

## ABSTRACT

Voice Over IP is new technology which can deliver voice over IP network. Eventhough it is possible to transmit voice over IP network, this is cannot be regard as true telephone service because its quality is highly variable depend on network load. The end-to-end delay (time beetween the speaker talks dan when the listener hears), paket loss is major quality index for telephone service which must be less.

To solve that problem used QoS technique. QoS is set of adjustable controls that create selective services for network traffic, thereby providing better service for different types of network traffic, such as voice. In writing final project, will be describe about design and implementation VoIP with Point to Point Protocol (PPP) over low bandwidth leased line with using RSVP, will be evaluated about call setup at RSVP, improving QoS based of several scenario and evaluating cpu utilization on voice router so can visible improving QoS on VoIP traffic if using RSVP.

The result of this thesis show that RSVP need for Network which is congested (too much traffic [voice, data, or video] competing for too few resources or bandwidth), can increase bandwidth for time-sensitive traffic, limit bandwidth for noncritical traffic.