Report on Fourth ITU-T Telecommunication Standardization Advisory Group (TSAG) Meeting

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Abstract

The fourth meeting of the Telecommunication Standardization Advisory Group (TSAG) of the International Telecommunication Union - Telecommunication Standardization Sector (ITU-T) was held on September 22–26, 2019 at the ITU headquarters in Geneva, Switzerland. It was attended by approximately 140 delegates from 38 countries. This article introduces the proceedings of the meeting.

Keywords: TSAG, quantum information technology, artificial intelligence

1. Introduction

The fourth meeting of the Telecommunication Standardization Advisory Group (TSAG) of the International Telecommunication Union - Telecommunication Standardization Sector (ITU-T) was held on September 22–26, 2019 at the ITU headquarters in Geneva, Switzerland. It was attended by approximately 140 delegates from 38 countries. The delegation from Japan was headed by personnel from the ICT Standardization Division, Global Strategy Bureau, Ministry of Internal Affairs and Communications and included eight locally stationed delegates from Japanese enterprises and organizations (National Institute of Information and Communications Technology (NICT), NTT, NEC, Fujitsu, Hitachi, and Mitsubishi Electric). Japan proposed a method of identifying the relationship between ITU-T study group (SG) standardization questions and the United Nations' Sustainable Development Goals (SDGs) and the addition of criteria for evaluating standardization activities of SGs. The meeting also deliberated on the establishment of two new focus groups (FGs): "Quantum Information Technology for Networks (QIT4N)" and "AI and Data Commons."

2. Rapporteur group meetings

Each rapporteur group (RG) had the following discussions.

2.1 RG on Standardization Strategy

Didier Berthoumieux (Nokia, Finland) served as the RG chair for this meeting. The contributions from Japan proposed developing mapping between ITU-T SG questions and 17 SDGs. They also argued that, when determining new study items for each SG, it is important to identify SDGs to which each study item can contribute. It was decided to continue studying these issues and accelerate such studies by holding interim e-meetings ahead of the next meeting. Japan also proposed adding the number of participants and number of contributions in SG questions to the criteria for evaluating standardization activities of the SGs. This proposal was well supported by the participants. Detailed study on the addition of these criteria will be carried out in cooperation with Telecommunication Standardization Bureau (TSB) personnel of the ITU-T Secretariat ahead of the next TSAG meeting. The RG chair for the fifth TSAG meeting will be Rim Belhassine-Cherif (Tunisia Telecom, Tunisia).

2.2 RG on Work Programme and Structure

Reiner Liebler (Federal Network Agency, Germany) served as the rapporteur. This meeting approved the creation of a new question, QA/SG9 (Accessibility to cable systems and services), revision of Q6/SG9 (Functional requirements for residential gateway and set-top box for the reception of advanced content distribution services), integration of Q18/SG12 (Measurement and control of the end-to-end quality of service (QoS) for advanced television technologies, from image acquisition to rendering, in contribution, primary distribution, and secondary distribution networks) into Q19/SG12 (Objective and subjective methods for evaluating perceptual audiovisual quality in multimedia and television services), creation of Q12/SG16 (Visual surveillance systems and services), and revision of Q2/SG17 (Security architecture and framework). This RG also held a joint meeting with the RG on Standardization Strategy to ensure that the SG restructuring will reflect the priority questions selected in this standardization strategy.

2.3 RG on Working Methods

Stephen Trowbridge (Nokia, USA) served as the rapporteur. The RG considered and approved revisions to Recommendation (Rec.) ITU-T A.1 "Working methods for study groups of the ITU Telecommunication Standardization Sector" and Rec. ITU-T A.13 "Non-normative ITU-T publications, including supplements to ITU-T Recommendations." This RG will continue to study revisions to Rec. ITU-T A.7, which concerns FGs, and Rec. ITU-T A.8, which is related to an alternative approval process.

2.4 RG on Strengthening Cooperation/ Collaboration

Glenn Parsons (Ericsson, Canada) served as the rapporteur. The RG considered and approved revisions to Rec. ITU-T A.5 "Generic procedures for including references to documents of other organizations in ITU-T Recommendations" and Rec. A.25 "Generic procedures for incorporating text between ITU-T and other organizations."

2.5 RG on Creation, Participation and Termination of Regional Groups

Kwame Baah-Acheamfuor (National Communications Authority, Ghana) served as the rapporteur. The RG considered criteria for creation, participation, and disbandment of regional groups, which will be established by ITU-T SGs, an issue related to Rec. 8 approved by the ITU Plenipotentiary Conference 2018 (PP-18).

2.6 RG on Review of WTSA Resolutions

Vladimir Minkin (National Wireless Communication Laboratory, Russia) served as the rapporteur. The RG reviewed the progress of resolutions adopted by the World Telecommunication Standardization Assembly (WTSA).

3. New standardization items

Three new items for standardization were discussed: quantum information technology, artificial intelligence (AI), and a new-Internet protocol (IP)-based future network.

3.1 Quantum information technology

In the previous meeting, China proposed that an FG on Quantum Information Technology for Networks be established, but it was considered to be too early to establish it. In this meeting, China again made this proposal. Discussions were held by narrowing the study scope of the proposed FG.

Initially, some countries were opposed to the establishment of the FG because they thought it was too early. They also argued that the study on quantum communication by the proposed FG could duplicate those of other ITU-T organizations and standardization organizations, pointing out that ITU-T SG13 and SG17 had been making progress in the standardization of network architecture and security for quantum key distribution (QKD). However, establishment of the FG was agreed to on condition that its study area will not overlap that of the existing studies on QKD, that the FG focus on quantum information technologies (QIT), which is a broad concept for quantum information processing, including quantum communication, quantum computer, and quantum sensor, subjects not covered by QKD, and that the FG will operate for only one year with priority given to the study on QIT-related terms and use cases. It was recognized that it is vital for the FG to collaborate with European Telecommunications Standards Institute (ETSI) Industry Specification Group on QKD, ETSI Technical Committee Cyber, Institute of Electrical and Electronics Engineers (IEEE), International Organization for Standardization/ International Electrotechnical Commission Joint Technical Committee 1 (ISO/IEC JTC 1) Subcommittee 27/Working Group 3, ISO/IEC JTC 1 Advisory Group 4, Internet Engineering Task Force (IETF), Internet Research Task

Force (IRTF), etc. on the study of quantum communication and provide a global forum for collaboration between ITU-T and those organizations.

3.2 AI Commons

Since 2017, ITU has been holding AI for Good Global Summit (hereafter, the AI Summit) meetings (most recently on May 28–31, 2019). In the AI Summit meetings, AI experts recognized that it is necessary to have a standardized method of assessing how useful AI is for solving problems in order to develop secure and transparent AI solutions. Thus, they proposed the establishment of "Commons," a forum for global cooperation in which AI experts can share their experience and knowledge on problem-solving. Against a backdrop of increased interest in this idea at the AI Summit, it was proposed in this TSAG meeting to establish an FG dedicated to the role of *AI Commons* (FG on AI and Data Commons) as a pre-standardization activity to pave the way for future international standardization. The proposal was mainly prepared by the program chair (USA) of the Global Summit and researchers of the AI research institute of the University of Montreal, Canada, which is a leading AI research organization. A list of organizations interested in the establishment of the FG was announced and included Google, Facebook, Intel, Symantec, Element AI, and China Telecom. A tutorial presentation on AI Commons was given in the TSAG meeting, followed by discussions in an ad hoc meeting on the establishment of the FG. The ad hoc meeting saw considerable support for the establishment of the FG. However, some government delegates expressed their opposition, asserting that the scope of the FG was too wide and that it was too early to agree on establishment in that TSAG meeting because it will take a long time before the intent of the FG is widely understood. Since the discussion time ran out, the proposal was passed over.

3.3 New-IP-based future network

Chinese organizations, including Huawei Technologies, China Mobile, China Unicom, and China Academy of Information and Communications Technology (CAICT), submitted a contribution titled "New IP, Shaping Future Network," proposing to *analyze the current challenges and provide a development path for the future network for the next decade*. It proposed a strategic study on a future network, including development of a new IP that will replace the conventional Transmission Control Protocol (TCP)/IP. The purpose is to make possible various e-services, such as Internet of Things and industry Internet, and to achieve an ultrahigh-capacity, low-latency network for hologram transmission. This proposal was remitted to the relevant SG liaison, and feedback will be received in the next or a subsequent meeting.

4. Next meeting

The next TSAG meeting (fifth meeting) will be held in Geneva on February 10–14, 2020. The SDG-related issue proposed by Japan was discussed in interim e-meetings of the RG on Standardization Strategy, which were held in November 2019 and January 2020.

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He has been a delegate of IEC Subcommittee 86A (optical fiber and cable) since 1998 and of ITU-T TSAG since 2003. He is a vice-chair of the Working Group on Policy and Strategic Coordination and the Expert Group on Bridging the Standardization Gap in the Asia-Pacific Telecommunity Standardization Program (ASTAP). He received an award from the IEC Activities Promotion Committee of Japan in 2004, the ITU Association of Japan (ITU-AJ) International Activity Encouragement Award in 2005, an ITU-AJ International Cooperation Award in 2012, an award for contributions to an ICT development project at the Asia-Pacific Telecommunity (APT) ICT Ministerial Meeting in 2014, the ITU-AJ Accomplishment Award in 2018, and the Telecommunication Technology Committee (TTC) Chairman's Prize in 2019.