

# VoIP based Voice Interaction System for PSTN

Deepa.K<sup>1</sup>, Perarivalan<sup>2</sup>, Radhakrishnan<sup>3</sup>, Manikandan<sup>4</sup>, Nesanth<sup>5</sup>,

Professor, Department of ECE, Adhiyamaan College of Engineering, Hosur, Tamilnadu, India <sup>1</sup>

U.G Student, Department of ECE, Adhiyamaan College of Engineering, Hosur, Tamilnadu, India<sup>2,3,4,5</sup>.

**ABSTRACT:** In India Many organizations are undergoing digital subscriber line(DSL) technology for effective communication for long distance over an organization. This helps people to communicate with others who are working under the same organizations. The drawbacks in setup of present technology which makes the entire organizations into congestion of data and disaster. The configuration of VoIP in IP phones makes establishment of TCP over the organization. There is a need to provide VoIP with a suitable security and that shouldn't affect the performance. This helps people to communicate with others who are working under the organization through IP phones without any noise or delay. The telephone must get linked to the switches under a same network where all the telephones are connected within an organization. Clients can effectively communicate without any interruption and clients can share their data to any destination within the organization and since it's a wired connection it is highly secured and impossible to get trespassed.

**KEYWORDS:** Routers, Switches, IP phones, PSTN.

## 1.INTRODUCTION

Voice and multimedia contents can be transmitted using VoIP. Private branches can be connected through VoIP. VoIP works under group of technologies and methods to deliver the voice communication from source to destination through internet. Converting audio signal into data packets using codec's and the packets can be encapsulated and later it can be unencapsulated at the receivers end. In an organisation VoIP allows user to share voice and data network in a single channel. Thus VoIP limits network infrastructure cost. VoIP uses an International Telecommunication Union standard codec's uncompressed packets can be transmitted through this ITU and it also supports for transmitting compressed packets. Bandwidth and codec's changes according to the equipment vendors. Voice quality gets attenuated, but bandwidth requirements are reduced through compression. To connect networks and to provide local survivability through network outage and to provide security, call policy management and network connections. VoIP telephones are hardware-based and software based. The benefits of VoIP are cost savings is the most attractive feature. When user move away from PSTN. voice traffic travels over private data network lines. Media service is not only for giving options of media to users, it also creates new communication market through media s like VoIP service in mobile phones. Here mobility includes service mobility as user and same services could be available.

In a network Switches, routers and wireless access points perform tough tasks. Most business networks have switches as their foundation. In an organization switches controls computers, printers and servers to a network. Switches provides a good communication between two networks at any ends. Productivity can be increased through information sharing and resource allocation. Managed and unmanaged switches are the two basic types of switches. Unmanaged switches cannot be configured and it is used only for domestic use. Managed switches can be configured. This will also provide user to greater control over network traffic and access. To share a single internet connection all networks are enabled by routers, which saves money. Routers will acts as a good path for security and it also decides the computers priority with one another. It analyses the content of data packets transmitted from one network to another. IP phones connect to your service via the internet, using an Ethernet cable or Wi-Fi connection. Voice over internet protocol is a technology which helps user to make

phone calls over the internet. The IP phones transmits digital signals anywhere across the internet. Organization feels better to get changed from normal telephone connection to VoIP based communication.

## II. EXISTING METHOD

[1] This system will help us to capture signalling packet related with missed call packet, novel algorithm is used to parse the packet and then for checking the matching process Call Detail Record (CDR) is used, the PSTN mobile phone number registered with its pair number. The algorithm output is forwarded to user and an SMS Gateway and with a specific modification and it will send SMS to subscriber mobile number following some algorithm. SMS will be having information about that somebody had tried to trespass its PSTN number.

[2] The LAN and PSTN has a gateway called PIPG and internet services are exist.

[3] Without using a VoIP provider or any other gateways user can make IP to PSTN voice calls. To share PSTN and peer to peer file application can be shared by following our architecture. The PIPG enables a voice call between an Internet endpoint. For registration purposes external server is included by the architecture. Our architecture provides a available PIPG to access the incoming calls.

## III. RELATED WORK

In an organisation using DSL cable for communication makes the entire organisation network into time delay and extra DSL wires makes network room into disaster. with the help of routers and switches user can connect IP phones into switches which makes the connection very reliable and fast, voice delay will be totally avoided in this process. when there is heavy traffic in the network Cisco routers come default with STP which changes the route of the packets which avoids collision domain.

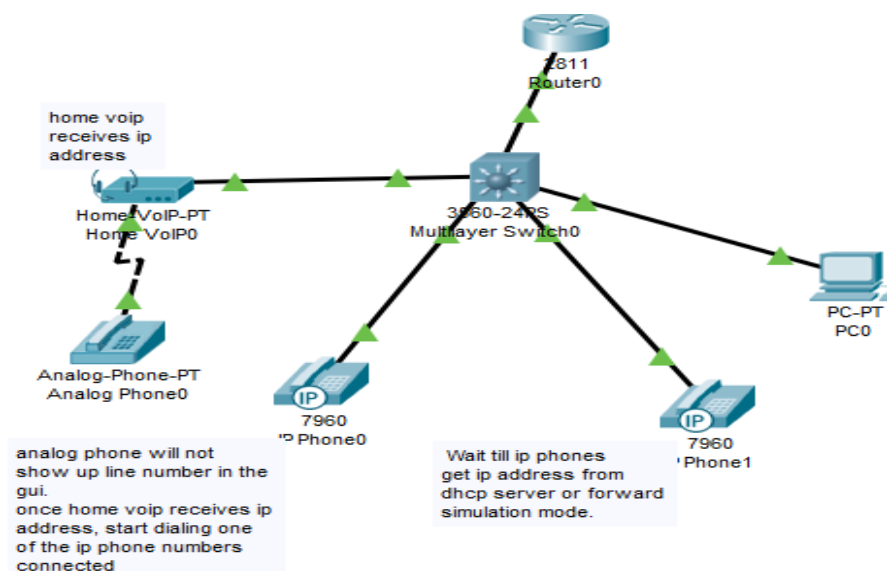


Figure 1 simulation diagram

#### IV. WORKING OF IPPHONES IN AN ORGANISATION



Figure 2 Caller



Figure 3 Receiver

#### V. RESULT AND DISCUSSION

Transmission of data can be maximized and there wont be any congestion or delay. DSL cables can be eliminated by using VoIP technology in an organisation. Data sharing and communication can be done with a single medium. Quality of Voice communication is more effective. Considering Security preference VoIP is much better than DSL.

#### VI. CONCLUSION

Thus by implementing this project congestion of DSL and RJ45 cables in a network will be reduced. Transmission of data will be in the rate of 10Mbps to 10Gbps in a LAN connection. Instead of WAN connection it's varies on internet service provider. Cost of VoIP is very less when compared to PSTN. Entire organisation can be saved from network congestion and time delay. Any business with apriority regarding economical and price effective solutions for telecommunications has probably been advised that user Protocol (VoIP) phone systems square measure the most effective selection in today's internet driven society.

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