CTO MEETING COMMUNIQUÉ

18 November 2013

Bangkok, Thailand

Twenty-three information and communication technologies (ICT) industry leaders and the strategic management of the ITU Telecommunication Standardization Sector (ITU-T) met for the fifth annual Chief Technology Officers’ (CTO) Group meeting in Bangkok, Thailand, 18 November 2013.

The participants emphasized that ITU-T should continue to play its important role as an intergovernmental organization in the standards landscape, that it should establish itself as a uniquely valuable part of inter-SDO collaboration, and that the following specific areas of its remit should be strengthened.

Noting that mobile data usage will continue to grow exponentially, and that in Korea alone mobile service traffic has increased by a factor of 320 in the last three years, the meeting called on ITU-T, in collaboration with other standards organizations involved in mobile and fixed quality of consistent service/experience (QoS/QoE) standards, to develop standards for end-to-end QoS/QoE between fixed and mobile networks.

In the area of cloud computing, ITU-T was encouraged to continue to pursue the harmonization of requirements and frameworks, in particular insofar as they address the needs of developing countries.

It was recognised that standards will be needed to ensure the rollout of telecommunication networks that can support the projected demand of mobile broadband networks of one Gigabyte of personal data per day by 2020. Other requirements for the networks of 2020 will include 1000 times more capacity, latency measured in milliseconds, self-aware networks, greater energy efficiency, and a personalized network experience. Video will continue to be a key driver. ITU-T was therefore encouraged to continue its very successful work on video codecs and other related subjects, and to address the industry’s challenge of meeting all of the above requirements while maintaining profitable business models.

The meeting called for ITU-T to support operator initiatives for the introduction of a range of advanced and differentiated sets of data and services, including the use of network management, in a transparent manner.

Noting the need to identify standardization requirements, and share experiences and best practices to expand mobile access around the world, the meeting called for ITU to organize a two-day workshop in 2014 to explore the conditions for meeting the growing needs for high-speed broadband mobility, preferably held in Sub-Saharan Africa, and if possible co-located with another ITU event.

On the issue of intellectual property rights (IPR), participants encouraged ITU-T’s work to revise the ISO/IEC/ITU common patent policy and guidelines to strike a fair balance between access to IPR for implementers and fair reward for patent owners as these relate to standards essential patents (SEPs).

ITU-T was similarly praised for its work on ICTs and climate change including the energy efficiency of ICTs. ITU-T was encouraged to continue to work on the environmental impact, global warming and greenhouse gas emission (GHG) reduction by ICT solutions.

Big data was another area highlighted as needing better coordination from a standardization perspective. Participants welcomed ITU-T’s recent Technology Watch report, *Big data - big today, normal tomorrow*, and called for ITU to initiate an investigation into the areas of big data in need of accelerated standardization. One issue highlighted by participants was the use of big data as an enabler for network management and operation, especially in operations and billing support systems (OSS/BSS). Use cases highlighted by participants included network planning and optimization, network fault diagnosis and prevention, real-time congestion management, and policy-based capacity management. The aim would be to reduce network outages, operational expenses and capital investments, while improving customer experience.

Specifically, participants urged ITU-T to identify big data’s impact on telecom operators, especially in terms of new services and applications. The meeting proposed the initiation of a project to encourage ITU-T Study Groups to study the implications and possibilities for big data in their specialist areas and to coordinate the work with other SDOs working on big data. The end goal would be to build a clear strategic vision of big data standardization and an outline of exactly what role ITU-T could play, including through its workshops and Technology Watch functions. The meeting supported the hosting of a workshop building on the Technology Watch Report to explore this issue further.

With modernization of the standards landscape on the agenda of the CTO Group since its inception, the meeting called for continued effort on ITU-T’s part to create greater efficiency in the development of standards across multiple bodies and vertical industry sectors.

The group proposed a review of the structure and role of the Global Standards Collaboration (GSC) in order to focus its work on operational issues, while supporting the development of international standards. Participants agreed that GSC should have an active role in enhancing cooperation and collaboration in international standards development, in order to bring a new strategic vision to the development of standards. Such a review should also take into account that GSC is not representative of the whole range of SDOs acting in the field of telecommunications/ICT and should in particular seek to engage IEEE, IETF, ISO and IEC. The development of collaborative teams (e.g. the JCT-VC - Joint Collaborative Team on Video Coding) was applauded and encouraged, as were MOUs (such as those with CCSA, ARIB, TTC, ETSI, and possibly in future IEEE, etc.) and ITU efforts to engage other SDOs at the beginning of new work, for example via joint meetings and workshops.

Participants also agreed that the CTO group will contribute actively to the ITU-T Review Committee (Rev Com) meetings, to assist it in its task “to identify means to enhance cooperation with standard bodies with a view to minimize conflict of standards”. It was considered that the Review Committee can be a useful platform to discuss the issue of cooperation among SDOs, and the expected role of ITU-T.

The development of bilateral coordination between ITU-T and SDOs was strongly encouraged by the meeting. This is particularly relevant in the case of ICT standardization for vertical sectors, for example in health and transport. The CTO meeting recalled the importance of the release concept and asked ITU-T to participate in any work aiming to implement a joint development of standards.

A specific case highlighted as in need of coordination and collaboration is the work currently undertaken in IEEE, BBF and ITU-T on passive optical networks. The meeting issued a strong call for the three organizations to collaborate in order to create a converged PON architecture, which will benefit the industry as a whole over the forthcoming decades through the introduction of economies of scale and the termination of market fragmentation. Flexible means of interaction and collaboration among the three SDOs should be considered. ITU and IEEE are encouraged to build on their successful model of joint development of Carrier Ethernet standards and holding joint meetings, such as the hosting of IEEE 802 by ITU in July 2013.

**PROGRESS REPORT FOLLOWING 2012 CTO COMMUNIQUE**

The meeting welcomed the progress made in addressing the recommendations of the 2012 CTO Group meeting.

Specific mention was given to ITU-T's efforts to establish mechanisms that reflect the interdisciplinary nature of telecommunication and ICT standardization – particularly in satisfying the ICT standardization demands of ‘vertical markets’ such as healthcare, transportation and energy. In response the World Telecommunication Standardization Assembly (WTSA-12) in Dubai, UAE, 20-29 November 2012, adopted Resolution 82 “Strategic and Structural Review of the ITU Telecommunication Standardisation Sector establishing a Review Committee specifically to consider how ITU should best address these challenges. In addition ITU-T has strengthened its collaboration with the World Health Organization (WHO) and other SDOs in the healthcare field such as Continua Health Alliance, it has devoted considerable resources to bolstering its collaboration with the automotive industry, and it has complemented its standardization work on smart grid with a Focus Group on Smart Sustainable Cities (FG-SSC) dealing with, inter alia, best-practice implementation of smart grid standards for city administrators.

In response to the call for ITU-T to accelerate its work on Software-Defined Networking (SDN), WTSA-12 adopted Resolution 77 “Standardization work in ITU-T for software defined networking”. In response, a workshop on SDN was held in June 2012, ITU-T Study Group 11 is developing signalling requirements and protocols, ITU-T Study Group 13 is developing aligned functional requirements and architectures, and a new Joint Coordination Activity on SDN has been established to coordinate ITU-T’s standardization work on SDN and related technical topics. It was noted the work is now progressing steadily in a promising direction with the participation of many influential companies in the industry.

On the topic of ITU’s Conformance and Interoperability (C&I) Programme, CTOs welcomed and supported: ITU-T’s shift towards a market-driven approach to C&I testing; the WTSA-12 decision to charge ITU-T Study Group 11 with coordinating the ITU’s C&I Programme; the C&I Action Plan in line with WTSA-12’s revision of Resolution 76 “Studies related to conformance and interoperability testing, assistance to developing countries, and a possible future ITU Mark programme”; the revamped Joint Coordination Activity overseeing this work; and the significant progress in extending ITU-T’s living list of key technologies suitable for C&I testing.