Accredited Standards Committee*
InterNational Committee for Information Technology Standards (INCITS)

Doc. No.:	T10/06-290r0
Date:	June 21, 2006
Reply to:	Ralph Weber

To: T10 Membership
From: Ralph Weber
Subject: Minutes of SAS Zoning Management Working Group - June 20, 2006
            Denver, CO

Agenda

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    5.11 SAS-2 CONFIGURE & REPORT ZONE MANAGEMENT CLIENT ADDRESS functions (06-289) [Symons]
6. Zoning/expander topology topics
    6.1   SAS-2 Allow table-to-table expander attachment (06-189) [Elliott]
7. Self-configuring expander devices
    7.1   SAS-2 Self-configuring expander status (06-187) [Elliott]
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Results of Meeting

1.   Opening Remarks

George Penokie, the T10 Vice-Chair, called the meeting to order at 9:32 a.m., Tuesday June 20, 2006. He thanked Steve Johnson of LSI Logic for hosting the meeting.

As is customary, the people attending introduced themselves. Attendance was taken electronically via the meeting web site.

2.   Approval of Agenda

The draft agenda was approved with no changes.

No agenda additions and changes were made during the course of the meeting.

3.   Attendance and Membership

Attendance at working group meetings does not count toward minimum attendance requirements for T10 membership. Working group meetings are open to any person or organization directly and materially affected by T10's scope of work. The following people attended the meeting:

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            Name                  S         Organization
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Mr. Kevin Marks                   P  Dell, Inc.
Mr. Ralph O. Weber                P  ENDL Texas
Mr. Rob Elliott                   P  Hewlett Packard Co.
Mr. George O. Penokie             P  IBM Corp.
Mr. Brad Besmer                   V  LSI Logic Corp.
Mr. Steve Johnson                 V  LSI Logic Corp.
Mr. Tim Symons                    P  PMC-Sierra
Mrs. Zenta Darnell                V  Vitesse Semiconductor

8 People Present

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

4.1 SAS-2 Zone Management Models (06-285) [Symons]

Tim Symons presented a discussion of zoning management models which defined either a zoning proxy server or a locking protocol to coordinate zoning updates (06-285r0). The group coalesced around a distributed locking protocol as opposed to the proxy model. Tim and Rob collected numerous comments to be used in developing specific proposals.

Tim asked that discussion of this topic be removed from future agendas because the detailed proposal resulting from the discussion is a separate document (see agenda item 4.3).

4.2 SAS-2 Zone Management Proxy Device (06-215) [Symons]

Based on the decisions reached in agenda item 4.1,Tim Symons asked that discussion of this topic be removed from future agendas.

4.3 SAS-2 Registered Zone Management Client (06-286) [Symons]

Tim Symons noted that key aspects of this proposal had been discussed under item 4.1 and asked that discussion of this topic be deferred to the next meeting.

4.4 SAS-2 Zone Management Use Cases (06-260) [Elliott]

Based on the results of the conference calls, Rob Elliott asked that discussion of this topic be removed from future agendas.

4.5 SAS-2 Allow More Than One ZPSDS in a SAS Domain (06-279) [Elliott]

Rob Elliott presented a proposal to allow more than one ZPSDS in a SAS Domain (06-279r0). Questions were raised about the proposal making SAS violate the SAM-4 definition of a domain.

Rob noted that the situation described by the proposal is unavoidable during the merging of two existing zones. Ralph Weber remained unwilling to allow the multi-ZPSDS condition to be included in the zoning model, but expressed a willingness to accept it as part of the description of zone merge processing.

Rob agreed to review the proposal in the larger context of merging zones and revise the proposal for consideration at the next meeting.

4.6 SAS-2 Enable and Disable Zoning (06-281) [Elliott]

Rob Elliott presented a proposal showing how a zoning JBOD could be added to a configuration with appropriate zoning management (06-281r0). Concerns were raised regarding interactions between this proposal and the ideas discussed in agenda item 4.1. Rob noted the issues and potential solutions. Rob agreed to prepare a new revision of the proposal for consideration at the next meeting.

4.7 SAS-2 Reporting ZONE PARTICIPATING CAPABLE in the IDENTIFY address frame (06-210) [Marks]

Kevin Marks presented a proposal to add bits to automate setting the zone participating bit (06-210r2). Because of some write-only bits, the group requested the addition of reporting functions and Kevin agreed to prepare a new revision for consideration at the next meeting.

5. SMP function topics

5.1 SAS-2 Add expander change count to all SMP functions (06-197) [Elliott]

Rob Elliott presented a proposal to add expander change counters to SMP functions (06-197r2). Because no use could be found for it, the group requested removal of the expander change count field from the Zoned Broadcast function and requested other minor changes. Rob agreed to prepare a new revision of the proposal.

Concerns were raised about which error was more important to report than others, but the issue was not considered critical to resolve in this proposal.

Rob Elliott moved that 06-197r3 (r2 as revised) be recommended for inclusion in SAS-2. Kevin Marks seconded the motion. The motion passed 5:0:1.

5.2   SAS-2 Restrict access to SMP write functions (06-208) [Elliott]

Rob Elliott presented a proposal to restrict usage of SMP write functions to zone group 2 (06-208r1). Rob noted the need to limit usage to zoning devices and proposed specific changes.

Rob Elliott moved that 06-208r2 (r1 as revised) be recommended for inclusion in SAS-2. Steve Johnson seconded the motion. In the absence of any objections, the motion passed unanimously.

5.3   SAS-2 REPORT GENERAL additions for zoning and self configuration (06-213) [Johnson]

Steve Johnson presented a proposal to enhance the Report General SMP function for zoning and self configuring expanders (06-213r1). The group requested several minor changes and Steve agreed to prepare a new revision of the proposal.

Steve Johnson moved that 06-213r2 (r1 as revised) be recommended for inclusion in SAS-2. Rob Elliott seconded the motion. In the absence of any objections, the motion passed unanimously.

5.4   SAS-2 SMP Lists (DISCOVER LIST) (06-037) [Johnson]

Steve Johnson presented a proposal to define a single SMP function that returns information about multiple phys (06-037r6). The group requested that attempts to define the meaning of Reserved be removed. Concerns were raised about the number of vendor specific bytes proposed. The group requested several changes in the data returned in the response frame.

Steve agreed to prepare a new revision of the proposal reflecting all the changes requested by the group.

Steve Johnson moved that 06-037r7 (r6 as revised) be recommended for inclusion in SAS-2. Kevin Marks seconded the motion. The motion passed 6:1:0.

5.5   SAS-2 SMP CONFIGURE PHY ZONE function (06-201) [Symons]

Due to the late hour, discussion of this topic was deferred to the next meeting.

5.6   SAS-2 Expander Routing Table (REPORT EXPANDER ROUTE TABLE) (06-078) [Johnson]

Steve Johnson presented a proposal to an SMP Routing Tables Reporting function that removed the concept of per-phy route tables (06-078r2) and indicated that he had already begun making r3 in response to e-mail requests.

The group discussed which types of routing phys would be reported and eventually concluded that only table routed phys would be reported (i.e., subtractive routed phys would not be reported).

Steve Johnson moved that 06-078r3 (r2 as revised) be recommended for inclusion in SAS-2. Zenta Darnell seconded the motion. The motion passed 6:0:1.

5.7   SAS-2 Expander Route Table (CONFIGURE EXPANDER ROUTE TABLE) (06-214r) [Johnson]

Due to the late hour, discussion of this topic was deferred to the next meeting.

5.8   SAS-2 SMP REPORT ZONE PERMISSION function (06-203r) [Symons]

Due to the late hour, discussion of this topic was deferred to the next meeting.

5.9 SAS-2 SMP CONFIGURE ZONE PERMISSION function (06-202) [Symons]

Due to the late hour, discussion of this topic was deferred to the next meeting.

5.10 SAS-2 SMP ACTIVATE ZONE PERMISSION UPDATE functions (06-288) [Symons]

Tim Symons reviewed a proposal to define an SMP function to activate shadowed zoning data (06-288r0). The group provided several suggestions to improve the proposal and Tim agreed to prepare a new revision for consideration at the next meeting.

5.11 SAS-2 CONFIGURE & REPORT ZONE MANAGEMENT CLIENT ADDRESS functions (06-289) [Symons]

Tim Symons presented a proposal to define the SMP locking function discussed under agenda item 4.1 (06-289r0). The group requested that the sender's SAS address be removed from the request frame and Tim agreed to prepare a new revision for consideration at the next meeting.

6.   Zoning/expander topology topics

6.1   SAS-2 Allow table-to-table expander attachment (06-189) [Elliott]

Due to the late hour, Rob Elliott asked that discussion of this topic be deferred to the next meeting.

7.   Self-configuring expander devices

7.1   SAS-2 Self-configuring expander status (06-187) [Elliott]

Due to the late hour, Rob Elliott asked that discussion of this topic be deferred to the next meeting.

7.2   SAS-2 Expander Configuration Supervisor and SMP CHANGE Request (06-029) [Weber and Johnson]

Ralph Weber asked that discussion of this topic be deferred to the next meeting.

8.   New Business

No new business was brought before the group.

9.   Review of Recommendations

The following document was recommended for inclusion in SAS-2 during this meeting:

    For inclusion in SAS-2:
    06-197r3 (Add expander change count to all SMP functions) [Elliott]
    06-208r2 (Restrict access to SMP write functions) [Elliott]
    06-213r2 (REPORT GENERAL additions for zoning and self configuration) [Johnson]
    06-037r7 (SMP Lists (DISCOVER LIST)) [Johnson]
    06-078r3 (Expander Routing Table (REPORT EXPANDER ROUTE TABLE)) [Johnson]

10. Meeting Schedule

A SAS Protocol Working Group meeting is scheduled for:

Monday, July 10, 2006 commencing at 9:00 a.m. in Colorado Springs, CO the Antlers Hilton Hotel (1-719-955-5600) hosted by LSI Logic Corp.

Teleconference calls for SAS-2 Zoning will be held weekly and announced on the T10 reflector. Other teleconference calls will be announced on the T10 reflector as needed.

11. Adjournment

The meeting was adjourned at 5:55 p.m. on Tuesday June 20, 2006.