



Business IP Telephony

Table of Contents

IP Telephony: An Overview.....	Page 2
Communication Challenges faced by Businesses.....	Page 3
The Benefits of IP Telephony.....	Page 4
Magnet’s IP Telephony service.....	Page 5
Some Common Misconceptions.....	Page 6
Are you ready for IP Telephony?.....	Page 7
Information on Magnet Business.....	Page 8
Contact us.....	Page 9
Glossary.....	Page 10
Some Interesting Numbers.....	Page 11

IP Telephony: An Overview

IP (or Internet Protocol) Telephony is something which many business people will have heard of recently, yet few truly understand. This whitepaper aims to explain the technology and its benefits, and will identify whether it is right for *your* business.

The background...

The traditional telephone system was invented by Alexander Graham Bell and put into commercial use in 1878. It is often referred to as POTS- “**P**lain **O**ld **T**elephone **S**ervice”- and converts voices into electrical impulses, transmits them via wires and converts the impulses back to sound at the other end.

In the early years of telephony a call was routed through a switchboard whereby operators connected one caller to another by plugging two wires into a panel. This system was enhanced further by the development of an automated telephone exchange.

IP Telephony is the next advancement in telephone systems. This technology (using VoIP) converts voice calls into data which can be sent as “packets” over the internet and again are converted back into sound at the other end of the line.

Why should you consider this service...?

Regardless of the growth of email as a means of contacting colleagues, clients and suppliers, if people perceive that you aren't at the end of the phone to deal with their queries, your business will quickly lose credibility. Thus your telephone service is a key part of your company's overall communications structure.

IP Telephony take-up by SMEs continues to grow as more businesses become aware of the potential cost savings and the added benefits of the technology. Additional benefits will be discussed in greater detail in this paper.

Magnet's IP Telephony

Unlike many other providers of IP Telephony, Magnet Business does not use the public internet to deliver its service. Instead, Magnet uses its own private uncontended (ie, not shared) broadband infrastructure. This makes for faster, clearer and more reliable transfer of voice services.

Communication challenges faced by businesses

Cost

Obviously cost-effectiveness is of great concern for all businesses. The cost of setting up communications - from PCs, to broadband, to reception staff to line rental and (often most expensive of all) telephone calls - can be monumental. IP Telephony calls differ from phone calls in that they don't depend on an ongoing cost to stay on a traditional phone line, meaning that callers aren't as severely charged for long phone calls. Also, with calls over the internet, there is little difference in cost between local and international calls.

Obsolescence

With technology accelerating at a frenetic pace, some businesses are concerned that a new software or service might become obsolete upsettingly soon. A good rule of thumb is to utilise advances that compliment, and not replace traditional systems. Electronic is incrementally replacing analogue in all areas of technology – from music to mail. IP Telephony is the next logical step in telephone communication.

Missed calls and phone tagging

In a busy work environment, it can be challenging to give all calls the attention they deserve, and indeed sometimes it's an achievement to even answer all incoming calls. Phone tagging is an even greater (and arguably more solvable) issue.

Set-up

Will a new service be expensive to set up? How disruptive will it be to the workplace?

Space

The size of a business's premises, the availability of a server room, the number of available workstations and even the size of the desks are factors to consider for any business. The mobility of VoIP (useable on laptops where there's WiFi), means that employees can work from home. Or, if they're working at an office desk, a headset connected to a laptop is certainly more space-efficient than a PC and phone.

Benefits of the Technology

Usability

Shiny new devices and services are well and good, but of little use if the staff aren't comfortable using them. It's a legitimate concern: While employees' technical nous varies wildly, technology has to be user-friendly to progress beyond the market-research phase. VoIP can be set up to work via old-fashioned handset phone, though it's just as easy to make calls by pressing a button on a PC's desktop.

Cost-efficiency: numerous users over the same broadband connection is cheaper than traditional, old fashioned line rental. Calls (especially international ones) are significantly cheaper. Initial set up costs are also a lot lower than a traditional phone system. Line rental costs are also eliminated.

Mobility: with wireless broadband, workers can use landline-quality voice-over-broadband anywhere. It's particularly useful for home-working and business trips.

Agility: Set-up and maintenance or extra telephone lines can be added much more easily, addressing the various issues associated with staff moves, additions or changes.

Miss no calls: and reduce 'phone tag' by configuring numbers to multiple devices.

Give the impression that you're a larger organisation: by being always available, having virtual offices and number ranges

Additional information on calls: Connecting a phone call to a PC opens a world of possibilities. Because the phone calls are directly connected to the computer, organisations have access to detailed records for each phone call, including how many calls were missed, how long it took for the calls to be answered and even how many personal calls are made by an employee.

More versatility with voice data: voicemails can be saved and sent via email and listened to from a PC or laptop.

Attract and Retain Staff: many employees prefer to work from home, and because IP Telephony allows for cheaper and more efficient home working, it can make employers more attractive to potential job candidates.

Magnet's IP Telephony Service

Magnet's Voice and Data service, Voicenet, enables customers to harness the full potential of IP Telephony and uses Magnet's own private broadband infrastructure for its delivery. It's arguable that the most negative impressions of IP Telephony stems from organisations that offer the service over public internet- leading to slower bandwidth and thus poorer sound quality and even dropped calls. The difference in using a private internet line is unmistakable: It's higher speed and much higher call quality.

Due to the high quality uncontended nature of Magnet's lines the company can give the end user the bandwidth needed to receive high definition voice calls whose quality surpasses that of traditional analogue telephony.

The other crucial way that Magnet's IP telephony differs is that it does not switch calls over the public internet. All the IP calls are routed through Magnet's own private MPLS data network meaning that it is in full control of the packets carrying the voice traffic. We can deliver these voice packets without the problems that traditional VoIP companies have with jitter, delay and public internet routing.

These are the 2 key underlying factors that enable Magnet to deliver truly Enterprise Class IP solutions that is in no way comparable to applications offered over the public internet and no other company or carrier in Ireland can deliver a comparable solution today.

Using a "no-size-fits-all" approach, Magnet's offerings are tailored to individual business requirements and offer the flexibility to change broadband speeds and voice minutes as well as add extensions and lines with minimal disruption.

The service is available as a fully managed solution for companies with limited or no technical resources. Larger companies, with internal tech departments, can also choose to sign up to the on-site option. A dedicated Magnet account manager is assigned to each customer to train staff on how to use the system and to deal with any further issues which may arise.

With speeds of up to 15Mb and a range of competitively priced voice minutes covering local, national and international calls, Magnet's offering can lower your company's telephony costs by on average 20% when compared to rival operators.

Prices for Magnet Businesses bundled packages start from €146.80 per month (ex VAT) for 10Meg broadband, 3 lines and bundled national and mobile calls.

Some Common Misconceptions

Overuse of a single broadband connection can lead to sluggish, unreliable service.

This might be true in the case of some providers, but Magnet's broadband is in fact the fastest in the country, meaning that every broadband-based service (including VoIP) is both reliable and fast.

The sound quality isn't as good as traditional phone lines

Anyone who has used public internet VoIP providers will be familiar with the problems of using VoIP over the public internet, problems with delay, broken conversations and sometimes dropped calls. In the case of Magnet, the IP Telephony service isn't delivered over a public network, but a private one, making for faster, clearer voice communications.

The technology is only in its infancy, and may suffer teething problems

In fact, IP Telephony and VoIP have been in existence since the early 80s, allowing for nearly two decades of R&D. This is not a nascent, experimental technology, but a fully developed service embraced by millions.

It's expensive

Like many technologies, IP Telephony reduces costs for a business, especially in installation and calls. Phone calls, in fact, are markedly cheaper when using IP Telephony. Users who travel for business will notice a huge difference in cost between international mobile roaming charges and simply using IP Telephony.

It can only be operated via computer

While IP Telephony needs broadband to operate, a conventional handset can be connected straight to the broadband connection without a PC and those on the move can use it on their laptop with a hands-free kit. In some instances, mobiles can operate fully with IP Telephony.

Installation is complex

Gateways are preconfigured prior to installation, leading to minimum interruption. In the case of Magnet, an engineer will visit your premises not only to install the system, but to show staff how best to use it. Magnet can also provide a high-industry standard broadband.

Are you ready for IP Telephony?

IP Telephony is an amazing service, but it is not, admittedly, appropriate for all businesses. This might depend on simple non-IT issues like frequency and volume of phone calls, or on slightly more complicated ones, like data usage. Below is a list of questions a business might ask before choosing this technology:

Practical

How many phone calls does your business make?

-The main advantages of IP Telephony are communications-related. If your business makes numerous calls (especially international ones) and has, for example, a sales team that's dependent on phone calls, then a service like this might be ideal for you.

How many of your workers currently work remotely?

-Although IP Telephony is hugely beneficial to remote workers, if you have a significant number of employees working from home phone lines, a mass changeover involving office and home phone lines may not be feasible.

How many employees and phone lines do you have?

-As mentioned, some of the greatest benefits of IP Telephony are based on making, receiving, and managing phone calls. If phone use is minimal, then it may not be worthwhile changing over.

Technical

Data Usage

-The volume of data traffic on your network is a deciding factor. If your network is swamped with traffic (with, for example emails, downloads, data and file transfers), then your IP Telephony might suffer.

How much bandwidth does your system have?

-For example: a typical VoIP call uses about 30k of IP bandwidth, so to carry ten concurrent calls you'd need about 300k of IP bandwidth.

Is your business operating from an area covered by broadband?

-While broadband coverage in Ireland is expanding rapidly, unfortunately there are some areas that aren't covered. IP Telephony is only usable in a broadband catchment area.

About Magnet Business

Magnet Business, the business services division of Magnet Networks, was established to provide broadband connectivity and internet services to Irish SOHO, SME and corporate customers nationwide. As well as having 39 unbundled exchanges nationwide enabling it to provide advanced xDSL based services including SHDSL and ADSL2+ the company has an extensive fibre based network in Dublin, Galway, Cork, Limerick, Waterford and Portlaoise.

Magnet Business also offers standard DSL and Wireless broadband, security solutions, online backup, managed email, hosting, teleworking and remote access solutions. These services are available both directly and through a channel partner base consisting of IT maintenance companies, systems integrators and telcos. Magnet Business was established following Columbia Ventures Corporation (CVC) acquisition of wireless specialist Leap Broadband and business ISP Netsource.

CVC is the parent company of Magnet Networks and currently holds extensive business and telecommunications interests in the US, Europe and Australia. Other CVC assets in Ireland include Dublin-based Hibernia Atlantic, owner/operator of a 12,200 km-long transatlantic fiber-optic network connecting the UK, US, Canada and Dublin. The CVC group companies serve over 160,000 business customers across the US, Ireland and UK networks.



1800 789 789

www.magnetbusiness.ie
sales@magnetbusiness.ie

Glossary

IP Telephony

Voice over Internet Protocol has been described as “broadband phone”, which goes some way to describing its general principles. As opposed to using separate lines for internet and phone, IP Telephony uses one line for both web and phone use.

Packet Switching

Packet switching is a network communications method that splits data (be it text, audio or video) into chunks called packets, that are then routed over a shared network.

IP

Internet Protocol is the packet switching protocol used to communicate data across a network. (In this context, protocol is the rules governing communication between devices.)

Fibre

Fibre-based broadband (as opposed to traditional copper-based broadband) is a more advanced vessel for broadband to travel on. Its capacity and speed are beyond comparison with traditional copper-based broadband, but unfortunately, it's not yet available in all regions.

QoS

Quality of Service is the ability to provide different priority to different applications or users, or to guarantee a certain level of performance to a data flow. Quality of service guarantees are important if the network capacity is insufficient, especially VoIP. In the absence of network congestion, QoS mechanisms are not required.

ICT

ICT stands for Information and Communication Technology.

Some interesting numbers

According to research firm TeleGeography, at the end of 2007 there were 25.3 million consumer VoIP lines in service in Western Europe, up 69 percent from 15 million in 2006. There were 6.5 million VoIP subscribers in 2005. **That number is going to top 37 million by end of 2008, nearly 29 percent of the total fixed lines in Western Europe.**

In December 2006, iReach conducted a survey of 250 industry CIOs across 8 verticals on their plans for investment in ICT in 2007. They discovered the following:

- Cost and convenience are the two main benefits of convergence apparent to businesses, with better network management also mentioned.
- 31% of organisations are currently involved in converging voice and data networks to some extent.
- Investment in convergence increased in 2007. 29% surveyed at the beginning of 2007 planned to increase spending in the technology that year.