€TRAINING

Fundamentals of VoIP and IP Telecom Networks

6 - 10 April 2025
Cairo (Egypt)

Fundamentals of VoIP and IP Telecom Networks

REF: B2277 DATE: 6 - 10 April 2025 Venue: Cairo (Egypt) - Fee: 4095 Euro

Introduction:

VoIP and IP Telecom Networks focus on the basics of voice communication over IP-based systems and their network infrastructure. This training program is designed to provide participants with essential knowledge and skills in Voice over IP VoIP and IP-based telecommunications networks. It empowers them to understand the foundational principles and practical applications of modern telecommunication technologies.

Program Objectives:

At the end of this program, participants will be able to:

- Explore the foundational concepts, protocols, and security aspects of VoIP technology.

- Analyze IP telephony architecture and integrate systems with traditional telephony.

- Design efficient and scalable VoIP networks with redundancy and QoS considerations.

- Troubleshoot and optimize VoIP systems for performance and reliability.

- Explore emerging trends and innovations in IP telecom networks, including cloud and 5G integration.

Targeted Audience:

- Network Engineers.

- Telecom Engineers.

- IT Professionals involved in voice and data communications.

- System Administrators.

Program Outline:

Unit 1:

Introduction to VoIP:

- Overview of VoIP technology.

- Understanding VoIP protocols SIP, RTP.

- VoIP deployment models cloud vs. on-premises.

- Quality of Service QoS considerations.

- VoIP security challenges and solutions.

Unit 2:

IP Telephony Fundamentals:

- Basics of IP telephony architecture.

- Call processing and signaling protocols H.323.

- IP PBX systems and their components.

- Integration with traditional telephony systems.

- Unified Communications UC features and benefits.

Unit 3:

VoIP Network Design:

- Planning and designing VoIP networks.

- Network requirements and bandwidth considerations.

- Redundancy and failover strategies.

- Implementing voice gateways and codecs.

- Case studies on VoIP network implementations.

Unit 4:

VoIP Troubleshooting and Optimization:

- Common VoIP issues and troubleshooting methodologies.

- Monitoring and performance optimization techniques.

- Call quality testing and troubleshooting tools.

- Capacity planning and scalability considerations.

- Continuous improvement strategies for VoIP networks.

Unit 5:

Future Trends in IP Telecom Networks:

- Emerging technologies in IP telecom networks.

- VoIP and cloud communications integration.

- Impact of 5G and IoT on IP telephony.

- Regulatory and compliance considerations.

- Future directions and innovations in IP telecom.