



dti

**ACHIEVING BEST PRACTICE
IN YOUR BUSINESS**

Broadband



The DTI drives our ambition of 'prosperity for all' by working to create the best environment for business success in the UK. We help people and companies become more productive by promoting enterprise, innovation and creativity.

We champion UK business at home and abroad. We invest heavily in world-class science and technology. We protect the rights of working people and consumers. And we stand up for fair and open markets in the UK, Europe and the world.

Achieving best practice in your business is a key theme within DTI's approach to business support, providing ideas and insights into how to improve performance across your business. By showing what works in other businesses, we can help you see which approaches can help you, and then support you in implementation. This brochure focuses on these solutions.

Broadband is a high bandwidth internet connection. It is fast and 'always-on', and allows you to communicate, do business and get hold of information instantly and at any time. You can pay a flat fee for monthly connection, giving you more control over your internet bills.

It can also give you a significant competitive advantage over other businesses. With broadband, your staff can make greater use of the internet to source information, rent and download services and applications, and deliver superior service as a result.

This brochure is for: Anyone interested in how faster internet access could benefit their business.

It covers: What broadband is, the benefits it can offer and how you go about getting it.

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Speed of access and constant connection allow businesses to take greater advantage of the internet in a number of ways, including:

EFFICIENCY

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

COST SAVINGS

By paying a flat fee for broadband access, companies can see cost savings whilst also making more use of the Internet. By comparison, the cost of broadband will be more than recouped by savings in time and resources, thanks to a more streamlined and efficient way of doing business.

CUSTOMER SERVICE

Broadband can get you closer to your customers and suppliers. You can use it to offer customers round-the-clock access to account information, order status and project details. Suppliers can collect data to improve their service to you, leading to increased responsiveness to your needs.

COMMUNICATION

As staff will be able to communicate more using e-mail, there is the potential to reduce phone and postage bills. There is also the option of greater collaborative working and videoconferencing, which could reduce courier and travel costs.

FLEXIBILITY

With broadband, your business can become more flexible and adapt to your staff, customers' and suppliers' needs. Mobile or home-working staff can access your network remotely – which can save you money on office space. Flexible working also makes your business more competitive.

The benefits

A broadband connection gives you faster access to the internet than dial-up – a 1Mb file that takes three minutes to download with a modem takes less than 20 seconds with broadband at 512Kbps.

Deep Blue Dive

Deep Blue Dive sells diving equipment and organises diving holidays and courses from Tyne & Wear.



The company upgraded to a 512Kbps download, 256Kbps upload ADSL service via BTopenworld costing £30 a month.

As a growing business, Blue Dive needed a faster connection for everything, including downloads, uploads and web research. "We also upload graphic and other information to the virtual store on the web server, plus product updates and news," says partner John Paul Gardener.

Alongside the physical store is an e-commerce website offering a virtual store plus customer information, newsletters and product updates.

"Spam and virus carrying e-mails are a worry," he says, "and although using broadband doesn't create this situation, it can exacerbate it."

"We have recently switched to having our e-mails scanned by our web hosting company for a small monthly fee before they are forwarded to us, and this cuts down the virus risk considerably. We've also installed a firewall and anti-virus software."

The company is also using a sensible digital filing system and information storage policy. Website technology is becoming increasingly sophisticated and users can sometimes download files without being aware of it.

"Using broadband has definitely contributed to the success of the business," says John Paul. "It definitely helps. Anything that makes our operations faster and more efficient is a bonus that we can pass on to customers."

"Not having ADSL is like driving an old banger of a car. We renew our vans every three years and update our PCs regularly, and I see ADSL in the same way."



■ ■ ■ Fast broadband links between its UK and Sydney offices have enabled Stuart Design and Marketing to develop 24-hour working practices which result in much faster turnaround times for clients.

There are a number of different broadband services available, and access depends on where your business is based. Over three-quarters of the UK population has access to broadband services, and there are plans underway to extend this access nationwide.

The most common form of broadband is ADSL, which uses existing telephone lines. To get ADSL, your business needs to be within 5.5km of a broadband-enabled exchange (BT has recently extended this limit to 6km).

If you can't get ADSL broadband, there are other options. Broadband is also available by cable in certain areas, and through satellite and wireless solutions in many areas not covered by ADSL and cable. (You can read more about the different types of broadband on page 6).

You can find out what's available in your area by using the Broadband Checker on our website at www.dti.gov.uk/bestpractice.

As we've already said – the vast majority of the UK can already get broadband, usually via an ADSL connection. Some rural areas, however, may find that they can't. As service providers roll out broadband, they naturally connect up the most densely populated areas first. What rural communities need to do is prove that there is sufficient demand in an area to make it economically viable. In some cases this simply requires enough people to register an interest with a service provider. In the more remote areas, communities will need to work together to build a broadband campaign. For more information on how to start and run a broadband campaign, read our brochure *Rural broadband*, available from the DTI Publications Orderline.



The state of play – broadband coverage

Internet connection options

A standard modem has a connection speed of up to 56 kilobits per second (Kbps), which is a measure of how fast information is transmitted. Broadband is a generic term for any way of connecting to the internet at faster than 256Kbps.

ADSL (Asymmetric Digital Subscriber Line), as offered by BT and other providers, is by far the most common form of broadband. However, there is a wide range of options depending on your location, needs and budget. Broadband services are developing constantly which means prices are falling and speeds are increasing rapidly. The table below sets out the most commonly available options and gives some indicative prices*.



Dial-up

Description

Standard modem and phone line set-up

Max download speed

56Kbps



Max upload speed

32Kbps



Typical installation cost

£40

Typical monthly cost

£20 (for line and calls)

Advantages

- Tariff options can give predictable costs

Disadvantages

- Unreliable
- Extremely slow
- Not 'always-on'



ISDN

Description

You plug an ISDN adaptor into a standard phone line

Max download speed

128Kbps



Max upload speed

128Kbps



Typical installation cost

£75

Typical monthly cost

£25

Advantages

- Available to 97% of the UK

Disadvantages

- Technically only 'mid-band', ie, faster than a modem but much slower than broadband
- Not 'always-on'
- Expensive considering its speed



ADSL

Description

The most common form of broadband, it uses existing telephone lines

Typical download speed

512Kbps



Typical upload speed

256Kbps



Typical installation cost

£50

Typical monthly cost

£25

Advantages

- Always-on
- Most widely available form of broadband
- Relatively cheap

Disadvantages

- Only available within 6km of local exchanges which have been upgraded



Cable modem

Description

Like cable TV, it is delivered through coaxial copper cables

Typical download speed

2Mbps



Typical upload speed

512Kbps



Typical installation cost

£30

Typical monthly cost

£25

Advantages

- Relatively cheap

Disadvantages

- Need to live in a cable TV area

*CORRECT AT THE TIME OF GOING TO PRESS (APRIL 2004)

Because most people download more information than they send, many types of broadband are 'asymmetric' – that is, they have different speeds for downloading and uploading information. The speeds quoted are maximum speeds per second; the actual speed will depend on the number of people with whom you are sharing your connection – the so-called 'contention ratio'.



Satellite (1-way)

Description

Uses a satellite to receive information and a telephone line or ISDN for uploading data

Typical download speed
512Kbps



Typical upload speed
128Kbps



Typical installation cost
£400

Typical monthly cost
£30

Advantages

- Wide availability
- Good for home use

Disadvantages

- Slow upload speed may be unsuitable for business use
- Transmission delays (latency) can disrupt interactive services
- Weather can affect reception
- Ties up a telephone line



Satellite (2-way)

Description

Uses a dedicated satellite dish to send and receive information

Typical download speed
512Kbps



Typical upload speed
128Kbps



Typical installation cost
£900

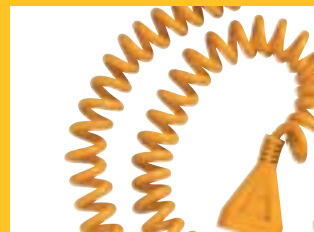
Typical monthly cost
£60

Advantages

- Wide availability, even in rural areas

Disadvantages

- Latency
- Variable reception due to weather



Leased line

Description

A private telephone line reserved solely for an individual business

Typical download speed
2Mbps



Typical upload speed
2Mbps



Typical installation cost
£1000

Typical monthly cost
£450

Advantages

- Exceptionally fast and reliable
- Excellent quality of service

Disadvantages

- Very costly
- Geographic restrictions



Wireless

Description

A collection of different technologies that use radio transmitters and receivers to link computers

Typical download speed
2Mbps



Typical upload speed
2Mbps



Typical installation cost
£200-£400

Typical monthly cost
£30

Advantages

- High bandwidth
- Access the Web on the move
- High media profile makes advice easy to come by

Disadvantages

- Still in its infancy, so availability is limited
- Setting up a wireless network requires substantial technical knowledge

Being constantly connected to the internet does open up your business to new security threats, such as viruses and hackers. Both of these risks could potentially gain access to, and destroy data on, your network.

There are a number of precautions that all internet users can take to ensure protection of their data:

ANTI-VIRUS PROTECTION

The most common forms of attack are viruses, which are often spread by e-mail. The two main forms of anti-virus protection are:

- **External anti-virus filters**

All incoming e-mail is redirected via a third party company who will check e-mail and attachments for viruses and remove them before they are sent on to your network. Typically, this service costs a few pounds per user on the network.

- **Server-based anti-virus filters**

You can alternatively install anti-virus software on the server on your network that acts as the incoming e-mail server, as well as on the other individual computers on the network. If a virus is detected, it is removed or quarantined so that it cannot infect the rest of the network. Be sure to protect yourself against new viruses by getting software that updates itself automatically over the internet.

Security

check which **security** services you
are offered **before you sign up**

FIREWALL

Firewalls protect the vulnerability of your network by screening incoming data. The firewall is usually installed in a computer separate from the rest of the network, so your network resources remain safe. Firewalls vary in cost and security, but need not be expensive – in fact, small companies can create a firewall by configuring an old PC with free software. You will need some basic knowledge in order to do this.

It is also worth remembering that the security risks you face depend somewhat on which broadband service you use. Business broadband services may offer a more robust security set-up than SOHO (Small Office, Home Office) services; cable broadband users access the internet via a more vulnerable LAN (Local Area Network); and wireless and satellite systems have their own complex security policies and risks. This is a good reason to get security advice from your ISP (Internet Service Provider) – check which security services are offered before you sign up.

Remember that network security is just one aspect of securing your data, and that security is only as good as the weakest link. It is worth developing a security policy for employees to adhere to, and you will need to ensure they are kept informed of it.

VIRTUAL PRIVATE NETWORK

If you want to give off-site workers or remote offices access to your network, you can use your broadband connection to set up a virtual private network (VPN). This is an extremely secure system of transferring data because it uses the most powerful encryption technology available. It is also a comparatively cheap way of securing data, because you don't need to hire a system of private leased lines; instead data is sent over the internet.

For more information on security, visit our website at www.dti.gov.uk/bestpractice to check out which publications are relevant to you.



Implementation checklist

- ✓ This checklist will help you implement broadband. To keep track of your progress, tick off each area as you work through it.

RESEARCH & ANALYSE

CHECK AVAILABILITY

- Can you get broadband in your area? Use the broadband checker on our website to find out.
- If not, you may need to start your own community broadband campaign. Order our brochure 'Rural broadband' for help and practical advice.

SET TARGETS

- Set goals for broadband – such as improved customer service or reduced costs.
- Agree specific, measurable objectives for what you want to achieve, such as lower internet access costs or increased productivity.

COST BENEFIT ANALYSIS

- Use the table on pages 6-7 to compare the costs of different forms of broadband with your anticipated benefits.
- Don't just focus on access costs – think about productivity. For example, broadband will cut travel to meetings and allow you to access and offer new services.
- Remember to factor in hardware and software costs.

CONSULT

CONSULT INTERNALLY

- Find out which members of staff could most benefit from broadband and which business processes could be improved.

EXTERNALLY

Broadband offers opportunities to provide new services and work in new ways.

- Speak to your suppliers to see how broadband could help you work more closely together.
- Speak to customers to see what services they would most like you to offer them.

PLAN & TEST

EVALUATE OPTIONS

- Consider your future bandwidth needs, not just your current ones – remember that broadband will underpin many of your future technology investments.
- Think about your internet use – do you download and send large files or are you simply seeking fast web access? Download speed is the headline figure that most people concentrate on, but if you want to send large files, you'll need to make sure your option has a good upload speed too.
- Some options require more technical knowledge than others – can you handle the installation yourself or will you need help?

PLAN THE ROLLOUT PHASE

- Training – broadband in itself probably won't require you to re-train staff, but if you introduce it at the same time as you change ways of working, you will need to make sure staff are familiar with the changes. What will the cost be?
- Decide which staff will require training and allow time for them to adjust to the new system.

ACT

IMPLEMENT BROADBAND

- Roll out any necessary training.
- Encourage staff involvement and feedback, this will help smooth implementation, as staff buy-in can make or break a technology project.
- Consider setting up a cross-departmental taskforce to manage the implementation process – it will help with staff buy-in and ensure that implementation works company-wide.

EVALUATE

- Monitor and review the impact on your business and against your objectives.
- Get feedback from staff, customers and suppliers on the changes.
- Evaluate the impact after 6 months and 1 year. Have you achieved your objectives? Establish how you could improve things further.

Further help and advice

Achieving best practice in your business is a key theme within DTI's approach to business support, providing ideas and insights into how to improve performance across your business. By showing what works in other businesses, we can help you see which approaches can help you, and then support you in implementation.

ACHIEVING BEST PRACTICE IN YOUR BUSINESS

To access free information and publications on best practice:

- visit our website at www.dti.gov.uk/bestpractice
- call the DTI Publications Orderline on 0870 150 2500 or visit www.dti.gov.uk/publications

SUPPORT TO IMPLEMENT BEST BUSINESS PRACTICE

To get help bringing best practice to your business, contact Business Link – the national business advice service. Backed by the DTI, Business Link is an easy-to-use business support and information service, which can put you in touch with one of its network of experienced business advisers.

- Visit the Business Link website at www.businesslink.gov.uk
- Call Business Link on 0845 600 9 006

GENERAL BROADBAND INFORMATION

Having read this brochure, you'll probably have some more questions about the technical aspects of broadband or about how you go about getting it. The following sources of information and advice should help you get answers to your questions.

- As well as detailed advice on getting the best from a whole range of technologies, our website has a section on broadband. Visit www.dti.gov.uk/bestpractice (or call the DTI Publications Orderline) for a wide range of useful publications, including:
 - Internet (04/647)
 - Security (04/807)
 - Rural broadband (03/1393)
- ADSLguide.co.uk offers independent comparisons of broadband services www.adslguide.org.uk
- The UK Broadband Task Force is a DTI body working to give the UK the most extensive and competitive broadband market in the G7 by 2005. www.broadband.gov.uk

COMMERCIAL PROVIDERS OF BROADBAND

- British Telecom – www.bt.com
0800 400400
- ntl – www.ntl.co.uk
0800 052 0800
- clara.net – www.claranet.co.uk
0845 355 2000
- Freeserve – www.freeserve.com
0870 010 2462
- AOL – www.aol.co.uk
0800 376 4406

Examples of products and companies included in this leaflet do not in any way imply endorsement or recommendation by DTI. Bear in mind that prices quoted are indicative at the time it was published.

GENERAL BUSINESS ADVICE

You can also get a range of general business advice from the following organisations:

England

- Call Business Link on 0845 600 9 006
- Visit the website at www.businesslink.gov.uk

Scotland

- Call Business Gateway on 0845 609 6611
- Visit the website at www.bgateway.com

Wales

- Call Business Eye/Llygad Busnes on 08457 96 97 98
- Visit the website at www.busesseye.org.uk

Northern Ireland

- Call Invest Northern Ireland on 028 9023 9090
- Visit the website at www.investni.com

