

Minutes, Technology Group on Distribution 2 December 2002

Advanced Television Systems Committee

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

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

ATSC was formed in 1982 by the member organizations of the Joint Council on InterSociety Coordination (JCIC): the Electronic Industries Association (EIA), the Institute of Electrical and Electronic Engineers (IEEE), the National Association of Broadcasters (NAB), the National Cable Television Association (NCTA), and the Society of Motion Picture and Television Engineers (SMPTE). Currently, there are approximately 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)**

DirecTV, 12800 Culver Blvd., Room 241, Los Angeles, CA
December 2, 2002

1. WELCOME, INTRODUCTIONS, AND DETERMINATION OF QUORUM

Chairman Ralph Justus (CEA) called the meeting to order at 1:00 p.m. at the offices of DirecTV in Los Angeles, Calif. He thanked the company 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**.

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 submitted.

3. APPROVAL OF THE DRAFT MINUTES OF OCTOBER 8, 2002 MEETING

Chairman Justus called member's attention to the draft Minutes of the October 8, 2002, T3 meeting, which were distributed to the T3 reflector on November 21 (**Attachment 3**). Secretary Jerry Whitaker (ATSC) stated that no corrections had been identified prior to today's meeting. No 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.

5. COMMENTS BY THE PRESIDENT (MARK RICHER)

Mark Richer (ATSC) reported on current activities within the organization. He said that considerable progress has been made on DASE/OCAP harmonization. He added that at its October 21 meeting, the ATSC Board of Directors unanimously adopted the following resolution:

“The Board believes that harmonization of DASE and OCAP is extremely important and endorses the T3 decision for ATSC to work with CableLabs. Further, the Board believes that a single standard for interactive television for North America and other ATSC regions is optimum and should be the goal of these discussions. The Board directs the ATSC President to continue to lead this effort. Further, the Board directs T3 to consider revisions to DASE even if they are non-backward compatible if those changes enable a single combined DASE/OCAP standard.”

Mr. Richer said he was very pleased to announce that ATSC and CableLabs have reached agreement on a strategic framework for harmonization of DASE and OCAP. The agreement (**Attachment 4**) is the result of recent discussions between representatives of both organizations. He said this is a major step towards our goal of harmonized standards. Mr. Richer said ATSC and CableLabs will build upon this framework with a series of meetings over the next several months. This effort will be coordinated with the work of T3/S17, T3/S16 and T3/S13. He said

the goal is to have a Working Draft ready for consideration at the March 12, 2003, meeting of T3.

Mr. Richer also said that work continues on DASE compliance testing issues. The Board instructed T3 to begin work to develop a compliance testing regime for DASE. Chairman Justus directed T3/S17 to conduct this work. Glenn Adams (XFSA) took this issue as an action item for the specialists group, and said he would post a note to the T3 reflector giving notice of this work and inviting participation.

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

- ATSC is expanding the publication schedule of the organization's newsletter, *The Standard*. He said one additional issue is scheduled for 2003.
- A session on DTV is being planned for the CEA's International Consumer Electronics Show in Las Vegas
- The Tech Retreat, scheduled for February of next year, will include a day-long seminar on data broadcasting and DASE, organized by ATSC.
- 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.

5.1 Status of ballots

Mr. Richer reported on the status of current ballots (**Attachment 5**). For T3-related ballots:

- Synchronization for Distributed Transmission approved November 21, 2002, to Candidate Standard status for a period ending July 31, 2003: 11 yes, 7 no. Editorial privilege approved, 14 yes, 6 no.
- Content ID and Labeling for Transport, A/53B Amendment 2, and Transport Stream File System documents under comment review.

6. BRIEF REPORTS ON ACTIONS FROM THE PREVIOUS MEETING

The following action items resulted from the T3 meeting of October 8, 2002.

- 1) Miller to report to T3/S6 the consensus of T3 that the specialists group may consider still images for the robust mode to be within the scope of its work on robust mode issues, and that T3/S6 is directed to coordinate with T3/S17 and the Architecture Team as appropriate. *Completed*
- 2) ATSC staff to correct the error identified in Section 5.1.5 of A/53B regarding the *vbv_delay* statement, to include a footnote calling attention to the correction, and to post the corrected document on the Standards page of the ATSC Web site. *Completed*
- 3) Eyer to report that T3/S8 is directed to develop a Working Draft A/65B and to, in the process, address comments received during the membership ballots of Amendments 1A and 2 to A/65A, and to deliver said document to T3 in advance of its December 2 meeting for consideration of approval to the status of Proposed Standard. *Completed*
- 4) All specialists groups are directed to consider whether any revisions and/or updates are necessary to A/53B annexes to keep in line with the changes and updates made to Annex C. *On agenda*
- 5) Miller to report to T3/S6 that T3 has directed the specialists group to address the issue of the Emergency Audio track in A/53B Annex B and to consider removing the receiver requirement therein to state that Emergency Audio should be in the main audio track when present. *Completed*

- 6) Richer to report to the Applications Subcommittee the consensus recommendation of T3 that AS consider future directions and uses of emergency alert services. *Completed*
- 7) Weiss to forward to ATSC staff the Working Draft Transmitter Synchronization Standard—T3/S9-131, with appropriate editorial changes—for the issuance of a four week ballot of T3 as a Candidate Standard for a period ending July 31, 2003. *Completed*
- 8) Dolan to work with ATSC staff to resolve editorial issues relating to the Application Reference Model Standard for the purpose of posting the document on the ATSC Web site after certain normative reference issues are resolved. *On going*
- 9) Dolan to work with ATSC staff to address certain substantive issues identified during the ARM ballot comment review process and to bring back to T3 at the December 2, 2002, meeting a plan for moving forward. *On agenda*
- 10) Adams to inform T3/S17 that it has been charged with resolving editorial comments received during the membership ballot of DASE-1 for the purpose of preparing a final document for publishing on the ATSC Web site. *Completed*
- 11) Richer to report to the Board of Directors the following resolution, agreed to unanimously by T3: *Completed*

“T3 urges Mr. Richer to continue to seek means of harmonizing OCAP and DASE and related standards, and to urge the ATSC Board of Directors to consider allocating the necessary resources to pursue this goal as expeditiously as possible.”
- 12) Dolan to report to the Architecture Team the directive of T3 to analyze a recently identified code points collision and to report back with a recommendation to T3 at its next meeting. *Completed*
- 13) Dolan to report to the Architecture Team the direction from T3 to address the following question: “How should the enhancements relating to robust mode transmission be structured; e.g., as a single standard or revisions to existing standards?” *Completed*
- 14) Whitaker to follow up with SCTE and other SDOs on the Code Points Registry project and report back to T3 at the next meeting on progress made. *Completed*
- 15) Dolan to report to the Architecture Team the direction of T3 to analyze certain requirements contained in the ATSC Normative Reference policy and to report back to at the next T3 meeting with recommendations going forward. *Completed*

7. NEW WORK ITEMS FOR DISCUSSION

7.1 Assigned by Board of Directors

Mr. Richer reported that the Board of Directors received a proposal from ATTC regarding DTV receiver performance and that the Board directed T3 to consider the proposal as a starting point for moving forward. Mr. Richer also reported that the Board has assigned the Applications Subcommittee the task of examining emergency notification options and has directed it to develop, as appropriate, a Requirements document for such applications.

7.1.1 Minimum Target Performance for DTV Receivers (ATTC Proposal)

Mr. Richer explained that the Advanced Television Technology Center (ATTC), in recognition of the need to ensure high-reliability reception of digital television, conducted a study of receiver performance issues. He reminded the group that the expected performance of the receiver played a major role in the planning factors that the FCC used to develop its channel allocation plan.

However, he said tests performed by the ATTC on commercially available consumer receivers have demonstrated that some receivers failed to meet these FCC planning factors.

Subsequently, the ATTC developed a document, given in **Attachment 6**, that addresses the receiver portion of the DTV system and describes minimum performance targets. Charles Einolf (ATTC) said that the ATTC requests ATSC to consider adoption of these requirements in an effort to ensure reliable DTV reception.

Chairman Justus said consideration of this proposal should logically be handled by T3/S10, with John Henderson (Hitachi) as the chair. He asked Mr. Henderson to post a note to the T3 reflector giving notice of this work and encouraging interested parties to participate.

7.2 Implementation Subcommittee

Mr. Allison was not present at the beginning the meeting, but Mr. Whitaker briefed the committee on the IS work item request. He reported that Peter Symes (SMPTE) has agreed that development of a standard based upon the work of the IS Finding “Assessment of Data Content and Delivery for Control of the Digital Broadcast Transport Stream and PSIP Generation” should be undertaken by ATSC.

Chairman Justus said this new initiative can fit within the construct of the existing scope of T3, explaining that PSIP metadata could be considered a data sub-system that supports the broadcast information. He proposed the formation of a new specialists group (“T3/S1”) to focus on this narrow issue. He reported that Graham Jones (NAB) has indicated his willingness to Chair such a group.

Mr. Whitaker said that IS Finding document IS-277 (**Attachment 7**) provides an overview of the topic. Also available is the latest progress report of the IS PSIP Working Group, which covers developments since the Finding was adopted (**Attachment 8**). Mr. Whitaker also called member’s attention to the proposed scope of the new specialists group (**Attachment 9**).

Chairman Justus observed the consensus of T3 to form specialists group T3/S1 for the purpose of addressing this issue. He directed Mr. Jones to post a note to the T3 reflector giving notice of this work and encouraging participation in the effort. He also asked Mr. Jones and T3/S1 to further refine the proposed scope, with the goal of accurately defining the work of the specialists group with regard to the other T3 specialists groups, and to report back at the next T3 meeting with a consensus recommendation.

Wendy Aylsworth (Warner Bros.) **moved** the formation specialists group T3/S1 for the purpose of addressing this issue. **Second** by William Miller (ABC). The motion was **approved** unanimously.

7.3 Other

There were no other work items.

8. ARCHITECTURAL TEAM

Mike Dolan (TerraByte Technology) reported on activities within the group (**Attachment 10**).

8.1 MGT table_type Collision

On the question: “What should be done about the MGT table_type collision in the Code Point Registry between ATSC LTST and SCTE AEIT?” Mr. Dolan reported the Architecture Team recommends that ATSC:

- Inform SCTE (and any other affected organizations) immediately that there is a registry conflict and request that they inquire with their membership about implementations using either the LTST or the AEIT

- ATSC HQ provide a public notice of intent to amend A/90 to change the table_type value in question (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).
- Instruct T3/S13 to add this item to the A/90 amendment task and for it to work with the ATSC Registrar to adjust the registry at the proper time.

The suggested approach was accepted by T3.

8.2 Normative References

On the question: “What types of documents should be allowed for normative references?” Mr. Dolan called members attention to the recommendations of the Architectural Team, given in document AT-002R0 (**Attachment 11**). He said this exercise also included an audit of existing and draft ATSC Standards for compliance, adding that some discrepancies were found, including:

- 1) A/90, reference #9 is to ISO TR 8802-1, which is not acceptable (TR).
- 2) A/90, reference #19 is to SCTE DVS 051, which is not acceptable (DVS output document).
- 3) A/90, reference #20 is to SCTE DVS 132, which is not acceptable (DVS output document).
- 4) T3-582 (TSFS) reference “DVB-MHP” is to ETSI TS 102-812, which is not acceptable (TS).
- 5) A/70, reference #xx is to SCTE DVS/042, which is not acceptable (DVS).

Mr. Dolan said the Architecture Team recommends that T3/S8 review and make a recommendation for resolving issue 5, and that T3/S13 review and make recommendations for resolving issues 1, 2, 3, and 4.

Mark Eyer (Sony) **moved** that the work elements identified in Architecture Team Normative Reference report AT-002R0 as listed above (1 through 5) be assigned to T3/S8 and T3/S13, as appropriate, for resolution. **Second** by Victor Tawil (MSTV). The **motion** was approved unanimously.

Mr. Dolan went on to provide background information on the normative reference work conducted by the Architecture Team. He explained specific elements of AT-002 and answered questions from T3 members.

Chairman Justus asked T3 members to examine the recommendations contained in AT-002 with the goal of further discussing this issue via the T3 reflector and other venues, as appropriate. He asked that comments and questions be directed to the Architecture Team with the goal of resolving any outstanding issues and distributing a revised document prior to the next T3 meeting.

8.3 Robust Mode Documentation Strategy

On the question: “What is the best documentation strategy for the proposed Robust Mode of transmission being considered by T3/S9?” Mr. Dolan said a specific recommendation will be made by the Architecture Team within one week.

Although not finalized, Mr. Dolan provided the draft wording of the report as it now stands and went on to outline the reasoning for the suggested division of responsibilities with regard to robust mode specification development. The specialists groups involved are T3/S6, T3/S8, and T3/S13. He also suggested the need for a new T3 level ad-hoc group to draft an Implementation Guide on Robust Mode operation, and a Recommended Practice on Robust Mode-only service. He added that the Architecture Team believes the Robust Mode standard(s) should eventually

proceed forward as a Candidate Standard, and that no amendment to implement the Robust Mode should advance beyond Candidate Standard until all elements that make up the service, including the Implementation Guide, reach Candidate Standard status. In response to questions from T3 members, Mr. Dolan provided background on the reasoning for the proposals.

Chairman Justus asked Mr. Dolan to forward the completed recommendations regarding Robust Mode documentation to the T3 reflector when available.

Mr. Dolan **moved** that T3 form an ad-hoc group to draft an Implementation Guide for the Robust Mode of service currently being considered by specialists group T3/S9, and to later draft a companion Recommended Practice relating to Robust Mode-only service. **Second** by Art Allison (NAB). Following some discussion, the motion was **approved**.

Chairman Justus identified the need for a chair of the AHG. He said he would confer with Mr. Richer, John Tollefson (PBS), and Mr. Dolan to identify a chair. He asked that any member interested in this work contact him.

9. A/53B ANNEX UPDATES

(This item was added to the agenda with the agreement of the committee.) Chairman Justus reminded the group of an action item from the October 8 meeting relating to possible updating needed on A/53B. That action item stated, "All specialists groups are directed to consider whether any revisions and/or updates are necessary to A/53B annexes to keep in line with the changes and updates made to Annex C." Views on the options available to move forward were voiced by Mr. Eyer, Mr. Allison, Mr. Miller, and others.

Chairman Justus directed Mr. Whitaker and Mr. Richer to look into the issues brought up during this discussion and to report back at the next T3 meeting with suggestions for moving forward.

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

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

10.1 RFI on Coding for Robust Transport

Mr. Miller reminded the committee that T3/S6 has been directed to initiate a formal standards activity in the area of advanced audio and video compression standards suitable for a wide range of services to be broadcast in the proposed "Robust Mode" currently being considered by T3/S9. He said the specialists group has developed a draft Request for Information (RFI) soliciting technologies that can facilitate the development of services that require very efficient video and audio compression. Mr. Miller, on behalf of T3/S6, submitted this document—T3/S6-202r4, **Attachment 12**—for approval by T3.

Mr. Miller **moved** approval of the T3/S6 RFI document: T3/S6-202r4, with revisions agreed to at this meeting. **Second** by C. B. Patel. The motion was **approved**.

10.2 Revision of A/54

Mr. Whitaker gave an update on the progress of the overall project. He said work has been completed on all elements except for:

- Section 5, Video System (little revision expected)
- Section 7, Transport (revised section nearing completion)
- Section 9, Receivers (revised section nearing completion)

A copy of the Working Draft, as it now stands, is given in **Attachment 13**.

10.3 A/53 Issues

10.3.1 vbv_delay

Mr. Miller reported that investigation into the vbv_delay issue has concluded that the specification contained in Section 5.1.5 of Annex A is appropriate. He added that an informational footnote on the specification is suggested, and that draft text is being developed.

10.3.2 Aspect Ratio

Mr. Miller reminded the committee that there was a concern whether language relating to A/53B AFD/bar data might be redundant with information already specified in MPEG-2 (aspect_ratio and display_aspect_ratio). He said that after an exhaustive study of this issue, no redundancy was found and that T3/S6 is satisfied with the current wording of A/53B in this regard.

10.4 A/53/DVS Harmonization

Bernard Lechner (consultant) called members' attention to proposed changes to SCTE 43, which is the cable industry equivalent of Annex A of ATSC A/53B (**Attachment 14**). He said to the extent that the recommended changes to SCTE 43 are applied, they should also be made to Annex A of A/53B. Mr. Lechner reported that this subject has been discussed at the last few T3/S6 conference call meetings.

10.5 Emergency Audio

Mr. Miller reminded the group that at the October 8 meeting of T3, T3/S6 was given an action item directing the specialists group "to address the issue of the Emergency Audio track in A/53B Annex B and to consider removing the receiver requirement therein to state that Emergency Audio should be in the main audio track when present." Mr. Miller said that T3/S6 has developed a draft proposed amendment to A/53B Annex B, "Audio System Characteristics," that addresses this action item. The document, T3/S6-205 (**Attachment 15**), is a redline document intended as a starting point for moving forward.

Mr. Dolan suggested T3 reconsider its request that T3/S6 fashion changes the E Service. He said the mere fact that receivers currently do nothing with this service does not alone make the A/53B emission specification broken. He suggested a possible solution to the current situation would be to define system (including receiver) behavior for such a service. Mr. Allison also questioned the elimination of the E Service from the ATSC emission multiplex. Additional comments were offered from Mr. Eyer, Adam Goldberg (Sharp), and Sam Narasimhan (Motorola).

Mr. Richer reported that Ira Goldstone (Tribune), chair of the Applications Subcommittee, has requested that T3 take no action on this item until the AS has the opportunity to consider the larger question of emergency services.

Chairman Justus observed the consensus of T3 that T3/S6 examine the work required to place emergency audio information in any and all full-services that are broadcast. Furthermore, T3/S6 was 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.

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

Mark Eyer (Sony) reported on current activities in the specialist group (**Attachment 16**).

11.1 S8 Scope Statement

Mr. Eyer reported that T3/S6 has developed a revised scope statement, which he offered for consideration and approval by T3 (**Attachment 17**). Distributed as T3/S8-492rev3, the scope statement includes the following tasks:

- Documenting constraints against and extensions to the MPEG-2 Transport Stream specification
- Developing SI standards (including caption services)
- Developing Conditional Access standards
- Developing standard methods for transport of program metadata
- Developing methods for content ID
- Preparing guidelines for transport-related standards
- Maintaining existing and resulting documents

Mr. Eyer **moved** that T3 accept the T3/S8 scope statement as given in T3/S8-492rev3. **Second** by Mr. Allison. Questions and comments were offered by several members, including Edwin Heredia (Microsoft), Mr. Narasimham, and Mr. Allison. Chairman Justus called the question; it was **approved**. Chairman Justus asked Mr. Whitaker to assign a T3 number to the document.

11.2 Request to Move WD A/65B to Proposed Standard

Mr. Eyer reported that the technical group under T3/S8 charged with addressing ATSC membership-level ballot comments received on Amendments 1A and 2 to A/65A—thus finishing Working Draft A/65B—has completed its work. T3-589, “Working Draft A/65B Ballot Comment Resolution” is given in **Attachment 18**. Working Draft A/65B, dated November 15, 2002, is given in **Attachment 19**. He said that of the 82 comments, 61 were editorial, 16 resulted in no change to the document, and four were in some way substantive. The substantive ones were:

- #32, channel number range for data-only channels
- #34, tightening the definition of “virtual channel”
- #56, carrier frequency for the CVCT
- #74, carriage of out-of-area programming using original channel numbers

Mr. Eyer said that Working Draft A/65B was ready for elevation by T3 to Proposed Standard and subsequent balloting by the ATSC Membership. He summed up the situation, saying:

- Working Draft A/65B represents one step beyond the output of the typical ballot cycle in that it addresses ATSC-level ballot comments
- There is a need to complete and publish A/65B in a timely manner
- The FCC has an immediate need for a “stable and final” PSIP standard

Mr. Eyer went on to report the recommendation of the comment resolution team and T3/S8 that T3 elevate Working Draft A/65B dated November 15, 2002, to Proposed Standard by a vote at this meeting, which would clear the way for an immediate ATSC-membership ballot.

Mr. Eyer **moved** that Working Draft A/65B dated November 15, 2002, be elevated to Proposed Standard and sent to a vote of the full ATSC membership. **Second** by Mr. Goldberg. The motion was **approved** without opposition.

11.3 Request to Re-ballot Amendment 2 to A/53B

Mr. Eyer reported that the T3/S8 ad-hoc group tasked with addressing comments received on the T3 ballot of T3-580, Amendment 2 to A/53B (Annex C), has completed its work. T3-580r1, Amendment 2 to ATSC A/53B (revised), is given in **Attachment 20**. T3-588, Ballot Comment Resolution—Amendment 2 to ATSC A/53B, is given in **Attachment 21**.

Mr. Eyer said that 40 comments were received from 4 companies: 20 were editorial and 6 substantive. The substantive comments included the following:

- Adjust/update normative references
- Normative language
- Handling of emergency audio
- Constraint on AC-3 descriptor

Based on these changes, Mr. Eyer said he felt it would be appropriate to re-ballot T3-580r1 to T3.

Mr. Eyer **moved** that T3-580r1 be sent to a ballot of T3. **Second** by Mr. Allison. Discussion followed on certain specific issues covered in the amendment, with comments offered by Mr. Narasimhan and Mr. Allison. Chairman Justus called the question. The motion was **approved**.

11.4 Ballot Comment Resolution Status: Content Identification and Labeling

Mr. Dolan reported that the T3/S8 ad-hoc group tasked with addressing comments received on the T3 ballot of T3-581 on Content Identification has completed its work and has resolved all the ballot comments. A revised draft, along with the comment summary, is given in **Attachment 22**. He said the document has undergone significant revision in addressing the comments, and that a reballoon by T3 is recommended.

Mr. Dolan **moved** that T3-581d be sent to a ballot of T3 after certain editorial items are addressed. **Second** by Merrill Weiss (Tribune). Jeff Krause (NCTA) inquired about the problem identified at a previous meeting relating to V-ISAN usage. Mr. Allison reminded the committee that the fundamental problem was that V-ISAN number cannot be used for any arbitrary event in a broadcast, and that this revision solves the problem. The motion was **approved**.

11.5 Status of Ad-Hoc Group Activities

11.5.1 A/54 Update

Mr. Eyer reported that progress continues to be made on updating the transport-related sections of A/54. He said the AHG, chaired by Richard Chernock (Triveni), has nearly completed its work on Section 8 (MPEG Transport Issues). It is the goal of the AHG to complete this project before the end of the year. A revised preliminary version of Working Draft A/54A was posted to the T3 reflector by Mr. Whitaker on November 26 for informational purposes.

11.5.2 Carriage of Metadata

Mr. Eyer reported that the AHG on Generalized Transport of Metadata, chaired by Mr. Chernock, is currently in a holding pattern. He said a report is being generated by the AHG which summarizes timeline/terminology concepts, explains the need for a general approach for metadata carriage, and explains usage of MPEG metadata elements. He said the AHG hopes to deliver the report to T3/S8 before the end of the year.

11.5.3 Advanced EPG

Mr. Eyer reported on work of the Advanced EPG Functionality AHG, led by Gomer Thomas (Triveni). He said that all basic issues have been studied in some depth, with consensus reached on the general architecture of the proposed system. He said consensus also has been achieved on many other issues, although significant details still remain to be resolved. Mr. Eyer added that—for the time being—activities are on hold because of the time pressures on participants. He encouraged persons interested in this work to become involved in the process.

11.5.4 Transport for Robust Transmission

Mr. Eyer reported that the AHG on Transport Issues for Robust Transport, chaired by Mr. Allison, continues to hold regular meetings. He said that input from T3/S13 has been most helpful in the work of the AHG.

Mr. Eyer summarized the current work as follows:

- Alternative proposals harmonized in principal, with the expectation that harmonization in detail will follow
- Work progressing on modeling the re-assembling of the robust and non-robust transports
- Next area to address is announcement of services and robust/non-robust linkage

Mr. Eyer said this work will go forward with the assistance of and coordination with T3/S6, T3/S9, and T3/S13.

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

John Tollefson (PBS) was unable to attend today's meeting, but Mr. Tawil and Mr. Allison provided an overview of the work underway in the specialist group.

12.1 Testing Status

Mr. Tawil provided an update on the testing program for the three proposed VSB enhancement systems, Zenith/NxtWave, Philips, and Broadcom. All laboratory testing has been completed, and field testing in the Washington, D.C. area has been completed. Field tests are underway in New Haven, CT. Mr. Tawil said the data collection process is nearly complete and analysis is well underway. A report to T3/S9 is due from VETC on December 19.

12.2 A/53 Drafting Work

Mr. Allison reported that work is progressing on drafting proposed language for specifying a Robust Mode of operation. He said regular conference calls will resume shortly to facilitate this work, which will also include proposed language for enhanced training sequences.

12.3 Distributed Transmission

Mr. Weiss called attention to the comments received during the T3 ballot on the Distributed Transmission Candidate Standard. Chairman Justus asked Mr. Weiss, in consultation with Mr. Richer, to lead a ballot resolution team to look at the comments received and to report back to T3. Mr. Richer outlined the procedures specified in the ATSC Bylaws for Candidate Standard documents. Of note, he said, is that T3/S9 owns the document and so comments received during the Candidate Standard period will be considered there.

13. 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 23**).

13.1 TSFS

Mr. Dolan reported that all comments received during the T3 ballot on the Transport Stream File System specification have been addressed. He added that a redline version of the document has been prepared and is under review by T3/S13. He said the issue resolutions appear to be editorial and/or clarifications at this time.

Chairman Justus outlined the path for moving forward, specifically that the Transport Stream File System redline document be forwarded to the membership for ballot as a Proposed Standard, subject to resolving non-substantive issues that might arise as a result of DASE/OCAP harmonization and/or comments received from T3/S13 members; a comment period not exceeding two weeks was set. Approval to proceed to a membership ballot will be determined by Mr. Richer in consultation with Chairman Justus.

13.2 ARM

Mr. Dolan reported that editorial comments received during the membership ballot of the Application Reference Model have been addressed and that a redline of the document has been

developed and distributed to T3/S13 for comment and review. The timeframe for publishing the ARM Standard, A/94, is under consideration by Mr. Richer.

13.3 A/90 Errata

Mr. Dolan reported on plans for a revision of A/90, saying there are 43 noted errata, clarifications, and enhancements identified so far, as detailed in document S13-105. He said that most of these items are editorial but that they will require significant redline of A/90 to implement. He said items needing further study have been assigned to T3/S13 members to propose specific text. He said a Working Draft A/90A may be ready for consideration by T3 at its March meeting.

13.4 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 being considered by T3/S9. He said that no data-specific issues have been identified.

14. 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 (**Attachment 24**).

14.1 Status Report

Mr. Shah reported that the Working Draft DTH Satellite Broadcast Standard has been completed by the specialists group. A copy of the document, distributed to the T3 reflector on November 19 is given in **Attachment 25**. Mr. Shah said that, since the posting, some comments had been received from T3 members, including:

- Request for an explicit statement on the `rc_descriptor` (Retransmission Control) and Directed Channel Change
- A question was raised as to why 1920 x 1080P is included (Table 7.3, page 16); the comment indicated it is difficult (due complexity and memory demands) to achieve this format in semiconductor design
- Received several other minor changes or clarification requests

Additional comments relating to audio sample rates (specifically, 44.1 kHz) were voiced by Craig Todd (Dolby). Mr. Shah said he and T3/S14A would work with the commenters to address these issues. Chairman Justus asked Mr. Todd and Craig Tanner (Sharp) to draft the appropriate footnote copy to resolve the audio sample rate question.

Mr. Shah **moved** to ballot T3/S14A-100rev9 to T3 as a Proposed Standard after certain items, including a cautionary note relating to the 44.1 kHz audio sample rate, are addressed. **Second** by Mr. Narasimhan. The motion was **approved**.

15. 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 26**).

15.1 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.

Mr. Heredia reported that T3/S16 has been holding joint meetings with T3/S17 to channel the expertise of both groups and to ensure that when DASE supports interaction channels, the T3/S16 specification will match their requirements. He added that the specialists group hopes to bring a Working Draft document to T3 for consideration early next year.

16. 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.

16.1 Status Report

Mr. Adams reported that the DASE-1 suite of standards has been published on the ATSC Web site as an "Approved Proposed Standard." He said the specialists group reviewed and resolved editorial comments received during the ATSC membership ballot. Mr. Adams also said that progress is being made on DASE-2, with regular meetings addressing a range of issues.

16.2 DASE/OCAP Harmonization Work

Mr. Adams reported that T3/S17 has developed several documents relating to harmonization issues and how they relate to DASE-1. He added that the harmonization work will have a significant effect on the evolution of DASE-2.

Mr. Richer provided additional background on the agreement between ATSC and CableLabs that outlines the framework for DASE/OCAP harmonization. He said a great deal of work remains to be done and he encouraged member companies to fully support these efforts, since they will require considerable resources from all parties. Mr. Richer said a press release is in the works announcing the agreement.

Mr. Allison **moved** that T3 approve the following resolution:

"The ATSC Technology Group on Distribution hereby endorses and expresses its support for undertaking accelerated standards development activity in accordance with the November 26, 2002, agreement to harmonize DASE and OCAP as signed by Mark Richer and Richard Green."

Second by Mr. Tawil. The motion was **approved** unanimously.

Mr. Heredia suggested that there may be copyright or IPR issues that will need to be dealt with in DASE/OCAP harmonization. Mr. Richer said this is an important point which he will look into.

17. OTHER BUSINESS

17.1 Liaison Reports

17.1.1 SCTE

Mr. Allison, the ATSC liaison to SCTE, reported that a draft Standard for Terminal Devices has been introduced in the DVS. He pointed out the importance of this work and said the interface issues encompassed by this effort are being addressed at the appropriate levels. Mr. Allison also said that SCTE CAPS met on November 1 and put OCAP-1 out to ballot as a standard. He observed that approval was expected.

17.1.2 MPEG

Mr. Narasimhan, the ATSC MPEG liaison, reported that MPEG has completed Amendment 1, which defines the carriage of metadata signaling, including the MPEG-7 Standard. He added that two other amendments to the MPEG Systems specification are in progress. Mr. Allison suggested that copies of MPEG documents should be available to T3 members, and he asked Mr. Narasimhan to pursue this question.

17.1.3 CEA

Chairman Justus reported that CEA has applied for and received ANSI accreditation. He said this accreditation is independent of EIA, under which CEA has been operating for a number of years. He said this move gives CEA additional flexibility with regard to certain standards activities and processes.

18. SCHEDULE OF NEXT T3 MEETING

The next meeting of the Technology Group on Distribution will be held on March 12, 2003, in Washington, D.C. Other meetings scheduled for 2003 are:

- June 24, 2003; Harris, Cincinnati, OH (tentatively)
- September 10, 2003
- December 10, 2003

19. ADJOURNMENT

There being no further business before the committee, the meeting was adjourned at 6:00 p.m. PST.

Action Items Developed at this Meeting

- 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.
- 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.
- 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.
- 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.
- 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).
- 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.
- 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.
- 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.
- 9) Justus to fill the chair position for the newly-formed Ad-Hoc Group on Implementation Guidelines for the Robust Mode.
- 10) Dolan to forward the completed Architecture Team recommendations regarding Robust Mode documentation to the T3 reflector when available.
- 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.
- 12) Whitaker to assign a T3 number to the revised T3/S8 Scope Statement (T3/S8-492rev3).
- 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.

- 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.
- 15) Eyer to forward to ATSC staff T3-580r1 (Amendment 2 to A/53B) for the issuance of a 4 week ballot of T3.
- 16) Eyer to forward to ATSC staff T3-581d (Content Identification and Labeling) for the issuance of a 4-week ballot of T3.
- 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.
- 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.
- 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.
- 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.

Attachments

Attachment 1: Attendance List

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_1_attendance.doc

Attachment 2: Draft Agenda

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_2_draft_t3_agenda_12_2_02.doc

Attachment 3: Draft Minutes from October 8 Meeting

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_3_t3_590_draft_minutes_10_8_02.pdf

Attachment 4: ATSC/CableLabs Agreement

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_4_ATSC-CableLabs_Agreement.pdf

Attachment 5: Status of Ballots

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_5_Ballot_status_11-26-02.xls

Attachment 6: ATTC Receiver Performance Proposal

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_6_Receiver_Performance_Requirements.PDF

Attachment 7: IS-277 (IS Finding)

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_7_IS-277.pdf

Attachment 8: IS PSIP Working Group Status

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_8_IS-PSIPWG_report_11-12-02.doc

Attachment 9: Proposed Scope of T3/S1

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_9_T3S1_proposed_draft_scope.doc

Attachment 10: Architectural Team Status Report

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_10_AT-001R0-Status.ppt

Attachment 11: Architectural Team Normative Reference Report

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_11_AT-002R0-NormRefs.doc

Attachment 12: T3/S6 Draft RFI

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_12_T3S6_202r4.doc

Attachment 13: Work in Progress of Working Draft A/54A

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_13_T3_586_A_54A_wd_rev1.doc

Attachment 14: Comment Resolution Matrix for SCTE 43

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_14_SCTE43.tab.doc

Attachment 15: T3/S6 Emergency Audio Revision Proposal

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_15_T3S6_005_A_53B_less_Emgncy_audio.doc

Attachment 16: T3/S8 Status Report

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_16_S8_Status_Report_12-02.ppt

Attachment 17: Draft T3/S8 Scope Statement

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_17_T3S8-492r3_Scope_statement.doc

Attachment 18: A/65A Amendments 1A and 2 Comment Resolution Table

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_18_T3589_A_65B_Comment_Res.doc

Attachment 19: Working Draft A/65B

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_19_Working_Draft_A_65B_11_18_2002_clean.pdf

Attachment 20: A/53B Amendment 2 (revised)

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_20_T3-580r1_A53B_Amd-2.doc

Attachment 21: A/53B Amendment 2 Comment Resolution

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_21_T3-588_Comment_Resolution_A53B.doc

Attachment 22: Content ID and Labeling Revision and Comment Resolution

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_22_T3_581d.zip

Attachment 23: T3/S13 Status Report

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_23_S13-208R0-Status.ppt

Attachment 24: T3/S14A Status Report

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_24_S14_T3Report120202.ppt

Attachment 25: Working Draft DTH Satellite Broadcast Standard

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_25_S14A_100r9.pdf

Attachment 26: T3/S16 Status Report

http://www.atsc.org/sg/T3/2002_12_02/documents/Attachment_26_t3-dec-02.ppt