

Minutes, Technology Group on Distribution 13 February 2002

Advanced Television Systems Committee

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The Advanced Television Systems Committee (ATSC), is an international, non-profit membership organization developing voluntary standards for the entire spectrum of advanced television systems.

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 Committee 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 180 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 (Draft)

10:00 a.m. – 4:00 p.m., EIA, 2500 Wilson Boulevard, Arlington, VA
13 February 2002

1. WELCOME, INTRODUCTIONS AND DETERMINATION OF QUORUM

Chairman Ralph Justus (CEA) called the meeting to order at 10:00 a.m. at the headquarters of the Consumer Electronics Alliance in Arlington, VA. He welcomed those in attendance and asked each person to identify themselves. The attendance list is given in **Attachment 1**.

2. APPROVAL OF PROPOSED AGENDA

Chairman Justus asked for consideration of the draft agenda (**Attachment 2**). No changes were offered and the agenda was accepted as distributed.

3. APPROVAL OF THE DRAFT MINUTES OF THE DECEMBER 5, 2001, MEETING

Chairman Justus called member's attention to the draft Minutes of the December 5, 2001, T3 meeting, which were distributed to the T3 reflector on January 15, 2001 (**Attachment 3**). Secretary Jerry Whitaker (ATSC) stated that certain editorial corrections had been identified by Mike Dolan (consultant) and Bernie Lechner (consultant). No further changes were requested and the draft Minutes were accepted as revised.

4. OPENING REMARKS

Chairman Justus reported that Mark Richer (ATSC) would be unable to attend the morning part of today's meeting, and he therefore asked Mr. Whitaker to give the President's Report.

4.1 Comments by the President (Mark Richer)

Mr. Whitaker reported that the Board of Directors of ATSC, Inc., held its first meeting on January 31 and elected Philip Livingston to be the chairman for 2002. Mr. Livingston is the Vice President for Technical Liaison at Panasonic Broadcast. The Board also elected Lynn Claudy, NAB Senior Vice President, Science and Technology, and Jay Adrick, Harris Vice President, Strategic Business Development, to serve as Vice Chairmen.

Mr. Whitaker called members' attention to the new ATSC Bylaws recently approved by the membership. He said this was a very important step for ATSC, and one that will have positive benefits for the organization's overall standardization work. The new ATSC Bylaws and Procedures documents are available at <http://www.atsc.org/policies.html>. These documents replace the old Charter, Administrative Procedures, and Guidelines for Technology Group Operation documents.

Mr. Whitaker also reported that ATSC staff is continuing to look at phone bridge alternatives for teleconferences and dial-in meeting services. He asked any members with input on this topic to forward their comments to Christy Kehlbeck at ATSC headquarters.

Mr. Whitaker reminded members of the upcoming ATSC Standards Seminar, set for February 20 and 21 in St. Louis. He thanked the ATSC members who are sponsoring the event, and the individuals presenting technical papers. He also mentioned that ATSC, CEA, and NCAM will be sponsoring "Caption Summit II" on March 15 at WETA. The program is a follow-up to

the successful closed captioning summit held last year. He said additional details will be available on the ATSC Web sit.

Looking toward the NAB 2002 Convention, Mr. Whitaker reported that ATSC will again partner with NAB and the CEA to organize and sponsor the DTV Store. The exhibit will demonstrate the wide range of digital television products now available to consumers. The DTV Store will again be located in the Grand Lobby of the LVCC, and again serve as a powerful statement that DTV is here. Technology demonstrations are also planned relating to closed captioning and DASE.

4.2 Status of ballots

Mr. Whitaker reported on the status of current ballots, specifically:

4.2.1 ATSC Ballots:

- **Incorporation of ATSC:** 40 yes, 0 no, 0 abs; approved December 31, 2001
- **Budget 2002:** 33 yes, 2 no, 2 abs; approved December 25, 2001
- **IP Multicast Sessions over A/90:** 12 yes, 0 no, 1 abs; approved January 31, 2002
Editorial Privilege: 11 yes, 1 no, 1 abs

4.2.2 T3 Ballots:

- **Data Broadcast A/90 Amendment 1:** 20 yes, 0 no, 0 abs; approved January 8, 2002
Editorial Privilege: 9 yes, 1 no, 0 abs
- **Data Broadcast A/90 Corrigendum 1:** 19 yes, 1 no, 0 abs; approved January 8, 2002
Editorial Privilege: 19 yes, 1 no, 0 abs
- **Data Broadcast A/90 Corrigendum 2:** 18 yes, 0 no, 1 abs; approved January 10, 2002
Editorial Privilege: 16 yes, 1 no, 2 abs
- **Synchronized/Asynchronous Trigger Standard:** 15 yes, 0 no, 1 abs; approved January 17, 2002
Editorial Privilege: 15 yes, 0 no, 1 abs,
- **PSIP Guidelines Recommended Practice:** 18 yes, 0 no, 1 abs; approved January 31, 2002
Editorial Privilege: 17 yes, 1 no, 1 abs
- **Code Point Issues Report:** 16 yes, 0 no, 1 abs; approved February 7, 2002
Editorial Privilege: 16 yes, 0 no, 1 abs
- **DTV Standard A/53B Amendment 1:** 18 yes, 0 no, 1 abs; approved February 7, 2002
Editorial Privilege: 17 yes, 1 no, 1 abs

4.3 Other

There were no other items to report.

5. BRIEF REPORTS ON ACTIONS FROM THE PREVIOUS MEETING

Chairman Justus observed that activities are proceeding on action items from the December 5 meeting, with follow-up reports on today's agenda from each specialist group.

5.1 Action Items from December 5 Meeting

The following action items resulted from the T3 meeting of December 5, 2001.

- 1) Whitaker to distribute via the T3 reflector a copy of Mark Richer's ATSC Bylaws PowerPoint presentation. *Completed*
- 2) Lechner to form, under T3/S8 a comment resolution task force to consider comments received during the T3 ballot of A/65A Amendment 2 and A/65A Amendment 3, and to report back to T3 at its February meeting. *On agenda.*
- 3) Dolan to address within T3/S18 the comments received during the T3 ballot of the ARM specification and to report back to T3 at its February meeting. *On agenda.*
- 4) Crinon to work with Whitaker to assign a new document number for the draft standard, "IP Multicast with Sessions over ATSC Data Broadcast," and to send the draft standard to a 6 week ballot of the full membership. *Completed*
- 5) Crinon to work with Whitaker to assign a new document number for the draft standard, "Synchronized/Asynchronous Trigger," and to send the document to a 4 week reballot of T3. ATSC staff is further directed to include the comment resolution spreadsheet (S13-189r5) with the ballot. *Completed*
- 6) Crinon to complete the remaining editorial work on draft Corrigendum 1 to A/90 and to forward the document to the ATSC office no later than December 14, 2001, for the issuance of a three week ballot of T3. Before issuance of the ballot, the document shall receive a T3 number. *Completed*
- 7) Crinon to forward draft Corrigendum 2 to A/90 for the issuance of a three week ballot of T3. Before issuance of the ballot, the document shall receive a T3 number. *Completed*
- 8) Crinon to draft Amendment 1 to A/90 to resolve the `table_type` field values conflict between A/90 and DVS 234 and Whitaker—as ATSC Registrar—to assign the appropriate code point values, after which draft Amendment 1 to A/90 shall be sent to a three week ballot of T3. *Completed*
- 9) Chernock to forward to Shah his observations regarding the importance of including data broadcast issues in the work of T3/S14-A relating to revision of document T3S8-241. *Completed*
- 10) Lechner to work with Whitaker (and others as appropriate) to edit T3S8452r4 to make the document less ATSC-focused and to format it as an "Informational Document," of the ATSC. Following this editorial work, the report shall be delivered to ATSC staff for a four week ballot of T3. *Completed*
- 11) Whitaker to develop an updated Code Points Registry document for further consideration at the February 13 T3 meeting. *On agenda.*
- 12) Whitaker to make certain editorial changes to T3S8-456r3 ("Recommended Practice: Program and System Information Protocol Implementation Guidelines for Broadcasters) identified by T3/S8 in its meeting of December 4. Upon completion of this work, the document shall be sent to a 6 week ballot of T3. *Completed*
- 13) Chernock to activate a new Ad Hoc Group on Generalized Carriage of Metadata under the umbrella of T3/S8. Chernock to post a note to applicable ATSC reflectors calling attention to the AHG work and the expected scope of the effort. *Completed*
- 14) Richer to report to the Executive Committee the T3 decision that, "The draft DASE-1 Standard includes two references to the PNG Development Group, and that there are

- no reasonable and timely alternatives to use of these references. Therefore, T3 recommends that the PNG Development Group be added to the ATSC Normative References Organization list. *Completed*
- 15) Adams to forward to ATSC staff the DASE-1 suite of documents (T3-528R4, T3-529R4, T3-530R4, T3-531R4, T3-533R2, T3-534R2, T3-535R2, and T3-536R2, dated November 20, 2001) for posting on the ATSC Web site as a Candidate Standard for a period of 6 months, contingent upon approval by the ATSC membership of pending ATSC Bylaw changes which establish the Candidate Standard class of document. *Completed*
 - 16) ATSC staff to post list of approved normative references on the ATSC Web site. *Completed*
 - 17) Whitaker to place a copy of the T3/S17 Status report on the ATSC Web site Members' Only area in the T3 subdirectory. *Completed*
 - 18) Richer to pursue obtaining an OUI from IEEE. *Carried forward*. Mr. Richer reported that he has looked into this issue, but has not yet moved forward because of the cost involved. Art Allison (NAB) commented that securing an OUI (*organizationally unique identifier*) is very important to ATSC standards work, and he urged Mr. Richer to move forward at the earliest possible date. Chairman Justus observed that it was the consensus of T3 that this issue was important and stated that he would follow-up with Mr. Richer.
 - 19) Whitaker to work with Dolan regarding code point registry issues as they apply to the draft ARM standard. *Completed*.
 - 20) Eyer to apprise SMPTE of T3/S6 work in the area of active format descriptors. *Completed*
 - 21) Eyer to work with Whitaker to post document T3/S6-146 to the T3 reflector with an explanation that the document is in a three week comment period, after which if no substantive comments are received, the draft Amendment 1 to A/53B will go to a four week ballot of T3. If substantive comments are received, the document will be return to T3/S6 for further work and subsequent resubmission to T3 at its February meeting. *Completed*
 - 22) ATSC staff to confirm revised T3 meeting dates for 2002, update the Web meeting schedule page, and post the revised meeting dates to the T3 reflector. *Completed*.

6. NEW WORK ITEMS FOR DISCUSSION

6.1 Assigned by Board of Directors

Chairman Justus reported that, based upon input from the Applications Subcommittee, the Board of Directors recommended at its January 31, 2002, meeting that T3 undertake new activities to consider standards and revisions to existing standards necessary to implement the "robust mode" under development in specialist group T3/S9. The specific recommendations of the Board were distributed to the T3 reflector on February 1, 2002 (**Attachment 4**).

Chairman Justus gave his recommendations on how to proceed from this point, specifically:

- Regarding the video and audio coding issues in Item #1, combine T3/S6 (Video Coding, Mark Eyer chair) and T3/S7 (Audio Coding, no current chair) and ask them to address the issue.
- Regarding Items 2, 3, and 4, he suggested that these issues be considered by T3/S8.

- Regarding Item 5, he suggested the work should be addressed by T3/S13.

Chairman Justus observed consensus of the group to proceed in this manner. He asked the specialist groups to bring back to the next T3 meeting their comments and recommendations on ways to proceed. He asked them, as appropriate, to bring back work plans.

6.2 Implementation Subcommittee

Art Allison (NAB) said there were no work items to discuss.

6.3 Other

There were none.

7. REPORT OF THE SPECIALIST GROUP ON RF TRANSMISSION, T3/S9

John Tollefson (PBS) reported on activities within the T3/S9 RF Transmission specialist group, which held its most recent meeting yesterday (**Attachment 5**).

7.1 Satus

Mr. Tollefson reported that T3/S9 has met three times since the last T3 meeting (December 11, 2001; January 24, 2002; and February 12, 2002). Specific accomplishments include the following:

- The VSB Enhancement Testing Consortium (VETC) has completed reference receiver testing.
- VETC has developed a laboratory test plan and has begun laboratory testing at ATTC.
- VETC is developing a field test plan and will begin field testing in March, dependent on the receipt of a 2nd equipment packages from respondents.

Mr. Tollefson added that Sinclair has declined to perform testing as part of the program, and that Broadcom and Oren have declined to supply hardware for testing. Mr. Tollefson said that several broadcasters and receiver manufacturers have expressed concern over the lack of training sequence systems in the T3/S9 testing process. Adam Goldberg (Sharp Labs) observed that considerable Transport Stream modifications will be required to implement either of the dual-stream proposals. He suggested that T3/S9 should make accommodations to permit testing of the training sequence systems.

Mr. Tollefson pointed out that one of the charges of T3/S9 was to solicit, test, and recommend VSB enhancements in a timely manner. As such, he said that delaying testing to accommodate the training sequence proponents was not practical. He emphasized, however, that the specialist group was leaving the door open to the training sequence proposals, should hardware become available.

Mr. Tollefson said the work of T3/S9 is focused on making a technology decision relating to VSB enhancements, but that it cannot draw conclusions over whether the improvements that it ultimately recommends make good business sense to implement by broadcasters and receiver manufacturers. Chairman Justus asked Mr. Tollefson and Mr. Allison to draft an "issue brief" document to be presented to the Board of Directors that outlines these issues. He asked that the document be posted to the T3 reflector for comment prior to delivery to the Board.

Mr. Tollefson also reported that VETC has identified 100 legacy receivers, many of which have common components. This information will be used in the testing of backward compatibility of the proposed enhancements. Testing of the NxtWave/Zenith and Philips systems is expected to be completed by the end of May.

7.2 Draft Standard

Mr. Tollefson provided a status report on the progress of the T3/S9 drafting sub-group (John Henderson, Hitachi, is the chair) working on a revision of A/53 Annex D. He said that a new version of the document (S091-R2) was released for comment on February 8. Mr. Allison, who is the editor of the document, said that the text for the robust systems is complete, except for issues which cannot be resolved until after the test results have been evaluated. The draft document is to be used as guide for simulation and testing, and includes only dual-stream systems.

7.3 Liaison with T3/S8

Mr. Tollefson reported that work by the T3/S8 Ad Hoc Group on VSB Transport continues on the 16 main issues identified as requiring attention. He said the group was making good progress and was sensitive to the technical issues which need to be addressed, and to the timeframe under which T3/S9 is working.

7.4 Field Test Antenna Height

Mr. Tollefson briefed the committee on issues that have arisen in T3/S9 regarding the transmission sites selected for the VETC field tests. The sites, one in Washington, D.C., and the other in New Haven, Connecticut, transmit at antenna elevations that are below the maximum permitted by FCC rules, and below that used by most stations of the same class. As such, some specialist group members are concerned that the test data could be misinterpreted as showing that the coverage area provided by the DTV standard is less than it actually is under typical operating conditions. Instead, they suggest testing from one or more facilities that are more typical of broadcast stations in the U.S., and presumably demonstrating more accurately the actual coverage capabilities of the DTV standard.

Mr. Tollefson said that other specialist group members and the VETC believe more challenging conditions will better reveal the usefulness of the proposed enhancements. As the reasoning goes, if most sites work, fewer will show differentiation.

Mr. Tollefson said that T3/S9 suggests that the ATSC may need to deal with this “public relations” aspect of the testing. He asked for guidance from T3 on this issue.

Merrill Weiss (Tribune) commented that a comprehensive DTV coverage survey needs to be done, and the sooner the better. Mr. Tollefson agreed, saying that this type of project was beyond the scope of T3/S9. He suggested that action at a higher level within ATSC might be appropriate.

7.5 Other Developments

Mr. Tollefson reported that an on-channel repeater draft standard is expected to be ready in time for consideration at the next meeting of T3/S9. He also stated that Verticalband has reported significant improvements in receiver technology; more details are expected in time for the next meeting of the specialist group. Mr. Tollefson emphasized that the Verticalband work is strictly a receiver improvement, and that no change in the DTV standard is required. Still, he said it was important for T3/S9 to be aware of the progress being made in receiver systems.

7.6 Schedule

Mr. Tollefson noted that good progress is being made on the overall goals of T3/S9, but that continued work is required to keep the aggressive schedule outlined in the current version of the work plan on track. He said interim evaluation reports are due in March and April. Other milestones include:

- May 17 – Final evaluation report due
- May 22 – 3/S9 to review evaluation report
- May 30 – Revision to A/53B recommended to T3 by T3/S9

8. REPORT OF THE SPECIALIST GROUP ON DATA BROADCAST, T3/S13

Regis Crinon (Intel) reported on current activities within T3/S13 (**Attachment 6**). Specific items are covered in the following sections.

8.1 A/90 Amendment 1 Result

Mr. Crinon reported that T3/S13 has completed the disposition of comments received during the T3 ballot of Amendment 1 to ATSC Standard A/90 (T3-565). No changes were made in the document. and Mr. Crinon therefore **moved** that T3 to submit the document to a vote of the full ATSC membership. **Second** by Mr. Allison. The motion was approved on a voice vote.

8.2 A/90 Corrigendum 1 and 2 Ballot Results

Mr. Crinon reported that T3/S13 has completed the disposition of comments received during the T3 ballot of Corrigendum 1 to ATSC Standard A/90 (T3-563, **Attachment 7**) and Corrigendum 2 to ATSC Standard A/90 (T3-564, **Attachment 8**). The comment resolution process led to editorial changes in both T3-563 and T3-564, the details of which are given in **Attachment 9**. Inasmuch as the changes were all editorial in nature, Mr. Crinon **moved** that Corrigendum 1 and Corrigendum 2 to A/90 be submitted to a vote of the full ATSC membership. **Second** by Mr. Allison. The motion was approved on a voice vote.

8.3 Results of Second T3 Ballot for Trigger Specification

Mr. Crinon reported that T3/S13 has completed the disposition of comments received during the second T3 ballot on the Synchronized/Asynchronous Trigger Standard (T3-561). He said the disposition of comments led to editorial changes to the document (**Attachment 10**). Because the changes made were editorial in nature, Mr. Crinon **moved** that the document be sent to a vote of the full ATSC membership. **Second** by Richard Chernock (IBM). The motion was approved on a voice vote.

8.4 Other Items

8.4.1 Transport Stream File System

Mr. Crinon reported that a new draft specification (S13-160r6) has been produced. He outlined plans to schedule phone conferences over the next four weeks to refine the document, with the goal of bringing a draft standard to T3 by April 17 meeting

8.4.2 IP Multicast with Sessions

Mr. Crinon reported that the IP Multicast with Sessions draft standard received 10 editorial comments in connection with the ATSC full membership ballot. Chairman Justus asked ATSC staff work with Mr. Crinon to integrate the editorial comments.

Mr. Crinon also reported on a recent IETF ad hoc group meeting to discuss IP multicast over DVB. The goals of the meeting included the following:

- More efficient capsulation
- Signaling of IPv4 and IPv6

- Address resolution
- Support for multiple gateways (networks)
- Synchronized access across streams

Mr. Crinon said that the group accepted Intel's proposal to broaden work to encompass IP over MPEG-2 Transport Streams. He briefed the committee on the importance of this work.

8.5 Report on DVS161 Activities

Mr. Crinon provided an update on the liaison work between T3/S13 and SCTE regarding DVS161. At the last T3 meeting, he reported that a group had been formed within SCTE to turn DVS161 into a cable standard, with Eddie Schwalb as the chair. He said he would keep T3 apprised of the progress of these liaison efforts.

Mr. Crinon reported that the document is now in revision 2. He said the scope of the SCTE working group will be presented to DVS later this week.

8.6 Future Activities

Upon completion of the current T3/S13 projects (outlined above), Mr. Crinon reported that he will be need to step back from his work on ATSC activities after this meeting because of changes at Intel. He thanked the members of T3 in general, and T3/S13 in particular, for their help and support.

Mr. Allison **moved** that T3 adopt the following Resolution:

“Whereas Regis Crinon, PhD, has served as the chair of ATSC Specialist Group T3/S13 for the past 3 years;

And whereas he has given freely of his time in pursuit of technical standards, contributing a total of more than 5 years to the work of the ATSC;

And whereas he has given dedicated service and made valuable contributions to the work of the ATSC;

And whereas his contributions have led to important enabling technologies relating to digital television;

Now therefore be it Resolved that Dr. Crinon is hereby recognized for his work on behalf of the Advanced Television Systems Committee, and that the Technology Group on Distribution formally takes note of his efforts with thanks and appreciation.”

Second by Mr. Chernock. The motion was approved unanimously a voice vote. Chairman Justus praised Mr. Crinon's work and said ATSC will miss his contributions.

The meeting broke for lunch at 11:54 a.m.

The meeting resumed at 12:45 p.m.

9. REPORT OF THE SPECIALIST GROUP ON SATELLITE BROADCAST, T3/S14-A

Dipak Shah (DIRECTV) reported on activities relating to T3/S14A (**Attachment 11**).

9.1 Review of Past Meeting Progress

Mr. Shah reported that the specialist group met twice since the last T3 meeting:

- January 15th, where Section 5.3, Transport, was discussed
- January 25th teleconference, where Section 5.4, PSIP, was discussed

Mr. Shah said that good progress has been made on Section 5.5, Other Requirements. Specific work items include the following:

- Support ATSC (A/90) Data Broadcast and IP Multicast specifications.
- Evaluate and, if necessary, develop an informative table that describes various parameters for a satellite link to assist receiver makers.
- Evaluate and, if necessary, specify the need for data collection and Nielsen Rating-type usage; S14-A proposes to use existing techniques and not develop a new approach.
- Develop and, if necessary, specify syntax to support a Conditional Access system; use of A/70 will not be required.
- Evaluate and, if necessary, develop methods to support FCC rule 15.120 for closed captioning data.
- Support ATSC Content ID, also known as UPID.

9.2 Review of Completed Preliminary Work

Mr. Shah reported that two draft documents have been developed and released to T3 for comment:

- Section 5.3, Transport: "Transport System Specifications for ATSC DTH Satellite Broadcast." This document describes the transport layer characteristics and normative specifications of the Service Multiplex and Transport System specifications for ATSC Satellite Broadcast. (**Attachment 12**). Sam Narasimhan (Motorola) is the principal author.
- Section 5.4, PSIP: "T3/S8-241, revised for S14A." This document defines an extension to the A/65 Program and System Information Protocol standard for satellite broadcast applications. The document defines the standard protocol for transmission of the relevant data tables contained within packets carried in the Transport Stream multiplex (**Attachment 13**). Mark Eyer (Sony) is the principal author.

Mr. Shah invited comments on the documents.

9.3 Future Meeting Plans and Issues

Mr. Shah said the next meeting of T3/S14A will be held on February 19th in the Los Angeles area. Tentative agenda topics include:

- Review and complete Sections 5.3 Transport, 5.4 PSIP, and 5.5 Other Requirements
- Begin the process of consolidation of individual section specifications to form a single document

Mr. Shah said that additional meeting will be scheduled as required.

10. REPORT OF THE SPECIALIST GROUP ON DATA MULTIPLEX/TRANSPORT, T3/S8

T3/S8 chairman Bernie Lechner briefed the committee on specific activities in his specialist group.

10.1 Review of Ballot Resolution Groups

10.1.1 Revision to Amendment 1 to A/65A

Mr. Lechner reported on the progress of the ad hoc group formed within T3/S8 to consider a possible Directed Channel Change amendment to address certain substantive points identified during balloting of the DCC PSIP amendment. The AHG is working to draft a new amendment to the DCC section of A/65A to resolve the outstanding issues. Mr. Weiss is the comment resolution ad hoc group chair. Mr. Weiss explained the background of this effort and said that work has been underway to address existing issues relating to DCC, and certain additional issues that have been identified by AHG participants. He said the draft amendment revision is relatively stable at this point, and that the AHG is ready to move forward.

Mr. Lechner suggested that the document be distributed to T3/S8 for a two week comment period, and if no substantive comments are received, the document would be forwarded to a two week comment period of T3, and finally if no substantive comments are received, the document would go to a four week ballot of T3.

At the request of Chairman Justus, Mr. Weiss outlined the essential elements of the changes proposed by the AHG.

Chairman Justus said he was willing to move forward with the proposed fast-track approach, if it is the consensus of T3. Mr. Allison spoke in favor of the approach, saying that it is important to fix the problem that currently exists in A/65A.

Chairman Justus suggested that the AHG should make the determination whether a comment is sufficient to stop the document for moving forward to the next step in the process. Mr. Weiss **moved** that the document be distributed to T3/S8 for a two week comment period, and if no new substantive comments are received as determined by the AHG, the document would be forwarded to a two week comment period of T3, and finally if no new substantive comments are received as determined by the AHG, the document would—upon the approval of the Chairman of T3—go to a four week ballot of T3. **Second** by Mr. Eyer. The motion was **approved** by a voice vote.

10.1.2 Amendment 2 to A/65A

Mr. Lechner reported that the ad hoc group reviewing comments from the T3 ballot of Amendment 2 to A/65A has completed its work. Mr. Eyer served as chair of the AHG. A table detailing comments and the disposition of each was distributed to the T3 reflector on January 18, 2002 (**Attachment 14**). The revised Amendment 2, to be considered for re-ballot by T3, is document T3-552 rev 1 (**Attachment 15**). It was also distributed to the T3 reflector on January 18.

Mr. Eyer **moved** to send T3-552rev1 to a four week ballot of T3. **Second** by Mr. Allison. Jeffrey Krauss (NCTA) offered a friendly amendment, accepted by Mr. Eyer and Mr. Allison, that would clarify certain language in the document. The motion was **approved** on a voice vote.

10.1.3 Amendment 3 to A/65A

Mr. Lechner reported that the ballot reconciliation ad hoc group working on A65A Amendment 3 has completed its work. The comment resolution summary is given in **Attachment 16**. The revised Amendment 3, with a cover date of February 6, is given in **Attachment 17**. Both of these documents were distributed to the T3 reflector on February 8, 2002.

Scott Hamilton (Fox), who served as chair of the comment resolution AHG, outlined in general terms the changes made as a result as the comment resolution process. He then asked that

the changes be accepted by T3 and that the document be forwarded to a vote of the full ATSC membership. Mr. Hamilton said that, although there were revisions made to the document during comment resolution, they were not deemed by the AHG to be sufficiently substantive to cause a re-ballot by T3.

Mr. Hamilton **moved** that the changes to Amendment 3 to A/65A developed by the AHG as a result of the ballot resolution process be accepted as non-substantive, and that the document be sent to vote of the full ATSC membership. **Second** by Mr. Eyer. The motion was **approved** on a voice vote.

10.2 Status of Proposed Updates to Annex C of A/53B

Mr. Lechner reported that work on Annex C continues within the specialist group. A list of items for consideration have been developed, and it is expected that a draft amendment will be available for formal consideration by T3 in time for its next scheduled meeting. After the work on A/53B Annex C is completed, revision of A/54 will be undertaken. The AHG is chaired by Mr. Eyer.

10.3 Status of Work on Content Identification and Replacement of A/57

Mr. Lechner said this work continues, with considerable progress of late. He called members attention to T3/S8-462, an updated draft requirements document that has been offered to T3 for informational purposes. This document is intended to serve as a guide to the creation of standards in television content distribution by related organizations including SMPTE, SCTE, CEA, and others. Work on this project is being led by Paul Kempter (Nielsen).

10.4 Status of Work on Advanced EPG Functionality

Mr. Lechner reported that the Ad Hoc Group on Advanced EPG Functionality, chaired by Gomer Thomas (Triveni), has renewed its efforts to move forward, with several meetings held since the last T3 meeting. He reported good progress, with the goal of developing a refined draft document for consideration by T3/S8 in time for its next scheduled meeting. A rough draft specifications document has been distributed to T3/S8 for informational purposes.

10.5 Status of Work on Enhanced 8-VSB Transport Issues

Mr. Lechner reported that the AHG established to examine transport issues relating to the enhanced 8-VSB work being carried on by T3/S9 is continuing to make progress. The group, chaired by Mr. Allison, has met several times by teleconference and is currently working on a draft document. Mr. Lechner said he has recommended that the AHG examine the resolution of the Board of Directors relating to robust mode transmission (see Section 6.1) and provide technical feedback on the items contained therein.

Mr. Allison said the group is making excellent progress, and that it is important for the AHG to look at all Transport Stream issues that might be inherent in the Board resolution. Mr. Krauss called members attention to certain differences in terminology used in the Board resolution. Chairman Justus asked Mr. Allison and Mr. Henderson to address the terminology issue and report back to T3 at its next meeting.

10.6 Status of Work on Code-Point Issues

Mr. Lechner observed that, since the final reported that the Ad Hoc Group on Code Point Issues has received the necessary 2/3rds approval of T3, the document can be forwarded to the ATSC Board of Directors with a recommendation that it be designated as a Technology Group Report.

Mr. Lechner went on to discuss the process for establishing the Code Points Registry, which is likely to involve close cooperation with SCTE and other standards developing organizations (SDOs).

Mr. Lechner outlined the possible routes for moving forward, saying that a draft Code Points Registry document exists, and that it should be discussed at the managerial level with other SDOs. He said this is an ongoing activity. Mr. Lechner reminded the group of the SCTE interest in the program, and suggested that T3/S8 has completed its work. Chairman Justus asked Mr. Whitaker to follow-up with Mr. Richer and report back to T3 at its next meeting with a plan for moving forward.

10.7 PSIP Implementation Guidelines for Broadcasters and Receiver Manufacturers

Mr. Lechner asked for direction from T3 regarding disposition of comments received during the T3 ballot of the draft Recommended Practice, "Program and System Information Protocol Implementation Guidelines for Broadcasters." The document was approved by T3, with comments. Chairman Justus asked Mr. Lechner to convene a comment resolution task force to address comments received during the T3 ballot of the PSIP RP document.

Mr. Lechner reported considerable progress on the receiver RP document being developed under the R4 group chaired by Mr. Goldberg.

11. REPORT OF THE SPECIALIST GROUP ON DASE, T3/S17

Glenn Adams (XFSI) reported on work currently under within specialist group T3/S17.

11.1 DASE-2 Requirements Status

Mr. Adams reported on the work completed to-date on the DASE-2 Requirements Document, T3-569 (**Attachment 18**). This document describes the T3/S17 specialist group's requirements for the design of DASE-2 (DASE Level Two); it is a chartered deliverable of T3/S17.

The DASE-2 Requirements Document specifies meta-requirements, external requirements, non-requirements, and use-case scenarios for the purpose of developing DASE-2.

Mr. Adams explained that the requirements and use-case scenarios are categorized according to one of five priorities as follows:

- 1) Shall be satisfied (or supported)
- 2) Should be satisfied (or supported)
- 3) May be satisfied (or supported)
- 4) Unassigned; may transition to a priority status
- 5) Will not be satisfied (or supported)

Mr. Adams said the design of DASE-2 will be deemed successful by T3/S17 if it satisfies all requirements and supports all use-case scenarios designated as priority [1] in the document. He said additional requirements and use-case scenarios may be added to the specification during the development of DASE-2 by consensus of T3/S17; however, such an addition may not be assigned priority [1] unless it represents a requirement which derives entirely from an existing priority [1] requirement.

Mr. Adams went on to provide additional details regarding the various use-case scenarios for DASE-2 as outlined in the requirements document. In response to a question from Mr. Allison, Mr. Adams said that the draft document enjoyed participation from a wide range of individuals

and companies. He went on to outline some of the reasoning behind the objectives given in the document.

Mr. Adams **moved** that the DASE Level 2 Requirements Document be accepted by T3 as the set of acceptance criteria for delivering the DASE-2 specification. **Second** by Skip Pizzi (Microsoft). Mr. Allison spoke in opposition of the motion, saying that the document has not yet had sufficient broadcaster participation. He said the conclusions are potentially complex, and that sufficient time has not been allocated for study. At the request of several commenters, Mr. Adams clarified the wording of the motion to better capture the sense of his request.

Chairman Justus called the question. It **failed** on a show of hands. He suggested that the document be returned to T3/S17 to further develop the DASE-2 set of requirements. Mr. Allison suggested, however, that T3 should review and comment on the document and then return it to T3/S17. Mr. Adams countered that the document could simply be sent to a four week ballot as an informational document, giving members an opportunity to comment on it. Discussion followed regarding how to move forward on this issue. Mr. Weiss said he did not agree with the ballot approach, saying that it raised certain process issues. Mr. Allison said this issue is similar in nature to the development and approval of a “scope” statement for a specialist group.

Chairman Justus suggested that a small group be formed to examine the document, solicit comment from T3 members, and report back at the next meeting—or earlier if possible. He asked Mr. Chernock to chair the DASE-2 Scope and Requirements Ad Hoc Group. Also serving on the AHG are Allison, Goldberg, Weiss, Pizzi, Adams, and Jian Huang (CanalPlus).

Art Cosgrove (Kodak) asked whether the Applications Subcommittee should be involved in the scope and requirements process. Mr. Pizzi, as secretary of AS, reported that the subcommittee is likely first to focus on applications of DASE-1. However, he said DASE-2 requirements are another possible area of work. Chairman Justus said he will contact the co-chairs of the AS and inform them of the work, and invite their involvement as appropriate.

12. REPORT OF ARM, T3/S18

Mike Dolan, T3/S18 chair, reported on the work completed to date in the Application Reference Model specialist group (**Attachment 19**).

12.1 Results of the Ballot Resolution Task Force

Mr. Dolan briefed the committee on work within T3/S18 to resolve comments received during the T3 ballot of the draft ARM Standard. He reported consensus by the specialist group on the resolutions, as detailed in **Attachment 20**. Mr. Dolan said there were only a few changes from the document that was posted to the T3 reflector two weeks ago. He did, however, say there were both substantive and editorial changes made to the document since the initial T3 ballot.

Mr. Dolan went on to provide a high level overview of the comments and resulting changes they required. He called specific attention to the changes from the document previously posted to the T3 reflector. The revised draft ARM Standard is given in **Attachment 21**. Specific details provided by Mr. Dolan included the following:

- There were a total of 138 comments from nine companies.
- There remain nine open editorial items (code points, works in process, and so on).
- 10 comments were resolved to the satisfaction of the commenters, another 16 were addressed in some manner, and 24 remain open.

Among the open comments are: 1) code points needed from the ATSC Registry, 2) the IEEE OUI needed from ATSC, and 3) references to ATSC works in process.

Mr. Dolan identified the notable technical changes as:

- State Model revised
- Identifier Descriptor replaced with TSFS URI Descriptor
- Added support for DST encapsulation 0x0D

Following the summary remarks, specific questions were offered by T3 members for Mr. Dolan on the comment review process.

Mr. Chernock **moved** that T3-558e be distributed to T3 members for a two week review period, after which the comment resolution group chaired by Mr. Dolan will put forth a ballot to T3 for a period of four weeks. **Second** by Eddie Schwalb. The motion was **approved** on a voice vote.

13. REPORT OF THE SPECIALISTS GROUP ON TRANSACTIONAL SERVICES, T3/S16

Chairman Justus announced that Edwin Heredia (Microsoft) has agreed to serve as chair of T3/S16. Mr. Heredia reported on the work currently underway within the specialist group.

13.1 Change in Chairman

Following the last T3 meeting, Mr. Heredia agreed to serve as chair of T3/S16, succeeding Mr. Chernock, who had served as interim chair since the specialist group was formed last Spring. Mr. Heredia briefed the committee on the work in progress; he specifically encouraged broadcasters to become involved in T3/S16 activities.

14. REPORT OF THE SPECIALISTS GROUP ON VIDEO, T3/S6

T3/S6 chair Mark Eyer (Sony) reported on the status of work in the specialist group.

14.1 Summary of the Ballot Comments on Amendment No. 1 to A/53B

Mr. Eyer reported that comments were received during the recent T3 ballot of Amendment 1 to A/53B. He said that a preliminary review of the comments shows that all but one appear to be editorial in nature. Chairman Justus asked Mr. Eyer to form a ballot resolution group within T3/S6 to address the issues raised in the comments.

15. OTHER BUSINESS

15.1 Consideration of A/49 Update and Review

David Koo (Koolabs) reported on discussions he has had with Mr. Whitaker regarding a revision of A/49, the Ghost Cancellation Reference Signal Standard. This document has been on the books for many years and needs to be reaffirmed. Because the ghost-canceling signal is in common use, withdrawing the document is not a viable option. Mr. Koo said that he and Mr. Whitaker are pulling elements together for a planned A/49A, and that in order to move forward, this work needs the blessing of T3. Chairman Justus proposed that an ad hoc group be formed to develop a revision of A/49 and bring it back to T3 for further consideration at a subsequent meeting.

Merrill Weiss observed that the GCR signal is in widespread use, particularly at cable TV headends. Mr. Lechner suggested including an informative note explaining the differences between the A/49 specification and the ITU and related documents.

Chairman Justus asked Mr. Koo and C. B. Patel (Samsung) to begin work on a draft document and to report back at the next T3 meeting.

16. SCHEDULE OF NEXT T3 MEETINGS

The next meeting of the Technology Group on Distribution will be held on April 17, 2002. The current 2002 T3 meeting schedule is as follows:

- June 25, 2002
- August 14, 2002
- October 8, 2002
- December 2, 2002 (

17. ADJOURNMENT

There being no further business before T3, Chairman Justus adjourned the meeting at 3:300 p.m.

Summary of Action Items

The following Action Items were developed at the T3 meeting of February 13, 2002.

- 1) Richer to pursue obtaining an OUI from IEEE (carried forward from the December 5, 2001 meeting).
- 2) Specialist group chairs Eyer, Lechner, and Crinon to consider the direction given by the Board regarding possible new standards and revisions to existing standards necessary to implement the “robust mode” of transmission currently under development in specialist group T3/S9. Specific assignments include the following:
 - Eyer, as T3/S6 chair, to consider the video/audio coding issues encompassed by Item #1 of the Board recommendations, and to report back to T3 at the April 17 meeting with a plan for moving forward. A work plan should be provided to T3 as appropriate.
 - Lechner, as T3/S8 chair, to consider the transport stream issues encompassed by Items #2, 3, and 4 of the Board recommendations, and to report back to T3 at the April 17 meeting with a plan for moving forward. A work plan should be provided to T3 as appropriate.
 - Crinon, as T3/S13 chair, to consider the data broadcasting issues encompassed by Item #5 of the Board recommendations, and to report back to T3 at the April 17 meeting with a plan for moving forward. A work plan should be provided to T3 as appropriate.
- 3) Tollefson and Allison to prepare an “issue brief” document for consideration by the Board of Directors that addresses certain high-level issues related to the work of the VSB Enhancement Specialist Group. Specifically: the work of T3/S9 is focused on making a technology decision relating to VSB enhancements, but that it cannot draw conclusions over whether the improvements that it ultimately recommends make good business sense to implement by broadcasters and receiver manufacturers. This document shall be posted to the T3 reflector for comment and revision (as necessary) before being delivered to the Board.
- 4) Crinon to forward to ATSC staff Amendment 1 to ATSC Standard A/90 (T3-565) for a four week vote of the full membership.
- 5) Crinon to forward to ATSC staff Corrigendum 1 to ATSC Standard A/90 (T3-563), as amended following disposition of comments received during the T3 ballot, for a four week vote of the full membership.
- 6) Crinon to forward to ATSC staff Corrigendum 2 to ATSC Standard A/90 (T3-564), as amended following disposition of comments received during the T3 ballot, for a four week vote of the full membership.
- 7) Crinon to forward to ATSC staff the draft Synchronized/Asynchronous Trigger Standard (T3-561), as amended following disposition of comments received during the most recent T3 ballot, for a four week vote of the full membership.
- 8) Crinon to work with Whitaker to address editorial comments received during the membership ballot of the IP Multicast with Sessions Standard. Upon completion, ATSC staff shall post the finished document on the ATSC Web site.
- 9) Weiss and Lechner to complete the review process for the revision to Amendment 1 to A/65A relating to Directed Channel Change with the goal of moving the document to a ballot of T3. The specific procedure is as follows: The document shall be distributed to T3/S8 for a two week comment period, and if no new substantive comments are received as determined by the AHG (chaired by Mr. Weiss), the document shall be forwarded to a two week comment period of T3, and finally if no new substantive comments are received as

determined by the AHG, the document shall—upon the approval of the Chairman of T3—go to a four week ballot of T3.

- 10) Eyer to integrate certain clarifying language into the draft Amendment 2 to A/65A, as revised to address comments received during the T3 ballot of the document, and to then forward the finished Amendment to ATSC staff for a four week re-ballot by T3.
- 11) Hamilton to forward to ATSC staff Amendment 3 to A/65A, as revised to address comments received during T3 balloting, for the issuance of a four week ballot of the full membership.
- 12) Allison and Henderson to review the Board resolution relating to robust mode transmission and to report back to T3 on whether any clarification of terminology relating to such work is necessary or appropriate.
- 13) Richer and Chairman Justus to report to the Board of Directors that T3 recommends the final report of the Ad Hoc Group on Code Point Issues be designated as a Technology Group Report.
- 14) Whitaker and Richer to develop a plan for moving forward with a Code Points Registry and to report back to T3 at the April 17 meeting.
- 15) Whitaker and Lechner to review comments received during the T3 ballot of the draft Recommended Practice, “Program and System Information Protocol Implementation Guidelines for Broadcasters,” and to take steps necessary to resolve those comments, with the goal of moving the document to a ballot by the full membership.
- 16) Chernock to chair the DASE-2 Scope and Requirements Ad Hoc Group and to report back at the next T3 meeting—or earlier if possible—with a set of recommendations for moving forward on DASE-2. Also serving on the AHG are Allison, Goldberg, Weiss, Pizzi, Adams, and Huang.
- 17) Chairman Justus to contact the co-chairs of the Applications Subcommittee and inform them of the work of the DASE-2 Scope and Requirements Ad Hoc Group, and invite their involvement as appropriate.
- 18) Dolan to post T3-558e (draft ARM Standard) to the T3 reflector for a two week review period, after which the comment resolution group chaired by Mr. Dolan shall deliver to ATSC staff a document for ballot by T3 for a period of four weeks.
- 19) Eyer to form a comment resolution ad hoc group within T3/S6 to address comments received during the T3 ballot of Amendment 1 to A/53B, and to report back to T3 regarding the disposition of those comments.
- 20) Koo and Patel to begin work on a draft revision of A/49 and to report back at the next T3 meeting with recommendations on how to proceed.

Attachments

Attachment 1: Attendance List

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_1_attendance.doc

Attachment 2: Draft Agenda

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_2_draft_t3_agenda_2_13_02.doc

Attachment 3: Minutes from December 5, 2001 meeting

http://www.atsc.org/sg/T3/Dec_5_2001/T3559_Minutes_12_5_2001.pdf

Attachment 4: Board Recommendations on Robust Transmission Stream

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_4_Board_Robust_Stream.doc

Attachment 5: T3/S9 Status Report

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_5_T3S9_Report_2_13_02.ppt

Attachment 6: T3/S13 Status Report

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_6_s13reportFebruary132002.ppt

Attachment 7: Revised A/90 Corrigendum 1

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_7_A90Corrigendum1_r1.doc

Attachment 8: Revised A/90 Corrigendum 2

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_8_A90Corr2DraftFmt_r2.doc

Attachment 9: A/90 Corrigendum 1 and Corrigendum 2 Disposition of Comments

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_9_S13_195r2.DOC

Attachment 10: Revised Draft Trigger Standard

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_10_draft_Trigger_T3-561r1.doc

Attachment 11: T3/S14A Status Report

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_11_T3Report021302.ppt

Attachment 12: T3/S14A Draft Transport Proposal

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_12_S14A_Transprt_Proposal_1.doc

Attachment 13: T3/S14A Draft PSIP Proposal

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_13_S14A_PSIP_Proposal_1.doc

Attachment 14: A/65A Amendment 2 Disposition of Comments

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_14_T3_568.pdf

Attachment 15: Revised A/65A Amendment 2

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_15_T3_552r1.doc

Attachment 16: A/65A Amendment 3 Comment Resolution

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_16_Amend3_A65A_Comment_Res.doc

Attachment 17: Revised A/65A Amendment 3

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_17_Amend3_A65A.doc

Attachment 18: DASE-2 Requirements Document

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_18_T3_569R0.doc

Attachment 19: T3/S18 Status Report

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_19_ARM028R0_Status.ppt

Attachment 20: ARM Comment Resolution

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_20_ARM025R5_Ballot_Comments.doc

Attachment 21: Revised draft ARM Standard

http://www.atsc.org/sg/T3/Feb_13_2002/Documents/Attachment_21_T3_558e.doc