# ABSTRACT

Indonesia is a country that has great potential to be an area affected by natural disasters and has the potential to damage the communication / information network infrastructure. Whereas telecommunications is one of the important factors that can be used to support the evacuation for the victims of natural disasters. With the condition of the damaged network infrastructure, it will hamper the evacuation process for the victims of natural disasters. In these conditions, a technology that can be used to communicate mobile is needed. One of the technologies that can be implemented to evacuate the victims of natural disasters is Ad Hoc.

Based on the background above, in this Final Project, a network implementation called Ad Hoc will be designed to help the communication between the evacuation teams and the victims of natural disasters to communicate through voip, video, and data such as upload and download file. In addition, the quality of voip, video, data will be measured using Wireshark applications and the range between the evacuation teams and the victims of natural disaster.

In this Final Project has obtained the results of Ad Hoc network performance testing that is used for BigBlueButton (BBB) server and Asterisk communication in natural disaster conditions. The average value obtained when testing video conferencing for delay is 0.0075 s. The average upload delay is 0.0455 s. For the average delay download results are 0.054 s and for the average delay results voip 0.009 s. While the average value of throughput obtained during video conference testing is 259.6 MB. For the throughput the average upload is 13.45 MB. The average download throughput is 13.3 MB and the average voip throughput is 21 MB.

*Keywords* : natural disaster, Ad Hoc, mobile