

VoIP Network Glossary

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Introduction

This document defines the most commonly used acronyms and definitions used in conjunction with Samsung VoIP Networking and Applications.

VolP Glossary

802.1p An IEEE standard for providing QoS using three bits (defined in 802.1q) to allow switches to reorder packets based on priority level.

802.1q An IEEE standard for providing virtual LAN (VLAN) identification and QoS levels. Three bits are used to allow eight priority levels, and 12 bits are used to identify up to 4,096 VLANs.

ANI Automatic Number Identification A telephone function that transmits the billing number of the incoming calls (Caller ID, for example).

BOOTP (Bootstrap Protocol) A protocol that lets a network user be automatically configured (receive an IP address) and have an operating system booted or initiated without user involvement.

CIR Committed Information rate. Rate at which a Frame Relay network agrees to transfer information under normal conditions, averaged over a minimum increment of time. CIR, measured in bits per second, is one of the key negotiated tariff metrics. Be careful of "0" CIR Frame relay Networks when deploying a VoIP network since you will not be guaranteed any bandwidth.

Circuit Switching Circuit switching is a WAN switching method in which a dedicated Physical circuit through a carrier network is established, maintained, and terminated for each communication session. Used extensively in telephone company networks, operates much like a normal telephone call.

CODEC In Voice over IP, Voice over Frame Relay, and Voice over ATM, a DSP software algorithm used to compress/decompress speech or audio signals. An example of these codec's would be G.711 and G.729a.

CRTP Compressed Real-Time Transmission Protocol – See **RTP**

DHCP (Dynamic Host Configuration Protocol): DHCP allows a network administrator to supervise and distribute IP addresses from a central point and automatically send a new IP address when a computer is plugged into a different place in the network.

Diff-Serv Differentiated Services; The Diff-Serv model divides traffic into a small number of classes to provide quality of service (QoS).

DSP Digital Signal Processor

Firewall A set of related programs, located at a network gateway server that protects the resources of a private network from users from other networks.

Frame Relay A telecommunication service designed for cost-efficient data transmission for intermittent traffic between local area networks (LANs) and between end-points in a wide area network (WAN).

G.711 Describes the 64-kbps PCM voice coding technique. In G.711, encoded voice is already in the correct format for digital voice delivery in the PSTN or through PBXs. Described in the ITU-T standard in its G-series recommendations. Because of the 64k packet size this codec is best suited for internal use on Local Area Networks as opposed to slower WAN and Internet links.

G.729 Describes CELP compression where voice is coded into 8-kbps streams. There are two variations of this standard (G.729 and G.729 Annex A) that differ mainly in computational complexity; both provide speech quality similar to 32-kbps ADPCM. Described in the ITU-T standard in its G-series recommendations. This codec is better suited for Internet and Wide Area Network or any network where bandwidth and QoS are issues.

Gateway A network point that acts as an entrance to another network

H.323 Extension of ITU-T standard H.320 that enables videoconferencing over LANs and other packet-switched networks, as well as video over the Internet.

IP (Internet Protocol): The method or protocol by which data is sent from one computer to another on the Internet.

MGCP Media Gateway Control Protocol; A protocol for IP telephony that enables a caller with a PSTN phone number to locate the destination device and establish a session. Samsung does not support this VoIP Protocol.

MPLS Multi-Protocol Label Switching. Emerging industry standard upon which tag switching is based. This method of switching IP traffic is being used by carriers such as MCI/Worldcom and is extremely conducive to VoIP based networks.

LAN (Local Area Network): A local computer network for communication between computers; especially a network connecting computers and word processors and other electronic office equipment to create a communication system between offices

NAT (Network Address Translation): A program or piece of hardware that converts the IP address from a private address to a public address real time. This allows multiple users to share a single public IP address. It also prevents access to these users from the outside without special configurations. NAT is used in home networks and corporations to allow multiple PCs to access the internet via T-1, ADSL, SDSL or Cable Modem.

Network A series of points or nodes interconnected by communication paths.

Ports A port number is a way to identify a specific process to which an Internet or other network message is to be forwarded when it arrives at a server.

Packet A packet is the unit of data that is routed between an origin and a destination on the Internet or any other packet-switched network.

Packet Switching Packet switching is a WAN switching method in which network devices share a single point-to-point link to transport packets from a source to a destination across a carrier network. A packet switched network is used as the transport for VoIP based networks.

POE Power over Ethernet Samsung supports the IEEE 802.3af standard for POE. Power over Ethernet is supplied to the Samsung ITP Keysets via an 802.3af supported Ethernet switch.

PPPoE Point to Point Protocol over Ethernet A protocol that allows DSL providers to meter connection time and to acquire a smaller, cheaper block of IP addresses. PPPoE changes DSL from an always-on to an on-demand service and lets providers reduce the size and cost of their Internet connection infrastructures. The Samsung ITP Keysets support this feature.

Proxy Server A server that acts as an intermediary between a workstation user and the Internet to ensure security, administrative control, and caching service. A proxy server is associated with or is part of a gateway server that separates the enterprise network from the outside network and a firewall server that protects the enterprise network from outside intrusion.

Q.O.S Quality of service A terminology used to define a process that can prioritize VoIP packets on a data network.

Router: A device or, in some cases, software in a computer, that determines the next network point to which a packet should be forwarded toward its destination. The router is connected to at least two networks and decides which way to send each information packet based on its current understanding of the state of the networks it is connected to. A router is located at any juncture of networks. A router is often included as part of a network switch.

RSVP Resource Reservation Protocol. Protocol that supports the reservation of resources across an IP network. Applications running on IP end systems can use RSVP to indicate to other nodes the nature (bandwidth, jitter, maximum burst, and so forth) of the packet streams they want to receive. RSVP depends on IPv6. Also known as Resource Reservation Setup Protocol.

RTP Real-Time Transport Protocol. Real-Time Transport Protocol. One of the IPv6 protocols. RTP is designed to provide end-to-end network transport functions for applications transmitting real-time data, such as audio, video, or simulation data, over multicast or unicast network services. RTP provides services such as payload type identification, sequence numbering, time-stamping, and delivery monitoring to real-time applications.

RTCP RTP Control Protocol. Protocol that monitors the QOS of an IPv6 RTP connection and conveys information about the on-going session.

SIP Session Initiation Protocol; A protocol that provides telephony services similar to H.323, but is less complex and uses less resources.

SPI Stateful inspection is a firewall architecture that works at the network layer. Unlike static packet filtering, which examines a packet based on the information in its header, stateful inspection tracks each connection traversing all interfaces of the firewall and makes sure they are valid.

Subnet An identifiably separate part of an organization's network. Typically, a subnet may represent all the machines at one geographic location, in one building, or on the same local area network (LAN).

TCP (Transmission Control Protocol): A method used along with the Internet Protocol (IP) to send data in the form of message units between computers over the Internet

TOS Type of Service; A method of setting precedence for a particular type of traffic for QoS.

UDP (User Datagram Protocol): A communications method that offers a limited amount of service when messages are exchanged between computers in a network that uses the Internet. UDP is an alternative to the Transmission Control Protocol (TCP). It also provides port numbers to help distinguish different user requests.

WAN (Wide Area Network): A geographically dispersed telecommunications network and the term distinguishes a broader telecommunication structure from a local area net-work (LAN).