

Network Troubleshooting

Physical Connection

- ❖ Tracing the cable around the area to check about all connected up.

Logical Connection

At the command prompt you can use different commands to help you:

- IPconfig = shows you the DNS suffix, IP address, Subnet mask and Default Gateway.
- IP Config All = Shows all the network configs.
- IPconfig /release = will release all the details and give you fresh ones.
- IPconfig /? = Will give you a list of all IPconfig commands.
- Arp -a or -g = it is a LAN based protocol that uses broadcast messages to determine an unknown MAC address associated with a known IP.
- Netview = List's all computers connected to the network.
- Net send computer name = sends a message to that computer.
- Netstat = Can be used to view any connections/sessions on the network.
 - Useful switches include:
 - p (protocol) for current protocol connections.
 - a: for ports and their respective status i.e. listening.
- Nbtstat = displays information about local or remote machines based on their NetBIOS name.
- Nslookup = used to query the DNS about details of the domain.
- Ping = Packet INternet Groper test's the connection between to networked devices.
- Tracert / internet link (www.bbc.co.uk) = Used to see the path that network traffic takes to a particular IP.
- Pathping = similar to tracert but gives a lot more detail of the path taken. Always note the ms (milliseconds) it takes to reach – Local area should be less than 10 and WAN should be less than 100ms.

Internet Control Message Protocol

- Ping, pathping and tracert are types of ICMP.
- It is useful to remember that by default the Windows firewall blocks all the ICMP traffic.
- It is generally recommended to block incoming ICMP traffic coming into your network.