

Minutes, Technology Group on Distribution 12 March 2003

Advanced Television Systems Committee

1750 K Street, N.W.

Suite 1200

Washington, D.C. 20006

www.atsc.org

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 160 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)

National Association of Broadcasters, Washington, D.C.
12 March 2003

1. WELCOME, INTRODUCTIONS, AND DETERMINATION OF QUORUM

Chairman Ralph Justus (CEA) called the meeting to order at 11:00 a.m. at the headquarters of the National Association of Broadcasters in Washington, D.C. He thanked the NAB for hosting the meeting and welcomed those in attendance. He asked each person to identify himself 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 (**Attachment 2**). The following changes were proposed: 1) move the T3/S9 report up to directly follow the Architecture Team report, 2) add an agenda item "ETRI Presentation" as the last topic under the T3/S9 report, and 3) add an agenda item "ISO-VISAN" under the "Liaison Reports" heading. With these changes, the agenda was accepted as modified.

3. APPROVAL OF THE DRAFT MINUTES OF DECEMBER 2, 2002, MEETING

Chairman Justus called member's attention to the draft Minutes of the December 2, 2002, T3 meeting, which were distributed to the T3 reflector on February 25 (**Attachment 3**). Mr. Whitaker stated that two editorial corrections had been identified prior to today's meeting. No further changes were requested by committee members and the draft Minutes were accepted as submitted.

4. OPENING REMARKS

Chairman Justus observed that T3 has made considerable progress in moving important documents forward since the last meeting, and he thanked all participants for their hard work. He reminded the group that today's agenda was quite full, with important decisions to be made. He urged all committee members to keep time constraints in mind as the meeting progressed.

5. COMMENTS BY THE PRESIDENT (MARK RICHER)

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

5.1 Status of Ballots

Mr. Richer briefed the committee on the status of current ballots. For ATSC Membership ballots:

- Transport Stream File System: approved 25 February 2003, 18 yes, 2 no; editorial privilege approved 18 yes, 1 no.
- PS/65B: closes 18 March 2003

For T3-related ballots:

- A/53B Amendment 2: approved 6 February 2003; 17 yes, 2 no; editorial privilege approved 17 yes, 2 no.
- DTH Satellite Broadcast: approved 21 February 2003; 16 yes, 2 no; editorial privilege approved 17 yes, 1 no.
- Content Identification and Labeling for Transport: closes 12 March 2003

5.2 2003 Goals

Mr. Richer briefed the committee on the goals for technical activities as approved by the ATSC Board of Directors at its January 30, 2003, meeting (**Attachment 4**). He called attention to the major efforts and the timelines, specifically:

- VSB Enhancements:
 - 1) Advance specification to Candidate or Proposed Standard by May 1
 - 2) Complete associated transport, video and audio coding, and data specifications by September 30.
- Harmonize DASE and OCAP (complete “DCAP”) by July 1
- Revise A/54 (Guidelines to ATSC DTV Standard A/53) by July 1
- Complete DTH Satellite Standard by April 15
- Complete PSIP Metadata Standard by September 30

5.3 ATSC Comments to FCC

Mr. Richer reported that the Board, at its January 30 meeting, determined that ATSC should file comments on the FCC’s DTV second periodic review Notice of Proposed Rulemaking (NPRM). Among the positions expected to be argued in the filing is that PSIP should be made mandatory for broadcast transmission.

In a related matter, Mr. Richer said the Board urged T3 to complete work on any VSB enhancements as soon as practical so that the changes could be included in the comments to be filed in response to the NPRM.

5.4 DASE/OCAP Harmonization

Mr. Richer reported on the progress of DASE/OCAP harmonization. He said two meetings have been held since the December 2, 2002, T3 meeting and that considerable progress has been made. He added that there has been some divergence from the framework agreement between ATSC and CableLabs. Implementation of A/9x would require modification to the existing cable infrastructure while similar functionality provided by DVB specifications would not. Additionally, he said, the issues of compliance testing and product time-to-market favored the MHP approach.

Mr. Richer said he received a positive letter from Prof. Ulrich Reimers of DVB, and that it is possible DVB will accept the harmonized declarative specification of DASE (**Attachment 5**).

Mr. Richer said it is the expectation of the harmonization team to provide a draft document to T3 at the June 24 meeting, with the request that it be voted on as a Candidate Standard.

5.5 Other Issues

Other items covered in Mr. Richer’s briefing included the following:

- The ATSC annual meeting, which was held yesterday, was a big success. With attendance at over 140 and participation by industry leaders, he said the event was an excellent opportunity to review the accomplishments of the ATSC, and to take stock of the DTV transition.
- ATSC will have an exhibit at the NAB Convention, to be known as the “DTV Draffhouse.” This cooperative effort will bring together resources from ATSC, CEA, and NAB. The exhibit is intended to demonstrate the capabilities and HDTV and the wide range of programming options currently available to consumers. In addition, several technology demonstrations will be held at the booth.

- Additional work has been done on the ATSC Web site, particularly in the Member's Only area, intended to make navigation easier and to expand the range of resources available.

6. BRIEF REPORTS ON ACTIONS FROM THE PREVIOUS MEETING

The following action items resulted from the T3 meeting of December 2, 2002.

- 1) Adams to report to T3/S17 the direction of T3 to begin work to develop a compliance testing regime for DASE, and to post a note to the T3 reflector giving notice of this work and inviting participation. Mr. Adams shall report to T3, at its next meeting, on progress made. *Completed*
- 2) Henderson to report to T3/S10 the direction of T3 to consider the proposal received from ATTC relating to "Minimum Performance Targets for DTV Receivers," and to post a note to the T3 reflector giving notice of this work and encouraging interested parties to participate. Mr. Henderson shall report to T3, at its next meeting, on progress made. *Completed*
- 3) Jones to form specialists group T3/S1 for the purpose of addressing the PSIP issues defined in IS Finding IS-277, and to serve as chair of the specialists group. Mr. Jones is directed to post a note to the T3 reflector giving notice of this work and encouraging participation in the effort. He is further directed to, at the first meeting of the specialists group, refine the proposed scope with the goal of accurately defining the work of T3/S1 with regard to the other T3 specialists groups, and to report back at the next T3 meeting with a consensus recommendation. *Completed*
- 4) Allison to inform SCTE that there is an MGT table_type conflict and request that they inquire within their membership about implementations using either the LTST or the AEIT. *Completed*
- 5) Whitaker provide a public notice of ATSC intent to amend A/90 to change the MGT table_type value (email to the membership plus Web site note that A/90 is under amendment and, in particular, is incompatible with regard to the MGT code point). *Completed*
- 6) Dolan to report to T3/S13 the direction of T3 to add the MGT table_type item to the A/90 amendment task and to work with the ATSC Registrar to adjust the registry at the proper time. *Completed*
- 7) Dolan to report to T3/S13 the direction of T3 that issues 1 through 4 contained in the Architecture Team Normative Reference Report AT-002R0 be examined by the specialists group and a resolution fashioned prior to the March 12 T3 meeting. *Completed*
- 8) Eyer to report to T3/S8 the direction of T3 that issue 5 contained in the Architecture Team Normative Reference Report AT-002R0 be examined by the specialists group and a resolution fashioned prior to the March 12 T3 meeting. *Completed*
- 9) Justus to fill the chair position for the newly-formed Ad-Hoc Group on Implementation Guidelines for the Robust Mode. *Carried forward*
- 10) Dolan to forward the completed Architecture Team recommendations regarding Robust Mode documentation to the T3 reflector when available. *On Agenda*
- 11) Whitaker and Richer to look into issues relating to A/53B Annex C changes that may need to be addressed by various specialists groups and to report back at the next T3 meeting with suggestions for moving forward. *Carried forward* (see the written report in Annex A)

- 12) Whitaker to assign a T3 number to the revised T3/S8 Scope Statement (T3/S8-492rev3). *Completed*
- 13) Miller to report to T3/S6 the consensus of T3 that the specialists group examine the work required to place emergency audio information in any and all full-services that are broadcast. Furthermore, T3/S6 is directed to delay taking action with regard to the E Service itself until the ATSC Applications Subcommittee has had an opportunity to consider the broad question of emergency service to the public. *Completed*
- 14) Eyer to forward to ATSC staff PS A/65B, dated November 15, 2002, for issuance of a 4 week ballot of the ATSC membership. *Completed*
- 15) Eyer to forward to ATSC staff T3-580r1 (Amendment 2 to A/53B) for the issuance of a 4 week ballot of T3. *Completed*
- 16) Eyer to forward to ATSC staff T3-581d (Content Identification and Labeling) for the issuance of a 4-week ballot of T3. *Completed*
- 17) Weiss, in consultation with Richer, to lead a ballot resolution team to look at the comments received during the T3 ballot on the Distributed Transmission Candidate Standard and to report back to T3 at its March meeting. *Completed* (see the written report in Annex B)
- 18) Dolan to report to Richer and Justus, upon completion of a specified comment period and resolution process, the final disposition of the Transport Stream File System Proposed Standard. With the approval of Richer, in consultation with Justus, the TSFS PS shall be sent to a ballot to the ATSC membership. *Completed*
- 19) Todd and Tanner to draft the appropriate footnote copy for WD DTH Satellite Standard that addresses the 44.1 kHz audio sample rate issue. *Completed*
- 20) Shah to forward to ATSC staff T3/S14A-100rev9, upon resolution of outstanding comments, for the issuance of a T3 ballot. Prior to distribution of the ballot, a T3 number shall be assigned. *Completed*

7. NEW WORK ITEMS FOR DISCUSSION

7.1 Assigned by Board of Directors

Mr. Richer reported that there were no new work items to T3 from the Board.

7.2 Implementation Subcommittee

Mr. Allison reported that there were no new work items to T3 from IS.

7.3 Other

There were no other work items.

8. ARCHITECTURAL TEAM

Mike Dolan (TBT), Chair of the Architecture Team, reported on activities within the group.

8.1 Normative References

Mr. Dolan reminded the committee of the background on this issue. He said that at the December 2, 2002, T3 meeting, the Architecture Team was asked to revise its recommendations on normative references to address certain issues identified during the meeting. He said this work was completed and the revised document was posted to the T3 reflector on December 18 as AT-002r4a (**Attachment 6**). Mr. Dolan said no further comments have been received from T3 members since the posting.

Mr. Dolan **moved** that T3 adopt AT-002r4a. **Second** by Mr. Allison. The motion was **approved** on a voice vote. Mr. Whitaker assigned the document T3 number T3-599.

8.2 Robust Mode Documentation Strategy

Mr. Dolan called members attention to the specific recommendations of the Architecture Team regarding the robust mode documentation strategy given in **Attachment 7**.

Mr. Dolan reviewed wording of the report, posted to the T3 reflector on December 13, 2003, and went on to outline the reasoning for the process steps and suggested division of responsibilities with regard to robust mode specification development. The specialists groups involved are T3/S6, T3/S8, and T3/S13.

Mr. Dolan said he was not requesting formal approval of the document, but he felt it was appropriate for T3 to keep the issues outlined in mind as it considers robust mode work.

Chairman Justus recognized the efforts of the Architecture Team on this issue, and observed the consensus of T3 that the document would serve as a good framework for consideration as the committee moves forward on robust mode issues.

9. REPORT OF THE SPECIALIST GROUP ON RF TRANSMISSION, T3/S9 (JOHN TOLLEFSON)

John Tollefson (PBS), Chair of T3/S9, provided an overview of the work underway in the specialist group (**Attachment 8**).

9.1 Draft Revision of A/53B Annex D

Mr. Tollefson reported that, based on test results, T3/S9 has reached consensus to recommend to T3 the Zenith/NxtWave/ATI proposal for robust mode transmission as an optional element of A/53, the ATSC Digital Television Standard. He said that all laboratory and field testing has been completed, and that the documents describing those tests have been widely distributed within ATSC. He said one clear conclusion of the testing program was that operation of the recommended system resulted in no significant impact on receivers in the field. He added that the laboratory and field testing generally supported the respondents' claims. Mr. Tollefson stated that consensus has been reached in T3/S9 to recommend to T3 that the proposed robust mode system, defined in the form of an amendment to A/53B, be balloted by T3 as a Proposed Standard.

Mr. Tollefson went on to caution that this proposed mode does not address all of the Broadcaster Requirements that were identified when the enhanced-VSB (EVSB) process began more than two years ago. He emphasized, however, that every effort has been made to address all of the requirements, and added that the proposed system adds a significant tool for broadcasters, not the least of which is improved C/N for robust mode operation. He reminded the committee that the proposal offers significant flexibility for broadcasters., and is optional.

Mr. Tollefson offered his opinion that arguing against this proposed standard is essentially an argument against flexibility and broadcaster choice. He added that this step is an important milestone in VSB enhancement; however, he observed that it is not likely the end of the process.

Mr. Tollefson called members attention to T3/S9-091r4, "Working Draft Revision of A/53B Annex D," which was developed and approved by T3/S9 as an optional enhancement to the existing transmission standard (**Attachment 9**). Mr. Tollefson **moved** that T3 ballot Working Draft Revision 4 to Annex D of A/53B, as given in T3/S9-091r4, as a Proposed Standard. **Second** by John Henderson. Chairman Justus opened the floor for discussion.

Comments were offered from a number of committee members, with a variety of views expressed. Craig Tanner (Sharp) questioned why T3/S9 wanted the document to go forward as a Proposed Standard rather than a Candidate Standard. Mr. Tollefson responded that hardware

implementations already exist and that extensive fielding testing has been completed. To that extent, he said, the work expected to be performed during the Candidate Standard phase has already been completed.

Victor Tawil (MSTV), recognizing the considerable amount of work that has gone into the T3/S9 work and the uncertain sense of T3 regarding this motion, suggested that additional time might be appropriate for consideration of this issue. He suggested that perhaps it should be brought back for consideration at the June 24 meeting of T3.

Chairman Justus, recognizing the need for timely action on this matter, stated his desire to move forward if possible. In response to process-related questions, Mr. Richer explained the options available to T3 on this question. Chairman Justus called the question. It was **approved** on a roll-call vote of 10 in favor and 9 opposed, with 19 abstentions.

9.2 ETRI E-VSB Presentation

Sung Hoon Kim of ETRI, a non-profit Korean government-funded research organization, reported to T3 on their ongoing VSB enhancement work (**Attachment 10**), including the goals and measured results of their 4-VSB system. Mr. Kim said ETRI has nearly finished simulations of the ETRI, Philips, and Zenith/ATI robust transmission systems and will furnish the results of those simulations to T3/S9. He said the simulations indicate that, in general, the ETRI system outperforms any other dual stream approach. He also said ETRI is planning to build a 4-VSB DTV receiver that will be used for field-testing the system in Korea. Mr. Kim said these tests will help to determine the robust transmission standard that will be used in Korea.

Mr. Kim went on to describe the technical details of the system and provide an overview of the preliminary test results. He said the ETRI 4-VSB system is fully backward compatibility with ATSC 8-VSB receivers. He said ETRI will continue to keep ATSC informed on their progress.

The meeting broke for lunch at 1:10 p.m.

The meeting resumed at 2:00 p.m.

Merrill Weiss, for Tribune, **moved** that an informative document be prepared to accompany the T3 ballot on the proposed VSB enhancement amendment to detail the systems work necessary to support the enhanced standard, and to indicate the status of that work and the timing of the results expected from that work. **Second** by Mr. Reitmeier.

Mr. Weiss explained that the purpose of this motion is to provide information to those voting members who may not be fully aware of the related standardization work regarding the robust transmission mode now underway within ATSC. He said it is important for voting T3 members to understand that work still remains to be done and that this work is currently underway, and to provide timelines for expected completion. Chairman Justus suggested that the Architecture Team could draft such a document with input from interested individuals.

Mr. Richer recommended that Mr. Weiss draft the suggested wording and forward it to the Architecture Team, which would then produce the final document. Chairman Justus agreed, recommending that following resolution by the Architecture Team of any differences expressed, the informative document would be forwarded to ATSC staff for distribution with the A/53B Annex D Amendment ballot.

Chairman Justus called the question. It was **approved** without objection by a show of hands.

10. REPORT OF THE SPECIALIST GROUP ON DASE, T3/S17 (GLENN ADAMS)

Glenn Adams (XFSI), Chair of T3/S17, provided an update on the work of the specialists group (**Attachment 11**).

10.1 Status Report

Mr. Adams reported that the DASE-1 suite of standards has been published on the ATSC Web site. This move follows approval by the ATSC membership of the Transport Stream File System Standard, A/95, which will be published shortly. Mr. Adams explained that DASE-1 references A/95 and that publication of DASE was delayed until the TSFS Standard was approved.

With regard to DASE-2, Mr. Adams said that work continues, but at a relatively slow pace. He said the work has been impacted by the ongoing DCAP efforts. Mr. Adams went on to outline possible evolutionary paths for DASE, but cautioned that no decisions have been made on the road ahead.

Mr. Adams reported that changes are appropriate to the T3/S17 charter because of the ongoing work relating to DCAP (**Attachment 12**). Mr. Adams **moved** that T3 accept T3-538r3 as the revised charter of T3/S17. **Second** by Edwin Heredia (Microsoft).

Chairman Justus suggested that revision of the S17 charter might be delayed until the June 24 meeting to better reflect the work of the specialists group moving forward.

Upon reflection, and in view of the comments presented by Chairman Justus and others, Mr. Adams withdrew the motion. Chairman Justus noted the consensus of the committee that T3/S17 should undertake work on the DCAP specification and to bring back to the June 24 meeting a revised scope statement that reflects the DCAP efforts going forward.

Mr. Richer suggested that T3 urge T3/S17 to complete planned work on the DCAP specification per the schedule outlined by the Board. Mr. Adams said that the current timeline for developing the document is aggressive. Still, he said that because the planned initial consideration of the document by T3 will be for a Candidate Standard status, the goal may be achievable.

Chairman Justus observed the consensus of T3 that every effort should be made by T3/S17 to complete the specified work relating to DCAP in the timeframes outlined by the Board.

In response to questions, Mr. Adams commented on the potential future of the A/9x series of standards in light of the current direction of the DCAP harmonization process. Mike Dolan, chair of T3/S13, suggested that this discussion should be held in conjunction with the T3/S13 report.

Chairman Justus recognized Don Dulchinos from CableLabs who provided his perspective on the DCAP work. He outlined the constituents of CableLabs and explained the time-to-market concerns of its members. Mr. Dulchinos called attention to the cable industry and consumer electronics industry agreement on plug-and-play compatibility, and added that the DCAP work is the next stage of cooperative efforts. He went on to brief the committee on the CableLabs relationship with DVB.

11. REPORT OF SPECIALISTS GROUP ON TRANSACTIONAL SERVICES, T3/S16 (EDWIN HEREDIA)

Edwin Heredia (Microsoft), Chair of T3/S16 provided an update on activities within the specialist group (**Attachment 13**).

11.1 Status Report

Mr. Heredia reported that T3/S16 continues to meet periodically to define a series of core protocols that will enable ATSC receivers to communicate with remote servers, establish secure channels, and exchange data for transactions. For the specifications, he said the group has adopted the conventional OSI layered protocol model to construct and define required functionality. He went on to outline some of the technical issues that have been addressed by the

specialists group since the last T3 meeting. He added that T3/S16 has been holding joint meetings with T3/S17 to take advantage of the expertise of both groups.

Mr. Heredia reported that T3/S16 has begun to examine how the ongoing DCAP work might affect the transactional services specification. He said additional meetings are scheduled to bring the draft specification to a point that it can be considered by T3. Mr. Heredia added that his goal was to have a draft document completed in time for the June 24 meeting of T3.

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

Mark Eyer (Sony), Chair of T3/S8, reported on current activities in the specialist group (**Attachment 14**).

12.1 Amendment 2 to A/53B

Mr. Eyer reported that comments received during the T3 re-ballot of Amendment 2 to A/53B (Annex C) have been resolved. He said the group assigned to that task has completed its work and issued a revised Amendment 2, T3-580 Rev. 2, given in **Attachment 15** (redline) and **Attachment 16** (clean).

Mr. Eyer reported that of the 19 comments received, only two were deemed to be of a substantive nature:

- Restriction of PID range to 0x0050 to 0x1FEF was found to cause a hardship to certain equipment vendors who are currently assigning PID values in the 0x0010 to 0x4F range. The proposed resolution changes the rules for PID assignment for use with PMT sections or program elements as follows:
 - a. Disallow PID values above 0x1FEF (preserves these for future fixed-PID assignment)
 - b. Discourage use of PID values in the 0x0010 to 0x2F range (in acknowledgment of DVB and ARIB fixed-PID SI assignments)
- Clarify the relationship between the MPEG-2 80,000 bps limit for bit-rate on PID 0 and PMT PID and the minimum repetition rate for the PAT and PMT sections. An adjustment to language was needed here to take into account the fact that, if the PSI tables happened to be large, they cannot be repeated at the indicated rates without violating the 80,000 bps limit. The solution is to allow the repetition rate to be incrementally backed off before the 80,000 bps limit is exceeded.

Certain technical issues were discussed relating to the PID values within the MPEG structure and the changes proposed to Amendment 2 based on the ballot comments. After discussion, T3 agreed that, to preserve harmonization with DVB and ARIB SI standards, use of PID values below 0x0030 should be disallowed. In acknowledgement of existing practice, the inclusion of a sunset date was proposed. Mr. Eyer suggested a period ending January 1, 2005; this date was accepted by the committee.

Mr. Eyer **moved** that the substantive changes proposed by the T3/S8 ballot reconciliation group relating to Amendment 2 to A/53B, as documented in T3-580r2, with the modifications relating to PID values described above be elevated to the status of Proposed Standard. **Second** by Mr. Miller. The motion was approved on a voice vote.

12.2 Transport for Robust Transmission

Mr. Eyer reported that the T3/S8 ad-hoc group studying robust mode transport issues has requested some adjustments to the Assumptions and Considerations statement, T3-583, which was previously approved by T3. He said consensus was reached at the last T3/S8 meeting that certain changes were appropriate; these changes are documented in T3-583 Rev. 1 (**Attachment 17**). Proposed changes include the following:

- Add consideration for data-broadcasting (coordinate with T3/S13)
- Add requirement to support synchronization of normal/robust program elements (actual required timing tolerances)
- Scope of work to include methods for creating robust transport streams such that MPEG-2 Systems timing and buffer models are met

Mr. Eyer reported that progress is being made regarding SI/PSI for service structure signaling and announcements, and detailed protocol for robust/non-robust linkage.

Mr. Eyer **moved** T3 acceptance of the changes proposed in T3-583r1. **Second** by Mr. Allison. The motion was approved by a voice vote.

12.3 Transport ID and Labeling

Mr. Eyer reported that the T3 ballot of the Transport ID and Labeling Standard closes today, and that it is expected to be approved. He reminded the group that this document, T3-581r1, is intended to replace A/57 and that formal action to withdraw A/57 and replace it with T3-581r1, to be known as A/57A, is appropriate.

Mr. Richer called attention to introductory text in T3-581r1, which clearly states that the document is intended to replace A/57. Mr. Eyer **moved** that T3-581r1 be considered a revision to A/57, as that document is intended replace A/57. **Second** by Mr. Miller. Approved on a voice vote.

Chairman Justus directed Mr. Eyer to form a ballot reconciliation group to address ballot comments (if any) received during the T3 ballot of T3-581r1.

12.4 A/54 Update

Mr. Eyer reported that T3/S8 has completed its work on revision of Section 8 of A/54 (Transport) and has delivered the document to the A/54A editor (Mr. Whitaker). He thanked the AHG formed to do this work, particularly Richard Chernock (Triveni) and Matthew Goldman.

12.5 Other Issues

Mr. Eyer called members attention to the unchangeable RRT issue raised in a letter to ATSC and the FCC from Rep. Markey, which said, in part "...would eliminate the flexibility that digital technology makes possible, but only in the US!" Mr. Eyer said a teleconference was held on February 7 to analyze this issue. Two options were identified: 1) rescind US RRT exception, or 2) say (editorially) that a second rating_region could be used. Option 2 was chosen and the revised WD/65B went out for ballot on February 19.

13. REPORT OF THE SPECIALIST GROUP ON SATELLITE BROADCAST, T3/S14-A (DIPAK SHAH)

Dipak Shah (DirecTV), Chair of T3/S14A, reported on current activities within the specialists group.

13.1 Status Report

Mr. Shah reported that the Working Draft DTH Satellite Broadcast Standard (T3-593r2) has been approved by T3. He said comments were received on the ballot, but they appear to be editorial in nature. Chairman Justus directed T3/S14A to address the comments and report back to the ATSC President and Chair of T3 with recommendations for resolution, leading to a membership ballot on the Proposed Standard.

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

Mike Dolan, Chair of T3/S13, briefed the committee on the work of the specialist group (**Attachment 18**).

14.1 TSFS

Mr. Dolan reported that the Transport Stream File System Standard has been approved by the ATSC membership and is about to be published on the ATSC Web site as A/95.

14.2 A/90 Errata

Mr. Dolan reported on work underway to complete a full revision of A/90, saying there are a number of noted errata, clarifications, and enhancements documented by T3/S13. He said a Working Draft A/90A could be ready for consideration by T3 at its June 24 meeting.

14.3 Robust Mode Signaling

Mr. Dolan reported that joint S8/S13 teleconferences continue to be held to address data broadcast issues relating to the proposed robust transmission mode. He said that no data-specific issues have been identified.

14.4 DCAP Harmonization Impact

Mr. Dolan outlined the relationship of the ATSC data broadcast specifications, and how the DCAP work—both in its initial and current form—might impact the A/9x series of standards. He said that harmonizing the emerging DCAP specification with elements of the A/9x series may be quite difficult. He went on to question what the future of the A/9x standards might be.

Mr. Adams observed that unless the DASE A/100 standard is withdrawn, there will still be a need for the A/9x series of standards. He went on to suggest that certain strategies could be used to make the interoperability of A/9x and DCAP possible.

Mr. Richer commented that the DCAP work is being driven not just by technical concerns, but also by business considerations. He added that the A/9x series of standards can continue to exist regardless of what happens with DCAP. He said the A/9x work is intended for a wide range of data services, which is not necessarily the intent of DCAP. Mr. Richer urged those interested in the outcome of DASE/OCAP harmonization to participate in the work.

Mr. Dolan suggested that T3/S13 might want to focus energy on bringing the A/9x documents into some alignment with DCAP. Regarding the planned revision of A/90, Mr. Dolan said that work on this project should be undertaken only after the draft DCAP specification is in a more finished form.

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

William Miller (ABC), Chair of T3/S6, reported on current activities within the specialist group (**Attachment 19**).

15.1 RFI on Coding for Robust Transport

Mr. Miller reminded the committee of the goals of the Request for Information (RFI) released by T3/S6 on advanced audio/video coding for the proposed robust transmission mode. He said 11 responses were received, specifically:

- Coding Technologies
- Dolby Laboratories
- Motorola
- Microsoft
- MPEG-4 Industry Forum
- On2 Technologies
- iBiquity Digital
- Philips

- Sony
- Tandberg
- Thomson/Sarnoff

Mr. Miller went on to discuss the range of responses received, and said that the specialists group will continue to analyze the proposals with the goal of identifying common points and promising technologies in various fields. He said that T3/S6 hopes to offer some recommendations on moving forward at the June 24 meeting.

Paul Hearty (SCTE) stated that SCTE is currently looking at advanced video and audio coding systems, and suggested that liaison between SCTE and T3/S6 would be useful. Mr. Miller agreed, and asked Mr. Allison to lead the liaison effort.

16. SPECIALISTS GROUP ON PSIP METADATA COMMUNICATION (T3/S1)

Graham Jones (NAB), Chair of T3/S1, outlined the current work of the specialists group (**Attachment 20**).

16.1 Status Report

Mr. Jones reported that T3/S1 was formed in response to direction from T3 at the December 2, 2002, meeting. The vice chair of T3/S1 is Toufic Moubarak (Decisionmark) and the secretary is Eric Piard (Floral). He said there are about 20 active participants.

Mr. Jones called attention to the draft scope statement, T3/S1-202r2 (**Attachment 21**), and outlined some of the specific elements of that document. Some minor changes were suggested by committee members, which were agreed to by Mr. Jones. Chairman Justus observed the consensus of T3 that the proposed scope statement for specialists group T3/S1, as modified, was acceptable to T3 with some minor text changes that were suggested at the meeting.

Mr. Jones went on to outline the draft Work Plan, T3/S1-215r1 (**Attachment 22**), and the ad hoc groups operating within the specialists group (**Attachment 23**). Regarding the T3/S1 Assumptions and Requirements, he said the specialists group is still working on the document and will bring back a final version to T3 at its June meeting. The current draft is given in T3/S1-203r2 (**Attachment 24**).

Mr. Jones said that the work of T3/S1 is on a fast track because of feedback from vendors and end-users that this work is important and is needed in the market to solve everyday problems.

Mr. Jones outlined the coordination and liaison work needed to move forward with the T3/S1 efforts. Groups likely to be involved include: T3/S8, T3/S13, IS-CCWG, and SMPTE.

17. OTHER BUSINESS

Chairman Justus recognized the work of Bernie Lechner, who announced earlier in the meeting that this would be his last T3 meeting. The committee expressed their appreciation to Mr. Lechner for his many contributions with a warm round of applause.

17.1 Liaison Reports

17.1.1 ISO TC46 SC9 WG1 (V-ISAN) Liaison

Mr. Dolan reported on current ISO/V-ISAN work, specifically:

- 1) ISANIA was set up in December and expects to be issuing ISAN numbers this May.
- 2) The V-ISAN syntax (96 bits; root/episode/version) remains unchanged.
- 3) ISAN is still limited to works with an integral visual component.

- 4) V-ISAN has been expanded to include any elementary stream related to a work with a visual component; explicitly added to the V-ISAN draft list are the examples:
- descriptive audio tracks
 - caption tracks
 - audio tracks created and distributed separately

Mr. Miller said that the TV Anytime crid: system is being considered as the resolution mechanism for versions of works (V-ISAN). He added that the V-ISAN working draft should advance to committee draft at the next meeting in June.

17.2 A/53B Annex Updates

There was insufficient time for this agenda item. A written report is given in Annex A.

18. A/54 UPDATE

There was insufficient time for this agenda item. A written report is given in Annex C.

19. SCHEDULE OF NEXT T3 MEETING

The next meeting of the Technology Group on Distribution will be held on June 24, 2003, at Harris in Mason, OH, from 10:00 a.m. until 4:00 p.m. Other 2003 meetings include:

- September 10, 2003
- December 10, 2003

20. ADJOURNMENT

There being no further business before the committee, the meeting was adjourned at 4:30 p.m. EST.

Action Items Developed at this Meeting

- 1) Justus to fill the chair position for the newly-formed Ad-Hoc Group on Implementation Guidelines for the Robust Mode. (carried forward from 3/12/03 meeting)
- 2) Specialists groups T3/S6, T3/S9, and T3/S10 are directed to review their respective annexes to A/53B to identify whether any revisions and/or updates are necessary to bring the document into conformance with changes approved in Amendments 1 and 2 and current practice, and report back to T3 at the next meeting with recommendations for moving forward.
- 3) Tollefson to forward to ATSC staff T3/S9-091r4, "Working Draft Revision of A/53B Annex D," for the purpose of issuing a T3 ballot as a Proposed Standard. Prior to distribution of the letter ballot, Whitaker to assign a T3 number.
- 4) Weiss to draft suggested wording for an informational document to accompany the T3 ballot on "Working Draft Revision of A/53B Annex D" and forward it to the Architecture Team, which will then produce the final document. Dolan and Architecture Team to resolve any differences and, upon completion, forward said document to ATSC staff for distribution with the A/53B Annex D Amendment ballot.
- 5) Adams to report the consensus of T3 that every effort should be made by T3/S17 to complete the specified work relating to DCAP in the timeframes outlined by the Board.
- 6) Eyer to forward to ATSC staff Amendment 2 to A/53B, as documented in T3-580r2 with the modifications relating to PID values approved at today's meeting, for the purpose of issuing a membership ballot.
- 7) Eyer to form a ballot reconciliation group to address ballot comments (if any) received during the T3 ballot of T3-581r1 and to report back to the ATSC President and Chair of T3 with recommendations for moving forward.
- 8) Shah to form a ballot reconciliation group to address comments received during the T3 ballot on T3-593r2 and report back to the ATSC President and Chair of T3 with recommendations for moving forward.

Attachments

Attachment 1: Attendance List

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_1_3-12-03_t3_attendance.doc

Attachment 2: Draft Agenda

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_2_draft_t3_agenda_03_12_03.doc

Attachment 3: Draft Minutes from October 8 Meeting

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_3_T3_591_draft_minutes_12_2_02_rev3.doc

Attachment 4: ATSC Technical Group Goals

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_4_ATSC_Goals_2003_t3.ppt

Attachment 5: DVB Correspondence Regarding DCAP

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_5_RicherwCooperation07032003.pdf

Attachment 6: Architectural Team Normative Reference Recommendations

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_6_AT-002R4a-NormRefs.doc

Attachment 7: Architecture Team Recommendations Relating to the Robust Mode

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_7_A_Team_Rec_on_Robust_Mode.doc

Attachment 8: T3/S9 Status Report

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_8_T3S9_Report_03-12-03.ppt

Attachment 9: Working Draft Revision of A/53B Annex D

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_9_Draft_Annex_D_rev4.doc

Attachment 10: ETRI Transmission System Presentation to T3

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_10_ETRI_T3_meeting_0312.ppt

Attachment 11: T3/S17 Status Report

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_11_S17_Status_20030312.ppt

Attachment 12: Proposed Revised T3/S17 Scope

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_12_T3S17-200R3.doc

Attachment 13: T3/S16 Status Report

http://www.atsc.org/sg/T3/2003_03_12/documents/

Attachment 14: T3/S8 Status Report

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_14_S8_Status_Report_3-03.ppt

Attachment 15: T3-580r2 (Amendment 2 to A/53B with Changes)

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_15_T3_580r2_A53B_Amd-2_draft_chg-trk.pdf

Attachment 16: T3-580r2 (clean)

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_16_T3_580r2_A53B_Amd-2_draft_cln.pdf

Attachment 17: T3/S8 AHG on Robust Mode Assumptions and Considerations

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_17_T3-583r1_assumptions_for_robust_TS.doc

Attachment 18: T3/S13 Status Report

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_18_S13-212R1-Status.pdf

Attachment 19: T3/S6 Status Report

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_19_Advanced_Coding_RFI.ppt

Attachment 20: T3/S1 Status Report

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_20_T3S1_report_3-12-003.ppt

Attachment 21: Draft T3/S1 Scope Statement

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_21_T3-S1_scope_1-23-03.doc

Attachment 22: Draft T3/S1 Work Plan

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_22_T3-S1_work_plan_2-12-03.doc

Attachment 23: T3/S1 Ad Hoc Groups

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_23_T3-S1_ad_hoc_groups_2-27-03.doc

Attachment 24: T3/S1 Draft Assumptions and Requirements

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_24_T3-S1_assumptions_and_requirements.doc

Annex A: A/53B Updates

The following report was not given at today's T3 meeting because of a lack of time. It is included here for informative purposes.

A/53B Annex Updates

This item is the result of an action item from the December 2, 2002, T3 meeting relating to the possible need to update certain elements of A/53B. This AI resulted from a motion approved at the October 8 meeting, which read: "moved that T3 direct the appropriate specialists groups to consider revisions and/or updates to A/53B annexes to conform with the changes and updates made to Annex C."

Pursuant to this AI, on February 28 Mr. Whitaker suggested to Chairman Justus and Mr. Richer the following general approach:

- 1) Given that the impetus for the October 8 motion was changes in Annex C and that revisions to Annex C are not yet complete, the specialists groups should perform the review required by the October 8 motion after membership approval of Amendment 2 to A/53B.
- 2) The specialists groups involved are: Annex A and Annex B—T3/S6, Annex D—T3/S9, Annex E—T3/S10.
- 3) ATSC staff should perform a review of the body of A/53B and deal with the editorial issues identified by Mark Eyer (Sony) at the October 8, 2002, T3 meeting.
- 4) Assuming completion of the work outlined above, this would constitute a full review of A/53B, in which case we could produce Working Draft A/53C (after the changes specified in Amendments 1 and 2 are integrated into the document).
- 5) Because the next scheduled meeting of T3 is June 24, it would seem that the work specified in items 1–3 could be completed in time for formal consideration by T3.
- 6) To restate the open action item on this issue:

"Specialists groups T3/S6, T3/S9, and T3/S10 are directed to review their respective annexes to A/53B to identify whether any revisions and/or updates are necessary to bring the document into conformance with changes approved in Amendments 1 and 2 and current practice, and report back to T3 at the next meeting with recommendations for moving forward."

Annex B: Distributed Transmission CS Status

The following report was not given at today's T3 meeting because of a lack of time. It is included here for informative purposes.

Status Report on Distributed Transmission Candidate Standard

Pursuant to an action item from the December 2, 2002, T3 meeting, Merrill Weiss (MWG) and a comment resolution team addressed comments received during the T3 ballot on the Distributed Transmission Candidate Standard, CS-110. At the request of the ATSC President, the document was initially edited to incorporate only editorial changes resulting from the T3 ballot, and it was published that way on the ATSC web site. Thereafter, the T3/S9 ad hoc group made the substantive changes resulting from the ballot comments and added other substantive changes that resulted from actual implementation of the draft standard. On March 4, 2003, T3/S9 approved the substantive changes to the previously published document, which are indicated in a redlined version in **Attachment 25**. The new version of CS-110 was subsequently posted on the ATSC Web site as CS-110A.

Attachment 25: Redline CS/110A

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_25_CS_110A_redline.doc

Annex C: A/54 Update Progress Report

The current draft version of WD/54A, a complete revision of A/54, the "Guide to the Digital Television Standard," is given in **Attachment 26**. This document is provided for informational purposes. More work remains before it is ready for formal T3 consideration. Current outstanding items include:

- Section 5, Video, needs to be reviewed by T3/S6
- References need to be finalized and reconciled
- Cover-to-cover review by the editor

These remaining items are expected to be completed in time for formal consideration of WD/54A at the June meeting of T3.

Attachment 26: WD/54A

http://www.atsc.org/sg/T3/2003_03_12/documents/attachment_26_T3_586r1_WD54A.pdf