

REMS Qualified Professional (RQP) Course For Virtual Private Networks (VPN's)

COURSE SCHEDULE

- **4 day intensive course**
Either at REMS Training Facilities or at your location
- **Call +44 (0) 1727 848800** for details on all REMS courses

ON THIS COURSE YOU WILL LEARN HOW TO:

- **Appreciate the requirements of a VPN from the enterprise and Service Provider point of view**
- **Understand the potential of VPN's**
- **Establish and identify the costs, benefits and challenges with VPN's**
- **Understand the VPN Technologies and protocols, how they relate to the OSI protocol stack, the layers interaction and importance**
- **Design Carrier quality VPN's**

COURSE BENEFITS:

- **Recognise the strategic issues and direction for VPN's**
- **Comprehensive guide to VPN's**
- **Hands on experience of VPN capabilities**
- **Practical experience of Installing, configuring and administering VPN's**
- **Provide the knowledge and skills you need to implement a VPN solution**

WHO SHOULD ATTEND:

- **Technical Engineers from Incumbent and Competitive Telecoms Operators, Carriers and Service Providers (ILEC and CLEC)**
- **Engineers from Internet and Application Service Providers (ISP and ASP) and large organisations wishing to deploy or support VPN's**
- **Sales, Marketing and Planning Managers wishing to understand the strategic issues and directions of VPN's plus their benefits to many organisations, large and small**
- **System and Network Administrators responsible for the installation, commissioning and maintenance of VPN's**
- **All delegates are meant to understand and appreciate the IP suite of protocols before attending this course to achieve maximum benefit**

HANDS ON PRACTICAL

Throughout this course, under the guidance of an expert instructor, you will gain practical, hands on experience of VoIP. Exercises include:

- **Configuring VPN's**
- **Using a L2TP VPN's**
- **Using a IPsec VPN's**
- **Establishing Security Policies**

COURSE CONTENT:

- **Introduction**
What are VPN's?
VPN Business Drivers, Opportunities
VPN Technical Enablers, Types, Examples and Standards (IETF)
- **Security Technologies**
Security Associations (SA's)
Public Key Infrastructure (PKI)
Internet Key Exchange (IKE)
- **L2TP**
Introduction to Tunneling
Origins of L2TP
Application of L2TP and Basic Call Flow
- **Overview of L2TP**
L2TP Configuration, Authentication and Encryption
L2TP Protocol Structure and Format
Operation and Detailed Call Flow
- **PPTP**
Origins of PPTP
Application of PPTP and Call Flow
Overview of PPTP
- **IPSec (IP Secure)**
Origins of IPSec
Application and Operation of IPSec with Detailed Call Flow
Overview of IPSec
IPSec Configuration, Authentication and Encryption
IPSec Protocol Structure and Formats
- **IP Routing & IP Quality of Service (QoS)**
MPLS
Routing of VPN calls and Packets across an IP Network, The Internet and an Intranet
QoS Options and Comparisons (FIFO, WFQ, CBQ, WRED, ToS)
- **VPN Design Alternatives and Considerations**
Operation, Set up and Channel Control
Suitable Technology for particular applications and Packet Formats
- **Future Developments**
What the future holds for the VPN's