ITU Workshop
Benchmarking of emerging technologies and applications. Internet related performance measurements
(Geneva, 11 March 2019)

Summary and Actions

[Web](Web)

Key terms

- **Benchmark** is "evaluation of performance value/s of a parameter or set of parameters for the purpose of establishing value/s as the norm against which future performance achievements may be compared or assessed" (ITU-T E.800).

- **Benchmarking** is "performance tests of a system based on a suite of standardized performance tests. The main purpose of a performance benchmark is to produce a metric that can be rated and compared with the metric values produced by other systems using the same benchmark" (ITU-T Q.3930).

Key messages of the Workshop

- The benchmarking approach can be used for performance assessment of parameters of different systems, networks, services and applications (e.g. call drops, call set-up delay, CPU load, latency, jitter, download transmission speed, upload transmission speed, etc.)

- There is a need for standards, which define the benchmarking procedures, for rating parameters for every particular system, network, service and/or application.

- The existence of such standards can allow the availability in the market of applications that can be used by the customers to produce comparable results.

Workshop Summary (Session 1)

Session1: Benchmarking of emerging technologies and applications, focused on benchmarking concept and approaches for performance assessment of parameters of different systems, networks, services and applications. It was focused also on experience of different stakeholders on the usage of such methodologies and it highlighted the key standardization activities of different SDOs on this subject.

- Today, Testing and Performance are two faces of the same coin that cannot be separated.

- Existing OSS platforms do not provide assessment of the network performance from the customer perspective.

- Benchmarking of Performance of network and systems/technical solutions is extremely important in order to setup minimum requirements that they should respect.

- Benchmarking is important for the ongoing process of Network Virtualization for the 5G deployment in order to distinguish between NFV and VNF contributions.

Workshop Summary (Session 1)

- External conditions (such as tempurature, humidity, pressure) may impact on the measurement results of benchmarking. During Workshop has been shown that the difference is nearly 40% for throughput measurements at 5 and 45 degrees.

- An example of performance was given by 3GPP RAN MDT (TS 37.320) and the following actions have been agreed:

  - Request GSMA TSG to set mandatory GPS reporting capabilities on devices

  - Add to MDT correlation with temperatute, pressure, …etc in order to evaluate impact on performance

Workshop Summary (Session 2)

Session 2: Internet related performance measurements, focused on experience of telecom operators, regulators, SDOs, on the assessment of network performance parameters, which directly influence the experience of customers about the performance of the Internet connection provided by operators.

- Benchmarking of performance of network can allow the definition of SLA for a given service that can be measured by the single operator or between two operators to check the customer performance to be measured.

- The use of passive measurements complemented by active measurements can provide the service performance view

- The approach highlighted in ITU-T Q.3960 (2016) and the proposed draft ITU-T Q.3961 is compliant with Net Neutrality regulation 2015/2120 from BEREC and OECD 2014 report, underlying that TCP protocol is widely used by customer application.

- It has been identified a lack of standardization for the network performance, particularly for the new Cloud based solutions and there was a recomendation to fill this gap developing performance and testing specifications.