



AFRICAN ADVANCED LEVEL TELECOMMUNICATIONS INSTITUTE (AFRALTI)

## TRAINING WORKSHOP OUTLINE

<b>Title:</b>	QUALITY OF SERVICE, MONITORING AND COMPLIANCE
<b>Dates:</b>	6 <sup>th</sup> – 10 <sup>th</sup> July 2015
<b>Venue:</b>	Gaborone, Botswana

### Overview

Monitoring of the Quality of Service (QoS) requires the setting up of the regulatory framework that would provide the basis for the Information Communications Technology (ICT) industry to maintain or improve the quality either in the presence or absence of competition. This also allows the ICT consumers to make informed choices in uptake of services. However, as much as recognition is given to the much work done by many ICT regulators in developing and publishing regulations on the monitoring of the quality of service, it is being noted that enforcement has been a challenge.

The innovation in the ICT Technologies and transition to the packet switching networks has led to the revisiting of the methods used by regulators in monitoring of QoS. It is pertinent that all stakeholders in the QoS obligations understand to ensure that the existing regulations and methods used to monitor the service provided by operators are aligned to the changes in the environment.

### Workshop Objectives:

The objectives of the Quality of Service compliance training are:

- ✓ To provide an in-depth understanding of the framework underlying Quality of Service and Experience for fixed line telephone services, mobile telephone services and Internet services.
- ✓ To provide in-depth understanding on regulation of quality of service, focusing on quality of service measurements/measurement methodology and quality of service target setting.
- ✓ To provide Network Operators with an understanding of the QoS and QoE regulatory provisions.
- ✓ To provide an in-depth understanding of the audit/survey mechanisms by regulatory staff that will ensure an effective enforcement and monitoring of QoS and QoE.
- ✓ In addition, the training will also address both local distribution networks and trunk networks in relation to customer satisfaction and performance in order to augment the objectives listed above.

**Target Audience:**

This course is useful for Managers, Engineers and Officers responsible for Legal, Technical Regulatory, Monitoring, Enforcement, Customer Care and Consumer Affairs.

**Pain Points:**

- Challenges in implementing the appropriate QoS framework
- Identifying and assessment of user perspective of QoS
- Designing Regulatory practices on QoS

**Value Proposition:**

- To help Operators overcome their challenges with QoS enforcement regimes
- To enable Regulatory regimes adapt to existing and emerging QoS challenges
- To enhance the professional knowledge of Regulators as well as Operators and to broaden their skills in the complex field of QoS

**Expected outcomes**

At the end of the five days training, participants will:

- ✓ Have understood the QoS and QoE framework for monitoring the performance of service providers in Fixed, Mobile and Internet service.
- ✓ Have understood effective monitoring and analysis of service providers' performance against regulatory-set targets.
- ✓ Be in a position to investigate operational issues in regulating Quality of Service.
- ✓ Be in a position to effectively implement QoS regulation for consumer protection and for the growth of communications services.

**Workshop Contents/Topics:**

1. QUALITY OF SERVICE REGULATION
  - Fundamentals of Quality of Service
  - Distinction among QoS, Network performance (NP), Quality of Experience (QoE), Customer Satisfaction
  - Four viewpoints of QoS
  - Quality Matrix
  - QoS Monitoring Process
  - Measurement of QoS compliance by network counters and field surveys
  - Measurement Tools for Interfaces and Services
  - Regulatory Tools for QoS Enforcement
2. BASICS OF TELECOM TRAFFIC
  - Basic concepts of telecom and data traffic
  - Traffic arrival and disposal pattern
  - Traffic models and traffic tables
3. TELECOM NETWORKS AND PERFORMANCE INDICATORS
  - 3.1 Public switched telephone network (PSTN)
    - Basic functions of a telephone exchange

- Switching area and service environment
- Long distance network
- Key performance indicators of PSTN and their measurement
- Call completion and related parameters; how they are affected by the network and its operational management

### 3.2 Public land mobile network (PLMN)

Mobile system architecture

GSM logical channels

BTS fault analysis and test

OMC-R data analysis

Drive test and analysis

Key performance indicators of PLMN and their measurement

## 4. BROADBAND

- Service delivery network
- Basic service functions
- Key performance indicators of service delivery and their measurement

## 5. INTERCONNECTED NETWORK

- Circuit Interconnection
- IP Interconnection

## 6. CALL CENTRE

- Call Centre Mechanisms
- Performance Indicators of Call Centres

## 7. NETWORK AND SERVICE MANAGEMENT

- Performance Indicators of Network and Service Management
- Measurement of Network and Service Management

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