**Abstract**

Voice Over Internet Protocol (VoIP) is a new technology which use network of Internet Protocol (IP) as media channeling. Though enable channeling of voice pass network of IP, but in fact VoIP not yet can be considered to be telephone service which in fact, because quality of this VoIP vary depended from situation of network.

To overcome the it's problem we can used technique of QoS. QoS is a set order used to give a priority for selected traffic assorted of type of service. At compilation of this Final Duty studied to regarding implementation and design of VoIP at limited bandwidth by using technique of QoS RSVP by using MPLS router, MPLS router used to improve performance of network by taking a short cut time of forwarding package and later; then will evaluate to regarding process of call setup at RSVP.

Resource Reservation Protocol or is often referred as with RSVP is a protocol for signaling used to conduct network resource reservation to give guarantee of QoS for traffic flow at selected data package. One of the data package is VoIP.

Technology of Multi Protocol of Label Switching ( MPLS) used to improve performance of network taken a short cut time of forwarding, MPLS work by adding header at package as identifying to be used at process of switching. When package reach LSR, the router use this label to identify FEC, data concerning the FEC on file in the form of forwarding of is tables of at router the pertinent ness. Seen forwarding of is tables of this router later, then package is continued to hop hereinafter.

This Final Task is to study the problem of influence of MPLS and RSVP at VoIP network of side of QoS ( package and delay of loss), so that will earn to be seen that influence both can improve performance of VoIP so that can come near service phone in fact.