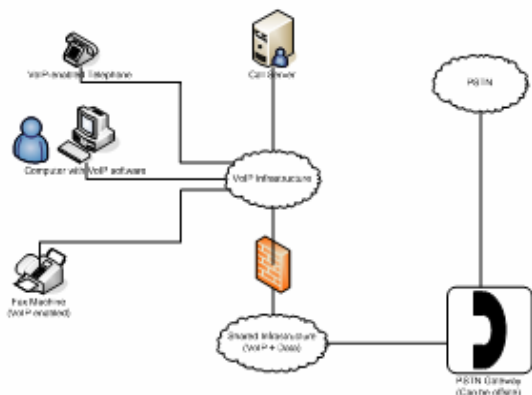




Voice over Internet Protocol (VoIP)

Introduction

VoIP is a technology that brings together traditional telephone communications and data networking. Telephone calls, when transmitted by VoIP, are converted to data signals, sent/received the same way as computer-generated information.



Overview

VoIP technology can be implemented in handheld telephone units, conferencing units, and computer software applications. VoIP telephone calls travel from the source networks such as the Internet or simply the company network.

If a call's final destination is not on the data network, the VoIP systems interface with the common telephone network (Public Switched Telephone Network (PSTN)) to convey voice-communications between callers.

Technology

All VoIP networks have an End Unit, the device used to capture or broadcast the voice-communications; it may look like a conventional telephone, be a PC based software application or be a conferencing unit. The End Unit is the handset.

Call Servers are used to manage VoIP data traffic. To place a call the user dials the other party's number using a handset; the handset contacts the Call Server which translates the phone number into an IP address and manages the connection for the duration of the call.

Features

Confidentiality: VoIP networks are susceptible to eavesdropping by unauthorized listeners via packet-sniffing attacks. In order to mitigate eavesdropping; VoIP networks should employ end-to-end encryption.

Availability: Like all electronic tools VoIP networks do not work in the event of a power failure, furthermore VoIP do not work during a network disruption.

Integrity: Voice and call management data is vulnerable to common network attacks.

Authentication: When a VoIP handset initiates a call, the handset authenticates to a server prior to the call. At the instant of authentication, the employee may not be able to confirm that the handset authenticated to the correct server.

Password management is a key area of VoIP security; default passwords should be changeable for all components of the VoIP network, it should permit remote management and due to the complexity of these networks it should have a well documented architecture.