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| ITU logo | INTERNATIONAL TELECOMMUNICATION UNION**TELECOMMUNICATIONSTANDARDIZATION SECTOR**STUDY PERIOD 2017-2020 | TSAG-TD303 |
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| **Abstract:** | This document provides the SG9 report for lead study group activities on integrated broadband cable and television networks. |

# Lead study group activities on integrated broadband cable and television networks

Since the last TSAG meeting where Study Group 9 reported its first meeting on 24-31 May 2017 in Hangzhou, China and the second meeting on 22-31 January 2018 in Geneva, Switzerland, SG9 held the third meeting on 21-28 November 2018 in Bogota, Colombia, at the kind invitation of *Comisión de Regulación de Comunicaciones* of Colombia. The SG9 meeting was attended by 40 participants from 13 countries. Along with face-to-face meetings, a few sessions were supported by remote participation, as requested by SG9 Management.

Co-located with the SG9 meeting, ITU hosted a workshop on “*The Future of TV for the Americas*” on 26 November 2018, organized by the TSB jointly with BDT regional office for the Americas. The workshop was attended by about 120 participants plus remote attendance as the event was accessible in streaming in two languages, Spanish and English. Remote participation was available to attend the workshop. All presentations given at the workshop are available from the programme website at: <http://itu.int/go/4AZ9>.

During the SG9 meeting in November 2018, seven draft Recommendations were consented as per the AAP procedure.

| Q | Recommendation | Status | Title |
| --- | --- | --- | --- |
| Q1 | J.383(ex J.atrans-tlvts)  | New  | Conversion of type length value (TLV) packet and transport stream for advanced cable transmission systems |
| Q5 | J.1201(ex J.stvos-spec-req)  | New  | The functional requirements of smart TV operating system  |
| Q6 | J.298(ex J.stb-cts)  | New  | Requirements and technical specifications of cable TV hybrid set-top box that has the compatibility with terrestrial and satellite TV transport |
| Q7 | J.1108(ex J.roip-trans)  | New  | Transmission specification for Radio over IP transmission systems |
| Q7 | J.1109(ex J.fdx-req)  | New  | Requirement for in-band full-duplex in HFC based network |
| Q9 | J.302(ex J.302amd-1) | Amd | J.302amd-1" System specifications of augmented reality smart television service" |
| Q10 | J.1(ex J.tda) | New | Terms, definitions and acronyms for television and sound transmission and integrated broadband cable networks |

With regard to the draft Recommendations ITU-T J.1012 – J.1015 which were determined by TAP at the last SG9 meeting on 30 January 2018, through the consultation process by [TSB Circular 79](https://www.itu.int/md/T17-TSB-CIR-0079/en), there was one Member State (UK) opposing to assignment of authority to SG9 to proceed with the approval process for these four draft Recommendations whereas four Member States (Germany, Italy, Myanmar, Switzerland) agreed with the assignment. As per the consequence of the consultation, authority has been assigned to SG9. During the SG9 meeting, several concerns were raised by UK and Israel, and SG9 was unable to reach consensus by the end of the meeting. SG9 agreed to postpone the approval of those draft Recommendations to the next SG9 meeting, which will be held in June 2019. It was also agreed that compromise should be sought by taking advantage of these seven months until the next meeting and the use of Rapporteur meetings to achieve the agreement.

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| **Q** | **Recommendation** | **Status** | **Title** |
| Q2 | J.1012(ex. J.dmcd-part3) | Determined 2018-01-30 | Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; CA/DRM Container, Loader, Interfaces, Revocation |
| Q2 | J.1013(ex. J.dmcd-vm) | Determined 2018-01-30 | Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; The Virtual Machine |
| Q2 | J.1014(ex. J.dmcd-eci-as) | Determined 2018-01-30 | Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; Advanced Security - ECI-specific functionalities |
| Q2 | J.1015(ex. J.dmcd-kl-as) | Determined 2018-01-30 | Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; The Advanced Security system - Key Ladder |
| Q2 | J.1015.1(ex. J.dmcd-kl-as) | Determined 2018-01-30 | Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; The Advanced Security system - Key Ladder – Annex A |

NOTE – One of the Recommendations, ITU-T J.1015, was split into two: J.1015 and J.1015.1. This was considered an editorial change.

In addition, SG9 is pleased to inform you that:

– The workshop collocated with the SG9 meeting in Bogotá was highly successful, where around 120 attendees participated (~60% increase compared to the previous workshop). For future events, some countries indicated their potential interest to host a workshop as well as a SG9 meeting.

– The number of input Contributions at this meeting increased 36% compared to the previous meeting (25 → 34).

– The number of the new work items started at this meeting is eighteen (18) whereas that at the previous meeting was five (5).

– In the recent six months, three new members, Shenzhen Skyworth Digital Technology (China), Jishi Huitong (China) and CableLabs (USA), joined ITU-T as Associate Members of SG9.

– The Indian Institute of Science (India) joined as an Academia Member, and Mr Pradipta Biswas with that organization has been appointed as Co-Chair of IRG-AVA from SG9 and Associate Rapporteur for Q6/9.

# Collaboration with external organizations

SG9 has agreed on the appointment of SG9 liaison officers for the Study Period 2017-2020 as found in [SG9-TD331R2](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T17-SG09-181121-TD-GEN-0331).

SG9 also agreed to continue its involvement with two of the three Inter-sector Rapporteur Groups between ITU-T and ITU-R, as mentioned in the table below.

NOTE – As described in [SG9-TD331R2](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=T17-SG09-181121-TD-GEN-0331), SG9 updated the IRG-AVA co-chair from SG9 as shown below.

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| **IRG** | **Title** | **Co-chair from SG9** | **Parent SGs** | **Website** |
| IRG-IBB | Integrated Broadcast-Broadband systems | Masaru TAKECHI(NHK, Japan) | ITU-R SG6ITU-T SG16 | <https://itu.int/en/irg/ibb> |
| IRG-AVA | Audiovisual Media Accessibility | Pradipta Biswas(Indian Institute of Science, India) | ITU-R SG6ITU-T SG16 | <https://itu.int/en/irg/ava> |

# Work programme

There are twenty-seven (27) draft new/revised Recommendations, Supplements and Technical Papers for progressing in ITU-T SG9.

| **WP** | **Q** | **Acronym(kind of publication)** | **Status** | **Title** | **Editor** | **Time Consent** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Q1 | J.5GDOCSIS(Draft Rec.) | New | Fifth-generation transmission systems for interactive cable television services – IP cable modems | Tomoyuki Shimizu TaeKyoon Kim | 2019-06 |
| 1 | Q1 | J.MHAv2(Draft Rec.) | New | Second-generation Modular Headend Architecture in systems for interactive cable television services – IP cable modems | Tomoyuki Shimizu TaeKyoon Kim | 2019-06 |
| 1 | Q2 | J.1012(ex. J.dmcd-part3) | Determined 2018-01-30 | Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; CA/DRM Container, Loader, Interfaces, Revocation | Peter MannHan-Seung Koo | 2019-06 |
| 1 | Q2 | J.1013(ex. J.dmcd-vm) | Determined 2018-01-30 | Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; The Virtual Machine | Peter MannHan-Seung Koo | 2019-06 |
| 1 | Q2 | J.1014(ex. J.dmcd-eci-as) | Determined 2018-01-30 | Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; Advanced Security - ECI-specific functionalities | Peter MannHan-Seung Koo | 2019-06 |
| 1 | Q2 | J.1015(ex. J.dmcd-kl-as) | Determined 2018-01-30 | Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; The Advanced Security system - Key Ladder | Peter MannHan-Seung Koo | 2019-06 |
| 1 | Q2 | J.1015.1(ex. Annex A of J.dmcd-kl-as) | Determined 2018-01-30 | Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; The Advanced Security system - Key Ladder – Annex A) | Peter MannHan-Seung Koo | 2019-06 |
| 1 | Q2 | J.oneway-dcas-part1(Draft Rec.) | New | Downloadable Conditional Access System for Unidirectional Network; Requirements | Qiang WangHan-Seung Koo | 2019 |
| 1 | Q2 | J.oneway-dcas-part2(Draft Rec.) | New | Downloadable Conditional Access System for Unidirectional Network; System Architecture | Qiang WangHan-Seung Koo | 2019 |
| 1 | Q2 | J.oneway-dcas-part3(Draft Rec.) | New | Downloadable Conditional Access System for Unidirectional Network; Terminal System | Qiang WangHan-Seung Koo | 2019 |
| 1 | Q2 | J.sup-eg (Supplement) | New | Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; ECI guide (EG) | Peter MannHan-Seung Koo | 2019 |
| 1 | Q2 | J.sup-te (Supplement) | New | Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; Trust Environment (TE) | Peter MannHan-Seung Koo | 2019 |
| 1 | Q2 | J.sup-val (Supplement) | New | Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; System Validation (VAL) | Peter MannHan-Seung Koo | 2019 |
| 1 | Q4 | Sup-dig TV (Supplement) | New | Installing a digital TV service for cable networks and relating Recommendations | Tatsuo Shibata | 2019 |
| 1 | Q4 | J.dtc-dist-req(Draft Rec.) | New | Television Content Distribution Platforms: Requirements for Open Access and Signal Quality | Burama Jammeh | 2020 |
| 2 | Q5 | J.acf-hrm(Draft Rec.) | New | Harmonization of Integrated Broadcast-Broadband DTV application control framework | Shinya Takeuchi | 2019-06 |
| 2 | Q5 | J.stvos-spec-arch (Draft Rec.) | New | The architecture of smart TV operating system | Haifeng Yan | 2019-06 |
| 2 | Q5 | J.207rev(Draft Rec.) | Rev | Specification for an integrated broadcast and broadband digital television application control framework | Shinya Takeuchi | 2019-06 |
| 2 | Q5 | J.stvos-sec(Draft Rec.) | New | The security of smart TV operating system | Haifeng Yan | 2019-06 |
| 2 | Q5 | J.stvos-hal(Draft Rec.) | New | The HAL API of smart TV operating system | Haifeng Yan | 2019-06 |
| 2 | Q6 | J.pcnp-smgw(Draft Rec.) | New | Functional Requirements for Smart Home Gateway  | Shizhu Long | 2020-03 |
| 2 | Q6 | J.acs-stb(Draft Rec.) | New | Functional Requirements for interface between Auto Configuration Server (ACS) and STB | Kenji Obata  | 2020-03 |
| 2 | Q7 | TP.fdx-asi(Technical Paper) | New | SG9 lead study group report | TaeKyoon KimEvan Sun | 2019-06 |
| 2 | Q7 | J.ipvb-req(Draft Rec.) | New | Requirements of IP Video Broadcast (IPVB) for CATV Networks | Lijie Zhang | 2019-06 |
| 2 | Q9 | J.pcnp-fmw(Draft Rec.) | New | Premium Cable network platform with embedded intelligent analyzer and controller for enabling advanced multimedia services | Evan Sun | 2019-06 |
| 2 | Q9 | J.cable-ott(Draft Rec.) | New | System architecture and interfaces between a cable television operator and an OTT service provider | Tomoyuki Shimizu | 2020-02 |
| 2 | Q9 | TP.b-catv(Technical Paper) | New | Broadband CATV system using server-side reception and processing | Shinya Takeuchi | 2020-02 |

# Future meetings

The next (fourth) SG9 meeting is currently scheduled to take place in Geneva, 6-13 June 2019, where a workshop is tentatively planned for 7 June 2019.

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