

ABSTRACT

Nowadays, telecommunication has steadily increased. Commonly, Indonesian people use technology as one of their daily needs to communicate each other. In the last five years, there are many new GSM operators that caused the various of fee competition, either it is expensive or the opposite. As well as the BTS infrastructure which has been existed is not quite enough especially in the unreached territory, so then the service couldn't be reached widely by poor people. That case will cost more fees to support the communication quality, a stable connectivity and a real time.

To solve that problem, it needs to apply a new technology which could help poor people and an unreached area in order to share the impact of technology for every community.

Open Base Transceiver Station (OpenBTS) is a new communication technology which has an open source and runs in Linux operation system. This technology can be the solution to replace the standard infrastructure from BTS to Global System for Mobile Communication (GSM). Among openBTS, the application of BTS becomes easier to be implemented especially in an unreached area that still have not enough BTS and the SMS fee which not only cheaper but also can be free for poor people.

From that case, in this last project has successfully an implementation that combine the version 5 of openBTS technology with SMS in GSM network by using operating system ubuntu 14.04 and a USRP device type RAD1.

Keywords: Telecommunication, BTS, OpenBTS