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Introducing & Understanding

VoIP



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Voice over IP

Voice over Internet Protocol (also called VoIP, IP Telephony, Internet telephony, and Digital Phone) is the routing of voice conversations over the Internet or any other IP-based network. The voice data flows over a general-purpose packet-switched network, instead of traditional dedicated, circuit-switched voice transmission lines.

Protocols used to carry voice signals over the IP network are commonly referred to as Voice over IP or VoIP protocols. They may be viewed as commercial realizations of the experimental Network Voice Protocol (1973) invented for the ARPANET.

Voice over IP traffic might be deployed on any IP network, including ones lacking a connection to the rest of the Internet, for instance on a private building-wide LAN.

Definition from Wikipedia, the free online encyclopedia

Requirements

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- ❖ **Broadband Internet Service**
At least 256K upstream recommended
- ❖ **VoIP account**
- ❖ **Analogue – VoIP Telephone Adaptor**
This can be built-in to your Internet router or be a separate unit
- ❖ **Telephone Handset**
or “software” phone used with PC microphone and headphones

A Typical Analogue Phone to VoIP Adaptor

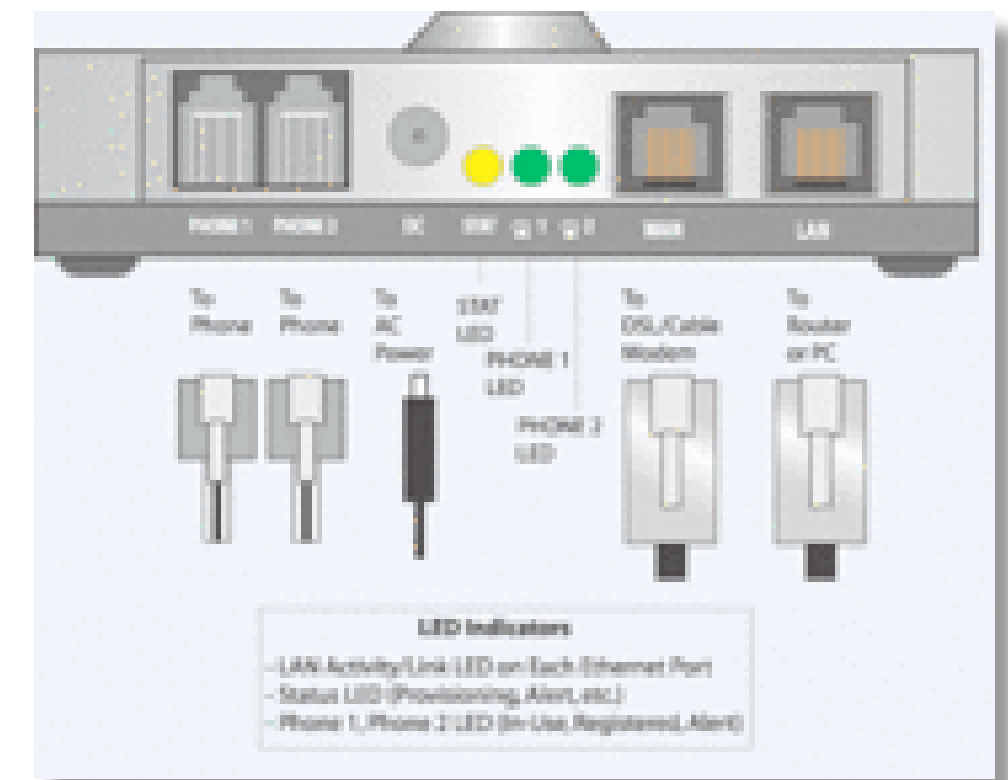


Image courtesy of BroadVoice

Softphone options

- ❖ **iChat AV**
- ❖ **Skype**
- ❖ **X-Lite or X-Pro**
- ❖ **Use internal or external Microphone (eg; iSight or USB Mic)**
- ❖ **Use Headphones**



How VoIP works

A Typical VoIP Solution

TYPICAL ADSL CONFIGURATION

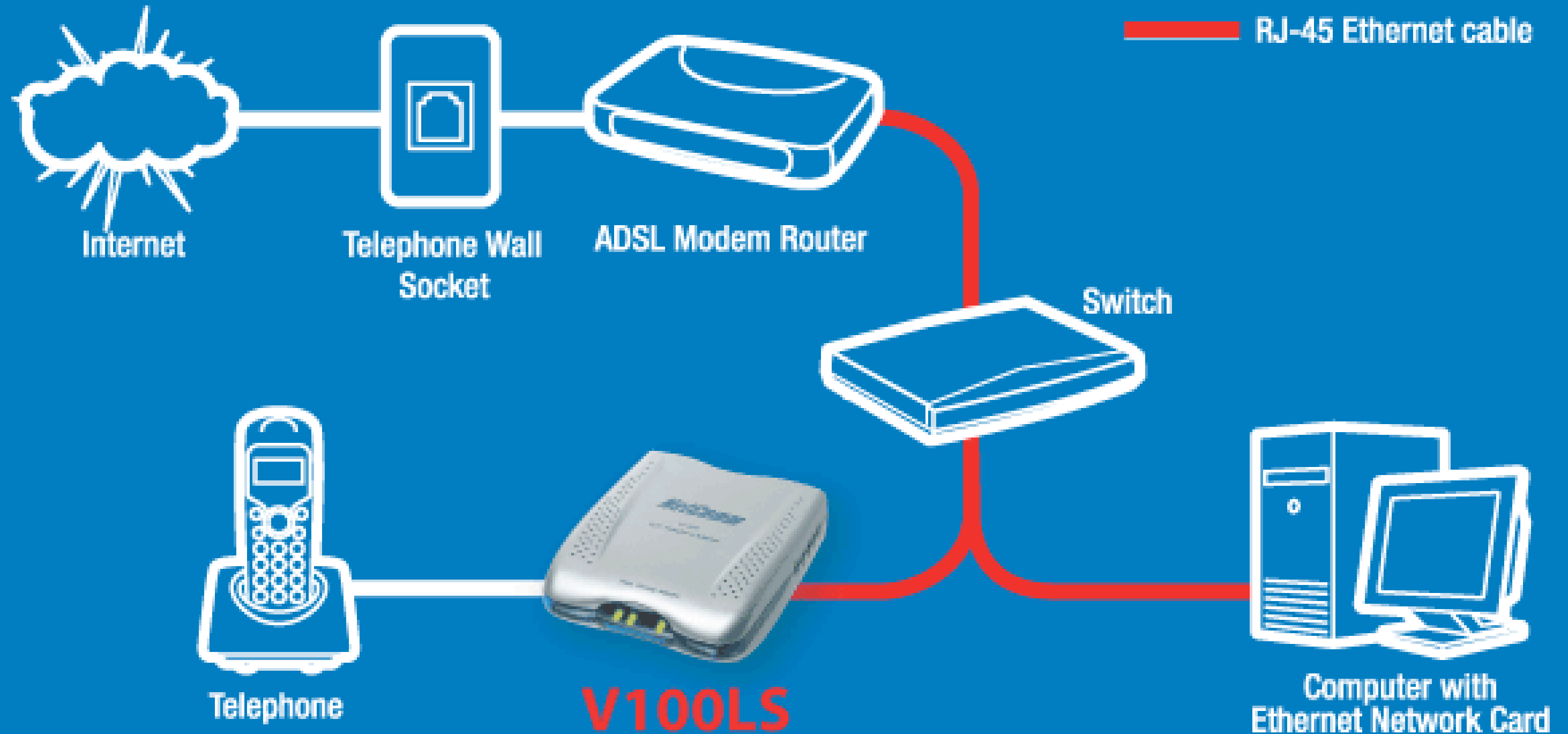


Image courtesy of mynetphone

Frequently Asked Questions (with Answers)

- ❖ **Do I need to keep my existing Phone Service?**
 - ❖ **“Home users” normally to retain at least one regular “PSTN” phone service**
- ❖ **Why?**
 - ❖ **You still a normal phone line to carry your ADSL service**
 - ❖ **Some VoIP services do not support calling emergency services like 000**

Frequently Asked Questions (with Answers)

❖ Who can I call?

- ❖ Anyone with a telephone service
- ❖ Anyone connected to the VoIP service

❖ Can I call local, interstate and overseas numbers, and mobiles?

- ❖ Yes

Frequently Asked Questions (with Answers)

❖ **Can people call me on my VoIP service?**

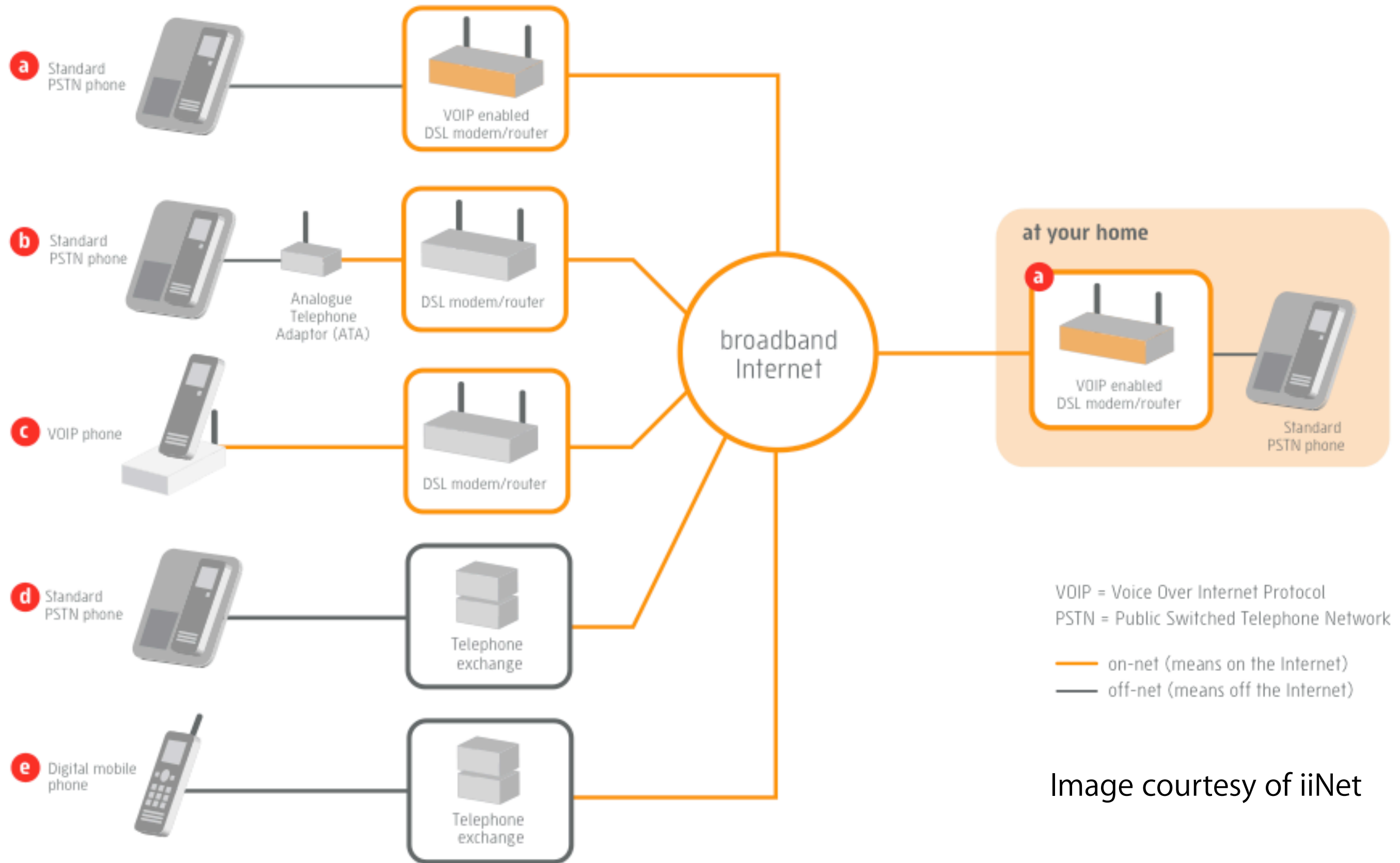
❖ **Yes**

❖ **Do they need any special equipment to do so?**

❖ **No – If you have been allocated a “normal” phone number for VoIP service**

❖ **Yes – If you have NOT been allocated a “normal” phone number, then they will to be connected via same the VoIP network**

How calls get to you



Frequently Asked Questions (with Answers)

❖ **Can I use a Fax machine with my VoIP service?**

❖ **Yes**

❖ **Does my computer have to be on?**

❖ **No (unless you are using a “softphone”)**

❖ **Does my internet connection need to be on?**

❖ **Yes**

Frequently Asked Questions (with Answers)

- ❖ **Do VoIP calls affect my monthly traffic allowance/quota?**
 - ❖ **Depends on your VoIP service**
 - ❖ **If VoIP is “bundled” with your broadband service, then usually NO**
 - ❖ **If you use a separate VoIP service not supplied by your ISP, then YES it will be counted as internet traffic**

Frequently Asked Questions (with Answers)

- ❖ **What is the Call Quality like?**
 - ❖ **The quality of VoIP voice services is at least equal to, if not better, than a regular phone service or mobile phone call**
- ❖ **Will my using the internet at same time affect call quality?**
 - ❖ **Maybe – but this can usually be avoided by using a VoIP adaptor that supports “Quality of Service (QoS)”**

Benefits of VoIP

Benefits of VoIP – Cost Reduction

Product	Line Rental	Local Call	Melb to Sydney
Telstra HomeLine Advanced	\$39.95	15¢	\$1.49 for 3 hours any time of day
Telstra HomeLine Budget	\$19.95	30¢	\$3.00 capped when made between 7pm & midnight*
iiNet VOIP	\$9.95	15¢	15¢ no time limit, any time of day
MyNetPhone SuperSaver	Nil No inbound number	12.5¢	12.5¢ no time limit, any time of day

Prices as displayed on suppliers websites on April 29, 2007
Check websites for complete terms and conditions

Benefits of VoIP – “Free” Services included

- ❖ **Most VoIP services provide the following services free of charge (or as part of monthly service fee)**
 - ❖ **Voicemail – Delivered by Email as .MP3 or .WAV**
 - ❖ **Call Forwarding (some call charges may apply)**
 - ❖ **Call Waiting (some call charges for “outbound calls” may apply)**
 - ❖ **3-way Conference Call (some call charges for “outbound calls” may apply)**

Benefits of VoIP – Establish Multiple Presence

- ❖ **Establish a “local call” presence in “remote” locations by signing up for VoIP accounts that provide “dial-in numbers” in that region.**
- ❖ **These then get routed to you “free” over your VoIP connection and you can get “local call” access back into that area.**

VoIP Services

Services – iChat AV

- ❖ Included with Mac OS X
- ❖ Supports voice, video and text chats
- ❖ Does not support calls to, nor from, PSTN phones

❖ www.apple.com/ichat



Services – Skype

- ❖ **Very popular VoIP service, but doesn't conform to SIP standards – over 21 million downloads**
- ❖ **Cross Platform support**
- ❖ **Can be used from virtually any computer**
- ❖ **SkypeIn numbers available in Denmark, Estonia, Finland, France, Germany, Poland, Sweden, Switzerland, United Kingdom, United States & Hong Kong**

❖ **www.skype.com**



Services – Gizmo Project

- ❖ **Considered by many as a “skpye–killer” as it uses industry standards**
- ❖ **Cross platform support**
- ❖ **Integrates will into websites**
- ❖ **Cool “Map” Feature shows call locations**
- ❖ **Call-In numbers currently only in US or UK**

❖ **www.gizmoproject.com**



Services – iinetphone

- ❖ **Can Bundle with iiNet Broadband accounts**
- ❖ **First major Australian ISP to include VoIP**
- ❖ **Numbers available from all Australian locations that can access iiNet Broadband services**

❖ **www.iinet.net.au/products/voip**



Services – engin

- ❖ Offers wide range of plans and services including software and hardware solutions
- ❖ No contracts
- ❖ Can get additional numbers
- ❖ Can be used anywhere in Australia (some areas only allow outbound calls)

❖ www.engin.com.au



Services – MyNetFone

- ❖ **Include plans with no monthly fees, only call costs**
- ❖ **Has great range of hardware solutions**
- ❖ **www.mynetphone.com.au**



Services – Freshtel

- ❖ Offers USB based “phone-stick” connects to any computer via USB and allows you to make phone calls using any available Internet connection, including internet cafes
- ❖ Currently only for Windows

❖ www.freshtel.net



TestYourVoIP.com

- ❖ **TestYourVoIP.com will make a call from wherever you are to one of our U.S. or international test locations (including Sydney, Australia) and report the results for “free”. It'll only take about 20 seconds if you have Java installed.**

❖ **www.testyourvoip.com**

AVoIPA

- ❖ **AVoIPA was formed in February 2005 as a trade association and aims to promote competition and self-regulation in order to encourage the development of a flourishing and innovative VoIP industry.**

❖ **www.avoipa.org.au**



Links & Notes

Raffle – Win a VoIP Service

- ❖ A **NetComm V100 VoIP adaptor** (RRP \$99)
- ❖ plus a **MyNetFone "Super Saver" account** (No monthly access fee, 12.5¢ flat-rate calls to any fixed line in Australia, 27¢/min to Australian mobiles, overseas calls from 2¢/min depending on destination)
preloaded with \$50 of credit.
- ❖ That's **400** untimed calls to fixed lines anywhere in the country, or **2000** minutes to the UK, or over **1400** minutes to New Zealand.
- ❖ Tickets on sale from AUSOM – **\$2 each**
Drawn at 3pm today

Note: Winner will need a broadband connection (preferably at least 256K upstream), a spare Ethernet port on their router or switch, and a normal phone to plug into the V100.



Supplied by
my netfone™

Notes and Links

All links discussed here today & a copy of these slides can be found online at

www.nicholaspyers.com/presentations/20070505-voip



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