Executive summary of ITU-T SG9 meeting (fully virtual, 15-24 November 2021)

The seventh Study Group 9 (Broadband cable and TV) meeting in the study period 2017-2021 was held fully virtual, from 15 to 24 November 2021. The SG9 meeting was attended by 57 participants from 16 countries. All sessions were held using MyMeetings remote participation tool. At this meeting, SG9 concluded twenty-one deliverables including draft new or revised Recommendations and draft technical papers. The special session for WTSA-20 preparations was also organized on 17 November, where the SG9 report, draft mandate and Question texts were discussed and completed to be submitted to WTSA-20.

Co-located with the SG9 meeting, the ITU organized a **workshop** on "The Future of Television for Europe" on 19 November 2021. 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 Europe, focused on the diverse emerging broadband and broadcast technologies, including cable TV, with the aim to assist countries in the region of Europe to assess challenges, dynamics and opportunities. The workshop was attended by **342** participants and discussed the future of television in the region with relevant stakeholders including the European Broadcasting Union (EBU), covering regulatory and policy frameworks, emerging and convergent ICT Infrastructures and services, as well as user interfaces and usability issues. It also provided an opportunity to discuss TV-related regional and international standardization and spectrum management. The full event can be watched as the offline recording is made available online. Full recorded presentations on related standardization activities from ITU-T SG9, ITU-R SG6, ITU-T SG16 and ITU-D Q2/1 were also made available on the event webpage for offline access.

In addition, a meeting of the IRG-AVA was organized under the auspices of ITU-T SG9 on 16 November and was attended by 17 participants. IRG-AVA serves as a collaborative platform to progress the ongoing draft Recommendation from Q11/9 on common user profile format. The meeting produced an updated draft new Recommendation ITU-T J.acc-us-prof "Common user profile format for audiovisual content", posted as SG9-TD1280.

Also, the final IRG-IBB meeting "Intersector Rapporteur Group on Integrated Broadcast-Broadband (IBB)" was held under the auspices of ITU-T SG9. IRG-IBB meeting took place on 18 November 2021 and was attended by 11 participants. This meeting decided to conclude the activities of IRG-IBB as per its ToR and the three parent groups agreed to continue close communication through liaison statements. A related report was submitted to the three parent groups and posted as TD1314. See also section 8 below.

1. List of Consented/Determined Recommendations and other deliverables for approval

During the SG9 meeting in November 2021 a total of eighteen new and revised draft Recommendations, including two corrigenda, were finalized and agreed for AAP Consent.

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

Question	AAP/TAP	Rec	Status	Title	Final TD	A.5 justification
Q1/9	AAP	**J.483** (ex J.rfip-switching-arch)	New	Architecture and Functional Specifications of a radio frequency (RF)/Internet protocol (IP) video switching system	SG9-TD1276	N/A
Q1/9	AAP	**J.482-cor**	Corrigendum	Requirements of a radio frequency (RF)/Internet protocol (IP) video switching system	SG9-TD1277	N/A
Q2/9	AAP	**J.1026** (ex J.1026-rev)	Rev.	Downloadable conditional access system for unidirectional networks - Requirements	SG9-TD1295-R2	N/A
Q2/9	AAP	**J.1027** (ex J.1027-rev)	Rev.	Downloadable conditional access system for unidirectional networks - System architecture	SG9-TD1296-R1	N/A
Q2/9	AAP	**J.1028** (ex J.1028-rev)	Rev.	Downloadable conditional access system for unidirectional networks - Terminal system	SG9-TD1297-R1	N/A
Q4/9	AAP	**J.1401** (ex J.dtc-dist-req)	New	Television Content Distribution Platforms: Requirements for Open Access and Signal Quality	SG9-TD1281-R1	N/A
Q5/9	AAP	**J.1201** (ex J.1201-rev)	Rev.	Functional requirements of a smart TV operating system	SG9-TD1305	N/A
Q5/9	AAP	**J.1202** (ex J.1202-rev)	Rev.	The architecture of a smart TV operating system	SG9-TD1306	N/A
Q5/9	AAP	**J.1203** (ex J.1203-rev)	Rev.	The specification of a smart TV operating system	SG9-TD1307	N/A
Q5/9	AAP	**J.1204** (ex J.1204-rev)	Rev.	The security framework of a smart TV operating system	SG9-TD1308	N/A
Q5/9	AAP	**J.1205** (ex J.stvos-hal)	New	The HAL API of a smart TV operating system	SG9-TD1309	N/A

Question	AAP/TAP	Rec	Status	Title	Final TD	A.5 justification
Q6/9	AAP	**J.299** (ex J.299-rev)	Rev.	Functional requirements for remote management of cable STB by auto configuration server	SG9-TD1299	SG9-TD1311
Q6/9	AAP	**J.1612** (ex J.pcnp-smgw-arch)	New	The Architecture for Smart Home Gateway	SG9-TD1298-R1	SG9-TD1273
Q7/9	AAP	**J.198.1** (J.HiNoC3-REQ)	New	Functional requirements for third-generation HiNoC	SG9-TD1283	N/A
Q7/9	AAP	**J.1111** (ex J.AIP-DVCS)	New	Requirements for Advanced IP-based Digital Video Convergence Service	SG9-TD1284-R1	N/A
Q8/9	AAP	**J.1303** (ex J.CBCMS-part3)	New	The specification of cloud-based converged media service to support IP and Broadcast Cable TV - System specification on collaboration between production media cloud and cable service cloud	SG9-TD1275	N/A
Q8/9	AAP	**J.1302-cor**	Corrigendum	Specification of a cloud-based converged media service to support Internet protocol and broadcast cable television - System architecture	SG9-TD1260	N/A
Q9/9	AAP	**J.1304** (ex J.cable-ott)	New	Functional requirements for service collaboration between cable television operator and OTT service provider	SG9-TD1278	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

During the SG9 meeting in November 2021, the following draft Recommendation was approved (AAP).

Question	AAP/TAP	Rec	Status	Title	Final TD
Q9/9	AAP	**J.1631** (ex J.cloud-vr-req)	Consented 2021-04-28	Functional requirements of E2E Network Platform to enhance the delivery of Cloud-VR Services over integrated broadband cable networks	SG9-TD1170

1.4 Modification of the category names of J-series Recommendations

It was agreed to create a new sub-series under J-series Recommendations as follows:

– *J.1400 – J.1409: Television transport network and system deployment in developing countries*

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

2.1 Technical Papers

The following reproduces the two Technical Papers, which were Agreed for publication by SG9.

Question	Approval	Document	Status	Title	Final TD
Q7/9	Agreement	**ITU-T JSTP-IPVB-ACC** (ex TP.ipvb-acc)	Technical Paper	Analysis of the cost and complexity of IPVB technology	SG9-TD1285
Q7/9	Agreement	**ITU-T JSTP-IPVB-UC** (ex TP.ipvb-ucase)	Technical Paper	Use cases and service scenario of IP Video Broadcast (IPVB) for CATV Networks	SG9-TD1286

2.2 Supplements

No Supplement was proposed for agreement at this meeting.

2.3 Amendments

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

2.4 Corrigenda

Two Corrigenda were agreed for AAP consent at this meeting. See the table under item 1.1 above.

3. New and deleted work items

3.1 New work items

The meeting agreed to start work on the following 8 new work items, some of which were finalized at this meeting.

#	Question	Work item (kind of publication)	Status	Title	Editor	TD	A.1 /A.13 Justification template
1	Q1 (in collab. with Q7)	**J.224-rev** (Rec.)	Revised	Fifth-generation transmission systems for interactive cable television services – IP cable modems	Curtis Knittle (C.Knittle@cablelabs.com) Kei Kawamura (ki-kawamura@kddi.com)	SG9-TD1261-R1	N/A
2	Q1 (in collab. with Q7)	**J.225-rev** (Rec.)	Revised	Fourth-generation transmission systems for interactive cable television services – IP cable modems	Curtis Knittle (C.Knittle@cablelabs.com) Kei Kawamura (ki-kawamura@kddi.com)	SG9-TD1261-R1	N/A
3	Q1 (in collab. with Q7)	**J.Sup10-rev** (Supplement)	Revised	Correspondence Between CableLabs DOCSIS Specifications and ITU-T J-series Recommendations	Curtis Knittle (C.Knittle@cablelabs.com) Kei Kawamura (ki-kawamura@kddi.com)	SG9-TD1261-R1	N/A
4	Q1/9	**J.482-cor** (Rec.)	Corrigendum (Consent)	Requirements of a radio frequency (RF)/Internet protocol (IP) video switching system	Tatsuo Shibata (t-shibata@jlabs.or.jp) Ataru Kobayashi (a-kobayashi@jlabs.or.jp)	SG9-TD1277	N/A
5	Q2/9	**J.1026** (Rec.)	Revised (Consent)	Downloadable conditional access system for unidirectional networks - Requirements	Zhifan Sheng (shengzhifan@abs.ac.cn) Qiang Wang (wangqiang@abs.ac.cn) Zhijian Liang (liangzhijian1@hisilicon.com)	SG9-TD1295-R2	Annex C of TD1262
6	Q2/9	**J.1027** (Rec.)	Revised (Consent)	Downloadable conditional access system for unidirectional networks - System architecture	Zhifan Sheng (shengzhifan@abs.ac.cn) Qiang Wang (wangqiang@abs.ac.cn) Zhijian Liang (liangzhijian1@hisilicon.com)	SG9-TD1296-R1	Annex D of TD1262

#	Question	Work item (kind of publication)	Status	Title	Editor	TD	A.1 /A.13 Justification template
7	Q2/9	**J.1028** (Rec.)	Revised (Consent)	Downloadable conditional access system for unidirectional networks - Terminal system	Zhifan Sheng (shengzhifan@abs.ac.cn) Qiang Wang (wangqiang@abs.ac.cn) Zhijian Liang (liangzhijian1@hisilicon.com)	SG9-TD1297-R1	Annex E of TD1262
8	Q8/9	**J.1302-cor** (Rec.)	Corrigendum (Consent)	Specification of a cloud-based converged media service to support Internet protocol and broadcast cable television – System architecture	Dajiang Zhang (yiquan.zdj@alibaba-inc.com)	SG9-TD1260	N/A

3.2 Discontinued work items

SG9 did not discontinue any work item at this meeting.

4. SG9 Management for the Study Period 2017-2021

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)
Advisor	Mr Stefano POLIDORI (SGD, TSB)
Administrative assistant	Ms Hiba Tahawi (SGD, TSB)

5. SG9 Structure for the Study Period 2017-2021

ITU-T SG9 Working Party structure and leadership was noted as there were no proposed changes since last SG9 meeting (April 2021) when the TSAG deliberation on SG9 study Questions for 2017-2021 were considered. The current ITU-T SG9 WP structure, as contained in SG9-TD1152, was confirmed and reported below as follows:

- WP1 *"**Cable transport and terminals, including video and data**"* (Q1, 2, 4, 6 & 7), and
- WP2 *"**Cable-related platforms and applications**"* (Q5, 8, 9, 11 & 12).

In addition, Q10 and the remaining Intersector Rapporteur Group (IRG), IRG-AVA, will report to the SG9 Plenary. See the table below for more details.
NOTE: IRG-IBB ended during this meeting.

	WP titles and MGT	Q/IRG	Titles
WP1	**Cable transport and terminals, including video and data** Zhifan SHENG (WP1/9 Chairman) ABS, China Blaise MAMADOU (WP1/9 Vice-chair) Central African Republic	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	**Cable-related platforms and applications** Taekyoon KIM (WP2/9 Chairman) ETRI, Korea Eric WANG (WP2/9 Vice-chair) Huawei, China	Q5	Software components application programming interfaces (APIs), frameworks and overall software architecture for advanced content distribution services within the scope of Study Group 9
		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
		Q12	AI-enabled enhanced functions over integrated broadband cable network
SG9 PLEN	**Plenary of SG9** Satoshi MIYAJI (SG9 Chairman) KDDI, Japan	Q10	Work programme, coordination and planning
		IRG-AVA	Intersector Rapporteur Group on Audiovisual Media Accessibility

5.1 SG9 Questions texts:

The group was requested to review the current list of SG9 Questions following TSAG endorsement as reproduced in TSAG Report 15 (TSAG-R15), and to submit any comments to be discussed during the WTSA special session that took place on 17 November 2021. Only some editorial modifications were identified to be included before submission to WTSA-20. See section 5.2 below.

5.2 Preparation to WTSA-20 (planned 1-9 March 2022)

To continue the preparatory process towards WTSA-20 for the next study period 2022-2024, SG9 organized a special session on 17 November 2021 to discuss WTSA updates. During this session, the draft report of SG9 to WTSA-20 (Part 1) was reviewed and comments from experts were incorporated as reproduced in SG9-TD1242-R1. The mandate of SG9 for the next study period was also reviewed in detail with no additional changes proposed, therefore, the revised mandate as provided in SG9-TD1158 will be sent to WTSA-20. As for the Study Questions of SG9 for next Study Period (WTSA-20 Report Part 2), the Questions texts were presented and some editorial comments were made to update the list of J-series Recommendations under section A.4 for Q1/9. All other Rapporteurs were asked to inform TSB of any additional updates. By the closing plenary on 24 November 2021, no other updates were received and the revised Study Questions to be provided in SG9 report to WTSA (Part 2) was approved at the closing plenary as SG9-TD1293, with the understanding that TSB, before submission, will apply the formatting required by WTSA-20 and update obsolete information, if needed.

6. SG9 Management, Rapporteurs and Associate Rapporteurs

SG9 has updated the List of SG9 Rapporteurs and Associate Rapporteurs for the Study Period 2017-2021 as found in SG9-TD1153-R1. The following experts were appointed or left their roles:

– Mr Kenji Obata no longer acts as an Associate Rapporteur for Q2/9;

– Mr Dajiang Zhang was appointed as Q8/9 Rapporteur, to replace Mr TaeKyoon Kim who served as an Acting Rapporteur;

– Ms Jingyi Xue was appointed as Q10/9 Rapporteur, to replace Ms Qiong Yao who served as an Acting Rapporteur.

7. Liaison officers to external groups

SG9 agreed on the list of liaison officers for the Study Period 2017-2021, with the following changes as found in SG9-TD1154-R1.

– Mr Evan Sun was appointed as ITU-T FG-AN (ITU Focus Group on Autonomous Networks (FG-AN)) Liaison Officer.

8. Intersector Rapporteur Groups (IRG-AVA; IRG-IBB)

Reflecting the discussions that took place during 14th meeting of IRG-IBB, the group will be dismissed at the end of ITU-T Study Period 2017-2021. Participants agreed that the stream of work on the IRG-IBB is now mature with a well stablished coordination and

collaboration between the parent groups. This was the last meeting of the group. Co-chairs remain as contact points for the related parent group following ITU standard liaison procedures.

SG9 continues to act as a parent study group for IRG-AVA (Audiovisual Media Accessibility), as mentioned in the table below. IRG-AVA serves as a collaborative platform to progress the ongoing draft Recommendation from Q11/9 on "Common user profile format for audiovisual content" (J.acc-us-prof), which benefit from the collaboration from ITU-T SG16 and ITU-R SG6.

The appointment of co-chairs for IRG-AVA was confirmed as follows.

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

9. Outgoing Liaison Statements

The following table shows the list of the 19 agreed outgoing liaison statements, as indicated in SG9-TD1167-R2:

#	Q	WP	To	For	Title	TD
1	Q1/9	WP1	ETSI TC Cable, ITU-T Q13/SG16, CableLabs, SCTE	Information	LS/o on AAP Consent of draft new Recommendation ITU-T J.483 (ex J.rfip-switching-arch) "Architecture and Functional Specifications of a radio frequency (RF)/Internet protocol (IP) video switching system"	SG-TD1290
2	Q4/9	WP1	ITU-D Q2/1	Information	LS/o on consent of ITU-T Recommendations J.1401 (ex. J.dtc-distribution-req) "Television Content Distribution Platforms: Requirements for Open Access and Signal Quality"	SG-TD1282-R1
3	Q5/9	WP2	ITU-T SG16, ITU-R SG6 WP6B	Information	LS/o/r on smart TV Operating System	SG-TD1310
4	Q6/9	WP1	BBF, SG15, SG16, SG20	Information	LS/o on AAP Consent of draft new Recommendation ITU-T J.1612 "The Architecture for Smart Home Gateway"	SG-TD1300
5	Q6/9	WP1	ARIB, BBF, ETSI TC Cable, ITU-T Q13/SG16, SCTE	Information	LS/o on AAP Consent of draft revised Recommendation ITU-T J.299 “Functional Requirements for remote management of cable STB by Auto Configuration Server (ACS)”	SG-TD1301-R1

#	Q	WP	To	For	Title	TD
6	Q7/9	WP1	ITU-T SG15, ETSI TC-Cable, IEC TC100, RRA, TTC, IEEE 802.3 Ethernet WG, CCSA	Information	LS/o on AAP consent of draft new Recommendation ITU-T J.198.1 (ex J.HiNoC3-REQ) "Functional requirements for third-generation HiNoC"	SG-TD1287
7	Q7/9	WP1	ITU-T SG16, ETSI TC-cable, SCTE, CCSA	Information	LS/o on Agreement draft new Technical Paper ITU-T JSTP-IPVB-UC (ex TP.ipvb-ucase) "Use cases and service scenario of IP Video Broadcast (IPVB) for CATV Networks" and JSTP-IPVB-ACC (ex TP.ipvb-acc) "Analysis of the cost and complexity of IPVB technology"	SG-TD1288
8	Q7/9	WP1	ETSI TC Cable, RRA	Information	LS/o on AAP Consent of draft new Recommendation ITU-T J.1111(ex J.AIP-DVCS) "Requirements for Advanced IP-based Digital Video Convergence Service"	SG-TD1289
9	Q8/9	WP2	ITU-T SG13	Action	LS/o on AAP consent of the draft Recommendation ITU-T J.1303 (ex J.CBCMS part3) and the update to the Artificial Intelligence Standardization Roadmap	SG-TD1274-R1
10	Q9/9	WP2	DVB TM-MCAST, ETSI TC Cable CableLabs	Action Information	LS/o/r on the current baseline text of new draft Recommendation ITU-T J.cable-mabr "Requirements of multicast adaptive bitrate (M-ABR) IP delivery" (DVBTM-MCAST-0056)	SG-TD1312
11	Q9/9	WP2	ITU-T SG12, ETSI TC Cable	Information	LS/o on final approval of Recommendation ITU-T J.1631	SG-TD1303
12	Q10, QALL/9	PLEN	ITU-R SG6, ITU-T SG16, IRG-AVA, JCA AHF	Information	LS/o/r on Proposed draft revision of the Terms of Reference for the Intersector Rapporteur Group on Audiovisual Media Accessibility (IRG-AVA) - (reply to ITU-RWP6C-6/179)	SG-TD1258-R1
13	Q10/9	PLEN	ITU-T SG16 ITU-T SCV; ITU-R CCV; All ITU-T Study Groups	Action Information	LS/o/r on approval of new terms and definitions (reply to SG16-LS223)	SG-TD1315

#	Q	WP	To	For	Title	TD
14	Q10/9	PLEN	ITU-T SG2, SCV, CCT and all other ITU-T SGs	Information	LS/o/r on new ITU-T SG9 terms and definitions	SG-TD1316
15	Q10/9	PLEN	ITU-T SG15 TSAG; ITU-T SG12, SG13, SG16, SG17, ITU-R SG1, SG5, SG6 ETSI TC ATTM, IEEE 802.3, Broadband Forum	Action Information	LS/o/r on the new version of the Access Network Transport (ANT) Standards Overview and Work Plan (SG15-LS298)	SG-TD1317-R1
16	Q10/9	PLEN	ITU-T SG2 TSAG, SG3, SG5, SG11, SG12, SG13, SG15, SG16, SG17, SG20	Action Information	LS/o/r on Telecommunication Management and OAM Project Plan (SG2-LS203)	SG-TD1318-R1
17	Q10/9	PLEN	ITU-T SG15 BROADBAND FORUM, ITU-R SG 1, ITU-R SG 5, ITU-R SG 6, ISO/IEC JTC1/SC25, IEEE 802.3 Working Group, ETSI TC ATTM, MoCA, SG5, SG13, SG16, SG17, TSAG	Action Information	LS/o/r on the new version of the Home Network Transport (HNT) Standards Overview and Work Plan (SG15-LS299)	SG-TD1319-R1
18	Q10/9	PLEN	ITU-T SG11	Action	LS/o/r on the new version of the reference table and pilot projects on Conformance and Interoperability testing. (SG11-LS211)	SG-TD1320-R1
19	Q12/9	WP2	ITU-T FG-AN	Action	LS/o/r on “Call for contribution to ITU-T FG-AN Build-a-thon/PoC”	SG-TD1304-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-TD1261-R1. It was approved.

Executive summary:

Question 1/9 discussed one contribution and 13 TDs, including 4 incoming liaison statements.

Question 1/9 decided to propose ITU-T J.483 (ex J.rfip-switching-arch) and the new corrigendum to ITU-T J.482 for AAP consent at the SG9 closing Plenary (24 November 2021), the updated texts of these draft Recommendations are provided in TD1276 and TD1277, respectively.

Question 1/9 discussed with the representative of CableLabs on the DOCSIS specification updates related to withdrawal of IEEE 802.1D-2004. Q1/9 and CableLabs also confirmed to keep close collaboration to maintain consistency and alignment between CableLabs DOCSIS specifications and related ITU-T Recommendations. Accordingly, Question 1/9 agreed to initiate 3 new work items as follows: J.224-rev "Fifth-generation transmission systems for interactive cable television services – IP cable modems"; J.225-rev “Fourth-generation transmission systems for interactive cable television services – IP cable modems”; 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 one liaison statement to inform ITU-T Q13/16, ETSI TC CABLE, CableLabs, and SCTE on the AAP Consent of Recommendation ITU-T J.483 (J. rfip-switching-arch), (one oLS).

Question 1/9 has no plans to organize interim meetings for the upcoming period.

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

The report of Q2 can be found in SG9-TD1262-R1. It was approved.

Executive summary:

Q2/9 developed the three [draft] Revised Recommendations of ITU-T J.1026, J.1027 and J.1028 for AAP consent. The output documents are TD1295-R2, TD1296-R1, and TD1297-R1, respectively. Q2/9 also reviewed in detail TD1225-R2 which is an incoming LS from SCV on new ITU-T SG9 terms and definitions, the group agreed to develop a reply statement for this incoming liaison in collaboration with Q10/9. Q10/9 will propose this liaison statement for the closing plenary. No new work items were agreed, and no interim meetings were planned at this meeting.

10.3 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 inSG9-TD1264-R1. It was approved.

Executive summary:

Q4/9 received one contribution C195-R1 from Japan Cable Laboratories.

C195-R1 provided a final baseline text for draft new Recommendation ITU-T J.dtc-distribution-req "Television Content Distribution Platforms: Requirements for Open Access and Signal Quality". Based on the previous version, it has refined requirements and interface definitions for Digital Television Content (DTC) Distribution Platform, and has also added requirements that would appear in typical agreement document such as Service Level Agreement (SLA) to be concluded between platform operator and content provider.

After the review of the proposed text, Question 4/9 agreed to send it to WP1/9 Plenary for consent. An output document proposed for consent is available as TD1281-R1.

Also Question 4/9 agreed to send an outgoing liaison statement to ITU-D SG1 to inform them on this latest development. This draft LS is available as TD1282-R1.

10.4 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-TD1265. It was approved.

Executive summary:

Q5/9 addressed one contribution and four incoming liaison statements.

The group reviewed four incoming liaison statements and noted them with thanks.

The group reviewed and agreed on the text of draft revised Recommendation ITU-T J.1201rev, ITU-T J.1202rev, ITU-T J.1203rev and ITU-T J.1204rev. The group agreed to seek consent of these draft revision of Recommendations at this Study Group meeting as available in TD1305, TD1306, TD1307 and TD1308, respectively.

The group reviewed and updated the text of draft new Recommendation ITU-T J.1205 (ex. J.stvos-hal) and agreed to seek consent of this draft new Recommendation at this Study Group meeting as available in TD1309.

The group took note of the conclusion of the mandate of IRG-IBB and agreed to continue collaborating on IBB-related matters with ITU-T SG16 and ITU-R SG6 directly.

Also Q5/9 produced one outgoing liaison statement, which is available in TD1310.

10.5 Question 6/9 "Functional requirements for terminal devices of the integrated broadband cable network"

The report of Q6 can be found in SG9-TD1266-R1. It was approved.

Executive summary:

- During 3 sessions of this Q6 meeting, the following tasks were accomplished by the group:

- Draft new Recommendation ITU-T J.1612 (ex J.pcnp-smgw-arch) “The Architecture for Smart Home Gateway” and draft revised Recommendation ITU-T J.299 “Functional Requirements for remote management of cable STB by Auto Configuration Server (ACS)” were finalized and proposed to be submitted to WP1 for consent;
- Two outgoing liaison statements were approved, they are TD1300 and TD1301-R1, TD1300 is a notice of consent for ITU-T J.1612 (addressed to BBF, SG15, SG16, SG20), TD1301-R1 is about consent of ITU-T J.299-rev (addressed to ARIB, BBF, ETSI TC Cable, ITU-T Q13/SG16, SCTE);
- No new work item was agreed at this meeting;
- Two interim meetings were planned (of which one joint with Q8, Q9 and Q12);

10.6 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-TD1267-R1. It was approved.

Executive summary:

Q7 achieved the following results:

- Three outgoing liaison statements were approved; TD1287 (ITU-T SG15, ETSI TC-Cable, IEC TC100, RRA, TTC, IEEE 802.3 Ethernet WG, CCSA), TD1288 (ITU-T SG16, ETSI TC Cable, SCTE, CCSA), and TD1289 (ETSI TC Cable, RRA);
- Two Recommendations were agreed to be proposed to the SG9 Plenary for consent;
    - TD1284-R1 (Consent-Draft new Recommendation ITU-T J.1111 (ex.J.AIP-DVCS) “Requirements for Advanced IP-based digital video convergence service”),
    - TD1283 (Consent-Draft new Recommendation ITU-T J.198.1 (ex.J.HiNOC3.0) “Functional requirements for third-generation HiNoC”);
- Two Technical Papers were agreed to be proposed to the SG9 Plenary for agreement:
    - TD1285 (Agreement Draft New Technical Paper ITU-T JSTP-IPVB-ACC (ex. TP.ipvb-acc) “Analysis of the cost and complexity of IPVB technology”)
    - TD1286 (Agreement-Draft new Technical Paper ITU-T JSTP-IPVB-UC (ex. TP.ipvb-ucase) “Use cases and service scenario of IP Video Broadcast(IPVB) for CATV Networks”);
- Two interim meetings were planned.

10.7 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 inSG9-TD1268-R1. It was approved.

Executive summary:

1. Contribution C185 was submitted by ABS, China and presented by Mr Dajiang Zhang. It is related to specifying the architecture and the functions of collaboration between production media cloud and cable service cloud, the functions of collaboration between the central cloud and the edge cloud(s) under the control of cable service cloud, and the functions of these two types of clouds.

2. Reaching the agreement to propose for consent ITU-T J.1303 (ex. J.CBCMS-part3) as provided in TD1275 in the plenary meeting.

3. We also reviewed 3 liaison statements that pertained to Question 8 (1186, 1193, and 1206).

4. TD1186 and TD1206 were noted by the meeting. TD1193 was reviewed and a corrigendum was drafted in TD1260 in which the definition of API gateway was revised following the request from SG2 made in their liaison statement in TD1193.

One joint interim meeting with Q6, Q9 and Q12 was planned

10.8 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 inSG9-TD1269-R1. It was approved.

Executive summary:

The Q9/9 sessions operated under WP2, under the chairmanship of Rapporteur Eric Wang, with Q9 covering 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. Q9/9 met for two (2) sessions with about 10 people attending and addressed two (2) contributions and eleven (11) incoming liaison statements. The group submitted ITU-T J.1304 (ex. J.cable-ott) "System architecture and interfaces between a cable television operator and an OTT service provider" for consent, the output document is available in TD1278. The group also progressed the work on draft new Recommendation ITU-T J.cable-mabr, the output document is available in TD1302. The group used the "issues list" tool for maintaining the work of Q9/9. The agreed "Q9 issues list" is SG9-TD1294.

Also, the group produced two (2) outgoing liaison statements; the first one is to inform on the latest actions related to ITU-T J.1631, to be sent to ITU-T SG12 and ETSI TC Cable, the LS is available in TD1303. The second outgoing liaison is a reply to DVB on the current baseline text of draft new Recommendation ITU-T J.cable-mabr, to be sent to CableLabs in addition to DVB, the draft LS is available in TD1312.

Q9 planned two interim meeting, of which one joint with Q6, Q8 and Q12.

10.9 Question 10/9 "Work programme, coordination and planning"

The report of Q10/9 can be found inSG9-TD1270-R2. It was approved.

Executive summary:

Question 10/9 reviewed eighteen (18) TDs, including fifteen (15) incoming liaison statements. Question 10/9 agreed to draft seven (7) reply liaison statements as follows:

1) to ITU-T SG16 "LS/o/r on approval of new terms and definitions (reply to SG16-LS223) ", as found in TD1315,
2) to ITU-T SG2, SCV and CCT, as well as other ITU-T SGs "LS/o/r on new ITU-T SG9 terms and definitions", as found in TD1316,
3) to ITU-T SG15, "LS/o/r on the new version of the Access Network Transport (ANT) Standards Overview and Work Plan (SG15-LS298) [to ITU-T SG15]" as found in TD1317,
4) to ITU-T SG2, "LS/o/r on Telecommunication Management and OAM Project Plan (SG2-LS203) [to ITU-T SG2]" as found in TD1318,
5) to ITU-T SG15, "LS/o/r on the new version of the Home Network Transport (HNT) Standards Overview and Work Plan (SG15-LS299) [to ITU-T SG15]" as found in TD1319,
6) to ITU-T SG11, "LS/o/r on the new version of the reference table and pilot projects on Conformance and Interoperability testing. (SG11-LS211) [to ITU-T SG11]" as found in TD1320-R1,
7) to ITU-R SG6, ITU-T SG16, IRG-AVA, found in TD1258 "LS/o/r on Proposed draft revision of the Terms of Reference for the Intersector Rapporteur Group on Audiovisual Media Accessibility (IRG-AVA) - (reply to ITU-RWP6C-6/179) [to ITU-R SG6, ITU-T SG16, IRG-AVA]".

One interim Rapporteur meeting was also planned on 12 May 2022, the objective of this meeting is to start a new work item to revise ITU-T J.1 to incorporate the definitions developed in Recommendations approved since April 2020.

10.10 Question 11/9 "Accessibility to cable systems and services"

The report of Q11/9 can be found inSG9-TD1271. It was approved.

Executive summary:

Q11/9 Rapporteur, Dr Pradipta Biswas, welcomed participants and after approval of agenda, reported the outcome of IRG-AVA meeting held on 16th November. During IRG-AVA, the draft Recommendation on Common User Profile document was presented in detail including the Editor's notes. Various comments and suggestions were made and were incorporated in the Recommendation, the output document is posted as TD1280.

Meeting reports from earlier IRG-AVA meeting were also presented briefly. Among the meeting documents, an incoming liaison statement on accessibility from Q2 of SG20 was discussed in detail and it was decided that an outgoing liaison statement will be sent from IRG-AVA informing SG20 about the Common User Profile document (see IRG-AVA-LS17). Q11 reviewed the proposed oLS which was drafted after the opening plenary on the updated ToR of IRG-AVA. It will be presented to the closing plenary of SG9. This oLS is available in TD1258.

The meeting ended at CET 1600 after thanking all participants and ITU colleagues.

10.11 Question 12/9 "AI-enabled enhanced functions over integrated broadband cable network"

The report of Q12/9 can be found inSG9-TD1272-R1. It was approved.

Executive summary:

In this SG9 plenary meeting, Question 12/9 reviewed one interim report and six incoming liaisons.

Q12 used 2 sessions to review the following TDs

– TD: 1217, 1175, 1182, 1186, 1209, 1214, 1243

In particular, Q12/9 reviewed TD1214 which is an incoming LS on "Call for contribution to ITU-T FG-AN Build-a-thon/PoC" from ITU-T FG-AN. The group decided to send one liaison to FG-AN as a reply requesting to keep Q12/9 updated about their work progress, appoint Mr Evan Sun as contact point. this LS is available in TD1304-R1. All other incoming liaisons were noted by the group.

Q12/9 has planned one e-meeting before the next plenary meeting (TBC, 2022) to discuss J.pcnp-char (planned ITU-T J.1630) and a new proposed work item contribution, which may be discussed at a joint interim meeting with Q6, Q8 and Q9.

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 September 2022.

11.2 Interim Rapporteurs' groups meetings

The following interim Rapporteurs' groups meetings are agreed by SG9 meeting. 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
6/9	11 January 2022 (9h30 Geneva time, 1 session)	E-meeting	Progress on J.1611-rev, J.290-corr-amd.	Mr Changqing Hu (huchangqing@skyworth.com)
Joint 6/9, 7/9, 8/9, 9/9, 12/9	28 April 2022 11:00 am-15:00 pm (Geneva time, 2 sessions)	E-meeting	To propose new work items, etc.	Mr Eric WANG (eric.wangxiang@huawei.com) Mr Yanbin (Evan) SUN (evan.sun@huawei.com) Mr Shizhu Long (longshizhu@skyworth.com) Mr Dajiang ZHANG (yiquan.zdj@alibaba-inc.com)

Q/SG	Date	Place / Host	Terms of reference	Contact
7/9	Early May 2022	E-meeting	Progress on J.uoc.	Mr TaeKyoon Kim (tkkim@etri.re.kr)
7/9	Early August 2022	E-meeting	Progress on J.uoc.	Mr TaeKyoon Kim (tkkim@etri.re.kr)
9/9	26-27 April 2022 (one session 1.5h each day, start from 9:30 Geneva time)	E-meeting	Progress on J.cloud-vr-arch, J.cloud-game-req, J.cable-mabr, etc.	Mr Eric Wang (eric.wangxiang@huawei.com)
Q10/9	12 May 2022 (one session 1.5h, start from 9:30 Geneva time)	E-meeting	Start a new work item to revise ITU-T J.1 to incorporate the definitions developed in Recommendations approved since April 2020.	Ms Jingyi Xue (xuejingyi@abp2003.cn)
11/9 under the IRG-AVA	1 February 2022	E-meeting	Progress J.acc-us-prof under the IRG-AVA framework	Mr Pradipta Biswas (pradipta@iisc.ac.in)
12/9	28 April 2022 1 session Geneva Time 9:00-11:00 am	E-meeting	Progress on J.pcnp-char (planned ITU-T J.1630)	Mr Evan Sun (evansun@huawei.com)

12. Next Study Group 9 meeting

Next ITU-T SG9 meeting is currently scheduled to be held from 6 to 15 September 2022, Geneva (TBC). More information will be provided on the SG9 website when available. A co-located workshop on “The Future of TV in the regions” may be organized in collaboration with ITU-R, ITU-D and ITU regional offices (TBC).