ABSTRACT

Today, with rapidly developing technology network where all services and applications to the network based on IP (Internet Protocol). SMP Darul Falah is one of private junior high schools that have been accredited A, where SMP Darul Falah is located in the village of West Bandung regency Cihampelas tries to use an existing device (computer / PC) and networks that are already available to build an IP based voice communication facilities (VoIP) as a means of supporting the implementation of a good education for teachers or students in order to expedite the process of teaching and learning activities.

This final project entitled Implementing VoIP On SMP Darul Falah Intranet Network, described the design, and implementation of VoIP on intranet SMP Darul Falah. In making this final project is a VoIP server elastix which is a VoIP Phone System based on open source system. While the softphone is used to make calls or receiving on the client using X_Lite. For designing the implementation of VoIP on a network is an intranet SMP Darul Falah VoIP, server installed in the Computer Lab, while the client computer to be in LAB computer room, administrative space, the principal's office, staff room, and library space.

After doing the testing and implementation, we got some conclusions, including: the application can work properly in accordance with the design, implementation of VoIP on SMP Darul Falah intranet can help the school in providing a means of communication, the maximum value of jitter in the can for 4084 ms, The maximum value of delay can be of 22.875641 ms, the maximum value of packet loss can be at 0.32%, the maximum throughput value is in the can for 0485 Mbps, the value of post-dialing delay is seen that the average value of post-dialing delay is 8189 ms, and At measuring the quality of the questionnaire (MOS) was obtained with an average value of 3.883 which means located between the criteria of adequate and good.

Keyword : LAN, server, open source, intranet, delay, jitter, troughput, packet loss