

# **Minutes, Technology Group on Distribution 16 November 2004**

**Advanced Television Systems Committee**  
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The Advanced Television Systems Committee, Inc., is an international, non-profit organization developing voluntary standards for digital television. The ATSC member organizations represent the broadcast, broadcast equipment, motion picture, consumer electronics, computer, cable, satellite, and semiconductor industries.

Specifically, ATSC is working to coordinate television standards among different communications media focusing on digital television, interactive systems, and broadband multimedia communications. ATSC is also developing digital television implementation strategies and presenting educational seminars on the ATSC standards.

ATSC was formed in 1982 by the member organizations of the Joint Council on InterSociety Coordination (JCIC): the Electronic Industries Association (EIA), the Institute of Electrical and Electronic Engineers (IEEE), the National Association of Broadcasters (NAB), the National Cable Television Association (NCTA), and the Society of Motion Picture and Television Engineers (SMPTE). Currently, there are approximately 140 members representing the broadcast, broadcast equipment, motion picture, consumer electronics, computer, cable, satellite, and semiconductor industries.

ATSC Digital TV Standards include digital high definition television (HDTV), standard definition television (SDTV), data broadcasting, multichannel surround-sound audio, and satellite direct-to-home broadcasting.

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## Minutes, ATSC Technology Group on Distribution (T3)

16 November 2004, 10:00 a.m. until 4:00 p.m. EST  
Public Broadcasting Service, 1320 Braddock Place, Alexandria, VA

### 1. WELCOME, INTRODUCTIONS, AND DETERMINATION OF QUORUM

Chairman Ralph Justus (CEA) called the meeting to order at 10:00 a.m. at the headquarters of the Public Broadcasting Service in Alexandria, VA. He thanked PBS for hosting the meeting and welcomed those in attendance.

Chairman Justus asked each person to identify him or herself. The attendance list is given in **Attachment 1**. Secretary Jerry Whitaker (ATSC) reported that a quorum was present.

### 2. APPROVAL OF PROPOSED AGENDA

Chairman Justus asked for consideration of the draft agenda, distributed to the T3 reflector on October 22, with an update posted on November 13 (**Attachment 2**). He noted there was a proposed addition to the T3/S1 report: "Proposed Extension of PMCP for Data Broadcasting and ACAP," which was added as agenda item 8.2. No further modifications were requested and the agenda was approved as amended.

### 3. APPROVAL OF THE DRAFT MINUTES OF THE 23 SEPTEMBER 2004 MEETING

Chairman Justus called members attention to the draft Minutes of the September 23 T3 meeting, which was distributed to the T3 reflector on November 10 (**Attachment 3**). Mr. Whitaker reported that two proposed changes were received: 1) new text suggested by Ann Marie Rohaly (Microsoft) in Section 9.3, and 2) clarification of a statement attributed to Mike Dolan (TBT) in Section 10.1. Mr. Whitaker reported that these proposed changes were posted (in redline) to the T3 reflector on November 13 (**Attachment 4**). No further changes were requested and the document was approved as amended.

### 4. OPENING REMARKS

Chairman Justus observed that today's agenda is a full one, with a large number of persons in attendance. He urged members to help move discussions along as expeditiously as possible. He also noted that this is his last meeting at the Chair of T3. He thanked all members of the committee for their hard work over the years.

### 5. COMMENTS BY THE PRESIDENT (MARK RICHER)

Mark Richer (ATSC) reported on current activities within the ATSC. He thanked PBS for hosting today's meeting, and for providing excellent facilities and on-site technical support.

#### 5.1 Status of Ballots

Mr. Richer reported on the status of ballots, specifically:

- **A/76, Programming Metadata Communication Protocol Standard.** This membership ballot was issued 12 October 2004 and closed on 10 November 2004. It was approved 29 yes, 0 no, 8 abstain. Editorial privilege was approved 29 yes, 1 no, 7 abstain.

- **PS/97, Software Data Download Service.** This membership ballot was issued 19 October 2004 and closes on 16 November 2004.
- **Board of Directors.** This ballot to elect four members and a chair of the ATSC Board of Directors was issued on 8 November 2004 and closes on 6 December 2004.
- **Advanced Common Application Platform.** This six week T3 ballot was issued on 13 October 2004 and closes on 24 November 2004.

## 5.2 Other

Other items covered in the President's report included the following:

- Mr. Richer reminded T3 members of the upcoming day-long seminar on ACAP, which will be held in Washington, D.C. on December 7. Complete details can be found on the ATSC Web site. He said the event is timed to coincide with an in-place meeting of T3/S2.
- ATSC will be presenting a ½-day long seminar on PSIP in conjunction with the 2005 HPA Technology Retreat in Palm Springs. The ATSC event, held under the auspices of the Hollywood Post Alliance, is set for January 25.
- Mr. Richer noted that Bob Plummer (DirecTV), Wendy Aylsworth (Warner Bros.), and Mike Dolan (TBT) were honored as SMPTE Fellows at the recent SMPTE Fall Conference in Pasadena, CA.
- Mr. Richer reported that the ATSC Board of Directors has approved a new patent policy, which should be distributed to all members before the end of the month.
- Mr. Richer reminded the committee of the confidentiality policy of the ATSC. For the record, the text relating to confidentiality, contained in the attendance sign-in sheet, is given below:

“IMPORTANT: This is a meeting of a subgroup of the Advanced Television Systems Committee. By opening this meeting to non members, the ATSC in no way intends to relinquish its rights to privacy for its business. The ATSC, therefore, insists that public disclosure pertaining to this meeting emanate only from, and be authorized only by, the Chairperson or President of the ATSC, or the chairperson of the technology group that is meeting (or to which this subgroup belongs). By remaining in attendance at this meeting, you, on behalf of yourself and your organization, agree to refrain from either directly or indirectly engaging in publicity pertaining to the business transacted at this or any other meeting of the ATSC unless authorized by one of the foregoing persons. Attendees unwilling to agree to these terms will be asked to leave the meeting.”

## 6. BRIEF REPORTS ON ACTIONS FROM THE PREVIOUS MEETING

Chairman Justus called attention to the action items developed at the September 23 meeting of T3:

- 1) Mike Dolan and the Architecture Team to consider logging major channel numbers in the Code Points Registry, and to report back with recommendations at the November 16 meeting.

*On agenda.*

- 2) Mark Eyer and S8-8 to consider how to address the MPAA request relating to possible standardization of content protection SRM carriage, without any specific direction from T3, and to report back to T3 at the next meeting.

*On agenda.*

- 3) Chairman Justus to report the potential activity in the area of content protection SRM carriage to the Board of Directors at their next meeting.

*Completed.*

- 4) Graham Jones and ATSC staff to send the final PMCP document to the SMPTE S.22 Chair and Traffic Communication AHG chair with the strong suggestion that the new SMPTE protocol for traffic-to-automation system communication be harmonized with PMCP.

*Completed.* The liaison communication was sent on November 13.

- 5) ATSC staff to issue a letter ballot to the ATSC membership on Proposed Standard CS/75r2.

*Completed.*

- 6) Graham Jones and T3/S1 to consider the ETRI proposal for extensions to PMCP to support data broadcasting.

*On agenda.*

- 7) Sam Narasimhan to forward details relating to official MPEG liaison policies to ATSC staff, which will submit any necessary corrections.

*Completed.* Mr. Narasimhan reported that ATSC has been promoted from Class C to Class A liaison, which entitles the organization to request work items and submit comments on ballots. Mr. Narasimhan said he will post additional background information on Class A liaison to the T3 reflector.

- 8) Craig Smithpeters to forward to ATSC staff T3S2-006rev8 for issuance of a 6-week T3 ballot as a Proposed Standard.

*Completed.*

- 9) Wayne Bretl to keep the notification provisions of Section 10.4.1 of the ATSC Bylaws in mind as the draft E-VSB IG is developed and, when the document has reached a certain level of maturity, to deliver the Working Draft to ATSC staff for distribution to the full membership for comment.

*Noted and closed.*

- 10) Chairman Justus to ask the ATSC Board for any guidance it might have regarding work by T3/S9 on new VSB enhancement proposals.

*Ongoing and closed.*

- 11) Jerry Whitaker to inform S8-4 of the T3 decision to delete Annex E of A/53 in the next revision of the standard and to replace it with a note indicating that this annex has been withdrawn and that readers are referred to document A/74 for information on receiver performance.

*Completed.*

- 12) Chairman Justus, through CEA, to make consumer electronics manufacturers generally aware of PS/97.

*Ongoing and closed.*

- 13) Mark Richer, Bill Miller, Art Allison, Mike Dolan, and Sam Narasimhan to explore a formal liaison process for MPEG activities.

*Completed.* See AI No. 7 above.

- 14) Sam Narasimhan to prepare a detailed report on the current MPEG activities for distribution to T3.

*Carried forward.*

## 7. NEW WORK ITEMS FOR DISCUSSION

### 7.1 Assigned by Board of Directors

Mr. Richer reported there were no new work items for T3 from the Board of Directors.

Mr. Richer noted that at its September 23<sup>rd</sup> meeting, T3 directed the Chair to ask the Board for guidance on new VSB proposals (see Action Item No. 10 above). He reported that the Board approved a motion instructing T3 and T3/S9 to study new VSB enhancements proposals further and to report back to the Board on its work plan and recommendations.

### 7.2 Implementation Subcommittee

Art Allison (NAB), chair of the Implementation Subcommittee, reported there were no new work items for T3 from IS.

### 7.3 Other

#### 7.3.1 Closed Caption Carriage for Robust Mode Video

Robert Plummer (DirecTV) called attention to a briefing document previously posted to the T3 reflector (**Attachment 5**). He pointed out that currently there are no applicable standards for carriage of closed captioning data to be associated with an ISO/IEC 14496-10 NAL bit stream or a VC-1 stream. He proposed that T3/S13 draft a standard for inserting EIA 708-B closed caption data in an ATSC A/53 style syntax. For AVC, he suggested carrying closed caption data in a *supplemental enhancement information* (SEI) message as payload Type 5 or user\_data\_unregistered as specified in ISO/IEC 14496-10 Annex D. He said a similar method can be used with a VC-1 user data start code. Mr. Plummer said DirecTV is ready to submit an AVC carriage draft document to T3/S13 for consideration and he invited VC-1 experts to do the same.

Pat Waddell (Harmonic) said this issue is addressed in a T3/S6 document that has already been circulated and discussed (T2S6-277r1). Mr. Narasimhan strongly urged members to consider the document identified by Mr. Waddell. Craig Tanner (Sharp) asked for clarification regarding the source of this request. Mr. Plummer said the request was coming from DirecTV. Bill Miller (ABC) said work relating to this issue is already in progress within T3/S6, and he invited Mr. Plummer to participate in the work of the specialist group. He added that having two separate specialist groups working in the same realm would not be productive.

Mr. Narasimhan suggested that some changes to CEA-708B and CEB-10 might be appropriate for carriage in non-MPEG-2 transport streams. Craig Todd (Dolby) questioned whether we really want to keep caption data within the video stream. Art Allison (NAB) said he appreciated this point, and that discussion of this issue would be appropriate sooner rather than later. Adam Goldberg (Sharp) suggested that this is not a new work item and that the DirecTV input could be referred to T3/S6.



Graham Jones (NAB) pointed out that one argument for carrying captions separate in the transport stream from the video was the fallback audio application envisioned for E-VSB, during which time a video stream might not exist. Mr. Waddell argued that—for the time being at least—keeping caption data with the video is appropriate. Mark Eyer (Sony) suggested that this is a specialist group discussion, and that an appropriate action item to the designated specialist group would be the best way to proceed. Mr. Miller said he believed that this discussion was held—in some form—last year and that before going further down this road we should research the earlier work. Mr. Narasimhan cautioned the group against moving the caption data location based on the fallback audio application, which may or may not find applications in the marketplace.

Matt Goldman (Tandberg) agreed that this issue had been discussed previously and that it appears T3/S6, T3/S8, and T3/S13 all did some work on it. He added that this work should be reviewed and a technical solution devised. Mr. Richer said it is important that—whatever decision is made—the work process be documented to explain the issues that are evaluated.

Mr. Goldman **moved** T3 direct that the Chairs of T3/S6, T3/S8, and T3/S13 review the previous discussions on this matter, together with interested parties from those three groups, review the old decisions for applicability today, including a document that states the reasons for those decisions, and then determine a technical resolution of this matter. **Second** by Mr. Goldberg.

Mr. Miller argued against the motion. He said the consensus of the committee is rather clear, namely research the previous work and report back to T3. Chairman Justus suggested the motion could be changed to state that “T3 asks the Chairs...and determine a technical recommendation for consideration by T3”. This revised wording was accepted by Mr. Goldman and Mr. Goldberg, however Mr. Goldberg said he preferred “directs” rather than “requests.” Restating the motion:

“T3 directs that the Chairs of T3/S6, T3/S8, and T3/S13 review the previous discussions on closed caption carriage, together with interested parties from those three groups, review the old decisions for applicability today, including development of a document that states the reasons for those decisions, and then determine a technical recommendation for consideration by T3.”

The motion as modified was **approved** on a show of hands.

## **8. REPORT OF THE SPECIALIST GROUP ON PSIP METADATA COMMUNICATION, T3/S1 (GRAHAM JONES)**

Graham Jones (NAB), chair of T3/S1, provided an update on the work of the specialist group (**Attachment 6**).

### **8.1 Status Report**

Mr. Jones noted that no T3/S1 meetings have been held since the September T3 meeting. He reported successful liaison with IANA (Internet Assigned Numbers Authority) for assigned port numbers for PMCP, with expected publication of A/76 on the ATSC Web site within the next week.

Mr. Jones announced that work is now underway in the SMPTE S.22 Technology Committee to develop a protocol for traffic-to-automation system communication. The S.22 Data Exchange AHG is chaired by Chris Lennon (Harris). He said that ATSC has sent the PMCP standard

document to the SMPTE S.22 Chair and the AHG Chair, urging SMPTE to consider the advantages of maintaining harmonization with PMCP, as far as is possible.

Mr. Jones went on to outline possible future work items for T3/S1, which include:

- Schema extension for data broadcasting and ACAP metadata
- Schema extension for E-VSB following the expected A/65B update for E-VSB
- Schema extension for DCC following DCC validation

## 8.2 Proposed Extension of PMCP for Data Broadcasting and ACAP

Mr. Jones noted that ETRI has made a proposal for PMCP extension to support data broadcasting and ACAP. He said the ETRI presentation has been distributed to the T3/S1, T3/S2, T3/S8, and T3/S13 reflectors with a request for comments, specifically how it relates to ATSC work on data broadcasting, ACAP, and PSIP. Mr. Jones said there has been a limited response, mainly from the T3/S13 Chair, who offered general support for the concept.

Mr. Jones stated that, given the resource limitations in T3/S1, he has requested ETRI to allocate the necessary resources against this project. He said an informative discussion on this proposal will be held immediately after today's T3 meeting. He invited interested parties to participate.

Regarding the definition of requirements for this project, Mr. Jones pointed out this is not just a T3/S1 task, but involves T3/S13 as well. He asked Mr. Dolan, chair of T3/S13, to outline some of the primary issues involved, namely:

- A/9x series of standard
- Software download specification
- ACAP
- IP encapsulation
- Resolution of ACAP and A/9x and Software Download inconsistencies, which will be addressed in T3/S13

Mr. Allison pointed out that ACAP signaling is one of the fundamental issues that needs to be addressed.

M. S. Park (ETRI) provided his perspective on the items raised, including signaling in general and ACAP in particular. He said the dialog with interested parties (planned for today) is a good place to start.

Rich Chernock (Triveni) pointed out that making PMCP work for data broadcasting involves a number of elements, which should probably be addressed at the same time, rather than on a piecemeal basis. Mr. Richer suggested that, to get this process going, a small group could be tasked to develop a requirements document for further consideration.

Recognizing that this project would likely involve not just T3/S1 but T3/S13 and T3/S2 as well, Chairman Justus asked Mr. Jones to lead a T3-level AHG on PMCP Extensions consisting of Mr. Dolan, Craig Smithpeters (Cox Comm.), and other interested parties, and bring back recommendations to T3 as appropriate.

## 9. REPORT OF THE SPECIALIST GROUP ON RF TRANSMISSION, T3/S9 (CHARLES EINOLF)

Charles Einolf (UPN), chair of T3/S9, reported on current activities within the specialist group (**Attachment 7**).

## 9.1 Status Report

Mr. Einolf reviewed recent activities within the T3/S9 ad-hoc groups, specifically:

- **S9-2, E-VSB Implementation Guideline.** Work continues to develop this document, led by Wayne Bretl (Zenith). The current draft can be downloaded from the atscmembers.org Web site: <http://www.atscmembers.org/sg/S9/s9-2/documents/T3S9-2-014r7.doc>. Interested members of T3 and T3/S6 are encouraged to participate in the development of this document.
- **S9-3, Signaling Extensions and Enhancements.** The work item for this AHG, led by Michael Epstein (Philips), is to devise a method for signaling extensions and enhancements to Annex D of A/53C. Requirements are currently under development; it is expected that a document will be ready for consideration by T3/S9 at its next meeting.

## 9.2 VSB Enhancement Proposals

Mr. Einolf briefed T3 on the status of two VSB enhancement proposals that the specialist group has received:

- Philips-ETRI enhanced-X-VSB
- Samsung supplementary reference sequence

Mr. Einolf said that additional information has been requested from the proponents of these systems, and that no subgroups or work schedules have yet been established. He also conveyed a request from T3/S9 to T3 that interested parties become involved in considering the two proposals.

## 10. REPORT OF THE SPECIALIST GROUP ON VIDEO AND AUDIO CODING, T3/S6 (BILL MILLER)

William Miller (ABC), chair of T3/S6, reported on activities within the specialist group (**Attachment 8**).

### 10.1 Status Report

#### 10.1.1 Disposition of Candidate Standards for Audio (CS/52B and CS/T3-614)

Mr. Miller reported the consensus of T3/S6 to recommend extension of the Candidate Standard status of CS/T3-614A, the planned Annex G to A/53C, in order to track other A/53C-related work (through the next T3 meeting). Mr. Miller **moved** on behalf of the specialist group to extend the CS period of CS/T3-614A until 10 February 2005. The motion was **approved** on a show of hands.

Mr. Miller reported the consensus recommendation of T3/S6 to send document CS/52Br1 to a four-week letter ballot of T3. He said a letter ballot is recommended because of the complexity of the specification. Mr. Todd reported that Mr. Eyer and Mr. Allison had identified two bugs in CS/52Br1, and he called attention to proposed changes in the document prior to ballot (**Attachment 9**). Chairman Miller **moved** that CS/52Br1 with the corrections identified by Mr. Eyer and Mr. Allison be sent to a letter ballot of T3 as a Proposed Standard. **Second** by Mr. Allison. The motion was **approved** on a voice vote.

#### 10.1.2 Video Subjective Testing

Mr. Miller reported that video codec subjective test results have been reviewed again by T3/S6 with input from CRC, NIST, and others. He said bitstream verification has been requested and the details are now being worked out. Verification of the VC-1 bit streams will be done by Sand Video. Verification of the AVC bit streams will be done by Sarnoff Labs.

Mr. Miller reported the following consensus of T3/S6:

“Independent of the question of whether one or two new codecs are chosen, T3/S6 finds that AVC is an acceptable choice for a video codec for the E-VSB application.”

Mr. Miller said that opinion is almost evenly split within the specialist group on whether to recommend one or more than one new codec. He noted that the DVD Forum adopted both, and the Blu-Ray Group adopted both. He suggested that if ATSC should decide to allow only one new codec, any consensus on adopting AVC may dissolve.

Mr. Miller called attention to the following statement from Warner Bros:

“Warner Bros. recognizes both AVC and VC-1 as technically suitable compression technologies for the ATSC E-VSB. Warner Bros. supports the inclusion of both of these codes in the E-VSB solution set. Should the ATSC conclude at a later time that only one advanced codec will be included in the specification, Warner Bros. requests verification of the most desirable codec by a membership vote that considers other business factors along with technical merits. It cannot be concluded by today’s T3/S6 consensus regarding AVC that AVC is the chosen codec if only one codec is used.”

Mr. Miller said that other members have similar positions. Mr. Goldberg pointed out that some T3/S6 members have differing views, which Mr. Miller acknowledged.

Mr. Miller emphasized there is no consensus within T3/S6 whether to recommend one or two new codecs. He said this discussion likely cannot be resolved in T3. Instead, he suggested that the question be put before the Board for guidance. Mr. Richer said he felt the Board could be asked for guidance, but that it cannot make the decision for T3.

Pat Griffis (Microsoft) noted that the latest version of the “eye chart” straw poll shows a majority of respondents favoring the inclusion of more than one new codec. He argued that the real question is whether these codecs meet the requirements of the planned applications. He said T3/S6 never set out to do a comparison of which codec was better—just whether they met some minimum level of performance.

Mr. Allison suggested that both codecs be put on the table for a T3 vote. One or both, or neither, would pass and then the decision would be made. Mr. Richer acknowledged this suggestion, but he recommended that T3 focus on developing a process for making this decision. He suggested that the question of more than one new codec could be put to a vote of T3 or the membership.

Mr. Narasimhan said that, with the division of opinion generally along industry lines, some compromise is necessary to move forward. This sentiment was echoed by Ren McMann (CBS). Ms. Aylsworth pointed out that both codecs are close technically in terms of performance; she said the real basis of this decision is not the technical value. She said ATSC needs some mechanism to evaluate factors not related to technical issues. Ms. Aylsworth acknowledged the delicate balance that receiver manufacturers must walk with regard to hardware and licensing costs.

Mr. Richer noted there is nothing in the ATSC Bylaws that prevents T3 from discussing issues such as complexity of implementation or general licensing issues (without discussing

specifics). He repeated that T3 needs to come up with a process for resolving this issue, and not focus on trying to resolve it today.

Mr. Miller repeated that he needed direction from T3. Further discussion focused on how to move forward. Mr. Tanner said that if a ballot were issued, it would need to be accompanied by appropriate background documentation. He also suggested that a liaison statement be requested from the Blu-Ray Group and DVD Forum explaining the reasons for their decisions on video codec use.

John Henderson (Hitachi) noted the argument that both codecs work is not a good argument for adopting both; however, he acknowledged the need for flexibility. He suggested that we adopt what we can now, and continue the ongoing technical review and make adjustments as appropriate down the road based on a timeline that reflects reasonable product cycles. Mr. Henderson said this would provide for a known period of stability for receiver manufacturers.

Mr. Miller acknowledged the reasoning behind Mr. Henderson's proposal, but said he believed that adoption of one new codec at this point in time would essentially result in defacto selection of that codec. He said there are no substantial new technical issues likely to arise regarding codec performance.

Mr. Richer suggested that a special meeting of T3 could be called, with all ATSC members invited to attend, during which advocates for different approaches would have an opportunity to give detailed presentations. Afterward, he said, a ballot could be issued to settle the matter. Mr. Richer continued that the real goal for T3 now is to identify a process for moving forward.

Bob Rast (Micronas) noted that it will be important to boil this discussion down to key issues and allow members to hang arguments on those issues. He said this effort will not get anywhere until we are able to explain the critical points. Mr. Rast went on to suggest the formation of a small AHG to study the questions involved and report back to T3.

Mr. Griffis suggested that the work should continue in T3/S6. He observed that positions are changing over time and that further change may be forthcoming. He said the process is still evolving and he urged T3 to continue to consider the subject as the specialist group does its work.

Art Cosgrove (Kodak) said we need some authoritative information on what the real costs would be to manufacturers of including more than new one new codec. Mr. Narasimhan noted that the complexity of supporting multiple codecs in the DTV environment is not as simple as in a closed loop DVD application. Arturo Rodriguez (Scientific Atlanta) pointed out that different applications have different requirements, and so direct comparison of ATSC applications to DVD applications may not be valid.

Mr. Waddell endorsed the idea of forming a small group to discuss this issue, saying this could provide a forum for discovery and understanding of the various viewpoints. Mr. Miller suggested that licensing issues regarding both codecs could be discussed outside of ATSC. He expressed support for Mr. Rast's idea of a small group to study this issue.

Chairman Justus called the discussion to a close. He asked that an ad-hoc group consisting of Mr. Rast, Mr. Miller, Ms. Aylsworth, and Mr. Tanner draft a clarifying brief paper on the multiple codec issue for T3 consideration.

### **10.1.3 Video Codec Documentation**

Mr. Miller reported that T3/S6 is continuing to prepare the necessary documentation for both codecs. The documents are in the form of a new annex to A/53C. The current versions of the Working Drafts are:

- For AVC: T3S6-277r1

- For VC-1: T3S6-269 (rev 5)

These documents are available on the T3/S6 home page of atscmembers.org.

The meeting broke for lunch at 12:10 p.m.

The meeting resumed at 12:55 p.m.

## 11. REPORT OF SPECIALIST GROUP ON DATA MULTIPLEX/TRANSPORT, T3/S8 (MARK EYER)

Mark Eyer (Sony), chair of T3/S8, outlined current work of the specialist group (**Attachment 10**).

### 11.1 Status Report

Mr. Eyer reviewed the current work in T3/S8 ad-hoc groups, specifically:

- **S8-1 – E-VSB Transport.** Mr. Eyer reported no recent changes to Candidate Standards documents CS/T3-606A, CS/T3-608A, and CS/T3-609A. He said the AHG is considering crafting language that would alert mux designers to possible issues regarding the receiver transport buffer, applicable to certain mix ratios. Discussion followed on mix ratio issues, and the possible concerns of members.
- **S8-3 – Advanced EPG.** Mr. Eyer reported that a revised Scope statement has been developed by S8-3:

“The Program Metadata Ad Hoc Group shall develop a standard to enable announcement to viewers of the availability of real-time and non-real-time-delivered media assets. Such standard will provide linkages between EPG data and such assets. Such standard shall/may also provide methods to enable linkage between non-EPG access methods and media assets. The ad hoc group will coordinate with T3/S2 and other groups as appropriate.”

Mr. Eyer said this Scope was circulated to T3/S8 for review, with a few comments received. He said the next step is to derive a statement of requirements.

- **S8-4 – Standards Maintenance.** Mr. Eyer reported that standards maintenance work on A/53C and A/65B continues, with a total of 41 items considered. He said all but nine items have now been closed. One of the tasks completed by S8-4 was to provide language for an updated AC-3 Audio Descriptor to T3/S6 for inclusion in CS/52B.
- **S8-6 – Content Identification.** Mr. Eyer reported this AHG is reviewing recent amendments to ISO/IEC 13818-1 and how they might impact ATSC.
- **S8-7 – ENG Communications.** Mr. Eyer reported the consensus of T3/S8 that the expected scope of the planned ENG communications activity is too broad for T3/S8. He also reported that an ad-hoc working group looking at Digital Return Link (DRL) channels has agreed to relocate their work to ATSC. Dane Ericksen (Hammett & Edison), representing SBE, has agreed to lead the effort.

Mr. Eyer asked T3 to consider the formation of a new specialist group to focus on ENG applications, after which S8-7 would be dissolved. Mr. Richer reminded the committee that the original work on ENG communications came from the Applications Subcommittee through the Board and T3 assigned it to T3/S8. Jeff Krauss (NCTA) said he would like to see a draft Scope before determining whether to form a new specialist

group. Mr. Allison said the issue is well stated and well documented. He said it would be appropriate to form a new specialist group concentrating on ENG issues. Mr. Goldberg suggested that the first order of business for the specialist group would be to develop a draft Scope for consideration by T3. Mr. Richer agreed. Chairman Justus observed the consensus of T3 to follow the T3/S8 recommendation and form a new Specialist Group on ENG led by Mr. Ericksen. He said the first task of T3/S3 is to come back with a proposed Scope, a clear statement of need, and a work plan.

Mr. Whitaker took an action item to post an appropriate note to the T3 and “admin” reflectors calling attention to the T3/S3 work.

- **S8-8 – System Renewability Messages.** Mr. Eyer reported that S8-8 held one teleconference since it was formed after the September 23 T3 meeting. He noted T3/S8’s Action Item on this subject, specifically:

“T3/S8 to consider how to address the MPAA request relating to possible standardization of content protection SRM carriage, without any specific direction from T3, and to report back to T3 at the next meeting.”

Mr. Eyer reported that an MPAA representative presented background material on SRMs at the S8-8 teleconference. He went on to state that the T3/S8 consensus is:

- No technical obstacles exist to undertaking this work
- SRMs may be transported via private means, as described in existing standards

Mr. Eyer said that opinions varied within the specialist group regarding how to proceed—some suggesting that ATSC guidance is needed, others disagreeing. He asked for T3 guidance on this issue.

Brad Hunt (MPAA) provided background information on the original request. He said there are some technologies that have been approved by the FCC which require real-time renewability of content, and that the ATSC is the appropriate body to develop a Standard or Recommended Practice to address this technical need. Mr. Hunt acknowledged there are a number of ways this can be done, but argued that some form of common approach is needed for ATSC broadcast streams. He said that ATSC is the body which can pull together the interested parties to develop a set of requirements and work through the input of a number of member companies. He said this is an important step for the ATSC because redistribution control is an important part of digital television.

Mr. Waddell expressed concern that this request did not go first to the ATSC Board of Directors. Mr. Richer pointed out that the Board is aware of this activity and expects a recommendation from T3 at its next meeting.

Ms. Aylsworth noted that more than a dozen SRM technologies exist and while private methods could be used, we might wind up with a number of different solutions, which she argued is an irrational approach. Ms. Aylsworth said it is better to work together with all of the interested parties to devise a solution that meets everyone’s needs.

Mr. Goldberg agreed that revocation processing is necessary for the system to work, but stated there was really no need for ATSC activity in this area. He said we have all of the tools necessary to address the “envelope” and added there is really no need to define what is inside the “envelope.”

Mr. Allison suggested that the Board be asked to recommend that T3 undertake this work.

Mr. Weiss said there is a need for work on the part of ATSC in this area, in part because digital television signals cross many boundaries on their way to consumers. As such, he said, it will be far more efficient if we have a single method of passing through SRM messages. Glenn Reitmeier (NBC) echoed Mr. Weiss's comments, noting that the possibility of content being distributed is greatly increased through common home connectivity.

Mr. Narasimhan argued that any work at this point may be premature. He questioned the effort that ATSC would need to put into this project to bring it to completion.

Mr. Griffis said the core issue is that work on the Broadcast Flag needs to go forward, and at the end of the day, ATSC is the best place to do the work. He added that while he could not comment on the technical issues raised, he supported the work moving forward so that all issues could be identified and examined.

Rich Chernock (Triveni) acknowledged the arguments on both sides of this issue; he suggested that ATSC focus on wrapping, transporting, and unwrapping the data.

Chairman Justus suggested that an AHG of T3 be convened with Mr. Hunt as chair and including a critical mass of technology proponents to see if there is an interest in companies undertaking the necessary developmental work.

Mr. Eyer offered that any group venturing into this area needs first to identify a specific list of technical requirements, which could guide further discussion.

Mr. Allison said he was concerned about starting this work before the Board decides whether to proceed. He said that additional data for the Board might facilitate a decision.

Mr. Richer agreed with Chairman Justus' recommendation, which he said could include a report to the Board on the recommendations of T3. He said it was not necessary to wait for Board approval.

Mr. Weiss said an AHG could be very productive in getting an early idea of the scope of the project and important constraints, which he said could come from equipment designers and other involved parties. He added that broadcast infrastructure issues would also need to be considered and explored.

Mr. Miller echoed Mr. Weiss's comments. He recommended we move forward and get the requirements on paper.

Chairman Justus asked Mr. Hunt to lead an AHG of T3 to develop a Requirements Document, with input from appropriate organizations and individuals, and to develop a Work Statement, keeping in mind the T3/S8 output given above. Mr. Hunt suggested that Jim Williams (MPAA) be asked to lead the effort. This suggestion was accepted by the committee. Mr. Narasimhan urged that the AHG keep in mind the constraints contained in Standards A/53C, A65B, and A/90.

Chairman Justus gave Mr. Whitaker an action item to assist Mr. Williams in setting up the necessary resources for the AHG, including a reflector and Web space as required. Chairman Justus suggested that a note be sent to the T3 and S8-8 reflectors soliciting participation in this effort.

## 11.2 Recommendation regarding Candidate Standard Status of CS/T3-606, 608, 609

Mr. Eyer reported the consensus recommendation of T3/S8 to extend the Candidate Standard status of CS/T3-606A to 10 February 2005. He said this recommendation is based largely on the desire to keep the E-VSB documents in sync and to move all of the pieces forward as one. Mr. Allison argued that CS/T3-606A is completed and should be moved forward now.



Mr. Eyer also reported the T3/S8 consensus recommendation to extend the Candidate Standard status of CS/T3-608A and CS/T3-609A to 10 February 2005. He said the specialist group believes these two documents should move forward only after T3/S6 makes its decision on new video codecs.

Accordingly, Mr. Eyer **moved** on behalf of T3/S8 that the Candidate Standard status of CS/T3-606A, CS/T3-608A, and CS/T3-609A be extended to 10 February 2005. The motion was **approved** on a voice vote.

## **12. REPORT OF THE SPECIALIST GROUP ON ACAP, T3/S2 (CRAIG SMITHPETERS)**

Craig Smithpeters (Cox Communications) was unable to attend today's meeting, but did provide a summary of current activities (**Attachment 11**). Steve Johnson (Time Warner Cable) summarized the current work of T3/S2.

### **12.1 Status Report**

Mr. Johnson noted that a six-week T3 ballot on elevation of CS/101A to Proposed Standard was issued on October 13 and closes on November 24. He said T3/S2 will await the results of that ballot and evaluate the comments received. Chairman Justus asked Mr. Smithpeters and T3/S2 to work on comment resolution of the CS/101A ballot and to report back on progress at the February 9 T3 meeting.

## **13. REPORT OF THE SPECIALIST GROUP ON RECEIVERS, T3/S10 (JOHN HENDERSON)**

John Henderson (Hitachi), chair of T3/S10, briefed the committee on the work of the specialist group.

### **13.1 Status Report**

Mr. Henderson said that T3/S10 is continuing to work on documenting "interesting sites" as part of its A/74-related work. He reported considerable interest in A/74 from semiconductor manufacturers and receiver manufacturers.

## **14. REPORT OF THE SPECIALIST GROUP ON DATA BROADCAST, T3/S13 (MIKE DOLAN)**

Mike Dolan (TBT), chair of T3/S13, reported on activities in the specialist group (**Attachment 12**)

### **14.1 Status Report**

Mr. Dolan reminded the committee that the Membership ballot on PS/97, "Software Data Download," was issued on October 19 and closes today. He noted that prior to distribution of the ballot formal liaison was received from SCTE/DVS, which requested the removal of all cable-related information. He said PS/97 was editorially revised per that request.

Regarding A/9x harmonization with ACAP Transport, Mr. Dolan reported that a work plan has been developed and document editors have been assigned for WD/90A and WD/95A. He said there is no formal schedule for completion at this time, but added it will likely be a prolonged effort due to the relatively small group involved.

## **15. ARCHITECTURE TEAM**

### **15.1 Virtual Channel Number Registry Recommendation**

Mr. Dolan, Chair of the Architecture Team, reminded the committee that at the last T3 meeting the A-Team was charged with examining the possible registration of virtual channel numbers. He said discussion of this question continues, with a recommendation expected by the February 9 meeting of T3.

## **16. OTHER BUSINESS**

### **16.1 Liaison Reports**

### **16.2 DMB Technology (Mobile TV/Data) – Korean DMB AHG**

Chairman Justus introduced Yong Han Kim (TTA), the T-DMB International Standardization Ad-Hoc Group Chairman, who gave a presentation on T-DMB (**Attachment 13**). Mr. Kim provided an overview of the T-DMB service planned for Korea, key features of which include mobile reception at up to 200 km/h and VCD-like video quality. He went on to outline the expected implementation schedule, which includes a total of six broadcasters in operation by Q3 2005. Mr. Kim also reported on the status of ongoing standardization efforts involving ETSI and ITU (**Attachment 14**).

Mr. Kim answered specific questions from T3 members. Chairman Justus thanked him for the briefing.

### **16.3 T3 Goals for 2005**

Mr. Richer noted that the ATSC Board of Directors will begin work on 2005 goals soon. He asked specialist group chairs to draft their target goals for next year and forward them to him.

## **17. SCHEDULE OF NEXT T3 MEETING**

The next meeting of the ATSC Technology Group on Distribution will be held on 9 February 2005.

## **18. HONORING T3 CHAIR RALPH JUSTUS**

Mr. Richer noted this will be the last meeting of T3 with Ralph Justus as the Chair, having served the maximum number of terms prescribed under the ATSC Bylaws.

Mr. Justus became the acting Chair of T3 in late 1998 and was elected Chairman on 23 February 1999. He was instrumental in guiding many new DTV standards and revisions of existing standards through the ATSC process. Mr. Richer said Mr. Justus' service has been extraordinary and added that ATSC members who attend T3 meetings readily appreciate his ability to guide the group through complex issues in an efficient manner.

Mr. Justus brought a lifetime of experience to T3. As Supervisory Electronics Engineer of the Federal Communications Commission (FCC) Television Branch, and a staff engineer in its AM and FM Branches, Mr. Justus was on the leading edge of technology when it began to evolve in the late seventies and early eighties. In 1983, he left the FCC to become the Director of Engineering, Regulatory and International Affairs for the National Association of Broadcasters (NAB) where he worked on issues involving broadcast radio and television technologies, auxiliary and satellite systems, spectrum management, proceedings at federal agencies including

the Federal Communications Commission, Environmental Protection Agency, Federal Aviation Administration, the Department of State, and participation in the International Telecommunication Union.

In February 1991, the Consumer Electronics Association (CEA) offered him the position of Director of Engineering. For the next eight years, Mr. Justus worked on radio and television system design and performance, high-definition television, digital radio systems, TV antennas, audio technologies, regulatory activities before the FCC, and consumer electronics/cable television compatibility. In 1999, CEA appointed him Vice President of the Technology & Standards Department. Today, he guides the domestic and international technology policy and standards development activities of the association, as well as managing and overseeing a broad range of technology programs, government regulatory initiatives and research issues related to the consumer electronics industry.

In recognition of his long service to ATSC in general, and T3 in particular, the committee gave Mr. Justus a hearty round of applause.

## **19. ADJOURNMENT**

There being no further business before the committee, the meeting was adjourned at 2:25 p.m. EDT.

## Action Items Developed at this Meeting

The following action items were developed at today's meeting:

- 1) The Chairs of T3/S6, T3/S8, and T3/S13 review the previous discussions on closed caption carriage, together with interested parties from those three groups, review the old decisions for applicability today, including development of a document that states the reasons for those decisions, and then determine a technical recommendation for consideration by T3.
- 2) Graham Jones to lead an AHG on PMCP Extensions, consisting of Mike Dolan, Craig Smithpeters, and other interested parties, and bring back recommendations to T3 as appropriate.
- 3) Jerry Whitaker to update the posted version of CS/T3-614A to show a CS period ending 10 February 2005.
- 4) Bill Miller to forward to Jerry Whitaker CS/52Br1 with appropriate updates for the issuance of a T3 ballot as a Proposed Standard.
- 5) Bob Rast, Bill Miller, Wendy Aylsworth, and Craig Tanner to draft a document summarizing the one-versus-more-than-one new codec issue for T3 consideration.
- 6) Dane Ericksen to chair a new Specialist Group on ENG, T3/S3, the first task of which is to come back with a proposed Scope, a clear statement of need, and a work plan.
- 7) Jerry Whitaker to post an appropriate note to the T3 and "admin" reflectors calling attention to the T3/S3 work.
- 8) Jim Williams to lead an AHG of T3 focusing on SRM issues. The AHG is to develop a Requirements Document, with input from appropriate organizations and individuals, and to develop a Work Statement, keeping in mind the T3/S8 output previously given.
- 9) Jerry Whitaker to assist Jim Williams in setting up the necessary resources for the SRM-AHG, including a reflector and Web space as required.
- 10) Jerry Whitaker to update the posted versions of CS/T3-606A, CS/T3-608A, and CS/T3-609A to show a CS period ending 10 February 2005.
- 11) Craig Smithpeters and T3/S2 to work on comment resolution of the CS/101A ballot and to report back on progress at the February 9 T3 meeting.
- 12) T3 specialist group chairs to draft their target goals for next year and forward them to Mark Richer.
- 13) Sam Narasimhan to prepare a detailed report on the current MPEG activities for distribution to T3. [2004-09-23]

## Attachments

**Attachment 1.** Attendance List (\* denotes attending by telephone)

[http://www.atscmembers.org/sg/T3/2004\\_11\\_16/documents/Attachment\\_1\\_attendance\\_11\\_16\\_04.xls](http://www.atscmembers.org/sg/T3/2004_11_16/documents/Attachment_1_attendance_11_16_04.xls)

**Attachment 2.** Draft Agenda

[http://www.atscmembers.org/sg/T3/2004\\_11\\_16/documents/Attachment\\_2\\_draft\\_t3\\_agenda\\_11\\_16\\_04\\_r1doc.doc](http://www.atscmembers.org/sg/T3/2004_11_16/documents/Attachment_2_draft_t3_agenda_11_16_04_r1doc.doc)

See also

[http://www.atscmembers.org/sg/T3/2004\\_11\\_16/documents/Attachment\\_2\\_draft\\_t3\\_agenda\\_11\\_16\\_04\\_r2doc.doc](http://www.atscmembers.org/sg/T3/2004_11_16/documents/Attachment_2_draft_t3_agenda_11_16_04_r2doc.doc)

**Attachment 3.** Draft Minutes from T3 Meeting of 23 September 2004

[http://www.atscmembers.org/sg/T3/2004\\_11\\_16/documents/Attachment\\_3\\_T3-620\\_rev1.doc](http://www.atscmembers.org/sg/T3/2004_11_16/documents/Attachment_3_T3-620_rev1.doc)

**Attachment 4.** Redline Draft Minutes from 23 September Meeting

[http://www.atscmembers.org/sg/T3/2004\\_11\\_16/documents/Attachment\\_4\\_T3-620\\_rev2.doc](http://www.atscmembers.org/sg/T3/2004_11_16/documents/Attachment_4_T3-620_rev2.doc)

**Attachment 5.** Closed Caption Carriage for Robust Mode Video

[http://www.atscmembers.org/sg/T3/2004\\_11\\_16/documents/Attachment\\_5\\_Closed%20caption%20carriage.ppt](http://www.atscmembers.org/sg/T3/2004_11_16/documents/Attachment_5_Closed%20caption%20carriage.ppt)

**Attachment 6.** T3/S1 Status Report

[http://www.atscmembers.org/sg/T3/2004\\_11\\_16/documents/Attachment\\_6\\_s1%20report%2011-15-04.ppt](http://www.atscmembers.org/sg/T3/2004_11_16/documents/Attachment_6_s1%20report%2011-15-04.ppt)

**Attachment 7.** T3/S9 Status Report

[http://www.atscmembers.org/sg/T3/2004\\_11\\_16/documents/Attachment\\_7\\_ATSC%20T3S9%20Status%20November%202004.ppt](http://www.atscmembers.org/sg/T3/2004_11_16/documents/Attachment_7_ATSC%20T3S9%20Status%20November%202004.ppt)

**Attachment 8.** T3/S6 Status Report

[http://www.atscmembers.org/sg/T3/2004\\_11\\_16/documents/Attachment\\_8\\_T3S6%20status%202004-11-16r2.ppt](http://www.atscmembers.org/sg/T3/2004_11_16/documents/Attachment_8_T3S6%20status%202004-11-16r2.ppt)

**Attachment 9.** CS/52Br1 Bug Fixes

[http://www.atscmembers.org/sg/T3/2004\\_11\\_16/documents/Attachment\\_9\\_bug%20fixes%20in%20cs52br1.doc](http://www.atscmembers.org/sg/T3/2004_11_16/documents/Attachment_9_bug%20fixes%20in%20cs52br1.doc)

**Attachment 10.** T3S8 Status Report

[http://www.atscmembers.org/sg/T3/2004\\_11\\_16/documents/Attachment\\_10\\_T3S8-565\\_S8\\_Status\\_Report\\_11-04.ppt](http://www.atscmembers.org/sg/T3/2004_11_16/documents/Attachment_10_T3S8-565_S8_Status_Report_11-04.ppt)

**Attachment 11.** T3S2 Status Report

[http://www.atscmembers.org/sg/T3/2004\\_11\\_16/documents/Attachment\\_11\\_T3S2-044.ppt](http://www.atscmembers.org/sg/T3/2004_11_16/documents/Attachment_11_T3S2-044.ppt)

**Attachment 12.** T3/S13 Status Report

[http://www.atscmembers.org/sg/T3/2004\\_11\\_16/documents/Attachment\\_12\\_S13-264R0-Status-20041116.ppt](http://www.atscmembers.org/sg/T3/2004_11_16/documents/Attachment_12_S13-264R0-Status-20041116.ppt)

**Attachment 13.** T-DMB Briefing

[http://www.atscmembers.org/sg/T3/2004\\_11\\_16/documents/Attachment\\_13\\_ATSC041116.ppt](http://www.atscmembers.org/sg/T3/2004_11_16/documents/Attachment_13_ATSC041116.ppt)

**Attachment 14.** DMB/ITU Liaison

[http://www.atscmembers.org/sg/T3/2004\\_11\\_16/documents/Attachment\\_14\\_6M\\_Korea\\_NR\\_DMB.doc](http://www.atscmembers.org/sg/T3/2004_11_16/documents/Attachment_14_6M_Korea_NR_DMB.doc)