Unpacking the Acronyms

What technological acronyms stand for and terms mean but more importantly; what they could mean for your business

The business world is complex enough, and sometimes it may feel that the technology we are now so reliant on, though undoubtedly making our lives easier and business practice more efficient, contains language that adds to this complexity. The sheer number of acronyms and vague terms can seem daunting. They shouldn't be. This paper will seek to simplify technological jargons, and unpack and explore the meaning of the many acronyms. It will also show how an understanding of this language can ensure you are getting the most out of contemporary technological solutions, and take your business to a new level.

Telephony: *Once upon a time 'telephone' would have been the only word one would have really needed to know for anything to do with making calls. However, as technology advances and we ourselves become technologically aware, other options have become available and with them their associated terms and acronyms.*

PSTN: *Public Switched Telephone Network* – More than likely the telephone you use at home, and quite possibly your business telephones are connected via the PSTN. It is the traditional telephone system, also known as **POTS** (*Plain Old Telephone Service*) that carries voice over copper wires to an automated switchboard which then connects users. PSTN still dominates the market place, mainly because of its reasonable reliability. However, its lack of versatility and higher associated costs with both installation and bills, compared with emergent technologies, is seeing its market share slowly diminish. PSTN telephony also lacks scalability with new devices requiring often complex and costly re-routing of wires.

VoIP: *Voice over Internet Protocol* – The main contributor to PSTN's decline in market share is undoubtedly VoIP. Simply put; calls are made over the internet instead of copper wires. As all that is needed is a router and handsets, installation is much simpler and cheaper than PSTN telephony. Because calls are made over the internet they are included within your monthly internet bill making calls essentially free. VoIP also comes with a multitude of extras including; video-calling and conferencing, voice-mail that can be put into transcript and received as email, the ability to send text messages, intelligent call-forwarding and queuing and more still. VoIP systems can be easily upgraded with usually free downloadable software, and offer exceptional scalability with devices able to be added and removed at will.

PBX: *Private Branch Exchange* – Basically an in-house automated switchboard for connecting calls within a business premises. A PBX is particularly useful for businesses that operate in larger buildings where going to find someone to speak to them is impractical. They also allow users to share a certain number of external lines, meaning businesses can reduce the number of lines for which they have to pay. There are five main types of PBX.

Traditional – Like the one described above, they connect internal calls and allow users to share a set number of lines. To install, they require a large amount of equipment with expensive down-payments and maintenance fees. Most companies with traditional PBXs installed them before VoIP was an option. When installing new PBXs today, almost no companies at all install traditional ones.

IP – *Internet Protocol* – In many respects an upgrade from a traditional PBX, an IP PBX connects calls over the internet. With no copper wires, an IP PBX is only limited by bandwidth space on a business' internet connection. Compressed into digital packets, each call takes up very little space. Overall installation costs are lower than for a traditional PBX, and bills are reduced drastically. For companies that wish to have control over how their PBX is configured, an IP PBX is a sound option.

Hosted – Overall the most popular choice amongst businesses. A hosted PBX is owned, stored, and maintained off-site by the VoIP provider. Businesses simply pay a monthly fee and are able to enjoy all the benefits of an IP PBX, but with none of the installation expense or maintenance worries. This makes hosted PBXs a favourite amongst smaller businesses.

Virtual - Similar to a hosted PBX and sometimes referred to as a 'Cloud PBX', virtual PBXs tend to be cheaper than their hosted counterparts, but offer fewer features. Generally, they connect only internal calls, and are opted for by companies that only require features such as voicemail and call-queuing.

Hybrid – For companies that wish to retain an on-site traditional PBX, but also enjoy the features that come with hosted solutions. Hybrid systems can offer optimal flexibility and scalability. Users can be added and removed at will without impact on IT operations, and are popular with company owners that recognise the value in VoIP, but don't want to wholly commit to it. As both the on-site *and* hosted PBX are available, a hybrid alternative also gives near faultless disaster recovery as there is immediate back-up if one fails.

MDM: *Mobile Device Management* – This refers to the facility that unifies a workforce's mobile technology (smart phones, tablets, laptops). It allows devices to store the same data, software, and up-to-date customer information and be simultaneously, remotely upgraded. For a company whose workforce is mobile, MDM makes a drastic difference to overall efficiency.

SIP Trunking: *(Session Initiation Protocol) Trunking* –Effectively a SIP trunk is an industry standard method for achieving VoIP. It is a virtual line that replaces legacy ISDN (see below) lines and acts as a gateway to different functionalities, one of which is VoIP. The benefits to a SIP trunk are many. They are cost efficient compared with traditional circuits. Typically, businesses save up to 50% or more on their monthly communications bill, with most SIP trunk providers offering unlimited inbound and outbound phone calls. There are also better disaster recovery options. If the PBX fails, businesses suffer a major power outage, or building damage the SIP trunks will still work. You can simply re-route calls to any telephone number in the world. Geographic location independence is afforded whereas traditional voice is attached to a physical location. The flexibility of SIP trunking allows call routing to any IP address worldwide, including home offices and smart phones.

Internet: *Without question the technological advancement that has had the greatest impact on how we do business. Few businesses can survive these days without it. The internet offers many functions but the terminology can be off-putting. Below are some of the terms and acronyms you are likely to come across, and what opportunities they present.*

ISDN: *Integrated Service Digital Network* – The original high speed internet network which replaced its slow and noisy dial-up predecessor. ISDN connection to the internet uses the same copper wires to digitally transfer information that are used for connecting PSTN telephone calls. ISDN internet service also allows for multiple data transmission, so telephone calls and data downloading can be done at the same time. The disadvantage, however, is that the digital clarity of ISDN voice communication, and its speedy data transmission come at an extra cost. ISDN is billed like a phone line, but with an added cost for service. While this equipment and service continue to remain costly, it is becoming more and more obsolete in the modern world.

ADSL: *Asymmetric Digital Subscriber Line* – More commonly referred to as broadband. Like an ISDN connection, ADSL/broadband sends data through the existing copper wires but uses them differently. The speed of data packets sent through an ADSL/broadband connection are considerable compared with ISDN which makes for quicker internet access and download speed. Also, with a monthly price agreed, there is rarely a limit on data usage. The term 'asymmetric' refers to the fact that the majority of the bandwidth is devoted to downstream traffic, sending data *to* the user.

HDSL: *High bit-rate Digital Subscriber Line* – Sometimes referred to as a 'symmetrical' line, which simply means that downstream and upstream speeds are equal. It is popular amongst businesses because it supports the reciprocal nature of much business interaction. Whereas a domestic residence requires more downstream speed for surfing the net, streaming music and videos etc, many businesses require more upstream speed for two-way communication be it emails, video-conferencing or whatever multimedia channel they choose to use.

Fibre-Optic: Currently the fastest means of connecting to the internet. The term refers purely to the cable itself which contains strands of glass or plastic, rather than the traditional copper wire, through which data is sent as light pulses. It requires no special equipment or software. At the moment, fibre-optic connection is still location based. It is more expensive and installation takes longer than ADSL or HDSL but, if your business operates in a fibre-optic supplied area and relies heavily on the internet, the difference it will make is considerable.

SaaS: *Software as a Service* – Sometimes referred to as 'on-demand software'. SaaS allows users to essentially rent software applications as and when they need them, eliminating the need for building servers, installing memory-sapping applications before then configuring them. The provider covers maintenance costs, and SaaS provides SMBs the option of using software that hefty licence fees would price them away from. With SaaS solutions existing in the Cloud environment, new users can be easily added and removed allowing for scalability. All upgrades to software are managed by the provider, at no extra cost.

PaaS: *Platform as a Service* – PaaS refers to computing platforms that can be used, usually for a monthly agreed price, to then develop and host websites and applications. The actual

programming and coding is all done by the provider, so the user can then deploy the tools the platform delivers to build their own blogs, websites, applications etc. PaaS allows even individuals with basic ICT skills to create a digital environment, features can be changed as and when, multiple users can be allowed for the same project, and security measures are managed by the provider.

IaaS: *Infrastructure as a Service* – Essentially another name for Cloud computing. Rather than spending money on expensive, bulky, and complex servers, businesses rent space from providers on servers housed in data centres. The advantages are numerous. Physically more space is created in premises, costs can be saved on employing an IT department as maintenance, upgrades, security, and uptime is all taken care of by the provider. Should the worst happen and the business premises become unusable, data can still be accessed remotely and scalability is effortless with increases in data easily stored. For many IaaS users, the primary benefit is the fact it allows them to concentrate on running their business, and not get waylaid with ICT issues.

Firewall: There's no real secret to what a firewall does, or how it works. Essentially it is a digital filter which only allows access to data that it has been configured to approve. For businesses, firewalls can be used in different ways. Not only can they be used to filter out and deny access to malware and viruses, but also to limit how a workforce can use devices. They can be configured for instance to limit access to certain websites, to prevent employees from sending certain kinds of emails, to prevent outside devices from connecting to the network, the permutation of configurations is almost limitless. To protect your businesses data and ensure productivity, firewalls are necessity.

DIA: *Dedicated Internet Access* – When a private residence or business has broadband installed it usually on the understanding that the connection speed will have a maximum, or 'best effort' of around 25mbps. Remembering that lines are shared between premises, this means that if everyone in a given area connects to the internet, congestion arises, and connection speeds drop. As most households use the internet differently and at different times, this is mostly satisfactory, as congestion is uncommon and is more of a temporary nuisance than anything else. For some businesses though, slow-downs and sporadic service is unacceptable and can damage productivity, and thus profits. DIA works by providing a *minimum* speed, rather than a maximum one. The best way to think of it is as purchasing a private lane on the motorway. No matter how bad traffic gets, you can always drive at the same speed because you are the only one ever on your lane. For companies heavily reliant on internet access, the additional cost of purchasing DIA can be dwarfed by potential losses due to internet down-time.

Network: *In order for businesses to communicate internally and share and use all the data needed to operate, setting up a network is essential. Depending on the size or nature of a company, network requirements will differ. Picking the right one with the right features can be critical to efficiency and success.*

LAN: *Local Area Network* – As the name suggests a LAN connects devices within a premises or small geographical area such as an office, school, or group of buildings. With relatively few devices part of the network, connection speed is good, maintenance costs are low, high bandwidth is available and scalability is simple with adding new devices coming at a small cost. The LAN is usually owned, controlled, and managed by the organisation, and separate LANs can be connected via telephone lines or wirelessly.

WAN: *Wide Area Network* – Again, as the name suggests, a WAN is a network of devices that can cover the globe. The most obvious WAN being the internet itself, which is really just a network of devices storing and sharing information. As mentioned above, different LANs can be connected across long distances at which point they effectively become a WAN.

WLAN: *Wireless Local Area Network* – Just like a normal LAN except connection to the network is done wirelessly allowing for greater mobility as the workforce aren't consigned to their desks.

VPN: *Virtual Private Network* – For most companies data is critical, so when using a WAN provider to connect LANs, concerns might arise as to security. It is at this point a business might consider deploying a VPN. A VPN will connect devices over the internet but encrypt the transfer of information making the transfer highly secure. Of course, it depends on which VPN provider you choose. Free VPNs are available but they often monitor the content of information to provide tailored ads and security is rarely as stringent as paid-for VPNs.

MPLS: *Multi-Protocol Label Switching* – Without getting into the technicalities, MPLS is a method of transferring different packets of data across lines whereby the packets are assigned different 'labels', meaning they can be processed quicker. This allows for faster access to information, but provides other important benefits as well. QoS (Quality of Service) is enhanced so as well as faster connection speeds, users can count on greater reliability and voice quality. Critical functions can be prioritised providing those which are most important to your business more bandwidth. MPLS networks are also pro-actively managed and monitored ensuring a greater degree of security.

UC: *Unified Communications* – Putting all the methods of communication a business uses in one place. The UC provider will supply a platform on which all modes of communication are brought together on one screen, and can be accessed from any device be it PC, tablet or smart phone. By combining all the tools into one monthly cost, savings are significant and further savings still are made on travel costs, as more business can be completed remotely. Reducing the need to travel makes UC one of the 'greenest' technologies available as carbon footprints are reduced. Integrating UC into a network can dramatically improve efficiency. By getting in touch with a person via the best method for them, businesses become able to increase productivity by ensuring workers always get the right information, from the right person at the right time.