Introduction to TCP/IP (one day)

A short introduction to IP networking terminology, protocols, and systems

Relevant Platforms:

The course material is generic and is applicable to all networked platforms including:

- **Linux and Unix**
- **Cisco**
- **WindowsNT**
- **Windows2000**
- **Windows XP**

Typically the course will focus on a platform chosen by the client.

You will learn:

- The definition of a network protocol
- The different protocol layers
- The basics of the Internet Protocol (TCP/IP)
- IP Addressing
- How to subnet a network
- How the Internet Works
- What repeaters, bridges, switches, routers and gateways are
- What the Domain Name System is and how it works
- What DHCP, ARP, WINS, DNS are and how they work.
- The basics of Windows networking over TCP/IP
- How the Web Works

Course Benefits

This course gives the delegate a broad understanding of the technologies behind modern IP networks. This includes TCP/IP basics and also the associated protocols used by Internet applications.

Delegates will learn how IP networks are designed and configured. In particular IP addresses, subnetting and routing are explained in detail.

Throughout the course, there is extensive opportunity for delegates to question and discuss areas of interest with the trainer.

Who Should Attend

This course is ideal for IT support staff, network engineers and technical managers who wish to gain a basic understanding of IP networking. Delegates should be computer literate, and be proficient with at least one operating system (for example Windows).

Course Contents

Review of Networking

- How Networks are used
- Basic Terminology
- What is a protocol?
- History of network standards
- OSI Networking Layers
- TCP/IP Networking Layers
- Networking Stacks and Layers
- The Physical Layer
- Network Topologies
- Datalink Protocols

The Internet Protocol

- What is the network layer?
- The Internet Protocol
- The IP Header
- IP Addressing
- Subnetting
- Special Addresses
- ARP
- ICMP

Routing and Internetworking

- What is routing?
- Routing
- Routers and Gateways
- Dynamic Routing
- Routing Protocols
- RIP, OSPF, BGP, EGP

The Transport Layer

- Transport and Applications
- Sockets and Ports
- Transmission Control Protocol
- User Datagram Protocol

Internet Services and Applications

- Name Services (DNS)
- File Transfer Protocol (FTP)
- Web Servers (HTTP)
- DHCP
- E-mail (SMTP, POP, IMAP)

Windows Networking

- NetBIOS
- SMB and CIFS
- WINS

Network Monitoring and Management

- SNMP
- Management Tools
- Protocol Analysers
- Troubleshooting

Demonstrations

During the course there will be a number of short demonstrations.

Demonstrations will be on the following operating systems (Windows and Linux).

The demonstrations will include:

- Basic TCP/IP Configuration
- Subnetting
- ARP
- DHCP
- Operation of TCP
- DNS
- Basic Networking Protocols, FTP, SMTP and HTTP

The Trainers

All our trainers are practising network consultants with extensive experience with networking on Unix and Windows in large commercial environments. They are ideally suited to bringing you the highest quality of training.

The Company

For further information about the training and our company see our web-site at www.erion.co.uk.

Company Registration: 3521142

VAT Number: 698 3633 78