**DNS And Its Importance**

When data is sent to a remote network, the IP address of the receiver needs to be known. But it might become difficult to remember as it’s composed of long bits. Thus, a better scheme is to use alphabetic names, called domain names like [www.google.com](http://www.google.com).

**What is DNS?**

DNS or Domain Name System was invented during the 1980s for the internet and maintained by InterNIC. It is a system where the devices connected to the internet are given domain names. It can be regarded as the phonebook of the internet network. As computers can only interpret numbers, they convert these domain names to IP addresses. Since more than one person can search for the same website concurrently, a domain name can correspond to more than one IP address.

**How Does this work?**

As computers work with only IP addresses, the domain name needs to be translated. The domain name system uses the client-server approach for translating it.

1. Suppose a user wants to connect to a computer in a network with the domain name [www.google.com](http://www.google.com)

2. As computers don’t understand this, an application program, acting as the client to the DNS server translates it into its corresponding IP address. It sends a request to translate it.

3. DNS server has all the computer names and their IP address. It looks up in the database and returns the correct IP address.

**Why is it important?**

We consider internet connection to be nothing but consists of letter typing and a few clicks. But in reality, it’s a lot more. We can connect to different internet services within an eye's blink. This is only possible with the help of DNS. Apart from giving a user-friendly interface to the internet, this has a lot of other importance as well. Below are some of them.

1. Humans are comfortable with words as it’s easier to comprehend. Without DNS, we would have never been able to search for different things by memorizing long number sequences. If DNS was not there, the domain name wouldn’t have been translated to IP address, thus making it difficult to search for the content.

2. Not only does DNS make the internet network interface user-friendly, but it also allows organizations to make changes and modifications that can benefit them. For example, they may change the IP address if required for various reasons and this, in turn, won’t affect internet surfing by any means.

3. DNS acts as the phonebook of the internet containing all the information of the remote devices in the network.

4. By passing data through a DNS server, there are chances of less security complexity for organizations sharing confidential data.

The network architecture of the internet is standing still with the help of DNS. Without it, the network will crumble down. It acts as a backbone of the network.

**References**

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