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WALES TOURIST BOARD

USING BROADBAND TO BOOST YOUR BUSINESS

This factsheet has been produced by the **Wales Tourist Board** to help businesses in all sectors of the tourism industry to improve their business performance through the use of broadband.

What is broadband?

Broadband is a high-speed internet connection. It allows users to remain connected to the internet at all times (always-on), as well as to send and receive information very quickly and at any time.

The faster speeds of broadband connections enable users to browse the internet more quickly: web pages load faster, downloads and file transfers are quicker.

A standard 'dial-up' 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 256 Kbps. Speeds available range from 256Kbps to 2 megabits per second (Mbps).

The benefits of broadband

High-speed access and constant connection allows tourism businesses to take greater advantage of the internet in a number of ways.

Efficiency: A permanent connection to the internet speeds up downloading information from the internet and saves time. It also provides opportunities to streamline business processes. Linking office systems to your website can help you to do business more quickly and reduce administration costs.

Cost savings: By paying a flat fee for broadband access, businesses can sometimes make cost savings while making more use of the internet. There can also be savings in time and resources through more streamlined operations.

Customer service: Broadband can help to improve relationships with

customers and improve service standards. It can be used to offer customers 24-hour a day access to information on your business and make bookings around the clock.

Communication: Broadband access often encourages managers and employees to use online services and e-mail, thereby reducing telephone and postage costs.

Flexibility: With broadband, it is easier to adapt to the changing needs of customers and suppliers and it can therefore help to make your business more competitive. You can also access your network remotely, say from home. The higher speeds of broadband also make it practical to share a connection among multiple PCs via a local area network or a wireless network.

Improved websites: Broadband can allow you to add video or audio

material to your website. However, it is important to note that these will only be available to customers with broadband.

It should be possible to view video and audio on a narrowband connection. You just need to be patient and hope your connection doesn't fall over.

Broadband options

There are a number of options for obtaining a broadband connection.

ADSL (Asymmetric Digital Subscriber Line). This is the most commonly used system. It allows an existing telephone line to be used simultaneously for voice calls and as a high bandwidth internet connection. Data can be received faster than it can be sent. ADSL is available in most of Wales, but not in some rural areas.

SDSL (Symmetrical Digital Subscriber Line). This is similar to an ADSL system, but offers faster uploading of data. You will also need a separate telephone line for voice calls.

Cable modem. This is an alternative to A/SDSL offered in areas where cable television and telephone services are available. Data is sent and received

through a coaxial copper cable.

Satellite systems. These provide an alternative in areas where ADSL and cable are not available. Installation and running costs are considerably higher.

Leased lines. These are private digital lines reserved solely for an individual business. They are, however, expensive and are only likely to be an appropriate solution for larger businesses.

Wireless systems. With wireless technology, a connection is made to the internet using radio waves rather than being physically connected by a cable. Wireless service providers are not available in all areas.

Features, advantages and disadvantages of these connection options are given in the charts on pages 7 and 8.

ADSL is the most popular connection for both home and small business use, but it is not yet available in all areas.

Understanding the jargon

- **ADSL:** Asymmetrical Digital Subscriber Line. High speed internet access over existing telephone lines.
- **Bandwidth:** the capacity of an internet connection to transmit and receive data.
- **Broadband:** a high-speed internet connection.
- **Contention ratio:** the maximum number of users sharing the bandwidth on the connection between a local exchange and the internet service provider.
- **Dial-up:** connection to an internet service provider over a normal telephone line.
- **DSL:** Digital Subscriber Line.
- **Ethernet:** most widely used local area network technology.
- **ISDN:** Integrated Services Digital Network.
- **ISP:** Internet service provider, an organisation that provides internet access.
- **Kbps:** Kilobits per second.
- **LAN:** Local Area Network.
- **Mbps:** Megabits per second.
- **Microfilter:** a device to prevent telephone calls interfering with broadband signals.
- **Modem:** equipment that connects a computer to the internet via a telephone line.
- **SDSL:** Symmetrical Digital Subscriber Line.

What do I need to get broadband?

In order to obtain ADSL broadband, your business needs to be located within an ADSL enabled telephone exchange and to have:

- a **PC or Apple Mac** with a free PCI slot, USB port, RJ45 ethernet port or wireless network card. (If you are uncertain about the features of your computer, consult the manual, manufacturer's website or your supplier);
- a **broadband modem**, which allows your computer to send and receive data to/from the local telephone exchange. This is either placed in the PCI slot inside your PC, connected to a USB or ethernet port (sometimes called a broadband router) or via a wireless network (sometimes called a broadband wireless router);
- a **broadband Internet Service Provider (ISP)** to handle forwarding your data between the local telephone exchange and the internet;
- an **analogue telephone line**. Most ISPs resell broadband services offered by BT Wholesale and therefore require you to have a BT line;

- a **microfilter** to prevent telephone calls interfering with broadband signals. This is a small device that plugs into a telephone socket and has two sockets, one for your telephone or fax and the other for the broadband modem.

Broadband modems and microfilters are normally supplied by ISPs as part of their initial set-up packages

To find out if broadband is available on your exchange, enter your telephone number into the online checker at www.bt.com/broadband

Broadband ISPs

Businesses can choose to purchase broadband services from a number of internet service providers (ISPs), although not all suppliers provide services in all areas.

You can find out which ISPs operate in your area by using the broadband checker on the Department of Trade and Industry (DTI) website: www.dti.gov.uk/bestpractice/technology/internet-broadband.htm.

Costs, communication services and standards of customer service vary – and change frequently.

Independent ratings of different ISPs are available on www.uk-broadband-review.com

Choosing an ISP

As well as cost, there are a number of other factors to consider when selecting an ISP broadband package.

Connection speeds: the speed of a broadband connection is usually given as the downstream (to your computer) speed in kilobits/megabits per second. A typical broadband connection has a downstream speed of 512Kbps and an upstream (from your computer) speed of 256Kbps, but faster connection speeds are available.

Customer service: the quality of customer service can vary considerably between ISPs. For a business, it can be worthwhile paying a little more for a more robust service.

Contract length: the minimum length of the contract with an ISP can vary from a month to a year.

Contention ratios: the term 'contention ratio' refers to the number of people who share the connection with you. A high contention ratio can result in slower speeds. Business packages typically have a lower contention ratio than home packages.

Dynamic and static IP addresses:

every computer on the internet is allocated an Internet Protocol (IP) address. These uniquely identify a particular computer on the internet. Some ISPs allow you always to have the same IP address (static allocation). Others assign a new IP address each time you reconnect (dynamic allocation). Static allocation is useful if you plan to use your PC as a server on the internet and access your PC remotely.

Range of services: as well as access to the internet and e-mail accounts, ISPs can offer free webspace, back-up dial up accounts and other special services.

Identifying your business requirements

Acquiring a broadband connection can offer your business substantial benefits. However, it is important to identify what your business really needs before taking any decisions.

- Start by checking what services are available in your area and at what cost.
- Consider which members of your staff could benefit from use of

broadband and which business processes could be improved.

- Review your current internet use. Do you download and send large files or are you simply seeking fast web access? If you need to send large files or want to host your own website, think about upload as well as download speeds.
- Think about how broadband would enable you to enhance services to your customers and help you work more effectively with suppliers.
- Consider your future needs, not just your current ones, as broadband services are likely to underpin many of your future technology investments.
- Decide whether you will be able to install a broadband connection yourself or will need technical support. Many ADSL packages are designed for easy installation with helplines available if you experience any difficulties.
- Set objectives for your broadband connection. For example, do you want to lower internet access costs and/or increase productivity.
- Select a connection option, such as ADSL, an ISP and a service package.

Don't just focus on access costs – think about productivity, reliability and customer service support.

Networking

There are several methods of sharing your broadband connection among several PCs. These include connecting all the computers together via:

- a wired (ethernet) or wireless network, and connecting one computer to a broadband modem;
- a network and connecting the broadband modem into the network;
- a wireless network and connecting the access point to the broadband modem.

Security

Being constantly connected to the internet opens up your business to new security threats, which could enable people to gain access to, and destroy data, on your network. It is therefore essential to take precautions to ensure the security of your data by keeping up to date with internet security software.

Viruses and worms attempt to install themselves onto your computer and then spread themselves to other

computers. They often cause damage to your computer in the process, such as deleting files, making your computer inoperable or reducing the speed of your computer down so much that it becomes too slow to use.

Hackers are people who try to break into your computer remotely to gain access to it.

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

- **external anti-virus filters**, where all incoming e-mail and attachments is checked and any viruses removed by an external company, such as an ISP. The cost of this service may be included in a broadband package or may incur an additional charge;
- **internal anti-virus filters**, which are installed on your computer or the server of your network. If software detects a virus, it is removed or quarantined. With internal anti-virus protection, it is important to protect yourself against new viruses by purchasing software that updates itself automatically over the internet.

Firewalls protect your computer or network against hackers by screening incoming data. Firewalls vary in cost and levels of security. There are two main forms of firewall: software firewalls and hardware firewalls.

Software firewalls are programs that run on your computer. Hardware firewalls are physical devices. Many broadband modems, especially ethernet and wireless ones, include a firewall. Hardware firewalls do not usually work for broadband modems that connect to your PC via a USB or PCI slot.

Apple Macintosh computers running OSX and computers running Linux are supplied with their own firewalls.

For further information on security, see www.dti.gov.uk/bestpractice

Whitehall Lodge

Whitehall Lodge at Williamston, near Tenby in Pembrokeshire is a 4-Star guesthouse, owned by Bob and Ruth Keys (see www.whitehall-lodge.co.uk).

Bob Keys was keen to upgrade his internet connection. He also wished to offer leisure and business guests access to the internet during their stay. After careful research, he selected a broadband provider that could offer a reliable connection to the internet for his business, as well as a high level of support.

He then consulted the WTB's eCommerce advisor regarding methods of making the broadband internet connection accessible to guests. He was made aware of the popularity of wireless hotspots, especially with business travellers using laptops.

Whitehall Lodge decided to offer a communal computer for guest use, and a Wifi access point for guests with their own laptops. Adopting wireless technology also enabled Bob Keys to throw away the cables connecting his computer to other devices, such as a printer.

Bob and Ruth Keys are convinced that the new broadband facilities give their business a real competitive advantage.

Broadband support in Wales

The Welsh Assembly Government's Broadband Wales programme aims to provide accessible, affordable broadband access across Wales by March 2007. The Welsh Development Agency (WDA) is a key partner in the programme and is responsible for the majority of the broadband business initiatives that are being delivered through the Broadband Wales programme.

As well as a marketing initiative to raise awareness of the benefits of broadband and improve demand for broadband services, work is being undertaken to overcome identified obstacles regarding broadband supply in Wales.

The **Broadband Support Scheme for Business & Voluntary Sector Organisations** is aimed at providing broadband connectivity to small and medium sized businesses and voluntary sector organisations in Wales.

The scheme provides a subsidy for a broadband connection from a range of technologies including DSL, cable, wireless, leased lines and satellite.

The WDA also operates a "Try before you buy" scheme through ICT Centres

in Wales. ICT Centres are enabled with satellite and terrestrial broadband services, where available. These ICT Centres offer free impartial advice on broadband and other aspects of communication technology, as well as providing hands-on experience of the technology.

Further information on the Broadband Support and the 'Try before you buy' schemes is available on [http://www.wda.co.uk/index.cfm//technology and innovation/mtp/broadband/en7953](http://www.wda.co.uk/index.cfm//technology%20and%20innovation/mtp/broadband/en7953)

Opportunity Wales

Opportunity Wales exists to help businesses grow through using the internet and, in particular, eCommerce. It aims to assist small and medium sized businesses in Wales to understand what eCommerce is, how it can help their business to grow, and how key business and technical issues can be managed to ensure that every business receives a tangible benefit.

Two Opportunity Wales eCommerce advisers work with the WTB, and can help tourism businesses use eCommerce, including broadband services, to boost their business.

Training

If you or any of your employees have the skills required to use e-mail and the internet through a dial-up connection no further training will be required to use a broadband connection.

However, it will be necessary for all users to develop their skills through on- or off-the-job training if they have not used e-mail or the internet before, or if you plan to adopt new business processes when broadband is installed. New employees may also require training.

Information on ICT training opportunities is available from Learndirect: www.learndirect.co.uk

Who can help?

Broadband Support Scheme

Welsh Development Agency,
Plas Glyndwr, Kingsway,
Cardiff CF10 3GZ
08457 775577
www.wda.co.uk

Business Eye

08457 969798
www.busesseye.org.uk

Department of Trade and Industry

1 Victoria Street, London SW1H 0ET
020 7215 5000
www.dti.gov.uk

Opportunity Wales

Venture House, Navigation Park,
Abercynon, Mountain Ash, Rhondda
Cynon Taff CF45 4SN
0845 850 0888
www.opportunitywales.co.uk

Wales Tourist Board

Business Support Unit, Brunel
House,
2 Fitzalan Road, Cardiff CF24 0UY
029 2047 5303
www.wtbonline.gov.uk

Welsh Assembly Government

Cardiff Bay, Cardiff CF9 1NA
029 2082 5111
www.wales.gov.uk

Internet connection options				
	Dial-up	ISDN (Integrated Services Digital Network)	ADSL (Asymmetric Digital Subscriber Line)	SDSL (Symmetric Digital Subscriber Line)
Description	Standard modem and telephone line	An ISDN connector is plugged into a standard telephone line	The most common form of broadband, it uses existing telephone lines	Uses existing telephone lines
Maximum download speed	56Kbps	128Kbps	512Kbps	512Kbps
Maximum upload speed	32Kbps	128Kbps	256Kbps	512Kbps
Typical installation cost You'll find that through special offers, more often than not, installation is free. Especially if you buy online.	£40	£75	£50	£65
Typical monthly cost	£20 (for line and calls)	£25	£25	£70
Advantages	Tariff options can give predictable costs	Available to 97% of the UK	Always on Widely available Can use a telephone at the same time on a single line	Always on
Disadvantages	Unreliable Very slow Not 'always on'	Faster than a dial-up modem, but slower than broadband Not 'always on' Comparatively expensive to broadband	Subject to line testing	Only available within 6km of broadband-enabled exchanges More expensive than ADSL

Internet connection options

	Cable modem	Satellite (1- and 2-way)	Leased line	Wireless
Description	Delivered through coaxial copper cables (like cable television)	1-way systems use a dedicated satellite to receive data and a telephone line or line ISDN for uploading data. 2-way systems send and receive data via satellite	A private digital line reserved for the sole use of an individual business	A collection of different technologies that use radio transmitters and receivers to link computers
Maximum download speed	2Mbps	512Kbps	Typically 2Mbps	2Mbps
Maximum upload speed	512Kbps	128Kbps	Typically 2Mbps	2Mbps
Typical installation cost	£30	£900	£1000	£200-400
Typical monthly cost	£25	£60	£450	£30
Advantages	Relatively inexpensive	Widely available, of the UK even in rural areas of Wales	Exceptionally fast and reliable Excellent quality of service	High bandwidth Access to the internet from mobile locations
Disadvantages	Only available in cable television areas	Transmission delays can disrupt interactive services Weather can affect reception Slow upload speeds for 1-way systems	Comparatively expensive Not available in all areas	Limited availability Requires substantial technical knowledge to set up a network

Please note that whilst every effort has been made to ensure the accuracy of the information contained in this booklet, it is intended to be an introductory guide only. It is not intended to be comprehensive or a definitive statement of the law in England and Wales. If you require precise or detailed information on the legislation mentioned in this guide, or on the legal implications for you in particular, you should consult a professional legal adviser.

This factsheet is one of a series of business development and marketing factsheets produced by the Wales Tourist Board to assist businesses in all sectors of the tourism industry in Wales. For details of other titles, please contact the Business Support Unit or visit www.wtbonline.gov.uk

