

Broadband solutions for SMEs

in association with



Get in the fast lane



Until about five years ago, fulfilling SMEs' data requirements was relatively complex. You'd more than likely have a website that acted as a catalogue for your company, offering advice on your products and how to obtain them. In addition, you'd probably have given your staff internet access from a dial-up connection. For your more heavy duty communication needs, such as sending and receiving business critical data in batch processing, etc, you'd probably have installed a dedicated high-bandwidth leased line.

Such set-ups are still common at a lot of companies like yours but their effectiveness is still open to question. For example, with a dial-up connection, how long does it take to perform routine tasks like downloading large files such as graphics, presentations or programs? Such activities can, over the course of a normal day, add up. Also, with dial-up's pay-as-you-use model, how can you accurately predict what the typical monthly costs of this will be? Can you guarantee that sessions won't be timed out at vital moments, when you are making a transaction?

If such issues are causes for concern in your company, then it is about time you investigated the benefits of a broadband internet connection.

With broadband, large files can be accessed in seconds – broadband will give you more time to do more business. Yet broadband offers much more than speedy internet connection; it can be an agent of change for your company. Broadband is a platform, not merely an internet access mechanism. With a broadband connection you can have internet and heavy duty data transfer on the same platform. Furthermore, the total bandwidth of a broadband internet connection can be sub-divided so that one portion handles data while another is used to support something like voice data. Furthermore, broadband will support efficiently and cost-effectively flexible and remote working and hosted online applications, such as remote storage and remote application usage, website/internet creation, net meeting and document sharing, and remote IT support services in general.

The many advantages to be gained from broadband can only be obtained, however, if you know exactly how to implement it cost effectively within your business. You need to know the appropriate broadband access mechanisms, the technical issues, the applications, the service issues, the limits and the possibilities. Also, you need to know why and how broadband can act as an agent of change for your business and what return on investment you should expect.

Highlighting all of these issues will be the aim of this supplement. In essence, we aim to show how broadband will enable you to move from adapting existing processes to transforming your business.

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Life in the fast lane

Ross Bentley looks at the various access mechanisms that you can use in order to acquire a broadband service. What are the key issues that you need to know in order to make sure that you get the broadband system right for your company?

It only seems like yesterday that the internet arrived in a whirlwind of dotcom launches and ebusiness strategies. Bust followed boom, but behind the headlines a quiet revolution has been going on as an increasing number of UK businesses sign up to broadband. For many the slow download speeds associated with dial-up connections are a thing of the past: UK plc has finally got the internet service it deserves.

A recent study produced independently by Booz Allen Hamilton for the Department of Trade and Industry (DTI) shows that 69% of UK businesses are now using broadband and that DSL (digital subscriber line) connections increased by 11% last year alone.

The report says the UK ranks third behind Sweden and Ireland in its business adoption of ICT. UK businesses, it says, are using the higher connection speeds and increased bandwidth broadband on offer to enable the adoption of new technologies such as voice over IP (VoIP) and desktop video conferencing that allow a more sophisticated interaction with customers and suppliers online.

"Broadband has become business-critical and is now the lifeblood of many UK companies," says Allan Ryan, broadband channels director at Easynet.

The revolution look sets to continue. By the end of this year, BT says it will have broadband-enabled over 4,000 of its exchanges and provided some form of broadband service to 99.6% of the UK. At the same time, it plans to start trialling a new form of ADSL (asymmetric digital subscriber line) that will offer connection speeds of up to 18Mbps.

Broadband can be delivered via xDSL, ethernet, cable, wireless or satellite, and is a term that is used interchangeably with high-speed internet connections. Various definitions of broadband assign a different minimum data rate; however, it is generally agreed that any technology offering more than 128Kbps is a broadband service.

Broadband also removes the need for continual reconnection to the internet, allowing you to send and receive information 24 hours a day. Being permanently connected means corporate resources are available to remote users around the clock. Sean Stephenson, head of products at Pipex, says the demand for broadband virtual private networks (VPNs) to connect offices or remote workers is a major driver of broadband adoption in the UK.

Lance Spencer, director of products at Tiscali, points to the low costs involved as another factor. Using VoIP and a DSL (digital subscriber line) connection it is now possible to install and maintain a remote worker with their own extension number connected to a corporate network for less than £1,000 a year. "The cost savings compared with a lease line are making remote working much more possible," says Spencer.

High bandwidth

The vast majority of these broadband connections are delivered through ADSL technology. ADSL transmits digital information at a high bandwidth on existing phone lines to homes and businesses. Unlike the regular dial-up phone service, ADSL provides a continuously available connection and simultaneously accommodates analog



(voice) information on the same line.

ADSL is asymmetric in that it uses most of the channel to transmit downstream to the user and only a small part to receive information from the user. It is generally offered at downstream data rates from 512Kbps to about 6Mbps.

Mike Galvin, director of network operations at BT, says ADSL was designed specifically to exploit the one-way nature of most multimedia communications where large amounts of information flow towards the user and only a small amount of interactive control information is returned.

"The only information most businesses send down the line is the odd email and a request for a web page," he says. "Users expect to click on a web address and have that information available as soon as possible." He says the ratio of downstream bandwidth compared with upstream is about eight to one.

Most standard ADSL business broadband connections are set up without the need for an engineer. You receive an ADSL box with a built-in router through the post, complete with colour-coded cable and voice-enabled installation CD that takes you through the set-up process.

"These are simple devices; self-provision is vital to the ease of set-up and the cost of the product," says Galvin, who puts the ongoing costs at between £30 and £80 a month

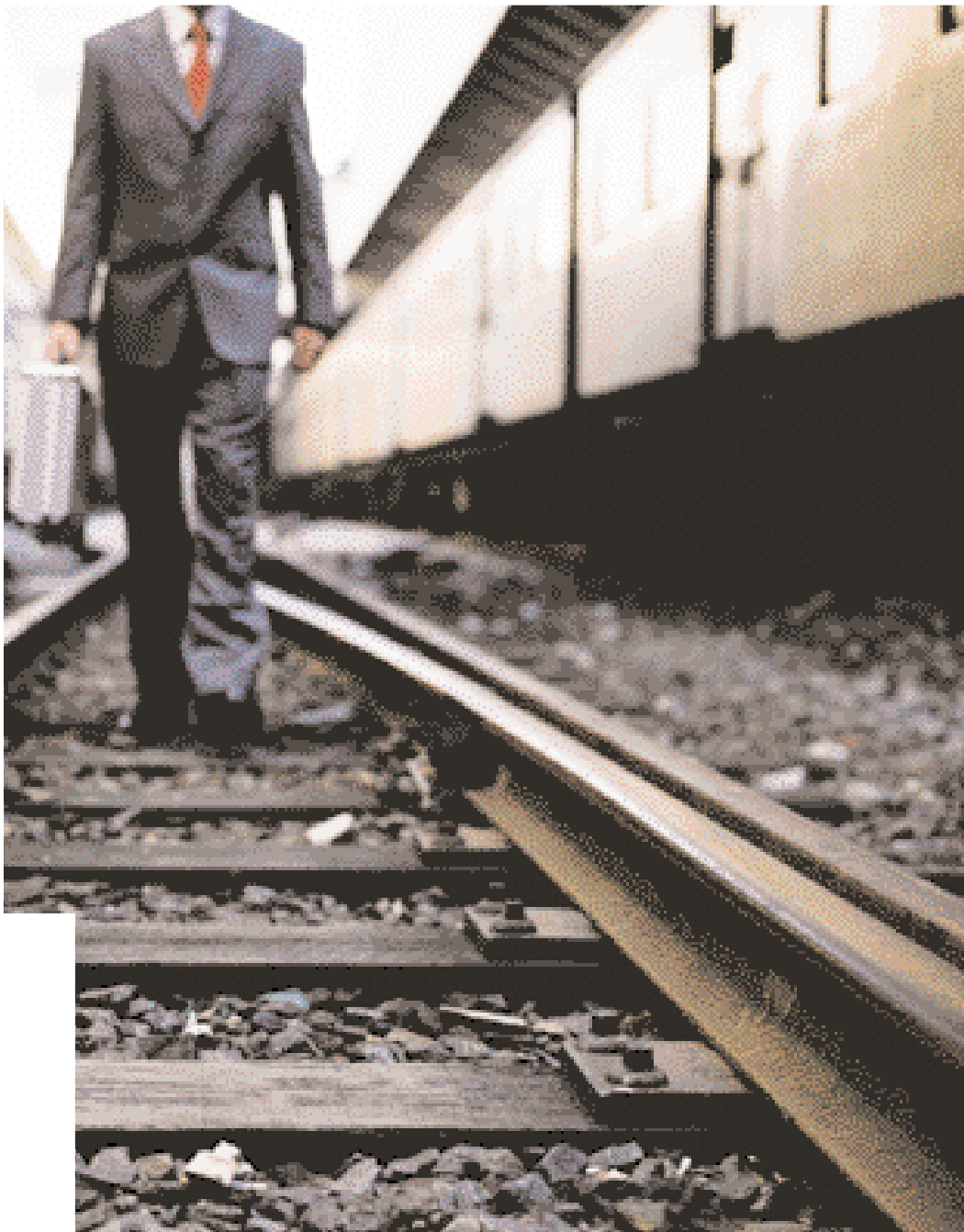
Case study: Stewarts Solicitors

Like many law firms, Stewarts Solicitors requires a high bandwidth connection to send digital sound files such as dictations, briefings and legal statements between sites.

The IT manager at Stewarts, James Mead, has recently overseen the installation of an SDSL connection to enable the transfer of such data between the company's offices in Leeds and London.

SDSL offers significant bandwidth in both directions and is ideal for companies sending large amounts of data back and forth.

"While a normal ADSL line enabled us to use applications from head office using Citrix, SDSL is necessary for sending files upstream," says Mead. "It is mission-critical to us and so far the performance and speed have been more than adequate at half the cost of a leased line."



The only information most businesses send down the line is the odd email and a request for a web page

depending on the level of support required.

Advancements in ADSL technology are happening fast. Trials by BT of a new ADSL service, ADSL 2+, are expected to start within the next couple of months. This will offer up to 18Mbps – rates that experts say will see technologies like instant messaging and IP telephony take off big time.

Conleth McCallan, managing director at ISP Datanet, predicts the use of secure business instant messaging packages, such as Microsoft's Sharepoint, combined with voice and video will become wide-

spread as bandwidths grow. He also expects to see business use of email moving from a standard POP3 server to a sharing, collaborative model in which remote users access Outlook diaries, input into central appointment documents and share folders.

Cut running costs

You can also receive broadband via cable. According to Lucy Green, director of product marketing at ntl's business division, there are self-install and engineer install packages, depending on how near your business is to the cable network and whether you already have a cable connection installed.

Many ADSL and cable boxes come with a wireless hub station built in. Phil Lunn, director of data and internet at Telewest, says using wireless technology for data, voice or CCTV applications can cut many of the running costs of

short-haul communication.

Wireless solutions for communications between buildings use high performance point-to-point and point-to-multi-point solutions. Systems use unlicensed spectrum operating at 2.4Ghz with link ranges up to 16kms offering up to 6Mbps throughput, depending on the chosen technology and application.

If your company requires significant bandwidth in both directions, SDSL (symmetric digital subscriber line) is becoming increasingly available. BT has announced that 1,000 exchanges will offer SDSL services by early 2006, reaching up to two-thirds of businesses in the UK.

While SDSL has limited consumer market use, Chris Lindsay, manager of new broadband propositions at BT, says, "a small but vibrant number of UK businesses are making use of it". He points to graphic designer businesses with large graphic files to send down the line or legal firms involved in swapping sound files between regional offices as the type of businesses embracing SDSL (see box). To use SDSL, you need a dedicated phone line installed and the visit of an engineer to test that it is up and running.

A number of isolated communities now receive their broadband service by satellite. This, says Lindsay, happens when it is uneconomic to provide DSL over phone lines or when businesses are situated too far from an exchange. Currently, BT offers satellite services to areas of Northern Ireland and parts of Cornwall.

High-speed satellite broadband connections use a satellite to securely beam data from a PC or network to a fast internet connection point on the ground and vice versa, enabling businesses to connect to the internet wherever they are.

Users who like to take a sneaky break from work to play Doom may be frustrated by satellite broadband as the two-way bandwidth offered does not allow users to play interactive games, but it provides a high-speed service more than adequate for email and access to internet files.

The initial installation of a satellite dish costs between £700 and £800, with ongoing cost of about £70 a month, according to Galvin. He says in many cases business users in a remote community will club to together to cover these costs.

But whether you are a business in St Ives or John O'Groats, broadband access is only the beginning. According to Lindsay, these faster data rates are set to take the revolution to "email, online storage, e-distribution, e-supply chain, improvements in lead time, online accountancy and tax returns services... the list is endless", he says. ■

Wake up and smell the coffee

What are the fundamental benefits to be obtained from going broadband? **Shayla Bradshaw** presents a real-life case story of how broadband changed a Scottish coffee shop and retailer – and even managed to please the bean counters

With the onset of the high-speed communications revolution the internet has become the preferred way to conduct business for many SMEs. After all, the faster you can communicate with customers and partners, the quicker you can do business.

Broadband offers a quicker service and a faster channel to a global market. It can get you closer to your customers and suppliers. You can use it to offer customers around-the-clock access to account information, order status and project details. Suppliers can respond quicker to your needs.

When coffee roaster and tea specialist The Bean Shop, based in Perth, Scotland, was looking for a new channel to market and a way to differentiate itself from the competition, it looked to broadband to boost its customer base. The company, which was founded in April 2003, was keen to create a national reach, so created a website that would allow it to sell its own roast coffee and blended teas across the UK.

Lorna Suttie, co-founder and director at The Bean Shop, says: "We knew that the internet was essential for taking our business forward, both for communication with customers and

suppliers, and for selling to those customers and suppliers; and for selling to customers who can't make it to our shop."

The company did not have internet access before broadband, but felt that narrowband would not meet its needs because it would tie up the phone line and make costs forecasts difficult because of time-based charges. Broadband from BT offered the ideal solution. It is always-on and enables staff to use the phone and the internet on the same line.

Permanent connection to the internet opens up opportunities for you to streamline your business processes, and linking your back office systems to your website can help you do business more quickly and cut administration costs. Being online also enables you to automate certain tasks such as transactions, order tracking and stock ordering.

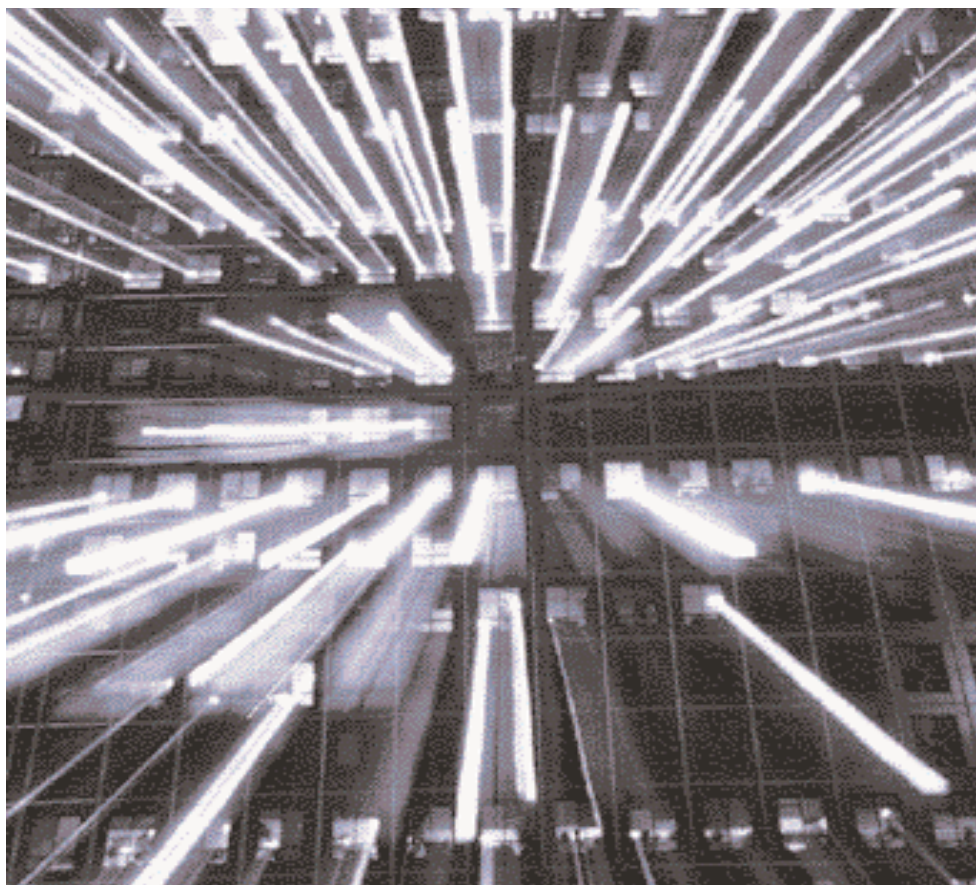
In order to develop online trading capabilities, The Bean Shop also opted for BT's Internet Trader Pack, which contains everything you need to develop a website, upload images and catalogues and create an online store. It also allows you to accept payment securely, which simplifies the ordering process. "We were surprised at how easy it was to develop the site from scratch even though we had very little knowledge of computers," says Suttie. "More importantly, it is simple and intuitive for our customers to use."

As a result, The Bean Shop now sells throughout the UK and even in the US. It regularly updates its website with a 'coffee of the month', a way of introducing customers to more exotic blends and roasts. The Internet Trader Pack makes this process simple by allowing staff to make changes themselves.

The Bean Shop can now offer its full range of products to customers along with discounts and special offers, allowing it to provide the same level of service as it does in the shop. Because the online store is available globally, The Bean Shop has substantially increased its customer base.

"We knew that broadband was the way to go but we have been very surprised by the results," says Suttie. "We now have customers for our coffee up and down the country and we're starting to sell across the world." The internet has allowed businesses like The Bean Shop to become fully signed up players in the global village. But it's not enough to simply be online; you need to match or outperform your competitors.

If your business transfers a lot of data, needs flexibility and faster, more efficient communications with your network of suppliers, customers and staff, you should not be asking if you can afford broadband but if you can afford to be without it. ■



So you've got broadband: what now?

By **Mick Hegarty**, general manager, Broadband, BT Business

For many businesses, the decision to upgrade from dial-up to broadband is a 'no brainer' – particularly now that it's set to become faster at no extra cost, with increased speed and efficiency giving an immediate and tangible return on the investment.

But while broadband might well be justified on these grounds alone, the shrewdest businesses will be making the most of what they've bought by seeing what else it can do for them, above and beyond a faster internet



Mick Hegarty: "Running over broadband, online backup services for PCs and servers can save your files off-site – automatically, in the background, securely encrypted so that nobody can read them"

connection. Broadband has really been embraced by the suppliers of business services, meaning that there are now a myriad of applications available to smaller businesses – some of which you may not have considered before.

Some might make things easier, some might save you time, and some might transform the way you operate. So what's out there for you once you have taken the plunge into broadband?

If, like most small businesses, you're spending

far more time than you would like dealing with red tape, you might want to consider one of the business admin packages that are available alongside business broadband services, putting the information you need to stay up-to-date with regulations at your fingertips in a useful form. Compiled by experts and constantly updated online, you can find clear explanations of the regulations that affect your business, along with advice on implementation and compliance.

Not far behind red tape in costing you time you can ill afford is dealing with IT problems. Few SMEs can justify the cost of an in-house IT resource, but broadband can deliver the next best thing. For around a tenner a month per PC, remote IT support packages give you a single point of contact for all PC hardware and software technical queries, and access to skilled IT support specialists who can securely take control of your PC over the broadband connection as if they were there with you to diagnose problems.

Now most of us know that feeling when the past two hour's work is lost because the PC crashed before we saved that file. But what would happen if we lost the whole PC and all of last year's work? Or the sales records, personnel records and accounts? It only takes a hard-disk crash, a computer virus, a stolen laptop, a fire – or human error. And it's serious – 50% of companies that lose their data in a disaster never open their doors again¹. You may have guessed by now that broadband applications can help here too. Running over broadband, online backup services for PCs and servers can save your files off-site – automatically, in the background, securely encrypted so that nobody can read them, and easily and quickly recoverable.

Perhaps my personal favourite is the ability to work effectively from home – not all the time, but on those occasions when I really need to. We all know the pain of having to be at home before the day's work is truly done. Being able to go home from the office yet remain connected to it (securely) has transformed my life – and my productivity. And teleworking packages now bring this opportunity to smaller businesses.

Broadband already offers so much more than speed, and there's still more to come – with multimedia applications like voice over IP and conferencing now being launched. So don't just fit it and forget it. Make the most of it with applications that could transform your business. Before long, like the 63% of SBC's customers² who would rather give up coffee than broadband, you may wonder how you ever managed without them. ■

1 Source: University of Texas for research into Info systems
2 <http://www.cisco.com/warp/public/779/govtffs/archive/eupdates/eUpdatev119.html>

Broaden your horizons

Broadband connections can support unique applications and can also improve immeasurably those used with dial-up.

Cath Everett sees what applications that broadband will support and what opportunities they provide

As more customers start to identify and buy products and services online, the more important it becomes for businesses to have a fast, reliable means of internet access.

Consequently, an increasing number of small and medium-sized enterprises (SMEs) are adopting broadband to at least provide themselves with a web presence as a showcase to the outside world, if not to sell their wares online.

Leif Olaf-Wallin, an analyst at Meta Group, explains: "Being hooked up and visible on the internet is becoming ever more important and having good quality email and an online presence is becoming pressing for a lot of people from a competitive point of view. If you're not on the internet these days, it's almost as if you don't exist."

At the very least, points out Jerry Thompson, business broadband director at BT Retail, it enables smaller companies "to appear much larger than they actually are", which can not only help with credibility, but also broaden potential sales regions to an extent that would not be possible with a purely physical presence.

As a result, many SMEs pay providers a monthly fee to host a website for them. They then customise it themselves with easy-to-use toolkits,

such as the Website Creator in BT's Internet Business Pack, to ensure it conforms to their company's corporate look.

"For many it's not worth the hassle of setting up and running a dedicated web server themselves. They've not got the in-house skills, it's cheaper and someone else is looking after the security aspect for them, so it makes sense," Olaf-Wallin says.

Always-on connectivity

Moreover, as supply chains are becoming increasingly 'disintermediated', contractors start to rely more heavily on smaller sub-contractors. Olaf-Wallin adds: "SMEs need to be online to obtain work orders and report back. Depending on how you transact business, you're more or less forced to be 'always-on'."

But, as Thompson indicates, many SMEs discover that once they have broadband in place they have access to a whole new raft of applications and services. These include security bundles, which incorporate firewalls, anti-virus and anti-spyware programs; and daily

If you're not on the internet these days, it's almost as if you don't exist



online data backup to ensure valuable business information isn't lost if the organisation's PCs or servers go down.

"The original phase of adoption was very simple," says Thompson. "It was about having a fast, 'always-on' connection. But what we've found is that many customers adapt the way they do busi-

Seven tips for buying broadband

Find out if you can get broadband in your area. Broadband isn't available over the telephone network everywhere in the UK.

Don't make the mistake of thinking a broadband package designed for the consumer market is the most cost-effective for you in the long run. Business solutions often offer additional services, such as anti-virus protection and 24-hour technical support, which are worth their weight in gold but are either unavailable to consumers or carry additional cost.

With some broadband packages you are charged by the amount of time you spend connected to

your broadband service. Bills can go up and down, whereas good, business-class broadband packages offer regular monthly tariffs. This makes budgeting much easier.

Make sure your broadband package is 'broad' enough and check what a supplier will call the 'contention ratios'. Broadband lines are shared between a certain number of other customers – anywhere between 20 to 100 other customers could be using the same line as you. The more people or companies sharing your line, the slower your service may be at peak

business-usage times. For quick reference '20:1' means 19 other users, which is good for most business usage. Anything in excess of 50:1 (49 other users) and you may want to consider a better offer.

Look at the size of files you have to send and receive. If you don't rely on large data files, such as video, graphic design and audio files, you may not need the wider, more expensive, bandwidths on offer (such as those over 512 kbps).

If you do use large data files in your business, make sure the broadband



information.

"If all you want is to use broadband for email and calendaring ADSL is fine. But if you want to use session or transaction-based applications or you want a higher quality connection for voice, you need the guarantee that the bandwidth will be available and that means SDSL," explains Ostergaard.

Mark Blowers, a senior research analyst at Butler Group, agrees that the ability to outsource applications to third party providers is likely to be of interest to the many SMEs that do not have the internal IT expertise to support and maintain their own packages in-house. While this was not possible in the past due to a lack of "decent, reasonably priced connectivity" it is now relatively cheap, he says, and so is becoming "more of an option".

Increasing adoption

"Smaller businesses will find it appealing to use packages when they need them and not have to buy their own equipment upfront. It's still early days, but we're likely to see increasing adoption over the next year or so," says Blowers.

But SDSL is also a necessity if your company is keen to use voice over IP (VoIP) telephony services. This technology, which runs over a broadband line, is proving to be of particular interest to organisations with geographically dispersed offices or a number of remote workers as it helps cut the cost of internal phone calls. As a result, Ostergaard describes VoIP as "the killer application for SME broadband", and believes that it will take off in 2006/07.

"We all know the size of our voice bills and we're all talking more and more, so it makes sense to move to IP," he says. "Typically, we're seeing SMEs with a two-to four-year-old PBX insert an IP card so they retain local functionality. But when they dial out they do it across an IP connection, which is much cheaper."

Another appeal of IP-enabling the network, indicates Blowers, is that you can take advantage of such applications as unified messaging. These suites provide a single point of access to integrated communication and collaboration packages such as email, instant messaging and voicemail. This means you can choose which device you want to be contacted by, such as a PC or your mobile phone, wherever you are.

"People can contact you using a variety of methods rather than have to leave messages and for that reason it's really handy for smaller companies to ensure they don't lose business opportunities," Blowers says.

While such applications may seem futuristic, Ostergaard concludes: "The world is increasingly moving to web-based communications, and so being connected to the internet is becoming vital to the SME community as a key means of doing business." ■

ness when they see the possibilities - for example, by enabling staff to work at home."

Although it is still early days, Bernt Ostergaard, principal analyst at Telecom-Analysis, also expects to see an increasing number of SMEs subscribe to hosted back end business applica-

package you buy will be effective at sending these files quickly to customers or business partners, not just effective at ensuring you receive such files quickly. If you do need to send large files you should consider a SDSL (symmetric digital subscriber line) solution, which offers fast upload and download speeds so your customers aren't kept waiting.

Many of the companies that offer broadband now offer trial periods - if you're not sure what is right for your business, make the most of such offers to ensure you are getting the right broadband package before you sign a contract. Go for a low-speed connection (for example 256 kbps) to start with and upgrade later if you need to.

'What we've found is that many customers adapt the way they do business when they see the possibilities'

tions such as finance or customer relationship management (CRM) over the next couple of years.

To do this you will need SDSL (symmetric digital subscriber line), a newer but pricier type of broadband than the currently ubiquitous ADSL (asymmetric digital subscriber line). SDSL costs £175 per month for a 512Kbps line, compared with the most expensive ADSL equivalent of £100. But, unlike its cheaper cousin, this provides high-speed bandwidth whether you upload or download data to and from the internet. An ADSL connection, meanwhile, may provide download speeds of 2Mb per second, but may then offer something like 256Kb per second when uploading

Source: Tiscali

Time to grow

Antony Adshead examines the technical issues associated with broadband. What will your likely minimum requirements be? What is meant by contention? And what are the broadband myths?

The UK's small and medium-sized enterprises (SMEs) are baffled by the terminology surrounding broadband. According to a survey by broadband provider Tiscali, this has resulted in nearly half of them relying on consumer broadband solutions.

Also, nearly two-thirds of SMEs surveyed found it difficult to compare different broadband solutions, and nearly half were not confident they were using the best, most cost-effective broadband solution for their business. The survey shows that 38% are using a consumer broadband solution – a figure that jumps to 49% among businesses with fewer than 10 employees.

Nathan Francis, general manager of Tiscali Business Services, says: "Broadband offers many benefits to SMEs. However, if they aren't getting the right broadband package to support their specific business needs because of confusing technical jargon, it is a bad thing for everybody concerned – the supplier, the carrier,

the UK economy – but most of all for the small businesses."

But what's in it for the SME? If you're not convinced about the need to take up broadband, the distinction between consumer and business solutions is purely academic. There will always be some SMEs that won't need fast internet and email, but for those that do, broadband has significant benefits – digital information can be sent much more quickly than with dial-up, modem-based alternatives. Also, because larger files can be downloaded or sent to clients cheaply, broadband can enable small businesses to compete with larger rivals when it comes to speed of response or delivery of large documents, images, video or music files.

Consolidate costs

Your company can benefit from broadband if you need rapid internet access, the ability to send and receive emails with large attachments, or need to consolidate network and communications costs with new technology like voice over IP. In the past, many SMEs have been tied to ISDN, but that's all changed with a range of DSL (digital subscriber line) packages to suit every budget.

Broadband currently comes in two flavours: ADSL (asymmetric digital subscriber line) and SDSL (symmetric digital subscriber line). ADSL has a faster download speed than the upload speed (which is generally 256Kbps). ADSL technology splits an existing BT phone line in two – one is used for voice and the other for high-speed data connection. Subscribers can use the line for normal voice communication and broadband access at the same time. This is useful for businesses that may have installed one telephone line for voice communications and another purely for internet access.

SDSL offers the same high speeds both to and from the internet and is



ideal for companies that need to send a lot of electronic data over the internet, either internally or externally. SDSL offers you the chance to have very high data rates in both directions, but the service is cost-effective; it does not require a fixed monthly fee and there are no dial-up or call charges. The service provides flexible symmetric bandwidth for business applications such as email, file transfer, web browsing, corporate intranet access, web hosting and remote LAN access.

With all the different packages on offer, how do you determine what bandwidth – up and down – your busi-

SMEs confused by broadband jargon

Do you feel confused by the jargon and acronyms used to describe types of telecoms and networks vendors and their services/solutions?



Do you find it difficult to compare and contrast different vendors' broadband solutions?



Are you confident that you can/have chosen the best broadband solution for your business in terms of overall cost-effectiveness?



Do you think access to broadband is:	Yes
Key to the success of small businesses	26%
Important to the success of small businesses	37%
Of benefit to small businesses	23%
Unnecessary for most small businesses	4%
(250 SME respondents)	Source: Tiscali



Bandwidth becomes an issue where emails are exchanging large files that include graphics or databases

ness needs? When calculating bandwidth, the volume and nature of incoming and outgoing email should be considered, says Sean Stephenson, head of products at Pipex.

"Bandwidth becomes an issue where emails are exchanging large files that include graphics or databases. The type of information and services an organi-

sation's website offers can also increase bandwidth requirement substantially. Large audio or video files, pages packed with images and graphics and large downloadable items are all bandwidth-hungry functions. Also, the volume and frequency of hits that the company's website receives is an important part of the equation," says Stephenson.

Increase bandwidth

It is important that you talk to your ISP about flexible broadband packages that will allow you to increase your bandwidth on demand, adds Stephenson. So if your business expands quickly your

bandwidth can take the strain.

One area where a lot of misunderstanding rises is contention ratios. The contention ratio of a service is the number of people sharing your connection via the BT network – if the contention ratio is 50:1, for example, you could be sharing the connection with up to 49 other people. According to director of network operations at BT, Mike Galvin, many people think that contention means they are not getting the speed they have paid for, but the use of contention by ISPs is the very thing that makes these high speeds available at such a low cost.

"When accessing the web or email, your computer is not receiving a constant stream of data – it only receives 'bursts' of data as required, such as when you view a new web page or open an email. It is therefore much better to have an internet connection which can receive small bursts of data very quickly than it is to have one which can receive a consistent amount of data more slowly," says Galvin. "And this is where contention comes in. Imagine a restaurant where 50 diners are serving themselves from a single buffet. The system works because each diner only takes a short time to collect their food, and only needs to do so occasionally. There are usually no more than a few people at the buffet at any given time, and it is extremely unlikely that all 50 diners will suddenly need serving simultaneously. DSL uses contention to save you money in the same way. Rather than give each user the capability to transfer 512Kbps constantly – the equivalent of providing each diner with their own personal buffet table – the bandwidth is shared across many users. A contention ratio of 50:1, for example, means that 50 users are sharing the bandwidth, but you should still receive your bursts of data at full speed."

But broadband means much more than just internet access, says Chris Lindsay, manager, new broadband propositions at BT Business.

"Broadband is incredibly flexible, and can also be used to connect offices and branches together – for example, by creating a virtual private network (VPN), and allowing staff to work from home very easily... the types of things corporates have been doing for years."

Pipex's Stephenson agrees. "Many SMEs are using broadband to access a VPN rather than going down the more expensive leased line road. Many businesses are also realising the advantages of voice over IP technology, which enables them to consolidate their communications and internet costs. Going wireless via ADSL or SDSL also gets over geographical challenges and helps to mobilise workers," he says.

The message is clear: it's time to figure out what broadband solution will best help your business grow. ■

Move into the mainstream

What are the main service issues that are associated with implementing a broadband solution? **Cath Everett** finds what you can expect in terms of quality of service, service level and your basic options

As broadband technology becomes more affordable and internet usage more ubiquitous, market uptake has moved from the early adopter stage and into the mainstream. According to figures from BT, some 30% of small and medium-sized enterprises (SMEs), or the equivalent of 500,000 businesses across the UK, are now using broadband. Subscriber numbers have doubled in the past year alone, with the trend set to continue.

According to Jerry Thompson, business broadband director at BT Retail, the first users were high-tech companies, followed by those operating in the financial services, insurance and professional services sectors, including lawyers and estate agents. But the third big wave has been retail, with adoption rates being more mixed in other sectors.

Leif Olaf-Wallin, an analyst at Meta Group, explains: "If you're looking at a very small business that's not particularly internet-dependent, broadband won't be of interest. But if organisations use the web extensively and do lots of uploading and downloading [of] data, they'll probably benefit from the faster connection speeds."

Moreover, he says, if companies are online for more than an hour a day, it becomes cheaper to have an 'always-on' connection than to use a dial-up

modem, due to the comparatively high cost of making calls over a phone line.

But another benefit of the technology, says Olaf-Wallin is that it doesn't block your phone line. "This means that you don't have to have another one installed, so you can also save money there," he says. "It's not good for business if clients can't get hold of you because you're downloading email." Consequently, he adds, broadband "is catching on, usually so SMEs can get a better and cheaper internet connection".

Level playing field

Mark Blowers, a senior research analyst at the Butler Group, agrees. "In the past, cost was a major inhibitor, but it's now a lot more manageable for smaller businesses and this levels the playing field.

"In the past, broadband was difficult to justify, but you can now access various services at reasonable prices."

For example, BT's business broadband prices range between £22 a

Some 30% of SMEs, or the equivalent of 500,000 businesses across the UK, are now using broadband

Case study Angelic Au Pairs

"I didn't feel like I had a business until I got broadband," says Rhonda Shaw, managing director of Angelic Au Pairs. "When I was looking at competitors a lot of them had a huge web presence, so I felt it was vital for the business and would improve convenience, not just for me, but for my clients – they'd be able to access information whenever it was easiest for them."

Angelic Au Pairs is based in Harrogate and acts as a broker between prospective au pairs from at least a dozen European countries and families in the UK. The organisation, which is run solely by Shaw, has also just become the main agent for the Scandinavian Au Pair Centre. This has offices across Europe, the US and Canada, and means that Shaw can now place UK staff with families abroad.

"To access the Scandinavian Au Pair Centre's database, I need a DSL line because it enables me

to download information, refresh it and get new information updates in minutes, but I couldn't have done that with dial-up," she says.

The company opened for business in July last year and used a dial-up connection during the preparatory and initial trading stages. But Shaw decided this was inadequate and opted for a business broadband connection from BT.

"As a small business starting up there were a lot of issues. I didn't want to install two different phone lines and looked at broadband for that reason," she says. "But when I went a bit further in I realised it would enable me to send larger files by email, such as photos and information about the au pairs. It also made it quicker to download and upload things so it was about increasing efficiency and saving time."

But broadband likewise meant that Angelic Au



offices and you want to use voice over IP (VoIP) telephony services to reduce the cost of internal phone calls or to access hosted applications over the internet. ADSL is unlikely to be adequate in these circumstances.

Despite the big disparity in pricing, Blowers advocates paying the extra money and going with a business connection. "Cost is important," he says, "but you shouldn't trim it down at the expense of everything else if you're running your business on it.

"It's important to go for business offerings because they're more focused on quality of service, security and availability."

24-hour support

While it will make little difference to the average consumer if they lose their connection for a while, so long as they can simply log on another time, "if you're running a website, it might affect sales", says Blowers. Therefore, business broadband services also come with higher-level technical helpdesk support, which is available on a 24-hour basis to help with any issues as they arise.

But another benefit of such offerings is speed, which is linked to so-called contention rates, or the number of people that have signed up to use the same broadband connection as you. In the case of consumer broadband, this means that should you have a 1Mb line you will potentially be sharing it with 50 others, but you should still receive your bursts of data at full speed. With business broadband, however, the number of joint users falls to 20.

But going down this route also allows you to subscribe to additional business services. For example, for an additional £5.95 per month per PC, BT will back up your data over the internet so it can be recovered instantly should your PC or server go down. Another £4.99 per month per PC will provide access to a raft of security services, while a further £5 per month will buy a website package and multiple email addresses.

As Olaf-Wallin says: "I don't see any real inhibitors to broadband adoption these days. You can plug it into an outlet yourself in 15 minutes or call a helpdesk if you need help with something and cost is no longer the issue that it was."

But he points out that many of the operators have not been very good at describing the benefits of going for a business broadband connection and so many SMEs are reluctant to pay the extra money.

"It can be hard for an SME to understand why they should pay more for a business rather than a consumer line and to see what the advantages are, but it really depends on the requirements of each company and how it's likely to benefit them," he concludes. ■

connection service will be resumed within an agreed timeframe, in BT's case 24 hours, although it expects to increase this to eight hours soon.

SDSL (symmetric digital subscriber line) is another option. This 512Kbps

service costs £175 per month and comes with SLAs and security, but is currently being targeted at specialised users that require high bandwidth but are unable to afford the dedicated and expensive leased line services traditionally used by large corporates.

The key difference between the two services is that while ADSL provides high-speed bandwidth if users download data, the same does not apply if they are uploading it, for example, to a website.

As a result, while download speeds may be 2Mb per second, upload speeds could be 256Kb per second. With SDSL, however, both upload and download speeds are the same. This means that this technology is particularly appealing to organisations in media, design, print, legal or pharmaceutical industries, that need to move large files or videos around quickly and have traditionally used expensive ISDN lines to do the job.

SDSL is also necessary if your company has geographically dispersed

Pairs could react to demand more quickly. "There's so much competition that speed is of the essence and I needed a way to get information to families and partner agencies abroad as quickly as possible," Shaw explains.

Since setting up a website using BT's Business Internet Pack the company has also seen family registrations leap from two a week to two a day. "A lot more people are becoming aware of Angelic Au Pairs because of my web presence. I could have had a site without business broadband, but it would have been difficult to upload information and maintain it, and it also means I have access to 24-hour technical support, which is critical as I am not particularly computer-literate," she adds.

The revolution in IT and the internet has brought affordable, widely available technology to small and medium-sized enterprises (SMEs), allowing them to compete with the largest companies in terms of profile and productivity. With a website you can now have a global presence and almost instant communications 24 hours a day, no matter what size your business. But an increasing reliance on IT creates challenges: namely, how to keep critical systems up and running, and how to solve problems as quickly as possible.

Large corporations can afford to have dedicated IT teams in-house, looking after critical areas of IT infrastructure such as networks, security and business continuity. However, smaller companies simply cannot afford to employ full-time IT staff, and waiting for a consultant to arrive can mean lost orders while they're stuck in traffic. So while there's no doubt about the benefits broadband can bring to your business, you need to adopt very careful and effective management of your network. What are the key things to consider?

Security is clearly a big issue for SMEs and large corporations alike. But you may not have the budget to employ a dedicated security officer, whose sole responsibility is maintaining the network, according to Chris Lindsay, manager, new broadband propositions at BT Business.

Firewall protection

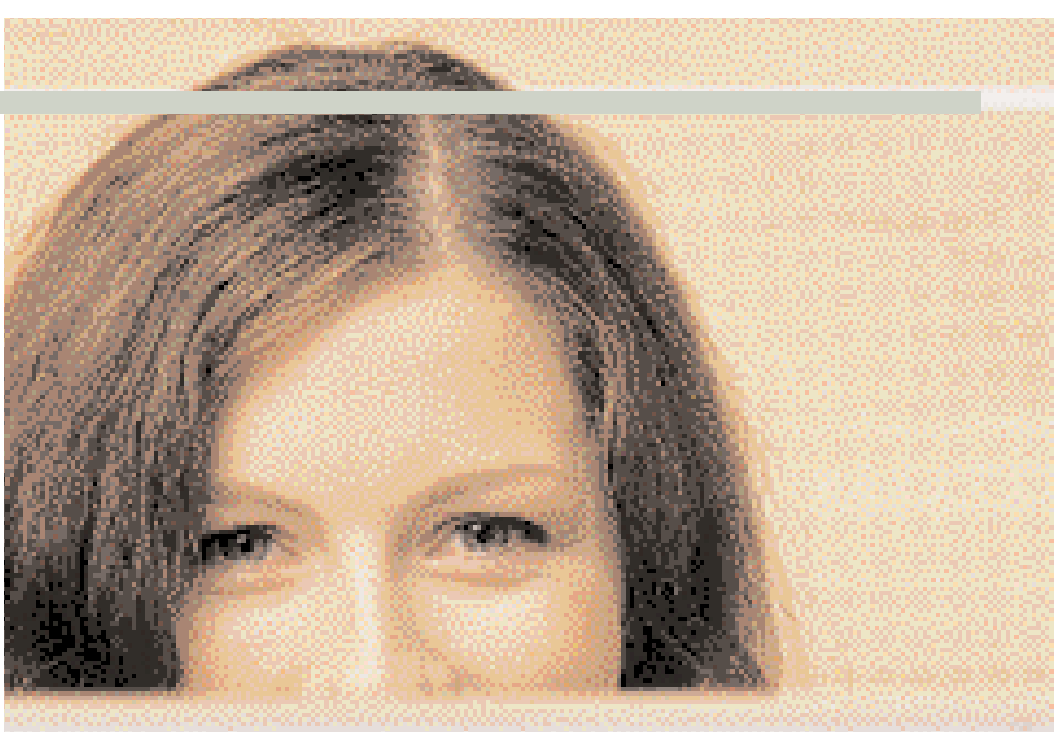
"Security needs to be taken seriously," he says. "It is essential that companies have firewall and virus protection and that they are updated regularly. At its most simple, if you think of a broadband connection as simply a communication pipe, you have to control what comes in and what goes out."

Sean Stephenson, head of products at PipeX, agrees: "A firewall and anti-virus and spam solutions should be implemented as a first step to help keep hackers, viruses and worms at bay," he says. "Anti-virus solutions scan email and quarantine infected items. These services are updated the instant viruses are identified."

He adds: "Just as important as physical IT security is staff education. Each company should produce and implement a computer-use policy, to ensure staff understand the risks of opening suspect emails or downloading material from the internet."

With broadband becoming central

Each company should produce and implement a computer-use policy, to ensure that staff understand the risks of opening suspect emails or downloading material from the internet



Safe & Sound

There are a number of things to consider when integrating broadband into your wider network. Resources need to be optimised and you need to take a good look at security. **Antony Adshead** reports

to firms like yours, maximum uptime and rapid fixes are essential. These are often delivered by remotely managed support solutions offered by ISPs. Managed services take the hassle out of running security programs on your company's network because the solutions are managed by the ISP and need no intervention from you. This allows you to focus on the day-to-day running of your business, rather than having to spend your time checking whether your networks are being looked after.


Managed firewalls are one example. "These work in the same way as standard firewalls," says PipeX's Stephenson. "They prevent hackers from accessing a computer network and damaging or stealing data, and using the system to pollute or attack others. They are managed remotely by a team of dedicated security experts who work around the clock to ensure their customer's firewall configuration is always up-to-date. This means any attempted security breaches are dealt

with swiftly and effectively. Anti-virus and anti-spam products should be implemented on top of a managed firewall to provide further protection."

The growing maturity of the broadband market has produced a variety of solutions for SMEs that mirror those used by much larger businesses. Getting broadband is not just a case of getting a fast connection in and out of your business – the availability of high bandwidth allows the remote provision of all sorts of sophisticated security and other IT services.

Managed security support

Having a broadband connection to a managed backup and storage system means you can be just as easily protected from unforeseen circumstances due to loss of data as any well-equipped large corporate. And while the always-on nature of broadband means you are more exposed to internet security issues, ISPs are responding by providing managed



Many SMEs are starting to use remote IT support services from their ISP. Services offered often range from a telephone-based service to talk you through technical difficulties or, because of the high-bandwidth always-on capability of broadband, an IT support specialist can securely take control of your PC to provide in-depth fail diagnosis and assistance.

One business that has gone down this route is Whippy's World of Tulips – a landscape and design business with an online store selling plants and bulbs. Its managing director, Chris Whippe, relies heavily on IT both in the field and to ensure customer orders are fulfilled.

Whippe knew that he needed a way of ensuring his systems were working well and that any problems were solved as quickly as possible. He chose BT Business IT Support Manager, which provides customers with a dedicated support team that can talk them through how to solve any problems or access their desktops remotely to change settings. It also provides a first line of defence in the form of an easy-to-use diagnostic tool, which allows users to solve simple problems.

Highly trained specialists

The support team is made up of highly trained IT specialists who can provide solutions to all software related queries, from setting up an Outlook email account to application failure. This kind of service gives you access to the same type of services as large corporates, but at much less cost. You can pay for it either on a pay-per-use or subscription basis.

"IT is critical for the success of the business," explains Whippe. "My laptop is an essential piece of kit for me when I'm working at customer sites and for every minute we're offline we're potentially losing customers. We don't have the IT skills in-house, as it's just not cost-effective because of our size. IT Support Manager is the ideal solution."

Since subscribing to the service, Whippe has used IT Support Manager to set up a number of applications, including his wireless network. "The whole process only took 45 minutes, with the helpdesk engineer talking me through exactly what I had to do, step by step. I just didn't have the knowledge to do it as quickly on my own so it saved me time and I knew that it was working before I even put the phone down," says Whippe.

"I think we're ahead of the game when it comes to IT support. Should anything go wrong we have a virtual member of staff we can call on to remedy the situation, rather than worrying about finding someone when things goes wrong. An online business doesn't keep to office hours, so we need to maximise our uptime," says Whippe. ■

security support and features such as hardware firewalls, which can be built into a router.

With broadband offering relatively cheap high-bandwidth networking, some smaller users are beginning to use DSL (digital subscriber line) services as a medium for wide area networks. While big businesses have to spend big money buying or renting high-speed leased lines, SMEs can use DSL to link parts of their businesses. With high-bandwidth network connections available at reasonable, fixed monthly costs, SMEs can use DSL to network between their offices. But what are the main considerations if you're thinking of going down this road?

"Location makes a difference," says Pipex's Stephenson. "BT recently expanded the SDSL [symmetric digital subscriber line] network, offering 2Mbps, with 500 more exchanges across the country. Really, 2Mbps is the minimum bandwidth a business needs because of the applications used, such

Anti-virus products should be implemented on top of a managed firewall to provide further protection

as virtual private networks, teleworking and voice over IP connections into head office private branch exchanges."

You can also use broadband to maintain your company's website, but it is not recommended to host it in-house. With DSL you get enough bandwidth to download what you need, but there isn't enough capacity to allow many users to access web servers in-house. It is far better to use DSL to upload website content to servers hosted by an ISP. There are a number of options available, such as co-location (where customers bring their own servers into an ISP's data centre), shared hosting, dedicated hosting or a custom version of all of these.

Right to roam

Gary Flood examines how best to integrate a broadband solution with the latest wireless technologies. What are the benefits of using such services over broadband? And how do you get the best from them

Wireless working – the ability to work and transmit information while on the move – has been one of the tech industry's most hyped concepts for the past five years. Yet fears over insecurity and wobbly connections have soured the vision of Star Trek-style communication power. But if you're still a convinced wireless sceptic, it may be time to change your mind.

In one respect saying you're against wireless working is a bit like being King Canute: this is a tide that's just getting stronger and stronger. In May 2004, The Economist Intelligence Unit produced research showing that 83% of workers believed wireless and mobile working created a competitive advantage, while 93% believed it allowed them to improve customer service. The same organisation found that professionals were spending more hours away from their desks than ever; from around 25% of their time spent on the road two years ago to an anticipated 42% by 2007.

While your employees are straining at the leash to get out to see customers there are other factors fuelling the wireless engine, including work/life balance and our changing workforce's demographics. The Department of Trade and Industry (DTI) estimates that by 2013, 14 million people – half the national workforce – will be working flexibly, either at home or in remote offices.

No wonder the technology industry is responding. IT analyst firm Gartner has estimated that over 50% of professional notebooks will soon have WLAN (wireless LAN, or local area network) capability. This trend is being matched by service providers, including BT and others, that are offering Wi-Fi (for which read WLAN, but don't get too bogged down with the jargon at this stage) hotspots. These are sites, usually

in public areas, where you can beam directly on to the internet or corporate network without a trailing nest of cables.

Combined with the power of broadband, whether on ADSL (asymmetric digital subscriber line) or other high-bandwidth connection structures, wireless working is becoming a cost-effective way of getting your staff out of the office but still working. Another huge advantage is that it allows users to log on up to 10 times quicker than traditional dial-up or existing mobile access services with broadband.

Openzone hotspots

"Broadband hotspot services, such as BT Openzone, play the most use as part of a wider implementation of flexible working – which might include the ability to access your office network via ADSL from home, dial-up from hotels and Openzone hotspots while on the road," says Chris Clark, CEO of wireless broadband at BT Retail.

BT Openzone, launched in August 2002, is the UK's biggest example of Wi-Fi, with over 7,500 hotspots open so far. Locations include British Airways and bmi airport lounges, major railway stations, service stations, McDonald's flagship and drive-thru restaurants, cafes, PC World stores and leisure facilities plus Hilton, Ramada Jarvis and Corus hotels.

Case study Inmarsat

Inmarsat, a world leader in mobile satellite communications, has recently upgraded its flexible working approach with a wireless LAN from Aruba, which is helping its 400 staff in not only its main London HQ but in branch offices too.

While not new to wireless, the company's move has helped boost productivity and cut down interference from other wireless networks near its London base, close to the City.

Inmarsat has used 802.11b wireless technology since 1999. It is undertaking a system-wide migration to a centralised architecture from Aruba to increase the performance, security and ongoing management of its entire wireless network. Head of IT Peter Smith says: "The new system also allows us to more easily manage and better secure the network from a single physical location, providing a full view and complete control over authenticated users, as well as guest, security and access policies."



And through links with T-Mobile and the work of the Wireless Broadband Alliance, BT Openzone customers can now enjoy the benefits of Wi-Fi at up to 20,000 hotspots across 12 countries. Users access the service by subscription on a pay-per-minute or capacity basis – to

Combine the technology that underpins Openzone with today's faster mobile communications options such as 2.5G (GPRS) and 3G, says Clark, and a solid base for constant high-speed, high-throughput wireless access is already there. The fact that only a few small and medium-sized enterprises (SMEs) have embraced it is down to the industry, he confesses. "We've confused business needlessly with all these technologies and terms," he says. "What the customer wants is one bit of kit that does all wireless things, at a single price, and which takes away the complexity."

Increase productivity

While not quite there yet we closer than ever before, assures Mark Blowers, senior research analyst for UK IT analyst firm Butler Group. "It's starting to succeed and lots of the building blocks are in place. Companies of all sizes should be looking at wireless to help increase staff productivity," he says.

"At the moment, it's still larger players who may benefit the most, but things are rapidly changing and it may be best to look to your service provider to give you a managed solution that could limit your initial outlay. It's advisable to look for solutions that suit your level of company, not sealed-down versions that can't be changed or customised," he adds.

And don't skimp on security. Wireless technology has had negative publicity because of security concerns. The reality is that if the security options are all turned on it is perfectly secure, but this is sometimes overlooked in deployment.

This is one of the main aspects of the products of Aruba Wireless Networks. According to the company's UK country manager, Bob Vickers, the company is starting to work with organisations like BT to increase customer acceptance of wireless benefits.

"It's fair to say that people are starting to do more than dip their toes in the water," he says of the market. Even the smallest company, after all, tends to have people who need or want to move around to do their jobs, and it's a pain to have to constantly alter your infrastructure to accommodate that.

"Another aspect is that surprising or not, more and more people are starting to have wireless technology in their own home, and are asking why they can't have the same freedom in the workplace," he adds.

Put it all together and now seems a prime time to investigate the appropriate wireless solution for your company, whether it's to take advantage of public Wi-Fi, explore more flexible internal communications, or something else altogether. One thing's for sure: very soon King Canute won't need cables for the back of his laptop. ■

find a location near you, visit www.btopenzone.com/locations or send a text message with town or postcode to 81041.

But how is Wi-Fi of use to companies like yours? The answer has both a negative and a positive side. "Public Wi-Fi will be of growing interest because, like it or not, we're now much more of an 'always-on' society," explains Clark. "If customers start expecting to be able to be in touch while on the move as part of their consumer or working lives, soon they'll be expecting an equivalent level of service from you," he warns.

"Wireless means different things of course - it's myriad technologies, ideally combining classic mobile technologies like GSM, 3G and other new technologies like WiMax (metropolitan

'Look for solutions that suit your level of company, not sealed-down versions that can't be changed or customised'

wireless network technology)," says Clark. "So wireless doesn't just mean surfing the web in a coffee shop."

So how about using wireless to give you total flexibility when opening a new branch office? For instance, instead of cabling up all the seats, you could install a secure WLAN facility with a range of up to 100m. This would offer instant connectivity to however many employees really need it, and you can expand or shrink the office as required.

• Flex your business from home

Broadband enables homeworking, which in turn allows SMEs to be more flexible in their business operations and processes. **Lindsay Nicolle** reports on the implications for business efficiency and system security

The ability to work at home using broadband and still be as productive as when in the office is one of the most liberating business developments of recent years.

The need to be more flexible and mobile in their business operations has become increasingly important for small businesses in recent years, partly due to the economic climate and partly because of the rise of globalisation. However, in the past it may well have been difficult for your firm to rise to the challenge because it was reliant on

dial-up internet connections. Adopting broadband enables you to become as flexible and mobile in your operations as your blue chip rivals, while enjoying the same efficiency savings.

But hand-in-hand with the joys of home working and greater business flexibility delivered by an always-on internet goes the need to maintain and improve efficiency. So what do you need to do to ensure you use your broadband resources efficiently and securely?

You have to seize the opportunities

that broadband offers regarding flexibility. Broadband not only makes for more flexible working, but it can also enhance your business offering by enabling 24x7 access to suppliers and customers over rich and fast data links. Wherever possible, you would be wise to seize this opportunity to re-think your business processes to look for greater efficiencies.

Simple changes can be very effective. For example, emailing invoices instead of posting them, and sending out timely marketing materials. You could also deploy videoconferencing instead of holding costly and time-consuming face-to-face meetings between staff, and with business partners and even customers.

Another welcome spin-off from making your business more efficient from using broadband is that it invariably creates a better work/life balance for employees. For example, staff can work flexibly around family commitments, and job sharing is much easier.

In addition, by removing the employment barriers inherent in demanding that people work 9am-5pm from one



set location, you can broaden your labour pool. This could potentially provide access to more skilled staff whose talents are currently going to waste because their personal circumstances – having a young family or a disability, for example – prevent them from honouring traditional work contracts which insist staff travel to be in one location for a set number of hours a day.

Allowing staff flexibility in where and how they work is proven to increase employee satisfaction, which in turn improves productivity. It also improves staff retention – being more flexible in work patterns enables people to create a less stressful lifestyle, which they are then keen to maintain.

On the right track

From the employer's perspective, enabling a more flexible working arrangement need not mean that staff are 'out of sight, out of control'. Appropriate management strategies, for example regular reporting and even virtual face-to-face meetings via video-conferencing, can ensure that individuals stay on the right track. It is important that staff who work from home still feel part of a team of people working towards the same end goal.

From the employee's perspective, using broadband and the rich applications it supports enables them to work from home just as if they were in the office, accessing all required data and in contact all of the time.

There are also additional benefits that stem from freeing staff from the tyranny of traipsing to a central office every day. It not only cuts down commuting time and expenses, but it also saves on office space and running costs. Staff are less likely to call in sick – or pass on their germs to others – boosting staff availability. There are even savings to be made from removing the temptation to steal office stationery or use the office telephone for personal calls.

But the biggest benefit from broadband-enabled flexible working is the efficiency of communications, according to Chris Lindsay, manager of new broadband propositions at BT. He says: "Customers cite not having the home phone line tied up on the internet, and having access to continual email from home as a major benefit." He adds: "I think we're almost at the second stage of broadband adoption now, where SMEs are going to start exploiting broadband for collaborative working and tighter network integration with work colleagues." When this next stage of broadband adoption really starts to kick in, SMEs should see even greater benefits from the flexible working that the technology allows.

Flexible and team working is the

Case study: Streaming Wizard

Homeworking used to mean taking reams of paper and files home, and being in touch with the office only by telephone and fax. But in today's broadband world, home workers can be 'virtually' in the office and access the same systems and documents as they can from their desks.

This is what James Cunningham, managing director of Coventry-based specialist multimedia agency Streaming Wizard, has achieved. His two-year-old company provides live webcast services for UK and overseas customers, including pop stars, corporates and industry membership organisations.

Working from his home office, Cunningham can not only offer the same level of service to customers, but he has also created a better work-life balance for himself.

"Despite my commute to the office being relatively short, I still wanted to work remotely," says Cunningham. "There are very few things that I do in the office that I can't do from home. ADSL broadband has enabled me to make this a reality and opened up a world of possibilities."

Cunningham chose a BT Business Broadband service, which he installed himself. He says: "It was simple – just a case of connecting the router, loading the software and entering my details when prompted. I installed some extra security – firewalls – and then I was up and running."

Today, Cunningham works from home up to three days a week where he can cover all the administrative aspects of Streaming Wizard's business. The office telephones can be diverted to his home, where he can access emails and documents on the company's office servers. He can also keep in touch with suppliers and customers using instant messaging, high-quality videoconferencing and voice over IP links.

"The 512Kbps business service is ideal for my home office needs, and allows me to be 'in the office' even when I'm working from home," says Cunningham. "It would definitely be a lot harder, more time-consuming and less profitable to operate without broadband." He adds: "I can also offer 24x7 support without having to man the office, so my life is a lot more leisurely. There's actually no real necessity for me to be in the office a lot of the time, other than when I have to meet and greet people."

Cunningham has this advice for other SMEs: "If any SME doesn't have broadband now then they should get it, otherwise they are going to lose out to their competitors. For me, broadband means I can work remotely and still compete on a level playing field with my blue chip rivals. I'm winning business because of it."

norm where staff operate out of a central office environment. However, it takes a leap of faith to believe that the same rapport and interaction between individuals can be replicated when they each work remotely, however clever the communications.

Time management

Nevertheless, large firms have proved that effective collaborative working on projects is possible when staff work from home, so long as the management of people's time is tightly structured. Just as in the office, there is no point scheduling an online meeting to discuss documents which all can see and work on simultaneously, for example architectural designs, if individuals are unable to manage their time effectively.

Any company that employs the services of remote specialists who could be based anywhere in the world can save substantial costs if these contacts 'meet' and collaborate online

rather than wasting time travelling to meetings, or emailing/posting documents in a round-robin fashion. Over 84% of company directors say they have boosted productivity thanks to using a more flexible internet connection, according to research carried out by SME membership organisation, the Institute of Directors (IoD), and broadband provider Nildram.

High productivity and fast response times to customers are as important to SMEs as to large firms – if not more so, since it can be harder for firms like yours to grow and retain a loyal customer base.

Of course the one bugbear to having an always-on flexible internet connection is that systems are more vulnerable to security risks.

"Flexible and remote working is rapidly creating decentralised and potentially insecure pools of data," warns Miles Templeman, director general of the IoD.

But so long as you deploy firewalls at both ends of their broadband connection, install anti-virus software and enforce a good electronic security policy among your workforce, the risks are small compared to the business benefits on offer.

With your business under pressure to be as flexible and agile in your business processes as your global competitors, being flexible in your working is essential. Broadband enables this flexibility.

The technology has arrived. It is up to you to change your traditional working culture to exploit it for previously unobtainable business benefits. ■



More for your money

When disability charity Scope invested in broadband technology in 2004, high-speed internet access was only the beginning. The charity also hoped that broadband would reduce costs, allow staff to work from home and provide secure access to centralised email systems from remote offices.

"We used to have dozens of small sites where one or two people worked using dial-up internet access," says Gurpreet Anand, Scope's senior data communications analyst. "Nobody could access our Exchange server or centralised databases, and if there were several people in an office all using dial-up, the phone bills were huge."

With broadband access those problems have been overcome, says Anand. Staff can share an internet connection, and the charity has the reassurance of knowing in advance what its monthly internet access will cost. Scope has also installed combined firewalls and routers to secure each broadband connection, and this has allowed staff to remotely access centralised email and other applications.

"The router includes virtual private networking (VPN) software, which provides a secure link from the employee's PC to our centralised systems," says Anand. "It allows us to connect to their computers and remotely administer an employee's PC if they need technical support."

Using a combined router and VPN has allowed Scope to deliver enormous benefits for relatively little cost. It paid around £100 for a dedicated phone line at each office, plus a monthly access fee of around £50 per office. Additional routers and firewall devices cost £130 per office, bringing the total cost to less than £300. In most cases this investment was recouped in less than 12 months through lower call costs, although in some cases the savings were more dramatic.

"At one site eight people who had used dial-up connections moved to

We found that SMEs are not always aware of the full potential of broadband

Sally Flood assesses the key business issues associated with broadband. What are the cost of ownership issues and how do you construct a return on investment? What are the hidden costs and the savings that you can make?

broadband and saved us £5,000 in the first year," says Anand.

A growing number of UK homes and businesses are realising the potential of broadband. According to Telecom Markets' Broadband Subscriber Database, more than 5 million people in the UK now have high-speed internet access, a figure that will reach 8 million by the end of the year. Among businesses adoption is growing rapidly – BT estimates that half of all small and medium-sized enterprises (SMEs) are now connected to broadband, and the company is signing up 3,000 new broadband customers every month.

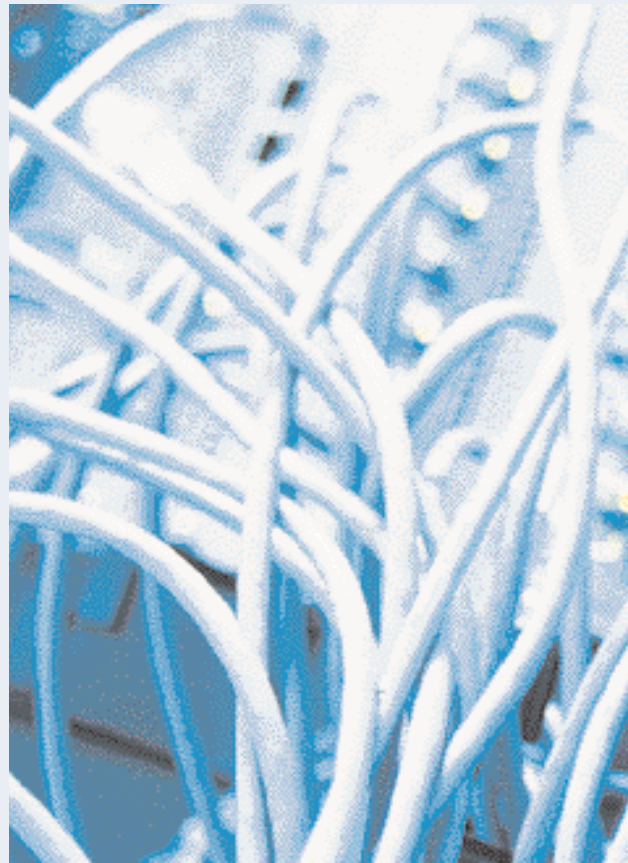
SMEs might be adopting broadband enthusiastically, but some research suggests that not everyone knows how to get the maximum benefit from their high-speed services. Researchers at Brunel University found that companies in rural areas that were using broadband for the first time were not always improving their efficiency.

Novice technology users

"SMEs are not always aware of the full potential of broadband and so don't always know how much more quickly certain business activities can be achieved," says Jyoti Choudrie, a lecturer at Brunel University's broadband research centre.

In some cases, Choudrie believes this is because SMEs are novice technology users and may not be aware of the benefits offered by broadband.

For example, broadband can allow companies to take advantage of video conferencing and internet telephony services, dramatically reducing travel and communication costs. For many small businesses, broadband makes it possible to use a VPN, which can be used



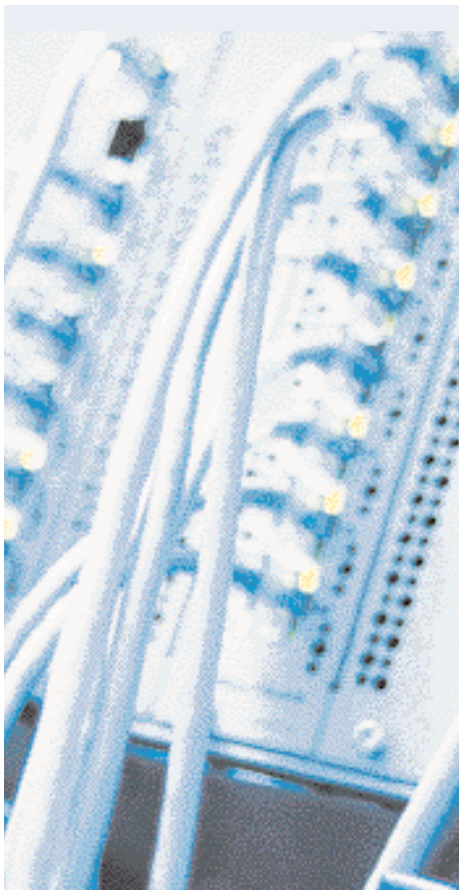
to provide home working facilities for employees. Research suggests that home workers are generally more productive than office-based staff, and the company benefits from lower office costs.

Some companies also don't realise just how much broadband could affect the way they do business. "If you are a distribution company and you move to broadband, suddenly you have the ability to offer 24x7 customer service using web self-service or automated email responses," says Choudrie. "However, many SMEs simply don't know how to set up or run those kinds of services, and so don't see the full benefits of broadband."

The advice from the experts is to spend time considering how broadband will affect your business before installing the technology, advises BT's Chris Lindsay, manager of new broadband propositions. For example, if broadband will allow you to offer more online customer sales and support, there are packages available designed specifically to help you achieve this. BT has a business broadband package that includes simple-to-use web design and ecommerce tools, which in addition to the broadband connection cost from £5 per month each. If you want to consolidate staff onto a single internet connection, there are other packages which include multiple email addresses and accounts as standard. If you want to take advantage of broadband to back-up files securely, BT has a backup tool that creates a secure, online copy of important files and data.

Take control

Gary Flood examines where broadband is today and what its limits and alternatives are, and then paints the picture of broadband's future



This type of service is more expensive than straightforward consumer internet access, but business services offer guaranteed fix times if problems occur, which can be vital. You should expect to pay between £20 and £345 a month for broadband services (depending on the type of package chosen), plus several hundred pounds for routers and firewalls where required. You can also opt to have your company's broadband installed by a BT engineer, which costs between £210-£260.

Lower call charges

These costs need to be balanced against the likely benefits of broadband to your business. The first saving most businesses notice is lower call charges and the reassurance of fixed monthly fees, particularly where they previously relied on dial-up accounts. However, it's also worth factoring in so-called 'softer' benefits, which can be more difficult to measure, but which are equally important.

"With broadband you will enjoy better reliability and security of service, your phone line is no longer tied up when you're using the internet, and you can create a network in the office so that many people can share the same connection," says Lindsay. "All of those things mean that, as a business, you're in a better position to serve your customers, work with suppliers and grow the business." ■



So you've made the big upgrade: you've chosen broadband. All your staff can now connect to the internet at those impressive ADSL (asymmetric digital subscriber line) speeds. A turbo-charged business future awaits as you roar down the information superhighway. Sorted.

Er, maybe not quite. The reality is that enhancing your business communications capacity like this doesn't always mean you'll have a big increase in quality. Broadband shouldn't be the automatic choice for companies ramping up their online capacities.

According to experts including Peter Sealey, channel director of BT's SME (small and medium-sized enterprises) accounts team in its BT Business arm, you may feel that now you've had broadband for a while you're

outgrowing its capabilities and are unsure as to where to go next.

"Broadband is a very flexible product, which suits the vast majority of SMEs and is used by them for a wide variety of applications," he says. "It can offer excellent value for money. But there are, of course, situations in which broadband is not the most suitable platform, especially for the bigger or expanding organisation. In fact, there's been confusion over combining voice and data on one line and business-strength transmission of voice and data, which isn't helping."

You may encounter problems with security and protecting your company online when you move data around between employees and sites. Also, simple ADSL might not be the right basis for hosting your web servers and

mounting your ecommerce initiatives. There's also a question about how effective basic ADSL is for basing the virtual private network (VPN) you will almost certainly want to help run your operations.

But the good news is that organisations of all sizes, and especially SMEs, have a perfectly good range of robust technology solutions to help them. So broadband isn't bad for you – it's more that faster and better internet-based communications are really what you need.

Why? It's partly the nature of ADSL itself. The technology was designed from the ground up to allow users to share voice and data on one phone line, and also to download information. But if you think about it – the clue's in the word 'asymmetric' – that means a lot less can go up than down. This is marvellous when as a consumer you want to play games online or watch the latest Britney video; but if as a business person you want your sales rep in Salford to be able to send back their multi-megabyte presentation for last-minute checking, it's a potential obstacle.

Actually, Britney might be more of a problem than you think. "A lot of companies feel they need to add lots of extra bandwidth, only to find that they need it because their staff are listening to music channels on the work PC," says Sealey. "It's just the same as phone management, when we had to stop staff abusing phones by making too many personal calls in work hours. If we're not careful the internet will go the same way. So look at why you need broadband – for real business reasons or just because it's 'cheap'?"

In any case, unequal up-and-down streams are a ground-level feature of ADSL-style broadband. The next issue is that if you go straight on to the internet as a business without adequate safeguards, you might as well turn off the burglar alarms and open the shop doors. Even at this stage in online penetration it's worrying that so many business leaders don't stop to think of this risk. Finally, even if you faced a completely risk-free internet, ADSL is 'contended' – you share what capacity is currently available (hence the tired gag 'the world-wide wait'). Your business may not always want to wait – nor will your customers.



Whatever; let's explore how you can extend your business communications beyond broadband. That doesn't necessarily equate straightaway with new technologies like next-generation ADSL, SDSL (symmetric digital subscriber line), though this is an option we will look at shortly. Nor does it mean sticking to the expensive leased lines and other older technologies that you've been seeking to escape from to save cost.

Instead, talk to your communications supplier about bolstering heavy file transfer between company sites with private circuits that can offer greater bandwidth than broadband. If your organisation relies on its website to provide a lot of content or high levels of service availability, explore fixed uncontended connections as an alternative. Also, when building that all-important VPN structure to keep your connections secure, look at alternative high-speed and high-data capacity technologies like MPLS (multi-protocol label switching), a flexible, proven backbone technology.

"Making decisions based on price is understandable," adds Sealey. "But if you link 50 sites over the internet without enough protection, that's 50

points of ingress into your company." Products you might want to investigate from BT include BT equiP, IP Clear and MetroVPN: all three take advantage of MPLS and are available as managed services (for more details see www.btglobalservices.com/business).

It may also be time to think of the next logical place to go with broadband: SDSL. This offers data transfer speeds of up to three megabits (millions of bits) per second of information. With the right configuration an SDSL solution from BT can offer throughput eight times that of ADSL, according to Chris Lindsay, manager, new broadband propositions, BT Retail.

SDSL is also a great foundation for applications that take advantage of broadband's flexibility and power, like 'broadband voice,' he adds. "The number of businesses using symmetrical business broadband is increasing. It's the ideal choice for companies that are data intensive as it can send electronic information at the same speed as it is received. It acts as a stepping stone, giving those companies that are looking to create a VPN between satellite offices, allow staff to work remotely or host their own websites and mail servers an easy, cost-effective solution," he says.

SDSL is also worth considering as it could be used to connect just as rapidly to your VPN as to the internet, adds Sealey. BT currently offers two SDSL products: BT Business Broadband Advanced and BT Enterprise Ethernet (see www.bt.com/business/advanced).

Market watchers confirm that broadband is not just here to stay, but of increasing relevance to SMEs. "It opens up VoIP (voice over IP) along with lots of other advanced communication services down one pipe and is starting to let users integrate these applications into their main business processes," says Mark Blowers, senior research analyst at UK analyst firm Butler Group. Blowers also welcomes the availability of more and more hosted solutions offerings. "This cuts down the initial cost significantly, which could offer a big advantage," he adds.

So the verdict is clear: broadband means many things and needs careful unpacking. But it's definitely the right direction; just make sure you end up with the safest, most appropriate and efficient technology for your organisation.

But don't just trust us. "Ask your peers," says Lindsay. "In your network, the chances are someone has this technology. Talk to them about the real pluses and minuses, what issues they had. Then, and only then, look to suppliers with credibility and a brand you can trust." Let's get you safely on to the information superhighway, in other words. ■

Broadband services

The Workers' Educational Association (WEA), the country's largest voluntary provider of adult education, has cracked the issue of broadband as a business platform.

WEA has hooked up with BT's Business Broadband Advanced service to save costs and increase service levels. By connecting to one major server in London critical data such as policy documents and student files from nine UK regions, all of which need constantly updating, can be easily and safely managed, says WEA's IT manager, Russell Flemmer.

The broadband option is an upgrade to a more expensive private circuit network, which was costing £12,000 for a 1Mbyte leased line; this cost is now down to £2,000 per connection, at a 2Mbyte basic speed. "I am very pleased with the performance so far," adds Flemmer.