

CHOOSING THE RIGHT INTERNET SERVICE PROVIDER

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An Internet Service Provider (ISP) provides connectivity for your business' computers to the Internet. The service that the ISP provides affects everything that you do online, from surfing the web to the performance of your website, so choosing the right one is an important part of an Internet and e-commerce strategy.

Understanding the range of services offered and the right questions to ask will play an important part in ensuring that the choice of ISP meets your needs.

This guide looks at the range of services provided by ISPs and pointers to the key issues you need to consider in order to make the correct selection.

Differences in ISPs

Recent estimates suggest that there are now over 500 ISPs in the UK. It is a very competitive market with lots of different offerings and deals. Even household names, such as banks and retailers, provide ISP services.

ISP offerings

All ISPs essentially offer the same basic facilities, such as a choice of connection to the Internet, access to the World wide web, email and newsgroups, and web space for hosting your own website. In addition most tend to offer a range of packages aimed at different levels of users, based usually upon factors such as the speed of connection, the number of email addresses you require or the amount of free web space.

Many ISPs also act as registration agents and register domain names for their customers. Some may offer services such as website design or development of e-commerce facilities.

The costs and quality of these may well be the deciding factors in making your selection.

Check out the scalability and flexibility of the services provided. As your business grows you need to ensure that they can meet your increased demands for improved connectivity or the development of new, more sophisticated applications.

Understanding your requirements

As your business' reliance on electronic communications and e-commerce grows, so does your need for a reliable Internet service. It is vital to make the right decision for both your immediate and longer term needs.

Ensure that you understand your requirements from the outset, perhaps by doing a brief analysis of your anticipated Internet usage. You should consider:

- how many users will need an Internet connection
- where users are physically located
- whether users have network access
- whether users will require email or other web-based features
- who will publish and update your website
- whether you are likely to need any e-commerce facilities either now or in the future

Service levels

The reliability of your Internet connection will be absolutely critical to your business, particularly as you rely more and more on the use of electronic communications.

Uptime

This is the percentage of time the ISP's service is running properly. Establish what uptime figure the ISP claims for its services. Will it guarantee this uptime and discount your account if it fails?

Find out the ISP's policy if its web server goes down. Will you be informed, or will you find out as your Internet connection fails?

Redundancy

Redundancy refers to the number of connections that an ISP has to the Internet. High redundancy means more connections, which means if part of its system fails the ISP will simply be able to switch over without your connection being affected.

Hardware and back-up

The actual web server used by the ISP to provide the hosting services should, ideally, be specialised hardware with built-in fail-safe features. Check the reliability of the service by asking:

- if there are there back-up servers if the server hosting your site fails
- if there are effective load balancing procedures (spreading the system load evenly across server machines) in place between different web servers
- what system management procedures are used to make back-up copies of system data
- what contingency plans are in place should the ISP's web server location be affected by fire, flood or other disaster
- what security measures are in place (such as firewalls and anti-virus programs) to prevent the ISP's services being compromised by a security attack from a hacker or fraudster

Connectivity

Connection speed is also a major consideration, both at user level and in terms of the ISP's own connection to the Internet.

Connection to the Internet can be provided using a simple dial-up link from a standard telephone ("narrowband"), through to "always on" connections using a leased line, ISDN, ADSL, cable, satellite or mobile wireless.

As far as the ISP's connection to the Internet is concerned, you might want to check whether it is a Tier 1, 2 or 3 provider. Tier 1 ISPs are those that own or control their own portion of the Internet, while Tier 2 and 3 providers lease bandwidth from them. A Tier 1 provider may be more expensive, but this is offset by the fact that they also tend to be more reliable.

The capacity of your own Internet connection will have a direct effect on the speed with which you are able to use the Internet. For example, with a typical web page (assuming 100 kilobytes of data) the following download times could be expected:

Internet connection	Time to load page
56k dial-up modem	14 sec
256k broadband	3 sec
512k broadband	1.6 sec
1MB broadband	0.8 sec

Increasingly ISPs are offering a range of broadband services via ADSL, cable or wireless. You need to carefully evaluate these, in terms of both the speed of connection offered and the associated costs.

When evaluating the connectivity options you should take account of contention ratios. This is the term used to describe the maximum number of users sharing the bandwidth on the connection between your local exchange and the ISP. For example, a user with a contention ratio of 20:1 never has to share this bandwidth with more than 19 other users.

Find out how the ISP provides Internet connectivity if your staff travel overseas.

Terms and conditions

Some ISPs include clauses hidden in the small print of their terms and conditions that impose system-usage restrictions, download limits, blocked ports, and bandwidth limits that aren't declared on the package advertisement itself. Give such terms and conditions a detailed look prior to signing up with an ISP.

Pricing models

There are a wide variety of different pricing models used by ISPs. It is important to have a good understanding of the options available to you, since cost is one of the major considerations when choosing an ISP.

Dial-up access

The options for users with dial-up access can be broadly categorised as follows:

- **Pay-as you-go** access, where you are charged by the minute. Although the most straightforward of arrangements, it is not the cheapest and is not really suitable for business users.
- **Unmetered** access, where you pay a flat monthly fee and are given unlimited access, so no phone charges are incurred.
- **Subscription fees**, where you pay a higher monthly or annual fee and also pay for call charges. This is the more expensive option, but you receive a higher level of service, with better connection speeds, usually with lower contention ratios.

Always-on access

This is a permanent connection, much like a permanently open telephone line, with the call charges incorporated into your ISP subscription or line-rental charge. The options for providing always-on access are:

- **ADSL** - the most widely available broadband service for both business and domestic users available from numerous ISPs, usually on a 12-month minimum contract.
- **Leased line** - a dedicated line run between you and your ISP, with a one-off installation cost and an annual rental fee. This option is typically used by large organisations.
- **Cable** - most cable companies offer bundled packages that include telephone, broadband Internet connection, TV channels and, as with ADSL, a number of different deals for different requirements.
- **Wireless** - a number of communications companies are evaluating different business models to commercialise this type of broadband service.
- **Satellite** - a type of broadband connection that offers a further option for businesses in remote areas that cannot access any other broadband Internet connection. It is available throughout the UK and requires a special satellite dish.

Website hosting

Website hosting fees also vary from one ISP to another, from free (though often limited) space, through to charges based upon the size and functionality of the website.

Most small businesses operate on a shared-server basis, with their site hosted on a powerful server along with a large number of other sites. It is possible to have a dedicated server, though there are significant price implications with this approach.

Size and support

The size of an ISP, together with the level and quality of the ongoing support it offers are factors to take into account when choosing an ISP.

Size of company

Generally speaking, there are not major differences in the costs associated with using large or small ISPs. However, bigger companies are likely to have more resources to quickly resolve serious network issues and will have access to a wider range of technical expertise.

On the other hand, smaller companies may provide a more personalised service, and may well be willing to spend more time working closely with you to develop tailor-made solutions.

If possible, visit the offices of the ISP and check out its claims. Speak to a cross section of its customers to see how closely its customer service and support actually compare with its promises.

Level of support

Remember to check on the availability of telephone support. You should check:

- when support is available
- what it costs
- whether your call will be answered promptly

It is also wise to check on the ISP's resilience to technical problems. Does it have a back-up strategy and escalation procedure in the event of serious operational problems and does it monitor the operational performance of the web server on an ongoing basis? Does it have an uninterruptible power supply (UPS) to protect its systems in the event of power cuts?

Moving ISPs

Even when you have chosen your ISP, you might wish to transfer your domain to another registration agent at some point in the future.

Check during the initial evaluation process exactly what the procedure is in order to carry out such a change. Most agents and ISPs will provide this service free of charge, though some may charge a small administration fee.

Probably of greater importance is how long any change will take to complete. You do not want your website, e-commerce site or email service to be offline for a moment longer than is necessary.

Email considerations

In addition to supplying Internet connectivity, most ISPs also run email servers that deliver and transmit emails on behalf of their customers.

Essentially, all ISPs deliver and transmit email in much the same way. You store all of your email (both incoming and outgoing) on your own PC or client, with the remote mail server at your ISP simply acting as a storage facility or a post office box. You can read your existing email and write outgoing messages using client software, such as Microsoft's Outlook Express, Eudora or Pegasus Mail.

Most ISPs have strict rules in place to prohibit you from using their service to send "spam" or unsolicited commercial email.

Email addresses

It is possible to set up email accounts incorporating the ISP's domain name. So, for example, John Smith at Leighton Lawyers, accessing the Internet through an ISP named Largelink, might use the address john@leightonlawyers.largelink.co.uk.

In this example "john" and "leightonlawyers" is chosen by the user, but with the proviso that no other Largelink client is already using that name. The remainder of the address is determined by the ISP.

Most ISPs will offer a number of such addresses free of charge with their standard packages. You should establish how many free addresses are available if you intend to use this option to support your email activities.

Increasingly businesses are opting to use their own domain name as part of their email address. So, in the example above, once the legal firm has purchased its own domain, the address would become john@leightonlawyers.co.uk.

The benefits of this approach are not only that it creates a more professional image, but also that the company can have an unlimited number of email addresses. However, it also brings with it an added complexity in that the ISP cannot be expected to sort incoming email into large numbers of virtual mailboxes. So there may well be a need to have a local email server within your business to sort and deliver the individual messages to the correct mailboxes.

Website and e-commerce hosting services

In addition to providing basic Internet connectivity, you may well want your chosen ISP to host your business' website and/or e-commerce site.

You may opt to use the ISP for the actual design and development of your website. Alternatively you can use a specialist web designer and place the resultant site on the ISP's host server.

Server software

The software supported by the ISP can have a significant impact upon the design and functionality of your website. You should consider the different types of software that will be used to build and run your web presence, including the web-server operating system, web-hosting software, web-design software, server-side scripting languages, database technologies and e-commerce software.

For example, you may want your website to support closed user-groups, search facilities and online forms. Equally there are a variety of software tools that are employed to

develop more sophisticated applications on the web, including CGI scripts that are used to produce dynamic and interactive web pages. So, if you are looking for this type of functionality on your site, ensure that the ISP is capable of supporting it.

E-commerce requirements

E-commerce sites frequently require online access to database applications. It is important to establish which database technologies are supported, the volume of information they can hold and the web traffic that they can support.

E-commerce applications will also require additional facilities such as shopping cart and e-catalogue software. Ensure that these are available and that they will provide the type of user interaction you require.

A secure server will be required for the receipt of payment information such as credit card details. You need to check the security controls and features that are in place.

Look at examples of e-commerce sites already hosted by your potential ISP in order to get a feel for the range of features they include.

Identify from the outset which technologies you will require the ISP to support. Most ISPs will support most technologies, depending upon the server environment. However, the ISP may charge a large premium if it needs to install and maintain software specifically for your site.

Ongoing management

You need to ensure that the hosting solution the ISP offers is able to provide a fast, secure and reliable service on an ongoing basis. To achieve this, it must manage the operation of the web server environment efficiently and professionally.

Security considerations

You need to be sure that the ISP's servers are located within a secure environment. This should mean that there is good physical security as well as good network security so that any attack by a hacker can be successfully defended.

The ISP should also use the latest anti-virus software and software patches, and provide a secure server for e-commerce transactions.

If your business is reliant upon its use of electronic communications and/or carrying out e-commerce transactions, then you should seek assurances from any potential ISP on the security measures it has in place.

Content filtering

Establish if the ISP offers web-content filtering services. These allow for the blocking of inappropriate content from the Internet user, perhaps as part of parental control or a corporate Internet Acceptable Use policy.

Website visitor statistics

Understanding more about the visitors to your website can help you develop new marketing campaigns and identifying which parts of the site are particularly popular. The ISP should be able to provide you with a range of statistics including the number of visitors, the web pages viewed, how long they viewed each page for, and details of the search engine they used to find your site.

Updating website content

You will need to update your web content on a regular basis to keep it fresh. Most ISPs will allow you (or your web-design house) to carry out the updates automatically using a File Transfer Protocol (FTP) - a method for transferring files from one computer to another, often across a network or via a modem. However, some still insist on getting involved themselves which can slow the process down. So, it is worth checking what approach your chosen ISP's to content updates is.

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