

## ABSTRACT

The development of data communications will be growing in line with technological advances especially in communications that are mobile. Data services that are fast, real-time, stable, and inexpensive is needed by many customers today.

VOIP Technology (Voice over Internet Protocol) is one of the few services that is very attractive for further development. Furthermore is selected technologies as EV-DO network access for the user.

This final project is about implementing VOIP IAX based on CDMA EV-DO Rev A. From the client side will be seen how the call bandwidth, one way delay, and jitter as a determinant of VOIP service. While on the IAX server side it will be observed PDD (post dial delay).

From the experiment shows that one way delay to use the GSM codec is greater than Ulaw G711 codec. Best jitter value for its coverage of BTS EVDO BEC occurs at 14:00, 16:00, and 20:00 with each worth 18 ms (forward) and 24 ms (reverse). While for the 22 o'clock hour is only 18 ms forward them towards the good, to reverse its above 30 ms. Best jitter value for its coverage Dako EVDO BTS on the forward direction, for all scenarios at 11:00 Hours, 15:00 Hours, 20:00 Hours and 21:00 Hours has an acceptable jitter value that is 18 ms. While for the reverse direction, the value of jitter for communications at 20:00 hours with GSM codec is not recommended because it is located at 30 ms but for G711 codec Ulaw a jitter value of 23.5 ms means acceptable. For other hours jitter value at 20-26 ms.

Call at 22:00 hours from BEC EVDO BTS has particularly packet loss with G711 codec Ulaw highest EVDO base stations while the Old-fashioned Dayeuh occurred at 11:00 hours. When connecting a call from the BTS EVDO Dayeuh Kolot it is 0.3 seconds faster than the calls that came from BTS EVDO BEC. The number of incoming calls, which can be served with the specification IAX Server CPU 2.93 GHz is 380 calls with codec G711 Ulaw.

Keyword : *VOIP, IAX, CDMA EV-DO Rev.A*