



ITU Regional Seminar for the Africa Region  
on Conformance and Interoperability Testing  
Centre(s)  
Accra (Ghana), 4-6 July 2011

**Possible location and areas of interest for  
Test Centres and results of Questionnaire**

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**Questionnaire on C&I Testing  
and Capacity Building**



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## Questionnaire Outline 1/2

- Fixed and Mobile Networks – what kind?
  - TDM, NGN Softswitch, NGN IMS, Other, 2G, 3G
  - What services ?
  - What equipment ?
- Conformance and Interoperability
  - Issues between new and legacy systems
  - Main C&I problems experienced
  - Impact of C&I problems
  - Pre-installation activities to mitigate C&I problems
  - Type Approval regime in place?
  - Type Approval Body?
  - Accepted product Marking schemes e.g. EC, FCC, IC
  - National Accreditation Bodies, Certification Bodies and Test Labs for Type Approval?
  - MRAs ?
  - Market Surveillance ?



## Questionnaire Outline 2/2

- Training and Capacity Building
  - Awareness of Res 47, Res 76 and Res 177
  - In light of these, what training and capacity building is desirable in your country?
- Are you ready to participate in:
  - Regional programs including capacity building and expert training
  - Exploring opportunities (finance, human resources, location/sites) to set up Test Centres in your country
  - Are there ICT labs in your country that could host testing and other ITU initiatives
- Other comments





## Possible Test Lab focus

- Type Approval – testing for regulatory compliance
  - Wireless
  - Wireline
  - EMC
  - SAR
  - Environmental
- type approval – testing for conformance to voluntary standards
  - ITU Recommendations
  - Standards from other SDOs
- Interoperability – testing for interoperability of products in system configurations



## Responses to Questionnaire





## Fixed and Mobile Networks and Services 1/2

Results broken down into 3 groups – based on similarities in experiences and deployment of network technologies

- Group 1
  - Internet/IP                      Gateway services
  - 2G and 3G                      GSM network services
  
- Group 2
  - TDM                              voice, fax, international voice, data
  - Internet/IP                      ADSL, Cybercafe, VoIP
  - NGN Softswitch              voice, data
  - 2G                                 voice, SMS local and international, prepaid
  - 3G                                 internatnl SMS, local SMS, data and Internet



## Fixed and Mobile Networks and Services 2/2

- Group 3
  - TDM                              voice, data, ISDN
  - Internet/IP                      VoIP, data, email, wimax, metro ethernet
  - NGN Softswitch              voice, fax, ISDN
  - NGN IMS                        VoIP, digital fax
  - 2G                                 GPRS/EDGE, circuit switched data, voice, SMS
  - 3G                                 HPSA + mobile broadband, voice, AMR-WB  
voice, CS video call, SMS, R99 PS data





## Fixed and Mobile Network Equipment

- Group 1
  - No equipment listed, referred/deferred to service provider
- Group 2
  - Tended to have a dominant equipment supplier
- Group 3
  - Tended to have a wide mix of suppliers



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## Conformance and Interoperability 1/3

- Group 1
  - Reported no problems – likely single operator
  - Type Approval regime
  - No Type Approval responsible body
  - Marking – recognize either body recommended by service provider or well known Mark such as EC, FCC
  - No national accreditation, certification bodies or test labs
  - No MRAs
  - No market surveillance
  - No ICT labs



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## Conformance and Interoperability 2/3

- Group 2
  - New equipment can affect legacy systems
  - Lists of interoperability problems such as: signalling in core networks, CDR equipment malfunctions, problems implementing new features on all platforms
  - Impact of interoperability problems high, affects QoS, customer satisfaction and loss of business
  - Pre installation activities carried out to mitigate interoperability problems
  - 50/50 Type Approval regimes
  - 50/50 Type Approval bodies
  - No national accreditation and certification bodies
  - No MRAs
  - No market surveillance



## Conformance and Interoperability 3/3

- Group 3
  - Longer lists of interoperability problems such as: MSAN-Softswitch conformity, ISDN support, IMS core, software features in general
  - Lists of economic impacts such as: additional costs, company image, QoS, project delay, upgrade costs, extra testing costs
  - Pre installation work always done to mitigate interoperability problems
  - Type Approval regime in place
  - Type Approval Body
  - Recognize EU, FCC ,IC
  - Accreditation and certification bodies in place as well as test labs
  - MRAs active
  - Market surveillance in place





## Training and Capacity Building 1/3

- Group 1
  - Interested in follow-up training/capacity building related to WTDC 2010 Res 47, WTSA 2008 Res 76, PP-10 Res177
  - Would participate in development of regional program in capacity building and expert tutorials
  - Interested in opportunities to establish national, sub-regional and regional test centres
  - No ICT Labs capable of hosting test events or ITU activities



## Training and Capacity Building 2/3

- Group 2
  - Interested in follow-up training/capacity building related to WTDC 2010 Res 47, WTSA 2008 Res 76, PP-10 Res177
  - Would participate in development of regional program in capacity building and expert tutorials
  - Interested in opportunities to establish national, sub-regional and regional test centres
  - No ICT Labs capable of hosting test events or ITU activities





## Training and Capacity Building 3/3

- Group 3
  - Interested in follow-up training/capacity building related to WTDC 2010 Res 47, WTSA 2008 Res 76, PP-10 Res177
  - Would participate in development of regional program in capacity building and expert tutorials
  - Interested in opportunities to establish national, sub-regional and regional test centres
  - ICT Labs capable of hosting test events or ITU activities



## Discussion of Status and Interest in establishing Test Labs in the region







## Sub-regional groupings

- Overarching bodies – African Telecom Union
  - 46 Member States and 17 associate members
  - Others?
- Geographical – East/West/North/South/Central
- Language issues and natural groupings
- Test labs by sub region



## Status of test Lab developments in region – Type Approval Labs

- Site locations – current and potential
- Scopes – current and anticipated
- Current funding arrangements and possible sources of funding
- Situation regarding legislation and regulations
- Institutional arrangements for Accreditation and Certification
- Interest in engaging in MRA on Conformity Assessment of Telecom apparatus





## Status of test Lab developments in region – type approval Labs

- Site locations – current and potential
- Scopes – current and anticipated
- Current funding arrangements and possible sources of funding
- Institutional arrangements for Accreditation and Certification
- Interest in engaging in MRAs



## Status of test Lab developments in region – Interop Labs.

- Site locations – current and potential
- Scopes – current and anticipated – priority areas e.g.
  - IPTV
  - IPV6
  - SIP
  - LTE
  - 3GPP
  - Other
- Current funding arrangements and possible sources of funding
- Institutional arrangements for Accreditation and Certification





**Thank You**

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