DNS

What does DNS mean?

The **Domain Name System** (**DNS**) is one of the most important services in the <u>Internet</u>. The DNS is a shared <u>data base</u> that manages the name space in the Internet. DNS runs on port 53 by default.

DNS is mainly used for the conversion of <u>domain names</u> in <u>IP adresses</u> (forward lookup). This is comparable with a phone book that resolves the subscribers name to their phone number. So the DNS provides a simplification because for men it is far more easier to remember names than a row of numbers. DNS also enables a reverse resolving of IP addresses to names (<u>reverse lookup</u>). In analogy to the phone book this is equal to a search for a subscribers name to a known phone number (within the telecom sector this is known as <u>reverse telephone</u> directory).

Furthermore the DNS enables a decoupling from the underlying structure, e.g. changing the IP address without changing the domain name and even rudimentary <u>load balancing</u>.

The DNS was conceived in 1983 by <u>Paul Mockapetris</u> and is described in <u>RFC</u> 882. Since then the <u>RFC 882</u> has been replaced by <u>RFC 1034</u> and <u>RFC 1035</u>. The DNS also superseded the *hosts* files that were used for the name resolution. hosts files are partially used parallel to the DNS due to their simplicity. DNS is characterized by:

- Decentralised management
- Hierarchic structuring of the name space in a tree form
- Definiteness of the names
- Expandability

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