

ABSTRACT

Asynchronous Transfer Mode (ATM) has been recommended by CCITT as transfer mode for B-ISDN. Data information ATM sent in packet with constant length which is known as cell.

Softswitch is an approaching in switching technique that can allocate all type of call from local exchange switches. *Softswitch* is an intelligence service centre for local telephony service. Solution of *softswitch* technology give service to create difference telephony service for each telecommunication company, also make migration to end to end VoIP network easier.

From both system above, if they combine will close weakness each other so that will produce a system that provide 4th generation network (4G) which is need flexibility in service provide with service variation such as voice, data, picture and video.

At this final project, the problem will be analyzed are about *interoperability* and *ATM based on Softswitch* performance system. The performance can be seen *cell loss ratio (CLR)*, *end to end delay*, and *throughput* system at service time variation which is used and buffer capacity on switch. Integration between softswitch network and ATM technology is one solution that can be used to increase network performance that already exist. From the research that have been done, the system can reach maximum *throughput* when buffer capacity used above the value from *delay update credit balance* approximately 155.242 Mbps and used of *flow control credit based* give guarantee that there is no *cell loss*.

Key words : ATM, Softswitch, CLR.