

**Methodology applied by Moroccan Regulatory agency to measure THE QUALITY OF mobile SERVICE TO REQUEST TO THE WORKS OF "Specialized Group in identifying questions of public policy related to the Internet" CWG-Internet**

In accordance with the actual regulation, the National Telecommunication Regulatory Agency (ANRT) is in charge of monitoring and supervising the quality of telecommunication services (QoS). To achieve this task, ANRT undertakes QoS measurement campaigns through national territory in order to test and evaluate the quality of service received by end users.

Thus, ANRT conducts measurement campaigns following a defined set of parameters. These parameters are intended to check the accessibility of the service, its continuity, its availability and its reliability. They concern both voice (failure rate, cutoff rate, success rate ...) and data transmission (reception rate, transmission rate, error rate data ...) and aim to ensure the level of QoS provided to customers. Each campaign is conducted on the basis of a significant (number of tests, geographic zones, services, timing ...) in order to ensure the representativeness of measurements and relevance of results. Measurements are performed in intuitive and random way, according to a protocol of measures adopted by ANRT in conjunction with the mobile service suppliers (operators).

Following the campaigns carried out, ANRT transmit the results of measuring tests to operators. In case that the observed QoS is degraded, the mobile service supplier is requested about parameters of quality of its service, and asked to take necessary adjustment actions to improve its service quality.

Rigorous flow-up is undertaken by the technical services of ANRT to check the implementation of adjustment actions through the realization of measurement campaigns on the ground in order to assess the efficiency of these actions.

In terms of mobile Internet, ANRT assess the quality of service of UMTS/HSDPA networks of both Itissalat Al-Maghrib and Medi Telecom operators and CDMA2000/EVDO network of WANA CORPORATE operator. This assessment is set out to learn about the mobile Internet accessibility, the connection delay, the connection rate and throughput for transmission and reception. These indicators are:

- The average downlink throughput;
- The maximum downlink throughput;
- The average uplink throughput;
- The maximum uplink throughput;

The measured indicators are carried out by using smartphones and computers (PC) covering mobile internet (data 3G) of three operators Itissalat Al-Maghrib (IAM), Medi Telecom (MdT) and Wana Corporate ( and performed on a sample of cities, airports and tourist and offshore areas.

Results of these campaigns are published on the website of the ANRT. Each one of the concerned operators is entered for the implementation of necessary adjustments actions to solve the abnormalities observed in its 3G network.