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You may have heard the terms VoIP, Internet phones, SIP or IP Telephony but what are they?

Whether its IP telephony or VoIP, which stands for "voice over Internet protocol" it is all the same thing - speaking to people on telephones which are connected using the Internet. This means that you get a cost-effective method of making and receiving phone calls that also allows you to have features which you cannot get with traditional phones.

So forget the constraints of traditional telephony, clear your mind and enter the world of IP telephony..!

When did it start?

VoIP telephony started as far back as 1996 although it didn't really become popular until 2005. This was due to the growing capability of the Internet allowing IP telephony to grow...without the Internet there is no VoIP!

For many years large companies such as Royal Bank of Scotland and Tesco have used IP telephony. And it was also extensively used to help run the London 2012 Olympics.

In the past it was expensive to install the necessary hardware and only larger businesses could afford to use IP telephony and thereby take advantage of its cost savings and the features it offers. Nowadays technology has evolved to make VoIP available to every size of business. Whether you are a home-office business or a multi-national company then IP telephony can offer you cost-effective system.

How does it work?

As long as you have an Internet connection then you can take advantage of VoIP technology. The same way that a traditional telephone transmits a voice from one handset to another then so does IP telephony, the difference is that instead of using copper wires to transmit the voice it is sent over the Internet. A 'virtual' telephone line called a SIP (Session Internet Protocol) and it is created for each call that is made, meaning that you can connect to people anywhere as long as you are online.

The 'caller' sends a call that goes over the Internet to the VoIP provider who then routes it over the Internet to the 'callee' to connect the call if they are both using the same VoIP provider, if the 'callee' isn't using IP telephony then the call goes from the VoIP provider and is delivered in the traditional way to a normal telephone.
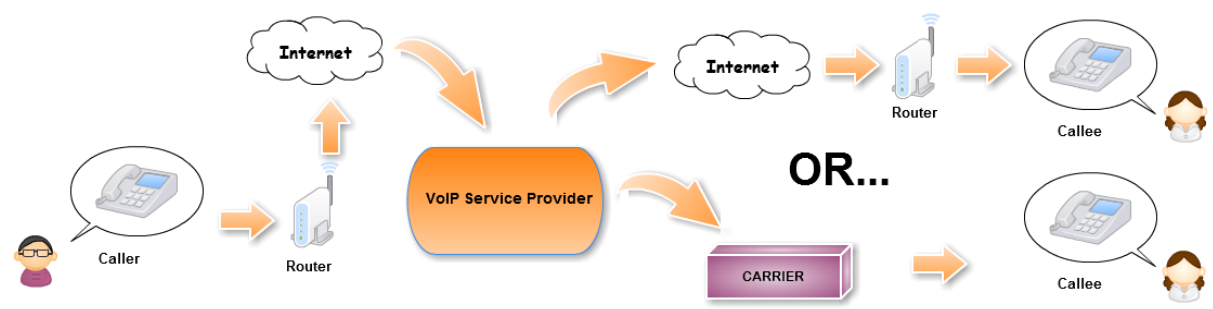
What does it offer?

The world of IP telephony is not restricted in the same was as traditional telephone systems. This is because it isn't physically constrained by wires – plus the Internet is almost everywhere…!

From a cost angle, using the Internet to deliver a telephone call next door is the same as delivering it to the other side of the world – zero, nothing, FREE...! If a VoIP call needs to be delivered outside the Internet to someone who is not using VoIP, then the call costs are usually a lot less expensive than traditional telephone charges. With the ability to use one virtual telephone line for multiple calls and multiple numbers this means you no longer need lots of fixed lines, this can represent massive savings in line rental for many businesses.

It also offers an enormous amount of features but this is what can make IP telephony seem complicated. Alongside the 'normal' features such as voicemail or "music on hold", VoIP offers a range of extra features that many people don't even know about..! Features such as voicemail-to-email, call recording, multiple numbers and multiple calls on one virtual telephone line. You can also deliver calls to multiple locations simultaneously, forward inbound calls to another landline or mobile device, send a fax-to-email, use conference calling, call barring...the list is almost endless.

There are also ways to integrate IP telephony into existing devices that you may already use. A good example of this is using a softphone. This is an application that can be downloaded onto a smartphone, tablet or desktop in much the same way as Skype, the difference being that it is set up as an extension of your phone system and hence, provided you have a Wi-Fi or 3G signal, you can make calls, transfer calls, accept transferred calls all as if you were in the office. Imagine being in Idaho, USA and accepting a transferred call from your office in East Sussex, England...for FREE!
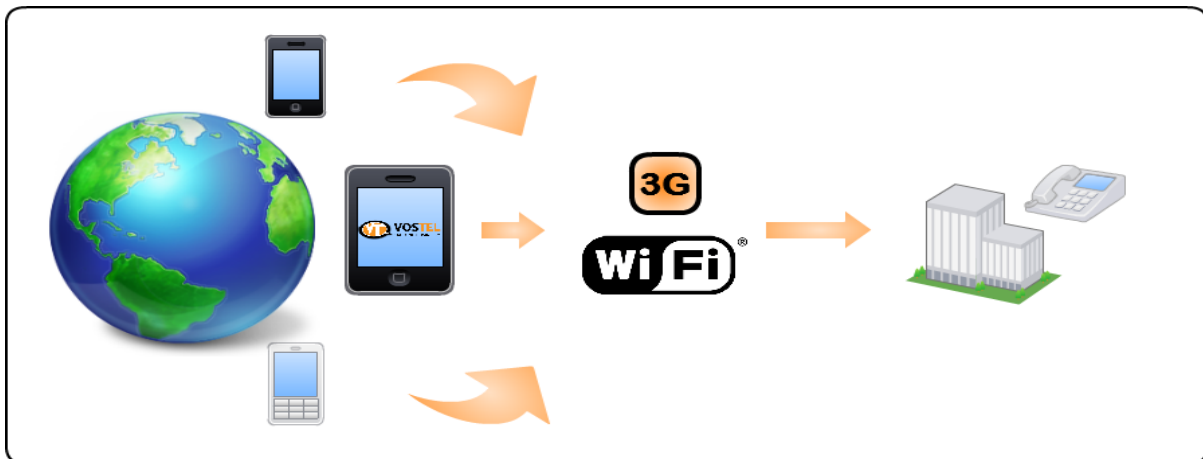
To summarise, IP telephony offers:

Cost savings – reduced line rental costs, FREE or inexpensive calls, inexpensive scalability
Features – Save costs, improve functionality, better customer experience
Flexibility – Easy to relocate, easily scalable, integrate into existing system

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Why do businesses use it?

Currently it is used predominantly in the business sector. This is largely due to the vast array of features that help and assist companies to offer their customers a better experience. The feature list also enhances a business by offering functionality that saves time and costs by using elements such as setting up a remote extension to allow a member of staff to work at home with a handset that offers all the functionality as if they were in the office.

As well as the ongoing development of features which save costs within a business, IP telephony can also show immediate cost savings - often it is line rental costs that offer the greatest reduction. Where previously a business would need a line or channel for each person this is not the case with IP telephony as multiple calls can be made simultaneously using one virtual line. So, even a small business with four incoming lines can save 75% of their line rental costs.

Call costs are also usually a cost-saving element with IP telephony. Many companies save significant amounts on in-house phone calls as they are FREE because they are sent via the Internet. Chargeable calls are often a lot more cost-effective too and it is common to find a 40% reduction against traditional service providers. International calls are even more attractive as the gap between traditional and VoIP call costs can be substantial.

With the cost savings and the features enhancements also comes a combination of other elements such as being able to relocate your telephony anywhere in the world without changing numbers (remember VoIP is non-geographic!). Also there is the ability to add new telephone numbers, handsets and lines with absolute ease and at a fraction of the normal costs.

It is easy to see why more businesses are following the VoIP route, especially now it has become a financially viable option for small and medium businesses.

What do I need?

Due to the flexibility of IP telephony solutions the requirements are often based on individual needs. It may range from a single line with an IP compatible handset right up to a stand-alone server-based system capable of running hundreds or even thousands of extensions. The cost implications of setting up an IP system can run anywhere from the cost of a family meal at a cheap restaurant right up to the cost of prestige car...and everything in between!

As most businesses already have Internet connections then it really can be a case of choosing an ITSP (Internet Telephony Service Provider), obtaining suitable IP compatible handsets and you can be up and running.

The basic requirements are an Internet connection, a VoIP service provider, IP compatible handsets and the desire to save money and utilise features...that's it really!

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Can I afford to change?

Less than a decade ago IP telephony was restricted to larger businesses that could commit to the costs of installing a mini telephone exchange as well as all the switchgear, cabling and hardware that was required to run an IP telephony system – and that was before the costs of Internet connectivity and maintenance had even been looked at.

In a relatively short time many changes have happened to allow this technology a place in every business. The Internet itself has become affordable, available and stable with speeds and bandwidth in a different class from 10 years ago. Computer processing power is now beyond the wildest dreams of the pioneers of VoIP in the mid-1990s.

One of the most significant changes in the last few years is the breakthrough of Internet Telephony Service Providers to be able to offer 'hosted' telephony solutions. Instead of each customer having to have expensive hardware to run their telephone system, a committed development program now allows an Internet Telephony Service Provider to run an enormous version of the required hardware and to 'section off' blocks to individual companies. This offers a fully featured telephony solution at a fraction of the cost, and the maintenance costs are also erased as the service provider is 'hosting' the customer's telephony requirements.

With the minimal cost outlay required to return a maximum cost saving and feature accessibility then the question should really be...can you afford NOT to change?

Other Information

Many Internet Telephony Service Providers run on a pre-pay call charge system. This is accepted as 'the norm' and is the case with even the largest service providers as well as the call routing companies. This is part of the reason why call tariffs are significantly lower with VoIP providers than they are with traditional fixed line telephone service providers.

Contract periods can often be an issue with some service providers tying customers into longer and longer timescales. But with the flexibility that IP telephony offers it is not advisable to enter a long contract period as this can impede the ability to upsize, downsize, change or restructure your telephony requirements. It is becoming increasingly common to find 2, 5 and even 7 year contractual periods being offered, but there are VoIP providers offering monthly contracts.

Quality, resilience and stability are often raised as potential issues when VoIP is mentioned. It should be noted that call quality and call stability is only as good as the Internet connection that the telephone system operates on. Most IP calls use approximately 256k per call so broadband bandwidth and speeds are important factors and a 'run of the mill' upload speed will accommodate 2-3 simultaneous calls. With the implementation of fibre optic broadband across the UK this opens up huge opportunities for IP telephony with possibilities of 30, 40 or even 50 simultaneous calls on one fibre connection. This can represent enormous line rental cost savings

When choosing a suitable ITSP it is well worth ensuring they are an independent IP telephony platform and not a third-party 'call minute re-seller' or a 'service re-seller'. This ensures you have access to the correct service and support when required and also that you are not paying a 'middle man' for your requirements.

Summary

Whether referred to as VoIP, IP telephony, SIP or Internet Telephones this technology represents a major shift in telecommunications. In the USA and Australia IP telephony is commonplace within every size of the business sector and fixed line telephony is slowly disappearing.

The cost-saving, feature-rich and flexible world of VoIP has often only been available to larger companies who could absorb the cost implications. It is only in the last few years that it has been viable to small and medium size businesses due to the commitment of forward-thinking VoIP companies to develop their platforms in line with the requirements of this sector of the marketplace.

The cost-saving attributes are seen in a reduction of line rental costs, FREE and cost-effective call tariffs along with the hidden savings that are associated with working from home, remote from office locations and by utilising softphones.

The features that are apparent with IP telephony are too many for this document to list, and they are being added to on an almost daily basis. Many service providers will offer a bespoke solution for individual needs and they have plenty of options when creating the ideal answer for a client's needs. Often many people are unaware of what is even possible so don't be afraid to do some 'blue sky thinking' and give a perfect scenario...it is probably achievable!

Scalability and flexibility are areas that are really powerful with this technology with multiple calls via one line, calls being delivered to multiple worldwide destinations simultaneously, ease of re-location and retaining your telephone number. The flexibility of IP telephony is apparent as is the ability to deliver two or more telephone numbers to one handset, obtain a new telephone number for a few pence and much more.

IP telephony, VoIP, Internet telephones, SIP...whatever your terminology is, this isn't just a phase. It is one of the most dynamic changes to telephony since March 10th 1876 when Alexander Graham Bell made the first ever telephone call and said "Come here Watson, I want you"

To find out more about how VoIP will help your business call VOSTEL on 01323 884884
or email us on hello@vostel.co.uk

Glossary

The world of technology is crammed full of acronyms and abbreviations, below are some of the ones you will expect top come across within the world of IP telephony...

ADSL (Asymmetric Digital Subscriber Line) – Technology enabling faster data transmission over telephone lines

Auto Attendant – A feature to forward, park or deal with calls automatically

Codec – A utility that allows data packets (speech) to be compressed

DDI or DiD (Direct Dial Inward or Direct Incoming Dial) – A method of forwarding a call to a particular destination

DTMF (Dual-Tone Multi-Frequency) - Telecommunication signaling over analogue telephone lines

Failover – Backup system or action in the event primary functionality fails

Fax-to-Email – Convert fax messages to .TIF images and send to specified email address

Hosted IP PBX (Internet Protocol Private Branch eXchange) – Virtual digital telephone exchange operated and maintained by provider on remote server

iP PBX (Internet Protocol Private Branch eXchange) – Small digital telephone exchange

ISDN (Integrated Services Digital Network) – A set of communications standards allowing simultaneous digital transmission of voice, video and data

ITSP (Internet Telephony Service Provider) – The supplier of Internet telephony

IVR (Interactive Voice Response) – A feature that allows the user to use voice and/or dial-tones for directing calls

LCR (Least Cost Routing) – Identifies a call destination and sends it via the most cost-effective route

NVP (Nice VosTel People) – Members of the VosTel IP telephony company

PSTN (Public Switched Telephone Network) – Telephony in the 'traditional' way

Pots and/or Pans - Plain Old Telephone Services / Positively Amazing New Services (Yes, really!)

Pre-Pay – Forward payment of credit for telephone calls

SIP (Session Initiation Protocol) Trunk – The way a VoIP connectivity is achieved, a virtual telephone line

Soft Phone - An application on computer, laptop, tablet, PDA, smartphone or mobile device that acts as a telephone

TDR (Time of Day Routing) – Time dependant handling of incoming calls

VoIP (Voice Over Internet Protocol) – Technology that allows telephone call to be sent via the Internet

Voicemail-to-Email – Convert answerphone messages to a sound file and forward to specified email addresses