



## IP and VoIP Architectures, Processes and Services

(4 days)



### To Register

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## COURSE OBJECTIVES

Traditionally IP has been used in the support of transporting data only however, due to technology developments and market demand, IP is now seen as the protocol of today and required to support not just data but multimedia traffic including voice and video. Voice over IP networks have been proven to reduce telephony costs and provide unique opportunities for integrating voice and data solutions. To deploy this vital technology successfully, you need to understand its benefits and challenges.

Upon completion of this course, participants will be able to:

- ✓ Identify the role of each IP component.
- ✓ Describe the transmission process within an IP network.
- ✓ Describe IP application services and its stack of protocols.
- ✓ Understand how to use a data packet network to provide wide area voice communications.
- ✓ Understand the transmission process of a voice signal over an IP network.
- ✓ Discuss the challenges related to the convergence of voice and data networks.
- ✓ Identify critical issues to consider in the planning stages of the implementation of a VoIP network.

## INTENDED AUDIENCE

This course is aimed at individuals who wish to develop a solid understanding of all aspects of IP technology and more specifically the migration of voice traffic to IP networks such as for Telecom managers, Voice administrators, Designers and Consultants with telecoms background.

## METHODOLOGY

This course uses a more innovative approach to traditional training through the use of simulation. Following instruction of the basic concepts and fundamentals, participants are then asked to role play the various components of an IP phone network and to carry out the steps of a voice call over an IP network. Through observations, immediate feedback and group discussions, participants will have mastered course content and objectives.



## COURSE DESCRIPTION

### **IP:Processes and Services**

- Transfer modes
  - ⇒ Synchronous
  - ⇒ Asynchronous
- OSI model vs. IP
- « Client / server » environment
- User applications
  - ⇒ http / WWW
  - ⇒ Telnet
  - ⇒ FTP
  - ⇒ SMTP / POP
- Network services
  - ⇒ DHCP
    - Relay agent
  - ⇒ DNS
    - Primary and secondary servers
    - Zone and domain
- Description of commonly used protocol
  - ⇒ TCP / UDP
  - ⇒ IP
  - ⇒ ARP
  - ⇒ Ethernet, Fast Ethernet, Gigabit
  - ⇒ Ethernet
- Bridging and switching
- Routing
- Leased lines
- ATM and MPLS
- Remote access
  - ⇒ RADIUS server

#### **TRAINING SERVICES**

**IP/VoIP Architectures, Processes and Services – IPVOIP-E**  
Email [iptraining@argilon.com](mailto:iptraining@argilon.com) with questions



## Voice over IP: Architectures and Processes

- Voice vs. data
  - ⇒ Voice and video signals characteristics
  - ⇒ Voice network functionalities
  - ⇒ Voice signal transmission
    - Encoding
    - Supervision and signaling
- Carrying voice over an IP network
  - ⇒ Constraints and solutions
  - ⇒ The challenges
  - ⇒ Architectures, protocols and components
    - Standardization organizations
    - SIP and SDP
      - User agent, proxy server, location server
    - H.323
      - Gateway and Gatekeeper
      - RAS, H.225 and H.245
    - MGCP and Megaco
    - Inter-domains protocols
- Voice transmission over an IP network
  - ⇒ Digitization, compression
  - ⇒ Fragmentation and encapsulation
  - ⇒ Performance criteria's
    - Packets size
    - Delay and jitter
    - RTP, RTCP
    - Priority queuing and QoS
- VoIP : A good decision?
  - ⇒ What are the business triggers?
  - ⇒ Implementation and migration
  - ⇒ Costs, management and security issues
  - ⇒ Products and applications

## PRICE

For price information, please contact us at [iptraining@argilon.com](mailto:iptraining@argilon.com)

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