

ABSTRAK

Perkembangan dunia telekomunikasi semakin memudahkan setiap individu untuk berinteraksi antara yang satu dengan yang lainnya. Salah satu cara berkomunikasi yang lebih mudah dan murah adalah *Voice over Internet Protocol (VoIP)*. VoIP adalah teknologi yang mampu melewatkan trafik suara, video dan data yang berbentuk paket melalui jaringan *IP*. Jaringan *IP* merupakan jaringan komunikasi data yang berbasis *packet - switch*, jadi dalam bertelepon menggunakan jaringan *IP* atau Internet. Dengan bertelepon menggunakan VoIP, banyak keuntungan yang dapat diambil diantaranya adalah dari segi biaya jelas lebih murah dari tarif telepon tradisional, karena jaringan *IP* bersifat global. Selain itu, biaya *maintenance* dapat ditekan karena *voice* dan data network terpisah, sehingga *IP Phone* dapat ditambah, dipindah dan diubah. Hal ini karena VoIP dapat dipasang di sembarang *ethernet* dan *IP address*, tidak seperti telepon tradisional yang harus mempunyai *port* tersendiri di Sentral atau *PBX*.

VoIP juga dapat dikembangkan menjadi suatu sarana komunikasi komersial. Untuk itu diperlukan suatu *billing system* dan *database* untuk menyimpan semua data - data pengguna VoIP. Didalam *billing system* dapat di *generate* suatu *autoreporting* yang dapat digunakan untuk *maintenance* jaringan VoIP. Untuk membuat suatu jaringan VoIP, dalam kasus ini, untuk *server* diperlukan *system* operasi UNIX atau GNU / Linux. Asterisk sebagai aplikasi *proxy* pada protokol SIP, H.323, dan juga MGCP adalah *software* yang akan diinstal di *server*. VoIP dihubungkan melalui jaringan internet, yang akan diimplementasikan menggunakan teknologi WiMAX.

Kata kunci: telekomunikasi, VoIP, telepon, jaringan IP, IP Phone, *billing system*, *autoreporting*, asterisk, SIP, WiMAX.

ABSTRACT

Development of telecommunication technology makes every people communicate each other easier. One of communication ways which is cheaper and easier is Voice over Internet Protocol (VoIP). VoIP is technology that could pass the voice, video and data traffic which is form of package through the IP network. IP network is the data communications network based on packet-switch, so in talking on the telephone is using the IP network or internet. In a telephoning using VoIP, many advantages that could be taken, there is the cost in phoning cheaper than traditional phone, because IP network is global. Besides that, the cost of maintenance could be pressed because the data network and voice is separated, so that IP phone could be added, moved and changed. Because of that VoIP could be implementing in any Ethernet and IP address, not like traditional telephone which is must have individual port in central or PBX.

VoIP also could be developed become a commercial communications. Because of that, database and billing system is needed to keep all the data of consumer VoIP. In billing system could be generated an autoreporting which could be used for maintenance of VoIP network. In this case, to design a VoIP network, UNIX or GNU/Linux operation system is needed for server. Asterisk as an application proxy at SIP protocol, H.323, and MGCP is software to installed in server. VoIP connected via internet network implemented using WiMAX technology.

Keywords: telecommunication, VoIP, telephone, IP network, IP Phone, billing system, autoreporting, asterisk, SIP, WiMAX

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