

Executive summary of ITU-T SG9 meeting (Bogotá, 14-23 November 2023)

Introduction

The third Study Group 9 (Broadband cable and TV) meeting in the study period 2022-2024 was held in Bogotá, Colombia, from 14 to 23 November 2023 at the kind invitation of the Comisión de Regulación de Comunicaciones of Colombia. The SG9 meeting was chaired by Mr Satoshi Miyaji (KDDI, Japan), who was assisted by Mr Stefano Polidori (TSB Counsellor) and was attended by 56 participants (of which 23 attended physically) from 18 countries. Along with face-to-face meetings, all sessions were supported by remote participation using [MyMeetings](#) platform.

Co-located with the SG9 meeting, the ITU organized a **workshop** on “[The Future of Television for the Americas](#)” on 17 November 2023. This event, which was jointly organized by the ITU Standardization Sector (ITU-T), the ITU Radiocommunication Sector (ITU-R), the ITU Development Sector (ITU-D) and the ITU Regional office for the Americas, discussed the future of television for countries of the Americas with relevant stakeholders, covering regulatory and policy frameworks, emerging and convergent ICT Infrastructures and services,

It provided an opportunity to discuss TV-related regional and international market trends, business models, policy catalysts and standardization frameworks. It was a welcomed opportunity to also share best practices and case studies from the Americas on TV implementations over various media, including status of analogue vs digital transformation as well as an overview of new TV services deployed in the region. This event was the latest edition of the series of successful ITU thematic workshops exploring the Future of TV in the various regions of the world (see all previous editions [here](#)). The workshop was applauded for the rich content shared, especially by the regional speakers, which was considered instrumental to understand the needs of the region and the future of TV that they sought. The event was well attended by about 130 live participants (among which 75 joined remotely worldwide). The full event can be watched through its online recordings: [Part 1](#) and [Part 2](#), which is accessible from the workshop page.

In addition, just before the SG9 meeting started, a virtual meeting of the IRG-AVA was organized under the auspices of ITU-T SG9 on 10 November 2023 and was attended by 12 participants. IRG-AVA continues to serve as a collaborative platform with other ITU Study Groups in ITU-T and ITU-R Sectors to progress the ongoing draft Recommendation from Q11/9 on common user profile format and other accessibility issues, e.g. an ongoing draft technical report on captioning. The meeting produced comments that were further discussed by Q11/9 with the usual agreed workflow, which eventually produced two updated work items: 1. draft new Recommendation ITU-T J.acc-us-prof " Requirements for the specific semantics of a Common User Profile used to personalize audiovisual media" posted as [SG9-TD563](#), and 2. draft new Technical Report ITU-T JSTR.LCAP "Technical advances, challenges, and best practices in live captioning" posted as [SG9-TD562](#).

1 List of Consented/Determined Recommendations and other deliverables for approval, including eventual modifications to J-series structure

During the SG9 meeting in November 2023 a total of four (4) draft Recommendations (3 new and 1 revised) were finalized and agreed for AAP Consent.

1.1 List of ten Consented draft Recommendations using AAP (ITU-T A.8)

| Question | Rec | Version | Title | Final TD | A.5 just. |
|----------|---|---------|---|--------------------------|-----------|
| Q1/9 | J.198.2 (ex J.HiNoC3-PHY) | New | Physical layer specification for third-generation HiNoC | TD516-R1 | N/A |
| Q5/9 | J.1206 (ex J.stvos-api) | New | The application programming interface of smart TV operating system | TD570-R1 | N/A |
| Q7/9 | J.198.3 (ex J.HiNoC3-MAC) | New | MAC layer specification for third-generation HiNoC | TD517-R1 | N/A |
| Q10/9 | J.1-rev | Rev. | Terms, definitions and acronyms for television and sound transmission and integrated broadband cable networks | TD564 | N/A |

1.2 List of Determined draft Recommendations using TAP (WTSA Resolution 1, section 9)

No Recommendations were Determined at this meeting.

1.3 List of Draft Recommendations for AAP approval

The following draft Recommendations was Approved at this meeting.

| Question | Rec | Version | Title | Latest TD | A.5 just. |
|----------|---|---------|--|--------------------------|--------------------------|
| Q9/9 | J.484 (ex J.cable-mabr) | New | Requirements of multicast adaptive bitrate (M-ABR) IP delivery | TD557-R1 | TD546-R1 |

1.4 Recommendations for publication

None.

1.5 Modification of the category names of J-series Recommendations

No modifications were proposed to the J-series Recommendations.

2 List of Draft Supplements, Technical Reports/Papers or other documents for agreement

2.1 Supplements

The following Supplements were agreed for publication by SG9 at this meeting.

| Q | Approval | Document | Title | Final TD |
|------|-----------|--|--|--------------------------|
| Q1/9 | Agreement | J.Sup.12 (ex J.Sup-HiNoC) to ITU-T J.196.1, J.196.2, J.196.3, J.198.1, J.198.2, J.198.3. | Comparison between third-generation HiNoC and second-generation HiNoC | TD518-R1 |
| Q2/9 | Agreement | J.Sup.13 (ex J.FSR-TEST) to ITU-T J.1036 | Factual subscriber-base reporting and protected content delivery in Conditional Access System – Test Methods | TD536 |

2.2 Technical Reports/Papers

The following Technical Report was agreed for publication by SG9 at this meeting.

| Question | Approval | Document | Title | Final TD |
|----------|-----------|--------------|---|-----------------------|
| Q11/9 | Agreement | ITU-T TR.CUP | Concept of a Common User Profile format used to personalize audiovisual media | TD551 |

2.3 Amendments

No Amendment was proposed for agreement/approval at this meeting.

2.4 Corrigenda

No Corrigenda was proposed for agreement/approval at this meeting.

3 New and deleted work items

3.1 New work items

The meeting agreed to start work on the following eight (8) new work items.

NOTE: In colour the work items that were immediately consented or agreed.

| # | Q. | Acronym | kind of publication | Status | Title | Editor | TD | A.1 /A.13 Justification template |
|---|---------------|-------------|---------------------|--------|---|---|-----------------------|---|
| 1 | Q1/9 and Q7/9 | J.224-rev | Recommendation | Rev. | Fifth-generation transmission systems for interactive cable television services - IP cable modems | Mr Kei Kawamura (ki-kawamura@kddi.com) Mr TaeKyoon Kim (tkkim@etri.kr) Mr Curtis Knittle (c.knittle@cablelabs.com) | – | Annex C of TD521 (A.1) |
| 2 | Q1/9 and Q7/9 | J.225-rev | Recommendation | Rev. | Fourth-generation transmission systems for interactive cable television services - IP cable modems | Mr Kei Kawamura (ki-kawamura@kddi.com) Mr TaeKyoon Kim (tkkim@etri.kr) Mr Curtis Knittle (c.knittle@cablelabs.com) | – | Annex D of TD521 (A.1) |
| 3 | Q1/9 and Q7/9 | J.sup10-rev | Supplement | Rev. | Correspondence between CableLabs DOCSIS Specifications and ITU-T J-series Recommendations | Mr Kei Kawamura (ki-kawamura@kddi.com) Mr TaeKyoon Kim (tkkim@etri.kr) Mr Curtis Knittle (c.knittle@cablelabs.com) | – | Annex E of TD521 (A.13) |
| 4 | Q6/9 | J.STB-AV | Recommendation | New | Requirements and functional specification of audio and video interface on cable set-top box | Xin.Zhang (xin.zhang@skyworth.com) | - | Annex C of TD526 (A.1) |
| 5 | Q6/9 | J.STB-UHDVR | Recommendation | New | Functional requirements for cable set-top box supporting Ultra-High-Definition video and virtual reality services | Avinash Agarwal (Avinash.70@gov.in) Meenakshi Singhvi (meenakshi.singhvi@prasarbharati@gov.in) Wenping Song (songwenping@skyworth.com) | TD574 | Annex D of TD526 (A.1) |

| # | Q. | Acronym | kind of publication | Status | Title | Editor | TD | A.1 /A.13 Justification template |
|---|-------|-------------|---------------------|---------|---|--|-----------------------|--|
| 6 | Q7/9 | J.DVCS.spec | Recommendation | New | Specification for IP-based Digital Video Convergence Service | Mr. TaeKyoon Kim (tkkim@etri.re.kr) Mr. Hong-Ik Kim (hongik@lghv.net) | TD539 | Annex C of TD527 (A.1) |
| 7 | Q10/9 | J.1 | Recommendation | Revised | Terms, definitions and acronyms for television and sound transmission and integrated broadband cable networks | Ms Jingyi Xue (xuejingyi@abp2003.cn) | TD564 | Annex C of TD530 (A.1) |
| 8 | Q11/9 | TR.CUP | Technical report | New | Concept of a Common User Profile format used to personalize audiovisual media | Mr. Pradipta Biswas (pradipta@iisc.ac.in) Mr. Avinash Agarwal (Avinash.70@gov.in) | TD551 | Annex C of TD531-R1 (A.13) |

NOTE: TR.CUP was previously discussed in the context of draft new Recommendation ITU-T J.acc-us-prof. The appendix of J.acc-us-prof , which has been finalized, was agreed to be published as separate Technical Report to follow up to a suggestion from IRG-AVA. In regards to J.1 revision, this work has been discussed at a previous interim Rapporteur meeting of Q10/9.

3.2 Discontinued work items

None.

4 SG9 Management for the Study Period 2022-2024

SG9 confirmed the composition of the management of ITU-T Study Group 9.

| Role | Name |
|---------------|---|
| Chairman | Mr Satoshi MIYAJI (KDDI, Japan) |
| Vice-chairman | Mr Blaise Corsaire MAMADOU (Central African Rep.) |
| Vice-chairman | Mr TaeKyoon KIM (ETRI, Korea Rep. of) |
| Vice-chairman | Mr Zhifan SHENG (ABS, China) |

| Role | Name |
|--------------------------|---|
| Vice-chairman | Mr Pradipta BISWAS (Indian Administration / Indian Institute of Science, India) |
| Counsellor | Mr Stefano POLIDORI (TSB, ITU) |
| Administrative assistant | Ms Hiba Tahawi (TSB, ITU) |

5 SG9 Structure for the Study Period 2022-2024

ITU-T SG9 Working Party structure and leadership was updated as contained in [SG9-TD392-R1](#), the update consists in the appointment of Mr Feng Ouyang (ABS, China) as WP1/9 Vice-chair see below:

- **WP1** “*Cable transport and terminals, including video and data*” (Q1, 2, 4, 6 & 7), and
- **WP2** “*Cable-related platforms and applications*” (Q3, 5, 8, 9 & 11).

In addition, **Q10** and **IRG-AVA**, will report to the **SG9 Plenary**.

| | SG9 Structure | Q/IRG | Titles |
|-------------|--|---------|---|
| PLEN | PLENARY of SG9 Satoshi MIYAJI (<i>SG9 Chair</i>) (<i>KDDI, Japan</i>) | Q10 | Work programme, coordination and planning |
| | | IRG-AVA | Audiovisual Media Accessibility |
| WP1 | WP1/9: Cable transport and terminals, including video and data Zhifan SHENG (<i>WP1/9 Chair</i>) (<i>ABS, China</i>) Tatsuo SHIBATA (<i>WP1/9 Vice-chair</i>) (<i>Japan</i>) Feng OUYANG (<i>WP1/9 Vice-chair</i>) (<i>ABS, China</i>) | Q1 | Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution |
| | | Q2 | Methods and practices for conditional access and content protection |
| | | Q4 | Guidelines for implementations and deployment of transmission of multichannel digital television signals over optical access networks and Hybrid Fibre-Coaxial (HFC) |
| | | Q6 | Functional requirements for terminal devices of the integrated broadband cable network |
| | | Q7 | Transmission control and interfaces (MAC layer) for IP and/or packet-based data over integrated broadband cable networks |
| WP2 | WP2/9: Cable-related platforms and applications Taekyoon KIM (<i>WP2/9 Chair</i>) (<i>ETRI, Korea</i>) | Q3 | AI-enabled enhanced functions over integrated broadband cable network |
| | | Q5 | Software components, application programming interfaces (APIs), frameworks and overall software architecture for advanced content distribution services within the scope of Study Group 9 |

| | SG9 Structure | Q/IRG | Titles |
|-----|---|--|--|
| | Yanbin (Evan) SUN (<i>WP2/9 Vice-chair</i>) <i>(Huawei, China)</i> Pradipta BISWAS (<i>WP2/9 Vice-chair</i>) <i>(Indian Institute of Science, India)</i> | Q8 | The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms |
| Q9 | | Requirements, methods, and interfaces of the advanced service platforms to enhance the delivery of audiovisual content, and other multimedia interactive services over integrated broadband cable networks | |
| Q11 | | Accessibility to cable systems and services | |

5.1 SG9 Questions texts and restructuring in view of WTSA-24

Two special sessions on SG9 restructuring in view to WTSA-24 took place on Monday 20 November Sessions 1-2 and Wednesday 22 November on Session 1 and were chaired by SG9 Chairman, Mr Satoshi Miyaji.

A first attempt to update the Mandate of SG9 was recorded in [SG9-TD556-R2](#), which will be further discussed during interim meetings on “Special Session on Restructuring”, planned on 27-28 February 2024, from 12h00 to 15h00 (CET), and further finalized at the next SG9 meeting planned on 09-17 May 2024 in China (TBC).

The revised Questions texts were also reviewed in these sessions and the current proposals for each Questions text, which will be subject of discussion and review at next meeting on restructuring, are found below:

- Q1/9:** The current version is available as [SG9-TD510-R1](#)
- Q2/9:** The current version is available as [SG9-TD535-R1](#).
- Q3/9:** The current version is available as [SG9-TD534-R1](#).
- Q4/9:** The current version is available as [SG9-TD509-R2](#).
- Q5/9:** The current version is available as [SG9-TD512](#).
- Q6/9:** The current version is available as [SG9-TD555-R1](#).
- Q7/9:** The current version is available as [SG9-TD538-R1](#).
- Q8/9:** The current version is available as [SG9-TD552](#).
- Q9/9:** The current version is available as [SG9-TD541R1](#).
- Q10/9:** The current version is available as [SG9-TD554-R1](#).
- Q11/9:** The current version is available as [SG9-TD537R1](#).

Further information is available in the Report of special sessions on SG9 restructuring in view of WTSA-24 in [SG9-TD560-R2](#).

6 SG9 Management, Rapporteurs and Associate Rapporteurs

SG9 has adopted the List of SG9 Rapporteurs and Associate Rapporteurs for the Study Period 2022-2024 as found in [SG9-TD394](#). No updates were proposed.

7 Liaison officers to external groups

SG9 agreed on the list of liaison officers for the Study Period 2022-2024, with the following change as found in [SG9-TD395-R1](#);

- Mr Satoshi Miyaji was appointed as EWM (Electronic Working Methods) liaison officer as per TSAG request to appoint one.

8 Intersector Rapporteur Groups (IRG-AVA)

A meeting of IRG-AVA was organized on 10 November in co-location with SG9 meeting. IRG-AVA serves as a collaborative platform to progress the ongoing draft Recommendation from Q11/9, which benefit from the collaboration with ITU-T SG16 and ITU-R SG6. For details see the last paragraph of the Introduction section.

SG9 continues to act as a parent study group for IRG-AVA (Audiovisual Media Accessibility), as mentioned in the table below.

| IRG | Title | Co-chair from SG9 | Parent Groups | Website |
|---------|---------------------------------|---|--------------------------------------|---|
| IRG-AVA | Audiovisual Media Accessibility | Pradipta BISWAS (Indian Institute of Science, India) | ITU-T SG9 ITU-R SG6 ITU-T SG16 | https://itu.int/en/irg/ava |

9 Outgoing Liaison Statements

The following table shows the list of the 17 agreed outgoing liaison statements, as indicated in [SG9-TD413-R1](#):

| # | Q | WP | To | For | Title | TD |
|---|---------------|-----|---|-------------|---|--------------------------|
| 1 | Q1/9 and Q7/9 | WP1 | ITU-T SG15, ETSI TC Cable, IEC TC100, CableLabs, SCTE, TTA, TTC, IEEE 802.3 Ethernet WG, CCSA | Information | LS/o on AAP consent of two draft new Recommendations ITU-T J.198.2 (ex J.HiNoC3-PHY) and ITU-T J.198.3 (ex J.HiNoC3-MAC) and Agreement of draft new Supplement ITU-T J Suppl. 12 (ex J.Sup-HiNoC) | TD515-R1 |

| # | Q | WP | To | For | Title | TD |
|----|---------------|------|---|--------------------|---|--------------------------|
| 2 | Q1/9 | WP1 | ITU-T SG12 | Information | LS/o/r on deletion of P.862.[x] Recommendations (SG12-LS40) | TD519 |
| 3 | Q1/9 and Q4/9 | WP1 | JCA-IMT2020, ITU-R SG6, ITU-T SG11, ITU-T SG13 | Information | LS/o on information about the progress of draft Recommendation ITU-T J.cable-5G-arch "System Architecture for cable television services to use IMT-2020 radio system" | TD544-R1 |
| 4 | Q1/9 | WP1 | ITU-T SG16 | Information | LS/o/r on the current text of draft new Recommendation ITU-T J.cable-rf-to-ip "Requirements of cable television system for migration from RF to IP (SG16-LS82) | TD542 |
| 5 | Q2/9 | PLEN | ITU-T SG11, CASC | Information | LS/o on agreement of a draft new ITU-T J Supplement 13 (ex J.FSR-TEST) "Factual subscriber-base reporting and protected content delivery in Conditional Access System - Test Methods" during the SG9 meeting held in Bogota, Colombia [14-23 November 2023] | TD573 |
| 6 | Q3 | WP2 | ITU-T SG12, ETSI ISG F5G, ITU-T FG-MV, ITU-T SG16 | Action/Information | LS/o on J.pcnp-char: "E2E Network Characteristics Requirement for Video Services" | TD559 |
| 7 | Q4/9 | WP1 | ITU-D SG1 ITU-R SG6 | Information | LS/o on the ITU Workshop on "The Future of Television for the Americas", Bogotá, 17 November 2023 | TD553-R1 |
| 8 | Q5/9 | WP2 | ITU-T SG16, ITU-R SG6 WP6B | Information | LS/o on AAP consent of new Recommendation ITU-T J.1206 "The application programming interface of smart TV operating system" | TD571-R1 |
| 9 | Q7/9 | WP1 | ETSI TC Cable, TTA | Information | LS/o on the new work item ITU-T J. DVCS.spec "Specification for IP-based Digital Video Convergence Service" | TD540-R1 |
| 10 | Q9/9 | WP2 | ITU-T SG16 | Action | LS/o on the progress of J.cloud-ow and the inquiry of holography-related activities | TD548-R1 |
| 11 | Q9/9, Q3/9 | WP2 | FG-MV | Information | LS/o/r on request to provide the standardization status for metaverse-related technologies (reply to FG-MV LS22 and FG-MV-LS23) | TD549-R3 |

| # | Q | WP | To | For | Title | TD |
|----|-------|------|--|-------------|---|--------------------------|
| 12 | Q9/9 | WP2 | ETSI ISG F5G | Information | LS/o/r on J.cloud-ow "Requirements of E2E Network Platform for Cloud-based Object Wave Transmissions" (reply to ETSIISGF5G-(23)000129r1) | TD550 |
| 13 | Q10/9 | PLEN | SCV, CCT | Information | LS/o/r on the definitions for holography and hologram (SCV-LS15, SCV-LS14) | TD565 |
| 14 | Q10/9 | PLEN | TSAG | Action | LS/o/r on draft analysis of operational parts (resolves, instructs etc) of WTSA/PP/WTDC Resolutions (TSAG-LS15) | TD566 |
| 15 | Q10/9 | PLEN | SG17 | Action | LS/o/r on request for input material related to security manual to be updated (SG17-LS88) | TD567 |
| 16 | Q11/9 | WP2 | ITU-R WP6C, ITU-T SG16 Q26/16, IRG-AVA | Information | LS/o on progress made on the draft new ITU-T Technical Report JSTR.LCAP "Technical advances, challenges, and best practices in live captioning" and draft new Recommendation ITU-T J.acc-us-prof "Requirements for the specific semantics of a Common User Profile used to personalize audiovisual media" and ITU-T Technical Report TR.CUP "Concept of a Common User Profile format used to personalize audiovisual media" during the SG9 meeting held in Bogota, Colombia [14-23 November 2023] | TD568-R1 |
| 17 | Q11/9 | WP2 | DVB TM-I | Information | LS/o on progress made on the draft new ITU-T Technical Report TR.CUP "Concept of a Common User Profile format used to personalize audiovisual media" and the draft new Recommendation ITU-T J.acc-us-prof "Requirements for the specific semantics of a Common User Profile used to personalize audiovisual media" during the SG9 meeting held in Bogota, Colombia [14-23 November 2023] | TD569-R1 |

10 SG9 results per Question

10.1 Question 1/9 "Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution"

The report of Q1/9 can be found in [SG9-TD521-R2](#). It was approved.

Executive summary:

Question 1/9 examined three contributions and four TDs, including 21 incoming liaison statements.

Question 1/9 and Question 4/9 examined one contribution, including one incoming liaison statement.

Question 1/9 and Question 7/9 decided to reach AAP consent for the draft Recommendations ITU-T J.198.2 (ex J.HiNoC3-PHY) and ITU-T J.198.3 (ex J.HiNoC3-MAC) and to reach agreement for the Supplement ITU-T J Suppl. 12 (ex. J.Sup-HiNoC) in this SG9 meeting.

Question 1/9 and Question 7/9 agreed to initiate the new work items on the draft Recommendations ITU-T J.224-rev “Fifth-generation transmission systems for interactive cable television services - IP cable modems”, ITU-T J.225-rev “Fourth-generation transmission systems for interactive cable television services - IP cable modems”, and ITU-T J.sup10-rev “Correspondence between CableLabs DOCSIS Specifications and ITU-T J-series Recommendations”.

Question 1/9 reviewed all incoming liaison statements and agreed to send four outgoing liaison statements as follows:

- to inform ITU-T SG15, ETSI TC Cable, IEC TC100, CableLabs, SCTE, TTA, TTC, IEEE 802.3 Ethernet WG, and CCSA on the AAP Consent of Recommendation ITU-T J.198.2 and J.198.3 as well as agreement of J Suppl. 12, as found in [TD515](#).
- to reply to ITU-T SG12 on the deletion of P.862.[x] Recommendations, as found in [TD519](#).
- to inform JCA-IMT2020, ITU-R SG6, ITU-T SG11, and ITU-T SG13 on the progress of J.cable-5G-arch, as found in [TD544R1](#).
- and to reply to ITU-T SG16 on expression of thanks for their information, as found in [TD542](#).

Question 1/9 plans to organize one interim meeting in February 2024 for the upcoming period.

Question 1/9 kindly requested that SG9 experts provide their migration scenarios to J.cable-rf-to-ip.

10.2 Question 2/9 “Methods and practices for conditional access and content protection”

The report of Q2 can be found in [SG9-TD522-R2](#). It was approved.

Executive summary:

One work item (J.FSR-TEST) was finalized and is proposed for agreement by SG9 closing Plenary. The assigned Supplement number for it is J Supplement 13. The TD number is [TD536](#).

The group reviewed a liaison statement from ITU-T SG17 on Coordination for Identity Management.

The group reviewed a liaison statement from ITU-T SG17 on request for input material related to security manual to be updated.

The term of reference for the modification in Q2 was discussed, and the output document [TD535](#) for proposed updates to Q2/9 Questions text was generated and will be discussed at the special session on restructuring.

Agreement to organize two interim rapporteur meetings on 27 February 2024 and 17 April 2024 to discuss possible new work items submitted by China and possibly other members.

10.3 Question 3/9 “AI-enabled enhanced functions over integrated broadband cable network”

The report of Q3/9 can be found in [SG9-TD523-R1](#). It was approved.

Executive summary:

In this SG9 plenary meeting, Question 3 reviewed 1 contribution and 9 incoming liaisons.

Q3 used 2 sessions to review the following contributions and TDs

- Contribution: [C108](#)
- TD: [TD432](#), [TD433](#), [TD435](#), [TD441](#), [TD449](#), [TD456](#), [TD490](#), [TD491](#), [TD499](#)

In particular, Q3/9 reviewed the contribution C108, which describes the E2E network characteristics requirement for video services. SG9 members from Q3 agreed this contribution as the output and final draft. Q3/9 also agreed that the consent procedure will be postponed to the next SG9 plenary meeting in China, May 2024 (TBC). Before that, Q3 will submit the final draft to SG12 and other bodies via liaison statement to get their opinion.

ACTION FOR TSB: ITU-T TSB is requested to initiate pre-editing to possibly receive the edited text by 22 March 2024.

E-meeting report of TD480 is approved at the opening plenary meeting of SG9, Bogota, Colombia.

10.4 Question 4/9 “Guidelines for implementations and deployment of transmission of multichannel digital television signals over optical access networks and Hybrid Fibre-Coaxial (HFC)”

The report of Q4 can be found in [SG9-TD524-R1](#). It was approved.

Executive summary:

Q4/9 received two contributions, C85 and C87 from Japan Cable Laboratories.

C85 proposes a revised text of J.cable-5G-arch. It was reviewed during the joint Q1 and Q4 session on 16 November, in considerations of developing countries potential interest in using 5G radio system as FWA to extend cable television service areas.

C87 proposes a revised text of main body of Supple 11 to add a special case of hybrid cable network which is a combination of fibre optic and metallic cable, rather than fibre optic and coaxial (HFC). This is in response to Central African Republic’s proposal to collect use cases of hybrid cable network architecture. While there are still no contributions to this effect so far, submitted use cases will be added to new appendix of revised J Supplement 11.

Updates on Q4 text were proposed by Rapporteur in TD509. It was briefly reviewed during Q1 and Q4 session on 16 November and discussed during WTSA-24 Special Session on 20 November. The results of the WTSA-24 session were reported to Q4 on 21 November and agreed by Q4 members.

Question 4 also drafted a liaison statement to ITU-D SG1 and ITU-R SG6 to inform them of ITU Workshop on "The Future of Television for the Americas".

10.5 Question 5/9 “Software components, application programming interfaces (APIs), frameworks and overall software architecture for advanced content distribution services within the scope of Study Group 9”

The report of Q5/9 can be found in [SG9-TD525-R1](#). It was approved.

Executive summary:

Q5/9 addressed one contribution, two incoming liaison statements and one TD from TSB.

The group reviewed two liaison statements and noted with thanks.

The group reviewed and updated the text of draft new Recommendation ITU-T J.1206 (ex. J.stvos-api) and agreed to seek consent of this draft new Recommendation at this Study Group meeting as available in TD570.

NOTE: During WP2 closing Plenary it was agreed for the Editor to insert three bibliographic references to J.1203, J.1204 and J.1205. So, the editor will submit revised TD570R1 to the closing Plenary.

The group reviewed TD508 from TSB about the A.5 qualification for Khronos and agreed with the decision made on the Opening Plenary of SG9.

The group produced one outgoing liaison statement, available in TD571R1.

10.6 Question 6/9 “Functional requirements for terminal devices of the integrated broadband cable network”

The report of Q6/9 can be found in [SG9-TD526-R1](#). It was approved.

Executive summary:

10.6.1 Contribution:

Five Contributions [C83](#), [C91](#), [C92](#), [C94](#), [C106](#), were reviewed during the 3 session meetings.

Q6/9 team reviewed [C94](#), [C106](#) (Proposal to revise ITU-T Recommendation J.298) and agreed to consent the draft Recommendation. The latest baseline text is contained in [TD513](#) and the A.5 Justification in [TD514R1](#)

NOTE ADDED DURING WP CLOSING PLENARY: During WP1 closing plenary the TD513 was reviewed and the editor was requested to update the references in the document so that they are referenced properly within the text (both normative and informative reference) The editor was requested to provide an updated version as TD513R1 and if needed to further revise the A.5 justification TD found in TD514R1. Both documents will be reviewed at the closing SG9 Plenary.

Q6/9 team reviewed [C83](#) (Proposal for a new work item for a draft Recommendation ITU-T J.STB-AV "Requirements and functional specification of Audio and Video interface on cable set-top box") and agreed to start new work item, the A.1 Justification is provided in [ANNEX C](#).

Q6/9 team reviewed [C91R1](#) (Proposed A.1 justification for a new ITU-T Recommendation J.STB-UHDVR "Functional requirements for cable Set-top Box supporting Ultra-High-Definition video and Virtual Reality services.") and agreed to start new work item. Skyworth supports this work item, the A.1 Justification is provided in [ANNEX D](#).

Q6/9 team reviewed ([C92](#)) proposal for a baseline text of J.STB-UHDVR. The draft new text was agreed as baseline text, and is proposed for progressing. It was noted that 4K definition need to refer to J.297 and may be updated if needed.

Q6/9 team reviewed Q6 terms of reference and posted as [TD555](#). Main change was to add metaverse research in STB and further study trend on reducing STB size and cost.

10.6.2 Report of interim activities:

One report of interim activities [TD478](#) was reviewed:

This TD is Report of interim meeting of Q6/9 held on 26 September 2023

Q6/9 experts agreed to submit contributions from ATSC Group and discussed at the upcoming SG9 meeting in Bogotá, Colombia, during 14-23 November 2023, [TD479](#)

Q6/9 discussed a possible new work item based on [Q6/9-DOC1 \(230926\)](#): Proposal for a new work item on "Requirements and functional specification of Audio and Video interface on cable set-top box" and it was agreed that this will be beneficial to reduce STB PCB size. and decided to submit a contribution to propose this new work item in the coming SG9 meeting.

10.6.3 Incoming Liaison Statements

Two Incoming Liaison Statements were reviewed : [TD439](#), [TD456](#)

Q6/9 reviewed and noted.

10.6.4 Planned interim Rapporteurs meetings

One interim rapporteur meeting of Question 6 was planned on 1 March 2024.

10.7 Question 7/9 "Transmission control and interfaces (MAC layer) for IP and/or packet-based data over integrated broadband cable networks"

The report of Q7 can be found in [SG9-TD527-R2](#). It was approved.

Executive summary:

Q7 achieved the following results:

- Two outgoing liaison statements were approved; [TD515](#) (sent to: ITU-T SG15, ETSI TC Cable, IEC TC100, CableLabs, SCTE, TTA, TTC, IEEE 802.3 Ethernet WG, CCSA) in joint meeting with Q1/9 & Q7/9, [TD540R1](#) (sent to: ETSI TC Cable, TTA) in Q7/9 meeting;
- Two Recommendations were agreed in joint meeting with Q1/9 & Q7/9 to be proposed to the SG9 Plenary for consent;
 - SG9-TD516: Consent – Draft new Recommendation ITU-T J.198.2 (ex J.HiNoC3-PHY) “Physical layer specification for third-generation HiNoC”
 - SG9-TD517: Consent – Draft new Recommendation ITU-T J.198.3 (ex J.HiNoC3-MAC) “MAC layer specification for third-generation HiNoC”
- One Supplement was agreed in Q1 & Q7 joint meeting to be proposed to the SG9 Plenary for agreement:
 - SG9-TD518: Agreement - Draft new Supplement ITU-T J.Suppl. 12 (ex J.Sup-HiNoC) "Comparison between third-generation HiNoC and second-generation HiNoC"
- One interim meeting was planned in March 2024.
- Four new work items were agreed to initiate as follows: J.DVCS.spec; J.224-rev, J.225-rev, and J.Sup10-rev.

10.8 Question 8/9 “The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms”

The report of Q8/9 can be found in [SG9-TD528-R1](#). It was approved.

Executive summary:

Q8/9 achieved the following results:

- Revision in Q8/9 mandates / Terms of References is approved and posted at [TD552](#).
- One interim e-meeting is planned in February 2024.

10.9 Question 9/9 “Requirements, methods, and interfaces of the advanced service platforms to enhance the delivery of audiovisual content, and other multimedia interactive services over integrated broadband cable networks”

The report of Q9/9 can be found in [SG9-TD529-R1](#). It was approved.

Executive summary:

Question 9/9 discussed four contributions and twenty-seven TDs, including eighteen incoming liaison statements.

Question 9/9 agreed to submit J.484 (ex J.cable-mabr) “the Requirements of multicast adaptive bitrate (M-ABR) IP delivery” to the closing SG9 plenary for approval.

Question 9/9 reviewed all incoming liaison statements.

Q9/9 agreed to send 3 outgoing liaison statements as follows:

- to inform ITU-T SG16 of the progress of J.cloud-ow and requests information about the new draft Recommendation F.HIM from ITU-T Q21/16.
- to reply to ETSI ISG F5G on J.cloud-ow "Requirements of E2E Network Platform for Cloud-based Object Wave Transmissions".
- to reply to FG-MV on collaboration on metaverse standardization work of SG9 and on request to provide the standardization status for metaverse-related technologies.

Question 9/9 planned to organize one interim meeting during 14-15 March 2024.

10.10 Question 10/9 “Work programme, coordination and planning”

The report of Q10/9 can be found in [SG9-TD530-R1](#). It was approved.

Executive summary:

Question 10/9 reviewed twenty-four (24) inputs, including seventeen (17) incoming liaison statements, and one (1) report of interim activities.

Question 10/9 received two (2) contributions. C98 proposes A.1 justification to start a new work item to revise Recommendation J.1 and [C99](#) proposes the draft text of revised Recommendation ITU-T J.1 “Terms, definitions and acronyms for television and sound transmission and integrated broadband cable networks.” Through the discussion, the group produced the text of ITU-T J.1-rev and agreed for AAP consent at this meeting. The document is found in [TD564](#).

Question 10/9 agreed to draft three (3) reply liaison statements as follows:

- 1) LS/o/r on the definitions for holography and hologram ([SCV-LS14](#), [SCV-LS15](#)) [to SCV, CCT], available in [TD565](#).
- 2) LS/o/r to TSAG (TD424 (TSAG-LS15)) with our analysis result on Resolutions in view of streamlining Resolutions. oLS is posted as [TD566](#).
- 3) LS/o/r on request for input material related to security manual to be updated ([SG9-TD452](#)) [to ITU-T SG17], available in [TD567](#).

Question 10/9 also discussed updates of ToR based on TD554 proposed by Associate Rapporteur for Q10/9. The group agreed to further updates to the text, as found in [TD554-R1](#), and submitted it to the WTSA-24 special session on 22 November.

10.11 Question 11/9 “Accessibility to cable systems and services”

The report of Q11/9 can be found in [SG9-TD531-R1](#). It was approved.

Executive summary:

Q11/9 achieved the following results:

- Agreed for a new work item proposing a new Technical Report TR.CUP “Concept of a Common User Profile format used to personalize audiovisual media”.
- Proposed for agreement of Technical Report TR.CUP “Concept of a Common User Profile format used to personalize audiovisual media”.
- Updated the baseline text of two work items based on [C90](#) and [C104](#):
 - Draft new Recommendation ITU-T J.acc-us-prof "Common user profile format for audiovisual content distribution", the output is available in [TD563](#).
 - Draft new ITU-T Technical Report JSTR.LCAP "Technical advances, challenges, and best practices in live captioning", the output is available in [TD562](#).
- Reviewed the various LS/i/r
- One interim meeting is planned: 28 February 2024, E-meeting.
- One outgoing liaison statement to ITU-R WP6C, ITU-T SG16, and IRG-AVA was agreed, available in [TD568R1](#).
- One outgoing liaison statement to DVB TM-I with copy to ITU-R SG6, ITU-T SG16, and IRG-AVA was agreed, available in [TD569](#).

11 Work plan for interim Rapporteur meetings and working party meetings.

11.1 Working party meetings

No interim working party meetings will be held before next SG9 meeting, currently planned in May 2024 (TBC).

11.2 Interim Rapporteurs’ groups meetings

The following interim Rapporteurs’ groups meetings are agreed by SG9. For updates, please see the Rapporteur meetings webpage:

<https://www.itu.int/net/ITU-T/lists/rgm.aspx?Group=9&type=interim>

| Q/SG | Date | Place / Host | Terms of reference | Contact |
|------|---|--------------|--|--|
| 1/9 | 21 February 2024 05h00-06h30 (Geneva time) | E-meeting | Progress on J.TR.WiFiTV and other work items in Q1/9. | Kei Kawamura (ki-kawamura@kddi.com) |
| 2/9 | 27 February 2024 09h30-11h30 (Geneva time) | E-meeting | Discuss on creating a new work item regarding DRM system | Han-seung KOO (koohs@etri.re.kr) |

| Q/SG | Date | Place / Host | Terms of reference | Contact |
|------|--|--------------|--|---|
| | | | | Rajiv Khattar rajivkhattar@gmail.com Zhijian Liang liangzhijian1@hisilicon.com |
| 2/9 | 17 April 2024 09h30-11h30 (Geneva time) | E-meeting | Progress on the first part of the new work item: Requirements | Han-seung KOO koohs@etri.re.kr Rajiv Khattar rajivkhattar@gmail.com Zhijian Liang liangzhijian1@hisilicon.com |
| 3/9 | 4 April 2024 09h00-11h00 (Geneva time) | E-Meeting | Address the comments and opinion from SG12, SG16 or other bodies, on the final draft of J.pcnp-char (J.1630) Consider the edited text from TSB Consider any additional contributions to start new work items | Evan Sun evan.sun@huawei.com |
| 6/9 | 1 March 2024 09h30-12h30 (Geneva time) | E-meeting | Progress on J.STB-AV (Requirements and functional specification of audio and video interface on cable set-top box) Progress on J.STB-UHDVR (Functional requirements for cable set-top box supporting Ultra-High-Definition video and virtual reality services) Other Contributions (TBC) | Xin.Zhang xin.zhang@skyworth.com |
| 7/9 | 12 March 2024 07h30-09h30 (Geneva time) | E-meeting | Progress on J.DVCS.spec, JSTR-STBN etc. | TaeKyoon KIM tkkim@etri.re.kr |

| Q/SG | Date | Place / Host | Terms of reference | Contact |
|---------------|---|--------------|--|---|
| 8/9 | 7 March 2024 1 session from 11h30-12h45 (Geneva time) | E-meeting | Brainstorm on the future of Q8 work items Discuss any additional contribution | Rakesh Desai (rakesh.desai@gov.in) |
| 9/9 | 14 March 2024 09h00-12h00 (Geneva time) and 15 March 2024 09h00-10h30 (Geneva time) | E-meeting | Progress on J.cloud-ow, J.cloud-game-req and J.cloud-vr-arch. | Yanhua (Willa) NIU (Ms) (niuyanhua@abs.ac.cn) |
| 11/9 | 14 March 2024 12h00-15h00 (Geneva time) (TBC) | E-meeting | Progress on J.acc-us-prof, JSTR.LCAP | Avinash Agarwal (avinash.70@gov.in) |
| JRG QALL/9 | 27-28 February 2024 12h00-15h00 (Geneva time) | E-meeting | Special session on restructuring in view of WTSA-24 | Satoshi Miyaji (sa-miyaji@kddi.com) |

12 A.5 qualification for KHRONOS

SG9 approved the Qualification of Khronos according to ITU-T A.5 on the conditions suggested by ITU Secretariat as per [SG9-TD508](#).

13 Next Study Group 9 meeting

Next ITU-T SG9 meeting is currently scheduled to be held in China, 9-17 May 2024 (TBC). More information will be provided on the SG9 website when available.
