

# ITU Workshop on Performance, QoS and QoE for Multimedia Services

Johannesburg, South Africa, 24-25 July 2017



# Overview and Statistics

- Workshop hosted by **InfoVista**, supported by the **Department of Telecommunications and Postal Services (DTPS)**, Republic of South Africa; the **Southern Africa Telecommunications Association (SATA)**; and **Telkom**
- Interpretation English-French
- More than 90 participants from more than 35 countries (*incl. 8 remote participants*)
- Presentation material available at <https://itu.int/en/ITU-T/Workshops-and-Seminars/qos/201707/Pages/Programme.aspx>

# Session 1: Introduction to ITU and ITU-T Study Group 12

## Takeaways and Conclusions

1. More participations and contributions needed from African countries in SG12.
2. Resolution 95 (WTSA-16).
3. QoS Regulation Manual to be released in September 2017.
4. Existence of a Regulatory Tracker.
5. Quality of Service training programme.
6. 2 days QoS Training and consultation meeting in 2017.

## Suggestions to SG12

- Collect data up to date for the Regulatory tracker.
- More trainings and workshops in developing countries.
- QoS Regulation Manual in multiple languages.



# Session 2: KPIs and methods for measuring and evaluating the QoS/QoE in LTE and LTE-Advanced networks

## Takeaways and Conclusions

1. For “The Ecosystem of Network Testing”, how QoS KPIs can be more QoE using Statistical approach.
2. How Automatic / Dynamic Dashboard can be beneficial for the regulator / operator specially for data services.
3. Latest overview on Global VoLTE statistics and Tunisian experience of Testing / data collection.

## Suggestions to SG12

- Define and introduce QoS KPIs per Technology per Service from a consumer perspective.
- Introduce how Dashboard design of selected KPIs can serve as an alert system one stop shop.
- Conduct VoLTE introductory sessions and data / complaints streams as a regulator feedback on operators network performance.



# Session 3: QoS/QoE regulatory and policy aspects

## Takeaways and Conclusions

1. Countries experiences were presented and discussed:
  - Zimbabwe presented its legal and operational framework on quality;
  - Jordan presented its quality framework and the "Mobile Awards 2016" initiative;
  - South Africa presented its regulatory environment and challenges on quality.
2. Conclusion:
  - Setting national quality regulatory frameworks fostered network investments and quality improvements.

## Suggestions to SG12

- Evolve Recommendations addressing regulatory quality frameworks.
- Provide threshold's references for relevant KPIs.
- Collect information on regulatory strategies deployed by countries.
- Study counterfeiting device's impacts on quality.



# Sessions 4 and 5: Introduction of recently adopted ITU-T Recommendations on performance, QoS and QoE

## Takeaways and Conclusions

1. Y.1545.1 - Framework for monitoring the QoS of IP network services (Methodology, Testing Tools, Evaluation scenarios and sampling methodology);
2. E.802 Amd.1 Guidelines on selection of representatives samples and sample calculator tool named RStudio (available on ITU site);
3. Regulators of hosting countries to consider E.811 (critical and diagnostic KPIs) in preparing 'major events' to ensure high QoS and QoE;
4. E.847 discussing KPIs for QoS for TDM interconnection.

## Suggestions to SG12

- Assist developing countries in the monitoring of IP network services.
- Organize workshop or training for the use of RStudio.
- Consider future updates of E.811 taking into account evolution of technology, user expectations, lessons learned.
- Possible further work on framework for interconnect exchange and coordination committee, based on E.847, towards QoS norms for interconnection at IP level.



# Session 6: QoS and QoE for digital financial services

## Takeaways and Conclusions

1. Better understanding of the details of the different DFS applications and their correlation with network performance.
2. The case of DFS in Senegal shows that mobile usage of these services will increase rapidly in near future.

## Suggestions to SG12

- Include parameters in Recommendations, the measurement of which will point out the correlation of network performance and DFS applications.
- Recommendations are needed on compatibility and reliability between DFS and mobile networks.



# Session 7: Network performance and QoS requirements for 5G networks

## Takeaways and Conclusions

1. Ambitious 5G performance targets, and fragmented usage scenarios incl. human and machine communications.
2. Numerous underlying innovative radio and non-radio concepts enable network automation and flexibility.
3. Impact on benchmarking, drive testing and measurement methodology need to be considered.
4. Regulatory approach needs to be revisited.

## Suggestions to SG12

- Contributions are solicited to populate “QoS Framework for IMT-2020” work item and related SG12 work.
- QoS and QoE model to address fragmented markets, requirements, usage scenarios.
- Concept of QoE for M2M and IoT.

