EXERCISE 1

1. At a COMMAND prompt, type **ipconfig**.
2. Use the output of this command to find the IP address and subnet mask of your computer.
3. What class is this address?
4. Ask other students in the class what IP addresses their computers have.
5. What part of the IP address do the computers in the lab have in common?
6. What part is different?

Domain name tools

There are a number of software tools you can use to find out about particular domain names and IP addresses, including:

nslookup - lets you enter a domain name (for example, " http://www.uws.ac.uk") and find out the corresponding IP address. It will also do reverse name lookup and find the host name for an IP address you specify.

EXERCISE 2

1. At a COMMAND prompt, find out the domain name of the computer you are using:

nslookup ip_address

where ip_address is the IP address of your computer you found in exercise 1

(note that nslookup gives you the name and address of the local DNS server first)

2. Type:

nslookup domain_name

where domain_name is the domain name for your computer which you have just found.

Check the IP address is what you expect.

3. Look up the domain names for the IP following addresses using the **nslookup** command:

130.209.34.12

130.159.248.7

4. Look up the IP addresses for the following domains using the **nslookup** command:

www.ibm.com

www.ietf.org

EXERCISE 3

Whois - a program that can tell you the owner of an IP address. It returns information including the range of IP addresses owned by the organisation and its name.

Some domain name registrars offer a whois service on their web sites which allows you to find out who owns a domain name. There are many websites offering a basic WHOIS lookup service, but the following site offers extensive historical information including WHOIS, IP Address (website hosting), Name Server, Registrar and Screenshot history to help provide a complete view of a domain name's life cycle. When buying a domain from someone you may not know or trust, make sure you protect yourself by researching the domain's history.

Go to:

http://whois.domaintools.com/

1. Look up the following:

   Amazon

   Google

   Microsoft

2. Try some of your own examples.

EXERCISE 4

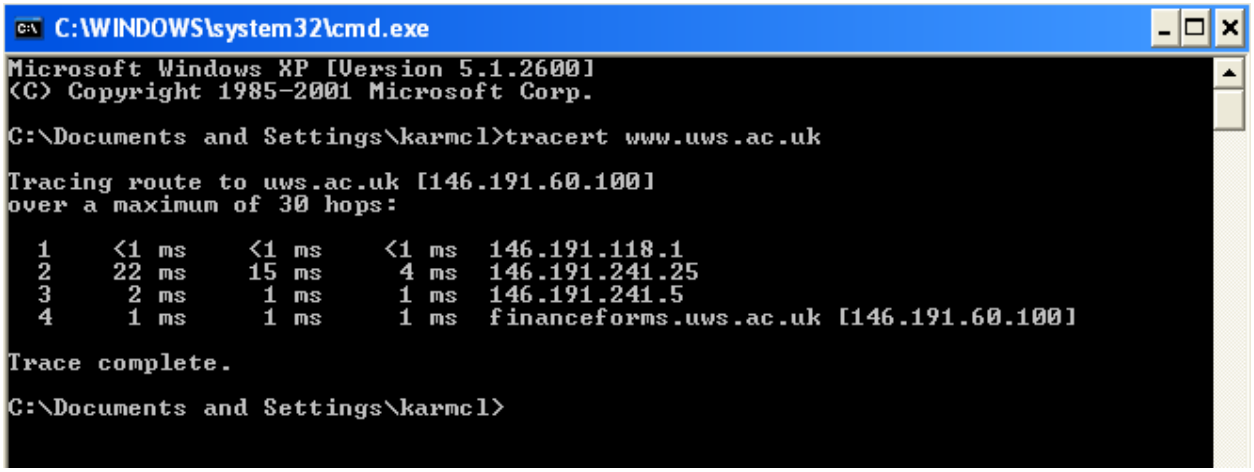
Tracing routes through the Internet

You can use the **traceroute** program (called **tracert** on a **Windows PC**) to follow the path a data packet takes through the Internet. **Traceroute** will give you a list of each **router**, or **gateway**, that the **packet** passes through, as well as the **time taken** for each "**hop**". Where possible, the **domain name** is **shown**, **otherwise** just the IP address is shown.

The example below shows part of the **traceroute** output for sending data from **UWS Hamilton** to **www.uws.ac.uk**.

The **DOS** command used was

tracert www.uws.ac.uk



1. At a COMMAND prompt, use the **tracert** command to trace routes to the following addresses, identifying as many geographical locations in the results as you can:

www.strath.ac.uk (Strathclyde University, Glasgow)

www.mit.edu (Massachusetts Institute of Technology, Boston, USA)

www.monash.edu.au (Monash University, Australia)

www.unimi.it (Milan University, Italy)