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ftp://ftp.t10.org/t10/document.01/01-331r0.pdf

Minutes of the SBP-3 Working Group meeting, November 6-7, 2001
Embassy Suites, Monterey, California

Attendees:

Eric Anderson	Apple	ewa@apple.com
Firooz Farhoomand	Panasonic	firoozf@ix.netcom.com
Lee Farrell	Canon	lfarrell@cissc.canon.com
John Fuller	Sony	jfuller@computer.org
Andy Green	Oxford Semiconductor	andy.green@oxsemi.com
Peter Johansson	Congruent Software	Pjohansson@ACM.org
Steve Powers	Microsoft	spowers@microsoft.com
Scott Smyers	Sony	scott.smyers@am.sony.com

The following agenda was presented by Johansson. In the minutes that follow, the start of discussion of items listed below is denoted by the index number listed within square brackets, such as [4.1]. Note that these references do not always appear in order, and may not signify the conclusion of discussion of a previous agenda item.

1. Introductions and procedures
1.1 T10 Membership and voting
1.2 Document naming conventions
1.3 Two-week rule
1.4 Meeting fees
1.5 Approval of prior minutes
2. Call for patents
3. Informal liaison
3.1 IEEE P1394.1 [Johansson]
3.2 IEEE P1394.3 [Johansson]
4. Prior action items
4.1 Request AV/C expert to define track metadata [Fuller]
4.2 Operational description of login (bus reset) [Johansson]
4.3 Track ID for AV/C disks [Fuller]
4.4 T10 Technical Report for AV Direct-access (AVD)

5. Old business
5.1 Annex H [Johansson]
5.2 Track Metadata [Green]
6. New business
6.1 Additional requirements for SBP-3 devices [Fuller]
6.2 SAM Contingent Allegiance [Elliot]
6.3 AV Disk demonstration [Smyers]
6.4 T10 Technical Report for AV Direct-access (AVD)
6.5 Work Plan
7. Meeting schedule
8. Review of action items
9. Adjournment

[1] Johansson called the meeting to order and updated the agenda, as reflected above.

[1.3] Johansson briefly reviewed the two-week rule, explaining that it did not prevent the discussion of documents posted less than two weeks before a meeting.

[1.5] The minutes from August 22 (Cupertino) were approved without objection:

ftp://ftp.t10.org/t10/document.01/01-265r0.pdf

The minutes from October 3 (Portsmouth) were not yet available for approval.

[2] Johansson reviewed general T10 policies and procedures. In general, attendance and participation at T10 ad hoc meetings (such as this one) is open to both visitors and T10 members. When formal votes are taken, either in an ad hoc meeting or in the T10 plenary, one vote is permitted each organization, to be cast by its principal representative or designated alternative. A two-week rule is in effect: No matter may be voted on unless notice was given at least two weeks prior. Documents to be voted on must have been posted two weeks prior to the vote. The two-week rule can be waived if nobody objects. Announcements of new documents and meetings must be posted to the T10 email reflector; all other business can be conducted on the working group reflector.

The following paragraph about ANSI/T10 patent policy is copied from past T10 Plenary minutes:

A document is available from ANSI, "Procedures for the Development and Coordination of American National Standards", at no charge. This document is also on the web at http://www.ncits.org/help/ansi_sdo.html. Section 1.2.11

contains the ANSI patent policy. Amy Marasco manages patent issues for ANSI and can be contacted at amarasco@ansi.org or 212-642-4954. Gene Milligan prepared a useful “Handy dandy Technical Committee's Patents Guide“, which is available at ftp://ftp.t10.org/t10/document.99/99-291r0.pdf.

[3.1] Johansson reported that the IEEE 1394.1 BRC had been active by email, and predicted that the first BRC meeting would likely be in December in San Diego.

[3.2] Johansson reported that IEEE 1394.3 was working towards completion in time for the February 8, 2002 IEEE RevCom meeting.

[4.1] Fuller reported no news regarding AV/C track metadata.

[4.2] Johansson reported no news regarding the operational description of login (bus reset).

[4.3] Fuller reported his conclusion that an AV/C Object ID would probably be a good choice for use as a track ID. Fuller warned however that the AV/C specification might be lacking sufficient details to validate this solution. Nobody present was certain if AV/C Object IDs were truly unique or how they were scoped.

[4.4] Johansson noted that there was still time to request approval of this item at the Plenary on Thursday, adding that it was on the agenda as new business.

[5.1] Johansson led a review of changes to Annex H from the previous meeting. Johansson noted that the annex had become annex D due to ANSI notational conventions.

Anderson suggested adding "(pointer)" to figure D-1 to avoid the possible illusion that the data appeared inline in the ORB. Johansson added a requirement that response_frame_size be a multiple of 8 and no larger than 1024 bytes. Fuller pointed out that AV/C and FCP don't contain packet length information, so length information should be added to the status block, and Johansson agreed.

[5.2] Green reviewed his email regarding track metadata from September 28. Smyers questioned if all the proposed information was needed, and if so, was it sufficient. Johansson suggested that if extents are created with AV/C commands, and then made available to RBC, it would not be necessary to explicitly specify the metadata characteristics in an RBC command. Smyers and Anderson agreed that if a drive was unable to meet multiple real-time demands due to fragmentation at the hands of an operating system, software had a

fallback opportunity to create tracks using AV/C so that the drive would have sufficient information to plan for real-time demands.

Johansson suggested removing the data format field from the EXTENT MANAGEMENT command as proposed by Green. Smyers suggested that 64 bits would be sufficient to identify a data format, perhaps comprised of a Spec ID and Software Version with 16 bits available for further refinement. This would be part of the extent descriptor, as returned by the QUERY EXTENT command.

[6.1] Fuller presented his document Additional Requirements for SBP-3 Devices:

ftp://ftp.t10.org/t10/document.01/01-304r0.pdf

The group discussed Fuller's changes to 7.3.3 and accepted the first two, adding a note with reference to IEEE 1212 to capture the remainder of Fuller's text.

Fuller described his new section 7.3.4 and explained why it required keyword use for SBP-3 devices. All present agreed with Fuller's position.

Fuller explained section 7.3.5, and everyone agreed to require the instance directory. Johansson suggested using a combined AV/C-RBC disk as the example case for instance directories, as such a disk would reflect a device with one underlying resource and two independent protocols for access to that resource. Johansson suggested showing examples of both the preferred Configuration ROM, and an alternative legacy-friendly Configuration ROM that some implementers will need.

Fuller's text for A.4 was extended to make keyword-based and EUI-64-based discovery requests mandatory.

Anderson suggested that all references to each external specification such as IEEE 1212 could be grouped in the proposed implementation tips annex for easy reference, perhaps with brief explanatory text explaining why each specification is relevant.

[6.2] Johansson explained that Rob Elliott of Compaq had made a proposal regarding SAM Contingent Allegiance that might affect SBP-3:

ftp://ftp.t10.org/t10/document.01/01-318r0.pdf

Johansson led a careful review of this document for any problems that could impact SBP-3, but none were found.

[6.3] Smyers presented "Isochronous & SBP3 Smyers.ppt", explaining in great detail how MPEG-TS delivery works even on transports that introduce more delay and jitter than the MPEG specification allows:

ftp://ftp.t10.org/t10/document.01/01-332r0.pdf

The group discussed the merits of transporting media with 1394a Asynchronous Streams versus 1394 Isochronous packets, and the potential meaning of sync, tag, and related bits in such cases.

Johansson suggested that Plug Control Registers, as per ISO/IEC 6-1883 part 1, should be extended to allow speeds above 400 mbps, possibly including an indication for Asynchronous Streams.

Smyers presented a demonstration of an AV/C-capable disk prototype made by Sony, and fielded questions.

[6.4] Johansson noted that the group had previously identified six commands plus PLAY and RECORD for isochronous disks, which will need a home document. Johansson added that RBC-2 wasn't progressing, and suggested that a T-10 Technical Report would be a suitable alternative. Johansson said he would investigate launching such a project.

[6.5] Johansson led a discussion of the group's progress to date, to address the question "how will we know when we're done?". Johansson said there were two generally unfinished areas in the current draft:

1. IEEE 1394.1 Bridge awareness

2. SBP-3 Isochronous model and recording format

Johansson suggested that the recording format would belong in either an informative annex or a normative but optional annex.

Smyers said that error reporting by SBP-3 disks would be important, adding that some important applications could tolerate errors if informed when they happened.

Green presented a draft paper regarding format-aware recording formats, including consideration of variable-length data structures. Smyers and Green discussed the advantages and merits of various approaches to the problem. Johansson said he saw no problems with the proposal, noting that the details would be best captured in a format-specific specification, rather than in SBP-3. Johansson added that SBP-3 presently attempts to define a generic isochronous

recording format, but this does not preclude the development and use of format-specific variations that may provide better capabilities for particular applications.

Johansson suggested that a recording format which allowed for vendor-specific metadata, and identified it such that it could be ignored, might enable a disk to work with multiple software or formats. Green said he would follow up with a written proposal.

Johansson noted that Fast Start was fairly complete, and said that parts of the draft could be frozen or stabilized to encourage implementation, even if SBP-3 had to wait for completion of command set and 1394.1 work before the entire document could be completed. All agreed; Green noted that considerable editing and review of recent 1394.1 changes should be completed to ensure that everyone agrees on the outcome thereof. Johansson noted that T10 could be asked to approve a Technical Report as a home for the command set presently under development.

The group reviewed SBP-3 to identify sections that could be frozen regarding Fast Start, and identified the following candidate sections:

5.2.3 Node Selectors (not actually Fast Start)
6.4.6 FAST_START register
7.6.11 Fast_Start entry
9.1.5 Fetch agent state machine

9.1.4 was not included because informative sections are not candidates to be frozen.

Johansson and Anderson agreed that chapter four could use some mention of Fast Start. Section 4.5 paragraph 2 could use minor editing to indicate that requests are not always fetched, they might be delivered by Fast Start. Johansson suggested discussing editorial changes to this item by email.

[7] The future meeting schedule was agreed to be as follows:

January 21 – 22 (Hawaii)
March 12 – 13 (Dallas, TX)
April 30 – May 1 (Nashua, NH)
June 3 – 7 or 10 – 14 (Portland, OR)
July 16 – 17 (Colorado Springs, CO)

(The December meeting was previously canceled by group consensus.)

Adjourned.

General information and document index

The SBP-3 email reflector SBP3@isg.apple.com can be accessed as follows:

Subscribing:
email requests@isg.apple.com w/subject "subscribe sbp3"

Help?:
email requests@isg.apple.com w/subject "help"

An automated system had been created for the allocation of T10 document numbers, and the subsequent submission of documents for posting:

http://www.t10.org/members/ad.htm

The following documents have been posted pertaining to SBP-3:

00-328 Eric Anderson
Fast Start proposal (PowerPoint slides)
ftp://ftp.t10.org/t10/document.00/00-328r0.pdf

00-371 Peter Johansson
Minutes of SBP-3 Study Group September 19, 2000
ftp://ftp.t10.org/t10/document.00/00-371r0.pdf

00-388 Peter Johansson
SBP-3 Project Proposal
ftp://ftp.t10.org/t10/document.00/00-388r0.pdf

01-057 Eric Anderson
Fast Start Proposal
ftp://ftp.t10.org/t10/document.01/01-057r0.pdf

01-060 Eric Anderson
Minutes of SBP-3 Working Group January 24-25, 2001
ftp://ftp.t10.org/t10/document.01/01-060r0.pdf

01-067 Lance Flake
RBC Access For AV/C Data Interchange
ftp://ftp.t10.org/t10/document.01/01-067r0.pdf
ftp://ftp.t10.org/t10/document.01/01-067r1.pdf

01-070 Peter Johansson
Bridge-aware targets and node handles
ftp://ftp.t10.org/t10/document.01/01-070r0.pdf

01-101 Eric Anderson
Minutes of SBP-3 Working Group March 6-7, 2001
ftp://ftp.t10.org/t10/document.01/01-101r0.pdf

01-102 Scott Smyers
Proposal for modifications to SBP3 and RBC
ftp://ftp.t10.org/t10/document.01/01-102r0.pdf

01-103 Firooz Farhoomand
Using SBP-3 for DVD playback
ftp://ftp.t10.org/t10/document.01/01-103r0.pdf

01-137 Peter Johansson
Stream command block ORB
ftp://ftp.t10.org/t10/document.01/01-137r0.pdf

01-138 Peter Johansson
Bi-directional ORBs (PowerPoint slides)
ftp://ftp.t10.org/t10/document.01/01-138r0.pdf

01-139 Eric Anderson
Minutes of SBP-3 Working Group April 26-27, 2001
ftp://ftp.t10.org/t10/document.01/01-139r0.pdf

01-179 Andy Green
Proposal to modify isochronous recording format
ftp://ftp.t10.org/t10/document.01/01-179r0.pdf

01-180 Peter Johansson
RBC-2 commands for extent management
ftp://ftp.t10.org/t10/document.01/01-180r1.pdf

01-187 Eric Anderson
Minutes of SBP-3 Working Group June 5-6, 2001
ftp://ftp.t10.org/t10/document.01/01-187r0.pdf

01-200 Peter Johansson
Distributed Buffers
ftp://ftp.t10.org/t10/document.01/01-200r0.pdf

01-223 Eric Anderson
Minutes of SBP-3 Working Group July 17-18, 2001
ftp://ftp.t10.org/t10/document.01/01-223r0.pdf

01-248 Peter Johansson
MP-friendly Fast-Start
ftp://ftp.t10.org/t10/document.01/01-248r1.pdf

01-265 Eric Anderson
Minutes of SBP-3 Working Group August 22-23, 2001
ftp://ftp.t10.org/t10/document.01/01-265r0.pdf

01-287 Peter Johansson
Bare-bones Isochronous
ftp://ftp.t10.org/t10/document.01/01-287r0.pdf

01-304 John Fuller
SBP3 Changes
ftp://ftp.t10.org/t10/document.01/01-304r0.pdf

01-318 Rob Elliott
Elimination of SCSI-2 from SAM-2 SPC-3
ftp://ftp.t10.org/t10/document.01/01-318r0.pdf

01-330 Peter Johansson
Minutes of SBP-3 Working Group October 3-4, 2001
ftp://ftp.t10.org/t10/document.01/01-330r0.pdf

01-331 Eric Anderson
Minutes of SBP-3 Working Group November 6-7, 2001
ftp://ftp.t10.org/t10/document.01/01-331r0.pdf

01-332 Scott Smyers
Isochronous SBP-3
ftp://ftp.t10.org/t10/document.01/01-332r0.pdf

Latest draft SBP-3 document:

ftp://ftp.t10.org/t10/drafts/sbp3/sbp3r01e.pdf

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