QUALITY OF SERVICE MONITORING IN UGANDA (QoS)

Contents

- Legal Framework
- Monitoring Framework

Legal Framework

Mandate of UCC

Section 5(k) and 5(u) of the Act, 2013 mandates UCC to;

- promote and safeguard the interests of consumers and operators as regards the quality of communications services and equipment;

- establish an intelligent network monitoring system to monitor traffic, revenue and quality of service of operators

- Setting up of a Quality of Service framework
- Setting up of QoS Standards
- Monitoring to ensure compliance
- Type approving communications equipment

- Procured Quality of Service systems
  - Site system
  - Tems Automatic system

Mandate of other stakeholders

Public Infrastructure Provider

Section 9 states that

(i) The Licensee shall ensure that its services meet the Licensor's Quality of Service standards

(ii) The Licensee shall make available to the Licensor records and statistics relating to the quality of service.

Public Service Provider

Section 7 states that

(i) The Licensee shall ensure that its services meet the Licensor's Quality of Service standards
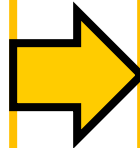
(ii) The Licensee shall make available to the Licensor records and statistics relating to the quality of service.

Technical Monitoring Framework

Current QoS Framework

The Framework in use currently was developed in 2007

Parameters
Call Drop Rate: Percentage number of calls that are dropped after connection to the system or Network during the call duration - **(<2%)**
Call Block Rate: Percentage number of calls that are blocked after call set up - **(<2%)**
Success call rate: A successful call is one which is initiated and established in the network and connected. The connection maintained for the set duration (60 sec in this case) and a disconnect request sent to the network. The call process ends with a confirmation of disconnection from the network.-**>99%**
Network Availability; time that the network resources Are available to the consumer, >98% availability for the network and >95% for access networks
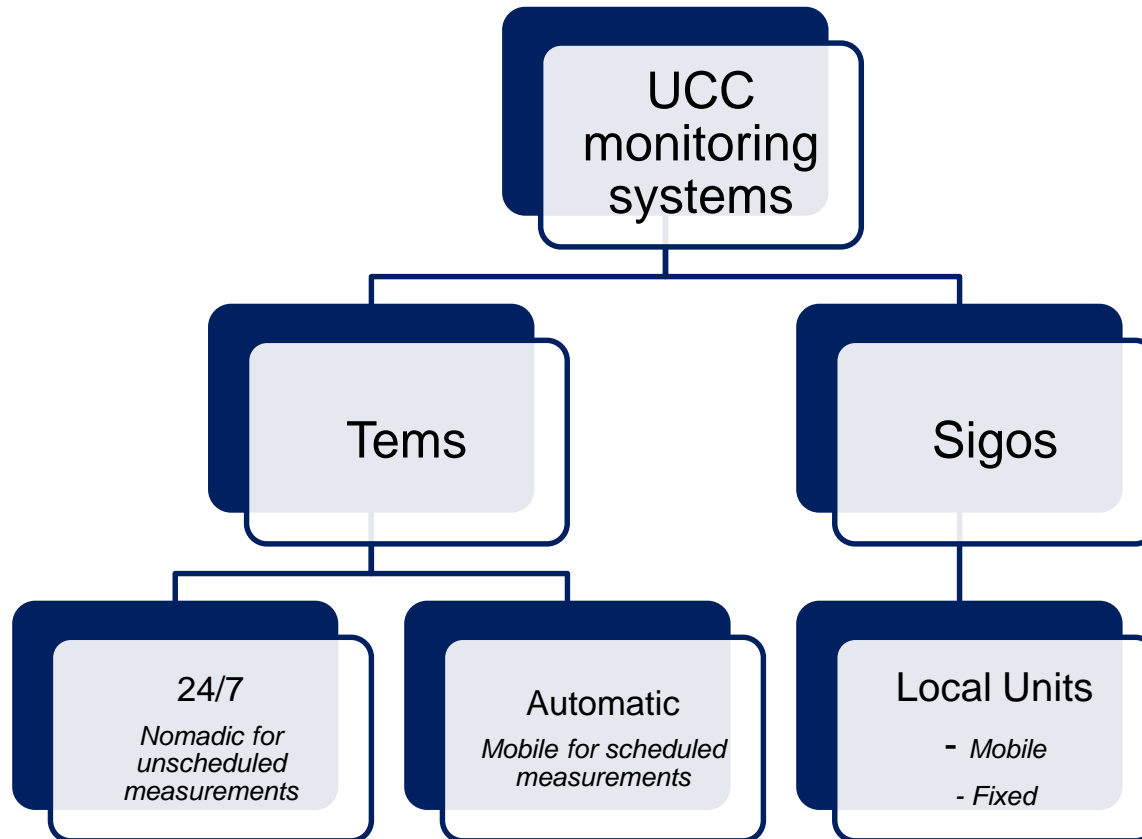
Data Transmission Speed- Currently, this is more of an Informative KPI without a set target.

Monitoring Strategies

- **Scheduled Monitoring**
  - ☐ Twice a year
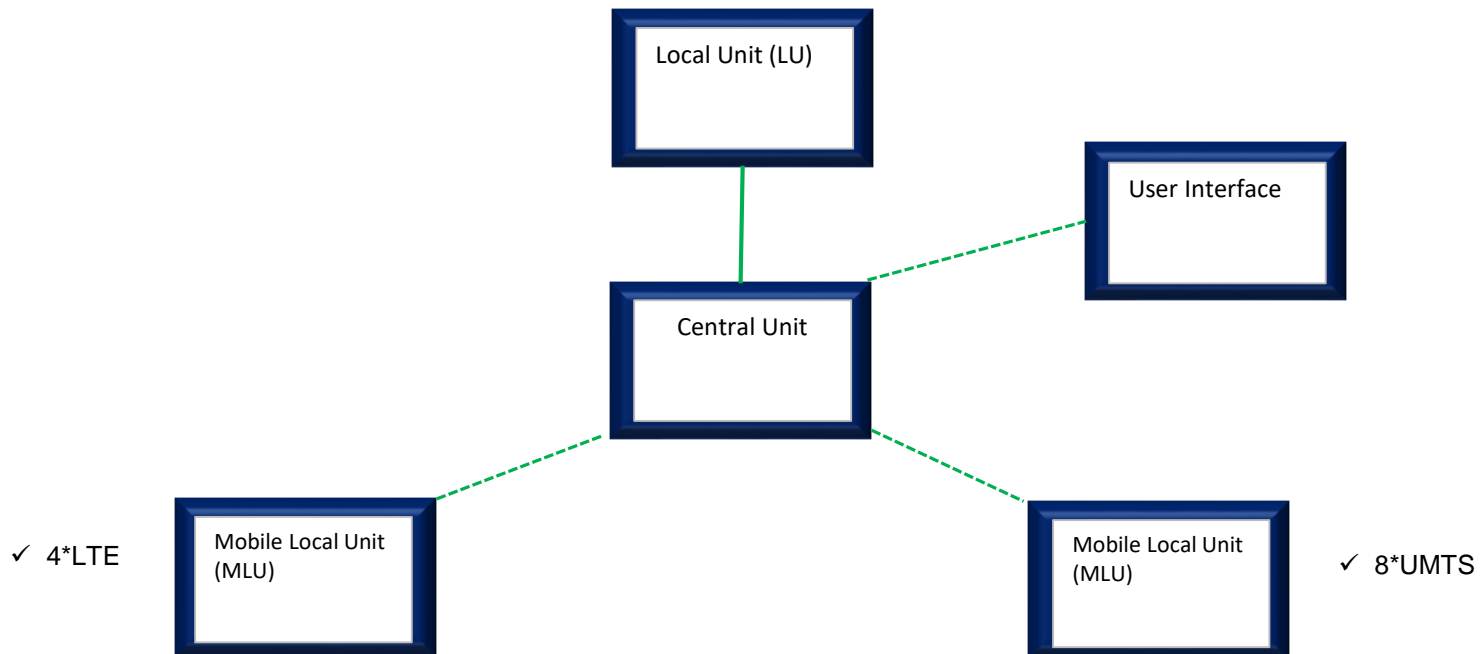 - ☐ Results are shared with operators and published

- **Unscheduled Monitoring**
  - ☐ 24/7 throughout the year
  - ☐ Real time results presented on a dashboard. Informational for Management
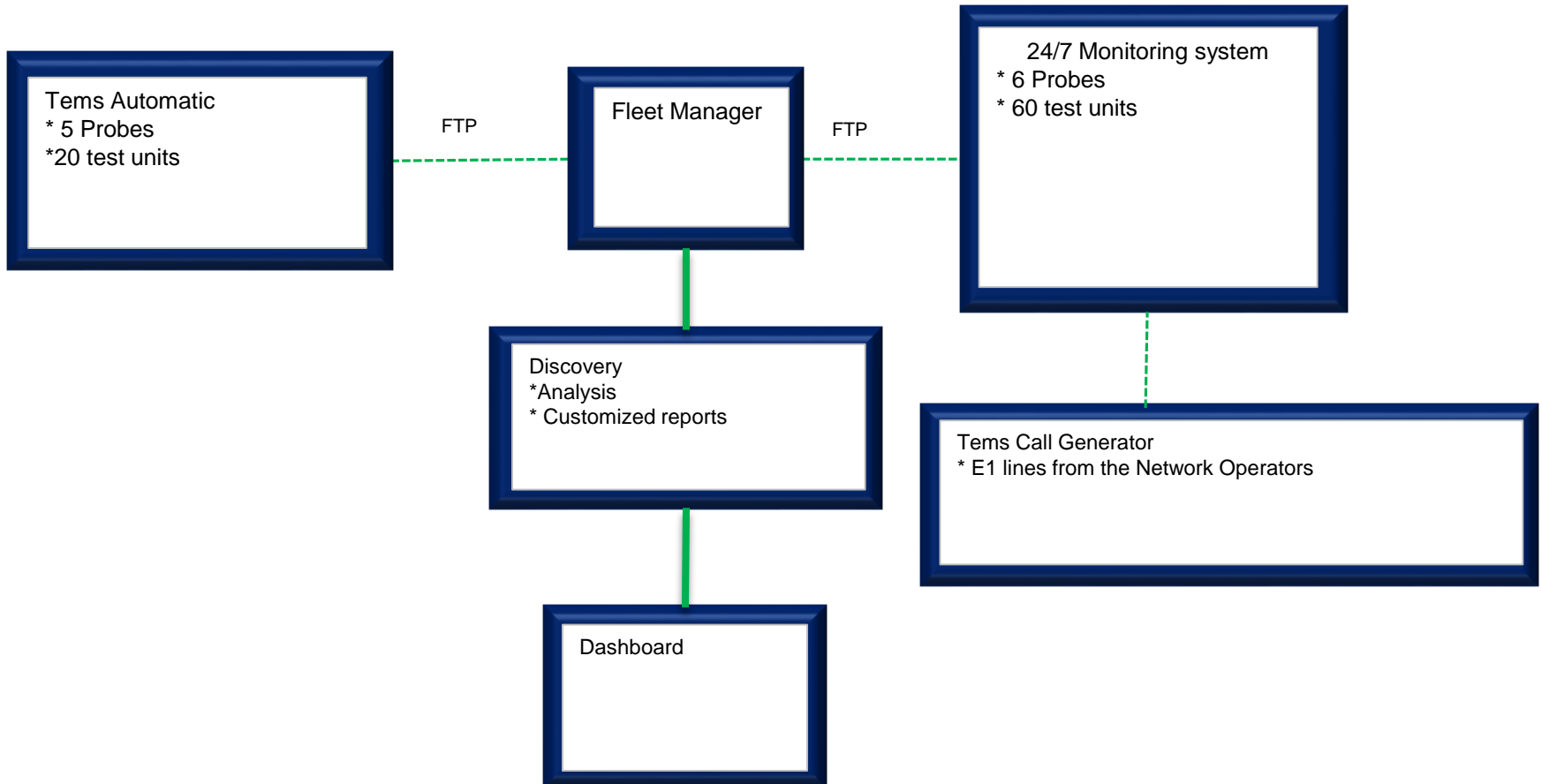
Monitoring Systems

Site System

Capabilities of the System
- Simultaneous tests on 12 mobile voice GSM/UMTS networks
- Fixed Data and Voice tests on GSM/UMTS/LTE

Tems System

Tems Automatic
* 5 Probes
*20 test units

FTP

Fleet Manager

FTP

24/7 Monitoring system
* 6 Probes
* 60 test units

Discovery
*Analysis
* Customized reports

Tems Call Generator
* E1 lines from the Network Operators

Dashboard

Voice Heat Map: MOS DL Operator : All

StreetMap contributors RWANDA

200 mi

3.98

MOS DL , Operator :All

Africell	Airtel	MTN
3.43	3.50	3.75
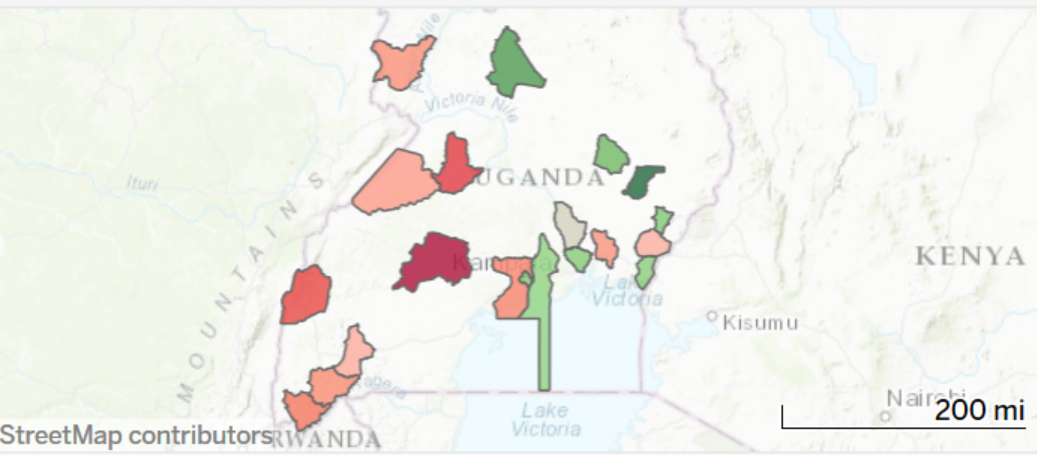
Legend:
- Africell
- Airtel
- MTN
- UTL
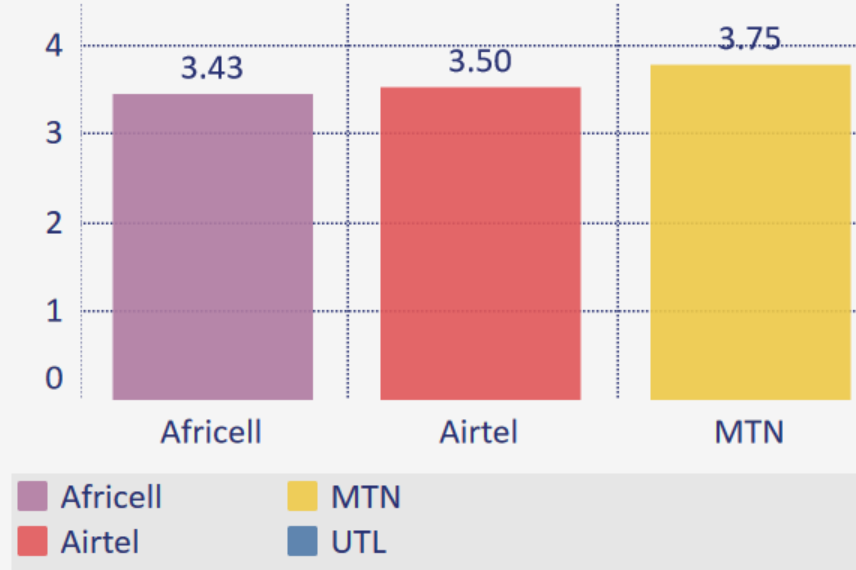
Voice Statistics : Operator : All

Dimension	MOS - DL	Call Setup Time (sec) - AVG	Call Attempt	Call Blocked	Call Dropped	Call End	Call Setup	% Call Setup Time < 4 (Excellent)	Call Completion Rate (%)	Call S Ra
ell	3.43	4.02	6,841	956	44	5,945	6,083	62.06%	99.25%	8
	3.50	5.01	27,966	5,565	35	22,590	27,980	60.83%	99.84%	8
	3.75	5.12	14,990	7,091	24	8,181	8,285	35.32%	99.70%	5
	3.38	6.85	11,475	3,777	106	7,986	11,402	26.14%	98.62%	6

End

Thank you!