

Minutes, ATSC Technology Group on Distribution (T3)

April 4, 2001, 10:00 a.m.–4:00 p.m.
National Association of Broadcasters, 1771 N Street, N.W., Washington, D.C.

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 National Association of Broadcasters in Washington, D.C. He welcomed those in attendance and asked each to introduce themselves. (The attendance list is given in **Attachment 1**.)

2) Approval of Proposed Agenda

Chairman Justus asked for consideration of the proposed agenda, and it was accepted without amendment (**Attachment 2**).

3) Approval of the Draft Minutes of the February 13, 2001, Meeting

The draft minutes from the February 13, 2001 meeting of T3 were offered for consideration. An editorial correction was identified and the minutes were approved as modified.

4) Opening Remarks

a) Comments by the Executive Director (Mark Richer)

Mr. Richer observed that this is an exciting period for digital television in general and the ATSC in particular. He said there is a growing sense of optimism with regard to the continued DTV rollout. He said the Task Force on RF System Performance held what is likely to be its final meeting yesterday. The output of the Task Force is a comprehensive report, which he stated was generally positive with regard to VSB transmission but which also points out important areas for further work. Mr. Richer said the draft report would go to the ATSC Executive Committee (EC) for further consideration and possibly public release. Mr. Richer identified other areas of work ongoing at the organization, including the ATSC Style Guide, Glossary, and ATSC Web site improvements. He added that work is underway to implement an ATSC reflector for all T3-related work. This project will start slowly and move forward as confidence is gained in the server hardware and software.

Mr. Richer reported that the PSIP and Data Broadcast seminar co-sponsored with ITS in Palm Springs went very well. ITS was pleased with the event and would like to be involved in similar projects in the future. Mr. Richer also reminded T3 members of the upcoming DASE Symposium, co-sponsored with NIST (June 19 and 20). Other activities include ATSC participation in two SBE seminars, one held last month in Orlando and another scheduled for next month in Syracuse.

Mr. Richer called members' attention to the ATSC annual meeting, which will be held May 23 at CBS Television City in Los Angeles. He urged all members to attend.

Mr. Richer outlined the status of DASE IP issues. He said several meetings have been held so far and a memorandum has been developed based on work to date that will go to the EC for further consideration. Mr. Richer said he expects the EC to identify the process by which the IP question will go forward.

b) Status of ballots

Mr. Richer outlined the status of ballots. He said it appears the five DASE documents will all be approved with editorial comments, as will the DTV Field Testing Recommended Practice. (The ballots close at noon today.) Documents still at T3 ballot are: 1) Revision A to Amendment 1 of A/65, 2) A/65A PSIP for Taiwan, and 3) Annex A of A/53 (colorimetry). He stated that the amendment to A/53 to permit a higher maximum audio bit has been approved by the ATSC membership.

c) Other

5) Brief Reports on Actions from the Previous Meeting

Craig Todd (Dolby) discussed the A/52 revision proposal that was continued from the previous meeting. In December, a revision of Annex A was proposed and Mr. Todd was asked to do a 5 year review of the entire A/52 document, which he completed in time for discussion at the February T3 meeting. Mr. Todd outlined the specifics of some of the technical issues identified in his review and proposed revision of the A/52 document. He said that, based on the reaction of T3 members at

the February T3 meeting, he felt additional consideration was appropriate. Bernie Lechner (consultant) detailed some of the technical issues involved and, subsequently, various comments were offered from Art Allison (NAB) and others. Chairman Justus directed that T3 members with comments on the proposed revision of A/52 work with Mr. Todd to resolve any remaining issues. After a final draft document is ready, the revision of A/52 will go to a six week T3 ballot (as approved at the February meeting), accompanied by a description of the pertinent issues.

6) New Work Items for Discussion

a) Assigned by Executive Committee

None were reported.

b) Implementation Subcommittee

Mr. Allison reported on an Implementation Subcommittee recommendation that a Recommended Practice on PSIP focusing on broadcasters be developed, and suggested that this work be assigned to T3/S8. Mr. Allison asked for formal T3 assignment of the project, which was approved by Chairman Justus. Mr. Allison further reported that development of an RP for PSIP use focusing on receiver manufacturers has already been accepted by CEA as a work item.

c) Other

7) Report of the Specialist Group on Data Broadcast, T3/S13 (Rich Chernock)

Richard Chernock (IBM) provided the report for Regis Cimon (Intel), who was unable to attend (**Attachment 3**).

a) IP Multicast draft specification

Mr. Chernock reported that T3/S13 has produced a draft standard covering delivery of IP multicast sessions over the ATSC data broadcast system. This document was posted to the T3 reflector for comments two weeks ago (**Attachment 4**). Mr. Chernock **moved** to authorize a 6 week ballot on the IP Multicast Specification. **Second** by Mr. Allison. Chairman Justus invited discussion. Mr. Dolan pointed out that some minor changes are likely to be made in the document, and that some comment period should be provided. Mr. Lechner suggested a two week comment period after the final document has been completed, followed by a 6 week ballot. Peter Dare (Sony) questioned whether—and if so, to what extent—the document deviates from cable industry standards in this area. Mr. Dolan addressed the question, stating that the cable specification is not finalized and that the T3/S13 document is already harmonized, to the extent practical, with the ongoing cable efforts. He said the document also normatively references at least one SCTE document on the subject. Mr. Allison commented on the review process, arguing against a two-week review period. He said the document was posted to the T3 reflector two weeks ago and that sufficient time has been provided for comment. A discussion was held with regard to the length of the ballot period, typically six weeks, and various opinions were offered from members and Mr. Richer. Chairman Justus called the motion, allowing one week to implement comments. The motion was **approved** on a voice vote.

b) Transport stream file system

Mr. Chernock reported on a request for proposals (RFP), scheduled to be released tomorrow, dealing with transport stream file system issues (**Attachment 5**). The goal of this project is to identify potential specifications that may be used to address market requirements and, as appropriate, to document the methodology into an ATSC Standard or a revision of an existing standard. This RFP applies to technologies, protocols, and techniques to support the advanced functionality of a file system over ATSC digital television transport streams characterized by certain specified requirements. Key milestones include the following:

- RFP issue date: April 5, 2001
- Dateline for submission: May 11, 2001
- Meeting to present proposals: May 16, 2001
- Draft standard distributed for T3 letter ballot: August 10, 2001
- Draft standard distributed for ATSC membership ballot: October 30, 2001 (tentative)
- Standard adopted: December 12, 2001 (tentative)

Mr. Allison questioned the process of determining requirements and commenting on the requirement set. Mr. Dare asked whether T3/S13 has investigated what other work is being done in this area. Mr. Dolan said that T3/S13 is looking at efforts by other organizations with the goal being to coordinate, or hand-off, work as appropriate. Chairman Justus directed T3/S13 to move forward with their efforts.

c) Data synchronization

Mr. Chernock reported significant progress on issues relating to signaling of trigger and pre-load data. This effort is being coordinated with on-going work in the ARM team on acquisition directives. An initial draft document has been produced by T3/S13. The next meeting (a phone conference) is scheduled for May 4.

d) New work items (signaling of service description data size)

Mr. Chernock reported that following a request from SCTE, T3/S13 will look at the impact of using A/90 for service delivery at rates up to 40 Mbits/sec.e) MPEG-2 liaison

Mr. Chernock reported that MPEG has produced an updated version of the PDAM for carriage of metadata in MPEG-2 systems. He said T3/S13 will prepare a liaison statement to MPEG relating to data synchronization. A phone conference on this issue has been scheduled for May 11.

8) Report of the Specialist Group on Satellite Broadcast, T3/S14A (Dipak Shah)

Mr. Shah was unable to attend the meeting. Chairman Justus asked Mr. Lechner to give the report for him (**Attachment 6**).

a) Report from joint S8/S14A meeting

Substantial progress was reported on transport stream issues being addressed jointly by T3/S14A and T3/S8. The first joint meeting of the two specialist groups was held March 22 and another is scheduled for May, which should lead to finalization of requirements, after which development of specifications will begin. The goal of T3/S14A is to develop an ATSC specification for direct-to-home satellite broadcasting. Elements of the document will include specifications for video and audio formats, and for system information (PSIP).

b) Review requirements document changes

Mr. Lechner reported that version R6 of the requirements document is in now under review within T3/S14A and T3/S8, with a second joint meeting planned in early May. It is expected that the next meeting will lead to a finalization of requirements.

c) Review next S14-A meeting agenda

Mr. Lechner outlined the agenda for the next T3/S14A meeting, as given in the attachment.

9) Report of the Specialist Group on RF Transmission, T3/S9 (John Tollefson)

Mr. Tollefson outlined the work underway within T3/S9 (**Attachment 7**). He reported that the work plan for the specialist group is still on track. He said that nine responses to the RFP issued in January were received by the April 2 deadline. The organizations submitting proposals are:

- ADC
- Broadcom
- Patel/Limberg/McDonald
- Conexant
- Merrill Weiss Group
- Nxtwave
- Oren Semiconductor
- Sarnoff
- ZenithA tenth proposal, from Philips, was received after the April 2 deadline and is being considered by T3/S9.

Chairman Tollefson said the proposals can be divided into the following broad categories:

- Narrowband VSB
- Addition of training sequences
- Addition of a pilot signal
- Single-frequency network design
- Various tradeoffs of payload for increased robustness

He added that most of the proposals are backward-compatible. A two-day meeting will be held next week by T3/S9 to begin the evaluation process.

Mr. Tollefson said he is pleased with the progress of the specialist group to date. He stated that all but one or two respondents indicated they could meet the deadlines set in the RFP. Mr. Tollefson said it was clear that a number of companies have been working on this issue for a considerable period of time.

In response to a question, Mr. Tollefson stated that all of the proponents indicated they would abide by the ATSC patent policy. The question of confidentiality of T3/S9 documents was raised, with Mr. Richer emphasizing that the confidentiality policy of ATSC should be observed by all parties participating in the effort.

a) Status update

Mr. Richer encouraged all interested T3 members to attend the proponent presentations, scheduled for June 6 and 7, 2001.

Lunch break

The meeting was adjourned for lunch at 11:35 a.m. Chairman Justus reconvened the meeting at 12:20 p.m.

10) Report of the Specialist Group on Data Multiplex/Transport, T3/S8 (Bernie Lechner)

a) Review of A/55, A/56, A/58, and Annex C to A/53

Mr. Lechner reported on T3/S8's review of documents A/55, A/56, A/58, and Annex C of A/53. As reported at the last T3 meeting, A/55 is being used by Nagravision and the manufacturer has asked ATSC to maintain the document. The company stated that, so far as they know, no updating of the document is required. T3/S8 plans to ask Nagravision and its hardware supplier (Thomson) to formally review the document and report back to the specialist group. Regarding A/56, T3/S8 agreed that the document contains sections that are being used in the cable and satellite industries. Mr. Lechner said it seemed appropriate, therefore, to ask SCTE to undertake a revision of A/56, and T3/S8 agreed to refer the issue to SCTE. Regarding A/58, a document that defines the code points that ATSC uses versus the code points that DVB uses, T3/S8 agreed that the document is satisfactory as it stands, although it may be advisable to expand the scope of the document. As for Annex C of A/53, this issue is still under discussion by the PSIP ad hoc group.

Mr. Dolan inquired about the long term intentions of T3/S8 with regard to A/58, and whether there was a plan to maintain the document as a living document, or to simply bring it into conformance with current practice. Mr. Lechner said that because code points are finite in number, we will run out of them some day; therefore, he argued that the issue of administration is important. Mr. Lechner said that Michael Isnardi (Samoff) is working on the issue of code points with the goal being to update the documents that currently exist, and to ultimately provide a living (perhaps on-line) resource.

b) Status of next corrigendum to A/65A

Mr. Lechner reported that draft 3 of the next corrigendum to A/65A has been developed by the PSIP ad hoc group. There are a total of 33 items, some trivial some substantive. Mr. Lechner said he expects to bring the issue back to T3 at its May meeting. He added that one of the open items is a revision to Annex B, which defines how the major and minor channel numbers are to be used by broadcasters in the U.S.

c) Status of work on content identification and replacement of A/57

Mr. Lechner reported on the progress of the ad hoc group, joint with SMPTE, working on content identification. The primary responsibility for defining the *universal program identifier* (UPID) lies with SMPTE; the responsibility for developing a method for carrying it in an ATSC transport stream lies with T3/S8. There is, therefore, a two part effort—the identification of the identifier and the carriage of the identifier in the transport stream. Mr. Lechner reported that the ad hoc group has made significant progress in its efforts with ISAN, both the way in which the number is structured and the way in which it will be administered.

d) Status of work on Advanced EPG Functionality

An ad hoc group of T3/S8 is considering enhancements to the EPG functions of PSIP. An RFP was issued in January, with the deadline for submitting proposals March 16, 2001. Mr. Lechner reported that two formal proposals were received: one from Strategies and Technologies, Ltd., and another from Sony recommending specifications of the TV Anytime Forum. An extensive discussion was held after the proponent presentations on March 23, and the ad hoc group identified the TV Anytime proposal as serving as the best starting point for the work of the ad hoc group.

e) Request to add copy control descriptor to PSIP

Mr. Lechner briefed the committee on the issues of copy control and copy control descriptors as they relate to T3/S8. The specialist group received a request from News Corp., which suggested the need for certain content descriptors to be added to the collection of PSIP descriptors that would apply to older programming and unscrambled content. The request was ruled out of order by the chairman of T3/S8 because it was not within the existing scope of the specialist group. Mr. Lechner explained that he was bringing the request to T3 for guidance.

Scott Hamilton (News Corp.) briefed the committee on a proposed *copy protection and content management* (CPCM) descriptor for inclusion in the EIT and PMT within the A/65A PSIP stream (**Attachment 8**). Mr. Hamilton explained that the difference between this proposal and others to date is that the CPCM would be conveyed in the clear within the transport stream (an identical copy could or should also be carried as an encrypted element within a CA stream) to ensure that all devices could be easily (not requiring a CA system) informed of CPCM intentions—whatever they may be. The goal he said is to make it simple, easy, and inexpensive to discover the content protection notification.

Mr. Allison suggested that T3 assign the activity of a content protection and content management descriptor for the ATSC Standards suite to T3/S8. Chairman Justus voiced support for authorizing the work item and observed that the consensus of T3 was to do so. Chairman Justus assigned the work to T3/S8, and the specialist group was directed to develop the work item more fully and to come back to T3 with a recommendation on how to proceed.

f) Application of PSIP to Direct-to-Home Satellite Broadcasting (joint work with T3/S14A)

This issue was previously addressed.

g) PSIP Implementation Guidelines for Broadcasters and Receiver Manufacturers

Mr. Lechner reported that an ad hoc group on PSIP implementation for broadcasters has been formed to develop a Recommended Practice designed to help television stations properly implement PSIP. Warner Johnston (ABC) is the chairman of the ad hoc group, which held its first meeting on Monday April 2. Mr. Lechner reported good progress on review of a draft document, and outlined the action plan for the group as it moves forward. A companion RP is being developed by CEA (R4.3 Work Group 10, “PSIP Implementation Guidelines for Receivers”) that addresses receiver PSIP issues.

h) Copy Protection and Content Management (CPCM) descriptor (Scott Hamilton)

This issue was previously addressed.

11) Report of the Specialist Group on DASE, T3/S17 (Glenn Adams)

a) Discussion ballot results

The ballot period for the first five DASE documents closed at noon today, and the results were announced by Mr. Richer. All documents were approved with editorial privilege. A number of comments were received during the balloting process. Mr. Adams characterized the comments as a mixture of technical, editorial, and process issues, some related to the Sun intellectual property question. He said a comment resolution process will begin in T3/S17, with expected completion of by May 15, in time to report back to T3 at its next meeting. Mr. Allison observed that the ballot resolution process is a T3 issue, and he urged Chairman Justus to establish a ballot reconciliation group for at least the first document (T3-528, “Introduction and Architecture”). He said there are broad issues that need to be addressed outside of the specialist group. Mr. Richer outlined the ATSC process for ballot resolution. Wendy Aylsworth (Warner Bros.) echoed Mr. Allison’s comments, stating that substantive technical and process issues are involved.

Chairman Justus said that the comment resolution process should be allowed to move forward within T3/S17. Mr. Allison, however, argued that there are broad issues involving whether the DASE documents achieved what the specialist group was charged with doing. Subsequent discussion focused on the case where substantive comments have been received on a document that has received ballot approval at the T3 stage.

Mr. Adams said it was appropriate for T3/S17 to examine the comments and make recommendations to T3 at the next meeting regarding how to proceed. He said it might be necessary, based on the nature of the comments, to reballet some of the DASE documents, but that the specialist group will not know this until it has an opportunity to examine the comments. Chairman Justus said he is inclined to agree with Mr. Adam’s proposed resolution procedure. Mr. Adams observed that, assuming all 8 DASE documents are approved by T3, several important issues remain to be addressed before a full ATSC membership ballot can take place, including the IP question plus certain normative references which are not yet finalized. Mr. Adams also reported that the final three documents should be ready for T3 consideration at its next meeting.

Mr. Adams went on to address plans for DASE Level 2. He said there are a number of technical substantive features that remain to be added to the DASE standard for enhanced functionality. Mr. Adams said T3/S17 expects to publish DASE Level 2 as an additional document in the suite of standards (essentially a DASE superset).

Mr. Richer suggested that T3 discuss a plan for dealing with the verification procedure for addressing the decision of T3 in a motion by Mr. Allison at the last meeting relating to the DASE document suite¹. Committee members, including Mr. Allison, Mr. Adams, and Pat Griffis (Microsoft) gave their views on how this judgment process might proceed. Mr. Richer suggested that T3 define a comment period after the documents are complete of perhaps two months, during which the evaluation judgment could be made. Chairman Justus concluded the discussion, directing T3/S17 to examine the comments received during the ballot and bring the issue back to the next T3 meeting.

Mr. Dolan suggested that T3 give direction to T3/S17 with regard to plans for DASE Level 2. Mr. Adams agreed with Mr. Dolan, suggesting that the specialist group should review its scope and factor into it a process for moving forward with the DASE effort, and then bring the document back to T3 for consideration. Chairman Justus concurred.

12) Formation and Scope of JSG13/17 (Rich Chernock)

Mr. Chernock outlined a proposal to extend the application reference model (ARM) team of T3/S17 into a joint specialist group with T3/S13. Mr. Dolan expanded on the issues involved, essentially to move the ARM work into a new group, where it is not constrained by the scope of the existing specialist groups, specifically T3/S13 and T3/S17. A proposed scope statement is given in **Attachment 9**. Mr. Richer said that, generally speaking, he supports the proposal but suggested that it be called simply a specialist group, not a joint specialist group. Mr. Adams spoke in favor of Mr. Richer's suggestion. Mr. Richer outlined the process for establishing a new specialist group. Chairman Justus said he was inclined to go with the joint specialist group name. He said that he and Mr. Richer will confer and make a decision regarding how to proceed, with Mr. Dolan as the chair of the committee.

13) Report of the Specialists Group on Interactive Services (Rich Chernock)

Mr. Chernock outlined the status of the T3/S16 specialist group. He said that the group has met by teleconference but that no new requirements have been identified. Mr. Allison suggested a more precise, descriptive name such as "Specialist Group on Transactional Services" that would focus on the return channel to enable transactional services. (or perhaps "Specialist Group on Return Channel Protocol"). Chairman Justus directed Mr. Chernock to post to the T3 reflector a schedule for a teleconference or other meeting to determine specific needs in this area. He said that right now, "Specialist Group on Interactive Services" may be too broad and vague. Mr. Adams suggested that T3/S16 define a problems statement as its first step in the process. Chairman Justus directed Mr. Chernock at the next meeting of T3/S16 (a teleconference) to identify a significant work area of interest and then to structure the future of the specialist group around the need as it pertains to ATSC. He asked that this report be posted to the T3 reflector and brought back to T3 at its May 31 meeting.

14) Other Business

Guidelines for Standards References (Mike Dolan)

Mr. Dolan outlined the changes implemented since this document was discussed at the last T3 meeting (**Attachment 10**). He asked that T3 adopt the submission as a guideline for developing technical documents. Mr. Richer said that T3 could take such action, although it would ultimately become an element of the ATSC Administrative Practices, which will be addressed by the EC at a future meeting. Chairman Justus asked if there were any objections to proceeding along those lines. Mr. Adams suggested that the document could serve as an amendment to E/11, Guidelines for Technical Group Operation. Mr. Richer said he intends to take this issue, along with other elements, to the EC for a more global review of ATSC administrative practices. Chairman Justus directed that the document be forwarded as a recommendation to the EC for subsequent amendment of E/11.

Mr. Dolan, while agreeing with Chairman Justus' approach, urged formal acceptance of the document in order to provide some guidance to specialist groups. He observed that T3 has considered this issue at the past three meetings. Mr. Richer said he was in favor of specialist groups using the document as a guidelines, but he said that T3 should not make these absolute constraints, that being the purview of the EC. Chairman Justus directed ATSC staff to assign a document number and make the document available to all specialist groups as a recommendation.

¹ From the Minutes of the February 13, 2001 meeting: "Mr. Allison offered an **amendment** to the motion on the table, specifically, to place the five DASE documents recommended by T3/S17 on a six week T3 ballot, with the *condition that independent of the ballot outcome of these five parts, that no parts go forward to an ATSC membership vote until all parts of the DASE standard have been passed by T3, and that T3 in its judgment believes that the implementation experience of those evaluating the standard from a practical standpoint is sufficient to go forward to a ballot of the full ATSC membership.*"

b) ATSC Glossary (Glenn Adams)

Mr. Adams briefed the committee on the draft ATSC Glossary of Terms (**Attachment 11**) He outlined the format of the glossary table, and the major column definitions. The need for the document was outlined and the information gleaned identified. He observed that there were several cases where different documents define the same term in a different way. Mr. Adams said he expects the work to be a living document, updated as new standards, recommended practices, and implementation guidelines are approved.

c) T3 document issues/options (Jerry Whitaker)

Mr. Whitaker reported on the document distribution work done in preparation for this meeting. All document considered at the meeting were posted on the ATSC FTP site and as such were available to all members prior to the meeting. A discussion followed as to the need to provide printed copies of documents at T3 meetings. After some discussion, it was decided a printed copy of the agenda will be provided for all T3 meetings, however, no additional documents will be provided in printed form at T3 meetings. The only exception will be documents not posted to the T3 reflector by the Friday preceding the meeting.

Mr. Whitaker briefed the committee on the draft ATSC Style Guide (**Attachment 12**). He outlined the reasons for the document and the scope of the guide. Chairman Justus asked any members with specific comments or feedback to provide it to Mr. Whitaker.

d) ITU report

Mr. Griffis reported on activities in WP-6M. A Special Rapporteur Group has been formed to address harmonization of data broadcasting systems, with representation from the various ITU regions. This follows the submission of ATSC Standard A/90 last year for standardization. He announced that Mr. Chernock has agreed to be the Region 2 Special Rapporteur. Mr. Griffis also reported on harmonization activities relating to multimedia application standards.

15) Schedule of Next T3 Meetings

a) Next meeting: May 31, 2001, NAB, Washington, D.C.

b) Other 2001 meetings: August 8, 2001, NAB, Washington, D.C.; October 3, 2001, PSB Braddock Place; November 28, 2001, NAB, Washington, D.C.

Chairman Justus said he will work with Mr. Richer and Mr. Allison to identify T3 meeting dates for 2002.

Adjournment

The meeting was adjourned at 2:56 pm.