

Course Outline

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Course Title:	T9100-Talking Network Basics
Course Duration:	3 Days Classroom without labs
	5 Days Classroom with hands on labs
	3 Days Webinar

Section 1

Welcome, Introductions, House rules, course agenda.

The Reason for networks

This takes a look at the need for networks. Having identified the range of customer requirements that need network technology, these requirements are systematically examined to identify what they would need of a network. These would include the ability to handle and/or provide different data types

Network technology landscape

This takes a look at some of the hardware, software, standards, and publicly available systems that are commonly used. The OSI 7 Layer model is introduced, the role of each layer is discussed in simple terms. Commonly used network terms, what they mean, where they fit on the 7 Layer model, and their relative strengths and weaknesses, are discussed. These include:

- LANs
- WAN concepts
- IP based Internet/Intranets
- Router/Bridge/Switch/Gateway/Hub/Interface devices/Connectivity/Cables
- VPN's
- Leased Lines
- ISDN/Dial up modem/POTS
- xDSL
- Multiplexing/Inverse multiplexing
- PDH/SDH/SONET/DWDM
- ISDN
- Frame Relay
- ATM
- X.25
- POTS
- Call Centres and CTI
- Convergence
- MPLS

Talking Network Present and Future

Having grasped the concepts of network technology, we look at the current needs and concerns that customers have, and what the industry is offering, and talking about, in order to address those concerns. These will include non technical discussions on:

- Wi Fi.WiMAX and Mobile Networking
- Hacking, hackers, and network security
- Convergence, Voice Over IP, VOIP
 - One network for all traffic types
 - What are the benefits?
 - What are the weaknesses?
 - Technologies for convergence
 - Multi Protocol Label Switching, MPLS
 - ATM
 - Frame Relay
 - Codec's, RTP/RTCP, compression (simply explained)
 - H232, Gateways and Gatekeepers
 - SIP
- Multimedia over IP, and IMS
- Metro Ethernet, P2P Ethernet, Ethernet VPN
- IPv6

Talking Network Security

- Network Security
 - Encryption and Authentication
 - Key exchanges
 - IPSec
 - SSL
 - HTTPS
 - Digital Signing
- Firewalls
 - Methods of attacking a network
 - Stateless firewalls
 - Stateful firewalls
 - Common firewall techniques
- RADIUS
 - PPP
 - PPTP
 - L2TP
 - RADIUS server
 - DIAMETER