Networking Essentials Wireshark Analysis

Aim: This course aims to help the delegate understand what a network is, how it works, why different protocols do different jobs and what to do if devices either stop working or don't work at all. It is focused on VoIP and how to talk the language of a network administrator or support technician in order to pinpoint a necessary network alteration. This is a practical course using Wireshark to back up the learning during a number of classroom exercises and relies upon the delegate to become more independent using self discovery.

Objectives:

At the end of this one day programme the delegate will be able to:

Explain why there are 7 different layers to the OSI model
Determine how static IP addresses differ from DHCP
Demonstrate why sub-networking or VLANs are used to separate network traffic
List the necessary steps required to ensure that security is maintained by a firewall
Describe how Qos is utilised by VoIP

Agenda:

Welcome, introductions and expectations

Module 1: What a network is.
Client - Server
Network hardware
How the 7 layers connect

Module 2: Protocols.
ARP, BOOTP, DHCP, ICMP, IP, RTCP, RTP, SDP, SIP, TCP, UDP.

Module 3: Traffic management
Subnets vs VLANs
Layer 2 and Layer 3 prioritisation

Module 4: Security and off network considerations
VPNs
Firewall rules
NAT/PAT

Summary and review

End