

ABSTRACT

Till in this time, network TCP / IP represent one of network form which admit of to fulfill the communications requirement will be efficient and cheap. However because requirement of service type of trafik non-stoped expand and need the high service guarantee like for example service of multimedia video, audio and data real-time push the existence of technical improvement operational and repair the problem which is often happen in TCP / IP network.

Assessed by traditional network TCP/IP have incapable of serving requirement transfer the packet needing the high service guarantee. Various repair and correction non-stoped to be done to found insufficiency. big gift bandwidth and remain to fixed expected able to improve the network performance.

ATM (Asynchronous Transfer the Mode) what have been choosed as public network technology of the future, now implementation have in fact, with manyservice provider ATM in all the world, each gave services based on ATM. Ability to be able to master and exploit the technology ATM at public network will give the strategic advantage of competitiveness and growth.

ATM give the highest performances, guarantee of Quality of Service, efficient management bandwidth, amenity in good consolidation and operational in new network protocol. No need to again have to develop, build the separate new network to each every new service to implementation (like LAN and Frame Relay), because network ATM provide the service for new network protocol, and remain to maintain the network of physical based on ATM remain to walk.

This final task will study the mechanism ATM in conducting forwarding of data packet, and also do the simulation to compare the performance given by network ATM by TCP / IP. Simulation done by using OPNET Version 9.1.A to determine the performance of each network to parameter throughput, packet delay variation, packet loss and delay from used system.