



AFRICAN ADVANCED LEVEL TELECOMMUNICATIONS INSTITUTE (AFRALTI)

WORKSHOP OUTLINE

- Title:** VOICE OVER INTERNET PROTOCOL (VOIP)
- Dates:** 15TH – 19TH November 2010
- Venue:** Accra, Ghana
- Cost:** Participants ex AFRALTI Member States - US\$ 1,000.00 per person
Participants ex Non Member States - US\$ 1,200.00 per person
-

TARGET AUDIENCE:

The workshop is intended for network professionals involved in planning, operation and maintenance of data networks. It also targets telecommunications engineers in Regulatory Bodies responsible for regulation in New Technologies.

It is particularly relevant for staff responsible for Technical Inputs into Business Development and Investment Policy Issues.

DESCRIPTION:

The course aims to give participants an understanding of:

- ✓ The growing importance of VOIP as a Communications Technology.
- ✓ VoIP Architecture and Infrastructures (the Protocols, Service Architecture, Security Architecture, etc).
- ✓ The impact of this technology on Businesses (The opportunities and Benefits of Deploying VoIP products or solutions).
- ✓ Technological Challenges posed by the use of VoIP (e.g. Security Issues and Concerns and the Mitigation Strategies).
- ✓ Regulatory Challenges occasioned by the use of VoIP (Regulatory Approaches in Africa and Elsewhere; to Regulate or not to Regulate; Technological neutrality)

At the end of the training, participants should be able to set up and configure a VOIP network using the H.323 Standard, as well as to trouble shoot.

WORKSHOP OBJECTIVES:

This workshop will enable participants to:

- ✓ Understand the challenges of current technologies vis-à-vis new services such as VoIP.
- ✓ Define gateway network topologies and the role of gatekeeper.
- ✓ Define new protocols used in IP (SIP, SDP, RTP, RTCP).
- ✓ Describe components used in a VoIP/SIP Network.
- ✓ Describe the call forwarding procedure on IP & SIP.
- ✓ Define the various compression methods, services and applications available.
- ✓ Describe the steps and the call processing procedures on SIP.
- ✓ Configure and troubleshoot an SIP environment.
- ✓ Establish a Business Case for adopting VoIP

WORKSHOP TOPICS:

This course is divided into three major areas:

- 1. Overview of VoIP Technology**
- 2. VoIP SIP Technologies**
- 3. The VoIP Business Case:**

1. Overview VoIP Technologies

- A brief history of VoIP
- Challenges facing VoIP
 - Regulatory Challenges and trends
 - Technological Challenges and Trends
- VoIP in Africa
- Focus on the fundamental concepts of Voice over IP.
 - Integrating Voice over IP
 - Traditional voice transportation and signaling
 - Internet Protocols and Quality of Service (QoS)
 - H.323 Standards
 - Other specifications
 - Compression and standards
 - IP Voice Applications

- The Role of Gateway:
 - Gateway Network Topologies
 - Practical Application of Gateway Networks
 - Gateway Operation with PABX's and Routers.
- What is the future of Gateways.?

Approximately 30% of this course is hands-on practicals. This part will be covered over the first 3 days of the course.

2. **VoIP /SIP Technologies**

Provides theoretical and practical information on terminologies, network configuration and capacity of the Session Initiation Protocol (SIP) standard. Session covers issues of inter-operability, Site management and administration, and trouble-shooting. More specifically, the course looks closely at the following:

- Voice over IP Protocols
- SIP Architecture
- SIP Session
- SIP Establishment
- SIP Features
- SIP Call Flows
- SIP Challenges (eg. QoS;Security; SIP and Mobile; SIP and 3G)

Approximately 50% of this course is on hands-on activities.

3. **The VoIP Business Case**

- Tangible Goals and objectives for VoIP
- Impact and benefits from deploying VoIP
- Costs and Associated Risks
- Challenges

FACILITATOR BRIEF:

Mr. Mohamed Noorani is an international expert in telecommunications, data communications and networking and has been actively involved in the industry since 1981. He holds a Bachelors Degree in Electrical Engineering and is a licensed and registered Engineer in his home country, Kenya. He is also a Cisco Certified Network Associate and a Microsoft Certified Systems Engineer.

Mr. Noorani has taught telecommunications technology and data communications training seminars to wide acclaim across Africa since 1991, and has a broad experience working as an engineer in the telecommunications industry.

He worked for Kenya telecommunications as a Project Planning Engineer for ten years on projects including Digital Voice and Data Networks, on Signalling System No. 7, X 25 Packet Switching Network for the Kenya Data Network and many other projects in capacities ranging from detailed Project Design and Implementation to Project Leader.

Currently, Mr. Noorani is the Head of Network Planning and Management at the African Advanced Level Telecommunications Institute (AFRALTI) specialising in developing and conducting training programs in Broadband Wireless technologies, CCS No 7, VSAT Networks, Network Planning, Telecommunications Network Management, IP networks and Convergence, GSM Wireless Technologies such as CDMA and WiMAX, Circuit, Packet and Ethernet switching, VoIP, Next Generation Networks and IP networking over Satellite.

Register Now!!

For more information, please contact us on :

Tel: +254 20 444 06 33/34, +254 710 207 061, + 254 733 444 421

Email: jane.mahui@afralti.org or jane.mahui@ties.itu.int or andrew@afralti.org