This guide is designed to give you a broad introduction into how Domain names operate and how the Domain Name system works.
Introduction

A common misconception is that a domain name is the same as a website. While websites are an important part of the internet, domain names can contain and control many additional services and are an integral part of how the internet works and probably form the core of your business or office network. This guide will explain the role of a domain name in a little more detail, and briefly cover the Domain Name System (DNS) which is one of the core building blocks of the internet and corporate networks as we know
them. Finally, we will look at tips and tricks for registering a good domain name.

**What is a domain name?**

Put simply, a domain name is a place on the internet assigned to a single person or company. If we were to use an analogy, then we could imagine the internet as the world. In this case, a domain name would be a piece of land within the world that we could call our own. On your land, you can do whatever you want; even splitting it up into smaller portions and selling it on if you wanted to. It is important to note that the analogy breaks down at this point, as it’s not possible to purchase a domain name outright, you can only purchase it for a period of time (typically between 1 and 10 years), although there is nothing to stop you renewing the domain name each year if you wanted to and keeping control of your domain name for the rest of your (or your business’) life. The domain name itself contains certain information, namely who owns the domain name, where the domain itself can be modified, and finally what services can be accessed on the domain name and where these services are located. A website is just one of many services that can be associated with your domain name. Before we look at this information that a domain name stores, we will take a brief look at two properties of a domain name that make it a fundamental factor in how the internet works today.

**Domain Name System (DNS)**

Domain names are unique and follow a hierarchy. These properties mean that if we know the location of one domain name, we could find the location of any other domain name on the internet.

 Note: This section is not intended to provide a comprehensive guide to the DNS service, but simply show how the DNS system works at its most basic level.
If we look at the image shown on the right we can see this hierarchy in action. At the top of the tree is a special domain name simply called "." All domain names on the internet are children of this master domain. Put simply, every computer is hard coded to know the location of this Master domain (in addition, your computer is also set up to request domain name information from your Internet Service provider). This domain name knows where its other "services" are located, such as the location for .uk domain names. The .uk domain name knows the location of .co.uk and so on down the chain until by asking each domain name in turn you can find the location of help.fasthosts.co.uk. Finally help.fasthosts.co.uk will provide the location for the website www.help.fasthosts.co.uk.

So in this example, we can see that a website is just one of many services that you can associate with a domain name and how by knowing the location of a master domain name you can find any service on the internet.

While this may be an over simplistic view of the DNS service, just this understanding of the concepts can be a great help in understanding how the internet works, and how your domain name works on the internet.

**Information recorded on a domain name**

Each domain name has certain information recorded with it, this information can is available for the entire internet via a “Whois” search. The exact information saved
is slightly different depending upon the type of domain name that you have registered, but can be broken down into three categories.

**Your Contact information**

**Owner contact (registrant):** The owner contact details are required to show who the actual owner of the domain name is.

**Admin contact:** If you are registering a domain name for a company, you may want to delegate the administration of your domain name to a particular individual or department. If the registry needs to contact you regarding administration of your domain name they will contact you on the details provided in this field.

**Technical contact:** This contact is not used by some registries, but can be quite useful if you are a large company registering a domain name. This will direct all technical enquiries and requests to a third contact, so that the finance department do not have to receive emails regarding nameserver changes etc!

**Information on your domain name**

This will be information about your domain name, such as when it was registered, when it will expire, the company that the domain name is currently registered with (Your domain provider – Fasthosts for instance). Finally, depending upon the type of domain name, it may also provide further details on the current status of your domain (unlocked ready for transfer for example).

**Your domain names “contact” details**

Finally, a whois search will show at least two nameservers associated with a domain name. As the name suggests, these are servers for your domain name. Nameservers are often described as signposts for the internet, but could equally be described as address books for your domain name. Anyone wanting to know what services are associated on a domain name will query these nameservers.

Name servers will store more detailed information about services associated with your domain name. For instance, where your web server and email server is located. This information is stored within a file called “Zone” file. To ensure
stability and reliability, domain names should have at least 2 name servers, so that if one fails, the other can take over and keep providing the requested information. Many websites will have more than 2 name servers as extra protection against failures. If you are hosting your website with Fasthosts, we can provide you with 3 name servers for this purpose. One name server will be the “primary” or “master” name server and will have the master data for your domain name. Any other name servers will be “slave” name servers. They store the information from the primary name server and update their records with the primary name server on a regular basis. This way, only one “master” copy of your zone file ever needs to be updated, while if your master name server fails the slave name server is in a position to take over for you.

And Finally…. 

Each of the three types of information contained within a domain name is independent of each other. This may appear to be a strange thing to point out, but it’s a common misconception that if you transfer a domain name from one provider to another, the website will also move, or that if you change the nameservers of a domain name it will also transfer the domain name to another provider. Changing the nameservers of a domain name will change where computers will look for services associated with your domain name, but nothing else. Changing your domain provider (transferring your domain name) will change where your domain name can be administered and renewed, and changing the Owner contact details will change who is the actual owner of the domain name. But changing just one will not affect the others.

What information is recorded on a nameserver?

This guide is only intended as a short introduction into domain names and DNS, but in brief, all services
associated with a domain name are stored within a domain name server. This may be the location of your website, email servers, locations of important servers on your corporate network, any sub-domain names.

The good news is that you don’t need to add all your services to your nameservers. Simply by using Fasthosts nameservers we will maintain them with all the information needed to host any service available within your Fasthosts control panel.

However, if you would like to see what records are contained within your nameservers, or have a new service that you want to add to your domain name that isn’t hosted with Fasthosts, then you can update these records through the Advanced DNS section of your control panel (shown on the right).

**What are the different types of domain name?**

When the idea of using domain names to recognise other computers was conceived a strict hierarchy was put in place, so anyone registering a domain name would be able to choose a domain name that described what the organisation was about. For example .edu domain names were used to describe places of education, while .com domains were places of commerce. They also assigned 2 letter domain names to specific countries, for the use of organisations that were country specific. These domain names at the top of the domain name tree are called “top level” domain names, and are split into two categories.

**Generic Top Level Domains (GTLDs)**

Generic Top Level Domain names are often called GTLDs or international domain names. These were used to describe the organization, without specifying the county or origin, some examples are:

- .com – for commercial companies
- .edu – for educational establishments
- .org – for organizations
- .mil – for the military
- .gov - for government
- .biz – for businesses
- .info – to provide information regarding a subject or topic
- .net – for networks and associations

**Country Code Top Level Domains (CCTLDs)**

As well as generic domain names, two digit domain names were

The United Kingdom was to be assigned the (inaccurate) CCTLD of .gb (Great Britain), however the original Janet network had already selected .uk at the identifier for its pre-existing name registration scheme. .gb domains were assigned to the UK with the plan to convert the pre-existing .uk domains into .gb domains, but this never happened and is no longer feasible. .gb still exists (although not used) and at present the UK is the only country to be assigned two domain county codes.
assigned to individual countries, providing more versatility in the domain name structure. Some of these we may recognize, others are in less common usage, but some examples are shown below.

- .uk – United Kingdom
- .eu European Union
- .us – United States
- .ca – Canada
- .fr – France
- .je – Jersey
- .gg Guernsey
- .cn - China
- .gi – Gibraltar
- .fm Federated States of Micronesia

**How the domain structure has changed**

These domain names, although methodically structured are not regulated, or restricted by type. As the internet became more popular, companies wanted domain names that customers were more likely to remember, rather than a domain name that is less memorable but fits in better with the structure of the domains. As .com domain names were the most popular and memorable even non-commercial sites began registering domain names under it. Other people started registering domain names using trademarks, in the hope that the company owning the trademark would then offer to buy the domain name off them for inflated prices. This sort of activity is called “cybersquatting”, now there are laws and regulations in place to stop this from happening, however, this also effected ways in which businesses purchased domain names. Rather than just registering the domain name that fitted properly into the structure of the domain tree, companies wishing to preserve brand integrity also started registering many domain extensions of their trademarked name. For instance, we at Fasthosts have fasthosts.co.uk, fasthosts.com, fasthosts.eu, fasthosts.mobi to name a few.

**Country Codes used as generic top level domains**

County code top level domain names are delegated by ICANN to an appropriate trustee, who in turn is responsible for the policies and operation of the domain. Some of these county codes are regulated, for instance you are unable to register a .eu domain name unless you are based within the island of Tuvalu found its name has some unforeseen benefits. The island, with a population of around 10,000 citizens was assigned the .tv extension. An agreement was made with the .TV Corporation to become the exclusive registry and registrar for .tv domain names. Tuvalu, which was not connected to the internet and didn't even have a television station, used the proceeds from this arrangement to increase the quality of life for its inhabitants.
European Union, or with .uk domain names you are unable to purchase a top level domain name, only second level domains (bobsdomain.co.uk rather than bobsdomain.uk for instance).

Some county code domain names have not been regulated and are available to anyone for any reason. This has effectively turned them into generic top level domain names, abet, still under the control of the originating county. Some examples of county codes with generic usage are

- .ws – Samoa (Originally Western Samoa), now used to denote “WebSite”
- .cc – Cocos (Keeling) Islands – Used in a variety of different websites
- .fm – Federated States of Micronesia – often used for FM radio stations.
- .gg – Guernsey – often used for horse racing.

**Sponsored Generic Top Level Domain Names**

As the distinction between domain name types has become blurred, some industries are sponsoring their own generic top level domain names. This enables them to regulate who may register a domain name and keep domain name integrity. Examples of sponsored domain names are:

- .aero – reserved for the aerospace industry, this was the first generic top level domain name to be reserved for a single industry.
- .mobi – websites need to be “friendly” to mobile phones – sponsored by Google, Microsoft, Nokia, Ericsson, Vodafone, T-Mobile, Telefónica Móviles, Telecom Italia Mobile, Orascom Telecom, GSM Association, Hutchison Whampoa, Syniverse Technologies, and VISA.
- .jobs – specifically for recruitment, intended for companies and organizations to advertise their positions in a standardized manner. For instance, if you were looking for a job at Fasthosts, you could visit [www.fasthosts.jobs](http://www.fasthosts.jobs). This domain is sponsored and run by Employ Media LLC.

As ICANN Relax their rules on sponsored generic top level domain names, many more are expected to come into being within the next couple of years.

**Tips for registering a domain name**

If you are registering a domain name for your company then you will probably want to use your company name as the domain name.

1. **Choose your domain name extension**
   Select a domain name extension that fits the image of your domain. If you will be trading on your domain name then a .com or .co.uk may be of use to you. If you wish to trade internationally choose a GTLD, if you want to show that you are based in a particular county it may be worth registering a CCTLD. While if you have a club or an organization, it will be better to use .org or .org.uk extensions.

2. **Keep it short and make it memorable**
   Customers need to remember your domain name and will have to type it in. Choose a domain name that is both easy to remember and quick to type. Southam-ladies-over-eightys-high-wire-and-trampolining-club.org.uk is not
quick to type while southamladiesclub.org.uk is easy to remember and quicker to type.

3. **Linkability**

   This is closely related to keeping it short and memorable. At some point you will want other websites to create links to you. Links that are short, snappy and look nice are more likely to be added to websites. Look at your site, would you prefer Southam-ladies-over-eightys-high-wire-and-trampolining-club.org.uk or southamladiesclub.org.uk at the foot of your page?

4. **If possible use a keyword**

   We will discuss search engine optimization (SEO) and how search engines work in a later tutorial. But it is helpful to your rankings if you can add a keyword into the domain name. In the previous example, we could imagine the website having the keywords, southam, ladies, high wire, trampoline, trampolining, club, association, Gloucestershire, bounce, balance, fun, exercise, exclusive. The domain name southamladiesclub.org.uk uses three of these keywords and so will be friendly to search engines.

5. **Check for double meanings, hyphens can help**

   Domain names are all lower case and you are not able to add spaces, so re-read your domain name and make sure there are no double meanings. If there are double meaning then consider the use of hyphens, but keep in mind that hyphens can be less memorable. Imagine how you would give your website address out to someone, imagine giving them the same address but with hyphens.

6. **Look at related domain names to increase your internet presence**

   If you really want to make your presence felt on the internet consider registering more than one domain name, or domain extension. In the above example, we may wish to choose southamladiesclub, southamladies and ladiesclubsoutham, and the .org, .org.uk and .info extensions. If we wanted to really protect our interests, we may wish to register more extensions to ensure that people find our site.

7. **Ask your friends**

   Once you have chosen your domain name tell your friends and colleagues and look at their reactions, do you have to explain your choice? Very often you will receive suggestions or feedback that can help you tailor your domain name.

8. **Check the spelling of your domain name**

   Sounds straight-forward, but this is an important step that is often forgotten. When a domain name is registered, it cannot be “unregistered”. Check that the domain name is spelt correctly before you finish the registration. That said, sometimes it is worth registering a few domain names that are spelt incorrectly, after all, if you made a mistake it is possible that other visitors looking for your site will make the same mistake too.

9. **If your perfect domain name is taken**

   If you have chosen the perfect domain name that is ideal for you and find it has already been registered consider placing a bid for the domain name with SEDO. SEDO will contact the domain owner and negotiate a sale of
the domain name on your behalf. Alternatively, consider adding “the” or “my” at the start of the domain name, thesouthamladiesclub.org.uk for example, however if you go down this route, ensure that whenever you promote your site you use the full domain name as otherwise, potential customers may forget to add the necessary “the” or “my” and visit the wrong domain.

Transfer an International Domain name
(.com, .net, .org, .biz, .mobi, .info)

**Important:** There are certain restrictions in transferring a domain name, before you attempt the transfer you must ensure that:

- The domain has been registered for more than 60 days.
- The domain is not “on hold” with the current registrar (because of payment or renewal issues).

The transfer process for international domain names can be split into four steps. This guide will explain each of these steps in detail and ensure your transfer is successful.

1. **Contact your current registration provider and prepare your domain for transfer.**
2. **Request the transfer in your Fasthosts control panel.**
3. **Provide your authorisation code.**
4. **Wait for the transfer to complete.**

**Step 1: Prepare your domain for transfer**

Your current registration provider needs to prepare your domain for transfer before you can start the transfer process with Fasthosts. You need to contact the company you are moving your domain name away from and request the following:

**Remove any Whois privacy from the domain name**

- Certain details regarding your domain name are available to any user of the internet through a “whois” search. To complete the transfer we need to contact the details shown in the “whois”. Some providers will hide the details shown in a whois search. If your provider hides these details we will not be able to contact you to confirm the transfer.

**Check that the Admin contact for your domain name is valid and you can reply to emails received at this address**

- We will contact the administrative contact of the domain name to confirm the transfer request. You must ensure that you are able to receive email
addressed to the admin contact of your domain name. Of all the transfer requests that fail, over 90% fail because the Admin contact has not replied to the confirmation email.

**Unlock the domain name ready for transfer**

- To ensure that no unauthorised transfers can take place, domain names are “locked” with their current provider. Before you can transfer the domain name, you should contact your current provider and ask them to “unlock” the domain name.

**Ask for a transfer authorisation code**

- Once you unlock your domain name your registration agent will be able to provide you with an authorisation code. Keep this code safe as it will be needed later to confirm the transfer request.

**Step 2: Request the transfer in your Fasthosts control panel**

Once you have prepared your domain, you can begin the process of transferring the domain name across to Fasthosts.

**Note:** The transfer itself is completely free. However, when you transfer a domain to us, we will renew the domain registration for an additional year at our current rate. This is a requirement for all international domains, and is imposed by the domain registry.

**Step 2.1**

Login to your Fasthosts control panel and click **Transfer Domain** from the *Domain Names* drop down menu.
Step 2.2
Enter your domain name into the text box provided, remembering to select the domain extension. Once done, click Transfer In.

Step 2.3
You will be reminded of the steps needed to be completed with your current registrar before initiating the transfer, then prompted to confirm that you are able to read email sent to the admin contact of the domain name, and that the domain has been unlocked ready for transfer. Tick the boxes to confirm these details.

Step 2.4
Next you are asked if you would like to use Fasthosts Nameservers, or keep the domain names current nameservers during the transfer. If you do not want to host your website and email with Fasthosts then select Keep this domains current nameservers.

Quick tip: As the transfer process can take a while to complete, if you would like to transfer your hosting to Fasthosts, we recommend moving your website and updating your nameservers with your current registrar before transferring the domain name to us.

Step 2.5
Once done, click Proceed with Transfer.
Step 2.6

You will now be prompted to update your domains contact details. You do not have to update them at this time, but this is useful if you are also changing ownership of a domain name at the same time that you are transferring it.

Step 2.7

Finally, you will be directed to the checkout where you will be prompted to renew the domain name for an additional year. The additional years renewal will be applied to your domain name when the transfer is complete. Click Confirm to accept this charge.

Note: The transfer itself is completely free. However, when you transfer a domain to us, we will renew the domain registration for an additional year at our current rate. This is a requirement for all international domains, and is imposed by the domain registry.

This will initiate the transfer from your Fasthosts control panel. With the transfer initiated from both the old and the new registrar the transfer will progress to the next stage of the process.

Step 3: Provide your authorisation code

Tucows/OpenSRS (our international domain registration partners) will send an email to the domains registered administrative contact.

The administration contact must follow the instructions given within the email within five days, to confirm that they are happy for the transfer to go ahead. If prompted they should quote the authorisation code obtained earlier.

Step 4: Wait for the transfer to complete

Once the transfer has been confirmed by the admin contact, Tucows/OpenSRS will email the domain names current registrar to request the transfer. Provided you have followed your current registrars transfer process, they should release the domain name and you will be able to administer it in your control panel.

From start to finish the transfer process can take around nine days to complete. Once the transfer process is complete the expiry date within your control panel will be updated and you will be able to administer your domain name through your control panel.

Transferring a UK domain

(.co.uk, .org.uk, .me.uk, .ltd.uk, .plc.uk)

The process for transferring .uk domain names is quick, easy and only takes a short time to complete.
Step 1
Login to your Fasthosts control panel and click **Transfer Domain** from the *Domain Names* drop down menu.

Step 2
Enter your domain name into the text box provided, remembering to select the domain extension. Once done, click **Transfer In**.

Step 3
Select the contact details you would like to assign to this domain upon successful completion of the transfer, and click **Continue**.

Step 4
Ask your domain's current registration provider to change the domain's IPS tag to **LIVEDOMAINS**, all in capital letters. This will usually take effect immediately but can take up to 72 hours.

**Note:** If you do not have, or are unable to contact your current registrar, or your domain name is "Detagged" you will need to contact Nominet directly to change the domains IPS tag. Further details on this process can be found on [Nominets website](https://www.nominet.org.uk/).
The domain will transfer into your account and provide you with full access to the registration settings.

**Transfer an EU domain name**

(.eu)

The transfer process for .eu can be split into four steps. This guide will explain each of these steps in detail and ensure your transfer is successful.

1. Contact your current registration provider and prepare your domain for transfer.
2. Request the transfer in your Fasthosts control panel.
3. Provide your authorisation code.
4. Wait for the transfer to complete.

**Step 1: Prepare your domain for transfer**

Your current registration provider needs to prepare your domain for transfer before you can start the transfer process with Fasthosts. You need to contact the company you are moving your domain name away from and request the following:

**Remove any Whois privacy from the domain name**

- Certain details regarding your domain name are available to any user of the internet through a "whois" search. To complete the transfer we need to contact the details shown in the “whois”. Some providers will hide the details shown in a whois search. If your provider hides these details we will not be able to contact you to confirm the transfer.

**Check that the Owner contact for your domain name is valid and you can reply to emails received at this address**

- We will contact the owner contact of the domain name to confirm the transfer request. You must ensure that you are able to receive email addressed to the owner contact of your domain name.

**Ask for a transfer authorisation code**

- Once you unlock your domain name your registration agent will be able to provide you with an authorisation code. Keep this code safe as it will be needed later to confirm the transfer request.

**Step 2: Request the transfer in your Fasthosts control panel**

Once you have prepared your domain, you can begin the process of transferring the domain name across to Fasthosts.
Step 2.1
Login to your Fasthosts control panel and click Transfer Domain from the Domain Names drop down menu.

Step 2.2
Enter your domain name into the text box provided, remembering to select the domain extension. Once done, click Transfer In.

Step 2.3
You will be reminded of the steps needed to be completed with your current registrar before initiating the transfer, then prompted to confirm that you are able to read email sent to the Owner contact of the domain name, and that the domain has been unlocked ready for transfer. Tick the boxes to confirm these details.
Step 2.4

Next you are asked if you would like to use Fasthosts Nameservers, or keep the domain names current nameservers during the transfer. If you do not want to host your website and email with Fasthosts then select *Keep this domains current nameservers.*

**Quick tip:** As the transfer process can take a while to complete, if you would like to transfer your hosting to Fasthosts, we recommend moving your website and updating your nameservers with your current registrar before transferring the domain name to us.

Step 2.5

Once done, click **Proceed with Transfer**.

Step 2.6

You will now be prompted to update your domains contact details. You do not have to update them at this time, but this is useful if you are also changing ownership of a domain name at the same time that you are transferring it.

Step 2.7

Finally, you will be directed to the checkout where you will be prompted to renew the domain name for an additional year. The additional years renewal will be applied to your domain name when the transfer is complete. Click **Confirm** to accept this charge.

**Note:** The transfer itself is completely free. However, when you transfer a domain to us, we will renew the domain registration for an additional year at our current rate. This is a requirement for all international domains, and is imposed by the domain registry.

This will initiate the transfer from your Fasthosts control panel. With the transfer initiated from both the old and the new registrar the transfer will progress to the next stage of the process.

**Step 3: Provide your authorisation code**

Tucows/OpenSRS (our international domain registration partners) will send an email to the domains registered owner contact.

The owner contact must follow the instructions given within the email within five days, to confirm that they are happy for the transfer to go ahead. If prompted they should quote the authorisation code obtained earlier.
Step 4: Wait for the transfer to complete

Once the transfer has been confirmed by the owner contact, Tucows/OpenSRS will email the domain names current registrar to request the transfer. Provided you have followed your current registrars transfer process, they should release the domain name and you will be able to administer it in your control panel.

From start to finish the transfer process can take around nine days to complete. Once the transfer process is complete the expiry date within your control panel will be updated and you will be able to administer your domain name through your control panel.

Point your domain name to Fasthosts

If you want to host your website or email with Fasthosts then you need to point your domain name towards us. This is not the same as transferring your domain name towards us, but is a straightforward process.

Note: While changes to your domain name are usually instantaneous, it often takes up to 72 hours for the rest of the internet to respond to these changes. This delay is called propagation and is a feature of the internet.

Before you transfer the domain name

This is the recommended time to point your domain name towards us. The transfer process can take a number of days to complete, so by getting everything ready, pointing your domain name towards Fasthosts and then transferring your domain name to Fasthosts you can minimize any potential downtime. To point your domain name toward Fasthosts before you transfer your domain you will need to contact your current domain name provider, and ask them to change your nameservers to:

- Ns1.livedns.co.uk
- Ns2.livedns.co.uk
- Ns3.livedns.co.uk

During the transfer process

You can set the nameservers to change as soon as the domain transfer is complete by setting the option to “Use Fasthosts Nameservers” when initiating the transfer within your Fasthosts control panel.
Once the transfer has taken place, you can point your domain name towards Fasthosts from within your control panel by following the steps below:

**Step 1**
Log into your control panel and click on **My Domains** in the Domain Names drop down menu.

**Step 2**
You will see a list of your domain names, click on the domain name that you would like to change the point towards Fasthosts.

**Step 3**
On the domain management screen, click the link marked **Change Nameservers**.
Step 4
Select the box marked Default name servers.

Step 5
At the foot of the screen, click the blue button marked Update Name Server Details.

Note: We will update your domain name with your new nameservers immediately; however it may take up to 72 hours for these changes to take affect across the internet.

Fasthosts MasterClass Range

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