

Minutes, Technology Group on Distribution 2 April 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)

Wiley, Rein & Fielding, 1750 K Street, Washington, D.C.
2 April 2004, 10:00 a.m. until 4:00 p.m., EST

1. WELCOME, INTRODUCTIONS, AND DETERMINATION OF QUORUM

Chairman Ralph Justus (CEA) called the meeting to order at 10:00 a.m. at the offices of Wiley, Rein and Fielding in Washington, D.C. He thanked WRF 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 March 15 (**Attachment 2**) with subsequent updated versions posted on March 19 and March 26. Chairman Justus suggested that agenda items 11, 16, and 15 be moved forward on the agenda and taken in that order. This change was accepted by the committee. No further changes were requested and the agenda was accepted as amended.

3. APPROVAL OF THE DRAFT MINUTES OF THE 19 FEBRUARY 2004 MEETING

Chairman Justus called member's attention to the draft Minutes of the 19 February 2004 T3 meeting, which were distributed to the T3 reflector on March 15 (**Attachment 3**). Mr. Whitaker reported that one editorial correction had been identified by Pat Waddell (Harmonic) regarding comments attributed to him on the closed captioning discussion under agenda item 14.3. No further changes were requested and the document was accepted as amended.

4. OPENING REMARKS

Chairman Justus observed that today's agenda is a full one and he urged member to help move agenda item discussions along as expeditiously as possible.

5. COMMENTS BY THE PRESIDENT (MARK RICHER)

Mark Richer (ATSC) reported on current activities within the ATSC.

5.1 Status of Ballots

Mr. Richer reported that the T3 ballot on "Working Draft Recommended Practice: Receiver Performance Guidelines" was issued 10 March 2004 and closes on 7 April 2004.

5.2 Other

Other items covered in Mr. Richer's report included the following:

- 1) The ATSC Annual Meeting, held on March 30 in Washington, was a great success. Mr. Richer reported that the event enjoyed record attendance. Featured speakers included Patrick Mullen (Tribune), Eddie Fritts (NAB), Robert Sachs (NCTA), and Gary Shapiro (CEA). Mr. Richer thanked all speakers and attendees for making the event a great success.
- 2) NAB, CEA, and ATSC are combining forces again this year to sponsor the *DTV Drafthouse* at the NAB convention in Las Vegas. A number of technology demonstrations are planned for the event, including:
 - Advanced Common Application Platform (ACAP)

- Digital On Channel Repeater (DOCR)
 - Enhanced VSB and New Coding Technologies
 - Closed Captioning—Seeing Sound/Hearing Pictures
- 3) ATSC, in conjunction with IEEE BTS, has organized a day-long technical session at the NAB convention on Saturday April 17. Called the “ATSC University,” subjects will include PSIP and advanced coding technologies. Program information can be found via a link on the ATSC Web site.
 - 4) Mr. Richer noted that changes continue to be made to improve the ATSC Members Web site and reflectors. He asked anyone with questions on the work to contact Mr. Whitaker.

6. BRIEF REPORTS ON ACTIONS FROM THE PREVIOUS MEETING

Chairman Justus called attention to the action items developed at the February 19 meeting of T3:

- 1) Craig Smithpeters and T3/S2 to explore with ARIB possible harmonization scenarios regarding BML and to report back to T3 on the prospects for successful work.
On agenda.
- 2) William Miller and T3/S6 to work with Mark Eyer and T3/S8 to draft proposed language that would add the constraint `low_delay=0` in WD/53C.
On agenda.
- 3) Mark Eyer to forward to Jerry Whitaker T3-608 and T3-609, with provisional code points assigned, for posting on the ATSC Web site as Candidate Standards.
Completed. The Candidate Standard documents are now posted on the ATSC Web site.
- 4) Mark Eyer, William Miller, Jerry Whitaker, and Mark Richer to draft explanatory text describing the scope of the T3-608 and T3-609 Candidate Standard documents to accompany the CS postings on the ATSC Web site.
Completed.
- 5) John Henderson to integrate editorial changes identified to T3S10-025r2, to post the revised document to the T3/S10 and T3 reflectors, and after a two week comment period if no issues are raised to forward the revised document to ATSC staff for the issuance of a letter ballot as a draft Recommended Practice.
Completed.
- 6) Mike Dolan to provide background information on possible DTVCC issues relating to E-VSB to Sterling Davis, chair of the Applications Subcommittee, and to request feedback from AS on the issue.
Completed. On agenda.
- 7) Mike Dolan to draft a revised scope for T3/S13 for consideration by T3 at the next meeting that includes CC-related work.
Completed. On agenda.

7. NEW WORK ITEMS FOR DISCUSSION

7.1 Assigned by Board of Directors

Mr. Richer reported that at its March 31 meeting, the Board of Directors reviewed the Applications Subcommittee recommendation regarding development of a standard for Remote ENG Communications (**Attachment 4**). He said the Board requests that T3 start work on development of a standard in accordance with the AS document. Mr. Richer suggested that since this work does not fit in any one existing specialists group, T3/S8 be directed to take a look at the

issue and report back at the next T3 meeting. Discussion followed on the best route forward. Chairman Justus observed the consensus of T3 to proceed as Mr. Richer recommended. Mark Eyer (Sony), chair of T3/S8, accepted the action item.

7.1.1 T3 Goals for 2004

Mr. Richer reported that the Board of Directors at its March 31 meeting approved a set of goals for T3 for 2004 (**Attachment 5**). He asked all members to review the goals and work toward achieving them.

7.2 Implementation Subcommittee

Art Allison (NAB), chair of the Implementation Subcommittee, called attention to IS-308, "Recommended Practice for Control of AC-3 Program Elements in the ATSC Transport" (**Attachment 6**). He said this document identifies a critical issue now being dealt with in the field and, on behalf of IS, requested that T3 take up the work of preparing a draft Recommended Practice. Mr. Allison reported there is SMPTE work underway relating to the studio elements of this issue, but noted that the transport elements need to be addressed from the ATSC standpoint.

Chairman Justus asked Craig Todd (Dolby) to lead an AHG on Audio Program Elements to look at this issue and begin the development of a Working Draft document. Mr. Todd accepted the action item and asked interested persons to contact him.

7.3 Other

There were no other work items to report.

8. REPORT OF THE SPECIALISTS GROUP ON VIDEO AND AUDIO CODING, T3/S6 (BILL MILLER)

William Miller (ABC), chair of T3/S6, reported on activities within the specialists group (**Attachment 7**).

8.1 Consideration of Candidate Standard Status for E-AC-3

Mr. Miller reminded the committee that at the February 19 T3 meeting, T3/S6 reported it had reached consensus to recommend the selection of Enhanced AC-3 as the advanced codec for the E-VSB mode. T3, by motion, accepted this recommendation. He said implementation of E-AC-3 is specified in two new annexes, one for A/52 and one for A/53:

- T3S6-298, Working Draft A/52 Annex E: "Enhanced AC-3 Bit Stream Syntax", Version 1.70 (**Attachment 8**)
- T3S6-260r4, Working Draft A/53 Annex G: "High Efficiency Audio System Characteristics" (**Attachment 9**)

These documents were posted to the T3 reflector on March 19. Additionally, the following informational document was provided to T3:

- T3S6-297, "Summary of New Features Included in the Enhanced AC-3 Bit Stream Specification," Version 1.70 (**Attachment 10**)

Mr. Miller went on to outline the general parameters of the E-AC-3 documentation.

Mr. Miller **moved** on behalf of T3/S6 that T3S6-298 be elevated to Candidate Standard status for a period of time ending 10 September 2004.

Craig Tanner (Sharp) said he felt it was inappropriate for T3 to vote on this issue now, citing Section 10.4.1 of the ATSC Bylaws:

"Any technology group charged with the development of drafts of new standards or recommended practices or drafts of substantive changes in existing standards or recommended practices shall transmit for comment copies of such drafts to all members of the

Corporation and, if such transmittal is deemed useful, to the appropriate technical advisory group(s), national standards bodies, or any other appropriate body or person. Comments, views, and objections received as the result of such transmittal shall be given due regard in the deliberative process of the technology group and an effort to resolve all expressed objections shall be made.”

Mr. Richer said he was confident that the requirements of the Bylaws had been satisfied because these activities have been well publicized and the documents in question have been available on the member’s area of the Web site. He added the activities have also been summarized in regular reports to the Board that are distributed to the membership.

Mr. Miller noted that T3S6-298 has been available for two weeks and that T3S6-260r4 has been available for more than eight months. He said that no comments have been received.

Craig Todd (Dolby) provided additional background on the specifications for the committee. He pointed out that the two specifications can stand together, or one of the documents can stand alone. He explained that T3S6-298 is a new draft Annex E for A/52. The purpose of this document is to specify an alternate Enhanced AC-3 (E-AC-3) bit stream syntax and decoding process. Like A/52 (which is referenced by the existing A/53 ATSC DTV Standard), the new Annex E to A/52 is silent as to the application of the specified audio coding technology. Mr. Todd emphasized that approval of this document does not change the ATSC DTV Standard.

Joe Rodolico (Panasonic) spoke against the motion, saying his company was not convinced of the need for E-VSB. He said that Panasonic views E-AC-3 as a component of E-VSB and as such will not support it.

Mr. Richer underscored Mr. Todd’s explanation that the two documents under consideration are separable. And, in any event, he said the request on the table is for elevation to Candidate Standard status, during which comments can be offered—and indeed are encouraged—from both members and non-members.

Sam Narasimhan (Motorola) questioned whether T3S6-298 and T3S6-260 should be considered separately. He offered that throughout the T3/S6 process, advanced coding was intended for the robust mode and as such cannot be separated from it. Graham Jones (NAB) commented there is a clear delineation between the two documents, and he saw no reason for them to be coupled. Mr. Narasimhan clarified that he was not necessarily speaking in opposition to the motion, just that he felt the committee should consider this point.

Discussion returned to the Bylaws issue raised by Mr. Tanner. Chairman Justus said he believed that ATSC process has been followed in this case. That view was challenged by Adam Goldberg (Sharp), David Elliott (Sanyo), and Mark Eyer (Sony) who offered that receiving additional comments from ATSC members could only improve the final output document.

Comments from other committee members included the following:

- Mr. Allison suggested that elevation of these documents to Candidate Standard status—in fact—fulfills the requirements of Section 10.4.1.
- Mark Aitken (Sinclair) argued that the sooner we can move these documents to Candidate Standard status, the better. He urged the committee to approve the motion on the table to allow industry vetting of the specifications.
- Wendy Aylsworth (Warner Bros.) said that raising procedural questions at this point in the process is inappropriate, and added the committee should focus on substantive discussions relating to the motion.

- Merrill Weiss (Tribune) commented that ATSC has a responsibility beyond the narrow view of individual parties. He said putting up procedural roadblocks at this point in time is inappropriate.
- Matthew Goldman (Tandberg) recognized the important issues involved and offered that the Candidate Standard phase would provide considerable time for input from members and non-members.
- Mr. Miller noted that at the time Section 10.4.1 of the Bylaws was written, the ATSC did not have a Candidate Standard phase. He said he believes the Candidate Standard phase provides for ample opportunity for comment from members.

Mr. Richer offered clarification on Mr. Miller's point. He said the Section 10.4.1 text goes back a considerable period of time. He repeated that the Candidate Standard phase is expressly designed for receiving comment.

- Lynn Claudy (NAB) said that bringing this issue up now is wholly inappropriate. He observed that the ATSC Board of Directors has purposefully put E-VSB work on a fast track, and that if Mr. Tanner had issues with the process, he should have raised them at the Board meeting that he had attended two days ago. Mr. Claudy said there is no reason to delay a vote on these documents.
- Mark Mueller (Toshiba) said he felt proper procedure had not been followed and argued that—in this case—delay for the propose of receiving additional comment was appropriate.
- Pat Waddell (Harmonic) suggested that Mr. Richer could post a note to the ATSC Membership calling attention to Section 10.4.1 and the posted Candidate Standards.
- Mr. Tanner repeated his concerns regarding Section 10.4.1, saying that the Bylaws are clear and that the specific procedures need to be followed.
- Jeff Krauss (NCTA) said he disagreed with Mr. Tanner's interpretation, explaining that Section 10.4.1 of Bylaws pertains to development by Technology Groups and the Candidate Standard stage is a phase of that development. He said there is nothing in the Bylaws that prevents elevating T3S6-298 to Candidate Standard today.
- Mr. Goldberg countered that Section 10.4.1 is clear and that it needs to be followed to the letter.

Chairman Justus drew the discussion to a close. He said that, in the Chair's view, he is not inclined to delay this work.

Chairman Justus called the question. It was **approved** on a roll call vote: 28, 10 no, 7 abstentions. The vote tally is given in **Attachment 11**.

Mr. Miller **moved** on behalf of T3/S6 that T3S6-260r4 be elevated to Candidate Standard status for a period of time ending 23 September 2004.

Mr. Tanner questioned whether notification to the ATSC membership of the Candidate Standard status of T3S6-298 and, if approved, T3S6-260 will be made. Mr. Richer said ATSC normally issues a press release announcing new Candidate Standards, and went on to say that the press releases are distributed to the membership and the trade press.

Matthew Goldman (Tandberg) suggested an amendment to the motion on the table that would direct T3 to distribute a separate note to all ATSC members calling attention to the new Candidate Standards and asking for explicit feedback and comments on the documents. He so **moved. Second** by Mr. Tanner. Mr. Miller said he felt this step was redundant but that if it would move the specification forward, he would accept it. The amendment was **approved** by a

show of hands. Following some discussion, Chairman Justus accepted the task of drafting the note.

Mr. Whitaker restated the motion on the floor: “**moved** on behalf of T3/S6 that T3S6-260r4 be elevated to Candidate Standard status for a period of time ending 23 September 2004 and furthermore that the chair of T3 distribute a separate note to all ATSC members calling attention to the new Candidate Standards and asking for explicit feedback and comments on the documents.”

Chairman Justus called the question: it was **approved** on a roll call vote: 16 yes, 15 no, 11 abstain. The vote tally is given in **Attachment 12**.

8.2 Revised Schedule for Subjective Assessment of Video Codecs

Mr. Miller reviewed the status of subjective testing of the proposed video codecs (AVC/H.264 and Windows Media 9 (VC-9)). He said the test plan has been completed (T3S6-290r4¹) and that sequences have been coded and decoded. Editing was to start this week. He said the schedule for subjective testing will be determined after completion of the editing work. Venues include Dolby (San Francisco), CRC (Ottawa), and Sarnoff (Princeton, tentative).

Mr. Miller reviewed current documentation issues relating to the video codecs, as described in **Attachment 7**

Sam Narasimhan (Motorola) asked about the possibility of T3/S6 recommending to T3 both proposed codecs. Mr. Miller said this remains an open issue that will be discussed at a later T3/S6 meeting, following completion of the subjective assessment work.

8.3 Low Delay

Mr. Eyer inquired about the low delay issue noted in AI #2 (above) from the February 19 T3 meeting. Mr. Miller said this work will be addressed by T3/S6, but that it will have to wait until completion of the video coding testing.

9. CONSIDERATION OF ELEVATING WD/53C TO PROPOSED STANDARD

Mr. Richer reminded the committee that during the 10 September 2003 meeting of T3, the Architecture Team proposed a plan for the evolution of A/53 (**Attachment 13**). This plan was also reviewed at the February 13 T3 meeting (**Attachment 14**). Based upon this plan for A/53 documentation, Mr. Whitaker drafted Working Draft 53C (WD/53Cr5, **Attachment 15**).

Mr. Richer explained that WD/53Cr5 integrates Amendments 1 and 2, both of which were previously approved by the ATSC Membership, and Annex D (E-VSB) which has been approved by T3 as Amendment 3. He said integration of these three documents is consistent with Section 16.3 of the ATSC Procedures for Technology Group and Specialist Group Operation (B/3) which states:

“On the third Corrigenda, Amendment or Revision, the changes should be incorporated into a new revision of the Standard or Recommended Practice.”

Mr. Richer added that Candidate Standards CS/T3-608 and CS/T3-609, approved by T3 at the February 19 meeting and now available on the ATSC Web site, are written as amendments to this Working Draft.

Mr. Richer noted that beyond the changes detailed above, the following text has been added and is shown as redline in WD/53Cr5:

¹ This document can be downloaded from the T3/S6 page of the atascmembers.org Web site.

- Changes approved by T3 on February 19 relating to closed captioning references in Annex A (See Sections 2.1, 2.2, 5.2.3, and 5.2.4).
- Correction of editorial oversights in the Annex D Amendment regarding missing text in Sections 5.5.2.4 and 5.5.2.5. This issue was identified by Wayne Bretl (Zenith) and Mr. Allison.

Mr. Richer went on to suggest that T3 could consider this document for elevation to Proposed Standard and subsequent ballot to the membership no later than 1 June 2004. The June 1st deadline for ballot of the E-VSB Annex D Amendment was agreed upon at the 24 June 2003 T3 meeting².

Mr. Richer offered an alternate plan that would move WD/53Cr5, with the exception of the T3-approved Annex D, forward as a Proposed Standard for ballot by the membership. This approach, he explained, would result in the approval of A/53C, and later—assuming approval of Annex D—the new Annex would become an Amendment to A/53C. In addition, he proposed that T3 accept the redline changes to the Annex D Amendment, as shown in WD/53Cr5. This option was described as the “unbundled” approach, while the “bundled” approach represented the original plan formulated by T3 and described by Mr. Richer earlier (above).

Chairman Justus observed the consensus of the committee to follow the unbundled approach.

Mr. Goldman **moved** that WD/53Cr5 with the amended Annex D replaced by the original Annex D contained in A/53B be elevated to Proposed Standard. **Second** by Glenn Rietmeier (NBC). The motion was **approved** on a show of hands.

Discussion then focused on the proposed changes to the T3-596, the T3-approved Annex D amendment. John Henderson (Hitachi) **moved** to affirm that the changes documented in WD/53Cr5 (Sections 5.5.2.4 and 5.5.2.5) Annex D are considered editorial in nature and that the changes should be integrated into Proposed Standard T3-596 prior to distribution to the membership for ballot. **Second** by Mr. Todd. The motion was **approved** on a show of hands.

The meeting broke for lunch at 12:00 p.m.

The meeting resumed at 12:45 p.m.

Chairman Justus recognized Mr. Goldberg who said that owing to the controversy on E-VSB-related issues, he **moved** that the T3 Chair transmit the Annex D document to the membership with all due haste and solicit comments from the entire membership on the document. **Second** by Mr. Eyer.

Mr. Richer said he did not have any problem with providing information to the members on the Annex D Amendment. However, he stated that any attempt to insert another step in the approval process would be venturing into dangerous territory. In any event, he said, it is unclear what would be done with the comments, if any are received, since T3-596 has already been approved by T3.

Mr. Tanner argued that since the provisions of Section 10.4.1 of the Bylaws were not followed—in his view—for T3-596, the proposed comment step could serve to correct that oversight. He went on to suggest that—based on whatever feedback is received—T3 could still make changes to the document.

² The text of the 24 June 2003 approved motion was: “moved that the ballot to the ATSC membership of the E-VSB amendment to A/53B Annex D be delayed until the other specialists groups involved (T3/S6 and T3/S8) are ready to report out consensus on their related work to T3, or June 1, 2004, whichever is sooner.”

Mr. Richer challenged the notion that the process relating to elevation of T3-596 to Proposed Standard was in some way flawed.

Discussion followed on the motion:

- Mr. Claudy noted that the Annex D Amendment has been discussed at great length within the nearly one year since it was approved by T3. He said there is no need to take the proposed step.
- Mr. Waddell voiced support for the motion, saying additional member input would be worthwhile.
- Mr. Eyer stated that E-VSB must be viewed as a system and that now—with CS/T3-606, CS/T3-608 and CS/T3-609 available—a more informed view can be made of the entire E-VSB package.
- Mr. Reitmeier offered that the process by which E-VSB ultimately gets to the FCC must be considered by this group, and that building some sort of consensus is essential. He said we need to contemplate steps that could build consensus on E-VSB and avoid a public “food fight.”
- Mr. Narasimhan questioned whether the T3 ballot comments had been fully addressed. Mr. Richer pointed out that all ballot comments were addressed by T3/S9 and that T3 reviewed those resolutions at the 24 June 2003 meeting.
- Mr. Goldberg argued that all ATSC members should have an opportunity to express views on T3-596 before the membership ballot, since any substantive comments submitted with a membership ballot can only be addressed through an amendment or corrigenda.

Chairman Justus called the question. It was **approved** on a roll-call vote: 16 yes, 7 no, 17 abstaining. The vote tally is given in **Attachment 16**.

10. REPORT OF THE SPECIALISTS GROUP ON DATA BROADCAST, T3/S13 (MIKE DOLAN)

Mike Dolan (TBT), chair of T3/S13, reported on activities in the specialists group (**Attachment 17**).

10.1 Software Download

Mr. Dolan called attention the current Working Draft of the T3/S13 software download specification, S13-229r3 (**Attachment 18**). He said the specialists group wanted to give T3 members a heads-up on the general design strategy. In particular, he called attention to several architectural points:

- There is no requirement for a DST
- The design is somewhat close to SCTE 28, 8.15 CDS, but there are differences required
- The top level signaling of the service is with a new VCT `service_type`
- The download is accomplished with DSM-CC DII and DDB messages and the carousel download scenario

Mr. Dolan reported that T3/S13 has communicated this work to SCTE DVS for comment.

Mr. Dolan said the specialists group plans to have a Working Draft ready for formal consideration at the June 10 T3 meeting. He asked T3 members to forward any comments on the draft document to T3/S13.

10.2 DTVCC

Mr. Dolan reminded the committee of an action item from the February 19 T3 meeting directing him to inquire of the Applications Subcommittee regarding the possible need for closed caption

functionality in the E-VSB fallback mode. He said AS discussed this issue at its March 31 meeting and concluded that there was no need for work in this area at the present time.

10.3 T3/S13 Scope

Mr. Dolan reminded the committee that at the February 19 meeting, T3/S13 was directed to come back with a revised scope statement that would add closed captioning. He called attention to draft scope document, S13-240r1 (**Attachment 19**); he said the proposal consists of two steps:

- The first step simply adds closed captioning as requested.
- The second step adds a “cleanup” and clarification of the T3/S13 scope that follows the general model of the new T3/S8 scope, and includes the items T3/S13 has been working on during the past few years.

Mr. Dolan offered that the second step provides a clearer delineation between T3/S8 and T3/S13 and more accurately captures what T3/S13 has done in the past and is doing today. He encouraged T3 to consider the second step, even though a “general cleanup” was not specifically requested.

Mr. Dolan explained that while this is a proposal from him personally, he posted an earlier draft of the document to T3/S13 for comment and revised it based on the comments received. He acknowledged that at least one T3/S13 member is fundamentally opposed to the proposal, and that he was unable to satisfactorily address that person’s comments.

Mr. Dolan emphasized that this is not a proposal for any specific caption-related work item. He said it would just enable T3/S13 to work on CEA-608 and CEA-708 issues as needed within T3, thereby providing a clear home for captioning.

Mr. Dolan **moved**, as chair of T3/S13, to change the scope as proposed in Step 1 (above). The motion **failed** for lack of a second.

Chairman Justus opened the floor for discussion. Mr. Allison said he felt it was absolutely unacceptable to mention CEA-608 in the scope, or for ATSC to do any work whatsoever that directly touches CEA-608. He said this standard is for NTSC, not DTV. He added that the method for carriage of CEA-608 bytes in CEA-708 structures was hashed out long ago, and that it is the clear responsibility of CEA. Mr. Allison said it seems that T3 has two choices with respect to CEA-708 caption carriage:

- Move all responsibility for CEA-708 carriage to T3/S13.
- Task T3/S13 to develop a method to carry CEA-708 captions in E-VSB in the event there is video in the E-VSB stream.

Mr. Allison said that splitting the delivery of CEA-708 data services is sub-optimal, and that NAB therefore submitted a revised scope that moves all CEA-708 carriage issues to T3/S13 and addresses the clarifications proposed in “Step 2” of Mr. Dolan's contribution. Mr. Allison’s proposal is given in **Attachment 20**.

Support for this approach was voiced by Mr. Goldberg, Chair of CEA R4.3, and Robert Blanchard (Sony), and Mr. Jones.

Mr. Allison **moved** that the draft T3/S13 scope he proposed in **Attachment 20** be accepted by T3. **Second** by Mr. Blanchard. Discussion followed and one editorial refinement was offered and agreed to by the committee; specifically, in the second bulleted item, “13818-6” should be preceded by “ISO/IEC.”

Chairman Justus called the question. It was **approved** on a show of hands.

11. ARCHITECTURAL TEAM (MIKE DOLAN)

Mike Dolan, chair of the Architectural Team, said there were no items to report.

12. REPORT OF THE SPECIALISTS GROUP ON PSIP METADATA COMMUNICATION, T3/S1 (GRAHAM JONES)

Graham Jones (NAB) reported on current activities within T3/S1 (**Attachment 21**). Mr. Jones expressed his thanks to the many contributors to the PMCP Candidate Standard, in particular Fred Grenier (Thales Broadcast), Toufic Moubarak (Decisionmark), and Richard Chernock (Triveni Digital).

Chairman Justus congratulated Mr. Jones on being named recipient of the 2004 Bernard J. Lechner Award. The committee gave Mr. Jones a round of applause.

12.1 Status Report

Mr. Jones reviewed the status of activities, focused on the PMCP Candidate Standard. He said T3/S1 is continuing to review comments received on CS/75 and is considering possible revisions to the document. A record of all comments can be found on the T3/S1 page of the atscmembers.org Web site.

Mr. Jones reported that work continues to develop a "Guide to the Use of the PMCP Standard," with the goal of completing a Working Draft by September 2004. He added that future PMCP-related projects could include extensions for PSIP for data broadcasting and extensions for PSIP for E-VSB applications.

Chairman Justus observed that, with the existing timeline on CS/75, action by T3 will be required on June 10 to either extend the CS period or elevate the document to Proposed Standard status. Mr. Jones acknowledged the timeline and added that given the amount of implementation work still to be done, it is possible that the Candidate Standard period will need to be extended beyond June 10.

Mr. Jones reported that at least 9 companies represented in T3/S1 are working on trial implementations, with at least 4 demonstrations planned for the upcoming NAB convention. He said that control capabilities outside of PSIP, specifically encoders and multiplexers, are of interest to T3/S1 members and that work is expected in the near future.

13. REPORT OF THE SPECIALISTS GROUP ON ACAP, T3/S2 (CRAIG SMITHPETERS)

Craig Smithpeters (Cox) reported on activities within T3/S2 (**Attachment 22**).

13.1 Status Report

Mr. Smithpeters reported that T3/S2 continues to work on the ACAP specification, the latest version of which (CS/101A) was published on the ATSC Web site on March 26. He said that the ACAP-OCAP comparison work is virtually complete, with some minor work yet to be done in transport comparison. Mr. Smithpeters added that T3/S2 will continue to hold bi-weekly corrigenda teleconferences to deal with remaining issues, the most urgent of which is the completion of open action items related to CS/101A.

Regarding ACAP-X and BML harmonization, Mr. Smithpeters reported that T3/S2 is reviewing ARIB's harmonization proposal, which will be considered at the May ITU SG9 meetings. He said ATSC should have a representative present. Mr. Smithpeters said he might be able to attend, depending on the press of other business. Ms. Aylsworth agreed that it is important to have an ATSC representative at the SG9 meeting.

14. REPORT OF SPECIALISTS GROUP ON DATA MULTIPLEX/TRANSPORT, T3/S8 (MARK EYER)

Mark Eyer (Sony), chair of T3/S8, outlined current work of the specialists group (**Attachment 23**).

14.1 Status Report

Mr. Eyer noted the publication of the E-VSB amendments to A/53 Annex C:

- CS/T3-608: Amendment No. 1 to ATSC Digital Television Standard, Doc. A/53C (AVC/H.264 Version)
- CS/T3-609: Amendment No. 1 to ATSC Digital Television Standard, Doc. A/53C (VC-9 Version)

He encouraged members to provide feedback to T3/S8 on the specifications during the Candidate Standard phase, which runs through August 2.

Mr. Eyer said T3/S8 believes there is a need to pro-actively call attention to the documents. Mr. Richer agreed that it was a good idea and said he would follow up with a press release announcement.

14.2 Proposal to Withdraw A/56

Mr. Eyer reported that at the January 14 T3/S8 meeting the specialists group considered the question of whether conditions are now right for the official withdrawal of ATSC Standard A/56, "System Information for Digital Television". He noted that SCTE has removed all references to A/56, moving relevant aspects to the newly published document SCTE 57. Mr. Eyer reported the consensus of T3/S8 that A/56 should be withdrawn.

Mr. Eyer **moved** on behalf of T3/S8 that T3 approve withdrawal of A/56. Mr. Richer clarified that should this motion pass, the question will be put before the membership in a letter ballot. Chairman Justus called the question. It was **approved** on a show of hands.

14.3 Ad Hoc Group Status Reports

Mr. Eyer summarized activities within T3/S8 ad-hoc groups, specifically:

- S8-1, E-VSB Transport AHG, is considering a formal definition of a "still pictures" model.
- S8-4, Standards Maintenance AHG, continues to identify changes needed to A/53 and A/65.
- S8-5, Conditional Access AHG, is conducting a 5-year review of A/70 with the goal of producing a Working Draft A/70A.
- S8-6, Content Identification AHG, is tracking applicable work and providing input as warranted. The group is examining how certain ISO proposals might provide similar functionality to that contained in A/57A.

15. REPORT OF THE SPECIALISTS GROUP ON RF TRANSMISSION, T3/S9 (CHARLES EINOLF)

Charles Einolf (UPN), chair of T3/S9, reported on current activities within the specialists group.

15.1 Status Report

Mr. Einolf reported that work continues on a draft Recommended Practice on Distributed Transmission Networks. This effort is being led by Mr. Weiss.

Mr. Einolf said the ad-hoc group working to develop a Recommended Practice on E-VSB continues to make progress, with Wayne Bretl (Zenith) as the chair. He said an early Working Draft document is being assembled.

Separately, T3/S9 continues to monitor work aimed at improving VSB transmission performance by ETRI, Samsung, and Philips.

Mr. Eyer suggested that T3/S9 consider looking at the E-VSB Annex D Amendment with an eye toward considering changes that might ease the concerns of some of those opposed to E-VSB for a variety of reasons.

Mr. Richer acknowledged that while it is good to attempt to seek common ground, the Annex D Amendment is scheduled to go to membership ballot by June 1.

Mr. Allison commented that the suggestion by Mr. Eyer had merit, but for it to begin a formal proposal is needed. Chairman Justus concurred. Mr. Einolf said T3/S9 is always interested in listening to new ideas, and given a formal submission, would consider it.

Mr. Claudy agreed there was merit in Mr. Eyer's suggestion, but cautioned that any attempt to simply delay the membership vote on Annex D would be inappropriate.

Mr. Richer encouraged companies who have feelings on both sides of the E-VSB issue to open doors and discuss options. He offered to facilitate such efforts as necessary. He added that if any members have specific, constructive comments, they should put them on the table very soon.

16. REPORT OF THE SPECIALISTS GROUP ON RECEIVERS, T3/S10 (JOHN HENDERSON)

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

16.1 Status Report

Mr. Henderson noted that the T3 ballot on "Working Draft Recommended Practice: Receiver Performance Guidelines" was issued 10 March 2004 and closes on 7 April 2004. Chairman Justus asked Mr. Henderson to lead a comment resolution group that includes Mr. Einolf, Andy Bater (Tribune), and Azzedine Touzni (ATI).

Mr. Hankinson applauded the leadership of Mr. Henderson, saying the work of T3/S10 is an excellent example of how different industries can come together to produce a valuable document.

17. OTHER BUSINESS

17.1 Liaison Reports

17.1.1 MPEG

Mr. Narasimhan reported that MPEG Amendments 4 and 5 have been promoted, with input from ATSC. He also called attention to a Philips proposal to build a layered coding architecture which could be attractive in some applications. He took an action item to post details of the proposal to the T3 reflector for comment.

17.2 Application Subcommittee

Sterling Davis (Cox) updated the committee on current work within the Applications Subcommittee, including:

- A White Paper on E-VSB has been approved and will be forwarded to the Board of Directors for consideration.
- Usage scenarios have been provided to S9-2, the AHG working to develop a draft Recommended Practice on E-VSB, for consideration in its work.
- AS has embarked on a major project to develop a "Roadmap to DTV Products and Services."

17.2.1 Use of Advanced Codecs

Mr. Davis called attention to previous correspondence from AS to T3 relating to the possible use of the advanced coding technologies now being considered by T3/S6 in the main transport stream, not just the proposed E-VSB stream. The text of the correspondence is given below:

“In the documentation of advanced coding systems by T3/S6, the Applications Subcommittee recommends that such systems not be constrained to operate only in the robust mode and should include specific provisions for carriage in the main stream.”

Mr. Davis said he had not received a response from T3 regarding this correspondence, which was sent in December 2003. He went on to provide background on this issue, and the reasoning behind the liaison statement.

Mr. Richer said that he believed that new codecs are going to be used in the marketplace and added the real question is whether we want this evolution to proceed in a standardized manner. He suggested that one or more specialists groups be directed to study the issues involved and bring back details to T3. Mr. Richer added that AS could also be asked to provide additional input on the subject.

Chairman Justus opened the floor for discussion:

- Mr. Tanner said this issue raises some very difficult questions. He urged that T3 take no actions to proactively move toward multiple coding technologies in the main stream. He added that T3 should not embark on any work in this area unless and until it has a formal proposal from a member stating why such work should be undertaken.
- Mr. Weiss recognized there are important considerations related to this subject. However, he suggested that from a technical standpoint, implementation would be rather straightforward. Regarding the suggestion by Mr. Tanner that a formal proposal should be developed, he stated that Tribune would contribute to such a document.
- Mr. Kraus suggested that before considering the subject, T3 should have a background and/or options paper before it.
- Mr. Henderson agreed this issue needs to be examined in some detail, since there are more issues than might at first appear. He said there seems to be sufficient technical meat for one or more specialists groups to be looking into it.
- Mr. Eyer commented that CE product longevity is a critical issue here. He said new codecs are invariably more processor-intensive and that keeping-up with new versions of codecs is extremely difficult.
- Chairman Justus, speaking as the CEA representative, said he agreed with Mr. Tanner that before proceeding T3 should wait until a formal proposal for use of advanced codecs in the main stream is received.
- Mr. Reitmeier said the suggestion for a formal proposal and request is a valid point, however, he reminded the committee that there is more to consumer video today than just terrestrial television.
- Mr. Hankinson expressed agreement with Mr. Weiss and added that ABC would participate in the development of a needs/request document. Mr. Hankinson said broadcasters do not want to be locked out new technologies to serve consumers. He said this is an important subject to investigate.
- Mr. Allison said we need, at minimum, to not unduly constrain this functionality. He added that the E-VSB Candidate Standards, as constructed, do not prohibit such usage.

- Mr. Aitken offered that the current ATSC standard permits, in one form or another, the transmission of almost any type of data. Having said that, he recognized that coordination with other parties is essential.
- Greg DePriest (consultant for Zenith) endorsed the objective of keeping up with other product offerings. He cautioned against studying this issue to death.
- Pat Griffis (Microsoft) said there are a number of other marketplace realities outside of ATSC. He said looking at the benefits of these technologies would be beneficial to members.
- Mr. Miller stated that, going back to the original AS question, the E-VSB documentation developed so far does not constrain use of advanced codecs to only the robust mode. He said, however, that other standards—notably Annex A of A/53B—do by specifying the use of MPEG-2 for video.

Mr. Richer suggested that T3 direct T3/S6 and T3/S8 to study whether any constraints currently exists on use of advanced codecs in the main stream and to report back at the next meeting. Depending on the outcome, he said, T3 may then suggest that AS study the broader issue of advanced codec use more fully.

Chairman Justus asked T3/S6 and T3/S8 to consider the correspondence from AS and to report back at the next T3 meeting.

18. SCHEDULE OF NEXT T3 MEETINGS

The next meeting of the Technology Group on Distribution will be held on 10 June 2004. Other meetings this year include the following:

- September 23, 2004
- November 16, 2004

19. ADJOURNMENT

There being no further business, the meeting was adjourned at 3:00 p.m. EST.

Action Items Developed at this Meeting

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

- 1) Jerry Whitaker to assign a T3 number to AS-040, "Requirements for Remote ENG Communications Standard" and to forward said document to Mark Eyer.
- 2) Mark Eyer and T3/S8 to review "Requirements for Remote ENG Communications Standard" and to report back with recommendations for moving forward at the June 10 meeting of T3.
- 3) Jerry Whitaker to assign a T3 number to IS-309, "Recommended Practice for Control of AC-3 Program Elements in the ATSC Transport" and to forward said document to Craig Todd.
- 4) Craig Todd (Dolby) to lead an AHG on Audio Program Elements to look at the issues identified in IS-309 and to begin the development of a Working Draft Recommended Practice. Mr. Todd to post a note to the T3 reflector announcing the formation of the AHG and asking interested persons to participate.
- 5) Bill Miller to forward T3S6-298 to ATSC staff for posting on the ATSC Web site as a Candidate Standard for a period of time ending 10 September 2004.
- 6) Bill Miller to forward T3S6-260r4 to ATSC staff for posting on the ATSC Web site as a Candidate Standard for a period of time ending 23 September 2004.
- 7) Chairman Justus to distribute a note to all ATSC members calling attention to the new E-AC-3 Candidate Standards and asking for explicit feedback and comments on the documents.
- 8) Chairman Justus to transmit the E-VSB Annex D Proposed Amendment to the membership with all due haste and to solicit comments from the entire membership on the document.
- 9) ATSC staff to issue a letter ballot to the membership regarding the proposed withdrawal of A/56.
- 10) Sam Narasimhan to post to the T3 reflector for comment details of an MPEG liaison issue relating to a Philips proposal to build a layered coding architecture.
- 11) William Miller and T3/S6 to consider the AS correspondence relating to advanced codecs in the main stream and to report back to T3 at the next meeting.
- 12) Mark Eyer and T3/S8 to consider the AS statement relating to advanced codecs in the main stream and to report back at the next T3 meeting.

The following (modified) action item was carried forward from the February 19 T3 meeting:

- 13) William Miller and T3/S6 to draft proposed language that would add the constraint `low_delay=0` in WD/53C.

Attachments

- Attachment 1.** Attendance List
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_1_attendance.doc
- Attachment 2.** Draft Agenda
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_2_draft_t3_agenda_2004-04-02r5.doc
- Attachment 3.** Draft Minutes from T3 Meeting of 19 February 2004
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_3_t3-610r2_minutes_2004_02_19.doc
- Attachment 4.** AS-040, ENG Return Path
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_4_ENG_Return_Path_AS-040r16.doc
- Attachment 5.** T3 Goals for 2004
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_5_ATSC_Goals_2004.pdf
- Attachment 6.** IS-308, Requirements for RP on AC-3
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_6_IS-308.doc
- Attachment 7.** T3/S6 Status Report
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_7_T3S6_status_2004-04-02.ppt
- Attachment 8.** T3S6-298, Enhanced AC-3 Bit Stream Syntax
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_8_T3S6-298.pdf
- Attachment 9.** T3S6-260r4, High Efficiency Audio System Characteristics
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_9_T3S6-260r4.doc
- Attachment 10.** T3S6-297, Summary of E-AC-3 Features
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_10_T3S6-297.pdf
See also T3S6-299:
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_10a_T3S6-299_Enhanced_AC-3_Summary.doc
- Attachment 11.** Vote Tally on T3S6-298
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_11_T3_Vote_4-02-04_T3S6-298.xls
- Attachment 12.** Vote Tally on T3S6-260
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_12_T3_Vote_4-02-04_T3S6-260.xls
- Attachment 13.** Architecture Team Recommendations on A/53 Revision
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_13_A-Team_Recommendations.txt
- Attachment 14.** E-VSB Document Map
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_14_ATSC-EVSB-MapR3.ppt
- Attachment 15.** WD/53Cr5
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_15_WD_53Cr5.doc
- Attachment 16.** Vote Tally on Goldberg Motion
http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_16_T3_Vote_4-02-04_Notification_T3-596.xls

Attachment 17. T3/S13 Status Report

http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_17_S13-241R0-Status.ppt

Attachment 18. S13-229r3, Working Draft Software Download Specification

http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_18_S13-229R3-Download.doc

Attachment 19. S13-240r1, Draft Revised Scope

http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_19_S13-240R1-Scope.doc

Attachment 20. T3/S13 Alternate Proposed Revised Scope

http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_20_S13-Scope_Alternative.doc

Attachment 21. T3/S1 Status Report

http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_21_T3-S1_report_4-02-04r1.doc

Attachment 22. T3/S2 Status Report

http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_22_T3S2-026.ppt

Attachment 23. T3/S8 Status Report

http://www.atscmembers.org/sg/T3/2004_04_02/documents/Attachment_23_S8_Status_Report_4-04a.ppt