A Few Acronyms & Abbreviations

ADSL	Asymmetric DSL
ADSL2	A faster version of ADSL
ATA	Analogue Telephone Adapter
CE	Customer Equipment
Codec	Coder-Decoder
DSL	Digital Subscriber Line
DSLAM	DSL Access Multiplexer
IAD	Integrated Access Device
IETF	Internet Engineering Task Force
IP	Internet Protocol
kbps	kilobits per second
Mbps	megabits per second
NGN	Next Generation Network
QoS	Quality of Service
PBX	Private Branch EXchange
SHDSL	Symmetric High speed DSL
VoIP	Voice over IP
VDSL	Very high speed DSL
WiFi	Wireless Fidelity

MORE INFORMATION
Communications Alliance has more information on VoIP at:
http://commsalliance.com.au/projects/voip

Factors That Affect Voice Quality
Factors that affect voice quality include:

Loudness Ratings: This is a measure of the speech volume.

Sidetone: The user's ability to hear their own voice (so the service doesn't sound "dead").

(Absolute) Delay: Transmission and processing time between a speaker's mouth and a listener's ear.

NOTE: Delay is increased for long-distance calls, slow data rates, and when the available data rate is exceeded.

Echo Loudness: The fraction of speech echoed back to a sender by a receiver.

Echo Delay: The delay before speech is echoed back to a speaker.

Transcoding: The change from one coding method to another e.g. fixed and mobile networks use different codecs.

Noise levels: In a room and on a line.

Packet Loss: Frequency of packet loss, and immunity of the codec to packet loss.

Use of Service Prioritization: If a VoIP call is not given priority over other, less time sensitive services (e.g. web browsing) then the voice service may fluctuate with the amount of other traffic on the data link.

Available Data Rate: This affects the number of calls that can be maintained on a connection.

Traditional telephony requires a certain data rate per call to operate and if the limit is reached then no more concurrent calls are possible. With VoIP it might be possible to squeeze an extra call in but that means reducing the voice quality for all users.

Factors That Affect Voice Service Reliability
Factors that affect voice service reliability include:

Power Supply: Devices used for VoIP services (e.g. headset and/or adapter) almost always require connection to a plug pack or a PC, unlike traditional phones that get power from the line.

Network Performance: VoIP services over networks with low delay and low packet loss generally have better performance.

Use of a Wireless Access Network: A wireless network can give a user freedom to move around but it may be subject to more interference than a fixed network.

Presence of a Firewall: Use of a firewall (e.g. for data or network security) can make it hard for a VoIP call to take place between parties on either side of the firewall.

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A basic guide to VoIP technical terms and issues

COMMUNICATIONS ALLIANCE LTD

Communications Alliance developed this guide for providers of VoIP services to help them supply information to end users when assessing service offers.

The guide is not an exhaustive information source but seeks to provide a base set of terms that can be used consistently by the industry.

The following are some of the more popular terms that can be important for users to know.

Internet Protocol (IP)[1] – what is it?
The IP provides a standard way (protocol) for computers to communicate on the Internet.

VoIP / Voice over IP – what is it?
A means of transmitting voice over an IP network. This is done by breaking up the voice signal into blocks of data (known as packets), transmitting it over the network(s) and reassembling the signal at the end.

"managed" VoIP	"best efforts" VoIP
Provides some confidence (e.g. by network design) that a voice service will maintain some minimum level of performance for availability and intelligibility for the duration of a call. Usually managed by a carrier or service provider.	An unmanaged VoIP service, usually transmitted over the public internet. At times of peak load a "best efforts" service can be interrupted or unreliable.

Codec
Abbreviation of coder/decoder. A codec is used to convert a voice signal to/from data packets. It affects the clarity with which a voice signal can be reproduced.

Triple play
Combinations of services for
- voice (e.g. phone),
- video (e.g. TV) and
- data (e.g. internet access).

Data Rate
The speed for sending or receiving data packets. Data rates for end user services are usually measured in kilobits per second (kbps) or megabits per second (Mbps).

upstream data rate	downstream data rate
For an end user, the data rate for sending information to a network (e.g. what the other person hears from you).	For an end user, the data rate for receiving information from a network (e.g. what you hear from the other person).

Example: "512/128 ADSL service"
This refers to a data service using Asymmetric Digital Subscriber Line technology that has a downstream rate of 512kbps and an upstream rate of 128kbps.

Digital Subscriber Line (DSL)
A technology for providing high speed Internet access over traditional copper telephone lines.

Quality of Service (QoS)
An overall measure of service performance. A high measure of QoS leads to customer satisfaction. A low QoS measure can mean an unusable service.
NOTE: Also refer to "Factors that effect voice quality" on the next page for some of the things that affect QoS.

[1] IP is formally defined in IETF RFC 791 see:
http://www.ietf.org/rfc/rfc0791.txt