

SIP and VoIP References and Glossary

David Ahlgren

References - SIP

Original SIP Request for Comment submitted to the

<http://www.faqs.org/rfcs/rfc2543.html>

Most recent SIP Standard

<http://www.faqs.org/rfcs/rfc3261.html>

Original SIP library. Derived from Columbia's early SIP proxy, registration and redirect server

<http://www1.cs.columbia.edu/~kns10/software/siplib/History.html>

<http://www.cs.columbia.edu/sip/>

<http://www.sipforum.org/>

Microsoft Real-Time Communications: Protocols and Technologies, Good concise RTP and SIP reference

<http://www.microsoft.com/technet/prodtechnol/winxpro/plan/rteprot.msp>

Very good concise reference, long list of header fields

<http://www.networksorcery.com/enp/protocol/sip.htm>

http://en.wikipedia.org/wiki/Session_Initiation_Protocol

<http://www.sipcenter.com/sip.nsf/html/What+Is+SIP+Introduction>

Nat Transversal

[http://www.sipcenter.com/sip.nsf/html/WEBB5YN5GE/\\$FILE/SIPNATtraversal.pdf](http://www.sipcenter.com/sip.nsf/html/WEBB5YN5GE/$FILE/SIPNATtraversal.pdf)

References - VoIP

<http://computer.howstuffworks.com/ip-telephony.htm>

The VOIP Wiki - a reference guide to all things VOIP

[VoIP Info](http://www.voip-info.org/tiki-index.php) <http://www.voip-info.org/tiki-index.php>

HP Open Media Platform – Very thorough, in depth

<http://docs.hp.com/en/J8538-90005/ix01.html>

List of VoIP Products and conferences

[pulver.com](http://www.pulver.com) <http://www.pulver.com>

[iptel.org](http://www.iptel.org) <http://www.iptel.org/info/products/>

[iptelephony](http://www.iptelephony.org) <http://www.iptelephony.org/GIP/vendors/client-phones/>

www.von.org Voice On the Net (VON) Coalition – Lobbying group

SIP & VoIP Glossary of terms

<http://www.webopedia.com/>

http://en.wikipedia.org/wiki/Main_Page

http://www.menandmice.com/online_docs_and_faq/glossary/glossarytoc.htm?dns.server.htm

- 3GPP** 3rd Generation Partnership Project for next generation mobile devices.
- ACIRI** ICIR (The ICSI Center for Internet Research) is a non-profit research institute at ICSI in Berkeley, I was called ACIRI when it was funded by AT&T.
- ATA** Analog Telephone Adaptor. Connect analog phone to the Internet for VoIP services.
- BGP** Border Gateway Protocol is a protocol for exchanging routing information between gatewayhosts (each with its own router) in a network of autonomous systems. The routing table contains a list of known routers, the addresses they can reach, and a cost metric associated with the path to each router so that the best available route is chosen.
- Call Agent** See softswitch
- CALEA** Communications Assistance for Law Enforcement Act of 1994 the purpose of CALEA is to make clear a telecommunications carrier's duty to cooperate in the interception of communications for Law Enforcement purposes, and for other purposes. CALEA was effective January 1, 1995.
- CBR** Constant Bit Rate media streams ie voice, video
- CGI** Common Gateway Interface, a specification for transferring information between a World Wide Web server and a CGI program. A CGI program is any program designed to accept and return data that conforms to the CGI specification. CGI programs are the most common way for Web servers to interact dynamically with users.
- COMET** Commitment Met. Used in Quality of Service (QoS) implementations to indicate to the opposite endpoint whether or not the conditions have been met—that is, if the proper resources have been reserved.
- Datagram** A data packet that is sent over an IP network.
- DNS** Domain Name System (or Service or Server), an Internet service that translates domain names into IP addresses. Because domain names are alphabetic, they're easier to remember. The Internet however, is really based on IP addresses. Every time you use a domain name, therefore, a DNS service must translate the name into the corresponding IP address. For example, the domain name www.example.com might translate to 198.105.232.4.
- ENUM** Electronic Numbering is a suite of protocols to unify the telephone system with the Internet by using E.164 addresses with DNS. Any phone number, such as +1 555 42 42 can be transformed into a hostname by reversing the numbers, separating them with dots and adding the e164.arpa suffix, like so: 2.4.2.4.5.5.1.e164.arpa

- GAIM** Gaim is a multi-platform instant messaging client that supports many commonly used instant messaging systems including: AOL IM, ICQ, Jabber, MSN Messenger, Yahoo Messenger. Gaim is free software available under the GNU GPL.
- H.323** An ITU standard that defines how audiovisual conferencing data is transmitted across [networks](#).
- HTTP** HyperText Transfer Protocol, the underlying protocol used by the World Wide Web. HTTP defines how messages are formatted and transmitted, and what actions Web servers and browsers should take in response to various commands.
- ITEF** International Engineering Task Force – Responsible for managing the development of the Internet.
- ITU** The International Telecommunication Union
- LDAP** Lightweight Directory Access Protocol, a set of protocols for accessing information directories. LDAP is based on the standards contained within the X.500 standard, but is significantly simpler.
- Media Gateway** See softswitch
- Megaco** Media gateway control protocol developed by the ITU
- MGCP** Media Gateway Control Protocol, developed by Telcordia and Level 3 Communications, a control and signal standards to compete with the older H.323 standard for the conversion of audio signals carried on telephone circuits (PSTN) to data packets carried over the Internet or other packet networks.
- MIME** Multipurpose Internet Mail Extensions, a specification for formatting non-ASCII messages so that they can be sent over the Internet. ie. graphics, audio, and video files
- MMUSIC** Multiparty Multimedia Session Control. Multimedia communications protocols use a common platform to express media and session descriptions:
- MOS** Mean Opinion Score, a measure of voice transmission quality on a scale of 1 to 6 (best).
- MX** Mail Exchange Record. Creates a mail route for a domain name. A domain name can have multiple mail routes, each assigned a priority number. The mail route with the lowest number identifies the server responsible for the domain. Other mail servers listed will be used as backups.
- NAT** Network Address Translation
- OSI Model** ISO - Open Systems Interconnect 7 layer communication model: Application Layer (Top Layer 7), Presentation, Session, Transport, Network, Data Link, Physical Layer (Bottom Layer 1)
- PSTN** Public Switched Telephone Network, which refers to the international telephone system based on copper wires carrying analog voice data.

- RADIUS** Remote Authentication Dial-In User Service, an authentication and accounting system used by many Internet Service Providers (ISPs). The RADIUS server, which checks your username and password and then authorizes access to the target system.
- RFC** Request For Comment – The official method of proposing an Internet standard to the IETF.
- RSVP** Resource Reservation Setup Protocol, a new Internet protocol being developed to enable the Internet to support specified Qualities-of-Service (QoS's). Using RSVP, an application will be able to reserve resources along a route from source to destination. RSVP-enabled routers will then schedule and prioritize packets to fulfill the QoS.
- RTP** Real-Time Transport Protocol, an Internet protocol for transmitting real-time data such as audio and video. RTP itself does not guarantee real-time delivery of data, but it does provide mechanisms for the sending and receiving applications to support streaming data. Typically, RTP runs on top of the UDP protocol, although the specification is general enough to support other transport protocols.
- SBC** Session Border Controller is a device that is put into the signaling path between calling and called party. The SBC acts as if it was the called VoIP phone and places a second call to the called party. Provides NAT transversal and supports CALEA. Defeats some of the flexibility of SIP.
- SDP** Session Description Protocol, a protocol that defines a text-based format for describing streaming media sessions and multicast transmissions.
- SIMPLE** SIP for Instant Messaging and Presence Leveraging Extensions
- SIP** Session Initiation Protocol enable multi-user sessions independent of the media content
- SLA** Service Level Agreement. The specifications for a broadband service. Availability, latency, jitter, packet loss.
- SMTP** Simple Mail Transfer Protocol, a protocol for sending e-mail messages between servers.
- SOAP** Simple Object Access Protocol, a lightweight XML-based messaging protocol used to encode the information in Web service request and response messages before sending them over a network.
- Softswitch** A softswitch is an [API](#) that is used to bridge a traditional [PSTN](#) and [VoIP](#) by linking PSTN to [IP](#) networks and managing traffic that contains a mixture of voice, fax, data and video. Softswitch is also called media gateway controller, call agent and gatekeeper.
- SRV** Service record, A SRV record is intended to provide information on available services and is similar to a MX record. A SRV record has four fields and a unique system for naming. The naming system is an underscore followed by the name of the service, followed by a period, and underscore, and then the protocol, another dot, and then the name of the domain.
- SS7** Signaling System 7, a telecommunications protocol defined by the International Telecommunication Union (ITU) as a way to offload PSTN data traffic congestion onto a wireless or wireline digital broadband network.

- TCP/IP** Transmission Control Protocol, and pronounced as separate letters. TCP is one of the main protocols in TCP/IP networks. Whereas the IP protocol deals only with packets, TCP enables two hosts to establish a connection and exchange streams of data. TCP guarantees delivery of data and also guarantees that packets will be delivered in the same order in which they were sent.
- URL** Uniform Resource Locator, the global address of documents and other resources on the World Wide Web.
- UDDI** Universal Description, Discovery and Integration. A Web-based distributed directory that enables businesses to list themselves on the Internet and discover each other, similar to a traditional phone book's yellow and white pages
- UAC/UAS** A User Agent represents an end system. It contains a User Agent Client (UAC), which generates requests, and a User Agent Server (UAS), which responds to them. A UAC is capable of generating a request based on some external stimulus (the user clicking a button, or a signal on a PSTN line) and processing a response. A UAS is capable of receiving a request and generating a response based on user input, external stimulus, the result of a program execution, or some other mechanism.
- UDP** User Datagram Protocol, a connectionless protocol that, like TCP, runs on top of IP networks. Unlike TCP/IP, UDP/IP provides very few error recovery services, offering instead a direct way to send and receive datagrams over an IP network. It's used primarily for broadcasting messages over a network.
- WSDL** Web Services Description Language, an XML-formatted language used to describe a Web service's capabilities as collections of communication endpoints capable of exchanging messages.
- XML** Extensible Markup Language, a specification developed by the W3C. XML is a pared-down version of SGML, designed especially for Web documents.