

Minutes of SAS Protocol Teleconference - July 9, 2002

The teleconference was held from 10:00 a.m. to 1:07 p.m. CDT. The following people were present for part or all of the call:

Name	S	Organization	Electronic Mail Address
Mr. Bill Galloway	P	BREA Technologies, Inc.	billg@breatech.com
Mr. Lafe Moon	V	Data Transit Corp.	lafe@data-transit.com
Mr. Rob Elliott	P	Hewlett Packard Co.	Elliott@hp.com
Mr. Thomas Grieff	V	Hewlett Packard Co.	Thomas.Grieff@hp.com
Mr. Jim Reif	V	Hewlett Packard Co.	jim.reif@hp.com
Mr. Matt Otto	V	I-TECH Corp.	matt_otto@i-tech.com
Mr. Steven Wirtz	V	I-TECH Corp.	steve_wirtz@i-tech.com
Mr. George O. Penokie	P	IBM / Tivoli Systems	gop@us.ibm.com
Mr. Dan Colegrove	V	IBM Corp.	dcolegro@us.ibm.com
Mr. John Lohmeyer	P	LSI Logic Corp.	lohmeier@t10.org
Mr. Brian Day	V	LSI Logic Corp.	brian.day@lsil.com
Mr. Tim Hoglund	V	LSI Logic Corp.	tim.hoglund@lsil.com
Mr. Mark Evans	P	Maxtor Corp.	mark_evans@maxtor.com
Mr. Steve Byan	V	Maxtor Corp.	stephen_byan@maxtor.com
Mr. Rob Haydt	A	Microsoft Corp.	robhay@microsoft.com
Mr. James R. (Bob) Davis	P	Network Appliance Inc.	bob@netapp.com
Mr. Edward A. Gardner	P	Ophidian Designs	eag@ophidian.com
Mr. Arie Krantz	V	QLogic Corp.	l_krantz@qlc.com
Mr. Jim Coomes	V	Seagate Technology	jim_coomes@seagate.com
Mr. John Worden	V	Seagate Technology	john.worden@seagate.com
Mr. Scott Younger	V	Seagate Technology	Scott.T.Younger@seagate.com

21 People Present

Status Key: P - Principal
 A,A# - Alternate
 AV - Advisory Member
 L - Liaison
 V - Visitor

**** Approval of Agenda**

The draft agenda was approved:

Approval of Agenda
 SAS Bit and byte order for scrambling, CRC and transmission (02-219) [Jim Coomes]
 SAS CRC Generation and Scrambling (02-231) [Coomes]
 What does it mean to ignore or discard a frame? [Galloway]
 SAS OOB timing (02-198) [Elliott]
 SAS Credit Not Ready (02-215) [Bill Galloway]
 SAS SMP transport layer state diagrams (02-216) [Penokie]
 SAS Port Control State Diagram Update (02-202) [Worden]
 SAS transport layer state machines for SSP (02-230) [Mark Evans]
 Name consistency between port and transport layers [Worden]
 SAS Pathway Recovery (02-256) [Tim Hoglund]
 SAS COMMAND ID Removal (02-259) [Brian Day]
 SAS Working Draft Review [Elliott]

Review of Recommendations to the Plenary
Meeting Schedule

Items added at the meeting:
none.

Results of the meeting

**** SAS Bit and byte order for scrambling, CRC and transmission (02-219) [Jim Coomes]**

Jim Coomes presented 02-219r2, SAS Bit and byte order for scrambling, CRC and transmission. He received some input on how to name a few items.

Jim Coomes moved that 02-219r3 (r2 as revised) be recommended to T10 for inclusion in SAS. Bill Galloway seconded the motion. In absence of objections, the motion carried unanimously.

**** SAS CRC Generation and Scrambling (02-231) [Coomes]**

Jim Coomes plans to bring in separated code for CRC generation and scrambling to the SAS meeting next week.

**** What does it mean to ignore or discard a frame? [Galloway]**

Bill Galloway said that this item has been overcome by events and asked that it be removed from future agendas.

**** SAS OOB timing (02-198) [Elliott]**

Rob Elliott presented 02-198r4, SAS OOB timing. He received feedback and agreed to revise his proposal.

**** SAS Credit Not Ready (02-215) [Galloway]**

Bill Galloway said that he received the source files from Rob last night. He will revise his proposal for next week's meeting.

**** SAS SMP transport layer state diagrams (02-216) [Penokie]**

George Penokie presented 02-216r3, SAS SMP transport layer state diagrams. George noted some impacts on the port layer and the need to synchronize some terminology. He received other input and agreed to revise his proposal for next week.

**** SAS Port Control State Diagram Update (02-202) [Worden]**

Deferred.

**** SSP transport layer state machines (02-230) [Mark Evans]**

Deferred.

**** Name consistency between port and transport layers [Worden]**

George Penokie asked John Worden to prepare a proposal for a single list containing all of the requests and confirmations between the different layers. John agreed to do so.

**** SAS Pathway Recovery (02-256) [Tim Hoglund]**

Tim Hoglund presented 02-256r0, SAS Pathway Recovery. This proposal would change the SAS pathway recovery method from the current two-pass algorithm to a one-pass algorithm. It uses a pathway blocked counter instead of the arbitration wait time.

Jim Coomes was concerned that designers might be tempted to retry as fast as possible in order to increase their priority (i.e., maximize their pathway blocked counter value). Tim showed a diagram to explain why this should not be a big concern. He was asked to prepare a proposal for an informative annex with his arbitration contention diagrams.

Tim received other input and agreed to revise his proposal for next time and to get together with John Worden to work on the port layer impacts.

**** SAS COMMAND ID Removal (02-259) [Brian Day]**

Brian Day presented 02-259r0, SAS COMMAND ID Removal. Bill Galloway found a case that may not be addressed by Brian's proposal. Brian agreed to examine Bill's case.

**** SAS Working Draft Review [Elliott]**

Deferred.

**** Review of Recommendations to the Plenary**

John Lohmeyer noted that the following recommendations have been made to the T10 plenary:

Recommendations from the May 14, 2002 teleconference:

- that 02-169r2 be accepted for inclusion in the SAS working draft.
- that 02-170r1 be accepted for inclusion in the SAS working draft.

Recommendations from the May 21, 2002 teleconference:

none.

Recommendations from the June 5-7, 2002 working group meeting:

- that 02-179r1 (r0 as revised) be recommended for inclusion in the SAS working draft.
- that 02-211r1 (r0 as revised) be accepted for inclusion in the SAS working draft.
- that 02-212r1 (r0 as revised) be accepted for inclusion in the SAS working draft.
- that 02-218r0, which recommends that the SMP FER Loopback function be removed, be accepted and that the SAS technical editor be directed to remove the SMP FER Loopback function.

that 02-203r1 (r0 as revised) be recommended for inclusion in the SAS working draft.
that 02-217r0 be recommended for inclusion in the SAS working draft.
that 02-214r1 be recommended for inclusion in the SAS working draft.

Recommendations from the June 18, 2002 teleconference:

that 02-204r1 be recommended for inclusion in the SAS working draft.
that 02-197r2 (r1 as revised) be recommended for inclusion in the SAS working draft.

Recommendations from the June 24-26, 2002 working group meeting:

that 02-196r2 (r1 as revised) be recommended to T10 for inclusion in SAS.
that 02-201r3 (r2 as revised) be recommended to T10 for inclusion in SAS.
that 02-205r3 (r2 as revised) be recommended to T10 for inclusion in SAS.
that in state SMP_SFR1 in figure 69 in SAS-R00C, that the protocol violation and the failed frame confirmations be deleted and any corresponding text be deleted.
that 02-245r0 be recommended to T10 for inclusion in SAM-3.
that 02-246r0 be recommended to T10 for inclusion in SPC-3.

Recommendations from the July 9, 2002 teleconference:

that 02-219r3 (r2 as revised) be recommended to T10 for inclusion in SAS.

**** Meeting Schedule**

SAS Protocol teleconferences are scheduled for:

Call information:

Tuesday July 30, 2002 and Tuesday August 13, 2002
11:00 am -- 2:00 pm EDT
10:00 am -- 1:00 pm CDT
9:00 am -- noon MDT
8:00 am -- 11:00 am PDT

USA Toll Free Number: 877-417-9828
Toll Number: +1-706-679-9028
Conference Code: 719 533 7560

WebEx Session: <http://seagate.webex.com/>

Meeting Name: SAS Protocol teleconference

Password: to be announced on T10 reflector

Face-to-face SAS Protocol meetings are scheduled for:

August 21-23, 2002 in Shrewsbury, MA starting at 9:00 am on Wednesday and ending at noon on Friday. Meeting information is available at:
<http://www.t10.org/meeting.htm>.

September 9-10, 2002 in Minneapolis, MN with T10. See <http://www.t10.org/ftp/t10/announce/ann-m051.pdf> for meeting information and http://www.t10.org/ftp/t10/mtg_map.txt for meeting times. There will also be a concurrent SAS Physical meeting.