

## ABSTRACT

*Voice Over Internet Protocol (VoIP)* indicates the quality of the day as one of alternative communication. Technology is changing the analog voice signals into digital, and then do packetisation and transmit that through the IP network will be the options that will replace the PSTN. Benefits of VoIP is making a call can be used among different computers, from the conventional telephone, and from one phone to another phone. Most important is that this technology can be made with a low cost. Nowadays, many providers emerges in VoIP world or that is mentioned as ITSP (*Internet Telephony Service Providers*). In line with the growing of ITSP, the circumstance that is required to observe is the realiable of VoIP billing system.

In this final project, writer designed *prototype billing system VoIP* that is utilized for recording *Call Detail Record (CDR)* and afterwards can be used to determine the VoIP service cost. Writer use Briker as IPPBX server dan A2Billing as the billing server. For imposing a tariff scheme, writer used the tariff scheme in TELKOM then it is applied into VoIP billing system which has been designed. Writer also measured how much time process in *Call Detail Record* registering.

After doing tariff scheme test, in fact, the tariff scheme that there is in TELKOM can be applied in VoIP billing system. The author also designed the scheme so obtained rate VoIP tariff of Rp 103,1, -/3minutes and Rp 370,6, -/minutes. While in process time testing, the best time for local call is 1,29775 second, best time for long distance call is 1,62045 second and for multi operator call is 1,6333 detik. From its result, the quality of process time can be included good because the *call detail record* is recorded well Writer concludes the process time are inlucenced by computer server specification and the trunking system that is applied.

**Keywords : Briker, A2Billing, CDR, tarif scheme, process time**