined as a transfer mode of information pulse on Fast Packet Switching, which use asynchronous operating system. It means that there is a difference clock timing between sender and receiver. The information is being transferred in packet or called cell in ATM system and divided in two services type: Connection-Oriented Packet Switching (COPS) and Connection-less Packet Switching (CLPS).

In real application, this system use high bit rate. Therefore, to get high Quality of Service (QoS), we must observe the number of cell loss rate and cell delay, which will occur. A QoS stays in good level if the system has small number of cell loss rate and cell delay when transmission happen.

This Final Project will observe the effect of buffer in multiplex, which is placed in ATM Switch, toward the number off Cell Loss Rate (P) and Mean Cell Delay (W_{co}), which occur. Then, we can decide the optimum size off buffer, which will make the QoS stays in good level with low Cell Loss Rate (P) and small Mean Cell Delay (W_{co}) as the requirement of the service in the system. The information (cells) type, which is being analyze, is Connection-Oriented Packet Switching (COPS) service only, and has three class categories: Class A, Class B and Class C. There are two level of analysis: call (connection) level and cell level. Cell arrival process on the three class categories use Markov-Modulated Poisson Process (MMPP).

Key words : Asynchronous Transfer Mode, Qos, Multiplex Buffer, Markov-Modulated Poisson Process, Cell Loss Rate, Mean Cell Delay.