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Asynchronous communications

Transmission method whereby bits are sent without synchronizing via a clock signal, but instead using start and stop bits to identify the beginning and ending of each block of data.

ATA

Analog Telephone Adapter; a device by which you can connect a regular analog phone (wired or cordless) to the Internet to make and receive VoIP calls. It converts the analog signal from the phone to digital and is available from VoIP providers such as Vonage or Lingo.

Call processor

VoIP providers' equipment that receives the phone number you dial, checks it for format validity, and maps it to an IP address.

Circuit switching

Older, less efficient but reliable technology used by the regular public switched telephone network (also see PSTN and POTS). A connection called a circuit is established for the duration of the call.

Codec

Coder-decoder software that converts audio signals into compressed digital signals so they can be transmitted across a digital network. It then converts them back to analog at the other end.

Conference bridge

A device for connecting several parties in a phone call so that all participants can hear one another.

Data compression

Methods of reducing the number of bits in a set of data so it can be transmitted more quickly over the network and then expanded to its original size when it reaches the destination.

Endpoint

A phone or computer associated with a phone number and temporarily or permanently assigned an IP address.

Full duplex

The ability of devices at both ends of a communications to send and receive information simultaneously.

H 323

A set of protocol standards established by the International Telecommunications Unions (ITU) originally designed for video conferencing and also used for VoIP.

Half duplex

The ability to send data in two directions, but only one direction at a time.

High availability

Methods of ensuring rapid recovery from hardware or software failure employing redundancy and failover to backup components.

IP PBX

Internet Protocol-based Private Branch Exchange internal telephone switching system that supports convergence of voice and data networks for routing calls within a building or organization.

IP phone

Looks like an ordinary phone but connects to an IP router with an RJ-45 Ethernet connector. These phones run software that allows them to handle VoIP calls without going through an ATA.

IP telephony

All telephone type services that work over TCP/IP, including VoIP, text messaging, and IP-based faxing.

IP

Internet Protocol; the network layer protocol by which computers on the Internet and other TCP/IP networks communicate with one another via unique binary addresses (32-bit addresses represented as “dotted quad” decimal addresses in IPv4 or 128-bit addresses represented as hexadecimal addresses in IPv6).

IVR

Interactive Voice Response; an application that allows users to access computerized information over the phone using keypad touchtones or voice commands. The commands are translated into digital queries and the results are returned from the computer hosting the information database. The results are then translated into computerized voice messages spoken to the caller.

Jitter

Variations in arrival time of data packets.

Latency

The amount of time it takes for a data packet to be transmitted from one endpoint to another.

Mapping

The process of determining to what IP address a VoIP call is to be routed, based on the phone number that is dialed.

Media Gateway Control Protocol

Protocol used to control telephony gateways.

North American Numbering Plan (NANP)

The system that the traditional phone networks use for routing calls based on the telephone number dialed.

Packet switching

Newer, more efficient technology used for IP communications on the Internet, by which data is broken into parts called packets. Different packets can take different routes to the destination, arriving out of order. They are reassembled into the original order at the destination.

Packet

A unit or “manageable chunk” of data into which complete messages are divided to be routed across the Internet or other TCP/IP network.

PoE

Power over Ethernet; a method of sending electrical power over Ethernet cable to alleviate the requirement to plug equipment into an electrical outlet or other power source.

POTS

Plain old telephone network; a telephone industry colloquial nickname for PSTN.

PSTN

Public switched telephone network; the traditional circuit switching network used for transmitting voice conversations. Also see POTS.

QoS

Quality of Service; a guaranteed or predictable level of bandwidth, transmission speed, and freedom from dropped packets, delay, jitter, and error that is necessary to ensure adequate performance of particular applications.

SCCP/Skinny

Skinny Client Control Protocol; IP telephony protocol developed by Cisco whereby the telephone can communicate with an H.323 proxy.

Simple Gateway Control Protocol (SGCP)

Protocol used to control telephony gateways.

Simplex

The ability to send data in only one direction.

SIP

Session Initiation Protocol; a small and efficient application layer protocol specifically designed for VoIP communications.

Soft switch

Programmable switch that processes signaling for packet protocols and can be used to integrate telephone signaling with packet switching networks.

Softkeys

Buttons on a telephone handset or software keypad display that can be programmed by the user to activate a specific action, such as speed dialing a particular phone number.

Softphone

VoIP software that runs on your desktop, laptop or handheld computer and provides an onscreen telephone interface to allow you to make phone calls through your computer using its speakers or headset and microphone without a traditional telephone handset.

Synchronous communications

Transmission method whereby a fixed frequency synchronizing clock signal is used to synchronize data sent between a sending and receiving device.

TAPI

Telephony Application Programming Interface; programming interface for allowing Windows client applications to communicate with server-based voice communications services.

Telephony gateway

The network device by which analog signals on telephone circuits are converted to digital data packets to enable calls between VoIP phone lines and standard PSTN phone lines.

Voice messaging

Application whereby voice messages are recorded, stored, and retrieved for later playback. A private access code is usually required for remote retrieval. Some systems can notify the recipient of the message via pager, outdialing, or e-mail.

VoIP session

A connection between two computers or VoIP phones using the same protocols and sending data across two channels, one for transmission of packets in each direction.

VoIP

Voice over Internet Protocol; technology for transmitting voice calls over a TCP/IP packet switching network such as the Internet, thereby avoiding long distance charges associated with the traditional public switched telephone network.