

Executive Overview of Modern Telecoms Networks



Success Builders
International

A non-technical, easy to understand introduction to the telecoms industry and its evolution, technology and terminology.

The course emphasises the importance of data and how data networks have evolved to provide converged business services.

This 3 day executive level course presents information in simple, easy to understand language that enables you to master the technical concepts and many acronyms in use today.

This course is for you! If you...

- Need to have an understanding of this technology to better serve your customers and assess how its use will affect your business services and processes.
- Would like to learn more about the telecom industry's converged data products and how they are used to provide solutions to customers
- Would like to develop a better understanding of the world of data, how it works and its critical role in the future of service provider networks and business
- Are involved in customer service and need to understand data products in order to better help your customers
- Would like to understand the terminology of the industry without having to get bogged down in technical language and details
- Are a non-technical manager who would like to know more about the telecommunication industry trend of moving away from voice to converged data networks.

What you will learn:

- Why data infrastructures are important to the future of a business
- How it becomes possible to converge voice and data onto a single network infrastructure
- Gain an understanding of how VoIP networks work and the different types of VoIP services
- Develop an understanding of fundamental telecoms concepts
- Why some SA service providers are building large, fibre optic infrastructures and how this will help them self-provision and meet their customers' demand for bandwidth
- Learn what a packet switched network is and what the "cloud" represents
- Understand the role of technologies like MPLS and QoS and why they are important
- What the building blocks of a data network are and how they are used to create access products
- Identify and understand typical service provider data network architectures, access products and services
- Learn about the architecture of the Internet and the services your ISP provides
- Identify the types of security needs and security product offerings
- Learn about technologies used in next generation converged data networks
- What VPN's are, how they can be created and what services they offer
- The advantages of off-site data centres and the benefits of hosting services

Detailed Course Contents

This training course is a non-technical introduction of the data networking principles as well as the technologies that have evolved in order to build converged, next generation service provider networks and services. It has been designed to give delegates an understanding of data communication principles, practices and terminology and how they are employed within modern next generation networks. During the course, constant reference will be made between the technology and typical service provider products and services.

Data network fundamentals

Networking fundamentals Bandwidth Protocols Media Spectrum Multiplexing	What is a data network infrastructure? 3 building blocks, LANs, WANs and routers LANS - Wired and wireless Ethernet - Hubs, switches WANS Wired - Leased lines, E1, nx64, STMs - ADSL Wireless - GPRS, 3G, HSPA, LTE Routers
How data is carried Packets	
Data networks Vs. traditional voice networks Packet Vs. Circuit switching	How data moves through the network TCP/IP Addressing and reliability - IP addressing
Layers of a network Infrastructure Applications	

Access Solutions

Network architecture The Core Data Network (CDN) Metro fibre rings	Wireless 3G/HSDPA, LTE, Microwave
Fixed ADSL, Leased line, Fibre	

The Internet

Introduction to the Internet Architecture ISP's	Domain name service (DNS) Structure and number to name mapping Domain services
ISP offerings Network architecture POPs Internet access Products	

Security

Firewalls Perimeter security / access control Ports	IPSec
Data privacy / confidentiality Authentication Encryption	Security Solutions Perimeter firewall

MPLS

Building next generation networks with MPLS Traditional routing Vs. MPLS Packet labeling MPLS tunnels	Traffic engineering
	Bandwidth management

Virtual private networks (VPNs)

What is a VPN? Why have them Tunnels	VPN Solutions Service offering Different Class of Services provided Internet VPN Private MPLS VPN
Types of VPN tunnels Private - MPLS Public - IPSec	

QOS

What is quality of service	Packet prioritization / marking
Class of service defined Latency, jitter, loss Guarantees	CoS offerings Combining MPLS and QoS to provide converged network services

Hosting

What is hosting? Why offer it as a service?	Hosted Services – Hosting Solutions Facilities Product offering: Basic and Web hosting Managed hosting Storage and back-up Disaster recovery
SaaS	
IaaS	
PaaS	

Voice over IP (VoIP)

How VoIP works Packetizing voice, compression	Typical components in a VoIP network VoIP product offerings Network architecture Mobile voice
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APNs

Core Data IP network
SGSN
GGSN