

ABSTRACT

Nowadays, packet network dominates the telecommunication network. Packet data network with its bandwidth management is able to manage the traffic information efficiently. This network has big scalability in capacity, feature services, and QoS and also able to fullfil the demand of new services in the future. Data Packet network is different from PSTN network. PSTN network uses TDM technology, while most of the data packet network use TCP/IP protocol with several application of data transfer. These phenomenon show the convergence and migration from the PSTN to the NGN which is based on data packet. Softswitch as one of the NGN not only give the data, multimedia, and internet services but also can carry on PSTN traffic. With that capability and improvement of DSP technology, voice or video compression, high capacity of transport and interoperability standard, the integration of voice and data in one platform will be real.

This final projet discusses softswitch-based network designing in Bandung. Softswitch capacity is 7,463,722.73 BHCA. This capacity can be handled by one softswitch and redundant with 2,8 million BHCA capacity. Three trunk gateways needed in the softswitch network. Each of them is connected to each tandem exchanges which are timur tandem, barat tandem, and sentrum tandem. The trunk gateway to IP network capacity is defined by full rate, VAD, cRTP, and VAD+cRTP capacity. Full rate capacity is 80.520 Kbps, cRTP capacity is 34.160 Kbps, VAD capacity 80.520 Kbps and cRTP and VAD capacity is 19.520 Kbps. IP customer capacity from access gateway to IP network is 470,439 Mbps. Signaling capacity from access gateway to softswitch is 423,312 Kbps. The total capacity TDM to softswitch is 17.208.176 Kbps and TDM to IP network capacity is 315.392 Kbps.