

Network Essentials (two days)

A comprehensive introduction to networking terminology, protocols, and systems

Relevant Platforms:

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

- **Linux and Unix**
- **Cisco**
- **Windows NT**
- **Windows 2000**
- **Windows XP**
- **Windows .NET Server**

You will learn:

- What a network is
- Why we use networks
- The definition of a network protocol
- The different protocol layers
- What are LANs, MANs and WANs
- How Ethernet and other protocols work
- The basics of the Internet Protocol (TCP/IP)
- 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.
- How the Web Works

Course Benefits

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

Delegates will learn how the differences between different types of networks and how they are usually used.

The terminology and techniques used in modern networks will be explained to enable the delegate to understand networks and how they work.

Who Should Attend

This course is ideal for IT support staff, network engineers and technical managers who wish to gain a basic understanding of networking technologies.

Course Contents

What is Networking?

- The purpose of networking
- How networks can be used
- Basic Terminology

Network Standards and Terminology

- What is a protocol
- History of network standards
- OSI Networking Layers
- TCP/IP Networking Layers
- Networking Stacks and Layers

Topologies and the Physical Layer

- Bus topology
- Ring topology
- Star topology
- Physical media
- Cabling types
- Physical considerations
- LAN, MANs and WANs
- Repeaters

Datalink Protocols

- What is the datalink layer?
- IEEE802 Protocols
- Ethernet
- Token Ring
- Token Bus
- Wireless IEEE802.11a/b
- FDDI/CDDI
- ATM. X.25 and Frame Relay
- Bridges and Switches

Routing and Internetworking

- What is the network layer
- The Internet Protocol
- ICMP
- ARP
- IP fragmentation
- What is routing?
- Routers and gateways
- Routing tables
- Default routes
- Subnetting
- ICMP Redirects
- Dynamic Routing
- RIP/OSPF/BGP
- DHCP
- Firewalls

The Transport Layer

- TCP and UDP
- Sockets and ports
- Header formats
- Three way handshake
- Windowing
- NAT

Internet Services and Applications

- Name Services (DNS)
- Email (SMTP/POP/IMAP)
- FTP
- Web Servers (HTTP)
- DHCP

Microsoft Networking

- Netbios
- UNC's
- NBT
- SMB and CIFS
- Name Resolution
- WINS
- Browsing
- Domains
- Active Directory

Network Monitoring and Management

- SNMP
- Management Tools
- Protocol Analysers
- Troubleshooting

Demonstrations

During the course there will be a number of demonstrations.

Demonstrations will be on the major operating systems (Windows, Unix and Linux).

The demonstrations will show:

- How Ethernet Operates
- Network Monitoring
- Protocol Analysis
- Basic TCP/IP Configuration
- 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.

