

ABSTRAK

Code Division Multiple Access (CDMA) adalah salah satu teknik akses jamak (*multiple access*) yang memisahkan percakapan dalam domain kode. Teknik multipleksing CDMA mampu memberikan solusi penyediaan kapasitas yang lebih besar dalam proses pentransmisiannya. Penulis akan mengukur kinerja jaringan CDMA 2000 1X EV-DO di BTS Simpang Lima milik PT.Telkom Semarang yang belum pernah dilakukan pengukuran sebelumnya. Parameter kinerja jaringan yang diukur dan dihitung adalah *delay*, *throughput*, dan *packetloss*.

Dalam skripsi ini, pengukuran kinerja jaringan dilakukan dalam keadaan normal dan sibuk. Pengukuran dilakukan di 3 *node*. Peneliti menguji dengan cara melakukan proses *download file* melalui *webserver* pada saat proses *download* tersebut peneliti akan mengukur kinerjanya dengan menggunakan *software* pengukur jaringan. Peneliti menggunakan *sample file* dengan ukuran 1 MB, 5 MB, dan 30 MB yang akan digunakan pada saat pengukuran.

Kinerja ketiga *node* pada jaringan CDMA 2000 1X-EVDO di BTS Simpang Lima milik PT.Telkom Semarang termasuk dalam kategori baik. *Delay (latency)* untuk semua *node* dalam kategori *excellent* dan *good* sesuai dengan standar *delay* dari ITU-T X.642. *Throughput* pada keadaan normal dan sibuk dalam kategori bagus sesuai standar CDMA 2000 1X EV-DO. *Packetloss* dalam kondisi normal di masing-masing *node* dalam kategori sangat bagus sesuai dengan standar ITU-T X.642 yaitu kurang dari 1% sedangkan dalam kondisi sibuk ketiga besar *packetloss* masuk dalam kategori bagus karena antara 1 s/d 3%.

Kata kunci : *Code Division Multiple Access*, *delay*, *throughput*, *packet loss*, *excellent*, *voice*, ITU-T X.642

ABSTRACT

Code Division Multiple Access (CDMA) is a multiple access technique that separates the conversations in the code domain. CDMA multiplexing techniques to provide solutions providing greater capacity in the transmission process.. The author will measure the performance of the CDMA 2000 1X EV-DO base stations belonging PT.Telkom Semarang Simpang Lima that has never been measured before. Network performance parameters are measured and calculated delay, throughput and packetloss.

In this thesis, network performance measurements carried out in normal and busy. Measurements were made on 3 nodes. Researchers tested by carrying out the process of downloading files via the webserver during the download process, the researcher will measure its performance by using software measurement network. Researchers used a sample file with a size of 1 MB, 5 MB, and 30 MB to be used at the time of measurement.

Performance of the three nodes on the CDMA 2000 1X-EVDO in base stations belonging PT.Telkom Semarang Simpang Lima included in the category of good. Delay (latency) for all nodes in the category of excellent and good according to the standard delay of the ITU-T X.642. Throughput in normal and busy in the category of good standard CDMA 2000 1X EV-DO. Packetloss in normal conditions at each node in the very good category in accordance with ITU-T X.642 standard that is less than 1%, while the condition of three major packetloss busy in the category of good between 1 and 3%.

Key Word : Code Division Multiple Access, delay, throughput, packet loss, excellent, voice, ITU-T X.642