

ABSTRACT

This dissertation studies the dynamic modelling of Two-State ATM Tandem Banyan Switch. First of all, ATM technology and ATM switch are introduced, then the ATM switch's architecture and its functions are discussed in detail. A Two-State ATM Tandem Banyan Switch has been selected as a model to be simulated. MATLAB's Simulink tool has been used to dynamically model the ATM switch. The ATM switch simulated is a simple two-stage Banyan Switch. It consists of 2 Inputs x 2 Outputs, with a switching algorithm included. The algorithm covers all cell flow patterns that are possible in a 2 Inputs x 2 Outputs Banyan Switch. The objective is to keep the cell loss rate at a minimum level. Lastly, this project presents an example of dynamic simulation, which will examine the cell flow patterns, cell loss rate and the switch performance. Discussion and overall conclusion are made based on the simulation results.