Draft Minutes
Automation/Drive Interface (ADI) Working Group
Ad Hoc Teleconference
T10/03-159r0
8 April 2003
8:00 AM – 10:00 AM PDT

Conference Call Information:
        Hosted by: Crossroads Systems Inc.
        Toll Free: (866) 453-5550
        International: (678) 460-1860
        Pass code: 8405237

1. Introductions: Group

    Paul Suhler called the teleconference to order at 8:08 AM PDT. He thanked Crossroads for
    hosting the call. A table of the attendees appears at the end of these minutes.

2. Approval of the agenda: 03-158r0   Paul Suhler

    Paul Suhler requested approval of the agenda. Paul Suhler postponed the discussion of the
    connector change until Rod Wideman arrives.

    Lee Jesionowski made a motion for approval of the agenda. Paul Suhler seconded the
    motion. The group passed the motion by acclimation.

3. Approval of previous meeting minutes: Paul Suhler

    26 March 2003 teleconference   03-151r0

    Paul Suhler requested comments for the minutes of the 26 March 2003 teleconference, 03-
    151r0. No comments were forthcoming.

4. Call for Patents   Paul Suhler

    Lee Jesionowski provided an update on the IBM patent. IBM has sent a statement to INCITS
    regarding the patent. He stated that we still need a T10 proposal and that some legalise needs
    cleaning up. Paul Suhler asked, how soon will we be seeing it? Lee responded that he thinks
    Kevin Butt or George Penokie can cover it at the next plenary.

    Bob Griswold sent an e-mail, copied below, concerning a Crossroads patent that may have a
    bearing on the ADI draft standards.

            I just wanted to alert you to the fact that Crossroads' presented to the T10 Plenary, last
            year, that we believed SPC-3, where Access Controls is described, reads on our '972
            and '035 patents. I wanted to bring this to your attention, because if in your bridging
            proposal you were to implement methods to establish paths between hosts and LUNs,
            and mask out those LUNs that hosts are not supposed to see (LUN Masking /
            Mapping), that it may also possibly read on our patents. We have agreed to the

INCITS rules on licensing for SPC-3, so even if you include "access controls" into your bridging proposal, we would also sign up for the INCITS rules for the ADI specifications. I don't know if you have already included any "access controls" in your bridging model, but if you did not intend to, then there should be no problem.

5. Review of action items: Michael Banther

   a. Rod Wideman to produce a proposal for device server interaction section in ADC document. *Carryover*

   b. Lee Jesionowski to create a proposal for method to convey Interface Status changed. *Carryover*

   c. Paul Entzel to write up a proposal for the ADC model of TapeAlert. *Carryover*

   d. Bob Griswold to follow up with SNIA Interoperability Conformance Test Program (ICTP) Subcommittee regarding test/emulation tool. *Carryover* Bill Moodey has not discussed with SNIA yet.

   e. Paul Entzel will propose an Abort Open Exchanges bit to the Port Login IU. *Closed*

   f. Rod Wideman will incorporate 03-042r2 as modified into ADC. Carryover

   g. Rod Wideman will incorporate 03-106r0 as modified into ADC. *Carryover*

   h. Rod Wideman will incorporate 03-113r0 into ADC. *Carryover*

   i. All will review nomenclature and propose changes, specifically port references and device server references. *Carryover*

   j. Rod Wideman will remove the READ POSITION command from table 2 of ADC r01. *Carryover*

   k. Paul Entzel will propose text for ADT to disallow protocol-specific mode pages. *Carryover*

   l. Paul Suhler will e-mail proposed text for a subset of the bridging issues to the group. *Closed*

   m. Paul Suhler will revise 03-077 from r4 to r5. *Closed*

6. Discussion items:

   a. ADT connector change Rod Wideman

   Rod Wideman recapped the comments he presented by e-mail. ADIC engineers are concerned about increasing connector density and the 2 mm pin spacing. We agreed that the proposed connector will occupy less than an inch. Paul Entzel doesn't have any concerns with the selected connector dimension. Neither does Kevin Butt. Michael stated his opposition, as did Lee Jesionowski to any change. In general the group agreed that the existing proposed connector doesn't need change.

   b. ADC Drawings 03-140r0 Paul Suhler

   Paul Suhler described the changes to these drawings. Paul Entzel asked for the context for the drawings. Paul Suhler responded that they belong in the ADC model section. Susan Gray asked, how can Figure 3 be optional if the drive supports bridging? Paul Suhler responded that Figure 3 is meant to be the most general depiction.

Paul Entzel suggested adding text that states that these figures depict a sample implementation. Paul Suhler agreed to make this change.

Lee Jesionowski pointed out that we're using the terms 'initiator' and 'target' inconsistently. We use to use them in the physical layer in one way, but Paul's drawings use them another way. Michael Banther agreed that something's wrong in the ADT text. Paul Entzel asked for a new proposal to correct these ADT mistakes. Michael agreed to prepare a proposal.

Paul Suhler asked if any other changes were needed.

Lee Jesionowski pointed out that the text below the third figure implies that the SMC device server in the automation device initiates SCSI traffic. Michael Banther suggested using 'automation device' instead. Paul Entzel suggested 'automation device ADT port'. Lee pointed out that the use of the term medium changer occurs in three places and needs changing in all.

Paul Suhler and Paul Entzel discussed adding figure 3 and figure x to the ADT model section. Paul Suhler will note that figures 2, 3, and x belong in ADC and figures 2 and x belong in ADT. Lee Jesionowski asked for a slight notational change to the crossing of traces in the drawings.

Paul Suhler will revise the drawings based on this discussion.

c. ADC Data Transfer Device Status Masking   03-087r1   Paul Suhler

Paul Suhler asked, does anyone really want this feature in ADI, or do we punt it to ADI-2? Susan Gray offered that it is a valuable feature. Paul Suhler, based on comments from Lee Jesionowski, believes that using a timeout from the last attempt can provide the needed functionality without description by the standard. Lee stated that he only wants the ability for the automation to notify the drive when the automation ceases retrying a Load operation. Paul Suhler tabled the issue until Rod Wideman appears. We need to decide whether we should include just notification or both notification and control aspects of the feature.

After Rod Wideman joined, Paul Suhler recapped the discussion so far. After some more discussion, we agreed that the concept of the drive masking Sense data during load operations belongs in the model section of ADC.

Kevin Butt raised concerns about eliminating any run-time method for the automation to determine if the drive supports Sense Masking. The group discussed this concern including interaction between the Recovery Requested log page and Sense Masking.

Paul Entzel pointed out that the Fail bit appears in a frame that is only available in the ADT transport. Hence any implementation using a different transport cannot use Sense Masking as currently defined. Rod Wideman suggested adding a new ADC command to make the notification available regardless of transport. Susan Gray agreed that we should not put the Fail bit in ADT.

Rod Wideman suggested using a Log Select to clear the RRqst bit. Paul Entzel responded that using Log Select in this manner that would make it mandatory.

We moved on to a discussion of whether the Fail bit or Sense Masking in general is or is not mandatory. We agreed pretty quickly that it is not mandatory.

The group then discussed using a Log Select clearing the RRqst bit as a replacement for sending the Fail bit. Kevin Butt argued that using RRqst overloads the bit. Paul Suhler came around dto Rod Wideman's position of adding a new command. Paul Suhler will propose the new command. Lee Jesionowski and Susan Gray clarified that the new command will only indicate the cessation of Load retries by the automation. It will not include information on what ASC/ASCQ to mask with, etc.

d. ADC Recovery Requested Log Page   03-095r1   Paul Suhler

Paul Suhler described the changes between revisions 0 and 1.

In 6.1.2.2, Kevin Butt questioned the text, 'When a new media access command or reset request is received or the medium is physically removed or inserted, then the RRQST field shall be set to zero.' He doesn't want the text to preclude the device setting the bit again on a new error. Paul Entzel asked if the action of an initiator reading the Recovery Requested log page clears the RRqst bit. Paul Suhler stated that it does not, and Lee Jesionowski supported Paul Suhler's position. Paul Entzel argued that the clearing of RRqst should key off of the clearing of the associated log page (i.e. the recovery actions all transition to Recovery Not Requested). Lee Jesionowski pointed out that we can't key the clearing of the log page off of a command from automation causing motion in the drive. Michael Banther suggested clearing RRqst based on commanded drive motion or a Log Select. Kevin Butt and Lee Jesionowski suggested that the standard should remain silent and the drive should determine when to reset the recovery actions to Recovery Not Requested. Paul Suhler agreed to restore the previous text that states that the drive shall reset the RRqst bit.

Lee Jesionowski pointed out that this change propagates to sub-clause 6.1.4.

Paul Entzel argued that the standard does need to state what actions reset the recovery actions to Recovery Not Requested. Lee Jesionowski suggested cross-referencing the clearing of the recovery actions to the clearing of RRqst and the clearing of RRqst to the clearing of the recovery actions. We contemplated the effect on readers never exiting the reading of the standard as they circled around these references.

Kevin Butt suggested adding text that the clearing of RRqst should be vendor specific.

Paul Suhler considered adding text to each recovery procedure to describe what causes the clearing to Recovery Not Requested. Paul Entzel pointed out that, even then, we will see vendor specific causes. Lee Jesionowski requested text changes to recovery actions 09h and 0Bh. Paul Suhler agreed to Lee Jesionowski's suggestions.

We debated various possible specific actions that could clear a requested recovery. Michael Banther argued that any definition of clearing actions must be defined in terms of the state of the cartridge as known by the drive. Lee Jesionowski pointed out that the action that causes recovery might not be what is listed for a given recovery action. This fact makes specification of clearing very difficult. Lee Jesionowski believes that we will have to state that vendor specific actions cause clearing. Paul Entzel argued for clearing all recovery actions upon detection of the beginning of any action by the automation that could clear the fault. Lee Jesionowski attempted an analysis of all recovery actions: can any of them fail to set the InXtn bit in the VHF log page?

Paul Entzel pointed out later that the setting of InXtn will reset all recovery actions to Recovery Not Requested and that this resetting of all recovery actions will clear RRqst.

Kevin Butt brought up the wording in 6.1.2.2 again. He wanted to know if the text will state 'will' or 'shall'. Paul Suhler agreed that it should state 'shall'. Paul Entzel pointed out that the use of the word 'until' presents a problem.

Paul Suhler will revise 03-095 based on this discussion.

   e.   Definitions clause clean-up in ADT   03-152r0   Paul Entzel

Paul Entzel discussed the reason for the proposal. For the definitions that call out SAM-3, Paul Entzel will cut and paste the text. Paul Suhler agreed that we do not need a motion for these changes, as they are all editorial.

   f.   Add Abort All Open Exchanges bit to Port Login IU in ADT
                                 03-153r0   Paul Entzel

Paul Entzel walked the group through the meat of this proposal. He explained that, once one port sets AAOE, all Port Login IU's in the negotiation will have it set. Lee Jesionowski noted the use of the phrase 'open exchange' and asked if a non-open exchange is possible. Kevin Butt asked if we should remove 'all' from the name of the bit. Paul Entzel agreed to remove 'all' and to replace 'open exchange' with 'exchange'.

Paul Entzel made a motion for incorporation of 03-153r0 as revised into ADT. Kevin Butt and Paul Suhler simultaneously seconded the motion. The group passed the motion by acclimation.

   g.   ADI Bridging Proposal   03-077r5   Paul Suhler

The group did not discuss this item due to lack of time.

7.   Unscheduled business:

8.   Next meeting requirements: Paul Suhler

The group will hold an ad-hoc teleconference on:

    – 23 April 2003 – hosted by ADIC.

This meeting will start 8:00 AM PDT and finish at 10:00 AM PDT.

The group will hold a meeting 5-6 May 2003 during T10 plenary week in Nashua, NH. The meeting will begin on the 5th immediately after the T10 SSC-2 Working Group meeting finishes. The meeting time on the 6th will occupy the entire day, concluding at 6:00 PM EDT.

9. Review new action items: Michael Banther

    a. Michael Banther to propose corrections to the physical section of ADT.

    b. Paul Suhler will revise 03-140 based on discussion.

    c. Paul Suhler will revise 03-095 based on the discussion.

    d. Paul Suhler will revise 03-087 based on the discussion including a new command to indicate that automation is giving up on a load.

    e. Paul Entzel will revise 03-153 per the discussion.

    f. Paul Entzel will incorporate 03-152 and 03-153 as revised into ADT.

    g. Paul Suhler will send an e-mail stating the decision of the group to stay with the proposed connector to T10 and JST and Molex.

10. Adjournment: Group

Bob Griswold made a motion for adjournment. Paul Entzel seconded the motion. The group passed the motion by acclimation. Paul Suhler adjourned the group at 10:07 AM PDT.

Attendees:

Name	Organization	E-mail
Rod Wideman	ADIC	rod.wideman@adic.com
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