

**Minutes:**  
**ATSC Technology and Standards Group (TSG)**

6 February 2008, 10:00 a.m. – 4:00 p.m. EST  
NAB, 1771 N Street NW, Washington, DC  
John Henderson, Chair

**1. WELCOME, INTRODUCTIONS, AND DETERMINATION OF QUORUM**

Chair John Henderson (CEA) called the meeting to order at 10:00 a.m. EST at the headquarters of the National Association of Broadcasters in Washington, DC. He welcomed those in attendance and asked each person to identify him or herself. He reminded all participants of the confidentiality requirements of this meeting and the ATSC Patent Policy. The attendance list is given in **ATTACHMENT 1**. Secretary Jerry Whitaker (ATSC) reported that a quorum was present.

Chair Henderson thanked NAB for hosting today's meeting.

**2. APPROVAL OF PROPOSED AGENDA**

Chair Henderson called attention to the draft agenda, posted to the TSG reflector on 23 January 2008, with an update posted 1 February 2008 (**ATTACHMENT 2**). No changes were requested and the draft agenda was approved as submitted.

**3. REVIEW VOTING ELIGIBILITY**

Chair Henderson called attention to the current TSG voting eligibility list, posted to the reflector on 28 January 2008 (**ATTACHMENT 3**). No corrections were identified.

**4. APPROVAL OF THE DRAFT MINUTES OF THE LAST MEETING**

Chair Henderson called attention to the draft Minutes from the 29 November 2007 meeting, posted to the TSG reflector on 31 January 2008 (**ATTACHMENT 4**). No changes were requested and the document was approved as submitted.

**5. OPENING REMARKS**

Chair Henderson announced that, based on several requests for expanded discussion at TSG meetings, he is restoring TSG meetings to a full-day activity. He said that some of the extra time will be used for expanded discussions of selected topics. Today, the committee will hear about work underway in TSG/S13 on non-real-time (NRT) services.

Chair Henderson pointed out that communication among specialist groups is very important. He encouraged SG chairs to share information with other groups that may be impacted by their work.

**5.1 2008 Goals**

Chair Henderson reported that the ATSC Board has agreed on a set of goals for 2008. Those relating to TSG are given below:

**Major Goals:**

- Prioritize work in accordance with Strategic Plan items, as directed by the Board

- Generate new standards as appropriate
- Identify implications and tradeoffs
- Technical details and solutions to be discussed at TSG
- Solicit assistance of the Board and PC as needed regarding application and business requirements

**Operational Goals:**

- Continue current reporting approach to Board
- PowerPoint presentation at Board meetings
- Include projections of project completion
- Provide in-depth project reviews as requested by the Board

Chair Henderson said the 2008 ATSC Goals will be posted to the TSG reflector within the next few days.

**6. BRIEF REPORTS ON ACTION ITEMS FROM THE PREVIOUS MEETING**

The following action items were developed at the 29 November 2007 TSG meeting. Items carried forward from a previous meeting are so noted.

- 1) Chair Henderson to work with Rich Chernock, Pat Waddell, Mark Richer, and Mark Eyer to draft a liaison statement to MPEG regarding document N8943. [2007-05-16]  
*Carried forward.*
- 2) Chair Henderson and Mark Richer to distribute to the ATSC membership and ATSC Forum a statement regarding possible withdrawal of A/80, "Modulation and Coding Requirements for Digital TV (DTV) Applications over Satellite." [2007-09-20]  
*Carried forward.*
- 3) Chair Miller to report to the ATSC Board of Directors the request that TIA be added to the list of approved normative reference organizations.  
*Completed.* The request to add TIA was approved by the Board.
- 4) Mark Aitken to prepare a high-level summary document of the characteristics of the proposed ATSC-M/H systems for TSG information and background in considering the various systems. This document should include a checklist of features addressed versus the capabilities specified in the ATSC-M/H NWIP.  
*Carried forward.* This report will be presented at the May TSG meeting.
- 5) Jerry Whitaker to update Candidate Standard CS/TSG-757r0, "Candidate Standard: Amendment No. 1 to ATSC Digital Television Standard (A/53) Part 5:2007," to show an expiration date of 31 December 2008.  
*Completed.*
- 6) Jerry Whitaker to update Candidate Standard CS/TSG-758r0, "Candidate Standard: Amendment No. 1 to ATSC Digital Television Standard (A/53) Part 6:2007," to show an expiration date of 31 December 2008.  
*Completed.*
- 7) Jerry Whitaker to update Candidate Standard CS/TSG-674r1, "Candidate Standard: Draft Amendment to ATSC Digital Television Standard, Doc. A/53D Annex A," to show an expiration date of 31 December 2008.  
*Completed.*

- 8) Jerry Whitaker to issue a 6-week letter ballot on CS/TSG-746r0, "Candidate Standard: Revision B of ATSC Standard A/57, Content Identification and Labeling for ATSC Transport," as a Proposed Standard.  
*Completed.*
- 9) Jerry Whitaker to update Candidate Standard CS/TSG-660r2, "ATSC Candidate Standard: Part 2 of Proposed Doc. A/72, AVC Video Transport Subsystem Characteristics," to show an expiration date of 31 December 2008.  
*Completed.*
- 10) Jerry Whitaker to update Candidate Standard CS/TSG-659r4, "Candidate Standard: Part 1 of Proposed Doc. A/72, Video System Characteristics of AVC in the ATSC Digital Television System," to show an expiration date of 31 December 2008.  
*Completed.*
- 11) Jerry Whitaker to issue a six-week letter ballot on CS/TSG-658r3, "Candidate Standard: Part 1 of Proposed Doc. A/73, Video System Characteristics of VC-1 in the ATSC Digital Television System," as a Proposed Standard.  
*Completed.*
- 12) Jerry Whitaker to issue a six week letter ballot on CS/TSG-659r4, "Candidate Standard: Part 1 of Proposed Doc. A/72, Video System Characteristics of AVC in the ATSC Digital Television System," as a Proposed Standard.  
*Completed.*
- 13) Jerry Whitaker to issue a six week letter ballot on CS/TSG-660r2, "ATSC Candidate Standard: Part 2 of Proposed Doc. A/72, AVC Video Transport Subsystem Characteristics," as a Proposed Standard.  
*Completed.*
- 14) Jerry Whitaker to issue a six week letter ballot on S8-686r5, "Part 2 of Proposed Doc. A/73, VC-1 Video Transport Subsystem Characteristics," as a Proposed Standard.  
*Completed.*
- 15) Jerry Whitaker to keep the video codec Candidate Standards documents posted on the ATSC Web site during their ballot periods.  
*Completed.*
- 16) Jerry Whitaker to work with Charles Einolf to develop appropriate wording to accompany the public posting of A/75 on the ATSC Web site  
*Completed.* The following text was added to the Web site posting of A/75:  

"Note: While this document provides considerable useful information, it has not been updated and may therefore not reflect current practices."

## **7. COMMENTS BY THE PRESIDENT (MARK RICHER)**

Mark Richer (ATSC) was unable to attend today's meeting. Mr. Whitaker gave the report on his behalf.

## 7.1 Status of Ballots

Mr. Whitaker called attention to the Status of Ballots report, noting that all approved documents have been published (**ATTACHMENT 5**).

## 7.2 Other

Mr. Whitaker reported that:

- A contract has been signed with a vendor for an online balloting/enterprise management system. Implementation planning is currently underway, with the goal of having the system up and running before the end of March. The vendor is Kavi, which is used by SMPTE and other standards developing organizations.
- A ballot to revise the Bylaws will be issued in a few weeks. Major changes relate to the definition of quorum and the requirement that TSG elevation of documents must be done by “letter” ballot.
- Planning continues for the DTV Hot Spot at NAB 2008 in Las Vegas. Companies interested in securing demo space and participating in the event should contact Lindsay Sheldon-Gross as soon as possible.
- Registration is now open for the ATSC Annual Meeting and 25th Anniversary observance. The event will be held on May 8 at the Ritz-Carlton Hotel in Pentagon City; for more information see: [http://www.atsc.org/seminars/am2008/AM2008\\_main.html](http://www.atsc.org/seminars/am2008/AM2008_main.html). Sponsorship opportunities exist; contact Lindsay for more information.

## 8. NEW WORK ITEMS FOR DISCUSSION

### 8.1 Board of Directors

Chair Henderson said there are no new work items from the Board.

## 9. ARCHITECTURAL TEAM

Chair Henderson noted that the A-Team is discussing document partitioning involving A/53 and A/65, in particular related to `service_type`. Pat Waddell (Harmonic) explained the issues involved, focusing on `service_type`—a fundamental code point for the DTV system. Currently documented in A/65, `service_type` needs to migrate to A/53 Part 1. He said implementing this change will impact multiple documents, which TSG/S8 will bring forward in the near future.

### 9.1 Five-Year Review Status

Mr. Whitaker updated the committee on the status of the 5-year review work:

**A/49**, “Ghost Canceling Reference Signal for NTSC”— The ballot to reaffirm has been approved and the document has been published.

**A/63**, “Standard for Coding 25/50 Hz Video” – TSG/S6 is working to merge A/63 into A/53 Part 4.

**A/64A**, “Transmission Measurement and Compliance for Digital Television, Rev. A” – Review in TSG/S9 has been completed. On agenda.

**A/68**, “PSIP Standard for Taiwan” – The process for withdraw has been initiated.

**A/75**, “Developing DTV Field Test Plans” – TSG/S9 has reviewed the document and agreed that it should remain available, but with a note that it has not been updated in some time. This has been done.

A/80, “Modulation and Coding Requirements for Digital TV (DTV) Applications over Satellite” – No decision has been made on whether to withdraw or update this document.

A/90, “Data Broadcast Standard” – This work is currently on the TSG/S13 work plan.

A/91, “Implementation Guidelines for the Data Broadcast Standard” – TSG/S13 will undertake this work after A/90 has been updated.

A/92, “Delivery of IP Multicast Sessions over Data Broadcast Standard” – Assigned to TSG/S13.

A/93, “Synchronized/Asynchronous Trigger Standard” – Assigned to TSG/S13.

A/94, “ATSC Data Application Reference Model” – Assigned to TSG/S13.

## **10. REPORT OF THE SPECIALIST GROUP ON PSIP METADATA COMMUNICATION, TSG/S1 (ART ALLISON)**

Art Allison (NAB), Chair of TSG/S1, reported on work of the specialist group since the last TSG meeting. He said comments received during the ATSC ballot on the rollup of A/76B have been addressed and that A/76B has been published. He noted there is some discussion within TSG/S1 on possible additional changes to A/76; however, no firm decisions have yet been made.

## **11. REPORT OF THE SPECIALIST GROUP ON ACAP, TSG/S2 (THOMAS JUNG)**

Thomas Jung (Alticast) updated the committee on activities within the specialist group (**ATTACHMENT 6**).

### **11.1 Status Report**

Mr. Jung said the first Working Draft of the ACAP (A/101) revision was posted to the TSG and TSG/S2 reflectors on 21 December 2007 (**ATTACHMENT 7**). A conference call was held on 23 January 2008, where feedback on the Working Draft was gathered; a revised document is now being developed. He said a TSG/S2 conference call is planned for late February to consider the updated revision, hopefully with agreement to recommend the revision to TSG for letter ballot as a Proposed Standard.

Mr. Waddell suggested that, assuming TSG/S2 reaches consensus on the A/101 revision later this month, the TSG Chair might want to call a teleconference to discuss the document, with the intent to authorize a letter ballot. This, he said, would allow the document to move forward to ballot without waiting until May. Chair Henderson observed the consensus of the committee to do so. He suggested 24 April 2008 from 1:00 p.m. until 2:00 p.m. EST; this date was accepted by the committee.<sup>1</sup>

## **12. REPORT OF THE SPECIALIST GROUP ON DIGITAL ENG, TSG/S3 (DANE ERICKSEN)**

Chair Henderson said that Dane Ericksen (Hammett & Edison, representing SBE), Chair of TSG/S3, was unable to attend today’s meeting because of illness. He asked Mr. Whitaker, Secretary of TSG/S3, to update the committee on current activities within the specialist group.

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<sup>1</sup> On 21 February 2008, Chair Henderson posted a note to the TSG reflector canceling the planned teleconference, in favor of authorizing the letter ballot under his authority as TSG Chair.

Mr. Whitaker said that comments received during the TSG ballot on TSG-696r4, "Proposed Standard: ATSC Automatic Transmitter Power Control (ATPC) Data Return Link (DRL) Standard," have been addressed. He said the changes made were editorial in nature, adding that the document is currently at ATSC ballot.

Mr. Whitaker reported that progress continues to be slow on the ATSC Field Communications System Working Draft. A solid time frame for requesting TSG to elevate the Working Draft to Candidate Standard has not been determined due to limited time availability of contributor(s) to the document.

### **13. REPORT OF THE SPECIALIST GROUP ON MOBILE AND HANDHELD, TSG/S4 (MARK AITKEN)**

Dan Borowicz (ION Media), Vice-Chair of TSG/S4, reported on current work within the specialist group (**ATTACHMENT 8**).

#### **13.1 Status Report**

Mr. Borowicz said work continues at a rapid pace within TSG/S4 and its sub-groups to develop an ATSC-M/H standard. Three full-system proposals currently exist (in some cases by recent strategic alliances), namely:

- LG Electronics/Zenith/Harris
- Samsung/Rohde & Schwarz/Nokia
- Micronas/Thomson

Coherent Logix has a proposal to support any physical layer system.

"Stand-alone" proposals include:

- Audio codecs (Coding Technologies and DTS)
- Interactive TV services (MobiTV)

Mr. Borowicz reviewed the status of the four TSG/S4 sub groups:

**S4-1, Physical Layer**, Michael Doerr (Coherent Logix), Chair, and Bruce Franca (MSTV), Vice-Chair. Mr. Borowicz reported that, with an emphasis on a monthly face-to-face meetings schedule, S4-1 is working to fully understand the physical layer proposals and finalize laboratory and field test plans. Evaluation metrics are based on service examples from the broadcast community, similar to S4-3 usage cases. The group is developing a summary of systems strengths and weaknesses, and the physical layer parameters are being exposed to other layers to examine potential interface issues.

**S4-2 Management Layer**, Rich Chernock (Triveni Digital), Chair, and Alan Moskowitz (MobiTV), Vice-Chair. Mr. Borowicz reported that during a face-to-face meeting two days ago, S4-2 came to a decision on the transport of streaming data from the M1 layer (Transport-M, or effectively the S4-2 physical adaptation layer). The group decided that there will be only one way to transport streaming data to upper layers in the M/H standard and that it will be IP. This means that all data moving upwards from the M1 sub-layer (streaming and file) will be carried via IP. Art Allison (NAB) qualified that TSG/S4 still needs to endorse this decision (which is expected). Mr. Borowicz said there is ongoing liaison with TSG/S13 regarding work underway there on NRT services. He added that S4-2 may request TSG liaison with the Open Mobile Alliance on the OMA BCASST specification.

**S4-3 Physical Layer**, Brett Jenkins (ION Media), Chair, and Graham Jones (NAB), Vice-Chair. Mr. Borowicz said use cases have been defined and are helping to drive decisions going forward. He said a volunteer group is working this issue based on discussions at and following CES, adding that the group is driving for a tentative decision on video codecs, probably after next face-to-face meeting. He added that liaison has been established with TSG/S6 on video/audio codecs, and that the group is working with S4-2 on application framework issues.

**S4-4 System Group**, Art Allison (NAB), Chair. Mr. Borowicz said this group, recently formed, is currently developing a scope and work statement. S4-4 will focus on system issues, including comparing TSG/S4 activities against the requirements contained in the NWIP and RFP. The group will also identify the status of elements/capabilities and work within/across the TSG/S4 sub-groups, as well as PC (and others) to prioritize various elements/capabilities and establish possible versioning of ATSC-M/H services.

Mr. Borowicz reported the TSG/S4 and TSG/S13 joint recommendation that TSG request the ATSC Board of Directors to add the Open Mobile Alliance (<http://www.openmobilealliance.org>) to the approved list of normative reference organizations, as detailed in document B/6 ([http://www.atsc.org/policy\\_documents/B\\_6\\_ATSC%20Normative%20Reference%20Organizations%20%2012-12-07.pdf](http://www.atsc.org/policy_documents/B_6_ATSC%20Normative%20Reference%20Organizations%20%2012-12-07.pdf)).

Chair Henderson observed the **motion** on behalf of TSG/S4 and TSG/S13 to recommend to the Board that the Open Mobile Alliance be added to the list of approved normative reference organizations. The motion was **approved** without objection.

#### **14. REPORT OF THE SPECIALIST GROUP ON VIDEO AND AUDIO CODING, TSG/S6 (PAT WADDELL)**

Pat Waddell (Harmonic), Chair of TSG/S6, provided a status report on the work of the specialist group (**ATTACHMENT 9**).

##### **14.1 Status Report**

Mr. Waddell reviewed the work underway in the two active TSG/S6 ad-hoc groups:

**S6-3, AHG on Audio Loudness.** Led by Jim Starzynski (NBC Universal), this group is working to identify known (and perhaps unknown) issues that affect loudness. S6-3 will furnish many of the speakers for the upcoming “ATSC Audio Summit” at the HPA Retreat on 19 February 2008. S6-3 will hold a face-to-face meeting on the morning of the Audio Summit. Jeff Kraus (NCTA) suggested that a summary report of the session be developed and distributed to TSG/S6 members (and others as appropriate). Mr. Waddell agreed this would be a good idea and said he would work with Mr. Whitaker to produce such a document.

**S6-4, AHG on Lip Sync.** Led by Chair Henderson, this group is holding regular meetings and examining a variety of potential sources of the problem. Bit stream verification continues to be discussed, with analyzer manufacturers now participating in the effort. Cable industry participation is urgently solicited. Mr. Waddell said that liaison with S4-3 on ATSC-M/H work is currently underway.

##### **14.2 Approval of TSG/S6 Work Statement for 2008**

Mr. Waddell called attention to the draft revised Work Statement for TSG/S6 approved by the specialist group on 23 January 2008. He reported the consensus of TSG/S6 to request TSG

ratification of the document, S6-201r5 (**ATTACHMENT 9**). Chair Henderson observed the consensus of TSG to accept the updated Work Statement.

## **15. REPORT OF SPECIALIST GROUP ON DATA MULTIPLEX/TRANSPORT, TSG/S8 (MARK EYER)**

Mark Eyer (Sony), Chair of TSG/S8, reported on current work of the specialist group (**ATTACHMENT 11**).

### 15.1 Status Report

Mr. Eyer reviewed current activities in the specialist group, which include the following:

- Draft Amendment to A/53 Part 3: Changes being proposed include: 1) changing a reference to A/65 from normative to informative in order to break a circular reference issue, and 2) documenting transport format and signaling methods for adaptation field private data.
- Draft Amendment to A/65C: A roll-up of miscellaneous items collected over time is proposed, including: 1) deleting reference to an old content identification descriptor, and 2) coordination with CEA-708C with regard to caption metadata.
- Update of A/69, “PSIP Implementation Guidelines for Broadcasters”: TSG/S8 continues to seek volunteers to work on this project.

Mr. Eyer said that both amendments noted above are essentially complete; they are awaiting coordination with the Architecture Team on the `service_type` clarification noted in agenda item 9.

### 15.2 Approval of TSG/S8 Work Statement for 2008

Mr. Eyer called attention to a draft TSG/S9 Work Statement revision, posted on the to the TSG reflector on 29 January 2008 (**ATTACHMENT 12**). He outlined the major points, namely:

- Define transport of AVC and VC-1 codecs
- Maintain A/65 (PSIP): finalize and process Draft Amendment No. 2
- Maintain A/53 Part 3 (Transport): finalize and process Draft Amendment No. 1
- Maintain A/57B (Content Identification): support ATSC staff in the ballot process and publication
- Update A/69 (PSIP Implementation Guidelines for Broadcasters)

Mr. Eyer reported the consensus recommendation of TSG/S8 that TSG accept the updated Work Plan. Chair Henderson recognized the **motion** from the Chair of TSG/S8. The motion was **approved** without objection.

The meeting broke for lunch at 11:46 a.m. EST.

The meeting resumed at 12:35 p.m. EST.

## **16. REPORT OF THE SPECIALIST GROUP ON RF TRANSMISSION, TSG/S9 (CHARLES EINOLF)**

Charles Einolf (UPN/CW), Chair of TSG/S9, reported on current work within the specialist group (**ATTACHMENT 13**).



## 16.1 Status Report

Mr. Einolf said S4-1 has requested that TSG/S9 review and comment on the ATSC-M/H Field Test Plan (“Field Tests Evaluation of the Mobile/Handheld Digital Television System for Terrestrial Broadcasting”). The document has been distributed to the TSG/S9 reflector, with a request for review and comment.

Mr. Einolf reported that the S9-6 AHG, Chaired by Wayne Bretl (Zenith), is working to develop a corrigendum of improvements for A/53 Part 2. TSG members are encouraged to join S9-6 and contribute to the work.

## 16.2 Recommendation to Issue TSG Ballot on Proposed Revision of A/64

Mr. Einolf said that as part of the ongoing 5-year document review process, TSG/S9 undertook the task of revising/updating A/64A, “Transmission Measurement and Compliance for Digital Television, Rev. A,” dated 30 May 2000. He said the specialist group has completed review of the document and proposes the changes detailed in **ATTACHMENT 14**. He noted that a change in the designation of the document, from a Standard to a Recommended Practice, is being proposed since it more accurately reflects the contents of the document.

Mr. Einolf reported the consensus recommendation of TSG/S9 that the proposed revision of A/64A be sent to ballot as a Proposed Recommended Practice. Chair Henderson recognized the **motion** from the Chair of TSG/S9. The motion was **approved** without objection.

## 17. REPORT OF THE SPECIALIST GROUP ON RECEIVERS, TSG/S10 (JOHN HENDERSON)

John Henderson (CEA), Chair of TSG/S10, reported on current work within the specialist group (**ATTACHMENT 15**).

### 17.1 Status Report

Chair Henderson reminded the committee that TSG/S10 previously requested the Board consider an ex parte filing with the FCC regarding the “White Space” issue; TSG/S10 offered to draft the text. He said the Board’s response was that any filing would be limited to correction of factual errors and incorrect statements relative to A/74. Chair Henderson reported that TSG/S10 has finished its draft and will send it to Board for consideration.

Other efforts underway within TSG/S10 are focused on a possible revision of A/74, “ATSC Recommended Practice: Receiver Performance Guidelines.” Among the changes being considered are:

- Description of multiple-strong-interferer signal conditions and their effect(s) on tuner nonlinearities.
- Identification and description of existing field ensembles that have dropped symbols.
- Additional “A/74 Annex D-like” studies of difficult cities.
- Additional performance guidelines for lower signal strength levels than “ATSC low.”
- Expanded section on “smart antennas” based on the CEA-909 Interface Standard.
- The “N+7” interference issue
- Appendix on impact of unlicensed “white space” devices on A/74 receivers

Chair Henderson encouraged persons interested in this document to participate in the ongoing work of TSG/S10.

## 18. REPORT OF THE SPECIALIST GROUP ON DATA BROADCAST, TSG/S13 (MIKE DOLAN)

Mike Dolan, Chair of TSG/S13, updated the committee on work within the specialist group since the last TSG meeting (**ATTACHMENT 16**). He said progress continued to be made in the S13-1 AHG on NRT services; this work will be taken up in agenda item 19.

### 18.1 Recommendation for Vote on “Carriage of Legacy TV Data Services”

Mr. Dolan called attention to S13-404r3, “Carriage of Legacy TV Data Services” (**ATTACHMENT 17**). He said the document is drafted as a new Standard; the previous plan was to move forward as an Amendment to A/53. The consensus of the group was that it would be better captured in a separate document.

Mr. Dolan reported the consensus recommendation of TSG/S13 to advance Working Draft S13-404r3 to Proposed Standard by letter ballot. Chair Henderson recognized the **motion** from the Chair of TSG/S13. The motion was **approved** without objection.

## 19. NRT WORK BACKGROUNDER (RICH CHERNOCK)

Mr. Chernock, Chair of S13-1, provided an in-depth background presentation on the non-real-time (NRT) services work currently underway (**ATTACHMENT 18**).

### 19.1 Overview of Capabilities and Technologies, and Status of Current Work

Mr. Chernock reviewed the background of this work, including development of the New Work Item Proposal in the Planning Committee and the service types envisioned. He went on to describe the technology options available to S13-1, and the basic decisions made so far. He said every effort is being made to design the NRT infrastructure to work on both A/53 and the evolving ATSC-M/H transport system; the near term focus is on ATSC 1.0 underpinnings. He noted that because of schedule coincidence, minor adaptations may be necessary for NRT on ATSC-M/H.

Mr. Chernock pointed out that even with common transport design, content may be different for HD fixed devices and handheld/mobile devices. Among the parameters are:

- Screen size
- Device local storage
- Use expectations

Mr. Chernock called attention to two key decisions made by S13-1:

**IP decision:** S13-1 recommends that IP be used for delivery of NRT data in circumstances that are not already covered by an existing ATSC Standard. S13-1 recognizes other approaches to NRT delivery and affirms that its recommended approach will co-exist with them. In particular, S13-1 has no intent to negatively impact implementations that use the A/90 approach.

**FLUTE decision:** S13-1 recommends use of FLUTE mechanisms for NRT file delivery over IP.

Mr. Chernock said that S13-1 has converted the basic requirements into an outline for an NRT draft standard. In addition, the group has gathered the available solution candidates, namely:

- Tandberg
- Thomson

- Triveni Digital
- Existing Standards (OMA-BCAST)

Mr. Chernock said S13-1 is in the process of determining whether existing solution technologies fit requirements, and what gaps might exist.

## **20. OTHER BUSINESS**

### **20.1 Liaison Reports**

### **20.2 Planning Committee**

Graham Jones (NAB), Chair of the Planning Committee, reported on actions taken at the PC meeting yesterday. In particular, he called attention to a draft document, “Guidelines for Distribution of ATSC Signals for SD Viewers” (**ATTACHMENT 19**), submitted by NBC Universal and Tribune and revised during the PC meeting yesterday. This document is a set of guidelines that MVPD providers can reference in configuring their facilities to support distribution of down-converted ATSC signals for (analog NTSC and) SD viewers. He noted there is a very tight timeframe for providing input on this document, which will be received by MSTV tomorrow.

The Guidelines document, as revised during the PC meeting yesterday, will be provided to MSTV and other organizations—as appropriate—as liaison input. Discussion followed on the Guidelines document, with views offered by a number of members. Mr. Jones asked members with additional input on the draft to provide it to him before the end of the day<sup>2</sup>.

Mr. Jones said that PC believes a Recommended Practice, using this document as a starting point, would be appropriate for ATSC to develop. He indicated that a New Work Item Proposal based on this document will be proposed in the near future. Chair Henderson said he would like to form a TSG-level AHG (TSG-4) to begin looking at this project, pending official approval by the ATSC Board. The committee agreed with this approach. He asked Mr. Waddell to lead the effort.

Other items covered in Mr. Jones report were:

- A poll on what features should constitute “ATSC 2.0” is being finalized
- A questionnaire regarding expected usage of AFD and bar data has been developed and will be issued shortly

## **21. SCHEDULE OF NEXT TSG MEETINGS**

The next meeting of TSG, a teleconference, will be held 24 April 2008 from 1:00 p.m. until 2:00 p.m. EST. Other scheduled meetings are as follows: May 7, July 17, September 25, and December 3.

## **22. ACTION ITEMS DEVELOPED AT THIS MEETING**

The following action items were developed at today’s TSG meeting. Items carried forward from a previous meeting are so noted.

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<sup>2</sup> On 7 February 2008 Mr. Jones delivered the edited document containing all submitted changes to Sterling Davis, Chair of the MSTV Engineering Committee (**ATTACHMENT 20**).

- 1) Chair Henderson to work with Rich Chernock, Pat Waddell, Mark Richer, and Mark Eyer to draft a liaison statement to MPEG regarding document N8943. [2007-05-16]
- 2) Chair Henderson and Mark Richer to distribute to the ATSC membership and ATSC Forum a statement regarding possible withdrawal of A/80, "Modulation and Coding Requirements for Digital TV (DTV) Applications over Satellite." [2007-09-20]
- 3) Mark Aitken to prepare a high-level summary document of the characteristics of the proposed ATSC-M/H systems for TSG information and background in considering the various systems. This document should including a checklist of features addressed versus the capabilities specified in the ATSC-M/H NWIP. [2007-11-29]
- 4) Mike Dolan to add to the TSG/S13 Work Plan a five year review of the following documents:
  - A/92, "Delivery of IP Multicast Sessions over Data Broadcast Standard"
  - A/93, "Synchronized/Asynchronous Trigger Standard"
  - A/94, "ATSC Data Application Reference Model"
- 5) Chair Henderson to report to the ATSC Board the TSG request that the Open Mobile Alliance be added to the list of approved normative reference organizations.
- 6) Pat Waddell to work with Jerry Whitaker to produce a written report summarizing the ATSC Audio Summit, to be held on 19 February 2008 in conjunction with the Hollywood Post Alliance Technology Retreat.
- 7) Jerry Whitaker to issue a TSG letter ballot on the proposed revision of A/64A as a Proposed Recommended Practice.
- 8) Jerry Whitaker to issue a TSG letter ballot on Working Draft S13-404r3, "Carriage of Legacy TV Data Services," as a Proposed Standard.
- 9) Pat Waddell to lead a TSG-level AHG (TSG-4) to begin looking at developing a draft Recommended Practice using the "Guidelines" document as a starting point, pending approval by the ATSC Board.
- 10) Jerry Whitaker to set up the necessary electronic resources for TSG-4, including an email reflector and Web document archive.

### **23. ADJOURNMENT**

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

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**ATTACHMENT 1. Attendance List**

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ABC	Tom Hankinson
Alticast	Thomas Jung
ATSC	Jerry Whitaker
Auvitek	Jordan Cookman*
Bilding B	Garry Paxinos*
Broadcom	Randall Perlow*
BTC/MobiTV	Steve Smith
CBS	Ren McMann*
CEA	Brian Markwalter, John Henderson
Coherent Logix	Michael Doerr
Comcast	Bill Warga*
Cox Broadcasting	Sterling Davis
CRC	Yiyan Wu*
Delphi	Todd Brandenburg
DIRECTV	Kuriacose Joseph*
Dolby	Walt Husak
DTS	Bill Zou, Phil Maness
Fox	P. J. Harr*
Harmonic	Pat Waddell
Harris	Joe Seccia
ION Media	Dan Borowicz
Kenwood	Michael Bergman
Kodak	Mark Henry*
Media General	Ardell Hill*, Bob Richardson*
Microsoft	Pat Griffis*
Mitsubishi	Wang He Lou*
MPAA	Jim Williams*
MSTV	Victor Tawil
MSTV/UPN	Charles Einolf
NAB	Art Allison, Graham Jones
NBC Universal	Glenn Reitmeier, Mindy Lauck
NCTA (Consultant)	Jeffrey Krauss
Nielsen	Joe Rodolico*, Michael Dolan*
MWG/Tribune	S. Merrill Weiss

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Panasonic	Peter Fannon*
PBS	James Kutzner
Philips	Mark Laramie*, Glenn Adler
Pioneer	Adam Goldberg, Rich Annabaldi
Rohde & Schwarz	Walt Gumbart*
Samsung	C. B. Patel, John Godfrey
Sanyo	Glenn Rockland
Sarnoff	Hans Baumgartner*
Scientific Atlanta (Cisco)	Arturo Rodriguez*
Sharp	Craig Tanner
Sigma Designs	Aki Kaniel
Sinclair	Mark Aitken*
SMPTE	Bill Miller*
Sony	Mark Eyer*, Robert Blanchard*
Sun Microsystems	Jens Patzold*
TANDBERG TV	Matthew Goldman*
Techwell	Paul Snopko
Texas Instruments	Arthur Redfern
Toshiba	John Gawel*
Tribune	Andy Bater
Triveni	Rich Chernock
Tsar Digital	Bob Rast
Zenith	Wayne Bretl, Wayne Luplow

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**ATTACHMENT 2.** TSG-779r3, Draft Agenda

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-2-TSG-779r3-Agenda-2008-02-06.doc](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-2-TSG-779r3-Agenda-2008-02-06.doc)

**ATTACHMENT 3.** TSG-782r1, TSG Voting Eligibility

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-3-TSG-782r1-Voting-After-2007-11-29.xls](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-3-TSG-782r1-Voting-After-2007-11-29.xls)

**ATTACHMENT 4.** TSG-767r4, Draft Minutes of 29 November 2007 Meeting

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-4-TSG-767r4-Minutes-2007-11-29.doc](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-4-TSG-767r4-Minutes-2007-11-29.doc)

**ATTACHMENT 5.** TSG-778r3, Status of Ballots

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-5-TSG-778r3-Status-of-Ballots.doc](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-5-TSG-778r3-Status-of-Ballots.doc)

**ATTACHMENT 6.** TSG/S2 Status Report

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-6-S2-Status-Report-2008-02.ppt](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-6-S2-Status-Report-2008-02.ppt)

**ATTACHMENT 7.** Working Draft Revision of A/101

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-7-Revision\\_A\\_101\\_Dec192007.pdf](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-7-Revision_A_101_Dec192007.pdf)

**ATTACHMENT 8.** TSG/S4 Status Report

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-8-TSG-S4-Status-Report-rev3.ppt](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-8-TSG-S4-Status-Report-rev3.ppt)

**ATTACHMENT 9.** TSG/S6 Status Report

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-9-S6-498r1-S6-Report-to-TSG.ppt](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-9-S6-498r1-S6-Report-to-TSG.ppt)

**ATTACHMENT 10.** TSG/S6 Work Statement

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-10-S6-201r5\\_Work\\_Statement.doc](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-10-S6-201r5_Work_Statement.doc)

**ATTACHMENT 11.** TSG/S8 Status Report

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-11-S8-708r1-S8-Status-Report-2008-02.ppt](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-11-S8-708r1-S8-Status-Report-2008-02.ppt)

**ATTACHMENT 12.** TSG/S8 Revised Work Plan

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-12-S8-617r4-S8-Work-Plan.pdf](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-12-S8-617r4-S8-Work-Plan.pdf)

**ATTACHMENT 13.** TSG/S9 Status Report

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-13-S9-Status-Report-to-TSG.ppt](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-13-S9-Status-Report-to-TSG.ppt)

**ATTACHMENT 14.** Working Draft Revision of A/64A

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-14-A64-RevBr3-Proposed-Draft-redlined.doc](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-14-A64-RevBr3-Proposed-Draft-redlined.doc)

**ATTACHMENT 15.** TSG/S10 Status Report

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-15-S10-Status-Report-to-TSG.ppt](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-15-S10-Status-Report-to-TSG.ppt)

**ATTACHMENT 16.** TSG/S13 Status Report

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-16-S13-407r1-Status-20080206.ppt](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-16-S13-407r1-Status-20080206.ppt)

**ATTACHMENT 17.** S13-404r3, “Working Draft: Carriage of Legacy Data Services”

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-17-S13-404r3-SCTE127-redux.doc](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-17-S13-404r3-SCTE127-redux.doc)

**ATTACHMENT 18.** S13-1 NRT Project Report

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-18-S13-1-042r0-NRT\\_TSG\\_Backgrounder.ppt](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-18-S13-1-042r0-NRT_TSG_Backgrounder.ppt)

**ATTACHMENT 19.** PC-164r2, ATSC Distribution Guidelines Draft, as edited by PC

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-19-PC-164r2-ATSC-Distribution-Guidelines.doc](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-19-PC-164r2-ATSC-Distribution-Guidelines.doc)

**ATTACHMENT 20.** PC-164r4, ATSC Distribution Guidelines Draft, as revised by PC and TSG

[http://www.atscmembers.org/sg/T3/2008\\_02\\_06/documents/Attachment-20-PC-164r4-ATSC-Distribution-Guidelines-as-Revised-by-PC-TSG%20.doc](http://www.atscmembers.org/sg/T3/2008_02_06/documents/Attachment-20-PC-164r4-ATSC-Distribution-Guidelines-as-Revised-by-PC-TSG%20.doc)