|  |  |  |
| --- | --- | --- |
| The International Teleocmmunication Union - Connecting the World. | **International telecommunication union****Telecommunication Standardization Bureau** |  |
|  | Geneva, 2 June 2020 |
| **Ref:** | **Corrigendum 1 to TSB Circular 253**SG9/SP | **To:**- Administrations of Member States of the Union**Copy to:**- ITU-T Sector Members;- Associates of ITU-T Study Group 9; - ITU Academia;- The Chairman and Vice-Chairmen of ITU-T Study Group 9;- The Director of the Telecommunication Development Bureau;- The Director of the Radiocommunication Bureau |
| **Tel:** | +41 22 730 5858 |
| **Fax:****E-mail:** | +41 22 730 5853tsbsg9@itu.int |
| **Subject:** | **Creation of Question Q11/9 and modification of Question 6/9**  |

Dear Sir/Madam,

At the request of the Chairman of ITU-T Study Group 9, *"* Broadband cable and TV*",* I have the honour to inform you that, in accordance with the provisions of Resolution 1, Section 7, § 7.2.2, of WTSA (Hammamet, 2016), Member States and Sector Members present at the virtual meeting of this Study Group, which was held virtually, from 16 to 23 April 2020, agreed by reaching consensus to approve the following:

1 The creation of new Question 11/9 (*Accessibility to cable systems and services*).
The text of the new Question 11/9 is in **Annex 1** to this Circular.

2 The modification of the terms of reference (ToR) of Question 6/9 (Functional requirements for residential gateway and set-top box for the reception of advanced content distribution services).
The updated text of Question 6/9 is in **Annex 2** to this Circular.

**TSAG endorsement**

ITU-T Study Group 9 noted that the establishment of the new Question 11/9 and the related revision of the terms of reference of Question 6/9, were endorsed by ITU-T TSAG at its meeting in Geneva from 23 to 27 September 2019.

**SG9 decision**

Considering the above information, the modified terms of references of [Question 6/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q6.aspx) as well as the establishment of the new [Question 11/9](http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q11.aspx) are therefore approved.

Yours faithfully,

Chaesub Lee
Director of the Telecommunication
Standardization Bureau
 **Annexes:** 2

Annex 1

**Accessibility to cable systems and services**

(new Question)

**Motivation**

Among different audio-visual media, television is the oldest and by so far the most popular one. With advent of electronic technologies, it is changing its role from an one-to-many broadcasting media to an interactive system. Using systems like WebTV or Hybrid TV, users can interact with both broadcasting program and webpages using TV. This interactive role also enhances TV’s role to offer accessibility not only to people with different range of abilities but also to foreign language speakers, elderly people and users in situation impairment like inside moving vehicle.

This question plans to investigate accessibility of existing cable TV systems and propose recommendations for enhancing accessibility in line of the United Nations Convention on the Rights of Persons with Disabilities (UN CRPD), European Union Accessibility Directive and other national legislation of Member States. ITU-T SG9 would also like to take forward the work earlier initiated at the ITU-T Focus Group on Smart Cable TV and liaison with ITU-T Q26/16 and ITU IRG-AVA.

**Question**

Study items to be considered include, but are not limited to:

* In collaboration with the IRG-AVA, investigating a common framework to offer accessibility across various media and TV networks such us Cable TV, Direct-to-Home (DTH), Satellite TV, IPTV and so on.
* Propose a common taxonomy of use cases for accessible audio-visual media in cable TV systems.
* Propose a common user profile format addressing the needs of persons with accessibility restrictions, that could be utilized by different media and platforms.
* Investigating accessibility of emerging input technologies applicable to the delivery of cable television services, such as second screen and gesture recognition.
* Investigate accessibility of audiovisual content delivery issues for cable networks.
* Investigate challenges of providing accessibility services for cable TVs in developing countries.

**Tasks**

Tasks include, but are not limited to:

* Coordinating with ITU-T Q26/16, ITU IRG AVA and ISO/IEC JTC1 SC35
* Developing participation taxonomy of use cases for accessible audio-visual media in cable TV systems
* Developing common user profile format addressing the needs of persons with accessibility restrictions, that could be utilized by different media and platforms
* Optimizing positioning of visual accessibility features (like signing, closed captioning) in cable TV systems and related advanced services (e.g AR/VR)
* Developing audiovisual content delivery accessibility roadmap for cable networks in both developed and developing countries

An up-to-date status of work under this Question is contained in the ITU-T SG 9 work programme, [http://itu.int/ITU-T/workprog/wp\_search.aspx?sg=9](https://www.itu.int/ITU-T/workprog/wp_search.aspx?sg=9).

**Relationships**

**Recommendations**

* F-, H-, J- and Y-series Recommendations addressing accessibility and human factors

**Questions**

* All Questions in SG9

**Study Groups**

* ITU-T SG16 (in particular Q26/16 on accessibility and Q8/16 on AR, VR and ILE)
* ITU-R SG6
* ITU D SG1 and SG2

**Standardization bodies and other groups**

* ITU IRG-AVA
* ISO/IEC JTC1 SC35
* W3C
* G3ict
* WHO

Annex 2

**Functional requirements for residential gateway and set-top box for the reception of advanced content distribution services**

(Continuation of Question 5/9

**Motivation**
Continued studies on residential gateway and set-top box for the reception of advanced content1 distribution services include all aspects of residential gateway and set-top box with connectivity to the home network, including service definition, architecture, and specifications.

NOTE 1 – The ITU Terminology database defines "content" as "program material and related information of any variety".

The future service environment will be both IP- and broadcast-based. It will be highly interactive, and standardized technology will be critical in creating a convenient and interoperable solution for the consumer.

Because there are many broadcast and IP services available, a variety of functions will be required by devices in the home. Due to considerations of consumer cost and convenience, it is desirable that these functions be integrated into a single device. In order to provide this wide variety of services in a manner that is acceptable to service providers, consumers, and content providers, it is important to standardize a number of critical areas. These include security, conditional access, protection against unauthorized copying, protection against unauthorized redistribution ("redistribution control"), device provisioning and management, quality of service, user interface, application program interface (API), etc.

Furthermore, it can be foreseen that the various services within the scope of Study Group 9, that home users will be able to access over the digital television infrastructure, may be based on various service platforms (middle-wares) that support proprietary applications. An architecture would be necessary to bundle these middle-wares and to assure cross-platform2 and multi-platform3 operation among them. It would be very convenient to users if the residential gateway and set-top box would be designed to exchange middleware dynamically and to navigate among applications that users can access, or at least among the most widely employed ones.

NOTE 2 – The term cross-platform refers to communications between different platforms within the home network environment, which have different applications residing within them. These communications are controlled by systems which primarily reside within one or more of the platforms.

NOTE 3 – The term multi-platform refers to communications between different platforms, which have the same or similar applications. These communications are primarily controlled by systems within the cable operator's network.

Considering the rapid development of HDR (High Dynamic Range), UHDTV (ultra high definition television), multi-screen, cloud computing, big data, IoT (internet of things)/M2M(machine to machine) and SmartHome related technologies and their emerging applications and deployment within cable industry, residential gateway and set-top box will provide support for such kinds of applications and services on demand with enhanced functionalities and APIs embedded.

**Question**
Study items to be considered include, but are not limited to:

* What architecture will be required for the future residential gateway and set top box (STB)?
* How will broadcast and IP-based service reception, via connection to the access network, be integrated into the future residential gateway and STB?
* What technologies will be required to accommodate service delivery over the home network?
* What gateway functions should be included in the future residential gateway and STB?
* What user interface is required for the future residential gateway and STB?
* What are the appropriate features and functionalities of the interfaces and middleware for the future residential gateway and STB?
* What security, conditional access, protection against unauthorized copying or redistribution is required for the future residential gateway and STB?
* What provisioning and management tools will be required for the future residential gateway and STB?
* What type of quality of service will be required for the future residential gateway and STB?
* What protocols will be required to enable the future residential gateway and STB to interoperate with other devices in the home, including both IP and non-IP devices?
* What technologies will be required to present services (including HDR, UHDTV, multi-screen, cloud computing, big data, IoT/M2M and SmartHome) to consumers in the future residential gateway and STB?
* What types of content management capabilities will be required for the future residential gateway and STB?
* What provisions can be made in order that the residential gateway and STB may contain a facility to exchange middleware dynamically and to navigate within an application and among applications? (This would allow the residential gateway and STB to properly operate with received services that reside in a variety of platforms and applications, thus providing maximum operating convenience to the home user).
* What enhancements to existing Recommendations are required to provide energy savings directly or indirectly in information and communication technologies (ICTs) or in other industries? What enhancements to developed or new Recommendations are required to provide such energy savings?

**Tasks**
Tasks include, but are not limited to:

* Creation by 2017 of an architecture document describing interoperation among multiple applications and platforms by means of converged mechanisms, and of one or more specification documents by 2020.

An up-to-date status of work under this Question is contained in the Study Group 9 work programme (<http://itu.int/ITU-T/workprog/wp_search.aspx?sp=16&q=6/9>).

**Relationships**

**Recommendations**

* Application platform: ITU-T J.200, J.201, J.202
* Set-top box: ITU-T J.290, J.291, J.292, J.293, J.295, J.296
* Gateway: ITU-T J.294
* Home networking: J.190, J.192

**Questions**

* 1, 5, 7, 8, 9 and 11/9

**Study groups**

* ITU‑T SGs 13, 15, 16, 17 and 20
* ITU‑R SG6
* ITU IRG-AVA (Inter-sector Rapporteur Group among ITU-T SG9, SG16 and ITU-R SG6)

**Standardization bodies**

* ISO/IEC
* IETF
* W3C
* OneM2M
* SCTE
* ETSI
* other regional standardization bodies

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_