Executive summary of ITU-T SG9 meeting (fully virtual, 16-23 April 2020)

The fifth Study Group 9 (Broadband cable and TV) meeting in the study period 2017-2020 was held fully virtual, from 16 to 23 April 2020, due to the COVID-19 and force majeure. The SG9 meeting was attended by 69 participants from 16 countries. All sessions were supported by remote participation through the remote connection tool available at **ITU MyWorkspace**.

This ITU-T SG9 meeting and a workshop "The Future of Television for Asia & Pacific", jointly organized by the ITU Standardization Sector (ITU-T), the ITU-Radiocommunication Sector (ITU-R) and the ITU Development Sector (ITU-D), were originally planned to be held in co-location in Tokyo, Japan. The workshop was postponed to 19 October 2020, in Tokyo when the 6th and last SG9 meeting in this Study Period is now planned (14 to 21 October 2020).

1. List of Consented/Determined/Approved Recommendations

During the SG9 meeting in April 2020, a total of eight draft Recommendations were finalized and agreed for AAP Consent.

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

Question	AAP/TAP	Rec	Status	Title	Final TD	A.5 justification
Q1/9, Q7/9	AAP	**J.216** (J.216-rev)	Rev.	Second-generation Modular Headend Architecture in systems for interactive cable television services - IP cable modems	SG9-TD843	SG9-TD851
Q1/9, Q7/9	AAP	**J.224** (J.224-rev)	Rev.	Fifth-generation transmission systems for interactive cable television services - IP cable modems	SG9-TD829	SG9-TD849
Q1/9, Q7/9	AAP	**J.225** (J.4GDOCSIS)	New	Fourth-generation transmission systems for interactive cable television services - IP cable modems	SG9-TD830	SG9-TD850
2/9	AAP	**J.1031** (ex J.twoway-dcas-part1)	New	Downloadable Conditional Access System for Bidirectional Network; Requirements	SG9-TD882	N/A
5/9	AAP	**J.1203** (ex J.stvos-spec)	New	The specification of smart TV operating system	SG9-TD892	SG9-TD894

Question	AAP/TAP	Rec	Status	Title	Final TD	A.5 justification
6/9	AAP	**J.299** (J.acs-stb)	New	Functional Requirements for remote management of cable STB by Auto Configuration Server (ACS)	SG9-TD877	SG9-TD878
7/9	AAP	**J.1211** (J.ipvb-spec)	New	Specifications of IP Video Broadcast (IPVB) for CATV Networks	SG9-TD857	SG9-TD880
10/9	AAP	**J.1** (J.1-rev)	Rev.	Terms, definitions and acronyms for television and sound transmission and integrated broadband cable networks	SG9-TD869	N/A

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

Question	AAP/TAP	Rec	Status	Title	Current TD	A.5 justification
None						

At this meeting, no Recommendations were Determined.

1.3 List of Approved draft Recommendations using TAP (ITU-T Resolution 1)

The following reproduces the five draft Recommendations that were Approved, according to TAP process. After a long debate, it was agreed to add an appendix in each draft Recommendations, as contained in SG9-TD881R1. The appendix references a document that will be published as Annex 1 of SG9-R17. The content of SG9-R17-Annex1 is contained in SG9-TD865R2. The SG9-R17-Annex1 will be published open to public (no ITU Membership account restricted).

Question	AAP/TAP	Rec	Status	Title	Current TD	A.5 justification
Q2/9	TAP	**ITU-T J.1012** (ex J.dmcd-part3)	New	Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; CA/DRM Container, Loader, Interfaces, Revocation	SG9-TD854R1	SG9-TD803
Q2/9	TAP	**ITU-T J.1013** (ex J.dmcd-vm)	New	Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; The Virtual Machine	SG9-TD856R1	SG9-TD283R1

Question	AAP/TAP	Rec	Status	Title	Current TD	A.5 justification
Q2/9	TAP	**ITU-T J.1014** (ex J.dmcd-eci-as)	New	Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; Advanced Security - ECI-specific functionalities	SG9-TD855R1	SG9-TD316
Q2/9	TAP	**ITU-T J.1015** (ex J.dmcd-kl-as)	New	Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; The Advanced Security system - Key Ladder block	SG9-TD852R1	SG9-TD315
Q2/9	TAP	**ITU-T J.1015.1** (ex J.dmcd-kl-as Annex A)	New	Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; Advanced Security system - Key Ladder block: Authentication of control word-usage rules information and associated data 1	SG9-TD853R1	N/A

1.4 Modification of the category names of J-series Recommendations

The following reproduces the revised category names of ITU-T J-series Recommendations, initially proposed by Q2 Rapporteur in the report of Question 2/9 (SG9-TD832R3).

It was agreed to create the following new category name as follows:
 - *J.1031-J.1035: Downloadable conditional access system for bidirectional networks*

2. List of Approved Supplements, Amendments, Corrigenda, Technical Reports and other deliverables

2.1 Supplements

The following reproduces the four draft Supplements, which were Agreed for publication by SG9.

Question	Approval	Acronym	Status	Title	Current TD	Publication
Q1, 7/9	Agreement	**J Sup.10** (ex J.sup-docsis)	New	Correspondence Between CableLabs DOCSIS Specifications and ITU-T J-series Recommendations	SG9-TD842	Supplement
Q2/9	Agreement	**J.Sup.7** (ex J.sup-eg)	New	Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; ECI guide (EG)	SG9-TD887	Supplement
Q2/9	Agreement	**J.Sup.8** (ex J.sup-te)	New	Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; Trust Environment (TE)	SG9-TD888	Supplement
Q2/9	Agreement	**J.Sup.9** (ex J.sup-val)	New	Embedded Common Interface (ECI) for exchangeable CA/DRM solutions; System Validation (VAL)	SG9-TD889	Supplement

2.2   Technical Papers

The following reproduces the two draft Technical Papers that were Agreed.

Question	Approval	Acronym	Status	Title	Current TD	Publication
Q7/9	**Agreement**	**JSTP-AFDI** (ex TP.fdx-asi)	New	Analysis of the spectrum interference of In-band Full Duplex	SG9-TD859	Technical Paper
Q9/9	**Agreement**	**JSTP-IBBDTV** (ex TP.b-catvv)	New	Integrated Broadcast-Broadband digital TV application cooperated with server for functional extension including functions of digital TV reception and processing	SG9-TD823R1	Technical Paper

3. New and deleted work items

3.1 SG9 agreed to start the following 14 new work items:

#	Question	Work item (kind of publication)	Status	Title	Editor	TD	A.1 /A.13 Justification template
1	Q1	J.rfip-switching (Draft Rec.)	New Rec	RF/IP adaptive video distribution scheme over cable television networks	Yoshitaka Kidani (y-kidani@jlabs.or.jp) Tatsuo Shibata (t-shibata@jlabs.or.jp) Kenji Obata (k-obata@jlabs.or.jp)	C138	ANNEX C to TD831
2	Q1, 7/9	J.216-rev (Draft Rec.)	Revised rec	Second-generation Modular Headend Architecture in systems for interactive cable television services - IP cable modems	Ralph Brown (r.brown-contractor@cablelabs.com) Kei Kawamura (ki-kawamura@kddi.com)	TD843	N/A
3	Q1, 7/9	J.224-rev (Draft Rec.)	Revised Rec	Fifth-generation transmission systems for interactive cable television services - IP cable modems	Ralph Brown (r.brown-contractor@cablelabs.com) Kei Kawamura (ki-kawamura@kddi.com)	TD829	N/A
4	Q1, 7/9	J.4GDOCSIS (Draft Rec.)	New Rec	Fourth-generation transmission systems for interactive cable television services - IP cable modems	Ralph Brown (r.brown-contractor@cablelabs.com) Kei Kawamura (ki-kawamura@kddi.com)	TD830	Annex C.6 & C.7 of TD152R2; and Annex D of TD151R2
5	Q1, 7/9	J.sup-docsis (Supplement)	New Supplement	Correspondence Between CableLabs DOCSIS Specifications and ITU-T J-series Recommendations	Ralph Brown (r.brown-contractor@cablelabs.com) Kei Kawamura (ki-kawamura@kddi.com)	TD842	ANNEX C to TD831

#	Question	Work item (kind of publication)	Status	Title	Editor	TD	A.1 /A.13 Justification template
6	Q2	J.twoway-dcas-part1	New	Downloadable Conditional Access System for Bidirectional Network; Requirements	Mr Zhifan Sheng (zfsheng@icloud.com) Mr. Zhijian Liang (liangzhijian1@hisilicon.com) Mr. Han-Seung Koo (koohs@etri.re.kr)	SG9-TD882	ANNEX C of TD711
7	Q2	J.twoway-dcas-part2	New	Downloadable Conditional Access System for Bidirectional Network; System Architecture	Mr Zhifan Sheng (zfsheng@icloud.com) Mr. Zhijian Liang (liangzhijian1@hisilicon.com) Mr. Han-Seung Koo (koohs@etri.re.kr)	TD785	ANNEX D of TD711
8	Q2	J.twoway-dcas-part3	New	Downloadable Conditional Access System for Bidirectional Network; The Terminal	Mr Zhifan Sheng (zfsheng@icloud.com) Mr. Zhijian Liang Mr. Han-Seung Koo (koohs@etri.re.kr) (liangzhijian1@hisilicon.com)	TD787	ANNEX E of TD711
9	Q6/9	J.pcnp-smgw-arch	New	The Architecture for Smart Home Gateway	Mr Changqing Hu (huchangqing@skyworth.com) Mr Viktor Ariel (viktor.ariel@sureuniversal.com)	TD780	ANNEX C of TD781
10	Q8	J.CBCMS-part1 (Draft Rec.)	New	The specification of cloud-based converged media service to support next generation IP and Broadcast Cable TV – Requirements	Ms Yanhua Niu (niuyanhua@abs.ac.cn)	N/A	ANNEX C of TD838
11	Q8	J.CBCMS-part2 (Draft Rec.)	New	The specification of cloud-based converged media service to support next generation IP and Broadcast Cable	Ms Yanhua Niu (niuyanhua@abs.ac.cn)	N/A	ANNEX C of TD838

#	Question	Work item (kind of publication)	Status	Title	Editor	TD	A.1 /A.13 Justification template
				TV – High Level Architecture			
12	Q8	J.CBCMS-part3 (Draft Rec.)	New	The specification of cloud-based converged media service to support next generation IP and Broadcast Cable TV – Detailed specification	Ms Yanhua Niu (niuyanhua@abs.ac.cn)	N/A	ANNEX C of TD838
13	Q9	J.cable-mabr	New	Requirements of multicast assisted adaptive bitrate (M-ABR) IP delivery	Mr. Tatsuo Shibata (t-shibata@jlabs.or.jp) Mr. Kenji Obata (k-obata@jlabs.or.jp)	N/A	ANNEX C of TD839
14	Q9	J.pncp-char	New	E2E Network Characteristics Requirement for Video Services	Mr. Evan Sun (evan.sun@huawei.com) Mr. Jerry Liu (jianfei.liu@huawei.com)	N/A	ANNEX D of TD839

3.2   SG9 agreed to stop working on the following work items at this meeting

SG9 decided to discontinue the following work items.

#	Q.	Acronym (kind of publication)	Title
1	Q8	J.qamip-req	Requirements on QAM to IP Conversion for IP Multi-Room/House Services

4.   SG9 Management for the Study Period 2017-2020

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

Role	Name
Chair:	Mr Satoshi MIYAJI (KDDI, Japan)
Vice-chair:	Mr Blaise Corsaire MAMADOU (Central African Rep.)
Vice-chair:	Mr Tae Kyoon KIM (ETRI, Korea Rep. of)

Vice-chair:	Mr Zhifan SHENG (ABS, China)
Advisor	Mr Stefano POLIDORI (SGD, TSB)
Administrative assistant	Ms Rosa ANGELES-LEON DE VIVERO (SGD, TSB)

5. SG9 Structure for the Study Period 2017-2020

Following the establishment of the new Question 11/9 (see clause 5.1), which was assigned to WP2/9, the Management of SG9 decided to update its structure and leadership for the Study Period 2017-2020 as proposed in SG9-TD681R1.

SG9 is composed of two Working Parties reporting to the SG9 Plenary:

– WP1 *"Video transport"* (Q1, 2 and 4);
– WP2 *"Cable-related terminals and applications"* (Q5, 6, 7, 8, 9 and 11).

In addition, Q10/9 and the established Intersector Rapporteur Groups (IRGs) will report to the SG9 Plenary.

See the table below for more details.

	WP titles and MGT	Q/IRG	Titles
WP1	**Video transport** 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, protection against unauthorized copying and against unauthorized redistribution ("redistribution control" for digital cable television distribution to the home)
		Q4	Guidelines for implementations and deployment of transmission of multichannel digital television signals over optical access networks
WP2	**Cable-related terminals and applications** Taekyoon KIM (WP2/9 Chairman) ETRI, Korea	Q5	Software components application programming interfaces (APIs), frameworks and overall software architecture for advanced content distribution services within the scope of Study Group 9
		Q6	Functional requirements for residential gateway and set-top box for the reception of advanced content distribution services
		Q7	Cable television delivery of digital services and applications that use Internet protocol (IP) and/or packet-based data over cable networks

	WP titles and MGT	Q/IRG	Titles
SG9 PLEN	Eric WANG (WP2/9 Vice-chair) Huawei, China	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 sound, television, and other multimedia interactive services over cable television network
		Q11	Accessibility to cable systems and services
	Plenary of SG9 Satoshi MIYAJI (SG9 Chairman) KDDI, Japan	Q10	Work programme, coordination and planning
		IRG-IBB	Integrated Broadcast-Broadband systems
		IRG-AVA	Audiovisual Media Accessibility

5.1 SG9 Questions texts:

As follow up of TSAG endorsement, which was reported in SG9-TD689, during the SG9 meeting:

1) The creation of a new Question (Q11/9) "Accessibility to cable systems and services" was approved.

The terms of reference of Q11/9 are available in SG9-TD796 and also published in SG9 webpage at: http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q11.aspx.

2) At the same time, it was removed the responsibility on "accessibility issues" from Question 6/9. Therefore, a revision of Question 6/9 terms of reference found in SG9-TD824 was also approved. The latest version of the terms of reference are also published in SG9 webpage at: http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/q6.aspx).

Question	Kind of Publication	Status	Title	Final TD
Q11/9	Question ToR	New	Accessibility to cable systems and services	SG9-TD796
Q6/9	Question ToR	Revised	Functional requirements for residential gateway and set-top box for the reception of advanced content distribution services	SG9-TD824

6. SG9 Mandate and Questions texts for next Study Period (to be submitted to WTSA-20)

To follow up on TSAG request on WTSA-20 preparations, which is available as SG9-TD573, all Rapporteurs were requested to reflect on a possible revision of their Questions terms of reference. These efforts were discussed through three interim special sessions on WTSA-20 restructuring as follows:

- Special Session on WTSA-20 restructuring (4 September 2019, Guangzhou, China)
- Special sessions on WTSA-20 restructuring (18-19 February 2020, e-meetings)
- Special sessions on WTSA-20 restructuring (2 March 2020, e-meeting)

A final special session on WTSA-20 restructuring was held on 21 April 2020, during SG9 meeting. After discussions and review of the results from the interim special sessions, as well as the new proposals from the various SG9 Questions, it was agreed:

- **SG9 mandate and responsibility for next Study Period**
  SG9 agreed on the revision of its mandate (ITU-T Resolution 2 portion) as found in SG9-TD809 with the modifications proposed by the new Q11/9 Rapporteur in SG9-TD864. A harmonized document will be prepared by the SG9 Advisor and sent to WTSA-20, CC to TSAG.

- **Technical focus of SG9 Questions for next Study Period**
  SG9 agreed on the technical focus of SG9 Questions for next Study Period as found in SG9-TD810.

- **List of ITU-T SG9 Questions to submit to WTSA-20**
  SG9 agreed on the list of ITU-T Questions and related Question texts as found in SG9-TD811 with the following changes:
    o The new proposed QAI/9 title will be "AI-enabled enhanced functions over integrated broadband cable network";
    o Question 1/9 final text is found in SG9-TD847.

  A harmonized document will be prepared by the SG9 Advisor and sent to WTSA-20, CC to TSAG.

7.   SG9 Management, Rapporteurs and Associate Rapporteurs

SG9 has updated the List of SG9 Rapporteurs and Associate Rapporteurs for the Study Period 2017-2020 as found in SG9-TD682R1. The following experts were appointed:

- Mr Kei Kawamura replaces Tomoyuki Shimizu as Rapporteur for Q1/9;

- Mr Masayoshi Onishi replaces Shinya Takeuchi as Associate Rapporteur for Q5/9;

- Mr Steven Epstein replaces Sung-kwon Park as Rapporteur for Q8/9;

- Mr Pradipta Biswas is appointed as Rapporteur for the new Question Q11/9 and is no longer serving as Associate Rapporteur for Q6/9.

8.   Liaison officers to external groups

SG9 agreed on the list of liaison officers for the Study Period 2017-2020, with the following changes as found in SG9-TD683-R1.

–   Mr Masayoshi Onishi was appointed as Liaison officer of ITU-R WP6B, replacing his colleague Mr Masaru TAKECHI, who left SG9;

–   TaeKyoon Kim is the only liaison officer to ETSI-CABLE as Mr. Tomoyuki Shimizu is not anymore with SG9.

–   Mr Kei Kawamura has been appointed as the new liaison officer to ITU-T SG16, after departure of Mr Tomoyuki Shimizu.

–   Mr Satoshi Miyaji is the new liaison officer to JCA-MMeS, replacing Mr SungKwon PARK, who left SG9

9.   Intersector Rapporteur Groups (IRG-AVQA; IRG-AVA; IRG-IBB)

SG9 continues to act as parent study group for two Intersector Rapporteur Groups between ITU-T and ITU-R, as mentioned in the table below.

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

IRG	Title	Co-chair from SG9	Parent Groups	Website
IRG-IBB	Integrated Broadcast-Broadband systems	Masayoshi Onishi (NHK, Japan)	ITU-R SG6 ITU-T SG16	https://itu.int/en/irg/ibb
IRG-AVA	Audiovisual Media Accessibility	Pradipta BISWAS (Indian Institute of Science, India)	ITU-R SG6 ITU-T SG16	https://itu.int/en/irg/ava

10.   Outgoing Liaison Statements

The following table shows the list of the 20 agreed outgoing liaison statements, as indicated in SG9-TD685R1:

#	Questions	WP/ PLEN	To	For	Title	TD
1	Q1/9	WP1	SG12	Information	LS/o on the current text of new draft Recommendations J.cable-rf-ip "Requirements of cable network for RF and IP secondary distribution of television programmes" (reply to SG12-LS95)[from ITU-T SG12]	SG9-TD844R1
2	Q1/9	WP1	SG16	Information	LS/o on the current text of new draft Recommendations J.cable-rf-ip "Requirements of cable network for RF and IP secondary distribution of television programmes" (reply to SG16-LS169)[from ITU-T SG16]	SG9-TD845

#	Questions	WP/ PLEN	To	For	Title	TD
3	Q1/9	WP1	SG16 & SG12	Information	LS/o on start of new draft Recommendations J.rfip-switching "RF/IP adaptive video distribution scheme over cable television networks" [to ITU-T SG12 and ITU-T SG16]	SG9-TD846R1
4	Q4/9	WP1	ITU-D SG1	Information	LS/o on collaboration between ITU-D Study Group 1 (Q2/1) and ITU-T SG9 (Q4/9)	SG9-TD826
5	Q5/9	WP2	ITU-T SG16, IRG-IBB, ITU-R SG6 WP6B	Information	LS/o/r on recent activities of Recommendations related to TVOS (reply to SG16-LS168)	SG9-TD895
6	Q6/9	WP2	ARIB, BBF, ETSI TC Cable, ITU-T Q13/SG16, SCTE	Information	LS/o on AAP Consent of draft new Recommendation ITU-T J.299 (ex J.acs-stb)	SG9-TD879
7	Q7/9	WP2	ITU-T SG16, ETSI TC Cable, SCTE, CCSA, TTC	Information	LS on AAP consent of draft new Recommendation ITU-T J.1211 (ex J.ipvb-spec) "Specifications of IP Video Broadcast (IPVB) for CATV Networks"	SG9-TD858
8	Q7/9	WP2	ITU-T SG16	Information	LS/r on new work items for J.ipvb-spec "Specifications of IP Video Broadcast (IPVB) for CATV Networks" and TP.ipvb-ucase "Use case and service scenario of IP Video Broadcast (IPVB) for CATV Networks" (SG16-LS170) [from ITU-T SG9]	SG9-TD863
9	Q7/9	WP2	ITU-T SG16, ETSI TC Cable, CCSA	Information	LS on ITU-T SG9 Technical Paper TP.fdx-asi "Analysis and Related Solutions for Full Duplex Interference"	SG9-TD860
10	Q9/9	WP2	ITU-T SG13	Information	LS/o/r (SG13-LS118) on the progress of AI-related study items by SG9 [to ITU-SG13]	SG9-TD866
11	Q9/9	WP2	ITU-T SG12, ITU-T SG13, ITU-T FG ML5G, ITU-R WP6C/SG6, ETSI ISG F5G	Information	Title: LS/o on ITU-T Q9/9 new work item (draft Recommendation) E2E Network Characteristics Requirement for Video Services [to ITU-T SG12, ITU-T SG13, ITU-T SG16, ITU-T FG ML5G, ITU-R WP6C/SG6, ETSI ISG F5G]	SG9-TD867
12	Q9/9	WP2	DVB, CableLabs	Action	LS/o on start of new draft Recommendations J.cable-mabr "Requirements of multicast assisted adaptive bitrate (M-ABR) IP delivery" [to DVB, CableLabs]	SG9-TD868

#	Questions	WP/ PLEN	To	For	Title	TD
13	Q10/9	PLEN	SCV/CCV, All ITU-T study groups	Information	LS/o/r on approval of new terms and definitions (Reply to SCV-LS26)	SG9-TD870
14	Q10/9	PLEN	SCV/CCV, ITU-T SG2	Information	LS/o/r on comments from ITU-T SG2 on ITU-T J.1 (Reply to SCV-LS28)	SG9-TD871
15	Q10/9	PLEN	ITU-T SG11, SG2, SG3, SG5, SG12, SG13, SG15, SG16, SG17, SG20	Action for SG11. Information for the others	LS/o/r on reference table to be used for Conformance and Interoperability testing (Reply to SG11-LS111)	SG9-TD872
16	Q10/9	PLEN	TSAG, ISCG, TDAG, all ITU-D SGs, RAG, all ITU-R SGs, ITU-T SGs 2, 3, 5, 11, 12, 13, 15, 16, 17, 20	Action for TSAG and information for the others	LS/o/r on ITU inter-Sector coordination (Reply to TSAG-LS22R1)	SG9-TD873
17	Q10/9	PLEN	TSAG, ITU-T SG2, SG3, SG5, SG11, SG12, SG13, SG15, SG16, SG17, SG20	Information	LS/o/r on hot topics (Reply to TSAG-LS32)	SG9-TD874
18	Q10/9	PLEN	ITU-T SG15, ITU-T TSAG; ITU-T SG12, SG13, SG16, SG17, ITU-R SG1, SG5, SG6 ETSI TC ATTM, IEEE 802.3, BBF	Action for ITU-T SG15 and information for the others	LS/o/r on the new version of the Access Network Transport (ANT) Standards Overview and Work Plan (Reply to SG15-LS226)	SG9-TD875
19	Q10/9	PLEN	ITU-T SG12, TSAG, ITU-T SG2, SG3, SG5, SG11, SG13, SG15, SG16, SG17, SG20	Information	LS/o/r on Telecommunication Management and OAM Project Plan (Reply to SG2-LS140)	SG9-TD876R1
20	Q11/9	WP2	ITU-T SG16, ITU-R SG6, ITU-D SG1 Q7, JCA-AHF, IRG-AVA	Information	LS/o to inform on new Question 11/9 on "Accessibility to system and services" and first meeting results [from ITU-T SG9]	SG9-TD825

11. 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-TD831R1.

Executive summary:

Question 1/9 discussed nine contributions and 12 TDs, including five incoming liaison statements. Question 1/9 agreed to initiate five new work items as follows:

– J.rfip-switching, "RF/IP adaptive video distribution scheme over cable television networks";

– J.216-rev "Second-generation modular headend architecture in systems for interactive cable television services – IP cable modems";

– J.224-rev "Fifth-generation transmission systems for interactive cable television services – IP cable modems";

– J.4GDOCSIS "Fourth-generation transmission systems for interactive cable television services – IP cable modems";

– J.sup-docsis "Correspondence Between CableLabs DOCSIS Specifications and ITU-T J-series Recommendations".

Question 1/9 decided to reach AAP consent of J.216 (ex J.216-rev), J.224 (ex J.224-rev), and J.225 (ex. J.4GDOCSIS) and to reach agreement on the new supplements J Sup 10 (ex. J.sup-docsis) in this SG9 meeting. Question 1/9 reviewed all incoming liaison statements and agreed to submit three outgoing liaison statements to inform ITU-T SG12 and SG16 on the establishment of a new work item J.rfip-switching and to reply to received liaisons on draft Recommendations J.cable-rf-ip.

10.2 Question 2/9 "Methods and practices for conditional access, protection against unauthorized copying and against unauthorized redistribution ("redistribution control" for digital cable television distribution to the home)"

The report of Q2/9 can be found in SG9-TD832R3.

Executive summary:

The progressed versions of J.twoway-dcas-part1, J.twoway-dcas-part2, and J.twoway-dcas-part3 were prepared through six sessions.

J.twoway-dcas-part1 is proposed for AAP consent in this SG9 meeting. J.twoway-dcas-part2 and J.twoway-dcas-part3 will be proposed for AAP consent in the next WP e-meeting in June 2020.

The group reached an agreement for TAP approval for ITU-T J.1012, J.1013, J.1013, J.1014, J.1015 and J.1015.1 under the condition of adding a new APPENDIX text to each of draft Recommendations that describes concerns from the advocating parties.

10.3 Question 4/9 "Guidelines for implementations and deployment of transmission of multichannel digital television signals over optical access networks"

The report of Q4/9 can be found in in [SG9-TD834](#).

Executive summary:

Question 4/9 has two ongoing work items, Sup-digTV and J.dtc-distribution-req.

Sup-digTV "Installing a digital TV service for cable networks and relating Recommendations" provides a textbook for engineers in developing countries. Contribution **C141R1** from Japan Cable Laboratories added new Appendix I which contains information from IEC 60728 series standard for Optical system for transmission of digital video broadcast signals. The meeting noted this new material but decided to defer approval of this new Supplement till the next meeting of SG9, to allow for comments from participants.

J.dtc-distribution-req "Television Content Distribution Platforms: Requirements for Open Access and Signal Quality" was discussed and the meeting noted with thanks contribution **C118** from Gambia which provided information on Gambia's national DTT distribution network. **C140R1** from Japan Cable Laboratories proposed the basic requirement of the platform, and its principal was agreed.

Both Sup-digTV and J.dtc-distribution-req are expected be finalized at the next meeting of SG9.

The meeting noted with thanks, a liaison statement from ITU-D SG1 on collaboration and decided to send out a liaison statement to ITU-D SG1 to kindly ask for a continued collaboration about content distribution platform and others.

The meeting reviewed the revisions to the Question 4 text proposed for WTSA-20 and agreed with the current revisions.

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-TD835R1](#).

Executive summary:

The group reviewed three interim meeting reports of Q5/9.

The group reviewed a liaison statement from ITU-T SG16 and agreed to an outgoing liaison statement in reply.

The group also reviewed the text of J.acf-hrm and expected to make further progress of this draft new Recommendation at future meetings with more contributions.

The group reviewed and updated the text of draft new Recommendation J.stvos-spec and agreed to seek consent of this draft new Recommendation at this SG9 meeting.

The group reviewed and updated the text of draft new Recommendation J.stvos-sec. The group discussed the status of J.stvos-sec and agreed not to consent J.stvos-sec at this Study Group meeting. The group also agreed to finalize this draft new Recommendation at next Q5/9 interim e-meeting and seek for consent at the next WP2 meeting (June 2020).

10.5 Question 6/9 "Functional requirements for residential gateway and set-top box for the reception of advanced content distribution services"

The report of Q6/9 can be found in SG9-TD836.

Executive summary:

Q6 accomplished the following works during this meeting:

– Contribution C119 (J.pcnp-smgw) was reviewed in two sessions, some suggestions and comments are raised to the editors to improve the Recommendation. Based on the comments and suggestions, the editor submitted an update in TD886R1, the team also agreed that further improvement should be made by the editor and interim meetings are planned to help reviewing the refined text, which will be submitted for consent in next SG9 Plenary.

– Organize a joint session with Q9 to discuss a C125, which is a proposal to set up a new work item J.pcnp-char "E2E Network Characteristics Requirement for Video Services" on KPI and KQI Requirements for Video Service, which was reviewed and agreed by both Questions with some minor clarification. It will be submitted to SG9 plenary for agreement by Q9/9 to start studies on this new work item.

– The Contribution C134 (J.acs-stb) was reviewed in one session, there were some minor refinement on the text, it was agreed to submit the refined Recommendation to the Plenary for Consent as ITU-T J.299 (ex J.acs-stb) "Functional Requirements for remote management of cable STB by Auto Configuration Server (ACS)".

– One outgoing liaison statement was drafted and agreed in TD879 to inform ARIB, BBF, ETSI TC Cable, ITU-T Q13/SG16 and SCTE on AAP Consent of draft new Recommendation ITU-T J.299 (ex J.acs-stb).

– One new work item is agreed as proposed during Guangzhou interim meeting in September 2019: J.pcnp-smgw-arch "The Architecture for Smart Home Gateway"

– Two interim meetings are planned in June and July 2020 respectively

10.6 Question 7/9 "Cable television delivery of digital services and applications that use Internet protocol (IP) and/or packet-based data over cable networks"

The report of Q7/9 can be found in SG9-TD837.

Executive summary:

Q7 achieved the following results:

- Two output draft Technical Papers were prepared by this meeting for progressing at future meetings; TD861 (TP.ipvb-ucase), TD862 (TP.ipvb-acc);

- Three outgoing liaison statements were approved: TD858 (to ITU-T SG16, ETSI TC Cable, SCTE, CCSA, ARIB for information), TD860 (to ITU-T SG16, ETSI TC Cable, CCSA for information), TD863 (to ITU-T SG16 for information);

- One draft Recommendation was proposed for Consent: ITU-T J.1211 (ex J.ipvb-spec) "Specifications of IP Video Broadcast (IPVB) for CATV Networks" (TD857);

- One draft new Technical Paper ITU-T JSTP-AFDI (ex TP.fdx-asi) "Analysis and Related Solutions for Full Duplex Interference" was proposed for approval (TD859);

- No new work items were agreed;

- Four 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"

Executive summary:

- The charter for Question 8 as defined in TD811 was approved without changes;

- It was recommended that Work Item ITU-T J.qamip-req "Requirements on QAM to IP Conversion for IP Multi-Room/House Services" would be halted and removed from Question 8 since it is now outside the scope of the Question;

- The A.1 Justification for new work items ITU-T J.CBCMS "The specification of cloud-based converged media service to support next generation IP and Broadcast Cable TV", including all three work items, was accepted without modification and proposed for formal agreement by the Study Group 9 Plenary to start working on these work items.

- Services and micro-services (Saas and PaaS layer) will be defined by Q8, as 3 separate items including:

    a. High level service definition (Q8);

    b. Requirements of services and micro-services (Q8);

    c. Detailed architecture of micro-services (Q8).

- TD814 was reviewed and helped defining framework for new contributions;

- Ms Yanhua Niu will work with Synamedia Q8 members Steven Epstein and Max Sorkin in drafting the first contribution describing the high-level service definition of a hybrid IP Cable TV deployable in both On Prem and the cloud;

–   An Interim meeting will be scheduled on 15 June 2020 remotely based on an approval of WP2 Chair, to review new contributions on these new agreed work items.

10.8   Question 9/9 "Requirements, methods, and interfaces of the advanced service platforms to enhance the delivery of sound, television, and other multimedia interactive services over cable television network"

The report of Q9/9 can be found in SG9-TD839R1.

The Q9/9 sessions operated under WP2, under the chairmanship of Rapporteur Mr Eric Wang, with Q9 covering requirements, methods, and interfaces of the advanced service platforms to enhance the delivery of sound, television, and other multimedia interactive services over integrated broadband cable networks. Q9/9 met for six (6) sessions with about 22 persons attending and addressed four (4) contribution and seven (7) incoming liaison statements. The group submitted TP.b-catv "Integrated Broadcast-Broadband digital TV application cooperated with server for functional extension including functions of digital TV reception and processing" for agreement; progressed the J.cloud-vr; agreed to start two new work items J.cable-mabr and J.pncp-char. The A.1 justifications for the draft new Recommendations can be found in Annex C and Annex D of the meeting report. The group used the "issues list" tool for maintaining the work of Q9/9. The approved "Q9 issues list" is found in SG9-TD897. Also, the group produced three (3) outgoing liaison statements..

Executive summary:

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

The report of Q10/9 can be found in SG9-TD840R1.

Executive summary:

Question 10/9 reviewed C.135R1 and developed the final draft revised Recommendation ITU-T J.1, see TD 869, and agreed to propose it for AAP consent at the SG9 closing plenary.

The group also reviewed thirty-two (32) TDs, including twenty-two (22) incoming liaison statements, its meeting agenda and TDs related to restructuring in view of WTSA-20, as well as agreed to draft seven (7) reply liaison statements.

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

The report of Q11/9 can be found in SG9-TD841.

Executive summary:

The first meeting of Q11/9 started on 17 April 2020 at 1130 (CEST) with the Chair's welcome.

The meeting reports of last three IRG-AVA meetings were presented and reviewed. Renaming the term accessibility services to personalization services was mentioned. Also, the need of common meta data and user profiles format as well as the present status of work on closed captioning by ITU-R SG 6 were discussed.

The liaison statements received by Q11/9 were reviewed, the Chair presented the Question ITU-R 145/6 and explained various points that are planned to be adapted to Q11/9.

The Chair presented a technical document on the vision of Q11/9 (TD806). It proposes a participation taxonomy and its planned use to identify existence, utility and quality of accessibility services. Prioritizing the need of accessibility services based on financial feasibility and offering essential features first, like making the electronic program guide accessible to people with different range of abilities, was discussed.

It was proposed to incentivize students to work on accessibility services through ITU Kaleidoscope and other academic events. The chair mentioned similar conferences on accessibility and noted lack of research on accessibility of Broadband and Cable TV. It was also mentioned the EU Easy TV project and new use cases like haptic interfaces or use of subtitles for people with autism were emphasized.

It was mentioned that an appropriate nomenclature for traditional TV viewer and content to be consumed by people with accessibility needs, could be subject for discussion. The term "consumed content" was mentioned as one option to identify a generic term, considering users with visual and hearing impairments.

Finally, the mandate of SG9 and the text of Q11/9 for next Study Period were reviewed. The Chairman invited experts to check and propose revisions to the current descriptions on accessibility for the next study period, as required, during the special session on restructuring planned on 21 April.

One output liaison statements was approved by this meeting to be sent to IRU-R SG6, ITU-T SG16, IRG-AVA and JCA-AHF (see TD825).

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

11.1 Working party meetings

Two interim Working Parties meetings will be held before next SG9 meeting:

WP1 & WP2 Plenaries	Date	Place / Host	Terms of reference	Contact
WP1/9 **NOTE:** WP2 will start immediately after WP1 ends their session	23 June 2020 13:00-14:30 (CEST)	E-meeting	Finalize for Consent: *Q2-related:* - J.twoway-dcas-part2 (candidate J.1032), and - J.twoway-dcas-part3 (candidate J.1033)	Zhifan Sheng (zfsheng@icloud.com)

| WP2/9
NOTE: WP2 will start immediately after WP1 ends their session | 23 June 2020
13:00-14:30 (CEST) | E-meeting | Finalize for Consent:
Q5-related:
- J.stvos-sec (candidate J.1204) | TaeKyoon Kim
(tkkim@etri.re.kr) |
| --- | --- | --- | --- | --- |

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

Question	Date	Place / Host	Terms of reference	Contact
1/9	22 June 2020 (2 sessions) 12:00-15:00 CEST

(16:30-18:00 CEST TBC) | E-meeting | - Progress J.catv-rf-ip and J.rfip-switching
- Check status and address any comment on consented DOCSIS recs (J.216, J.224 and J.225

  - - Review any additional proposal submitted | Kei Kawamura (ki-kawamura@kddi.com) |
2/9	23 June 2020 (1 session, 8:00-9:30 CEST)	E-meeting	Review and discuss the final updated draft versions of J.twoway-dcas-part2 and part3	Han-seung KOO (koohs@etri.re.kr)
5/9	27 May 2020（2 sessions 0900-1200 CEST）	E-meeting	Progress on J.stvos-sec for Consent	Mr. Haifeng YAN (yanhaifeng@hisilicon.com)
6/9	19 June 2020 (1 session 08:00-9:30 CEST)	E-meeting	Progress on J.pcnp-smgw	Mr Shizhu Long longshizhu@skyworth.com
6/9	10 July 2020 (1 session 08:00-9:30 CEST)	E-meeting	Progress on J.pcnp-smgw-arch.	Mr Shizhu Long longshizhu@skyworth.com
7/9	29 May 2020 1 session 11:00-12:30 CEST	E-meeting	Progress on J.uoc, J.fdx-fspec, etc.	Mr TaeKyoon KIM (tkkim@etri.re.kr)
7/9,	3 July 2020 1 session 11:00-12:30 CEST)	E-meeting	Progress on J.uoc, J.fdx-fspec, etc.	Mr TaeKyoon KIM (tkkim@etri.re.kr)

Question	Date	Place / Host	Terms of reference	Contact
7/9	10 August 2020 (1 session 11:00-12:30 CEST)	E-meeting	Progress on J.uoc, J.fdx-fspec, etc.	Mr TaeKyoon KIM (tkkim@etri.re.kr)
7/9	9 September 2020 (1 session 11:00-12:30 CEST)	E-meeting	Progress on J.uoc, J.fdx-fspec, etc.	Mr TaeKyoon KIM (tkkim@etri.re.kr)
8/9	(TBD) 15 June 2020	E-meeting	Progress on J.CBCMS-part1	Steve Epstein (sepstein@synamedia.com)
9/9	19 June 2020 (1 session 09:00-11:00 CEST)	E-meeting	Progress on J.cable-ott, J.cloud-vr, J.cable-mabr, etc.	Eric Wang (eric.wangxiang@huawei.com)
9/9	14 August 2020 (1 session 09:00-11:00 CEST)	E-meeting	Progress on J.cable-ott, J.cloud-vr, J.cable-mabr, etc.	Eric Wang (eric.wangxiang@huawei.com)

13. Next Study Group 9 meeting

Next ITU-T SG9 meeting is currently scheduled to be held during 14-21 October 2020 in Tokyo, Japan, co located with the ITU Workshop *"The future of Television for Asia and Pacific"* (19 October 2020). The announcement to organize these meetings in Japan will be confirmed after the current COVID-19 pandemic situation will be cleared by the Japanese authorities. The fallback option is to organize another fully virtual meeting of SG9 in October 2020.

ITU-T SG9 is currently discussing with the Administration of Gambia the possibility to organize the first SG9 meeting in the next Study Period in Africa in 2021, co located with the ITU Workshop *"The future of Television for Africa"*.

See SG9-TD722R1, which provides information on future meetings of SG9 until WTSA-20.

_____