

Title: A comprehensive Quality of Service (QoS) Performance bench-marks for GSM and CDMA networks for all interfaces

Abstract

Digital Mobile Telecommunication Services (DMTS) have been adopted universally, and developing countries that hitherto have no established Wireline Telephony have embraced DMTS as a means of achieving rapid coverage so as to improve their very low level of Teledensity. However, countries that rely heavily on wireless telephony are faced with new set of challenges in respect of poor Quality of Service (QoS) delivery. A number of these countries have been relying on bench-marks or Key Performance Indicators (KPIs) that have been drawn with Wireline services in mind and for which reason such KPIs have not been adequate as Standard levels for Wireless services even where they are met. In this paper a comprehensive set of KPIs are proposed for Wireless Voice and Data services that are applicable to GSM as well as CDMA systems. The proposed set of KPIs are to be measured using one of or a combination of three methods; Drive test, Monitoring from Network Operating Centres (NOCs), and Consumer Survey. The KPIs cover Billing-related, Wireless, Data as well as Network-related Technical Parameters. A list of succinct definitions of the KPIs is also provided as a guide. Monitoring Data on TCH and SDCCH Congestion level collected from the NOCs of some operators indicate that deviation from the bench-marks being proposed in this paper can lead to poor Quality Services and often complete lack of access. Relevance of each of the KPIs to consumer experience is highlighted.

Short Bio - Speaker 3



Dr. Bashir Gwandu: Is the Executive Commissioner (Technical Services) of the Nigerian Communications Commission (NCC) and was the Acting Vice Chairman/CEO of the NCC from June to July 2010. After receiving his BSc in Physics from Usman Danfodiyo University, Sokoto and an MSc in Applied Physics from the University of Jos, in addition to a brief Engineering service at the Tactical Air-command, Makurdi and lecturing at Usman Danfodiyo University, Sokoto, he proceeded to the United Kingdom where he attended MSc Courses in Power Electronics and Drives and MSc courses in Communications Engineering; he further obtained an MPhil degree in Electrical/Electronic Engineering, all from the University of Birmingham. He returned briefly to Usman Danfodiyo University, Sokoto to lecture before going back to the UK to study for a PhD in Electronic/Electrical Engineering at Aston University and subsequently undertook an MBA Finance course at the Birmingham Business School.

Dr Gwandu was the Head, Physics Department of Usman Danfodiyo University until December 1991. He has designed many devices that are used in the telecom industry some of which have been patented in Europe and United States. He is a Chartered Electrical Engineer, and a full member of the 3 main International Electrical Engineering Institutes, i.e. The IEE UK, IEEE USA, and IEICE Japan and has published over 36 Electronic and Electrical Engineering Research papers in world-class Electrical Engineering journals and conference proceedings. Since 2002, Dr Bashir Gwandu has been involved in research work on Regulation of Utilities. He was also one of the engineers invited as part of the Institution of Electrical Engineers (IEE) team to outline policy issues for the UK Energy White-paper. He was also a regular contributor to IEE/Ofcom consultation on spectrum management issues. Dr Gwandu is currently the Executive Commissioner for Engineering and Technical Standards at the Nigerian Communications Commission (NCC); supervising Spectrum planning and management, Quality of Service Monitoring and Network Optimization, Equipment Type-approval, Numbering Plan, Allocation and Management. He was the Executive Commissioner in Charge of Licensing and Consumer Affairs of the NCC until Jun 07.

Dr Gwandu was part of the Launch Committee of the recently Launched Nigerian Communications Satellite (NigComsat-1), has represented Nigeria in many Forums on Telecoms Regulations, and was until recently on the Board of the NigComSat Ltd, and the Board of Digital Bridge Institute. Dr Gwandu having skills in diverse areas of Engineering, Accounting, Finance, the Art of Regulation and Administration; the key competences required of a utility regulator, is currently on the Board of NCC.