

REMS Qualified Professional (RQP) Course For Voice over IP (VoIP)

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:

- **Integrate voice and data networks for maximum benefit**
- **Administer VoIP networks**
- **Establish and identify the costs, benefits and challenges with VoIP**
- **Apply signalling techniques for VoIP**
- **Design Carrier quality VoIP networks**

COURSE BENEFITS:

- **Recognise the strategic issues and direction for VoIP networks**
- **Comprehensive guide to VoIP networks**
- **Hands on experience of VoIP Network capabilities**
- **Practical experience of Installing, configuring and administering VoIP networks**
- **Provide the knowledge and skills you need to implement a VoIP 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 VoIP networks**
- **Sales, Marketing and Planning Managers wishing to understand the strategic issues and directions of VoIP networks plus their benefits to many organisations, large and small**
- **System and Network Administrators responsible for the installation, commissioning and maintenance of VoIP**
- **All delegates are meant to understand and appreciate the IP suite of protocols and traditional digital telephony networks 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 RSVP**
- **Using a H323 Network**
- **Using a SIP Network**

COURSE CONTENT:

- **Introduction**
Traditional Telephony (Voice) & Data (IP) Networks Comparison for VoIP
- **Telephony Networks**
Voice Codec Standards (ITU)
Benefits and Comparisons (MOS)
- **Data (IP) Networks**
IP Fragmentation
Transport (Layer 4) Protocols
Overhead and Header Compression
- **IP Quality of Service (QoS)**
Router Operations (FIFO)
QoS Options and Comparisons (WFQ, CBQ, WRED, ToS)
- **ReSerVation Protocol (RSVP)**
Operation, Set up and Control
Limitations and Packet format
- **Real-time Transport Protocol (RTP)**
Real-time Transport Control Protocol (RTCP)
Packet formats
- **ITU H.323 Protocol Suite**
Standards and Recommendations
H.323 Devices - Gateways, Gatekeepers, Zones and MCU's
H.225 and Q.931, Registration, Admission and Status (RAS), Gatekeeper Discovery, bandwidth managements, Call Set up and signalling
H.245 Call control
- **IETF Session Initiation Protocol (SIP)**
Devices, Standards and Recommendations
Session Description Protocol (SDP)
Call Set up, Control, Registration and Administration
- **ITU H.248/IETF MGCP (Megaco) Protocol**
Fixed Line Networks
Mobile (3GPP) Networks
Call Administration, and Control
- **Future Developments**
What the future holds for the VoIP