




broadband

A guide for business

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helping you succeed in online business

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This booklet was produced by UK online for business – a partnership between Industry and Government to help British business thrive in the knowledge-based economy.

UK online for business offers advice and support to businesses to encourage use of information and communication technologies; provides jargon-free, impartial advice; has a network of UK online for business advisers as well as programmes for innovative applications and key technologies.

“ Non-stop access to the Web and e-mail, at speeds up to ten times faster than we're used to – broadband is a new way of connecting to the Internet. And it comes with exciting implications for the way we do business.”

This booklet takes you through the features of broadband and should help you decide whether broadband could benefit your business.

For further information about Broadband and other aspects of doing business online, visit www.ukonlineforbusiness.gov.uk

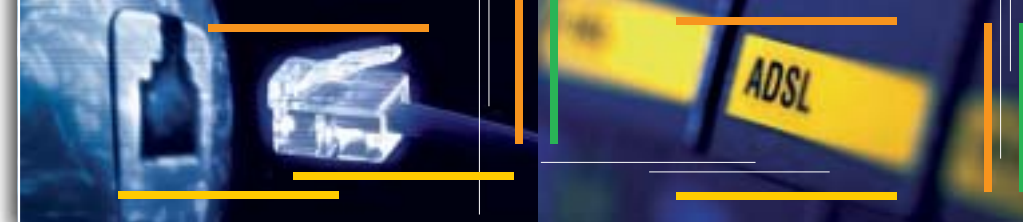
Although we have used plain English throughout this guide, we have assumed some experience of the Internet and of the more common terms. The jargon buster on our web site – www.ukonlineforbusiness.gov.uk explains some of the terms used.

What is a broadband connection?

A broadband connection is a fast, high bandwidth connection to the Internet that, via a special modem, is permanently online.

It's the missing link, formerly filled by expensive leased lines and private networks, between small business and SOHO (small office / home office) users and the fast, efficient internet backbone.

Users pay a set monthly fee rather than being charged by time spent online, in the same way as with unmetered narrowband services. Broadband service can be provided via an existing telephone line, via cable, via fixed wireless links or via satellite.



What are broadband's benefits?

UK businesses have come to value the Internet as a business tool. A broadband connection will help you to do much more with the time you spend online.

The benefits of broadband are speed and convenience. A broadband connection can carry ten times more information than a narrowband (dial-up) connection (commonly 512 kbps compared to 56kbps).

With broadband there's no need to dial up and wait for your modem to establish a connection. Simply launch your browser and/or e-mail software and you're online. For small and home offices, a broadband service has the added benefit of allowing use of the Internet and the phone simultaneously and, if PCs are networked via a router or a wireless network, to allow more than one PC to share the connection.

If your business needs to access web pages instantly or receive real-time news reports or financial bulletins, send and receive large e-mail attachments or have fast access to a hosted web server or a hosted back-up or e-commerce service, then a broadband connection is well worth considering.

All broadband connections, being 'always on', should be used with appropriate security solutions – ask for a copy of the UK online for business brochure on Security, or have a look at www.ukonlineforbusiness.gov.uk

CASE STUDY

Sarah Smith, a specialist medical writer based in a remote village far from ADSL exchanges or cable, has found satellite broadband to be a boost to her business.

The new connection saves about two days a month in time spent waiting for large files to download, and she no longer has to alert her ISP when she's expecting a particularly large file: *"I don't have as much downtime and although the installation wasn't cheap, I feel that I've saved money."*

Broadband – the options

Different types of broadband service are available in the UK.

ADSL is the most widely used broadband platform in the UK. ADSL technology converts an existing phone line into a high bandwidth connection that is continually online.

Service for ADSL is asymmetrical, which means that download speeds are much faster than upload ones (ie it's quicker to receive a file than to send one) – an average package offers 512kpbs download, 256 kpbs upload.

Cable Using a cable modem, service is 'always-on'. This allows for simultaneous phone usage (cable broadband doesn't work over telephone lines) and offers asymmetric speeds of 512 kpbs downstream and, typically, 128kpbs upstream. Installation and usage costs have recently been lowered and now start at around £15-30 per month, plus £50 for installation/equipment hire.

Fixed wireless services are becoming more widely available, offering broadband internet access at speeds from 64kpbs 'burstable' downloads (allowing higher rate rapid data bursts) up to 512kpbs or 1mbps services, with the higher bandwidth services costing more. Usage fees are between £30-300 per month, with installation averaging around £150.

CASE STUDY

Since it began using broadband at the end of 2001, Cool Wax Records has been able to transform its online store. With 30-40 or so music tracks, each about 360k, being uploaded two or three times a day, broadband's ability to handle 5 and 6Mb files in minutes is an obvious benefit.

"The whole system has been designed to run over broadband," says Mark Jones, IT Director. "Uploading MP3s over narrowband would have taken hours. We also need a constant connection to e-mail as we need to know about orders as soon as they come in."



Satellite broadband is becoming available in formats that offer two-way access. Data throughput is from 256kpbs to 2mbps downstream, 64kpbs to 320 kpbs upstream.

Monthly rental charges start at around £60 and range up to £500 plus for an unlimited 2mpbs service, with installation charges around £800-£1,000 a satellite dish and a set-top type box.

Wireless ethernet or WiFi networks are beginning to appear across the UK, rolled out commercially by BT and other vendors during 2002. WiFi hot spots allow a small community of users using inexpensive wireless cards (around £40 for a PC, £60 plus for a laptop) to share one broadband connection.

Leased lines offer a secure always-on connection between two or more points for an annual fixed fee, usually at least £3,000-£5,000 per annum based on agreed data rates and speeds, usually 512kpbs upwards.

The business case: what can I do with broadband?

Using broadband opens the door to a range of fast-developing business and communications tools.

- Broadband enables outsourcing, or the use of application service providers which can rent out e-commerce tools such as EDI, CRM and data mining (visit www.ukonlineforbusiness.gov.uk for more information on all of these).
- A broadband connection allows you constant connectivity with, and control over, your web hosting service.
- The always-on nature of broadband connections means that information (e-mail, news and business bulletins, stock quotes and updates) comes direct to your desktop as it's sent... you don't need to dial up and download.
- Spread your business's reach by using broadband to get involved in online procurement, online auctions and B2B exchanges, online ordering and e-commerce.



- Using a fast, efficient broadband service will allow employees to respond more promptly to customer needs as well as to deal more effectively with customers and suppliers via online communications.
- Businesses using broadband will be able to offer their suppliers and partners more flexible ways of working, such as receiving CAD drawings or photographs by e-mail.
- Present your business in a positive light by using technology efficiently to improve internal efficiency and customer service.
- Use broadband to set up virtual private networks (VPNs) linking branch offices and off-site workers, so improving communications and internal efficiency.
- Work collaboratively with co-workers, suppliers and partners in real time using either networked or web-based audio/videoconferencing or web-based meeting and planning software.

Always discuss your proposed applications with prospective broadband suppliers so that the connection can be configured to support them.

CASE STUDY

A fast ADSL connection has meant that Deep Blue Dive has cut the time taken to process each order by several minutes. Downloading orders used to take several minutes. *"Now it only takes one minute, and is much faster than with the ISDN line we used before,"* says partner John Paul Gardener.

Security: are broadband networks safe?

Broadband offers enhanced performance but also raises security concerns that businesses must learn to address.

An always-on connection means that your PC is potentially vulnerable to unwelcome visitors. Some ISPs and network providers are building in security and data filtering systems as part of service delivery, but broadband users should install their own inexpensive firewall and virus scanning software. Using an inexpensive router to share network access can also help to boost security.

Check with your ISP about security policy and requirements.

Implementing broadband

- You'll need the hardware (a PC of a certain specification, usually with a USB port) plus a modem and possibly a network card.
- You'll need to sign up with a broadband ISP, which will advise you on the hardware needed to run its service. Have a look at our web site for more information on this.
- The ISP will usually supply the modem (or antenna or dish) plus cables, and will charge a fee (around £25-£250) for installing and setting up the connection and equipment. Several ISPs also offer a less expensive 'plug and play' DIY install ADSL product.
- Your contract will involve paying monthly subscription or service fees, averaging £20-60 per month for basic home and business services respectively (including call and data costs).

CASE STUDY

For design consultancy Origin ID, using ADSL has meant cost and efficiency savings. *"We regularly send out PDF proofs of up to 3Mb to clients, and using a conventional narrowband service this took a lot of valuable studio time. Now we can send much larger files and the service is much faster. We've halved our telephone bill,"* says Graham Davies, Managing Director.

Which broadband service is best for my business?

The costs you'll incur in setting up your broadband connection and in paying for ongoing services vary from provider to provider and depend on how you actually use the services.

Location may restrict the services available in your area.

Business needs will also determine your choice. Will you use a modem or a router allowing network access? Do you wish to host a server? Set up a Virtual Private Network? Videoconference? Check with your ISP for advice on the right set-up.

Choosing a service provider

The majority of ISPs offering business broadband services have developed robust, mature networks. In many cases the choice is determined by price, reliability, service levels and by the value added services ISPs can offer in the package. Does your ISP offer:

- A guaranteed level of service?
- Value added services such as web-based e-mail, worldwide local e-mail access, domain name registration and web space, e-mail screening, anti-virus software and effective technical support?
- Additional services – such as web design, e-commerce tools, collaboration software, virus scanning, remote back-up – at competitive prices?
- The ability to convert/upgrade from your existing ISDN/leased line package?
- An upgrade path as new and faster services become available?
- An effective network, powerful servers and financial stability?

GUARANTEEING GOOD SERVICE

Broadband technologies are mature and generally reliable, but good business planning dictates that information and data are adequately protected. Quality of service is a major issue with broadband services. Many ISPs offer Service Level Agreements (SLAs) or Quality of Service (QoS) contracts that, in the case of problems, can take care of technical support levels, data back-up, fill-in services and can also compensate you for the downtime of any mission critical services. Such contracts set out agreed service levels, ownership of business data issues and security/data protection policy.

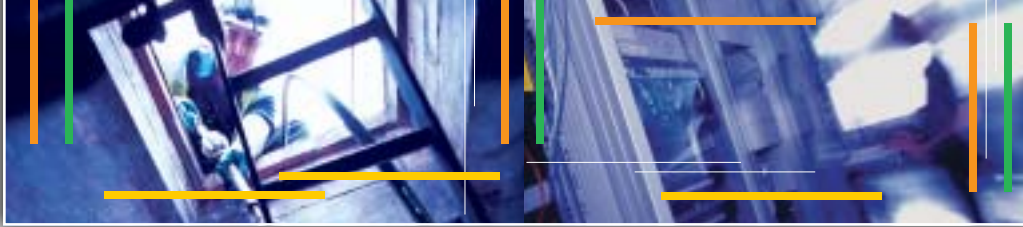
Similarly, if you are considering the idea of outsourcing, that is using an application service provider (ASP) – either to back-up your information remotely or to provide you with pay-per-use software applications, you will certainly need some kind of broadband connection backed up with a carefully thought out contract.

BROADBAND SPEEDS – AN ISSUE TO WATCH

Broadband providers estimate their service speeds at widely varying rates – anything from 10 to 100 times faster than a standard modem connection. But, when you connect to a broadband network, you share that network with other users. Total bandwidth on these networks is calculated to provide the advertised data speeds for a 'contention' ratio of 20:1 for business connections and 50:1 for residential connections. Some fixed wireless solutions offer a 15:1 contention ratio.

So, your business may eventually be sharing its 512kbps download connection with 20 other businesses made up of many users. For 'bursty' applications, such as web-browsing, this may not be a problem. But when one or two people start streaming video to their desktops, there is a chance that the network could become congested – and that's before you hit the public Internet, where the server you're trying to reach may itself be congested because of high demand.

At the moment early adopters of ADSL, fixed wireless and cable modems report excellent results, far superior to dial-up modem connections. It remains to be seen whether the quality of service will be maintained as take-up and changing patterns of use put pressure on those connection ratios. This will be an issue to watch out for in the future.



For more information

www.ukonlineforbusiness.gov.uk

Up-to-date information and advice on getting the business benefits from technology – including more details on Broadband, with useful links, case studies and downloadable guides.

Contact our network of UK online for business advisers throughout the UK, in partnership with Business Links in England and the equivalent in Scotland, Northern Ireland and Wales.

UK online for business advisers can help you make the most of information and communication technology. They provide impartial help and advice tailored to your individual business needs. You can try out technologies and find out how to work electronically with your customers and suppliers.

UK online for business advisers can offer:

- impartial, expert advice
- consultancy and IT audits
- signposting to training
- hands-on access to equipment
- Internet and world wide web services
- forums for talking with other business people

www.businesslink.org.uk

General business advice and practical help, including all aspects of information and communications technology.

www.telecomsadvice.org.uk

Working in partnership with the Oftel Small Business Task Force and UK online for business, the site provides impartial background information on business applications of telecommunications and information and communications technologies, with links to more detailed information.

For more information, glossary of terms and links to other sources of help, visit www.ukonlineforbusiness.gov.uk

What is UK online?

UK online is a partnership between Government, industry, the voluntary sector and consumer groups to make the UK one of the world's leading knowledge economies.

UK online for business is a DTI-led industry/Government partnership. It offers expert, impartial, jargon-free help and support to businesses that need and want it. UK online for business has a network of business advisers throughout the UK to help to do this.

UK online centres – run by the Department for Education and Skills and Department for Culture, Media and Sport – will provide people with access to new technologies, and help to develop skills to use the Internet. Over half of the centres will be in public libraries.

www.ukonline.gov.uk will provide a single online point of entry to government information and services. It offers people and businesses a service from government to better match the way they live and work and is available 24 hours a day, seven days a week, 365 days a year.



Acknowledgement

The contents of this book are based in part on the materials produced by TelecomsAdvice

UK online for business advisers form part of the services offered by Business Link in England and their counterparts in Scotland, Wales and Northern Ireland. A range of other services to support business are also available from these organisations. For details of your local adviser and useful links, please refer to our web site at www.ukonlineforbusiness.gov.uk or call our Infoline on 0845 715 2000.

