

International Conference of Telecom Regulators

'Emerging Trends in Regulation'

16th October 2024

Concept Note on the topics to be discussed at this conference

I. Regulatory Perspective in Standardization

The global standards provide a level playing field for developing countries to build their ICT infrastructure to accelerate economic development. International ICT standards-based products offer economies of scale and can reduce costs for all stakeholders, i.e., manufacturers, service providers, and consumers. The standardisation ecosystem may broadly be represented through the following model (Figure 1), where SDOs play a pivotal role.

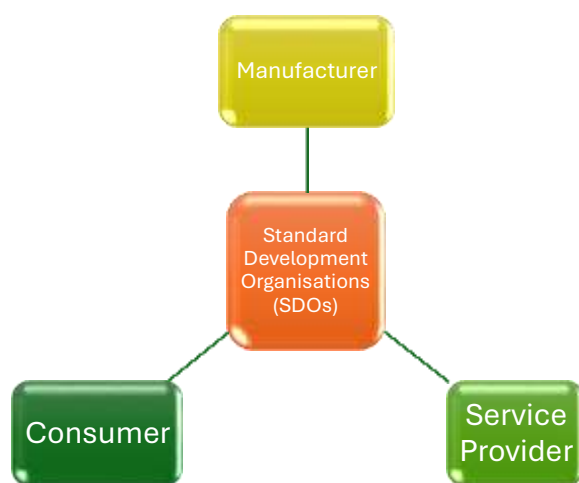


Figure-1: Standardisation Ecosystem

Global Standard Development Organisations (SDOs) like ITU-T, 3GPP, IEEE, etc. play an important role in aligning, bridging, and balancing the stakeholders' interests. They provide a technical framework for designing and developing Information and Communication Technology (ICT) products. The standards are critical for the interoperability of telecommunication networks. Standards also help regulators benchmark network parameters for monitoring and compliance.

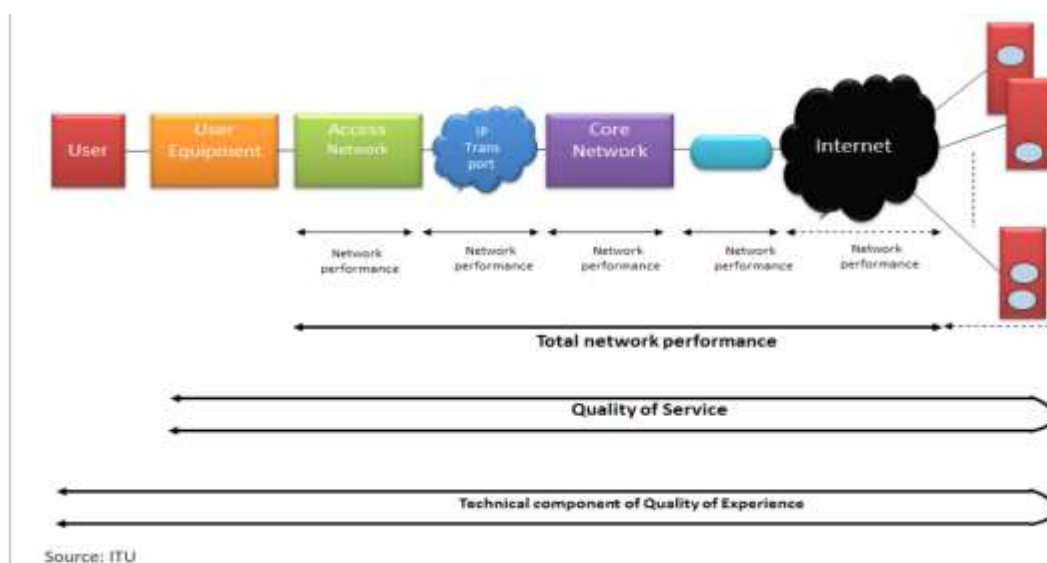
The standardisation activities in SDOs are primarily driven by the contributions from the stakeholders. While manufacturers have wider participation in the standard development process, service providers or their associations are also represented in such forums. However, direct or indirect representation of consumers in the standardisation lifecycle is a real challenge to SDOs.

In the scenario of asymmetric representation of one of the important stakeholders, i.e., the consumer in the standardisation process, the SDOs are responsible for filling this gap through suitable mechanisms or sometimes acting as consumer representatives.

Globally, the regulators are responsible for safeguarding and protecting the interests of consumers in addition to other responsibilities. Therefore, the representation of regulators during the standardisation lifecycle may provide an effective approach for meeting regulatory challenges while protecting consumer interests. For example, the quality of service (QoS) and interoperability of user equipment are regulatory requirements that affect the quality of consumer experience (QoE). However, if the QoS aspect is not ingrained in standards and prepared in isolation post-facto, it may cause operational challenges to service providers and regulatory challenges for regulators.

In the standardisation process, different network segments, like user equipment, access network, transport network, core network, etc., are generally dealt with by different study groups or working groups and may not factor in the end-to-end QoS perspective, which the consumer experiences.

Figure 2: Regulatory Perspective for Quality of Service



From a regulatory perspective, standardisation of minimum performance requirements against identified parameters in each network segment may provide an objective view of end-to-end QoS. These parameters may be made available in the form of a regulatory dashboard. The service providers may also benefit if the standard features for regulatory requirements are built into the products.

In the above context, the session may deliberate and explore the following aspects: -

- a) Regulator's role in standard development- present and future
- b) Standards as a tool for Regulators- challenges and opportunities
- c) QoS by Design- Standardization perspective
- d) Consumer centric approach in standardization
- e) Any other relevant aspect suggested by the experts.

II. Regulatory aspects of Non-Terrestrial Networks (NTN)

Non-terrestrial networks (NTN) are networks or segment of networks that use either Uncrewed Aircraft Systems (UASs) operating typically between 8 and 50 km altitude, including High Altitude Platforms (HAPs) or satellites in different constellations to carry a transmission equipment relay node or a base station.

NTNs are envisioned to extend telecom coverage to areas which are not covered by terrestrial networks. Development of NTNs would also provide opportunities to expand the usage of communication technologies to develop new use cases and applications in different sectors for the benefit of society and achieving the UN SDGs.

The World Radiocommunication Conferences 2023 considered the integration of IMT systems with mobile-satellite systems to enhance connectivity, particularly in remote areas. WRC-23 identified 2 GHz and 2.6 GHz bands for using high-altitude platform stations as IMT base stations (HIBS) and established regulations for their operations. WRC also recognized that this technology offers a new platform to provide mobile broadband with minimal infrastructure using the same frequencies and devices as IMT mobile networks and can contribute to bridging the digital divide in remote and rural areas and maintain connectivity during disasters.

In the recent past, several satellite companies have declared intentions to offer direct-to-device commercial services. This will offer cost and operational efficiency to mobile operators by reducing the need to deploy and operate remote cell sites. Satellite's ability to reach nearly any point on the planet will allow service providers to exploit the market for global NB-IoT, and simultaneously offer capabilities to smartphones. Roaming agreements with MNOs can help realize the vision for global connectivity while remaining cost-efficient.

Many governments and regulators around the world are in the process of formulating policy and regulatory frameworks for NTN. The interplay of regulations and policy will determine how NTNs are designed, what services they offer and how these services reach the end users.

For the success of the integration of terrestrial IMT with NTN, various aspects need to be deliberated. In the Regulators' conference in October 2024, we would brainstorm on the following aspects:

- a) Emerging technological developments for IMT-NTN integration;
- b) Assignment of spectrum for NTN;
- c) Licensing of NTN; and
- d) Any other relevant issues.

III. Regulatory Outlook of OTT Communication Services

Over the top (OTT) communication services are accessed and delivered through an application (App) over the public internet, using the network infrastructure of telecom service providers, and these are direct technical/ functional substitutes for traditional telecommunication services provided by telecom service providers.

Globally, regulators face a tightrope walk for regulating OTT communication services. Providers of OTT communication services often operate under different rules compared to the traditional telecom operators, raising concerns about fair competition. Traditional players pay regulatory fees and are subjected to stricter regulations as compared to OTT players. Telecom operators contend that OTT communication service providers use their networks without incurring additional costs towards infrastructure, whereas telecom operators have to make significant investments to cater to the needs of increased requirements.

Many regulators around the world are closely watching OTT communication services from the standpoint of public interest, in general and consumer interest, in particular. Often, the regulators are faced with the issues related to consumer protection, law enforcement and national security in case of OTT communication services in their respective countries. Sooner or later, regulators will have to develop frameworks that effectively address these concerns.

It is crucial to foster innovation in the OTT communication space while ensuring proper regulations to prevent misuse. Overly stringent regulations could stifle innovation, while lax regulations could lead to consumer harm and pose a threat to the law and order, and national security.

The regulators' conference in October 2024 presents an opportunity to put our minds together for brainstorming onto the following aspects:

- (a) The need for regulating OTT communication services, and the manner of regulation;
 - (b) The method of addressing consumer protection issues with respect to OTT communication services;
 - (c) The method of addressing law enforcement and national security issues with respect to OTT communication services; and
 - (d) Any other relevant issues.
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